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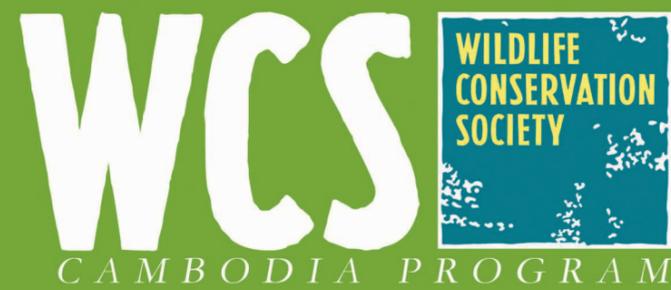
## COMMERCIAL COMMUNITY FORESTRY IN CAMBODIA

DEVELOPMENT OF A PILOT PROJECT IN  
THE SEIMA BIODIVERSITY CONSERVATION AREA



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**CONSERVATION AREA**

AUGUST 2007

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## **WILDLIFE CONSERVATION SOCIETY**

The Wildlife Conservation Society saves wildlife and wild lands. WCS has been active since its establishment in 1898 as the New York Zoological Society (NYZS). Its efforts are concentrated in many of the world's developing countries where biological diversity is greatest and pressure on nature is most intense. WCS currently works in 53 countries and manages over 350 projects. The WCS Cambodia Program is perhaps the largest conservation NGO in the country. It works closely with government under MoU's with the Ministry of Environment and Ministry of Agriculture, Forestry and Fisheries. It works on a number of site-based conservation projects, in all cases cooperating with local communities through mechanisms such as participatory land-use planning, community-based ecotourism and direct incentives for conservation. The aim is to establish a number of extensive forest landscapes that are zoned to include a range of sustainable commercial and subsistence uses, in addition to core sites requiring strict protection.

## **TROPICAL FOREST TRUST**

Tropical Forest Trust (TFT) is a UK registered charity, with offices in Switzerland, UK, Indonesia, Malaysia, Vietnam, China and Gabon. TFT implements Forest Stewardship Council (FSC) certification support programs in TFT member forests in SE Asia and Central Africa and links the trade of wood from these programs to TFT retailers in Europe and the USA through manufacturers in Asia Pacific, Latin America and Africa. TFT also has programs working with major European Timber Trade Federations to evaluate member supply chains. For more information on TFT, please visit: <http://www.tropicalforesttrust.com>.

## **FORESTRY ADMINISTRATION**

Forestry Administration is the government organization in the Ministry of Agriculture, Forestry and Fisheries, which has the authority to manage the forest and forest resources in the Kingdom of Cambodia under the National Forestry Sector Policy and Forestry Law.

## **ACKNOWLEDGEMENTS**

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# ABBREVIATIONS

AWP	Annual Work Plan
CC	Commune Council
CF	Community Forestry
CCF	Commercial Community Forestry
CFSD	Community Forestry Sub-decree
#dbh	diameter at breast height
FA	Forest Administration
FP	Forest Products
IFSR	Independent Forest Sector Review
LP	Local People
MAFF	Ministry of Agriculture, Forestry and Fisheries
MEF	Ministry of Economy and Finance
NTFP	Non-timber forest product
<i>Prakas</i>	Declaration
RGC	Royal Government of Cambodia
SBCA	Seima Biodiversity Conservation Area
SMA	Special Management Area
TFT	Tropical Forest Trust
WCS	Wildlife Conservation Society
WCS	Wildlife Sanctuary

# EXECUTIVE SUMMARY

Today there exists a unique and perhaps fleeting opportunity to promote sustainable forestry in Cambodia. With some of the largest forest tracts still standing in Indochina, Cambodia's production forests hold strategic value for conservation and economic development across the entire region. If managed well, these significant resources could play a critical role in protecting biodiversity, contributing to poverty alleviation and promoting a healthy and vibrant forest industry. However, Cambodia has no proven mechanism to achieve this vision.

With the demise of the concessions system, it is critical that Cambodia identify effective ways to manage its high value forests – many of which are currently under threat. The existing legal options available to the Forest Administration are limited. At one end of the spectrum the Forest Administration is considering filling the current management void by implementing “Forest Estate Management” though an annual coupe system driven by national demand targets. This arrangement emphasizes production over protection, and offers little new to Cambodia in terms of regulating forest management, promoting sustainability or reducing land conflict and poverty.

At the other extreme, there is an emerging community forestry movement, which thus far, focuses on traditional use with minimal emphasis on commercial production or economic benefits to communities. In its current form, the approach to Community Forestry (CF) in Cambodia provides little indication it will be an effective tool to support the commercial management of the country's production forests in the post-concession era. So how are the high value forests to be managed now that the concessions system is over?

The following report describes *Commercial Community Forestry* (CCF). CCF is a new

arrangement for commercial forest exploitation, which is proposed for testing in the Seima Biodiversity Conservation Area (SBCA), Kratie and Mondulkiri provinces. Rather than trying to address the policy aspects of decentralized forest management, this report describes the concepts, rationale and actions taken to advance the CCF model at a particular pilot site. The model will be tested and adapted as it is implemented.

The elaboration of this model proceeds from the assumption that Cambodia's interests are best served by arrangements that enable local constituents to legally participate in the management and benefits of forest extraction activities. CCF seeks to demonstrate that, if certain conditions are met, a community-based enterprise, in partnership with the Forest Administration and the Commune Councils, can responsibly undertake commercial management of Cambodia's production forests. Not only will this arrangement help to improve livelihoods and alleviate poverty for the people that live near high value forest, but it will also help to steer Cambodia toward the development of a viable and sustainable industry based on the legal trade of responsible forest products.

The findings from the pilot site are broadly positive. The forest contains substantial stocks of timber that modeling suggests may be able to support a viable relatively low intensity sustainable logging operation, given current knowledge of costs and forest conditions. Local communities have existing organizations dedicated to forest protection and are willing to discuss logging as well, if the risks can be minimized. Forest clearance is not currently an issue, and the site can benefit from the existing protection and management framework of the SBCA. The FA has shown every sign of being supportive of the concept and willing to experiment. The legal framework contains

many elements that can support a community-run logging enterprise.

Nonetheless, there are some significant challenges. These include the depleted stocks of preferred timber species, the presence of illegal logging groups linked to the armed forces, the relatively low capacity of the local communities to organize themselves to manage such a valuable resource, business pressure to convert production forests into agro-industrial plantations, and some obstacles in existing legislation including a prohibitive royalty rate. If the various stakeholders are willing, none of these appear insurmountable.

Indeed, these challenges are typical of post-concession forests in Cambodia and so they must be overcome if there is to be a productive future for Cambodia's forests.

Thus, given the inherent and widely recognized difficulties of reforming any part of the timber sector in Cambodia, the project site appears to be a promising place to continue pilot activities on CCF. It is proposed that further investments are sought to make this possible. The report ends by providing a draft three to five year work-plan for future activities and a projected budget over the next three years.

# សេចក្តីសង្ខេប

បច្ចុប្បន្ននេះ ឱកាសជំរុញអោយវិស័យព្រៃឈើប្រទេសកម្ពុជាមាននិរន្តរភាព គឺជាឱកាសដែលមានតែមួយគត់ និងកន្លងទៅយ៉ាងឆាប់រហ័សបំផុត ។ ក្នុងចំណោមតំបន់ព្រៃឈើធំៗនៅឥណ្ឌូចិន ព្រៃផ្តល់ផលប្រទេសកម្ពុជាមានតំលៃជាយុទ្ធសាស្ត្រសំរាប់ការអភិរក្សជីវចម្រុះ និងការអភិវឌ្ឍន៍សេដ្ឋកិច្ចនៅទូទាំងតំបន់ទាំងមូល ។ បើសិនមានការគ្រប់គ្រងបានល្អ ធនធានព្រៃឈើដែលមានសក្តានុពលខ្ពស់ទាំងនេះ អាចដើរតួនាទីយ៉ាងសំខាន់នៅក្នុងការការពារជីវចម្រុះ រួមចំណែកក្នុងការកាត់បន្ថយភាពក្រីក្រ ការបង្កើនសុខុមាលភាពរបស់ប្រជាជន និងការជំរុញអោយឧស្សាហកម្មព្រៃឈើមានដំណើរការសកម្មឡើងវិញ ។ ទោះជាយ៉ាងណាក្តី ប្រទេសកម្ពុជាហាក់បីដូចជាគ្មានយន្តការណាមួយ ដើម្បីសំរេចនូវទស្សនៈវិស័យនេះនៅឡើយ ។

ក្រោយពីបទពិសោធន៍នៃប្រព័ន្ធគ្រប់គ្រងព្រៃឈើតាមបែបព្រៃសម្បទាន វាពិតជាមានសារៈសំខាន់ខ្លាំងណាស់ ដែលប្រទេសកម្ពុជាត្រូវខិតខំរកមធ្យោបាយដ៏មានប្រសិទ្ធភាពក្នុងការគ្រប់គ្រងធនធានព្រៃឈើដែលមានតំលៃសេដ្ឋកិច្ចខ្ពស់ ហើយដែលកំពុងទទួលរងការបំផ្លិចបំផ្លាញ ។ បច្ចុប្បន្ននេះការសំរេចចិត្តផ្នែកផ្លូវច្បាប់របស់"រដ្ឋបាលព្រៃឈើ" នៅមានកំរិតនៅឡើយ ។ រដ្ឋបាលព្រៃឈើកំពុងពិចារណាអំពីយុទ្ធសាស្ត្រ "ការគ្រប់គ្រងព្រៃឈើដោយរដ្ឋ" ដោយការដាក់បញ្ចូលនូវប្រព័ន្ធធិមួយហៅថា "គុបប្រចាំឆ្នាំ ឬ គុបក្នុងស្រុក" ។

ការគ្រប់គ្រង "គុបក្នុងស្រុក" មានគោលដៅសំខាន់លើការធ្វើអាជីវកម្មជាងការអភិរក្ស ហើយប្រាកដជាពុំអាចផ្តល់បទពិសោធន៍អ្វីប្លែកសំរាប់ប្រទេសកម្ពុជា ពាក់ព័ន្ធនឹងការសំរេចបានការគ្រប់គ្រងព្រៃឈើ អោយបានទៀងទាត់ ការអភិវឌ្ឍន៍ប្រកបដោយនិរន្តរភាព ការកាត់បន្ថយទំនាស់ដីធ្លី និងភាពក្រីក្រ ។

ជាងនេះទៅទៀត មានចលនាគ្រប់គ្រងព្រៃឈើតាមបែប "សហគមន៍ព្រៃឈើ" ដែលផ្តោតតែទៅលើការប្រើប្រាស់ធនធានព្រៃឈើតាមបែបប្រពៃណី និងមានការចាប់អារម្មណ៍តិចតួចក្នុងការផ្តល់ផលប្រយោជន៍ផ្នែកសេដ្ឋកិច្ច និងសិទ្ធិគ្រប់គ្រងធនធានព្រៃឈើតាមបែបពាណិជ្ជកម្មដល់សហគមន៍មូលដ្ឋាន ។ យោងតាមបទពិសោធន៍កន្លងមក កម្មវិធី "សហគមន៍ព្រៃឈើ" ពិតជាគាំទ្រតិចតួចបំផុតដល់គំនិតដែលថា "សហគមន៍ព្រៃឈើ" ជាយន្តការដ៏មានប្រសិទ្ធភាពមួយសំរាប់ការគ្រប់គ្រងព្រៃឈើតាមបែបពាណិជ្ជកម្ម នៅសម័យក្រោយព្រៃសម្បទាន ។

របាយការណ៍បន្ទាប់នេះ នឹងធ្វើការណែនាំអំពីទស្សនៈទានធិមួយគឺសហគមន៍ពាណិជ្ជកម្មព្រៃឈើ ។ សហគមន៍ពាណិជ្ជកម្មព្រៃឈើ គឺជាយន្តការមួយសំរាប់ការគ្រប់គ្រងព្រៃឈើ តាមបែបពាណិជ្ជកម្ម ទស្សនៈទាននេះគេគ្រោងស្នើធ្វើការសាកល្បងនៅតំបន់អភិរក្សជីវចម្រុះ "សីមា" ដែលស្ថិតនៅក្នុងខេត្តក្រចេះ និង ខេត្តមណ្ឌលគីរី ។

ក្នុងរបាយការណ៍នេះនឹងបង្ហាញពីទស្សនទានសារៈសំខាន់ និងជំហានទាំងឡាយសំរាប់ការសាកល្បង សហគមន៍ពាណិជ្ជកម្មព្រៃឈើជាគំរូនៅក្នុងតំបន់អភិរក្សជីវៈចម្រុះ" សីមា" ។ ទស្សនទានសហគមន៍ពាណិជ្ជកម្ម ព្រៃឈើ នឹងត្រូវបានគេសាកល្បង និងការកែសំរួល ឡើងវិញនៅពេលអនុវត្ត ។

គំរូស្តីពីសហគមន៍ពាណិជ្ជកម្មព្រៃឈើត្រូវបានគេចងក្រងឡើងយ៉ាងល្អិតល្អន់ ដើម្បីឆ្លើយតបទៅនឹង សម្មតិកម្មដែលថា ព្រៃផ្តល់ផលប្រទេសកម្ពុជាទទួលបានការការពារយ៉ាងល្អ តាមរយៈការផ្តល់សិទ្ធិ និងឱកាស ដល់អ្នកពាក់ព័ន្ធសំខាន់ៗនៅ មូលដ្ឋានបានចូលរួមក្នុងការគ្រប់គ្រង និងទទួលបានផលប្រយោជន៍ស្របច្បាប់ ពីសកម្មភាពអាជីវកម្មព្រៃឈើ ។ ទស្សនទានសហគមន៍ពាណិជ្ជកម្មព្រៃឈើ ប្រាកដជាអាចសំរេចបាននូវ គោលដៅខាងលើ គឺនិរន្តរភាពនៃការគ្រប់គ្រងព្រៃផ្តល់ផលប្រទេសកម្ពុជាតាមបែបពាណិជ្ជកម្ម ក្នុងករណី លក្ខខណ្ឌមួយចំនួនត្រូវបានបំពេញដូចជាការបង្កើតសហគ្រាសគ្រប់គ្រង អាជីវកម្មព្រៃឈើដោយសហគមន៍ មូលដ្ឋាន និងការកសាងភាពជាដៃគូរវាងស្ថាប័នជំនាញរដ្ឋបាលព្រៃឈើ និង ក្រុមប្រឹក្សាឃុំ ដែលជាអាជ្ញាធរ ដែនដីធ្វើការដោយផ្ទាល់ជាមួយសហគមន៍មូលដ្ឋាន។ យន្តការនេះមិនត្រឹមតែអាចជួយបង្កើនកំរិតជីវភាព និងការ បន្ថយភាពក្រីក្ររបស់ប្រជាជនរស់នៅក្នុង និងក្បែរតំបន់អភិរក្សជីវៈចម្រុះ "សីមា" ប៉ុណ្ណោះទេ វាក៏នឹងជួយជំរុញ ប្រទេសកម្ពុជា សំរេចបាននូវនិរន្តរភាពនៃការអភិវឌ្ឍន៍ឧស្សាហកម្ម និងពាណិជ្ជកម្ម ផលិតផលព្រៃឈើ ដោយ ស្របច្បាប់ ។

តាមរយៈលទ្ធផលនៃការសិក្សាស្រាវជ្រាវកន្លងមកបានបង្ហាញថា តំបន់អភិរក្សជីវៈចម្រុះសីមាមាន លក្ខណៈ អំណោយផលច្រើនសំរាប់សាកល្បងសហគមន៍ពាណិជ្ជកម្មព្រៃឈើ ដូចជាបរិមាណមាឌឈើឈរនៅមានកំរិត ច្រើនគួរសមដែលអាចផ្គត់ផ្គង់ដល់ការសាកល្បងដកហូតផលឈើហ៊ុបដោយនិរន្តរភាព ហើយសហគមន៍មូលដ្ឋាន បានចងក្រងជាសហគមន៍ការពារព្រៃឈើ នឹងមានការចាប់អារម្មណ៍ចូលរួមជាមួយ សហគមន៍ពាណិជ្ជកម្មព្រៃឈើ បើសិនបញ្ហាមួយចំនួនត្រូវបានដោះស្រាយ ។ ការកាប់ទន្រ្ទានដីព្រៃពុំទាន់ចោទ ជាបញ្ហាធ្ងន់ធ្ងរនៅឡើយទេ នាពេលបច្ចុប្បន្ននៅក្នុងតំបន់ហើយគំរោងសាកល្បងនេះ អាចទាញផលប្រយោជន៍ពីសកម្មភាពអភិរក្សដែលមាន ស្រាប់របស់កម្មវិធីអភិរក្សជីវៈចម្រុះ"សីមា" ។ រដ្ឋបាលព្រៃឈើក៏បានបង្ហាញនូវការគាំទ្រចំពោះទស្សនទាន សហគមន៍ពាណិជ្ជកម្មព្រៃឈើ និងយល់ព្រមធ្វើការសាកល្បង។ ព្រមជាមួយគ្នានោះ ក៏មាននីតិវិធីច្បាប់ជាច្រើន ដែលគាំទ្រដល់សហគ្រាសអាជីវកម្មព្រៃឈើ ដឹកនាំដោយសហគមន៍មូលដ្ឋាន ។

ទោះបីយ៉ាងណាក៏ដោយ នៅតែមានបញ្ហាអសកម្មមួយចំនួនដូចជា ការបាត់បង់ជាបន្តបន្ទាប់នូវប្រភេទ ឈើដែលមានតំលៃសេដ្ឋកិច្ចខ្ពស់ បទល្មើសព្រៃឈើបង្កឡើងដោយក្រុមប្រដាប់អាវុធ ចំណេះដឹងទាបរបស់សហ- គមន៍មូលដ្ឋានក្នុងការដឹកនាំ និងគ្រប់គ្រងសហគ្រាសអាជីវកម្មព្រៃឈើ សំពាចនៃគោលបំណងកែព្រៃដីព្រៃទៅជា ដីសំរាប់អភិវឌ្ឍន៍កសិឧស្សាហកម្ម កង្វះខាតការគាំទ្រផ្នែកច្បាប់ តំលៃស្នូលសារ និងបុព្វលាភមានកំរិតខ្ពស់ ។

ប៉ុន្តែបើសិនជាមានការចូលរួមគាំទ្រពីសំណាក់អ្នកពាក់ព័ន្ធទាំងអស់ កត្តាទាំងនេះប្រាកដជាពុំចោទជាបញ្ហាដល់ ដំណើរការអនុវត្តសហគមន៍ពាណិជ្ជកម្មព្រៃឈើ ។ ដូច្នេះគេត្រូវរួមគ្នាដោះស្រាយកត្តាអសកម្មទាំងនេះ ដើម្បីការ អភិវឌ្ឍន៍ព្រៃឈើប្រទេសកម្ពុជានាពេលអនាគត ។

ទោះបីជាមានផលលំបាកក្នុងការកែទម្រង់វិស័យព្រៃឈើនៅកម្ពុជា ក៏តំបន់អភិរក្សជីវៈចម្រុះ "សីមា" អាច មានសក្តានុពល និងអំណោយផលល្អសំរាប់ការសាកល្បងទស្សនាសហគមន៍ពាណិជ្ជកម្មព្រៃឈើ ប្រកបដោយ ជោគជ័យ ។ ជាអនុសាសន៍ការសាកល្បងអនុវត្តគំរូសហគមន៍ពាណិជ្ជកម្មព្រៃឈើ ប្រាកដជាជួយសំរួលដល់ការ ធ្វើអាជីវកម្មព្រៃឈើដោយស្របច្បាប់ និង មាននិរន្តរភាពនាពេលអនាគត ។

របាយការណ៍នេះបញ្ចប់ដោយតារាងផែនការការងាររយៈពេល ៣-៥ឆ្នាំ និងគ្រោងថវិកាចំណាយសំរាប់ គំរោងការរយៈពេល ៣ឆ្នាំបន្ទាប់ ។

# 1. PROJECT OVERVIEW

## Introduction

The Tropical Forest Trust (TFT), working in cooperation with the Forest Administration (FA) of the Cambodian government and the Wildlife Conservation Society Cambodia Program (WCS), has developed a model of Commercial Community Forestry (CCF) to promote the goals of sustainable forest management and poverty alleviation. This new framework for decentralized forest management follows upon the recommendations of the Independent Forest Sector Review (2004) (and experiences in decentralized forestry from other parts of the world, Bray *et al.* 2004). It has far-reaching implications for transforming a sector that has, for more than a decade, exemplified many of the worst aspects of forest mismanagement in the region.

Presently, government partners along with TFT and WCS are ready to initiate a pilot project to test this experimental arrangement in the semi-evergreen forest of Seima Biodiversity Conservation Area (SBCA), in Mondulhiri and Kratie Provinces in eastern Cambodia. This follows upon one year of preparation including constituency building, the development of a model CCF framework, and extensive consultation with partners in government and in target communities. This work has been completed with funding provided in part by private-sector members of the TFT, by Danida and the McArthur Foundation. Implementing the CCF model is an important element of the larger SBCA management strategy, which combines biodiversity conservation, livelihood support and natural resources management at the landscape level. (WCS/FA 2005, 2006a).

The proposed pilot project is consistent with the goals expressed in Cambodia's overarching policy directives including the National Forest Policy Statement, the Rectangular Strategy, the National Strategic Development Plan 2006-2010 and the Agricultural Sector Strategic Development Plan 2006-2010. In particular it takes forward the Government's commitment

to support the establishment of small and medium enterprises.

