

Understanding timber flows and control in Cambodia in the context of FLEGT

Prepared by Global Forestry Services

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Table of Contents

List of tables	5
List of figures	6
Abbreviations.....	7
Types of permits of conveyance	8
Executive summary	9
1 Project background	15
1.1 Objective of the study	15
1.2 Approach and key activities	16
1.3 Project team.....	16
2 Methods of project study	16
2.1 Project inception	16
2.2 Data collection.....	17
3 Roles of government agencies	19
3.1 Regulatory basis	19
3.1.1 National Forest Policy	19
3.1.2 Regulations for timber supply	21
3.2 Ministry of Agriculture Forestry and Fisheries	21
3.2.1 Forestry Administration	22
3.3 Ministry of Environment	25
3.4 Ministry of Commerce.....	26
3.5 General Department of Customs and Excise of Cambodia.....	27
4 Forests of Cambodia	27
4.1 Forest cover and types	27
4.2 Forest land-use categories	30
4.2.1 Protected Areas managed by the Ministry of Environment	32
4.2.2 Protected Forest Areas managed by the Forestry Administration	35
4.2.3 Community forestry	36
4.2.4 Forests under Private Concessions	38
4.2.5 Production Forests	39
4.3 Private Forests/plantations	39
5 Supply of timber.....	41

5.1	Private concession forests	42
5.2	Production Forests - coupe licensed areas	42
5.3	Economic Land Concessions (ELC) – Ministry of Environment and Ministry of Agriculture Forestry and Fisheries	43
5.4	Community Forests	51
5.5	Plantations and private lands	52
5.6	Mining projects	52
5.7	Hydropower dams.....	54
6	Import timber	57
6.1	System for importing timber.....	57
6.2	Data of imported timber	58
7	Transport and local sales of logs	60
7.1	Description of regulations on harvesting trees and transport of logs	60
8	Production and export.....	66
8.1	Mills and associated production data	66
8.2	Mill production and transport of products	67
8.3	System/process for exporting timber.....	71
8.4	Export statistics	72
9	Timber supply model	75
9.1	Structure of timber supply and flows	75
9.2	Description of timber flows and export	76
9.2.1	Log and timber supply	77
9.2.2	Timber flow	78
10	Monitoring systems.....	80
10.1	Description of monitoring system.....	80
10.2	Confiscated timber	81
11	Discussions and recommendations	83
11.1	Resources	83
11.2	Timber supply.....	84
11.3	Transport and sale	85
11.4	Domestic production and exports	86
11.5	Monitoring.....	87

11.6 Voluntary Partnership Agreement.....	88
List of references.....	90
Appendix 1. Terms of reference.....	92
Scope and tasks	92
Scope.....	92
Approach and key activities	92
Appendix 2. Field itinerary	94
Appendix 3. List of ELC areas and production volumes in 2011 and 2012	96

List of tables

Table 1	Land use categories
Table 2	Forestry Administration 2006 statistics on forest types (RGC 2012)
Table 3	Current land use classification according to the NFP that defines government responsibility by land use type and approximate areas (hectares) (RGC 2010)
Table 4	Protected Areas by management type (Ministry of Environment 2011)
Table 5	Protected Forests by province – (RGC 2012)
Table 6	Community Forests by province
Table 7	Forests Under Private Concessions
Table 8	Plantations areas (stations) managed by the Forestry Administration
Table 9	Valid coupe licences in Production Forests
Table 10	List of ELC areas in Mondul Kiri according to the Forestry Administration Mondul Kiri and Open Development
Table 11	Volumes of logs produced from ELC based on Licence Permit data collected by the Forestry Administration (RGC 2012)
Table 12	ELC production for 2011 and 2012 by province
Table 13	List of mining areas and volume of log production 2011 and 2012 based on Forestry Administration annual reports
Table 14	Harvest volumes from hydropower dam projects, 2011 and 2012 annual reports from the Forestry Administration
Table 15	Summary of import timber (m3) 2007–2012 Forestry Statistics Cambodia 2011 (RGC 2012)
Table 16	Number of active licensed mills by province registered under the Ministry of Agriculture Forestry and Fisheries and associated production for 2012 (DFI 2013)
Table 17	Summary volume (m3) for export timber products and green tons for wood chips 2003–2012 (RGC 2012)
Table 18	Regional exports of timber products (m3) in 2011 (RGC 2012)
Table 19	Records of confiscated timber 2008–2012 (DLE 2013)
Table 20	Overview of records on timber supply and flow in Cambodia