The importance of an approach that involves a locally run forest enterprise has also been recognized at a regional and global level (Bray *et al.* 2005). In the most recent example, a delegation at an October 2006 international conference in Vietnam entitled *Managing Forests for Poverty Reduction* issued a statement calling for improved access and rights of the poor to forest resources, simplified legal requirements and comprehensive support systems for wood-based enterprises in rural communities.<sup>1</sup>

Finally, the project will implement many of the strategies recommended by donors and NGOs currently working to improve the governance of natural resources within Cambodia (Boscolo 2004). The recommendations include emphasizing decentralization, local benefit sharing, partnership between Commune Councils and the FA, and exploring pro-poor market and markets that support community produced goods and services. In developing the CCF model with TFT, the Cambodian Government has demonstrated its willingness to experiment with policy options that are commensurate with these goals.

The following report describes the results of the first, feasibility, phase of the project. Rather than trying to address the policy aspects of decentralized forest management, this report describes the concepts, rationale and actions taken to advance the CCF model at a particular pilot site. The model itself is a work, which will be tested and adapted as it is implemented. This report gives recommendations on how CCF could be implemented at the pilot site in Kratie and Mondulhiri

## Background

The opportunity to promote sustainable forestry in Cambodia today is unique. It is an opportunity that will probably not remain available for long, if new efforts to secure

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<sup>1</sup> See article at [www.tropicalforestturst.com](http://www.tropicalforestturst.com)

sustainable forestry fail to produce positive results and the resource base continues its trajectory toward degradation and conversion.

Encompassing some of the largest intact forest tracts still standing in the lower Mekong region, Cambodia's production forests hold strategic value for conservation and economic development across the entire region. If managed well, these resources could play a critical role in protecting biodiversity, contributing to poverty alleviation and promoting a healthy and vibrant forest industry into the future. However, such a vision requires a new approach to forest management—one that can do more than merely fill the void left by the now-abandoned concession system. Cambodia needs an entirely new paradigm for forest management.

Years of opaque dealings with large concessionaires under a weak governance structure helped to foster abusive behavior by many government agencies, the military and the local politicians involved in forest extraction (Global Witness 2004, Sunderlin 2006). In an attempt to address this a logging ban and a log transport ban have been in place since 1999.<sup>2</sup> To all intents and purposes these initiatives have shut down the development of any legitimate, transparent, timber trade for the country (IFSR 2004).

Despite a recent reform effort initiated at the upper levels of government and designed to promote change through policy dialogue, little progress has been made. Today the situation is described by many, as a stalemate; with widespread condemnation of the former concessions system being expressed on one hand, yet a startling lack of viable alternatives for moving the sector toward responsible forestry on the other. Meanwhile, piecemeal illegal logging and large-scale conversion to other land-uses are rapidly transforming the forests. If practical, economically viable, forest management arrangements are not implemented in the production areas, Cambodia's high value forests, and the enormous economic and ecological potential they represent for the region, could be lost in a decade. Ignoring the sector is tantamount to approving the wholesale liquidation and

conversion of Cambodia's high value forests – a tragedy Cambodia cannot afford ecologically, socially or economically.

Currently, the forest management options available are characterized by extremes. At one end of the spectrum the Forest Administration is considering filling the void left by concessions management by implementing "Forest Estate Management" though an annual coupe system driven by national demand targets. This system emphasizes production over protection, and offers little new to Cambodia in terms of regulating forest management, encouraging transparency, promoting sustainability and reducing conflict or poverty.

At the other extreme, there is an emerging community forestry movement (CF) focused on community protection of small scale, mostly degraded, forest areas (McKenney, *et al.* 2004). Thus far, community forestry in Cambodia has emphasized traditional use, with minimal emphasis on sustainable production of timber or real economic benefits to communities (Sokh Heng 2006). To date proposed CF sites total approximately 200,000 hectares, or approximately 3% of the total forest estate under the Forest Administration's control.<sup>3</sup> Even if CF initiatives were to expand fivefold Cambodia would still be left with 80% of Cambodia's forest estate lacking secure management and vulnerable to continued degradation, mismanagement and conversion. A 2006 study for the Asian Development Bank finds that community forestry projects in Cambodia have failed to deliver poverty-alleviating benefits. Among the reasons identified is that Community Forests have often been located in sites that are degraded and because of the restrictions on the collection of timber by local people (Sokh Heng 2006).

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<sup>3</sup> Since 1992, 264 CF sites have been established in 19 provinces, and in 65 districts, 137 communes and 484 villages (*FA 2005, CF statistic in Cambodia*). All CF sites are not yet officially recognized by FA (Agreement between CF cantonment and CFMC not yet approved). CF has been located on 179,019.80 hectares which equal 1.61% of total forest areas in Cambodia (*FA, 2004, Forest cover in Cambodia, p 60*).

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<sup>2</sup> Prakas N° 01 dated January 25, 1999

In their current form, neither Annual Coupes nor Community Forestry (CF) provide a viable strategy to achieve the full range of economic, social and environmental benefits that long-term sustainable forest management could offer Cambodia (Sunderlin 2006). Recognizing this shortfall, TFT, WCS and FA have designed an alternative management arrangement to be piloted at the SBCA.

## **Project Vision**

CCF seeks to demonstrate that a community-based enterprise is a realistic paradigm for future forest management in Cambodia, one that will provide timber for the market, satisfy government stakeholders, and address community concerns at the same time. The CCF model addresses the crucial social issues of the emerging community forestry sector (such as decentralized/local decision-making, customary use and local tenure), yet also takes into account the commercial aspects required to conduct a responsible business including sufficient attention to scale and volume, market preferences, and the conditions, which enable investment in technology, management planning and equipment.

This model takes its primary direction from forest enterprise models around the world, particularly those of Mexico where over 80% of the country's 63 million ha forest estate are managed through government supported Community Forest Enterprises (CFE) (Bray *et al.* 2005). As seen in the agricultural sector, small and medium scale enterprise represents one of the most effective ways to trigger broad-based job creation and rural development (Scherr *et al.* 2004). The CCF model was designed with the underlying belief that Cambodia is best served by developing medium sized forestry businesses that are able to operate legally, with social and ecological integrity, and meet the standards required by responsible buyers in the international or domestic markets.

Outputs of the pilot project are strategic for Cambodia's forest sector reform process. Information and feedback generated by the project will enable the Forest Administration to:

- Develop experience of how new arrangements for legal forest based businesses, benefit sharing and decentralized decision-making can reduce social conflict, improve governance, and encourage sound long-term management of highly contentious and sought after forest resources.
- Explore mechanisms, which can support the government goals of poverty reduction, enterprise development and employment by linking forest management and community livelihoods to responsible forest management in a reinforcing manner. This can inform policy directions.
- Identify the silviculture and product/species mix, which Cambodia's forests can sustain.
- Participate in the trade (primarily domestic but possibly international) of timber products with the highest social, environmental and ecological production standards.
- Determine the actual costs and benefits associated with low impact, environmentally and socially responsible commercial forest management in the context of Cambodia. Such information is vital for establishing an appropriate and commercially viable royalty rate on timber products (a key to sector reform and national planning).
- Establish realistic harvesting standards (e.g. examples of low impact practices on the ground) and sivicultural systems to restore natural forest values through attention to regeneration and planting of native species.

## **Unique Elements of the New Model**

The following are some of the elements of the CCF Model which distinguish it from other forms of forest management currently being used in Cambodia:

### **Benefits Stay Local**

To date very little financial benefit from timber extraction has accrued to local people, while many of the ecological, social and economic impacts are borne by them. Concessions systems run by foreign or elite entities have failed due in large part to their inability recognize the needs and rights of local people or to share benefits with them in a meaningful way (Global Witness 2002).

Under the CCF model, forest dependent communities are the primary financial beneficiaries of the forest management activities. The financial benefits are delivered through three mechanisms. First, profit, when and if it exists, is passed along to shareholders to be used within the community to foster development and livelihood diversification activities. Second, the CCF project aspires to redirect some percentage of the royalty or dividend payment to the commune council – as the local form of government.<sup>4</sup> This will ensure that the public revenue of forest management is felt in public coffers in proximity to the forest where forest protection measures can be most effectively enforced – thus linking cause and effect. Thirdly, monetary benefits (as well as capacity) flow to the communities during the forest management process when capital is spent on management activities falling under the category of production costs -- including such things as patrolling, mapping, harvesting etc. Establishing mechanisms for these financial benefits to stay local is thought to positively influence the behavior of local people who have a great deal of influence on whether to protect or harm (through illegal activities) the forest resource (Boscolo 2004, McKenney *et al.* 2004).

In addition, local people are also the primary beneficiaries of the improved management of the forest resource (upon which much of their food, medicine, materials and income still depends). With the CCF structure in place there should, in theory, be much greater local support for protection of the resource and stronger governance systems – making illegal logging by local people less attractive and more difficult to perpetrate.

### **Investments in Forest Management**

Sustainable forest management requires a long-term vision in order to make investments in equipment, marketing and forest management activities and protections, which may not “pay off” for many years. Under the concessions system, these sorts of investments are not made because concessionaires rarely take a long-term view. Rather, highly mobile

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<sup>4</sup> If redirecting revenue is not legally feasible, a reduced royalty rate and a dividend from the then larger share of profits accomplished the same goal.

concessionaires typically manage the resource to maximize yield, and profit, for the short-term. The concessionaires’ incentive is typically to maximize extraction and minimize investment with little concern for the future condition of the resource (Brown 1999).

Local people are obviously far less mobile and far more dependent on the condition of forest resources than are concessionaires. If given a secure, exclusive, defensible, long-term management contract, local people may be more inclined than a concessionaire to manage a forest in a way that maintains the integrity of the forest system (Salafsky *et al.* 1998). However, political and social realities mean that local people are often unable to manage timber sustainably in a commercial setting. Barriers to sustainable management include laws (and government attitudes) and burdensome regulations, the presence of illegal commercial forest extraction in community areas, a lack of technical skill and a lack of investment capital (Molnar *et al.* 2004)

The CCF model envisions overcoming many of these barriers by demonstrating (and creating systems that reinforce the lesson) that an incentive for forest-dependent communities exists to manage their resource base for the long-term. By establishing a pilot program that works within existing community forestry law, by ensuring exclusive forest management rights to the CCF enterprise, by providing training and technical expertise, by providing investment capital for startup costs, and providing access to a forest that has enough scale and commercial value that it can sustain the costs of professional staff, the program harnesses community members’ interests in long-term protection and prevents the ‘perverse incentives’ of business-as-usual forest extraction from taking hold.

### **Encouraging Legality**

Illegality plagues the forestry sector in Cambodia. Extra-legal payments required to get business done distort prices, eat into profits, and create uncertainty for actors within the market. Local people are often put at a disadvantage by these practices. Illegality within the forest sector has many causes, one of which is the understandable need for local officials to supplement insufficient salaries (Boscolo 2004).

Forestry officials working with the CCF project will be paid suitable wages. To discourage illegality, the program will stress the importance of maintaining legal and honorable practices in its recruiting and in all negotiations with forestry officials. Performance based wages and incentives will be implemented. Repercussions for illegal behavior will be stressed, in addition to the salary incentive, to refrain from taking extra-legal payments. In addition a series of checks and balances at key points will help to support the legality of the operation. This will be accomplished by including other forms of intervention by stakeholders – notably the commune council, NGOs, buyers and potentially donors.

As documented in the Independent Forest Sector Review (IFSR 2004), high royalty payments also create a perverse incentive to cheat (i.e. to compensate, companies cut more and report less etc.). However, the sub decree on Community Forests indicates that if a forest is being managed in a sustainable manner and the goal is poverty reduction, a new renegotiated royalty rate can be established.<sup>5</sup> To date, there is no process or precedent for delivering royalty relief to communities. An important element for the CCF project will be to inform this discussion with market based production costs, so that a realistic royalty rate can be determined.

### **Direct Access to Specialized Pro Poor Timber Markets**

Timber producers typically depend on a long chain of custody--and a series of middlemen--to get their products to the market. Being stuck at the bottom of the supply chain reduces negotiating power and profit. By working with organizations such as the TFT, the CCF enterprise is linked directly to expertise, which can bring products to

specialized timber buyers. These buyers make up the 'good wood' market, as it is called. They exist because of an increased awareness of the link between purchasing wood products and protecting forests and forest dependent communities. Internationally, the good wood market is fueled by the growing demand by investors and consumers for socially responsible forestry.(Jenkins and Smith 1999) Such demand has translated into a strong "social license to operate" for poor forest communities who were formerly locked out of the commercial management picture. (Scherr *et al.* 2004). This new alignment of interests is also fueling an expanding market for wood products produced with social, environmental and economic responsibility (Scherr *et al.* 2004).

In most places where it works, TFT provides direct access to this market by brokering wood directly to its member companies—companies that make wood purchasing decisions based on the manner in which the forests are managed. These actors are committed to sourcing their wood from producers that meet or are moving toward a set of social and environmental standards.

In Cambodia, a "good wood" market is yet to be developed as there has never been any responsibly produced wood available to supply it. However, preliminary discussions with Cambodia's leading high-end domestic furniture maker indicate that if responsible products were available, there would be strong interest in purchasing the wood. The furniture maker is interested in retailing a new product line for customers that are sensitive to the origins of wood. Such clients include social change NGOs, their expatriate staff, tourism developments and government buildings (eg they recently produced all the furniture for Phnom Penh's airport).

Direct links to a differentiated market are often impossible for low income producers to make because they lack the resources to communicate or transport products much beyond their place of origin, or the ability to interact with more sophisticated buyers. Linking directly to a market improves the producers' negotiating power, profit margins and security. The CCF Enterprise will benefit from expert marketing of its wood within Cambodia. To the extent possible, based on

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<sup>5</sup> Article 53 of forestry law state that the MAFF may reduce or waive the royalties and premium for any forest products & by-products collected from the Permanent Forest Reserve for scientific purpose or to create an economic incentive to efficiently use forest products & by-products. Article 13 of CF sub-decree state that royalties and premium should be set after consultation with CF community in order to support community development, equitable benefit sharing and poverty alleviation.

species and volumes, groups will work with outside buyers to sell the wood in the international market as well.

In addition, the CCF enterprise will benefit from TFT as an auditor of the forest management against internationally accepted standards. In turn, this audit provides the CCF enterprise with a tool to demonstrate to outside parties (markets, donors, NGO's) that they are meeting or moving toward responsible forestry standards. The auditing function that TFT provides will enable the CCF enterprise to distinguish its timber products in the marketplace (domestic or international) – an important element of this unique business model.

These types of market linkages can, it is believed, positively influence behavior. Once the CCF enterprise is linked to ethical purchasers, it is desirable to maintain that link by continuing to produce wood in a responsible manner. Failing to make progress toward responsible forestry standards will result in a loss of access to the specialized wood market – loss of potential investment, profit and the promise of established sales contracts.

### **Moving Cambodia Toward Responsible Forestry**

Forest Stewardship Council (FSC) certification has emerged as an effective tool for encouraging responsible forestry in many parts of the world. NGO's and donors have advocated that Cambodia's forest sector move toward FSC certification.<sup>6</sup> This is because being certified is seen as the best means to implement the Principles and Criteria embodied in the FSC standards. TFT is a strong supporter of the FSC, its principles and the certification process. However, the conventional wisdom of proceeding toward

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<sup>6</sup> FSC certification requires forest managers to meet, and then consistently adhere to, a set of ten principles and criteria, which have, over time, come to embody the tenants of responsible forestry. No matter which corner of the world a wood product comes from, carrying the FSC label means the forest managers are implementing the FSC Principles and Criteria. The authenticity of this system is achieved through a series of standardized auditing procedures

FSC certification at the outset of a project such as the CCF enterprise needs careful consideration. TFT's experience from other parts of the world demonstrate that:

FSC certification carries with it a series of bureaucratic burdens, which may not be appropriate for communities in a setting where by merely trying to get the forest under community management is a tremendous step forward.

FSC certification carries with it costs which would need to be built into operational budgets. Unless this is subsidized annually, it would, in fact, take precious dollars away from other more urgent needs including poverty reduction or forest management work.

FSC certification may inadvertently sets false expectations in communities that anticipated significant value added for their products, when they ultimately do not have the volume, quantity or quality of products to appeal to the international certified market.

Certification may not make immediate sense in a project, which expects to sell products in a market that does not recognize certified labels.

For these reasons, TFT does not anticipate the need to steer the CCF enterprise toward certification at the outset. However, TFT does envision the provision of forestry technical assistance in order to implement the Principles and Criteria of the FSC in a verifiable manner. Such technical assistance could contribute toward national sector reform by providing an example of how to use the principles and criteria of the FSC on-the-ground.

### **Project Genesis**

Six years ago WCS worked with government agencies to survey threatened wildlife and habitats across Cambodia and together they identified a forest concession in Mondulhiri and Kratie as particularly valuable for conservation. The area is unusual in South-East Asia in that it conserves large areas of both evergreen and deciduous forest, and the transition between the two. At the time, the forest was leased to the Malaysian-based

Samling International as a forest concession – meaning it would be intensively harvested. WCS worked with FA and Samling to encourage the forest managers to incorporate ecological set-asides into their harvest plans and to prevent bush meat hunting by and for their staff. In 2001 Samling made the unilateral decision to abandon its concessions altogether – leaving the ecologically rich area heavily roaded and extremely vulnerable to illegal logging, poaching and encroachment.

Since that time, WCS has been working with the RGC to establish a framework for governing (and hence protecting) this important forest area. Designated in 2002 as the SBCA, the former concession will be managed to support livelihoods and promote conservation. The buffer area will implement sustainable production methods while the core area protected from such activities. Sustainable forestry will be a key activity for supporting livelihoods for communities within the landscape. Because the Conservation Area designation is unique in Cambodia it provides something of testing ground for piloting new arrangements for forest management, such as CCF.

The Tropical Forest Trust (TFT) has been working in the timber business with forest managers and timber processors in Asia for nearly a decade. A member-based organization comprised of tropical timber buyers, manufacturers and retailers, TFT works to improve operations toward sustainable standards. TFT's members demand that the wood they use in their businesses is produced in a socially and environmentally responsible manner. TFT uses the members' procurement preferences as leverage to change practices on the ground.

In 2005 TFT entered Cambodia with the intent to establish, with communities, a commercial forestry project – leveraging the demand of its member companies in Ho Chi Minh City, Vietnam. It quickly became clear that the SBCA contained many of the requisite elements for a successful project – including a relatively intact forest with access to these markets, forest communities willing to participate and political support from the Forest Administration. However, further investigation reveal the high probability that

the majority of the desirable species for TFT members had been removed – resulting in a forest that, while still relatively intact, was going to require the development of new market linkages and probably less lucrative sales contracts, than originally envisioned (see discussion below). This scenario is becoming common across Cambodia, Vietnam and Lao PDR. Nonetheless, with the goal of reforming the forest sector in this socially and ecologically important region, and contributing to the development of new commercially viable community management models in more challenging forest conditions, TFT made the decision to continue with its commitment to Cambodia. With the mutual goal of developing a forestry project in the SBCA, TFT, WCS and FA forged a strategic partnership.

## **Achievements to date**

From mid 2005, TFT worked with WCS and FA to create the conditions necessary to implement a pilot CCF project. The initial year of background work entailed a detailed scoping process, which sought to conceptualize a plan for CCF within the Cambodian context and to investigate the likelihood of a successful pilot at the SBCA. TFT completed the following necessary tasks:

### **Entering the debate**

1) Established TFT as *a credible* forestry institution within Cambodia by building relationships with WCS, the FA and other stakeholders.

### **Site analysis**

2) Conducted *analysis* (field and desk based) of the social, economic, legal and ecological factors that will inform/influence a successful CCF project.

3) Undertaken *constituency building* within the FA - developing support for, and understanding of, the CCF project & goals.

4) Conducted *consultation* with relevant stakeholders at the local regional and national level – including the FA, NGOs and community groups to investigate the proposed site.

### **Model design**

5) Developed a *draft framework* for a new forestry arrangement that provides mechanisms to support the national goals of poverty reduction, sustainable forest management, and economic development.

6) Developed a *draft plan* for the implementation of the CCF project and importantly, *acquired Government support to pilot CCF in the field.*

A more detailed list of achievements to date is included in Annex 1. This report summarizes progress in both site analysis (timber stocks, social situation, stakeholder attitudes and capacity, ecological issues) and model design (management structures, roles and responsibilities, legal analysis, economic potential, benefit sharing options, implementation framework).

## 2. SITE ANALYSIS

### Geography

The SBCA is a 305,000 ha area located in Mondulkiri and Kratie provinces in eastern Cambodia (Figure 1). It lies within the failed Samling International logging concession, and was declared as a conservation area by Ministerial Decree (*prakas*) in August 2002. Approximately 155,000 ha was declared as a Core Area (designed to conserve, amongst other things, large mammals including Tigers and Asian Elephants) and the remaining 150,000 ha is in buffer zones to be managed for sustainable production. The western buffer zone includes a block of approximately 39,000 ha of semi-evergreen and evergreen forest, which has particular potential to be managed commercially for timber. Hereafter this is called the Target Area (Figure 2). To the south the Target Area adjoins the Snoul Wildlife Sanctuary (75,100 ha), run by the

Ministry of Environment, with the border being formed by the O Chhlong river.

The target area is split between three communes: Sre Preah and Sre Chhuk (Mondulkiri) and Khsuem (Kratie). The area is fairly flat (altitude 60-160 m) and contains a number of significant rivers including the O Chhlong as well as many pools and seasonal wetlands. Road access is primarily from the south and west on earth roads. Roads and stream crossings are largely impassable during the rainy season in June-November. An internal woods road system is well developed in some areas of the forest. From the southern boundary of the forest, it is approximately 18 km to the nearest border check point into Vietnam and from there about 150 km to the manufacturing districts of Ho Chi Minh City – a key market and the location of TFT members who procure socially/environmental responsible wood products.