List of figures

- Figure 1 Map of Inspectorates, cantonments and divisions in Cambodia (Source: RGC 2012)
- Figure 2 Forest cover map 2010 (Source: RGC 2012)
- Figure 3 Land use classification of forestland in Cambodia (Source: RGC 2012)
- Figure 4 Map of ELC Concessions 2013 (Open Development Cambodia 2013 shape files)
- Figure 5 Example of Land Use Area Map within a master plan for Coviphama
- Figure 6 Map of mining concessions (source: Open Development Cambodia 2013)
- Figure 7 Map of hydropower projects (source: Open Development 2013)
- Figure 8 Example of a Licence Permit document (Licence Permit #142) used by the Forestry Administration
- Figure 9 Example of a PC document: PC-1 #295 used by the Forestry Administration
- Figure 10 Example of a PC document: PC-2 #97 used by the Forestry Administration
- Figure 11 Main custom checkpoints (based on RGC 2001)
- Figure 12 Timber supply model for Cambodia

Abbreviations

Camcontrol	Cambodia Import-Export Inspection and Fraud Repression Directorate General
CoC	Chain of custody
DFI	Department of Forest Industry and International Cooperation
DLE	Department of Legislation and Law Enforcement
ELC	Economic Land Concession
ESIA	environmental and social impact assessment
FAO	Food and Agriculture Organization of the United Nations
FLEGT	Forest Law Enforcement, Governance and Trade
GDCE	General Department of Customs and Excise of Cambodia
ITTO	International Tropical Timber Organization
IUCN	International Union for the Conservation of Nature
MAFF	Ministry of Agriculture Forestry and Fisheries
MOC	Ministry of Commerce
MEF	Ministry of Economy and Finance
NFP	National Forestry Programme 2010–2029
NTFP	Non-timber forest products
PFE	Permanent Forest Estate
RGC	Royal Government of Cambodia
VPA	Voluntary Partnership Agreement
TLAS	timber legality assurance system

Types of permits of conveyance

LP	License Permit. It is issued by the Central Forestry Administration at Phnom Penh
PC	Permit of conveyance allows transport of logs and timber. It is issued by the Forest Administration or a Forest Administration Division
PC-1	Permit of conveyance for logs
PC-2	Permit of conveyance for processed timber
PC-IMEX	Permit of conveyance for import or export of wood products. It is issued by the Central Forestry Administration at Phnom Penh.

Executive summary

The key objectives of this study were to improve the understanding of timber flows in Cambodia and to understand the roles of the government agencies involved in the control of the timber supply chain, from forest areas and points of import/export through processing and trade. The study has analysed the current regulatory system and procedures in Cambodia and identified elements that need to be addressed to ensure legality of wood supply in Cambodia. The analysis is based on data collected from government agencies and site visits in Phnom Penh, Mondul Kiri, Koh Kong and Preah Sihanouk Provinces.

The Royal Government of Cambodia has stated that the country consists of 10.8 million hectares of forest based on forest cover that consists predominately of 25% deciduous forest, 19% evergreen (non-coniferous) forest and 7% semi-evergreen forest. The Government has developed a National Forest Programme 2010–2029 whereby the 10.8 million hectares of forest areas are classified into five land use categories (See Table 1).

Table 1 Land use categories

Area	Size	Regulated by
Protected Areas	3 million hectares	Ministry of Environment
Protected Forests	3 million hectares	Ministry of Agriculture Forestry and Fisheries
Community Forests	2 million hectares	Ministry of Agriculture Forestry and Fisheries
Forests Under Private Concessions	0.3 million hectares	Ministry of Agriculture Forestry and Fisheries
Production Forests	2.6 million hectares	Ministry of Agriculture Forestry and Fisheries

The main government agencies involved in the timber supply system are the Ministry of Agriculture Forestry and Fisheries, Ministry of Environment and provincial offices that are responsible for regulating Economic Land Concessions (ELC), infrastructure development, Community Forestry and Production Forests. The Ministry of Commerce, Forestry Administration (under MAFF), General Department of Customs and Excise of Cambodia – GDCE (under MEF) are involved with licensing and control of import and export of timber products.

Cambodia instituted a moratorium on logging in Forest Concessions in January 2002, and so most timber is derived through land clearing activities in ELCs regulated by the Ministry of Environment and the Ministry of Agriculture Forestry and Fisheries. Production Forest areas can have annual coupe licences and also be used to establish Community Forests, for which the Government has targeted the development of 2 million hectares in Cambodia. Community Forests that are currently under signed agreement with management plans occupy about 200 000 hectares.

Cambodia has a formal system for regulating timber harvesting within areas permitted by the Ministry of Agriculture Forestry and Fisheries or the Ministry of Environment that includes

developing a master plan for the ELCs, Community Forests and coupe licensed areas. Log lists that describe all logs produced from trees felled and extracted are developed and used to obtain a Licence Permit for collecting royalty payments, and transport permits (PC-1) for logs to be taken from the stock pile to a defined processing mill. Mill production is not well regulated and there is no formal requirement to report input of logs and output of wood products to the Forestry Administration or the Ministry of Environment. However, during the study period the Forestry Administration instituted a daily input-output recording system for all mills in 2014. Mills that produce timber products must obtain a PC-2 to transport timber products for the domestic market and a PC-IMEX for the import or export of wood products. The Forestry Administration collects records of all logs produced from the forest through the Log List and associated Licence Permit. PC-1 is used to define material transported from the stock pile to a processing mill. The Forestry Administration also collects information on products to be transported to the local market based on PC-2 as well as for export recorded on PC-IMEX. The Forestry Administration was not able to provide data on mill output through PC-2 to the study team as the documents are issued by the local Forestry Administration office.

In general, there were significant inconsistencies in availability of data and records in respect to land use and associated management of forest areas in Cambodia. Production Forest areas that total 1.2 million hectares are not identified within each province or on the current land use map. Areas of ELC regulated by the Ministry of Agriculture Forestry and Fisheries and the Ministry of Environment are not formally listed or mapped by the ministries. The Forestry Administration has 96 000 hectares of plantation station areas under the Ministry of Agriculture Forestry and Fisheries of which an area of 14 000 hectares has been planted. The Ministry of Environment regulates Protected Areas based on defined zones for protection in core and conservation zones and land use within sustainable use and community zones. However, zoning of Protected Areas has not been completed to define sustainable use zones and community zones that are eligible to be used as part of the timber supply.

Six sources are involved, or are expected in the future, to supply logs and timber to the supply chain from forest areas under harvesting and land clearing to timber processors/exporters and local distributors. The main source of timber supply to domestic and export markets originates from land clearing activities in ELC areas that are regulated by the Ministry of Environment within Protected Areas and the Ministry of Agriculture Forestry and Fisheries for other forest land use categories. There is currently no published list of ELCs regulated by either the Ministry of Agriculture Forestry and Fisheries or the Ministry of Environment that was available for this timber supply study. Unofficial data from the non-governmental organisation Open Development Cambodia (ODC 2013) that is listed in their website (www.opendevdevelopmentcambodia.net) was used for identification and mapping of ELC areas within land use categories in each province (Figure 4). The Forestry Administration has annual data on log production through data collected through Log Book A and Licence Permits issued by the Forestry Administration in Phnom Penh that resulted in a total recorded volume of 140 952 m³ produced from all sources in 2012. The majority of timber (90%) originates from land clearing activities in ELCs whereby 127 142 m³ of logs were recorded as harvested in 2012 and 129 300 m³ in 2011 from all ELCs in Cambodia. Very little material was recorded as supplied during 2011–2012 from hydropower projects (7 781 m³ and 8 396 m³ respectively), and no material was recorded from Community Forests, plantations and mining areas. Production from natural forest areas needs to be processed domestically prior to export.