Figure 1: Location of the pilot site

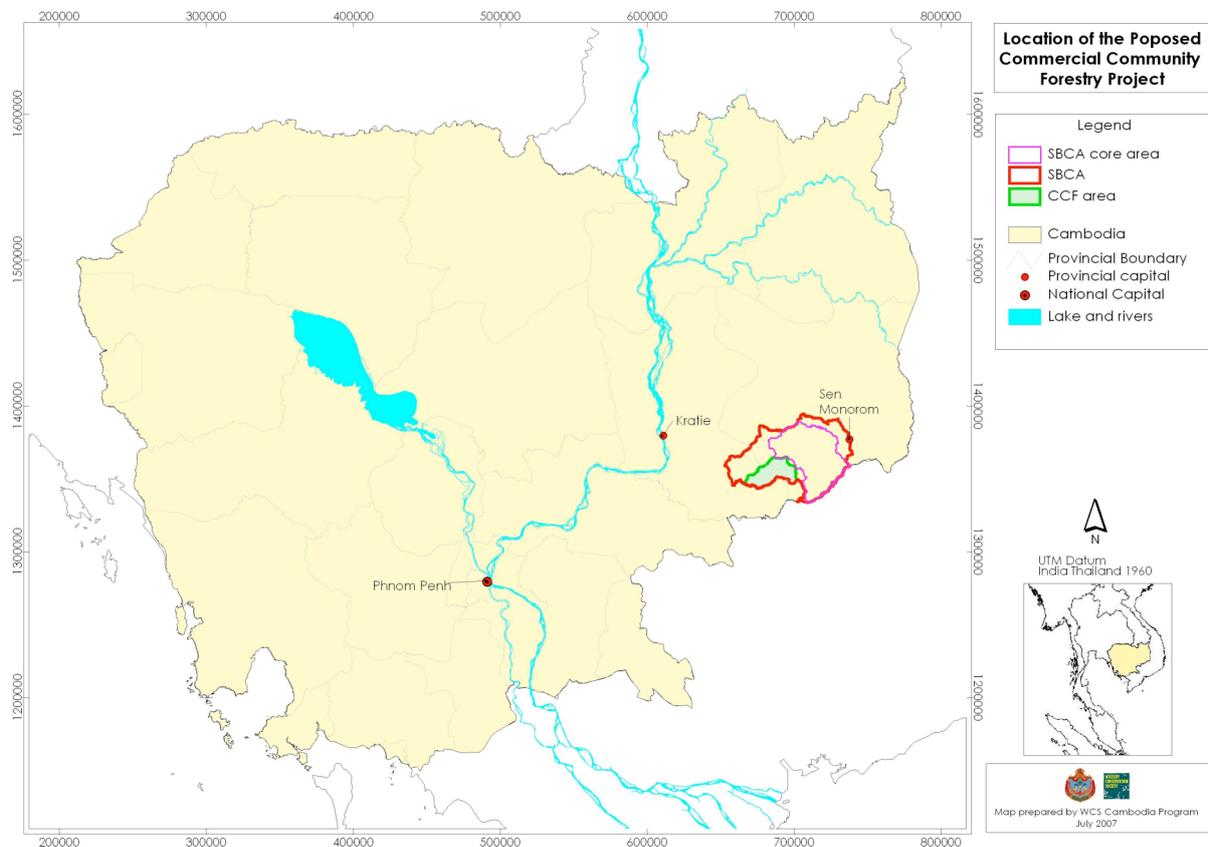
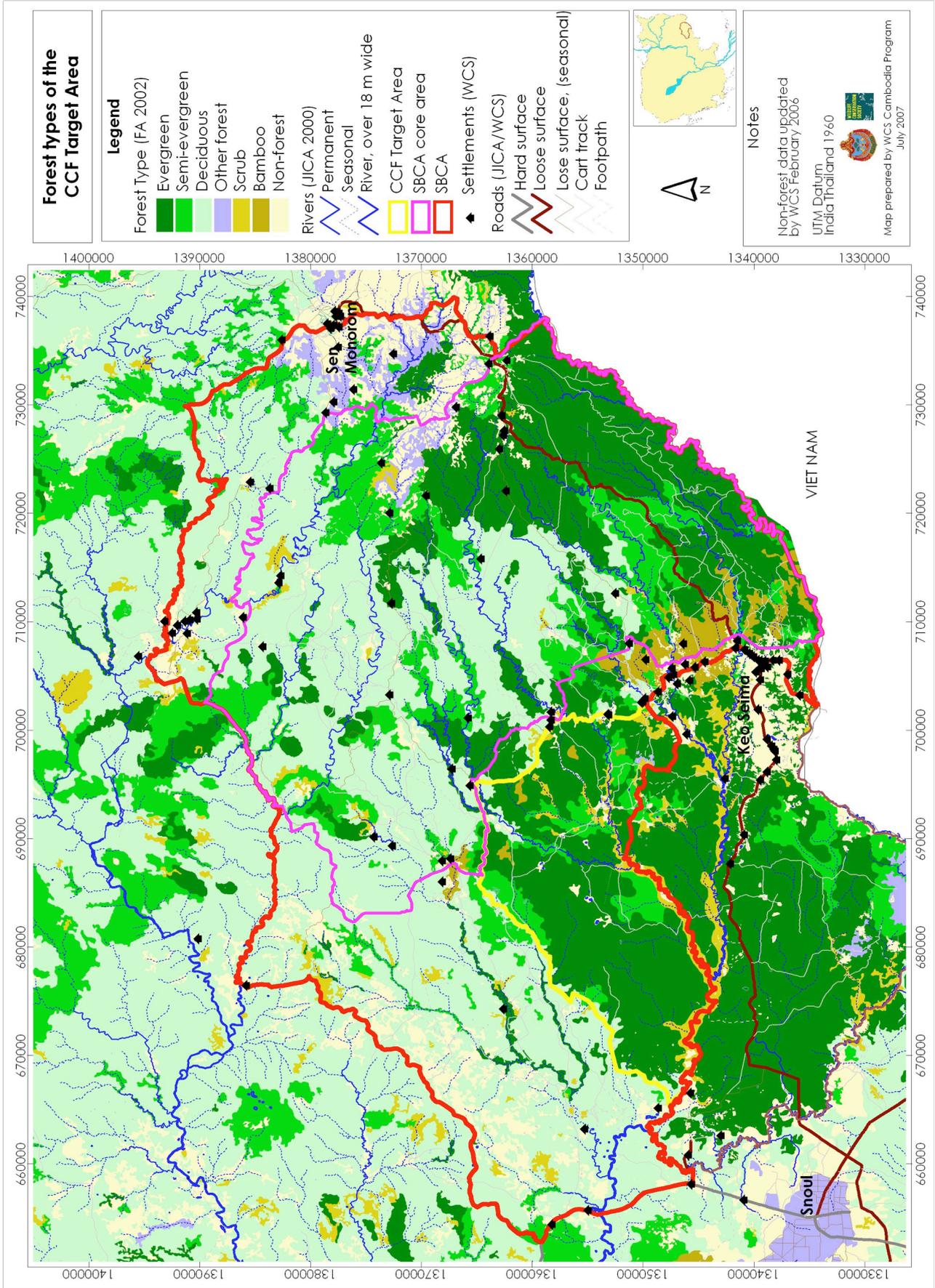
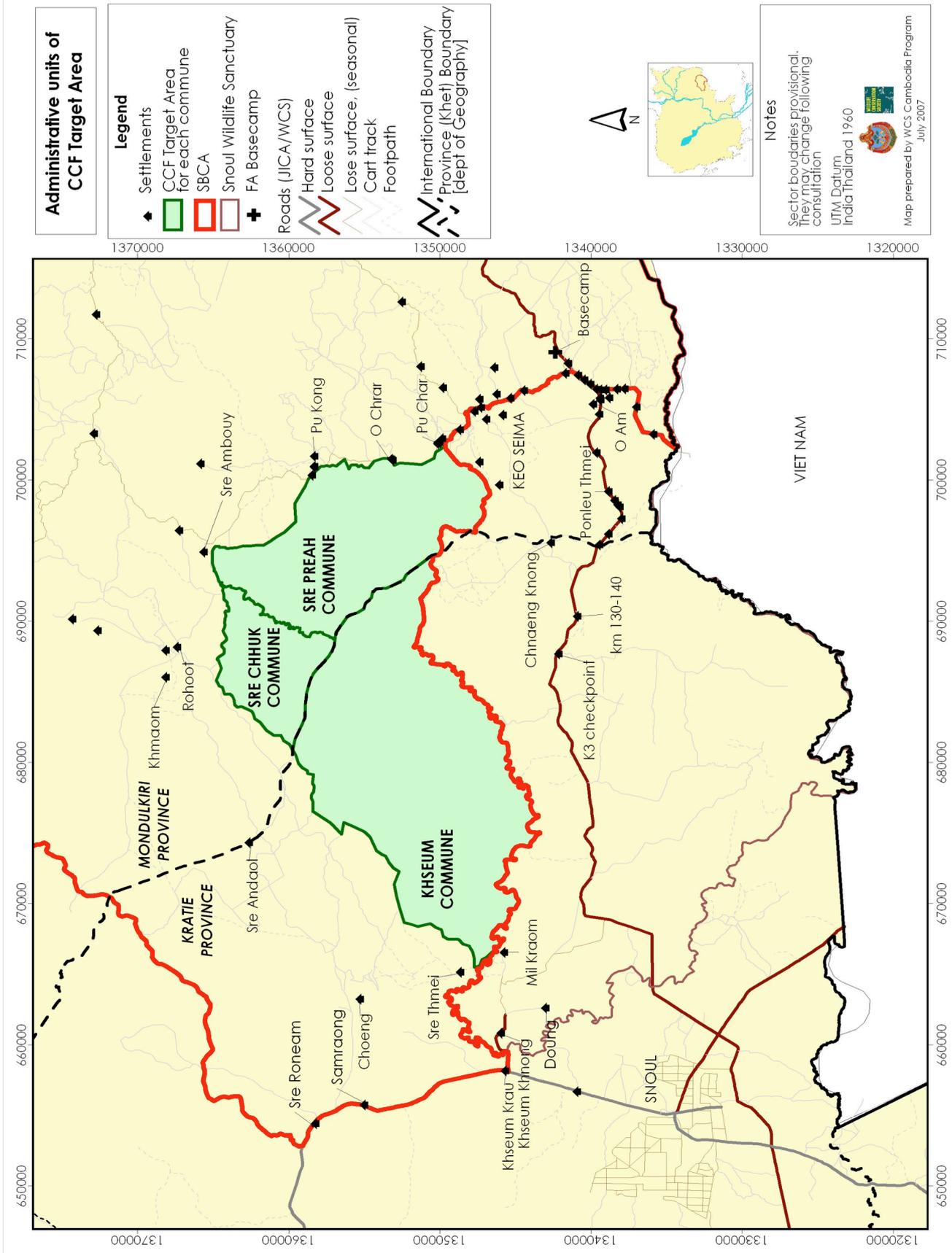


Figure 2: Forest types



**Figure 3: Administrative units of the target area**



## Forest Stocking

High quality forest type maps do not exist for Cambodia or the target area. Three national forest cover maps exist from the period 1996-2002. Figure 2 shows one interpretation (that of FA in 2002), which shows the target area as a patchwork of 'evergreen forest' and 'semi-evergreen forest' with smaller areas of deciduous forest and bamboo. The same is essentially true of the others (JICA 2000) although the mapping scale and exact location of units differs.

In order to investigate the basic potential of the target area to produce commercial timber, an exploratory inventory was conducted in late 2005. Five sample 0.5 ha plots were taken in each of seven randomly selected cluster locations spread across a sampling area of 16,000 ha. The 35 plots all fell in Khsuem Commune (Figure 3). All trees larger than 40 cm were recorded and measured following standard techniques by an inventory team that included one experience forester, and three in-experienced data takers. This was an ambitious amount of work to undertake given the weather when the inventory was conducted.<sup>7</sup> The inventory points were taken in the relatively accessible areas of the forest. Anecdotal evidence supports the assumption that these are the areas that have been most penetrated by illegal logging, and so other parts of the forest are likely to be richer in timber.

The average volume in trees greater than 40 cm dbh was 260 m<sup>3</sup>/ha, which is higher than is plausible for a partly logged forest of this type. This suggests that there were some errors in the methodology of this part of the inventory and so the volume data are not further analyzed here. However, the proportions of trees in different classes are informative (Table 1). The Forestry Law recognizes four Royalty Classes: Luxury Species, Class I Species, Class II species and Class III species. 82% was in Classes I and II but very little was Luxury timber.

Most of the volume occurs in Class I. Table 2 gives a further breakdown of stocking of Class I trees, showing that the great majority of this is *Lagerstroemia calyculata* (known as Sralao in Khmer) and possibly one or more closely related species with very similar timber. Further work is underway to clarify the number of species of Sralao present at the site. For the rest of this report we simply refer to this unresolved species group as Sralao

**Table 1: Proportion of trees in different Royalty Classes**

Royalty Class	N. of tree ≥ 60 cm/ha	% of stems
Class I Total	25.3	59.3
Class II Total	4.0	9.4
Class III Total	1.2	2.8
Luxury Total	8.0	18.7
Other Total	4.2	9.2
Grand Total	42.7	

<sup>7</sup> It rained every day during the inventory – making for difficult data collection conditions.

**Table 2: Abundance of all Class I species**

Scientific Name	Local Name	N. of tree / hectare	N. of tree ≥60 cm/ha	% of stems ≥60 cm dbh
<i>Lagerstroemia</i> spp.	Sralao	40	19	79
<i>Vitex pinnata</i>	Popoul Thmor	6	2	8
<i>Xylia xylocarpa</i>	Sokram	5	1	4
<i>Sindora siamensis</i>	Kakah	3	2	8
<i>Vitex</i> sp.	Popoul Bay	2	0	
<i>Hopea odorata</i>	Koki Masau	1	0	
<i>Vitex</i> sp.	Popoul	1	0	
<i>Peltoporum ferrugineum</i>	Trasek	1	0	
<i>Dialium cochinchinensis</i>	Kralanh	0	0	
<i>Sarcocephalus cordatus</i>	Kdol	0	0	
	Grand Total	59	24	

The more valuable species (e.g. Beng (*Azelia xylocarpa*), Chhoeu Khmau (Ebenaceae), Hundang (Meliaceae), and Koki Masau (*Hopea odorata*) were notably missing or severely reduced— probably removed by past logging. A detailed logging history for the area has yet to be reconstructed but it has apparently been cut during at least four periods – the 1950s (Crocker 1954), the 1980s (primarily by Vietnamese groups), the Samling concession period and the years after Samling left.

Of the stems over 60cm dbh now present, 59% is in Class I trees and 79% of that appears to be concentrated in a single species/species group – Sralao. Samling’s inventories from a few years earlier also recorded high levels of this species. It is also abundant (but less so than this) further east in the SBCA (about 50% of volume of trees ≥60 cm dbh per hectare) (McKenney *et al.* 2004). This species is common in certain drier semi-evergreen and mixed deciduous forest types across a wide area of Lao, Vietnam and Cambodia. It is not a preferred species and so is often left after first-cut logging activities, but still has a significant market value. Its potential is discussed below.

The next most abundant species in the forest is *Dipterocarpus alatus* (Class II), which is a favored timber species. Almost all *D. alatus* trees larger than 40 cm dbh are owned by individual families and tapped regularly

for their resin. Due to this livelihood value (see next section for more detail) they should not be considered a potential target species for CCF harvesting, and there should be special measures to ensure they are not damaged by logging.

Initial inventory indicates that the volumes are large enough to support a sustainable harvest level. Furthermore, the concentration of a single species is advantageous because both marketing and processing can be simplified, allowing increased economies of scale. However, the abundance of Sralao provides a major challenge for the CCF project since it is not used in the outdoor furniture market – the target market for TFT members buying responsibly produced wood in Vietnam. TFT members work with woods that are fairly rot resistant and easy to manipulate – Sralao has not been one of the species typically procured by this segment of the market. Customarily used for house frames, doors and windows, Sralao is a very strong, dense wood that is known for being difficult to work with because of its propensity to split- especially if wet. TFT member companies near HCMC have received one sample and, given their first inspection, have asked to receive a small shipment of 10 m<sup>3</sup> in order to make “sample” products. The result will be important for determining whether an international outdoor furniture market exists for the bulk of CCF wood products coming from this site. A separate

proposal and discussion of this activity is found Annex 7.

In the likely situation that it is not possible to sell Sralao to the international wood market for outdoor furniture, TFT has begun exploring a domestic market. As noted above, it may be possible to sell to a market in Phnom Penh that differentiates products - or is at least interested in purchasing legal and community managed wood. Preliminary conversations with furniture makers have been positive. Baring a differentiated market emerging, there is a healthy undifferentiated domestic market. A brief market survey of wood sellers in early 2006 indicated that Sralao demands a price upward of \$250 m<sup>3</sup> in the domestic market in Phnom Penh, whilst at the forest-gate in Khsuem it sells for approximately \$110 - \$130 m<sup>3</sup> to the middlemen.

A second concern with Sralao is that the tree itself has an extremely fluted stem and a tendency to develop holes in the trunk, which typically results in very low rates of wood recovery. This can be problematic for several reasons – particularly economic ones (i.e. it takes more effort to produce a m<sup>3</sup> of Sralao than other species, and sustainable off-takes will be lower since much growth is wasted). A small sample harvest is needed to help determine what yield in processed wood to expect and how best to maximize value.

Overall, the inventory results suggest that that the forest, while not optimal for the current TFT market, is nonetheless suitable for the elaboration of economically sustainable CCF production. It seems very

likely that the forest can support low-intensity sustainable commercial activities.

### **Social profile of the target area**

Overviews of demography and livelihoods in and around the SBCA can be found in Evans and Delattre (2005) and Evans *et al.* (in prep.). Detailed livelihood data exist for parts of the SBCA, but only one of the three CCF target communes has received much study (Sre Preah; see in particular Evans *et al.* 2003, McAndrew *et al.* 2003 and Marcelino *et al.* 2006; for Khsuem see CCC 2004). Additional qualitative data on livelihoods were collected during the CCF community consultations in 2006 (Annexes 3-6).

Figure 3 shows the main settlements near the Target Areas. Khsuem has several large villages near to the main all-weather road to Kratie but the other two communes have only relatively small settlements, mostly far from the main road and difficult to access during the rainy season. Table 3 shows population sizes and trends in the three communes. In total there are about 10,000 people (c. 2000 families) with 68% in Khsuem. The average reported growth rate for all three communes is about 4-5% per annum, well above the national average (NIS 2004). This implies a doubling time of about 15 years and suggests that there is significant net in-migration to these communes in addition to any growth due to births. This implies a rapid upward pressure on forest resources, which needs to be considered in project planning.

**Table 3: Population sizes and trends in the target communes.**

Number of individuals	Sre Preah	Sre Chhuk	Khsuem	Total
2003-4	1,307	2094	6,127	9,528
2004-5	1,345	2219	6,451	10,015
2005-6	1,420	2294	6,705	10,419
Net growth	113	200	578	891
Annual % growth	Sre Preah	Sre Chhuk	Khsuem	Total
03/04-04/05	2.9%	6.0%	5.3%	5.1%
04/05-05/06	5.6%	3.4%	3.9%	4.0%
03/04-05/06	4.3%	4.8%	4.7%	4.7%

Source: Department of Planning; Evans *et al.* (in prep.).

Table 4 shows the reported ethnicity of households in each commune. Khsuem is dominated by ethnic Khmer people, but with large minorities of two indigenous ethnic groups, the Bunong (Phnong) and Stieng, who form the majority in certain villages. Sre Preah and Sre Chhuk are much more dominated by Bunong people. The Stieng and Bunong are closely related branches of the Mon-Khmer language

group, and they share similar animist beliefs, cultural systems and forest-based livelihoods. In this area they tend to live more traditional lives than the Khmer, live in more close-knit, remote, traditional communities and to have lower levels of material wealth, literacy, numeracy, understanding of trade and access to basic services. Health care and education are very hard to obtain in many of the villages.

**Table 4: Ethnicity of population in target area**

Commune	Bunong	Khmer	Stieng	Cham	Other
Sre Chhuk*	94%	5%	0.0	0.0	1%
Sre Phreah	76%	18%	3%	0.0	3%
Khsuem	15%	74%	11%	0.3%	0.1%
Grand Total	46%	42%	5%	5.0	1%

\*Only includes settlements in or within 5 km of SBCA so excludes 2 villages in Sre Chhuk.

Table 5 summarizes livelihood data for the three communes. In all three the great majority of people are paddy farmers. Some of them generate small surpluses that can be sold but the majority produces less than they need to consume. There are various other farm-based activities (cash cropping, small scale livestock raising). Extraction of a wide range of forest products is also important, and for many families this may equal the total value of on-farm activities.

The forest provides many of the products and services necessary for everyday life. In particular, the collection and sale of resin (called *vor tuk* in Khmer mainly harvested from *Dipterocarpus alatus* and *D. intricatus*) is a significant source of cash for many families. Resin producing trees are individually owned

and tappers travel throughout the area, crossing commune, district and provincial boundaries to tap their trees. According to a study on resin collection near to the target area, over 86% of families tap resin and own on average 77 trees per family. (Evans *et al.* 2003); Average incomes from resin were at least \$300 at the time of that study, since when prices have risen substantially. The ownership of resin trees is related to the fact that many settlements were relocated far away during the Khmer Rouge period (1975-1979). Some communities were able to return much earlier than others, and these people were able to claim resin trees far into the forest, forcing latecomers to search even more remote areas and the latest of all to find no untapped trees at all (Evans *et al.* in prep.).