Currently there are nearly 50 wood processing mills (including a sawmill that can include further processing for moulding and decking products) in Cambodia that are mainly located within ELC areas and produce timber from land clearing activities within the concession. Mills outside

concessions would need to purchase timber from the domestic timber supply to manufacture wood products. Records of input of raw material and production of wood products are not recorded.

The Forestry Administration could not provide data on domestic production but did maintain annual records of export-import. According to these records a total of 27 800 m³ was exported in 2011, which dropped to 14 192 m³ in 2012. The main product exported was squared/rectangular wood with a maximum width/thickness of 25 cm of which most of the material was imported by China (85%) while Vietnam imported about 13% based on 2011 export records. However, the Food and Agriculture Organization of the United Nations (FAO) statistics for 2011 reported different results with 71% of the total volume of timber products exported to Vietnam and only 11% to China. According to both Cambodia and FAO statistics, all wood chips produced from Cambodia were exported to China. The data on export volumes of timber products in 2011 had contradicting results whereby the Government reported the greatest volume being shipped to China and FAO reported the greatest volume to Vietnam. The volumes of timber products reported by each source also differed as FAO reported log exports of 1 077 m³ while Cambodia did not record any log volume exports in 2011. The difference in data between Cambodia Forestry Statistics and FAO reporting reflects an important problem with statistical data collection and national reporting. There is no available data for the volumes of wood products being consumed by the domestic market.

In respect to Forest Law Enforcement, Governance and Trade (FLEGT) and meeting the requirements of a possible future FLEGT timber legality assurance system (TLAS) there is inadequate information on the sources of timber supply as well as the system to document material harvested from defined licensed forest areas to mills and through production to export. All trees harvested from natural forest areas are required to be registered in a log list (Log Book A) often with the aid of local Forestry Administration staff that is used to obtain a Licence Permit issued by the Forestry Administration office in Phnom Penh to determine payment of royalty and fees. Following payment to the Treasury, the concessionaire must obtain a PC to transport the logs from the forest to the mill. The PC is a summary of logs based only on quality class and associated volume. The PC does not reference or identify the actual list of logs being transported on a specific carrier. The PC does not list logs individually by log numbers or species of logs with dimensions and volume of each log. Thus, the PC does not contain adequate information to verify the origin of individual logs being transported from a legal licensed area.

The Forestry Administration records all timber produced from ELC areas as logs (≥ 30 cm diameter, except for luxury wood); poles (15–29 cm diameter) and firewood (< 15 cm diameter) in a log list for each harvest block and issues a Licence Permit for the concessionaire to use the timber after paying the royalty. Once it has been measured, the Forestry Administration makes a hammer mark on each log more than 30 cm diameter then an additional three hammer marks after paying the royalty. The Forestry Administration issues a Licence Permit from the headquarters in Phnom Penh and the local Forestry Administration office issues a PC to transport the logs to a wood-processing mill. Monitoring by the Forestry Administration includes measurements and records of logs, physical inspections and hammer marks. But there is a lack of data between potential and actual yields within defined licensed harvest areas.

The Forestry Administration established a Case Tracking System to record all forestry offences within a database that provides details on confiscated timber and wood products and associated transport vehicles. The Forestry Administration issues a preliminary investigation report and a follow-up memo of the forestry offence to further define the offence as a transaction fine or court judgment.

The study provides recommendations to support the development of a potential future TLAS in regard to both the timber supply and traceability that includes:

1. The Royal Government of Cambodia Land Use classifications for Protected Areas; Protected Forests; Community Forests; Forest Concessions and Production Forests need to be clearly defined for each province, mapped and published.
2. The zoning within Protected Areas for core areas and conservation zones, sustainable use and community zones need to be clearly defined, mapped and published in accordance with the Protected Area Law (2008). The Ministry of Environment can use external support to define the four zones within Protected Areas.
3. Forest Concessions occupy approximately 3.3 million hectares, which are still under moratorium from harvesting, and should be reviewed with regard to sustainable forest management in accordance with international standards. Forests under well-managed licence agreements can contribute a significant supply of legal timber to the market.
4. Community Forests are targeted to grow to 2 million hectares from the current 308 564 hectares of approved Community Forest areas and can become a significant source of legal timber to the market. Management of Community Forests will require the assistance of the Forestry Administration, local authority and the community forestry entity itself to ensure the forests are managed for sustained yield of wood and non-wood products.
5. The Forestry Administration should provide clear information on Production Forest areas as well as private forests and plantations that may provide timber into Cambodia's supply chain in the future.
6. Areas licensed as ELC and regulated by the Ministry of the Environment and the Ministry of Agriculture Forestry and Fisheries need to be defined for each province, then mapped and published. Areas for ELC should not overlap with valid Forests under Private Concession (Forest Concession) licensed areas unless there is a formal agreement with the licensee.
7. Sustainable use zones within Protected Areas need to be defined prior to establishing ELC areas to conform to the Protected Area Law (2008).
8. Inventories of timber stocks should be conducted as part of the development of the master plan for areas planned for planting to provide a clear estimate of timber resources that are expected to be extracted within an ELC.
9. Volumes of timber extracted and areas cleared from ELC and other licensed areas should be recorded clearly and published in annual reports.
10. Areas harvested for ELC should be planted in accordance with the ELC agreement.
11. Commercial timber supplied to the market from Community Forests under signed agreement and approved management plan and from state plantations should be documented through the existing system for timber from natural forest areas by recording timber extracted in a log book and transported using a Licence Permit and PC.

12. Status of land clearing for hydropower dam projects should be monitored in relation to progress of development and records of timber harvested based on the master plan.
13. Import records need to be maintained against import licences whereby the material should clearly be defined as to international standards (Harmonized System codes) along with destination, volumes, quantities, etc. that can be used for traceability and reporting to international organisations such as the International Tropical Timber Organization (ITTO) and FAO.
14. The PC-1 summarises a defined volume of logs based on quality, which is dependent on a separate log list and identifies material to be transported on a specific truck to provide traceability of material. The volumes may differ between the PC-1 and the log list as the PC-1 can consist of a large volume of logs transported in more than one truck. This limits the ability to verify that the material being transported is actually part of a PC-1 that should be checked against Log Book A associated with the Licence Permit and PC-1.
15. The PC-1 should be limited to a single truck load that is directly connected to a list of logs that include log numbers, species, dimensions and volumes being transported on a specific carrier from a defined licensed area associated with a Licence Permit to the site of destination. The PC-1 should provide a means to verify that the material being transported matches the documents used for transport.
16. Although there is a formal requirement for the factory owner to have a book to record the timber input and output of the mill, the Forestry Administration needs to acquire comprehensive data on mills and local production of timber products at least through existing records of PC-2 and PC-IMEX for forest sector analysis and planning. The Forestry Administration has initiated a requirement for mills to formally report daily input and output on a standard format.
17. Recording raw material input such as log numbers with associated volumes within a defined unit of production can provide a flexible system to trace and measure log input against quantity and output volume of wood products.
18. Export records need to be maintained against export licences whereby the material should be traceable to production units. Records of products to be exported should be clearly defined as to international standards (Harmonized System codes) along with destination, volumes, quantities, etc., which can be used for traceability and reporting to international organisations such as ITTO and FAO.
19. There is a lack of data on harvest yield limits and the effectiveness of monitoring volumes to be extracted and transported from areas being harvested and cleared. Yield estimates from inventory data could be used to monitor production volumes recorded in log lists (Log Book A) and Licence Permits and transported through PCs.
20. Monitoring logs in transport and delivered to mills could be improved greatly if the PC-1 contained a clear identification of the logs being transported from a licensed forest area on a specific carrier that includes log numbers, species and dimensions that can be checked and measured.

The timber flow study was designed to provide details on the current system and procedures in Cambodia and identify elements that need to be addressed to enable verification of legality of

wood supply in Cambodia. The European Union has established a new timber trade regulation effective March 2013, and now placing illegal timber products on the European Union market is prohibited.