**Table 5: Basic livelihood data for the three communes**

Commune	Khsuem	Sre Preah	Sre Chhuk
# People*	6,705	1,420	2294
Forest	16,000 ha	16,000 ha	7,000 ha
Livelihoods	Main: paddy rice, liquid resin; Secondary: livestock, upland rice, fishing, NTFP	Main: paddy rice, liquid resin, hard resin, cash crop plantation; Secondary: upland rice, fishing	Main: paddy rice production, liquid resin, hard resin, Secondary: livestock, upland rice, fishing
Infrastructure	Red soil roads except Sre Thmei, Kapu, Chuo Krang, Choeng, 3 pagodas, 7 primary schools, police office, commune office	Good red soil roads Some villages especially Pu Kong and Pu Char still not accessible in rainy season	Poor roads condition, difficult to access in rainy season esp. from Keo Seima; 3 primary schools, commune office
NTFP Use for Sale	Liquid resin, hard resin, rattan, kampul treang (palm leaves), strychnine seeds	Liquid resin, hard resin, Mushroom, strychnine seeds, orchid, rattan	Liquid resin, hard resin, Mushroom, strychnine seeds, orchid, rattan
NTFP Use for HH	Mushroom, thatch, bamboo, kampul treang, wild vegetables, traditional medicine, honey	Mushroom, traditional medicine, wild vegetables, honeys,	Mushroom, traditional medicine, wild vegetables, honeys,

### **Forest Governance Issues**

Because resin-producing dipterocarps are also a valuable commercial timber species, many communities in the target area suffered before and during the concession system as the forest was quickly high-graded, many resin trees were taken, and traditional access limited. (McAndrew *et al.* 2003, Evans, *et al.* 2003, CCC 2004).

Today, despite the lack of concessionaires, the forest's resources are still vulnerable due to the lack of an effective governance system, unclear tenure, illegal harvesting and land clearing. In addition, social conflict over the use of forest resources remains high with at least two arrests of local people (in Khsuem commune) in such disputes in 2006. Such activities severely threaten the security of the many people in Khsuem, Sre Preah and Sre Chhuk who depend upon the forest for survival. Three specific issues of note are land clearance, illegal logging and competition for NTFPs.

Analysis of ASTER satellite imagery from February 2001 until February 2006 shows that land clearing is a significant problem a few kilometers outside the target area

(especially along the main road through Snuol Wildlife Sanctuary) but does not seem to be occurring on a significant scale within the target area yet. Scattered patches of small-scale shifting cultivation can be seen in the far west of the target area and the scale of this needs further study.

Illegal logging is widespread and is being conducted by local people cooperating with or employed by military and government officials. Luxury species are preferred but now these are rare, Sralao and other species being taken on a significant scale. The heaviest activity involves access via Snuol Wildlife Sanctuary near the Mondulkiri border. In the most involved settlements up to 30% of families are reported to take part at times (SBCP internal data). It is not clearly known how "organized" the illegal logging system is and what sort of patronage it is tied to (but see CCC 2004 for some details).

There are many valuable NTFPs in the area, including resin, bamboo, rattan, strychnine, fish and wildlife. It was reported in consultations conducted by Peter Swift (Annex 2) that many people come into Khsuem commune from elsewhere to harvest these products, sometimes from

distant provinces. This level of competition for resources is likely to impact both local livelihoods and the status of the resources.

There are government-led and community-led efforts to control these problems. Government law-enforcement patrols, supported by the conservation project, mainly cover the eastern side of the forest, closest to the SBCA Core Area. These patrols rarely reach Sre Chhuk and so far never in Khseum, but there is a lower level of patrolling in those areas by FA staff unconnected with the conservation team. These patrol teams have been fairly effective in reducing land and forest crime where they are active, although some issues remain. The patrols focus on controlling illegal logging and land clearance, while protecting access to NTFP resources.

Community efforts locally are usually organized under the title Community Forestry (Table 6), with Khseum the most advanced and Sre Chhuk the least advanced. They are often established with help from NGOs (in this case SSP, Satrie Santhepeap Deumbey Pakrithan) but ultimately succeed or fail as a result of leaders within the

community. The focus is on patrolling and these groups try to make official agreements with the local FA to give them patrolling rights and to define the area they are responsible for. The necessary national guidelines have only just been completed; it remains to be seen whether FA will approve these particular agreements, given the history of somewhat difficult relations with communities in this area.

A community forestry network has been especially active in trying to suppress illegal logging in Kratie (see e.g. CCC 2004), but it is not always effective in working with the FA. Often local community people are the only ones arrested for illegal logging contracts arranged by more powerful actors.

All three communes noted that their shared boundaries were not fully agreed. There is a discrepancy along more than 10 km of boundary, with Khseum people believing that it follows the line shown on most official maps and the other two communes believing that it lies further west. This will need to be resolved quite early in project implementation.

**Table 6 Experience of Community Forestry in the three communes**

<b>Khseum</b>	<b>Sre Preah</b>	<b>Sre Chhuk</b>
CF was initiated by SSP 2003	Village CF committees in Pu Kung and O Chra, and maps of the two proposed CF being facilitated by DPA (Development and Partnership in Action).	CF has been introduced to the commune in 2005.
CFMC at village level, commune level and district level were elected.	No commune level CF committee or commune level map. CF regulation, by-law and agreement not yet developed.	CFMCs in 6 villages have been elected in November 2005.
CF regulation, by-laws, and agreement not yet recognized.		CF boundary not yet proposed or demarcated
		CF agreement, regulation and by-law not yet recognized

CF = Community Forestry; CFMC = Community Forestry Management Committee

### **Community consultations**

As part of the initial project scoping process, consultations were conducted with the communities, and the commune councils. The goal was to gauge interest in the project, present key concepts, raise awareness and solicit feedback in order to improve the

overall project design. As the people who have the most to directly gain, or directly lose from the success or failure of this project, the local people are considered the primary stakeholders of CCF. Initially, it was unclear if there would be support for a project that involved cutting trees as, generally speaking, most of these

communities have been trying to prevent outsiders from cutting the forest for many years. Given the highly charged nature of tree harvesting, it is accurately viewed as a high-risk activity. In 2005, an initial consultation was conducted by a third party (an individual trusted by community rights groups in Cambodia), to get reactions from local people and hear their concerns and reservations. Participants were asked to define their vision for the former concession forest and asked how a logging operation to benefit communities would look.

Given the generally positive responses expressed by stakeholders during the first consultation, a longer and more thorough consultation was conducted with the target communities between June and October 2006 by TFT. In this consultation, communities were presented with the CCF concepts and establishment steps, the role of the FA, etc. In addition they were asked to provide comments on roles and responsibilities of potential stakeholders, a potential name for this model, concerns with the design, benefit-sharing arrangements etc. The questionnaire and format of the consultations is found in Annex 4.

In addition a survey was taken to assess the capacity and opportunities within the communes. This was done by interviewing each stakeholder group (communities, commune councils, and FA staff at the local levels) about their experiences, views, skills and sense of the forest. A copy of the survey can be found in Annex 4 and some photographs of the consultations in Annex 12.

### **Attitudes**

The goal of the first consultation was to understand how local people would react to the notion of a timber harvesting operation designed to benefit them in the former

concessions area. Communities expressed cautious interest. In particular, they were concerned about the potential difficulty of keeping outsiders from coming in and cutting trees once logging in the area was legal – especially powerful people. They also expressed concern that the local FA will not support them in their patrolling activities as they have had difficult gaining the FA's support suppressing illegal logging in the past. And they were understandably concerned about how resin trees and local wood consumption would be incorporated into a CCF model. In general, the communities were interested in the CCF concept provided that the gains outweighed the risk and that the harvesting was kept at a very low rate and that they were closely involved in the oversight. The communities expressed interest in further discussion particularly because of the potential of the project to protect the forest by generating some income to support patrolling.

Communities were much more comfortable discussing the project during the second round of consultation. This may be because there was ample time to show details regarding roles, responsibilities, benefit sharing arrangements, etc. Discussion was clearer because the design of the CCF concept was more fully developed, as were the outreach materials. In addition, the meeting was facilitated by the members of FA Central office, with participation from FA triage staff. The materials were presented in a formal manner and time was devoted to a step-by step explanation of the process, stakeholders, partnerships etc. The response was generally quite positive. Table 7 summarizes the main areas of interest and concerns raised. A full write up of community responses is found in Annex 3 - 6.

**Table 7 Overview of attitudes expressed in Consultations**

Commune	Khseum	Sre Preah	Sre Chhuk
<b>Initial CF/CCF Interest (NFTP's, Timber, Protection)</b>	Protecting forest from illegal logging, Stopping loss of resin trees, protect NFTP's. Secure forest tenure Materials for house construction & commune facilities Low impact timber harvesting to support village and commune development	People's main interest is to be able to clear chamkars and cut wood to build houses and some commercial timber productions	Local communities interested in protecting forest from illegal logging, encroachment, loss of resin trees, protect NFTP's, maintain woods for house construction and wildlife conservation.
<b>Concern with the CCF project. There will be problems if CCF:</b>	Lacks transparency Expenses exceed income The members don't participate actively They lack of support from local authorities Lack competent institutions in law enforcement	Lacks transparency in budget management Limited local capacities in forest and institutional management. Risk of expenses greater than income. Poor infrastructure for transportation. Ineffectiveness of law enforcement	Lacks transparency in budget management Limited local capacities in forest management and institutional management, Lack of clarity about operational processes, Risk of expenses greater than income, Poor infrastructure for transportation

While the three communes targeted as pilot sites are similar in many respects, there are also substantial differences in motivations. In particular people in Khseum seemed more interested in the timber harvesting aspects whereas those consulted in Sre Preah and Sre Chhuk emphasized the protection benefits. Positive aspects mentioned in all communes were that all stakeholders (FA, CC, LP) are interested in the same goals, that RGC policy has encouraged local people to participate in sustainable forest management and that there is evidence of financial and technical support from TFT/WCS and other NGOs.

There was a general agreement that such a project cannot run successfully without financial, equipment and technical support from outside. There was also a common concern about the need to clarify whether the Samling contract will be cancelled. Specific illegal activities that communities raised as concerns are shown in Table 8

In Sre Preah it was noted that many people appear to consider that they own all trees located close to their resin trees, not just the resin trees themselves. Clearly this could have a major bearing on the possibility for sharing timber revenues equitably and needs further study.

**Table 8 Key illegal activities mentioned during community consultations**

Khseum	Sre Preah	Sre Chhuk
High rate of illegal logging in the evergreen forests by insiders and outsiders (Luxury and Class I species almost completely harvested)	Small rate of logging along O Rang stream border to Sre Chhouk commune by insiders and outsiders;	Medium rate of illegal logging and wildlife poaching by people from outside and few people in the commune

### Community Capacity

The capacity survey demonstrates that people have had limited exposure to formal education and relatively few professional skills. Table 9 summarizes the main strengths and weaknesses with regard to capacity. This lack of capacity is likely to be a major constraint on

the speed and scale at which CCF can be introduced in the area. These capacity levels are not unusual for the kind of Cambodian rural communities found near to high value forests (authors' pers. obs.).

**Table 9 Capacity of community members and Commune Councils**

Khsuem	Sre Preah	Sre Chhuk
<p><i>Strengths</i></p> <p>Local people have experience in law enforcement.</p> <p>Local people have experience in tree cutting, car driving, tree identification, tree volume estimation;</p> <p>CC have good experience in law enforcement and commune development;</p>	<p>Local people have experience in law enforcement;</p> <p>Local people have experience in tree cutting, car driving, tree identification and forestry;</p> <p>CC has good experience in law enforcement and commune development;</p>	<p>Some local people have knowledge in tree identification, hight estimation, and log measurement.</p>
<p><i>Weaknesses</i></p> <p>Forest resources with high rate of disturbance.</p> <p>Local people and CC have low education and limit knowledge and experience in budget and forest management;</p>	<p>Local people and CC have low education and limited knowledge and experience in budget and forest management;</p>	<p>Commune council members have no knowledge and experience in forest management and limit experience with law enforcement, institutional management and development work.</p> <p>Local people have no knowledge and experience in institutional &amp; forest management or law enforcement.</p>

### Consultation with FA

As the agency charged with the management of forests in Cambodia, the Forest Administration is an important partner working to elaborate the CCF project. With the close of the concession system, the FA is seeking new arrangements to manage the production forests in a way that will reduce conflict and criticism, while simultaneously supporting national development goals.

### Attitudes

Thus far, the Forest Administration has received four detailed presentations on the CCF model, has participated in one aerial inspection of the project site, and has assigned one senior staff person to aid in the project's development. The FA has been explicitly consulted during each stage of CCF development thus far, including the determination of roles and responsibilities of different stakeholders and the elaboration of key economic assumptions, and during each phase of activity to date.

Participants at the discussions included senior members of the FA i.e. the Director-General, Deputy Director-Generals, the Chiefs of the Community Forest Office, the Forest Management Office, and the Forest Industry and Trade Office. Thus far, there has been strong support of the concept and project development. Copies of the presentations are located on a accompanying CD in Annex 10

To date, the FA at the Central level is very supportive of this pilot project as a way to move forward in the post concessions era. As this is intended to be a pilot project, there is a sense that the Forest Administration is willing to explore these issues. The FA has given clear approval for the project to move beyond the exploratory Stage 1 to begin on-the-ground implementation (Steps 2-7, see Implementation section below).

There remain some key questions, listed below. These have been openly discussed with FA, who acknowledge that there are issues that need resolving as the project moves forward, but they expressed optimism that none of them would prove irresolvable.

- Overcome some inherent resistance to allowing communities to co-manage large areas of valuable forestland.
- Establish an economically viable royalty rate system and establishing a process for determining/negotiating that rate in a predictable, equitable and responsive manner.
- Legally redirect a percentage of the royalty payment to the commune councils
- Develop a tenure agreement appropriate for long term management with communities and mechanisms to secure such an agreement
- Determine the legal status of Samling's concession agreement with RGC

- Determine whether, with the existing ban for logging and transport<sup>8</sup>, some pilot operations can move forward.

### **Capacity of local FA staff**

Additional consultations with the district and local FA have been conducted in order to assess skills and ability to work with the community (Annexes 4-6). The local FA participated in facilitating the second round of community consultations in 2006. Thus far, the FA at the local level have expressed interest and willingness to work with the project. However, there is a lack of skills and experience in actual forest management (see Table 10), which needs to be overcome if the FA is to provide any services outside law enforcement. Therefore a significant amount of training and support to local FA will be necessary in order to help them fulfill their roles and responsibilities under the CCF project design.

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<sup>8</sup> *Prakas* N° 01 dated January 25, 1999 on the measure to control and suppress anarchic activities in the forestry sector.

**Table 10 Capacity of FA at local level (Cantonment, Division, Triage)**

<b>Khsuem<sup>1</sup></b>	<b>Sre Preah<sup>2</sup></b>	<b>Sre Chhuk<sup>2</sup></b>
Local FA at all levels have experience with Forest Concession (FC) Companies in forest management and good experience in law enforcement.	Local FA at Cantonment has experience with Forest Concession (FC) Companies in forest management  Local FA at cantonment, division and triage has good experience in law enforcement.  Lack of FA staffs at division and triage to cooperate;  Local FA at division and triage have limited experience related to forest management with forest concession companies.	Local FA at Cantonment has experience with Forest Concession (FC) Companies in forest management  Local FA at cantonment, division and triage have good experience in law enforcement.  Lack of FA staffs at division and triage to cooperate.  SBCA staff could not patrol in rainy season because of poor infrastructure & facilities.

<sup>1</sup> Kratie Cantonment, Chhlong Division,

<sup>2</sup> Mondulkiri Cantonment, Keo Seima Division

## **Ecological Issues**

### **Importance of the SBCA**

The biological value of the SBCA as a whole is described by Walston *et al.* (2001) and WCS/FA (2006b) and summarised here. It is important for both its habitats and its wildlife. It is unusual in South-East Asia in that it conserves large areas of both evergreen and deciduous forest, and the transition between the different forest types. The evergreen forests are likely to be especially important for their floristic richness and endemism.

The mosaic of forest types probably contributes to the high species richness in the area. To date 326 bird species, nearly 80 mammal species and over 50 reptile and amphibian species have been recorded in SBCA. There are likely to be many more reptiles, amphibians and small mammals that have not yet been recorded. At least 40 species that are Globally Threatened, Near-threatened or Data Deficient have been recorded in SBCA, twelve of them Endangered or Critically Endangered. The SBCA is particularly important for the conservation of several highly endangered mammal and bird species, including Tiger, Asian Elephant, Banteng, Black-shanked

Douc, Yellow-cheeked Crested Gibbon, Orange-necked Partridge, Green Peafowl and Giant Ibis (for scientific names see WCS/FA 2006b).

### **Importance of the target area**

Relatively little research has been done in the target area itself – most data come from the Core Area or the deciduous forests in the Buffer Zone north of the target area. There have been some short reconnaissance visits by WCS/FA staff and a few days of fieldwork were conducted in the target area by a wildlife survey team from the University of East Anglia, UK in January-February 2006, focusing on birds and diurnal mammals (Bird *et al.* in prep., all records also mapped in WCS/FA 2006b). These surveys provide good indications of the species present, but do not provide sufficient data to identify critical sites within the target area.

Species found so far closely resemble those present in evergreen/semi-evergreen forests of the core area. Globally Threatened species found included Yellow-cheeked Crested Gibbon, Black-shanked Douc (common), Northern Pig-tailed Macaque, Lesser Adjutant, Green Peafowl and Manchurian Reed Warbler. There are regular records of Asian Elephants in the far east of the target area near to Pu Kong village. Near

threatened and Data Deficient species found included, Siamese Fireback and Germain's Peacock-Pheasant. On the basis of these records, and the habitats present, many other more elusive globally threatened species seem likely to occur including White-winged Duck, Gaur, Sun Bear, Dhole, and several cat and primate species. Additional threatened species occur in neighboring deciduous dipterocarp forests and may occasionally visit the target area, including the Critically Endangered Giant Ibis and up to three vulture species. Several threatened reptiles and amphibians are likely to occur – most notably there are persistent reports of small numbers of the Critically Endangered Siamese Crocodile surviving in the O Chhlong and associated streams (Degen *et al.* 2005, J. Bird and Thuon Try pers. comm. 2006).

The vegetation of the area is less well understood. The bedrock is relatively old, acidic sediments, and the soil is unusual. Crocker (1954) maps the only area of plinthitic hydromorphic soil in the country here and in neighboring Snuol WS, on flat, evergreen-forest dominated areas with a high density of small pools, a sign of the poor drainage that gives rise to this soil type in the first place. This unusual soil implies that the vegetation may also be unusual, and further research is required.

Almost nothing is known of the neighboring Snuol WS but it seems likely to have very similar vegetation and natural faunal communities. It has been more severely impacted by hunting, logging and clearance but from roadside observations at least two Globally Threatened species are known to

persist, Black-shanked Douc and Lesser Adjutant.

This is a rich assemblage of threatened species and indicates that the target area has high biodiversity value. This raises some concerns that logging in the area may worsen the conservation status of these species. This is a risk and further research is required to clarify the distribution of the most important species, their critical habitats and their likely response to logging. These risks need to be weighed against three factors

1. The distribution of species elsewhere in the landscape (since many of those mentioned already have secure populations in the SBCA core area)
2. The possibility of avoiding impacts through good planning (e.g. unlogged buffers around key wetlands and water courses)
3. The positive contribution that improved management will bring. The target area is currently affected by illegal logging, heavy hunting and the ever-present possibility of conversion to rubber plantations. If bringing the area under timber harvesting can prevent those other threats, it may well be the preferable management option, despite a certain amount of unavoidable damage.

The initial assessment of WCS technical staff involved in the project is that given the high levels of threat the area is under in the medium to long term, point 3 should be given a great deal of weight and that in this context, the expected ecological issues are unlikely to form a serious constraint to the proposed project. Nonetheless, further field assessment is clearly merited.

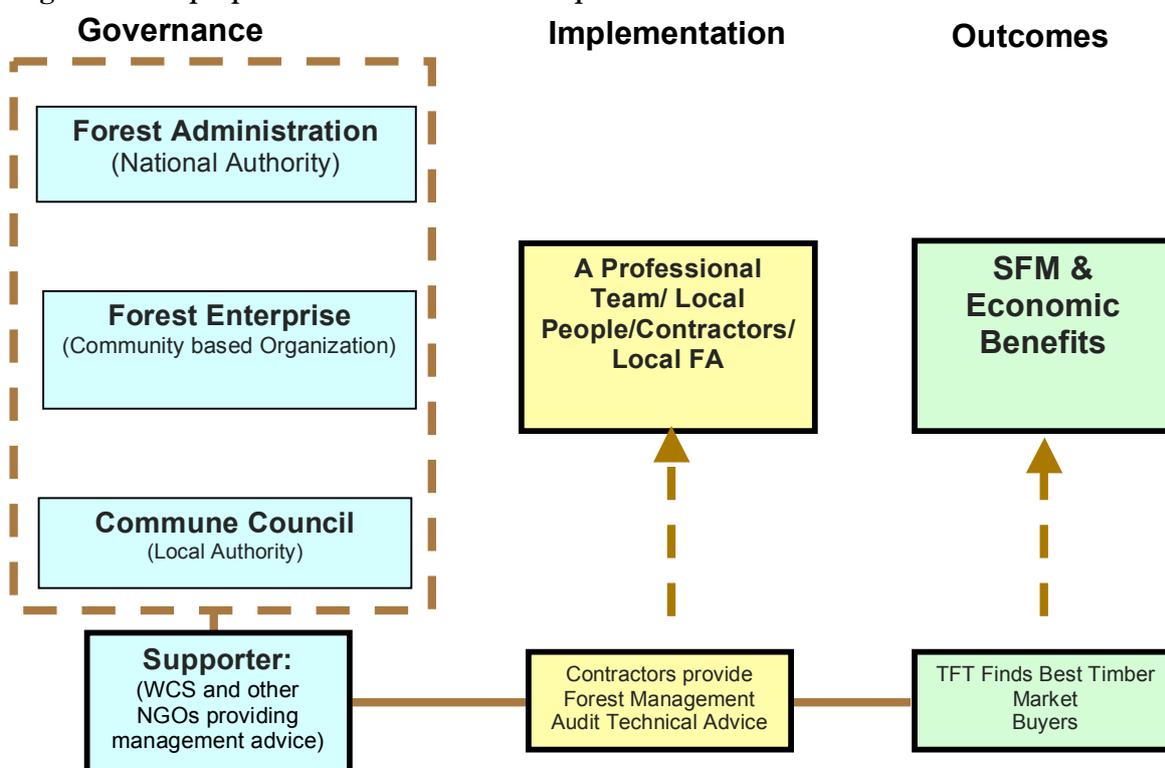
### 3. THE PROPOSED MODEL – CCF INSTITUTIONS AND PROCESSES

#### Roles and Responsibilities

The CCF concept is comprised of three central partners (Figure 4): The local people, represented by the specially created *Forest Enterprise*, the *Forest Administration* triage and district staff as the representatives of the statutory forestry authority, and the *commune council* as the representatives of

local government. The three partners will work together to implement the CCF project with the aid of NGOs. The Forest Enterprise is a novel element and will require the most external support. Organizing the community forest enterprise at the level of the commune is an important factor in empowering it – it should provide enough representation and legitimacy to negotiate fairly with the other stakeholders.

Figure 4: The proposed structure of the CCF pilot



Elements of CF, Forestry Law, and Concessions law have been used to develop general ideas of roles and responsibilities for each of the three groups. However, the actual mechanics of the CCF approach will be refined through a stakeholder consultation process during implementation.

- Planning – the responsibilities are shared between all three parties with the Forest Enterprise representing the local people’s voice. The Forest Enterprise has the right to develop a plan, the FA has the right to

approve the plans, the CC has the responsibility to acknowledge the plan and mediate any disputes.

- Implementation - the Forest Enterprise is charged with implementing the Forest Management plan but has the right to hire the FA and other contractors, as well as local people, to undertake work. The FA and contractors can provide the technical skills that are needed. In particular, the FA will be hired for law enforcement work and a patrolling fee is worked into the operational costs.

- Monitoring – the FA will be primarily responsible for monitoring of adherence to technical forestry standards.
- The crucial role of overseeing financial governance has yet to be assigned, but may best be placed with the Commune Council since they have a particular incentive to ensure that benefits are generated, correctly assigned and widely shared amongst their constituents.

The roles and responsibilities of each stakeholder will include safeguards, checks and balances that are built into the project to ensure that:

- All parties ensure transparency, legality and sustainability of timber harvesting
- All parties ensure transparency, sustainability and legality of financial management.
- The project proceeds by mutual consent of the three groups, such that each has the right to halt operations if there are serious problems.

There is a potential conflict of interests in the role of the FA. As proposed they will play a role in enforcing the law, as well as monitoring the legal compliance of the project. This is undesirable, but at present there is no alternative form of law enforcement, or monitoring.

An independent NGO will audit these elements to ensure they are functioning as intended.

The following two sections discuss in more detail the roles of the Forest Enterprise and of the Commune Councils.

### **The Forest Enterprise concept and the importance of capacity**

The CCF model seeks to establish a fully functioning community based enterprise (although it is organized at the commune level) to undertake forest management and timber production. The Community Forest Enterprise element is what distinguishes this model from other community based natural resource management models and is the

central argument for the CCF's ability to deliver lasting poverty alleviation, livelihood improvement and business development.

It takes its direction from forest enterprise models in Mexico where 80% of the forest estate is managed in this manner (Bray *et al.* 2005). It differs from some other community forest initiatives where local people have a more limited role, participating in selected forest management activities and decisions.

A frequent challenge facing forest enterprise initiatives is that of the capacity of the participants: rural forest dependent community members cannot themselves be expected to understand or adequately manage a business that seeks to market timber professionally to international and national buyers. Because of this, it is necessary that outside partners, with the skill sets run a profitable business, be involved as paid managers. Therefore CCF model is designed much like other private enterprises of any scale –meaning the owners (in this case the community members and associated stakeholders) essentially purchase the skills they need to make the business run.

In a typical business model, a board of directors is formed which is comprised of representatives of the owners. In the CCF case, the board of directors is made up of representatives of the communities. The job of the board of directors is to oversee the enterprise, supervise implementation of the work, and report back to the shareholder/members. When important decisions need to be made, the board of directors will have the authority to make those decisions directly on behalf of the members. Figure 5 shows how the board of directors represents the communities. The board of directors is elected at the commune level. The election process identified takes its direction from the Community Forest sub-Decree, which instead of a board of directors elects a Community Forest Management Committee

According to the approach here, the board of directors is elected from settlement

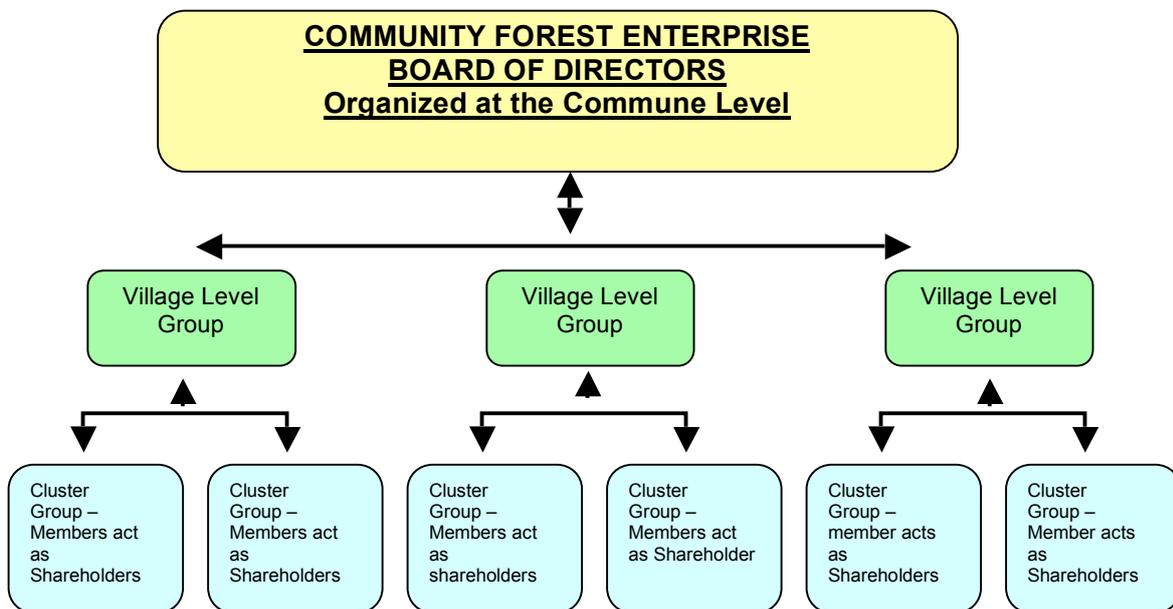
clusters, which form a village level group which elects a board of directors at the commune level.<sup>9</sup> The formation of cluster groups and village level groups can be based on the process described in the Sub-decree on Community Forestry passed in 2003 by the RCG. However, rules concerning members/shareholders rights and responsibilities will be determined by the participants during the group formation process as described in the recently issued *Prakas* and Guidelines on the organization of Community Forestry.

The Board, once formed, is expected to be involved in day-to-day running of the enterprise and oversight of the various management teams (see Figure 6). The management teams are headed by skilled professionals who work closely with the

Board of Directors. For example, a Business Management Team is led by a professional business manager, a Forestry Team is led by professional foresters, and a Financial Management team led by a professional accountant. Each team will work closely with the appropriate constituent group or agency to implement its work

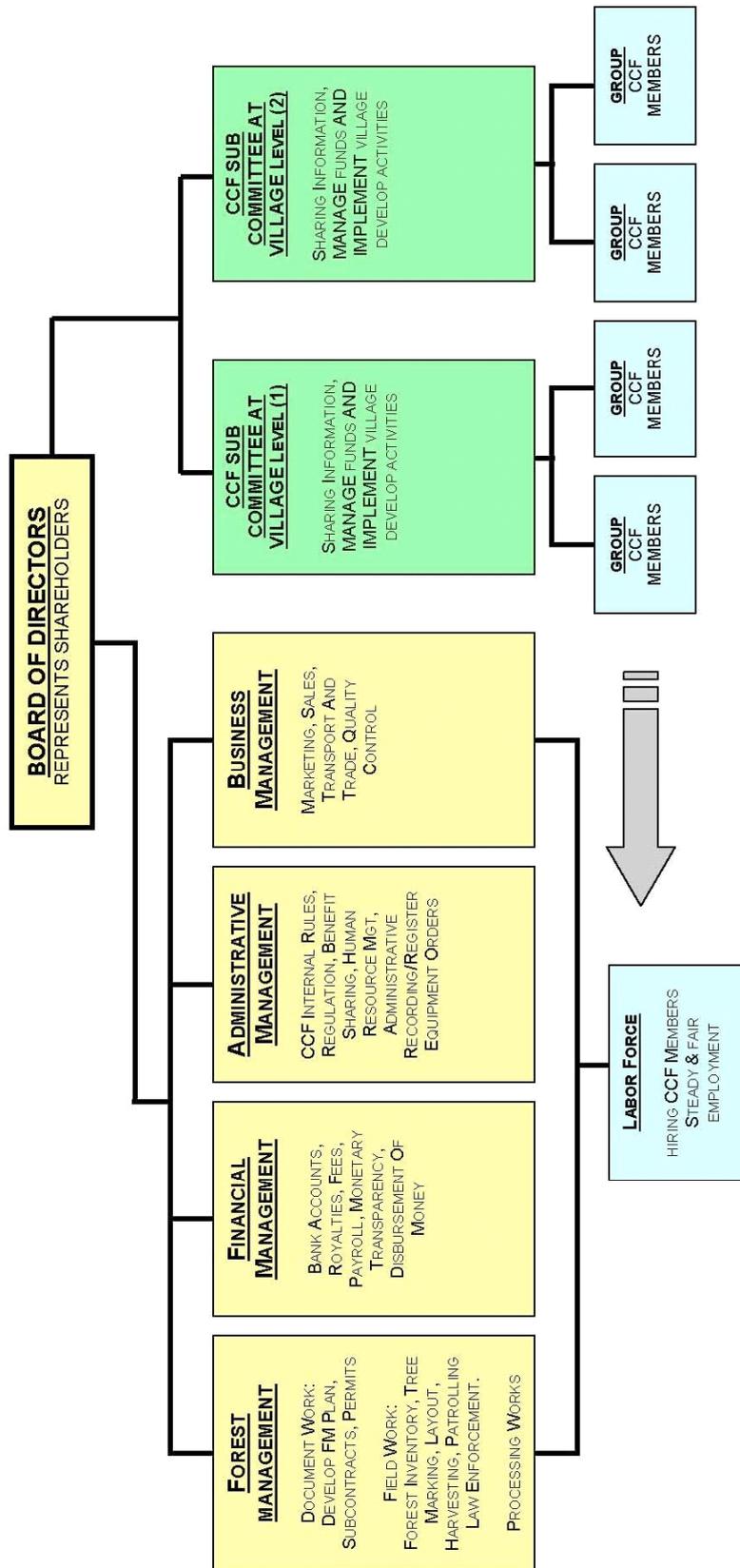
The target area and villages are in three communes. Under this proposed system there would be separate institutions for each commune. The option of single body unifying all the commune enterprises will also be investigated during implementation

Figure 5: Diagram of Forest Enterprise Representation



<sup>9</sup> Settlement clusters are a term given to the *Krom*, which is a smaller unit than the Village (*Phum*) and is a group of people, who living close together and identify themselves as a smaller grouping in a community.

Figure 6: Diagram of Forest Enterprise Representation and Implementation



For the most part, the CCF board of directors will simply act in the same manner, and have the same responsibilities, as the Community Forest Management Committee described in the sub-decree. These responsibilities are listed in the sub decree.

- Prepare and adopt Regulation with the involvement of the members and facilitation from local authorities and the commune councils;
- Prepare and adopt by-laws with the involvement of the members and facilitation from local authorities or the commune councils;
- Prepare a draft of the Agreement with the involvement of the members and with technical assistance from the FA Cantonment upon request;
- Operate in accordance with the terms and conditions in the (CF/CCF) regulation, by-laws and other relevant legislation;
- Seek financial and technical support from FA, relevant institutions and other donors to implement the operation;
- Represent the CF/CCF in any negotiations and resolution of disputes that may arise;
- Open a bank account and manage finances in a transparent manner and with responsibility;
- Make decisions on CF/CCF development with the participation of the majority of the members in compliance with the CF/CCF regulations, Community Forest Agreement and the Community Forest Management Plan;
- Participate in the consultation to prepare regulations related to or benefiting members;
- Report and inform immediately about any forestry offense occurring within the area to the nearest FA official;
- Conserve and protect wildlife within the forest; and
- Perform other functions as necessary consistent with the advice of the FA.

As a *for-profit enterprise*, with significant revenue, professional management is a requisite for the enterprise to function in a credible and transparent manner – thus enabling it to attract investment capital etc.

The cost of hiring the management teams is factored into the cost of production and the commitment to hire such a team should be made a condition for the enterprise to receive grants or investments.

### **Commune Councils**

Under Cambodia's new decentralization strategy, commune councils are the most localized elected branch of government. Organized at the commune level, the commune council is charged with overseeing development, planning, resources allocation and elections etc. The decentralized structure is a very encouraging development in Cambodia. However, the sheer number of responsibilities and newness of these institutions is cause for caution when assigning them additional responsibilities in forest management. While this idea has merit in terms of devolving responsibility, the idea in practice is difficult to imagine as the commune councils have no specialization, minimal capacity, and many other chores (Nathan *et al.* 2006). In addition, the legal channel that allows communes to manage forest is far less developed than the channels that allow communities these rights (Boscolo 2004). Indeed article 45 of the Commune Management Law states that Commune Councils have no authority over the management of forests.

Therefore it is not the intent of the CCF model to add additional implementation responsibilities to this institution. There are four activities that are closely aligned with their existing mandate as follows:

1. Conflict resolution, which is a common function of the CC. It is a natural role for the CC given their inherent make-up and stature. (Mansfield *et al.* 2004).
2. Oversight/watchdog role, a potentially crucial function since it may help to counterbalance the unequal relationship between community and FA, without being perceived as giving too much freedom to the community.
3. Manage the receipt of benefits to be used in the Commune Investment Plan;

ensure that forest management activities are coordinated with commune land use plans etc.

## **Legal Analysis**

Among the goals of this project is to develop an economically sound forest management enterprise that can operate legally. However, no single law, sub-decree or set of *prakas* exists which establishes a framework that will fully support communities rights to have legal, long term, commercial rights to forests. The Community Forestry Sub-Decree provides the most appropriate starting place for legal authorization for CCF, as set out in Table 11. However there are several critical exceptions, highlighted in table 11, and discussed below, that will require modifications or additions to existing legislation.

### **Tenure Length**

The length and strength of the tenure agreement described in the CF sub-decree does not provide enough security, nor an adequate time frame, for a community or outside party to invest in long-term management. In order for CCF to succeed, a clear, exclusive, long-term management agreement must be constructed between the community group and the FA. It is usual elsewhere for such an agreement to span a term of at least 30 years. Under such an agreement, the Community must have exclusive and secure right to management, and termination by the government should only occur under well-specified conditions, with the right of appeal to an independent body. The community must have a strong role in enforcing and protecting these rights, with the help of the Forest Administration, against outsiders.

### **Harvest Moratorium**

The five-year probationary period on timber harvesting, described in the CF sub-decree<sup>10</sup>,

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<sup>10</sup> Article 12 of CF sub-decree stated that harvest of forest product for selling or bartering shall not be allowed within the first five years of approval of CF Management Plan. If the CF has been operating with CF Management Plan prior

is incompatible with the CCF model as there is an immediate need to generate income (to support patrolling, law enforcement, and management costs) as soon as management plans are completed and approved.

### **Scale and scope**

The CF Sub-Decree indicates that forests are given to communities to support traditional uses and household demand for products. However, in order to create a viable business it is necessary to produce timber at a large enough volume to support an enterprise and management of the resource. CCF requires a larger area of forest and scale of sales than perhaps envisioned in the CF Sub-decree.

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to the passage of this sub-decree, then the moratorium on harvesting forest products shall be considered from the date of approval on the CF Management Plan.

**Table 11: Comparison on Community Forestry legislation and the ideal framework for CCF (key differences in bold)**

Article	Community Forestry	Commercial Community Forestry
<b>1- Site Selection</b>		
<b>Forestry Law</b> 10, 28, 41, 42	Allows the development of CF in production forest and recognition of the boundaries.	
<b>CFSD</b> 6, 7, 23, 24	Establishes FA as the body to recognize or terminate CF sites	
<b>2- Group Formation</b>		
<b>CFSD</b> 16, 17, 18, 19, 20	Each CF shall be led by a committee called the "CF Management Committee" through secret ballot during a free, fair and just election by at least 2/3 of the CF members during public meeting	CCF shall be led by a committee called the "CCF Board of Directors" through secret ballot during a free, fair and just election by at least 2/3 of the CCF members during public meeting
<b>3- Regulations</b>		
<b>Forestry Law</b> 43,44	Be managed in an economic and sustainable manner by the local community conforming to the CFMP, rules on CF and guidelines on CF with technical assistance from FA upon the request of local community	Be managed in an economic and sustainable manner by the local community conforming to the CFMP, rules on CF and guideline on CF. A different management structure is needed, with a CCF Board of Directors.
<b>4- CCF Agreement</b>		
<b>Forestry Law</b> 42	Agreement signed between FAC and CFMC not exceed fifth (15) year term validity but may be extended based on monitoring and evaluation reports of FAD	Agreement signed between FAC and CCFMC not exceed thirty (30) year term validity but may be extended based on monitoring and evaluation reports of FAD
<b>CFSD</b> 22, 28	CF agreement may be terminated prior to the expiration date based on one or more conditions as follows: 1- Written agreement between all parties; 2- Agreement among CFMC and at least 2/3 of the CF members; 3- Noncompliance with or serious violation of the terms and conditions in the CF agreement and other provisions that causes the non-sustainable use of forest resources; 4- An understanding of RGC that there is another purpose which provides a higher social and public benefit to the Kingdom of Cambodia	CCF requires a more secure agreement regarding termination. All stakeholders could have to Check & Balance each other.

Article	Community Forestry	Commercial Community Forestry
<b>5- Forest Management Planning</b>		
<b>Forestry Law</b> 28, 29, 43	CFMP follow the Cambodia's Codes of Practice for forest management and regulations issued by RGC; it shall developed by CFMC and approved by FAC	Forest management follow the Cambodia's Codes of Practice for timber harvesting and Guidelines for Sustainable Forest Management and relevant regulations issued by RGC, it shall be developed by CCF Board of Directors and approved by FAC
<b>6- Forest Product (FP) Harvesting</b>		
<b>6-1 Permits</b>		
<b>Forestry Law</b>		
24, 26	Require harvest quota, transport quota permit issued by FAC for FP & NTFP collection in CF for commercial purpose	
26	Require harvest, transport permit issued by FAD for FP & NTFP collection in CF above the customary user rights	
<b>6-2 Operation</b>		
<b>Forestry Law</b> 58, 66,67,68,69,71	Before the issuance of a permit to harvest FP & NTFP, the prospective permit holders shall be required to place a security deposit to guarantee payment of royalties and premiums to the national budget. A security deposit shall not be required for the harvest of FP & NTFP within a CF under CF agreement	
<b>CFSD</b> 12	Harvest of forest products for selling or bartering shall not be allowed within the first 5 years of approval of CFMP for CF under CF agreement	CCF under CCF agreement; harvest of FP & NTFP for selling or bartering shall be allowed after approval of CCFMP by FAC
<b>Royalty and Premium</b>		
<b>Forestry Law</b> 55	The rules for payment and receipt of revenues from royalties of FP & NTFP shall be determined by a joint <i>Prakas</i> between MAFF and MEF	
<b>CFSD</b> 13	Royalty and premium shall be consulted with a CF in order to support community development, equitable benefit sharing and poverty alleviation	
<b>7- Product Processing</b>		
<b>Forestry Law</b>	<b>7-1 Permits</b>	
26	Permit to establish stock place to store, sell or distribute FP & NTFP and small scale processing facilities (FAC)	
26	<i>Prakas</i> by MAFF to establish a medium and large-scale of forest industry, sawmills, and FP&NTFP processing facilities	
<b>Forestry Law</b>	<b>7-2 Operation</b>	
30, 38	It is prohibited to saw, slice or process logs within Protection Forest	
<b>8- Selling Domestically</b>		
<b>Forestry Law</b>		
69	All FP & NTFP that have been stocked anywhere in Cambodia shall be accompanied by an authorized transport or stock permit issued by FA	

Article	Community Forestry	Commercial Community Forestry
<b>9- Selling Internationally</b>		
<b>Forestry Law</b>		
20, 26, 72	Permit or visa on the export-import license for FP & NTFP (FA)	
73	Export-Import of FP and NTFP license issued by the Ministry of Commerce, after the issuance of a visa by the head of FA.	
73	An export/import tax, and other duty tax, shall be paid for the export/import of FP & NTFP to the national budget	

CFSD = Community Forestry Sub decree

## Benefit Sharing

A key element of the project is the linking of benefits to behavior change and to poverty reduction. As noted in the IFSR (2004), localizing benefits creates a positive incentive to keep forests intact. However, it is important to appreciate benefits, which are much broader than simply defining where the funds will go and how they will be used. For purposes of discussion benefits can be separated into three categories: direct financial benefits, other social/economic benefits and ecological benefits. The projected scale of financial benefits is discussed in the next section.

## Direct Financial Benefits

The financial benefits of the project can be broken down into two categories – profit, and pre-profit. The pre-profit benefits include all production and royalty costs (Table 12). Many of the production costs are payments to community people for involvement in forestry and patrolling activities and so can be seen as a benefit – essentially the creation of the CCF provides jobs for people who did not have access to them before. The guarantee of annual government income from royalty costs is notable since many past forestry operations in Cambodia have avoided paying royalties (World Bank 2006).