Engaging in the process towards a Voluntary Partnership Agreement (VPA) with the European Union can serve as a formal commitment by Cambodia to address the weaknesses identified in the timber flow study. Improvements in forest law enforcement and governance can be an initial step in the process towards FLEGT licensed timber. The VPA process would begin with a formal communication from Cambodia to the European Union to outline the country's commitment to enter into negotiations, which would lead to the development and implementation of a TLAS that, once approved, would enable licensing of timber product exports to the European Union. The process of negotiating a VPA requires that national stakeholders be involved in a national process of defining timber legality, developing a TLAS and contributing to discussions on transparency to ensure the development of a credible and nationally supported VPA.

1 Project background

This study forms part of the work plan of the EU FLEGT Facility, which is hosted by the European Forest Institute.

In the context of the Royal Government of Cambodia understanding of the EU FLEGT Action Plan and preparation for potential Voluntary Partnership Agreement (VPA) negotiations with the European Union, this study was commissioned to inform the Government and the European Union about the tracking and control of timber flows in Cambodia.

The study is conducted in close cooperation with the Government, in particular the interim FLEGT Working Group within the Forestry Administration with the participation of the Ministry of Commerce, the General Department of Customs and Excise of Cambodia (GDCE) and the Steering Committee that include:

1.	H.E. Chheng Kimsun	Director General, Forestry Administration	Chairman
2.	H.E. Chea Sam Ang	Deputy Director General, Forestry Administration	Deputy Chairman
3.	Mr. Keo Sok Kheang	Director, GDCE	Member
4.	Mr. Hor Iengchhay	Deputy Chief of Bureau, Ministry of Commerce	Member
5.	Mr. Alexander Hinrichs	Advisor, EFI FLEGT, Asia	Member
6.	Mr. Koen Everaert	Chargé d'affaires, European Union, Phnom Penh	Observer
7.	Mr. So Lorn	Deputy Director of Forest Industry and International Cooperation, Forestry Administration	Partner
8.	Mr. Suon Sovann	Deputy Director of Legislation and Law Enforcement	Partner
9.	Mr. Hang Suntra	Deputy Director of Forest, Industry and International Cooperation, Forestry Administration	Secretariat

1.1 Objective of the study

The study is to support an understanding of the timber flows in Cambodia and their control through the Forestry Administration and other related agencies at the national and provincial level. In addition, the study shall provide the Government with a better understanding of the VPA concept and credible ways to document timber legality, in particular through a timber legality assurance system (TLAS). The main objectives are to identify and systematically map out the main timber supply chains in Cambodia based on Cambodia's legal and institutional framework for key timber

product types and sources of material that include: Production Forests, plantations, conversion (infrastructure, economic land concessions (ELCs), mining), Community Forests and imports. The timber supply chains for products sold on the domestic market, as well as for those that are exported, are to be defined.

In order to prepare for potential VPA negotiations, the study aims to describe the relevant legislative references that regulate the timber tracking system and the documentation related to the timber flows. It identifies timber supply chains from the forest areas (including natural forest, community areas, ELCs and others) and from imports, through production, sales and export. It also describes the verification tasks and roles of the relevant government agencies with authority over the supply chains, in particular their monitoring, physical data collection and control tasks.

The study includes the current status of timber supply, transport of material, processing, production and export data. It identifies potential gaps in the current system (i.e. points where unverified timber could enter the supply chains) and makes recommendations for improvements.

1.2 Approach and key activities

The key objective of this study on understanding timber flows in Cambodia is to evaluate the timber supply chains in Cambodia for timber and timber products sold on the domestic market or that form part of the export market to neighbouring countries that include cutting (coupe) areas, timber from plantation establishments, plantations, infrastructure projects and imports. This information is crucial to the development of a definition of timber legality and a TLAS developed as part of a future VPA.

1.3 Project team

Dr Kevin Grace - Team leader

Mrs Ratana Moni MAO - Local consultant

Dr Koy RA - Local consultant

2 Methods of project study

2.1 Project inception

The study includes a review of existing reports on forest production protection, conservation areas, timber production and timber flows based on four broad categories, coupe harvesting, ELCs for Plantation Development and Infrastructure, imports and confiscated material. The inception report provided a generic supply chain model that will be revised through findings of the study.