**Table 12 Pre-profit Financial benefits to key stakeholders**

Category	Recipients
Royalty	National Budget (RGC)
Management Costs (Employment fee/salary)	CCF members/ local people/FA
Service fee/salary	Forest Administration officials Commune Council members Locally based Armed Forces
Timber harvesting operation	Local people/ subcontractors
Equipment/materials	Local people/ subcontractors

The profit side is intended to be distributed to communities, commune councils and the FA based on a breakdown that will be negotiated early in the implementation process (Figure 9).

The three shares cover the following:

**Livelihood Development** - funds can be used to undertake livelihood

improvement and development activities based on participatory village development plan and also based on the priorities laid out by the communities e.g. cash crop improvement, livestock, water supply, handicrafts processing with NTFPs, saving groups, cow/buffalo banks, scholarships, credits/low interest loans to small scale enterprises: resin shop, improved charcoals etc. This use of these funds would be used

at the discretion of the shareholders of the CCF Enterprise including, if desired, the ability to make a cash divided payment per individual.

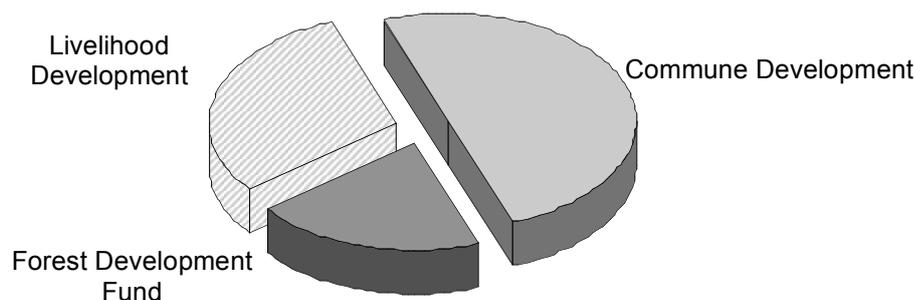
**Commune Council** - Funds directed to the Commune Council will be used to implement the priorities listed in the Commune Development Plan. These funds will typically be used for infrastructure development or to improve welfare and economic situation in the whole commune such as dams, roads, schools, health centers, wells, disaster management etc.

**Forest Development Fund** - These funds cannot be used for the organization or regular functions of the local FA office.

They are to be used for intervention activities such as maintenance of a nursery and the re-planting of native tree species. Re-planting activities will focus on enrichment planting of species that have previously been over-harvested, and should be based on inventory results.

These breakdown shares shall be monitored and audited by all three relevant parties (CCF Board of Director, Commune Council, and FA officials) quarterly or annually to ensure accountability and transparency in budget flow and expenditures.

**Figure 7 Hypothetical breakdown of revenue benefits**



**Other social and economic Benefits of CCF**

Non-financial benefits of CCF are summarised in Table 13.

**Table 13: Other social and economic Benefits of CCF**

Community Benefits	Forest Administration & RGC Benefits
<p><b>Resource related</b>                      Resource rights secure and protected                      Resources protected in forest operations                      Voice in forest management decisions                      Forest resources protected</p>	<p>Illegal logging and encroachment prevented                      Forest estate protected, production forest secure                      Forest management is sound                      Long-term management planning                      Social &amp; environmental conflict reduced</p>
<p><b>Development related</b>                      Steady &amp; fair employment                      Training opportunities and new skills                      Knowledge sharing</p>	<p>A successful pilot to guide expansion of CCF                      Forest industry development/economic Development                      National goals on poverty, enterprise, NRM</p>

**Ecological Benefits**

The ecological benefits of improved forest management are both very substantial and

very difficult to quantify. They are significant for local communities, for the Government, and for national and

international conservation efforts. Without the CCF project it is highly likely that over the next 5-20 years the target area will be completely logged and hunted out and converted to agro-industrial plantations. By reversing this trend and putting in place a system whereby many damaged parts of the forest can recover the project will have significant long-term ecological benefits. These will extend beyond the site in several ways, including carbon sequestration, protection of spawning areas for migratory fish stocks and acting as a buffer for the biodiversity and livelihood values in the Core Area.

### **Economic potential**

It is important to make economic projections as a guide to whether there is a realistic chance of the CCF operation being financially viable. Such projections are difficult, especially so in Cambodia many of the necessary data to develop a tight economic model based on Community management do not exist. For example, the true costs of a sustainable, low impact, timber operation can only be estimated crudely at this time, as such a thing has not been undertaken in the Cambodian context.

To address this a schematic economic calculator has been developed in Microsoft Excel to demonstrate the basic assumptions and predicted income generation. A 'live' version of this calculator is provided on the accompanying CD (Annex 11) and an example is shown in Table 14. This tool can be used to change assumptions and measure impacts on return. It is simply illustrative and should not be understood to represent definitive figures. Furthermore, it intentionally avoids complexity. A more sophisticated calculator may be developed as information becomes more precise to include growth, tree mortality and variation over time.

### **Assumptions and Unknowns**

The calculator is useful in testing a set of potential scenarios. However, like any model, it is only as good as the assumptions it is built upon. The perfect model would

require accurate information regarding production costs; including royalty rates, forest stocking levels, species composition etc. A key aspects of the CCF project, as a pilot project, will be generate such data to test these assumptions and expand the body of accurate information on timber extraction in Cambodia.

The assumptions used at this stage for the calculator's default settings are based on the best available data, as discussed below.

**Total Area** – This is based on satellite imagery, which is fairly up-to-date but it is still a coarse tool in terms of knowing how much of the forest is intact and able to be managed for timber. The figure is a reasonable estimate but assumes a fairly uniform condition in the forest – which is unrealistic.

**Reserves** – approximately 20 % of the area will be removed to protect spirit forests, steep or waterlogged soils, special management areas, or to form non-productive areas such as wetlands, streams, and roads. This figure based on typical rates in responsible forestry elsewhere in the world. Since this site lacks steep slopes and has a long dry season during which most soils are not waterlogged, 20% may be a conservative figure.

**Rotation Length** – Most of the literature and guidelines created for concession sustainable management plans suggest a 25-year rotation. A 35-year rotation is more conservative and better for the forest. 30 years is a compromise.

**Harvest Rate** – This harvest rate assumes a harvest only of Sralao. Removing two trees per hectare is a very conservative strategy and off -take as high as four trees per hectare might be possible. This is an average as obviously some areas will be suitable for a heavier cut and some areas a lighter one. Rules regarding the presence of mother trees and regeneration will also be incorporated into the silviculture. As this project is looking at community management, simplicity is crucial. What is most important is that the silvicultural rules are simple for all

to understand, implement and monitor. A sophisticated Annual Allowable Cut calculation is not necessary at this point. As more information about the forest is gathered more elaborate tools can potentially be used to determine harvest rate.

**Volume of Wood Recovered/Tree** – Sralao is fluted and develops heartwood cavities as it gets larger, so the form is poor and there are many off cuts. At present, the conversion rate from round wood to a sawn product (recovery rate) is unknown, so we have used an estimate of 30% recovery from an average 4.6 m<sup>3</sup> tree in the 60 cm+ size class, based on discussions with experienced foresters. Recovery rate is also dependent on the type of equipment used for processing. More will be known when a sample harvest is conducted. The off-cuts may prove to be a marketable resource in their own right, but this is not assumed here.

**Total volume removed** – This provides a simple cross-check on the plausibility of the proposed off-take (trees/ha) by converting it to a volume per ha figure that can be compared with other sources. Unfortunately little is known of Cambodia timber growth rates. Growth rates widely quoted in the concessions management planning documents are 0.33m<sup>3</sup> growth per ha/year, the popular rule of thumb initially proposed by Rollet (1962; cited in Miller 2004). The defaults for our model assume approximately this much removal, although from a single dominant species rather than all commercial tree species. An off take of 4 trees/ha would be equivalent to 0.61 m<sup>3</sup>/ha/year, which is within the range (0.6-0.8 m<sup>3</sup>/ha/year) estimated for evergreen forest in Cambodia by FRM/Indufor Oy/SGS (2004).

**Average Log Price** – For Sralao. There is only transport to the forest edge calculated into the production costs. This wood can probably fetch a higher price in other markets. In 2006 price at forest was reported to be \$75 in Sre Preah, \$ 100 in Sre Chhuk, \$ 110-130 in Khsuem (see Annexes 4-6). The low-end prices are

likely to improve as road networks improve and if illegal checkpoints are reduced.

**FA Patrolling and Law Enforcement/M<sup>3</sup>**

– An estimated figure is used based on patrolling costs in the SBCA. This figure will need to be negotiated and linked to a fixed figure (like ha or vol. or man hours) if possible in order to reduce extreme fluctuations or surprise increases in production costs. This payment is an important incentive to participation by local FA and must be kept explicit, transparent and legal.

**Average Operational Costs M<sup>3</sup>**– The default figure of \$40/m<sup>3</sup> figure is taken from Boscolo (2004) based on interviews with concessionaires. Some costs have been removed to fit this model i.e. transport 120Km. An alternative figure of \$50-60/m<sup>3</sup> can be derived from initial community consultations (see Appendix 4, Keo Seima section). However, neither of these reflects well the conditions of the proposed logging operation and so the true figure may differ substantially. Documenting the true costs is a key goal of the pilot project.

**REVENUE AFTER PRODUCTION**

**Royalty Rates and other Fees**– The Royalty rate for Sralao is currently \$81/m<sup>3</sup>, close to or exceeding the forest gate sale price. It is clearly impossible to pay this as part of a viable business venture. A lower Royalty rate will need to be set and the calculator enables us to model the effect of different rates on viability and local financial benefits.

**Example of possible division of benefits**

– For illustration, the potential size of the three main benefit streams is estimated – in the default settings, 2% for the FA's Forestry Development Fund, 10% to the existing Commune Development Fund and the remainder to other, unspecified benefits to be identified by the community, either shared investment project or individual family dividends. Note that this income stream is only one of the benefits of the CCF model.

**Table 14: An example of the use of the Economic Calculator**

Comune Name	Khsuem		Notes
Villages	8		
Families	1316		Default figures can be copied and pasted from the Assumptions sheet for any commune
Population	6,705		
<b>This model assumes only Sralao (<i>Lagerstroemia calyculata</i> and other similar spp.) is harvested</b>			
Assumptions			
Total Area (Ha)	16,000		Determined by the area of evergreen production forest that is under forest management with appropriately defined legal, tenure and users rights
Set Asides (%)	20%		Determined by conservation, protection and operational parameters - set asides and SMAs
Total Production Forest (Ha)	12,800		This is the area of forest that is available for production
Rotation Length (Years)	30		Determined by the productivity of the forest (25 year rotation is commonly used in Cambodia and comparative to other recent models - however 35 years is used in other parts fo the tropics).
Area Under Production each year (Ha)	427		Total area divided by the rotation length
Average Harvest Rate (trees / hectare)	2.00		The harvest intensity of the forest determined by the standing volume and the growth capacity of the forest. A simple rule that local people can support and monitor.
Total # of Trees harvested/year	853		Harvest area multiplied by the # of trees harvested each hectare each year
Average Tree Volume Recovered (m3 / tree)	1.35		Established from inventory data and from log measurement records (based on assumed 30% recovery and average Sralao size above 60 cm dbh of 4.6 m3
Total Volume for sale (m3 / annum)	1,152		Total # trees harvested multiplied by the average recovered volume
Total volume removed (m3/ha/annum)	0.31		This is a cross-check line. Total volume removed is (number of trees * average tree volume). Harvest damage should also be factored in and then compared with estimated growth rates.
Average Log Value (\$/m3)	\$ 120		Price for Sralao at forest gate.
Total Revenue Sale of Logs	\$ 138,240		Total volume multiplied by average log value
Production Costs			
FA service fee - patrolling and law enforcement/m3	\$ 4.5		This is a service fee to FA for law enforcement work
Total for Law enforcement services	\$ 5,184		Fee multiplied by volume - could be done by area too
Average operational costs m3	\$ 40.00		Based on IFSR report w/out transport from forest. Based on sales at forest landing yard.
Total Operational Costs	\$ 46,080		Mostly salaries to forest managers which includes contractors, FA, and local people.
Grand Total Production Costs	\$ 51,264		
Revenue			
Revenue after production costs	\$ 86,976		To be spent on royalties and benefits

**Table 14: An example of the use of the Economic Calculator (continued)**

<b>Royalty</b>		
Average Log Royalty (\$/m3)	\$ 12.00	Possibly set as a percent of pre-tax log sales. Current rate for Sralao is \$81/m3.
Total Log Royalty Value (\$) Central Gov.	\$ 13,824	Total volume multiplied by average log royalty value
<b>Total Profit after Royalty</b>	<b>\$ 73,152</b>	This revenue can be divided between FA Forest Development Fund, Commune Development Plan and other development activities or individual dividends.
<b>Example of possible division of benefits</b>		
<b>Forest Development Fund</b>		
% of profits	2%	% of profit after royalty
To FA	\$ 1,463	Investment in forest management
<b>Revenue to Commune Council or CDP</b>		
% of Revenue	10%	% to Commune Development Plan
Commune Council	\$ 7,315	Livelihood and enterprise development
<b>Other development activities/dividends</b>		
To communities	\$ 65,837	
\$ equivalent per family per year	\$ 50	Excludes household benefits already received as payments for services.
	OR	
\$ per village per year for livelihood improvement	\$ 8,230	

### Projections from the calculator

Some exploratory results from the Calculator are presented in Table 15. We vary only four critical factors – Off take/ha, Price, Production costs and Royalty rate. Three aspects of the project benefits are

shown – Total production costs (most of which are spent in the local economy as jobs and services), Royalties and net income after royalties, most of which will go to the Commune and communities for direct investment in development.

**Table 15 Selected results from the Economic Calculator**

Trees/ha	Price (\$/m <sup>3</sup> )	Production costs (\$/m <sup>3</sup> )	Royalty (\$/m <sup>3</sup> )	Total production costs (\$)	Total royalty (\$)	Total after royalty (\$)
<b>Khsuem</b>						
2	120	40	81	51264	93312	-6336
2	120	40	12	51264	13824	<b>73152</b>
3	120	40	12	76896	20736	<b>109728</b>
4	120	40	12	102258	27648	<b>146304</b>
2	120	40	30	51264	34560	<b>52416</b>
3	120	40	30	76896	51840	<b>78624</b>
4	120	40	30	102258	69120	<b>104832</b>
2	120	40	60	51264	69120	<b>17856</b>
3	120	40	60	76896	103680	<b>26784</b>
4	120	40	60	102258	138240	<b>35712</b>
2	120	60	12	74430	13824	<b>50112</b>
2	120	60	30	74430	34560	<b>29376</b>
2	120	60	60	74430	69120	<b>5184</b>
<b>Sre Preah</b>						
2	75	40	12	44856	12096	<b>18648</b>
2	75	40	30	44856	30240	<b>504</b>
2	75	40	60	44856	60480	-29736
2	120	40	60	44856	60480	<b>15624</b>
3	75	40	60	67284	90720	-44604
2	75	60	12	65016	12096	-1512
<b>Sre Chhuk</b>						
2	100	40	12	22428	6048	<b>21924</b>
2	100	40	30	22428	15120	<b>12852</b>
2	100	40	60	22428	30240	-2268
2	120	40	60	22428	30240	<b>7812</b>
2	120	60	60	32508	30240	-2268

The table shows that there are several scenarios where the *total after royalties* are positive (shown in bold), suggesting an economically viable project. The scale of this final total varies enormously, an indication of the high level of uncertainty over the basic specifications of the model. There are several scenarios where the project makes a loss – so further research is much needed and care must be taken in the design period to make sure that the critical constraining variables are dealt with.

This first analysis suggests that the potential is highest in Khsuem, which has both the largest forest area and the highest forest gate prices for Sralao, but it should be noted that the benefits will be shared between a much larger population of beneficiaries there.

The dominant variable appears to be the Royalty rate. At the current level (\$81/m<sup>3</sup>) even the Khsuem site will not be viable (first line of the table), so no further modeling is done with that figure. At a lowered rate of

\$12/m<sup>3</sup> most scenarios become viable. Increasing this to \$30/m<sup>3</sup> makes the activity marginal in Sre Preah and increasing it to \$60 makes it marginal in Khsuem and unviable in Sre Preah and Sre Chhuk.

In situations where 2 trees/ha is profitable, 3 or 4 trees/ha is much more profitable for all beneficiaries, as expected (e.g. Khsuem lines 2-10). However, if Royalties (or production costs) are too high then a loss is made on each m<sup>3</sup> and increasing the harvest just increases the loss in this model (e.g. compare the 3<sup>rd</sup> and 5<sup>th</sup> lines for Sre Preah).

The existing lower sale price in Sre Preah makes the operation unviable if Royalties are raised to \$30 or production costs to \$60/m<sup>3</sup> (lines 3 and 6) . Raising the price to the same as in Khsuem makes the operation viable even with the higher Royalty. Sre Chhuk becomes unviable at \$60/m<sup>3</sup> Royalty or \$60/m<sup>3</sup> production costs, but this can be countered by raising the price to the same levels as Khsuem.

The overall message of Table 15 is that the model is potentially viable in all three Communes but that the Royalty rates must be altered significantly (ideally to well under half of their current levels) and that some

conceivable prices and production costs rates would also make the project unviable. Where there is a profit on each m<sup>3</sup>, increasing the cut from 2 trees/ha and 4 trees/ha makes a big improvement to community profits.

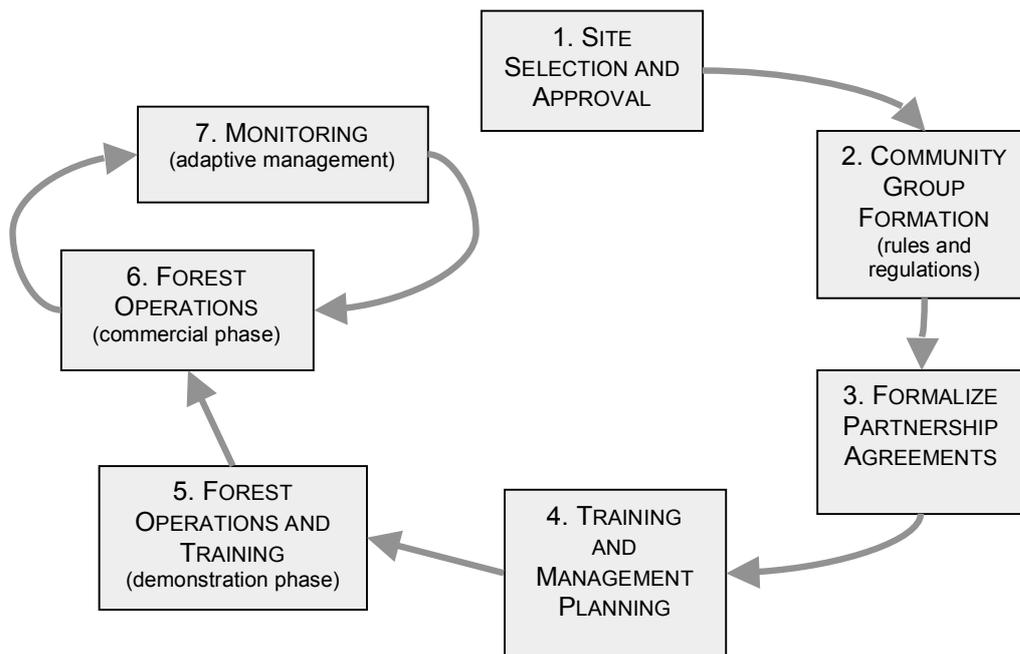
Three other points should be noted.

- 1) When compared to the size of the beneficiary population the bottom-line financial benefits are modest in many scenarios. Thus they need to be considered as part of wider package of benefits.
- 2) Start-up costs are not included in the Economic Calculator and it seems evident that the business element of the pilot is unlikely to generate enough surplus to cover those costs at a later stage. External grant aid will be essential.
- 3) At 2 trees/ha the total cut across the three communes is projected at only 2,600 m<sup>3</sup>/annum. This would be seen as a small volume for an export buyer and might be economically unattractive to many, especially as it may require dealing with three separate sellers at three different locations.

## 4. IMPLEMENTATION

The CCF pilot project has been developed to be implemented in a program consisting of seven steps (see diagram). Each step tackles a particular set of goals and objectives required in order to move to the next step. At the time of writing, Step 2 is

about to start. Each step has a detailed work plan – see Annex 3. Further explanation, and diagrams showing the division of tasks between partners, can be found in Annex 10, in the presentation *CCF Presentation 4 May 06.ppt*.



## **Outline Work plan**

### **1 SITE SELECTION**

- a) Select the forest site based on Environmental, Social, Political and Economic Criteria for CCF
- b) Undertake initiate stakeholder identification and consultation process
- c) Undertake harvest to export 10m<sup>3</sup> to Vietnam – pilot harvest and market study.
- c) Formalize agreements with interested parties, including signing of MOU with FA (all levels)
- d) If possible determine royalty negotiation rate process

### **2 COMMERCIAL CCF GROUP FORMATION**

- a) Form the CCF Group and define its operating procedures and framework  
CCF Group Structure and Operating Procedures (Including Board of Directors - Forest Management / Community Development / Financial Administration)  
Define roles and responsibilities  
CCF Group Recognition and approvals from RCG, CC, FA
- b) Social assessment and prioritization  
Community training needs assessment and prioritization (SFM, Business Administration)
- c) Establish cost- and benefit-sharing mechanisms and procedures
- d) Community mapping (Uses, User, Cultural sites, Livelihood areas, Commune and forest boundaries)

### **3 FORMALIZE PARTNERSHIPS AND AGREEMENTS**

- a) Identify and define implementation partnerships between the CCF Group and other organizations
- b) Develop TOR / Contracts/MOUs/Tenure Agreements for implementation
- c) Financial Resourcing – Donor / Financial Institutions/ Joint Ventures / TFT Members
- d) Operations and Forest Protection - Contractors / FA / TFT / WCS
- e) Administration Services - FA / Commune Council / TFT
- f) Benefit Sharing and Consultation Process

### **4 FOREST MANAGEMENT PLANNING, TRAINING AND APPROVALS**

- a) Develop a Forest Management Plan based on undertaking the following:  
Requirements of RGC CF *Prakas*  
Forest Inventory  
Formulation of silvicultural and forest protection prescriptions  
Social Impact Assessment – Community Input  
Environmental Impact Assessment  
Forest mapping / zoning and demarcation  
Market analysis  
Formulation of R&D and M&E procedures
- b) Develop Standard Operating Procedures for planning and supervision of operational activities
- c) Develop an Annual Work Plan (AWP)
- d) Undertake forest management training of community, contractors and FA staff.
- e) Identify the demonstration site
- f) Obtain FA approval for harvesting

### **5 FOREST OPERATIONS AND TRAINING (Demonstration Phase – year 2 & year 3)**

- a) Implement Forest Operations at a demonstration scale in accordance with the AWP.
- b) Train community, contractors and FA staff at the demonstration site
- c) Undertake testing of lesser known species - wood properties / commerciality
- d) Evaluate and revise CCF system each year to prepare for scaled implementation
- e) Test different markets to gain access and determine best return – develop sales agreements

### **6 FOREST OPERATIONS AND TRAINING (Commercial Phase – years 3 - 7)**

- a) Scale forest operations activities up in accordance with the revision findings
- b) Implement CCF at a commercial scale whereby the sale of forest products commences
- c) Market products from the forest to appropriate market segments at local, national and international levels
- d) Share benefits from the sale of the forest products in accordance with CCF Group Rules
- e) Evaluate and Revise as needed

### **ONGOING CCF OPERATIONS**

- 7 a) Undertake FM operations in accordance with AWP
- b) Ongoing monitoring and evaluation of forest operations and revise FMP and AWP
- c) Ongoing monitoring, evaluation and revision of CCF Group operations and administration

## 5. DISCUSSION

The analysis presented here suggests that it is feasible to proceed with a CCF Pilot project in the Target Area. The forest and communities on site have many of the right characteristics. The forest is large and contains substantial stocks of timber that modeling suggests may be able to support a viable sustainable logging operation, given current knowledge of costs. Local communities have existing organisations dedicated to forest protection and are willing to discuss logging as well if the risks can be minimised. Forest clearance is not currently an issue, and the site can benefit from the existing protection and management framework of the SBCA.

Furthermore, the analysis of the legal framework shows that there are many useful elements that can support a community-run logging enterprise. Alongside this, the FA has shown every sign of being supportive of the concept and willing to experiment with legislation and operating procedures. Approval has been granted to proceed to implementation, on the assumption that remaining challenges can be resolved during the process.

Nonetheless, the model as it stands contains many assumptions and unknowns, which are readily apparent. All parties should proceed with both optimism and caution, fully aware of the risks of undertaking this activity. There are some significant challenges and resolving these should form the focus for work over the coming months.

### **Key *Economic* Challenges**

- The site is dominated by Sralao; a timber without an identified export market at this stage. What will the best market be for this species? Can ‘good wood’ focused buyers be found or are

innovative approaches to the domestic market needed?

- Royalty Rates must be lowered for CCF to support sustainable forestry and poverty reduction under the CCF model. What is the process for setting this rate? How is it negotiated and renegotiated?
- Production costs and management costs in Cambodia are unknown – these need to be tested and developed by undertaking operations in the field.
- How will operational start-up costs be dealt with – loans or grants? When will the activity become self-sustaining? Given the work plan above and the amount of training and institution building that is needed, it is unlikely that there will be any significant operational surplus until the 2010 at the earliest.

### **Key *Legal* Challenges**

- Designing a strong, exclusive use-rights agreement between the FA and communities is a key component for a successful model. It is unclear at this point how far the FA will be willing to go to establish community use rights to communities, which are not subject to extermination at the whim of the Government. In addition, the ability of the community to defend those rights against outside concessions, including mining exploration, is uncertain across Cambodia.
- The length of tenure allocated to communities is a key element in establishing the sort of arrangement envisions in the CCF model. It is unclear if the FA is willing to actually provide a secure 30-50 year tenure agreement to communities.
- The status of the Samling concession remains unknown.
- The exact legal channel to authorise the sort of arrangement described in the

CCF model is somewhat unclear. However, the CF laws, with some alterations noted above, could provide 90% of the needed framework.

- The continuation of the existing log-export ban and the accompanying log transport ban make any sort of legal timber trade impossible in Cambodia. Is necessary that some sort of exception can be made for a pilot project to proceed.

### **Key *Social* Challenges**

- Will the communities be able to manage the large operations envisaged, and the internal pressures that will be generated? Current basic skill levels are low and although expertise can be bought in, managing it is in itself a challenge.
- Can a benefit sharing arrangement be negotiated amicably, with transparency and equity? Will benefits arrive in a timely manner and will they be substantial enough to deliver the sort of incentives envisioned in the CCF model?
- How can the project manage expectations or prevent expectations from becoming unrealistic or growing larger over time? At present the expectation should be little more than break even, with the most assured benefits coming through employment and improved resource protection.
- How to renegotiate benefit-sharing agreements if they come to be perceived as inequitable?
- A conflict resolution mechanism must be established that is able to deal with issues in a swift and fair manner. It is

apparent that the current court system in Cambodia is not able to adjudicate legal conflicts.

- How to prevent the number of beneficiaries from growing beyond the capacity of the resource and how to deal with latecomers?
- Will poverty reduction and livelihood improvement goals be achieved?
- The boundary between the three communes will need to be clearly established to move forward
- Action is needed soon to stem existing illegal logging at the site.

### **Key *Implementation* Challenges**

- How best to implement safeguards will protect all stakeholders, particularly communities, from unforeseen harmful outcomes of an unsuccessful project.
- How to achieve the necessary scale of production for export markets whilst allowing the three commune management units to function separately and independently.
- How best to use the project to inform policy discussions – and learn from successes as well as failures
- How best to create a flexible structure that allows enabling adaptation to changing business conditions.

If the various stakeholders are willing, none of these appears insuperable. Indeed, these challenges are typical of post-concession forests in Cambodia and so they must be overcome if there is to be a productive future for Cambodia's forests. It is hoped that TFT, FA and WCS can continue to make steps towards that goal.

## REFERENCES

- CCC (2004). *Indigenous Response to Depletion of Natural Resources: A study of two Stieng Villages in Snuol District, Kratie Province*. Cooperation Committee for Cambodia, Phnom Penh.
- Bird, J., Mulligan, B, Gilroy, J., Ruos Vann and Bun Soir (in prep.) *A wildlife and habitat survey of the western buffer zone of Seima Biodiversity Conservation Area, Mondulkeiri and Kratie Provinces, Cambodia*.
- Boscolo, M. (2004) Economic analysis of the direct use value of Cambodia's forests. Chapter 6 in IFSR (2004).
- Bray, D., Merino-Perez, L. and Barry, D. (2005) *The Community Forests of Mexico*. University of Texas Press, Austin, USA.
- Brown, D. M. (1999) *Addicted to Rent: Corporate and Spatial Distribution of Forest Resources in Indonesia: Implications for Forest Sustainability and Government Policy*. Indonesia-UK Tropical Forest Management Programme Report #PFM/EC/99/06. Jakarta:DFID
- Crocker, C. D. (1954) *The soils of Cambodia. Exploratory survey*. Section de Pedologie, Division d'Agronomie, Ministere de l'Agriculture, Phnom Penh.
- Degen, P., Chap Piseth, Swift, P. and Hang Mary (2004) *Upland fishing and indigenous Punong fisheries management in southern Mondulkeiri Province, Cambodia*. WCS Cambodia Program, Phnom Penh.
- Evans, T and Delattre, E. (2005). *Human populations and land-use in the Seima Biodiversity Conservation Area, Mondulkeiri and Kratie Provinces, Cambodia in late 2004*. WCS Cambodia Program, Phnom Penh.
- Evans, T. D., Hout Piseth., Phet Phaktra and Hang Mary (2003) *A study of resin-tapping and livelihoods in southern Mondulkeiri, Cambodia with implications for conservation and forest management*. WCS Cambodia Program, Phnom Penh.
- Evans, T. D., Thuon Try and Suon Seng (in prep.) *Livelihoods in and around the Seima Biodiversity Conservation Area*.
- FRM/Indufor Oy/SGS (2004) *Forest Concession Management and Control Pilot Project. Forest Systems Research and Modelling Handbook*. Forest Resources Management, Indufor Oy and Societe Generale de Surveillance, Phnom Penh.
- Global Witness (2002) *Deforestation without limits*. Global Witness, London.
- Global Witness (2004) *Taking a Cut: Institutionalised Corruption and Illegal Logging in Cambodia's Aural Wildlife Sanctuary*. Global Witness, Phnom Penh.
- IFSR (2004) *Final report of the Independent Forest Sector Review*. Forestry Administration and Working Group on Natural Resource Management, Phnom Penh.
- Jenkins, M. B. and Smith, E. T (1999) *The Business of Sustainable Forestry: Strategies for an Industry in Transition*. Island Press, Washington, DC.
- Mansfield, C., Loun March and Sou Bounnath (2004) *Commune Councils and Civil Society: Promoting Decentralization through Partnership*. Seila, Pact, Oxfam, GTZ, Concern and VBNK, Phnom Penh.
- Marcelino, A. (2006) *External evaluation report on the DPA Integrated Community Development Programme in Keo Seima District, Mondulkeiri Province*. Development and Partnership in Action, Phnom Penh.

- McAndrew, J., P *et al.* (2003) *Indigenous Adaptation to a Decline in Natural Resources: The Experience of Two Phnong Commune in Northeast Cambodia*. CIDSE (International Cooperation for Development and Solidarity), Phnom Penh.
- McKenney, B., Yim Chea, Prom Tola and Evans, T (2004) *Focusing on Cambodia's High Value Forests: Livelihoods and Management*. Phnom Penh: Cambodia Development Resource Institute and Wildlife Conservation Society Cambodia Program, Phnom Penh
- Miller, F. (2004) The silvicultural status, growth and productivity of Cambodia's forests. Chapter 2 in IFSR (2004).
- Molnar, A., Scherr, S., and Khare, A. (2004) *Who Conserves The World's Forests? Community Driven Strategies to Protect Forests and Respect Rights*. Forest Trends/Ecoagriculture Partners, Washington, DC.
- Nathan, I., Boon, T. E., Ann Sovatha and Hansen, K. (2006) Commune Councils as Potential Forest Managers. *Cambodia Development Review* 10(4):1-5.
- NIS (2005) *Cambodia Socio-economic survey 2004. Summary subject matter report*. National Institute of Statistics, Ministry of Planning, Phnom Penh.
- Salafsky N, Cordes, B, Leighton, M, Henderson M, Watt W, Cherry R (1998). *Chainsaws as a tool for Conservation ? A Comparison of Community-based Timber Production Enterprises in Papua New Guinea and Indonesia* Rural Development Forestry Network Paper 22b. ODI, London
- Scheer, S., White, A. and Kaimowitz, D. (2004) *A new Agenda for Forest Conservation and Poverty Reduction: Making Markets work for Low-Income Producers*. Forest Trends, CIFOR, and IUCN, Washington DC.
- Sokh Heng (2006) *Community Forestry and Poverty Alleviation in Cambodia*. Unpublished consultancy report presented at Consultation Workshop on ADB RETA 6115, 'Poverty Reduction in upland communities in the Mekong region through improved Community and Industrial Forestry', Sunway Hotel, Phnom Penh, December 4 2006.
- Sunderlin W. D. (2006). Poverty Alleviation through Community Forestry in Cambodia, Laos and Vietnam: an assessment of the potential. *Forest Policy and Economics* 8(4): 386 - 396
- Walston, J., Davidson, P. and Men Soriyun (2001) *A wildlife survey in southern Mondulkiri Province, Cambodia*. WCS Cambodia Program, Phnom Penh.
- WCS/FA (2005) *Landscape Management for Biodiversity Conservation and Local Livelihoods: Report on a preparatory project, January-June 2005*. WCS Cambodia Program, Phnom Penh.
- WCS/FA (2006) *Workshop Report. Vision for the Seima Biodiversity Conservation Area : Process and Results*. WCS Cambodia Program, Phnom Penh.
- World Bank (2006) *Forest Concessions Management and Control Pilot Project. Report of the Inspection Panel (No .35556)*. World Bank, Washington D. C.

## ANNEX 1: SUMMARY OF ACHIEVEMENTS TO DATE

From late 2005 to 2006 TFT, WCS and FA carried out an investigation into the political, social and economic feasibility of conducting a successful CCF project at the SBCA. The following is a list of achievements to date with outcomes.

Activity	Date	Institutions	Outcome
General forest reconnaissance to gather broad impressions and layout of pilot site.	July 2005	TFT/WCS/FA	Generally impressions and layout understood. Encountered some law enforcement and illegal logging activities. Introduction to communities.
1 <sup>st</sup> Presentation -- Introduction of Institutions and Project to FA Senior Staff.	July 2005	TFT/WSC/FA	Initiate relationship with Forest Administration and development of FA constituency for CCF project. Establish credibility of TFT in Cambodia.
Desk study review of existing data on site including spatial info and inventory data provided by Samling, WCS & CDRI.	July – Oct. 2005	TFT	Basic understanding of forest conditions, boundaries, roads, villages, etc.
Desk review of social information – resin use, population data, ethnic data, forest use, etc. of communities in and around pilot area.	Oct. – Jan. 2005	TFT/WCS	Gained basic understanding of uses and users of NTFPs. Further investigation needed
Site visit to speak with stakeholders in Lao where Village Forestry Model (recently certified) to review lessons learned and inform CCF model.	Oct. 2005	TFT	Gathered information on lessons learned and implications for CCF model in Cambodia.
Community consultation in Khsum commune with approximately 35 local people to gauge level of interest and support for CCF model. Mapping exercises with communes to understand basic boundaries and forest use issues in target site	Oct. 2005	Conducted by neutral party – Peter Swift	General indication is that there is interest from communities in CCF but many unknowns and risks.
Baseline inventory conducted taking 35 points. Data analyzed to evaluate commercial species stocking levels and economics of various harvest scenarios.	Dec. 2005	TFT, WCS, FA	Basic understanding of forest conditions and stocking levels. Analysis shows a forest composed mainly of Sralao and severely high graded.
Community consultation in Sre Preah commune with approximately 35 local people to gauge level of interest and support for CCF model.	Dec. 2005	Conducted by neutral party – Peter Swift	General indication is that there is interest from communities in CCF but many unknowns and risks.

Activity	Date	Institutions	Outcome
Developed a forest-modeling calculator to examine harvest volumes, cash flow and financial assumptions to evaluate returns under different scenarios.	Jan. – Feb. 2006	TFT, FA	Provides a model for running assumptions and evaluating different variables such as harvest levels, royalty rates and harvest costs.
Community Consultation in Sre Chhuk commune with approximately 35 local people to gauge level of interest and support for CCF model.	Jan. 2006	Peter Swift & TFT	General indication is that there is interest from communities in CCF but many unknowns and risks.
CCF facilitator hired (Hing Mesa formerly of Concern)	Jan. 2006	TFT	CCF facilitator in place to work with communities.
Basic market analysis of wood values in Cambodia – particularly Sralao	Jan. 2006	TFT/FA	Understand market demand, pricing and uses.
Basic analysis of harvest costs – literature review, comparables and interviews with key stakeholders.	Jan. 2006	TFT/FA	Gathered comparables, as no accurate data for sustainable forestry harvest costs exists in Cambodia. Informed model assumptions.
Testing of lesser used species from the site for wood quality and properties by TFT member furniture factory in Vietnam.	Feb. 2006	TFT member company in Vietnam	Interest in using the species. Addition 10M <sup>3</sup> of Sralao volume requested to make sample products.
Flyover to explore illegal logging, land clearing activities with Forest Administration and Cantonment Chief of Kratie.	Feb. 2006	FA/WCS	Relationship building with FA. Developed constituency for CCF project at FA. Overview of land clearing, illegal logging and harvest activities. General sense of forest condition and roads gained.
Liaison Officer From FA Hired	Feb 2006	TFT	Relationship, capacity and constituency building
Benefit sharing scenarios developed for discussion with FA	Feb. 2006	TFT/FA	Various options for benefit sharing exist and have been circulated to solicit feedback.
Legal Analysis of relevant forestry laws to explore avenues for communities to access forests for commercial purposes.	Feb. 2006	FA/TFT	Clear understanding of the laws that would come into effect under a CCF scenario. Clear implications and procedures for using various laws.
3 <sup>rd</sup> Presentation -- Economic Model and Financial Assumptions	Feb. 2006	FA, TFT, WCS	Further developing relationship with FA. Established credibility of TFT. Constituency building on CCF project.
Community survey work as part of WCS larger SBCA strategy.	March 2006	WCS, TFT	Greater understanding of communities, settlements and where people live in relation to the forest
Project documents and seven step work plan for pilot implementation developed	March, April 2006	TFT, FA	Implementation work plan ready to be executed

Activity	Date	Institutions	Outcome
4 <sup>th</sup> Presentation -- Legal Aspects/ Roles and Responsibilities/Next Steps (May 2006)	May 2006	FA, TFT, WCS	Constituency building and support for project among senior FA staff. Permission granted to move forward with initial implementation plan.
Understanding the CF Management Plan and Forest Concession Management Plan	June 2006	FA	Understand about the differences between FC and CF management.
Attended the training on Participatory 3 Dimensional Modeling Map in Mondulkiri province (By WWF)	June 2006	TFT	Knowledge of 3d map and how to develop it in participatory manner.
Meeting with Seila and NGOs in Kratie and Mondulkiri province on the capacity of CCs.	June 2006	TFT	Most of NGOs have limited awareness about CCs and local people's capacity related to the forest management.
Meeting with Sre Preah CC on Commune boundary.	June 2006	FA, TFT	CCs know about the traditional commune boundary which part of the commune located in Khsuem commune, Kratie province (Ministry of Interior Map)
Set up the Royalty Team to develop the Royalty and Premium for CF and develop the budget plan	July 2006	FA	Developed the draft of the Royalty Development Team and budget plan
Meeting with Khsuem CC on commune boundary.	July 2006	FA, TFT	CCs know about the traditional commune boundary which part of the commune located in Sre Chhuk and Sre Preah commune, Mondulkiri province (Ministry of Interior Map)
Conduct CCF extension materials for CCF consultation	July 2006	FA, TFT	More than 26 pictures of CCF steps such as group formation, pre harvest, harvest, post harvest, forest management and development activities
CCF concept consultation with Khsuem CC and capacity survey.	July 2006	FA, TFT	CC support the concept and are interested to pilot the project. They have good knowledge and experience in law enforcement and institutional management but very limited knowledge related to forest management.
Compare the FMP between FC and CF	August 2006	FA	
CCF concept consultation with Kratie FA Cantonment and capacity survey	August 2006	FA, TFT	They support the concept and are interested to pilot the project. They have good knowledge and experiences in law enforcement and forest management.
CCF concept consultation with local people in Khsuem commune and capacity survey.	August 2006	FA, TFT	They are interested to pilot the project but they have low education, poor experience in institutional and forest management. They have good experience with law enforcement.

<b>Activity</b>	<b>Date</b>	<b>Institutions</b>	<b>Outcome</b>
Develop the request letter of 10 cubic meter of Sralao for exportation to Vietnam and submit to FA	September 2006	FA, TFT	Developed the Request letter and submitted to FA.
CCF concept consultation with Mondulkiri FA Cantonment and capacity survey.	September 2006	FA, TFT	They support the concept and are interested to pilot the project. They have good knowledge and experiences in law enforcement and forest management but lack of staffs to cooperate.
CCF concept consultation with Sre Preah CC and capacity survey	September 2006	FA, TFT	CC support the concept and are interested to pilot the project. They have good knowledge and experiences in law enforcement and institutional management but very limited knowledge related to forest management.
CCF concept consultation with local people in Sre Preah commune and capacity survey	September 2006	FA, TFT	They are interested to pilot the project but they have low education, poor experiences in institutional and forest management. They have good experiences in law enforcement.
Consolidation of results, facilitation of request for 10m <sup>3</sup> export, enhancement of economic analysis.	October-December 2006	TFT, FA, WCS	

## ANNEX 2: DRAFT IMPLEMENTATION STEPS

### COMPONENT I: SITE SELECTION

Site quality and stand characteristics determine the potential of a site to produce commercial forest products. The forest managers' resources, the forests' harvestability and species marketability will determine the style of management employed and the economic returns derived from the sale of commercial products from the forest. In the context of SFM - Environmental, Social and Economic considerations are:

1.1 Environmental		
Site Quality	Stand Characteristics / Quality	Harvestability
Topography	Species composition	Conservation status of stand / species/ecological values/function
Soils	Stocking rates	Harvest legality
Rainfall	Stand homogeny and area	Maintenance of sustainable growth and forest values (Rotation length)
Pest and disease considerations impacting on stand health and capacity for tree growth	Growth rates	Commerciality of harvest systems
Site connectivity	Stand health	Access
Site uniformity	Regeneration	Transport and extraction options
Area available for production (# of Ha)		Economies of scale
Land-use pressure		Traditional use considerations
Legal status for management		Cultural values
Harvest history		Regeneration

1.2 Economic			
Species Marketability	Community Development	Market Access / Linkages	Access to Capital
Species attributes	Capacity	Market knowledge and access	Community entity received low interest loan for SFM
Market demand	Infrastructure	Value added processing	
Price	Employment	Expansion potential	Revolving loans

<b>1.2 Economic</b>			
Quality (Grade / Piece size)	Access to capital/credit	Local markets for some products	TFT member investment in forest management, equipment or processing
Quantity (Volume)	Access to firewood from tops and branches	Wood testing in technology lab	
Supply availability			
Product consistency			
Distance to markets			
Product source and legality			
Production sustainability			

<b>1.3 Social</b>			
<b>Governance</b>	<b>Tenure</b>	<b>User Rights</b>	<b>Operability / Risks</b>
Legal channels exist to explicitly recognize rights of Community Group in forest management.	Past use by stakeholders documented and acknowledged	All forest use disputes resolved. Legitimate users and uses identified.	Support by Patrons
Stakeholders in Forestry Group identified and recognized Appropriate options include CF laws, partnership forestry, concession management	Long-term management rights of community provided	Long-term user rights understood and acknowledged	Community interest and support
Community rights to manager enforced against outsiders	Clarity regarding rights and responsibilities	Agreements negotiated determining long-term uses and users	Support by Forest Administration
Illegal activities prevented	Clear stakeholders identified and represented	Traditional users' rights protected and enforced.	
Boundaries clear to all parties	Boundaries clear to all parties	Boundaries clear to all parties	Boundaries and tenure clear to all parties

**COMPONENT 2. COMMERCIAL COMMUNITY FORESTRY GROUP FORMATION.** The forestry group formation at the community level is critical for developing community ownership of the project. A strong group is important for both inward organizing and decision-making, but also for establishing legal recognition of the community's rights to management the resources to outside stakeholders.

<b>2.1 Organize Community Stakeholders into Representative Group</b>	<b>Process</b>	<b>Outcome/Options</b>
Identify laws that recognize community group's right to manage forest	Options include Community Forestry, Partnership Forestry, Concessions Forestry	Legal Path Clear
Identify primary stakeholders in community – i.e. those interested in participating actively in forming a community forest management group.	Conduct informational workshops on CCF in target villages, community consultation	Consultation with Stakeholders
Form initial core group of primary stakeholders	Basis for group formation and forum for organizing informational gatherings	Forum for organizing established
Identify steps required to form legal group	Apply for legal recognition under a specified in legal process.	Legal Recognition for Community Management and group entity
Form Group and related operating procedures. Make clear that membership in the community forestry group comes with a set of rights and responsibilities. Determine what the rights and responsibilities are for primary group members at the outset.	Election of group leaders, establishment of membership requirements, by laws, operating procedures, rights and responsibilities, of different positions, skills required, roles in forest planning, law enforcement, financial management, and community development.	Organizational structure clearly defined and agreed upon. Members understand roles and responsibilities.
Identify secondary and tertiary stakeholders in relation to resource and group	Secondary and tertiary stakeholders include people living further from resource, contractors, illegal loggers, government agencies, military	Recognition of primary stakeholders and their role in forest management. Recognition of indirect stakeholders and their role in forest management.

<b>2.2 Assess Community Profile, Development Goals and Training Needs</b>	<b>Process</b>	<b>Outcome</b>
Participatory Rural Appraisal and Social Mapping exercise	<ul style="list-style-type: none"> <li>• Census Mapping</li> <li>• Wealth Ranking</li> <li>• Identification of village institutions</li> </ul>	Understand community needs, constraints, assets, profile. Forms a baseline for monitoring improvement

<b>2.2 Assess Community Profile, Development Goals and Training Needs</b>	<b>Process</b>	<b>Outcome</b>
Options for community involvement in elements of forest management, financial administration and development projects.	Realistic expectations set for first few years of management.	Expertise required for CCF including strong financial skills, reading skills, forestry skills- tree identification, inventory , math skills
Identify equipment needs required for CCF.	Options for securing equipment and expertise in harvesting & hauling – though smaller contractors, or loans.	Vision of forest management scenario clarified.
Identify training needs for CCF and skills within group	<ul style="list-style-type: none"> <li>• Census Mapping/PRAs</li> <li>• Education Assessment</li> <li>• Identification of village skills</li> </ul>	Identify gaps that need to be filled by outside expertise through contracts/TORs for first phase of project.
Identify skills/jobs that may be contracted by CCF Group.	Options include forest management, contracted harvesting, contracted patrolling, contracted financial administration, contracted hauling.	Realistic picture of management that is efficient, commercially viable and up to high standards.

<b>2.3 Detailing Operational Costs and Benefit Sharing</b>	<b>Process</b>	<b>Outcome</b>
Operational cost determined	Determined by level of community involvement, level of harvest intensity, level of contractor involvement	Operations model that can accurately predict costs – excel sheet.
Royalty fee per product/Transport permits	Discussions with FA, MAFF	Informs operating costs
Forest protection costs	Contracted through Forest Administration	Law enforcement
Forest management costs	Inventory, FMP	Forestry expertise
Operational Controls.	All contracts controlled through community group	Benefit sharing agreement and institutional support
Benefits to community (non- monetary)	Forest protection, secure tenure, illegal activities stopped, access to NTFP and other forest products provided	Non-monetary benefits clearly defined. Expectations set.
Fuel Wood	Develop program to support fuel wood needs by using tops and branches	Non-monetary community benefit
Employment	Identify elements of forest management that can employ group members	Identify training – employment expectations

<b>2.3 Detailing Operational Costs and Benefit Sharing</b>	<b>Process</b>	<b>Outcome</b>
NTFPs	Develop program to protect, process and market NTFPs	
Value Added options	Look to options for value added processing	Development of longer-term more lucrative benefit flow
Training	Forest management job training	Skills that can be shared with other communities
Development projects	Financial support for development projects needs to be realistic based on model of operational costs. (Excel sheet).	Realistic expectations.
Access to credit or capital – growing community resource	Explore uses of dividend payment to support access to credit	Livelihood improvements.

<b>2.4 Participatory Mapping and Forest Use Details</b>	<b>Process</b>	<b>Outcome</b>
Identify important areas of forests from communities perspective – important uses, spirit forests, cultural sites, NTFPs	Develop operational ground-rules and Monitoring and Evaluation procedures	SMA identified.
Identify forest uses – resolve conflicts	Conflict resolution mechanism	Conflict resolved
Map of fragile areas	WCS/FA expertise and local knowledge	SMA map, and management considerations
Map of important habitat corridors and landscape level considerations	WCS/FA expertise and local knowledge	SMA map – including HC VF areas
Identify rare, threatened and endangered species	WCS/FA and other expertise	Incorporate Rare species into management considerations
Identify unsustainable uses.	Monitor uses and population health	Identify areas or concern, find alternatives

**COMPONENT 3: FORMALIZE PARTNERSHIP AGREEMENTS AND DEFINE PARTNERSHIPS BETWEEN THE CCF GROUP AND OTHER ORGANIZATIONS.**

CCF recognizes that communities will not immediately (or perhaps ever) possess the capacity to fully manage all elements of commercial timber operations. In addition, communities may not have an interest in being involved in every aspect. Using the comparative advantage of outside parties that may be in a better position or have more experience, communities can form strategic relationships. For example, it may be wise of the Community forestry group to contract to law enforcement to the Forest Administration, to hire a financial accounting firm to undertake financial record keeping systems. In addition, the Community may be in a position to hire a forest manager with expertise in SFM to undertake some of the technical elements of forestry or hire a contractor who has access to equipment to undertake certain operational activities.

Purpose of Partnership	Parties	Mechanism
Acquire Forest Protection Skills and effective Patrolling Against Illegal Logging activities	Community Group & Forest Administration	Contracts for Service/ Develop TORs for law enforcement: <ul style="list-style-type: none"> <li>• Performance Based Contracts</li> <li>• Annual Contracts</li> </ul>
Forest Management (acquire skills for management plan writing, inventory analysis, annual operations planning, harvest planning)	Community Group & Experienced Professional Forester/Forest Manager/TFT /FA	Contract for Forest Management Services/ Develop TOR: <ul style="list-style-type: none"> <li>• Performance Based</li> <li>• Annualized contract subject to review</li> </ul>
Forest Mapping (acquire skills and tools for long-term mapping associated with forest management activities)	Community Group/ Forest Administration/ WCS/	Agreement to share and collect mapping data, and share and produce maps for community use.
Forest Operations that require outside expertise or specialized heavy equipment	Community Group & Contractor(s)	Performance based contract implemented by communities under strict terms such as employment of community members, and supervision by community group. Develop TORs
Financial Management – (Acquire financial management skills to determine and secure returns and expenditure from operations.)	Community Group with Donor / Financial Institutions (Foundations / IFC) / Joint Ventures / TFT Members	A firm hired by the community to manage accounts in a transparent and sound manner. Develop TORs to include <ul style="list-style-type: none"> <li>• Requires monthly reporting</li> <li>• Community Training</li> <li>• Micro-financing</li> <li>• Investing returns</li> </ul>
Community Development Partnerships	Community Group/ Commune Councils/ Community Development Councils/local NGOs	Community Development plan or Commune Development Plans

<b>Purpose of Partnership</b>	<b>Parties</b>	<b>Mechanism</b>
Administration Services – (Skills needed to undertake administration of Community Group and related activities)	Community Group with assistance from NGOs, Donors, TFT, WCS	Stakeholder Identification and Consultation Process.
Timber Marketing (skills needed to make linkages to good wood market and negotiate prices and terms)	Community Group/ TFT/TFT Member Companies	Sales contracts based on tracking system
Value added processing (skills to develop products to meet markets for good wood)	Community Group/TFT/ TFT Member Companies/ Financial Institutions	
Contract and TOR development, monitoring and enforcement skills.	Community Group and TFT	MOUs/ Partnership agreement between TFT and Community Group

#### COMPONENT 4: FOREST MANAGEMENT PLANNING, TRAINING AND APPROVALS

Planning	<i>Recipient (Trainee)</i> <i>Provider (Trainer)</i>	Approvals
<b>4.1 Develop a Forest Management Plan based on SFM and FA legal requirements</b>	<i>Recipient</i> - Community Members/FA <i>Provider</i> - Forester FA/TFT	Requirements of RGC CF <i>Prakas</i>
<ul style="list-style-type: none"> <li>Forest Inventory</li> </ul>	<i>Recipient</i> - Community Members/FA <i>Provider</i> - Forester FA/TFT	Requirement of CF <i>Prakas</i>
<ul style="list-style-type: none"> <li>Formulation of silvicultural and forest protection prescriptions</li> </ul>	<i>Recipient</i> - Community Group/FA <i>Provider</i> - Forester/FA/TFT	Requirement of CF <i>Prakas</i>
<ul style="list-style-type: none"> <li>Social Impact Assessments</li> <li>Environmental Impact Assessments</li> </ul>	<i>Recipient</i> - Community Members/FA/Forester <i>Provider</i> - TFT/WCS	Requirement of CF <i>Prakas</i>
<ul style="list-style-type: none"> <li>Forest mapping / zoning and demarcation</li> </ul>	<i>Recipient</i> - Community Members/FA/Forester <i>Provider</i> - TFT/WCS	Requirement of CF <i>Prakas</i>
<ul style="list-style-type: none"> <li>Market analysis</li> </ul>	<i>Recipient</i> - Community Members/FA/Forester <i>Provider</i> - TFT/WCS	Legality of export, species, products, relevant transport laws, import laws
<ul style="list-style-type: none"> <li>Formulation of R&amp;D and Monitoring &amp; Evaluation procedures</li> </ul>	<i>Recipient</i> - Community Members/FA/Forester <i>Provider</i> - TFT/WCS	Timber tracking system by TFT,
<b>4.2 Develop Standard Operating Procedures (SOPs) for planning and supervision of operational activities</b>	<i>Recipient</i> - Community Members/FA/Forester <i>Provider</i> - TFT/WCS	
<b>4.3 Develop an Annual Work Plan (AWP)</b>	<i>Recipient</i> - Community Members/FA/Forester <i>Provider</i> - TFT/WCS/FA	
<b>4.6 Obtain FA approval for harvesting Submit necessary documentation</b>	<i>Recipient</i> - Community Members/ <i>Provider</i> – FA	FA approves annual work plan

### COMPONENT 5. UNDERTAKE FOREST OPERATIONS AND TRAINING (DEMONSTRATION PHASE)

A demonstration site is important on a number of levels. It provides an on-the-ground classroom to learn and conduct training. Much of forestry is learned through experience and a demonstration site provides that learning environment while reducing risk. In addition, a demonstration site provides managers an opportunity to conduct forest operations in as close to a controlled setting as possible and allows for implementation of certain harvest techniques in a slow and orderly manner. This allows managers to perfect their skills, test their procedures and learn to recognize excellence.

Activity	Parties	Outcome
<b>5.1 Implement Forest Operations at small scale for initial demonstration site in accordance with the AWP</b>	Train community, contractors and FA staff at the demonstration site	Increased capacity and confidence in forest management system.
Implement <b>pre harvest</b> activities <ul style="list-style-type: none"> <li>• Identify harvest area</li> <li>• Undertake pre-harvest inventory</li> <li>• Identify vulnerable or at risk elements (riparian, cultural, RT&amp; E spp, soils, topography)</li> <li>• Identify trees – tag appropriately, use inventory data</li> <li>• Identify feeling directions</li> <li>• Undertake removal of vegetation for felling and hauling and other site controls.</li> <li>• Upgrade internal trail system if necessary</li> <li>• Identify suitable contractors and equipment – negotiate price accordingly</li> <li>• Develop maps of harvest area with explicit instructions and safeguards</li> </ul>	<ul style="list-style-type: none"> <li>• Community Forestry Group Members</li> <li>• Forest Manager</li> <li>• TFT Staff</li> <li>• FA staff</li> <li>• Contractors</li> <li>• Other CF NGOs</li> </ul>	Demonstration of Pre-harvest activities of sustainable forest management and low impact logging  Visual and demonstrative example in controlled area to test system and assumptions  Greater sense of understanding and concepts among stakeholders  Greater sense of confidence among community  Opportunity to learn and adjust management policies and operating procedures.  Opportunity for demonstration classroom for all of Cambodia.
Use pre-harvest layout to demonstrate the tenets and procedures taken to ensure sustainable forest management	<ul style="list-style-type: none"> <li>• Community Forestry Group Members</li> <li>• Forest Manager</li> <li>• TFT Staff</li> <li>• FA staff</li> <li>• Contractors</li> <li>• Other CF NGOs</li> </ul>	Confidence and practical understanding of SFM system and concepts

Activity	Parties	Outcome
<p>Implement Harvest Activities at Demonstration Site</p> <ul style="list-style-type: none"> <li>• Fell selected trees</li> <li>• Remove tops and branches for fuel wood program</li> <li>• Haul selected trees to first landing</li> <li>• At first landing, explore further processing options</li> <li>• Use harvesting as demonstration for stakeholders of low impact logging techniques and low intensity logging</li> </ul>	<ul style="list-style-type: none"> <li>• Community Forestry Group Members</li> <li>• Forest Manager</li> <li>• TFT Staff</li> <li>• FA staff</li> <li>• Contractors</li> <li>• Other CF NGOs</li> </ul>	<p>Visual and demonstrative example in controlled area to test system and assumptions</p> <p>Greater sense of understanding and concepts among stakeholders</p> <p>Greater sense of confidence among community</p> <p>Opportunity to learn and adjust management policies and operating procedures.</p> <p>Opportunity for demonstration classroom for all of Cambodia.</p>
<p>Implement Post-Harvest “close-out” procedures of SFM as described in the standards of operation of CCF.</p> <ul style="list-style-type: none"> <li>• Assess success of operation – and residual stand damage</li> <li>• Prevent any soil erosion and loss of production area</li> <li>• Prevent any water pooling or stream channel damage</li> <li>• Close trail or road</li> <li>• Close bridge or crossing</li> <li>• Implement Monitoring and Evaluation procedures</li> <li>• Return in 1 years time to M and E again</li> <li>• Return in 5 years time to M and E again</li> </ul>	<ul style="list-style-type: none"> <li>• Community Forestry Group Members</li> <li>• Forest Manager</li> <li>• TFT Staff</li> <li>• FA staff</li> <li>• Contractors</li> <li>• Other CF NGOs</li> </ul>	<p>Demonstration of post-harvest activities of sustainable forest management and low impact logging</p> <p>Visual and demonstrative example in controlled area to test system and assumptions</p> <p>Greater sense of understanding and concepts among stakeholders</p> <p>Greater sense of confidence among community</p> <p>Opportunity to learn and adjust management policies and operating procedures.</p> <p>Opportunity for demonstration classroom for all of Cambodia.</p>

Activity	Parties	Outcome
<b>5.2 Evaluate and revise CCF system for scaled implementation</b>	Facilitate discussion of demonstration among community stakeholders, forest managers, contractor and TFT	Improved operationalized system for CCF on the ground
Undertake testing of lesser known species - wood properties / commerciality	TFT/ University Lab in British Columbia	Potential replacement products for existing international components
Distribute products derived from harvesting operations to the community for collective and individual use (not commercial sale)		Wood used for community needs development project or community center

**COMPONENT 6. UNDERTAKE FOREST OPERATIONS AND TRAINING – AT COMMERCIAL SCALE**

Activity	Parties	Outcome
<b>6.1 Implement Forest Operations at small scale for initial commercial harvest site in accordance with the AWP</b>	Trained community, contractors and FA staff implement on the group	Increased capacity and confidence in forest management system.
Implement <b>pre harvest</b> activities <ul style="list-style-type: none"> <li>• Identify harvest area</li> <li>• Undertake pre-harvest inventory</li> <li>• Identify vulnerable or at risk elements (riparian, cultural, RT&amp; E spp, soils, topography)</li> <li>• Identify trees – tag appropriately, use inventory data</li> <li>• Identify feeling directions</li> <li>• Undertake removal of vegetation for felling and hauling and other site controls.</li> <li>• Upgrade internal trail system if necessary</li> <li>• Identify suitable contractors and equipment – negotiate price accordingly</li> <li>• Develop maps of harvest area with explicit instructions and safeguards</li> </ul>	<ul style="list-style-type: none"> <li>• Community Forestry Group Members</li> <li>• Forest Manager</li> <li>• TFT Staff</li> <li>• FA staff</li> <li>• Contractors</li> <li>• Other CF NGOs</li> </ul>	Implementation of Pre-harvest activities of sustainable forest management and low impact logging
Use pre-harvest layout to implement the tenets and procedures of sustainable forest management	<ul style="list-style-type: none"> <li>• Community Forestry Group Members</li> <li>• Forest Manager</li> <li>• TFT Staff</li> <li>• FA staff</li> <li>• Contractors</li> <li>• Other CF NGOs</li> </ul>	Confidence and practical understanding of SFM system and concepts

Activity	Parties	Outcome
Implement Harvest Activities at Site <ul style="list-style-type: none"> <li>• Fell selected trees</li> <li>• Remove tops and branches for fuel wood program</li> <li>• Haul selected trees to first landing</li> <li>• At first landing, explore further processing options</li> <li>• Use harvesting as demonstration for stakeholders of low impact logging techniques and low intensity logging</li> </ul>	<ul style="list-style-type: none"> <li>• Community Forestry Group Members</li> <li>• Forest Manager</li> <li>• TFT Staff</li> <li>• FA staff</li> <li>• Contractors</li> <li>• Other CF NGOs</li> </ul>	First CCF operation in Cambodia First Sustainable forest management operation in Cambodia First high value forest, low impact logging system in Cambodia
Implement Post-Harvest “close-out” procedures of SFM as described in the standards of operation of CCF. <ul style="list-style-type: none"> <li>• Assess success of operation – and residual stand damage</li> <li>• Prevent any soil erosion and loss of production area</li> <li>• Prevent any water pooling or stream channel damage</li> <li>• Close trail or road</li> <li>• Close bridge or crossing</li> <li>• Implement Monitoring and Evaluation procedures</li> <li>• Return in 1 years time to M and E again</li> <li>• Return in 5 years time to M and E again</li> </ul>	<ul style="list-style-type: none"> <li>• Community Forestry Group Members</li> <li>• Forest Manager</li> <li>• TFT Staff</li> <li>• FA staff</li> <li>• Contractors</li> <li>• Other CF NGOs</li> </ul>	
<b>6.2 Undertake merchandizing and marketing of wood products in accordance with laws of Cambodia, and bylaws of CF group.</b>	TFT Member companies in Vietnam Cambodia market segments	Commercial sales. Revenue generation to pay operating costs.
<b>6.3 Distribute revenue according to by laws of CF group and community development plan.</b>		Community Development funds acquired, sustainable forestry achieved, social conflict avoided.
6.4 Evaluate and revise CCF system for scaled implementation	Facilitate discussion of demonstration among community stakeholders, forest managers, contractor and TFT	Improved operationalized system for CCF on the ground

## COMPONENT 7. ONGOING COMMERCIAL COMMUNITY FORESTRY OPERATIONS

Activity	Parties	Outcome
7.1 Undertake FM operations in accordance with AWP and Long Term Forest Management Plan	Community Group, FA, NGOs, Contractors	Model firmly establishing for CCF in Cambodia, Livelihood improvements for CF Group, Forest protected yet under production under, sustainable management Forest asset increasing in value, Land conflict mitigated and resolved, Timber enterprise underway, Market Development
7.2 Ongoing monitoring and evaluation of forest operations and revise FMP and AWPs	Community Group, FA, NGOs, Contractors	Improvements in system, strengthening system and documenting outcome.
7.3 Ongoing monitoring, evaluation and revision of CCF Group operations and administration and development planning	Community Group, FA, NGOs, Commune Councils	Strengthening system of CCF
7.4 Explore expansions of value added and timber enterprise development within market sectors in Indochina or Cambodia. Explore concept of Community Labeling of products.	Community Group, FA, TFT, Forest processing industry.	Expanding opportunities for economic development, employment and revenue generation and investment
7.5 Mentor, train and disseminate information for other communities in Cambodia	Community Group, FA, NGOs, Commune Councils, TFT, donors	Replicate program in other parts of Cambodia or other parts of Asia.
7.6 Undertake 3 <sup>rd</sup> party assessment for international recognition and labeling scheme	Community Group, TFT, FA, NGO	Internationally Recognized SFM operation – increased marketability.