The study team met in Phnom Penh with several officials of the EU FLEGT Facility and the Forestry Administration under the Ministry of Agriculture Forestry and Fisheries as well as with other organisations to obtain basic information to develop an inception report that included a

generic timber flow model. The systems that control timber flows in Cambodia have been developed over decades. Changes in market and political conditions have tended to modify the system. The initial model was considered a working draft. The method of the study was to focus on the collection of field data that enable individual flows within trade chains in three selected provinces to be documented.

The methods used in this study focused on a bottom-up approach to evaluate the current system and available data generated directly from key sources of timber supply, points of documentation of harvested timber from various sources, local factories and export data at the provincial level to build a timber supply model that represents what is happening on the ground to the 'nominal' requirements as set out by the central government system.

2.2 Data collection

There are several key aspects to the timber supply study that required data to be collected and required a field evaluation of the system implementation.

The study was conducted from August through November 2013 in Phnom Penh, Mondul Kiri; Koh Kong, and Preah Sihanouk provinces as recommended by the Steering Committee. The study project was facilitated by the Forestry Administration to enable the team to consult government agencies related to forestry and timber trade in Cambodia. The project team visited both government and non-government organisations in Phnom Penh to collect information and conducted site visits for a period of 30 days in Mondul Kiri, Koh Kong, and Preah Sihanouk provinces from September through November 2013 to evaluate timber supply and the systems used to document timber supplied to local industry and for export (Appendix 2 - Field itinerary).

The study team visited these government and non-government agencies:

- Forestry Administration – Phnom Penh
- World Wide Fund for Nature – Phnom Penh office
- Ministry of Commerce
- Cambodia Timber Industry Association
- Cantonment Forestry Administration Offices: (Mondul Kiri, Koh Kong, Preah Sihanouk)
- Ministry of Environment – Phnom Penh
- The General Department of Customs and Excise of Cambodia
- Conservation International – Phnom Penh
- The Food and Agriculture Organization of the United Nations (FAO) – Phnom Penh

The study team initially evaluated the forestry sector in respect to the availability of raw material from various forest and land use types.

Cambodia has 10.8 million hectares of forest area that are under several different land-use categories and are regulated by two separate ministries (Ministry of Agriculture Forestry and Fisheries and Ministry of Environment). Since the moratorium on logging in Natural Forests in January 2002, most of the timber supply comes from harvesting and land clearing for conversion to plantation establishment, agricultural development and infrastructure projects. The study team described the forest areas according to land use classification as defined by the Ministry of Agriculture Forestry and Fisheries and eligibility for timber harvesting.

The study documented the roles of government agencies related to regulating the timber supply and flow to determine the robustness of the system and the capacity of different agencies to control the timber flow. The study team observed the procedures on the ground, visiting some mills and manufacturers together with government agencies to observe log yards within mills, road check points and border customs points to gauge both the procedure and the performance of the current system.

The study team evaluated the timber supply from the various land use classes within selected provinces to serve as an example of the system implementation.

The selected provinces included:

Mondul Kiri and Kratie to evaluate plantation concessions, coupe allocations, infrastructure projects through ELC and mill production and transport records;

Koh Kong to describe the processes regarding infrastructure projects (dams), land conversion through ELC, sawmill production in forest or factory site, transport records;

Preah Sihanouk to capture data on imports and exports to evaluate implementation of the customs systems used in Cambodia.

Site visits were conducted to evaluate the current system of documenting harvesting areas under the various land uses that included harvesting coupes, Community Forests, private plantations, ELC areas for establishment of plantations, agriculture and development such as dams and mines. Current systems and records related to licensing; harvesting and transport and trade of material for the various harvesting areas were evaluated in each of the study provinces. Site visits were conducted to observe processing mills that may be located in the ELC or in other areas. The study team evaluated records for material received, a system to record input into production and output of products.

The study team worked with the Forestry Administration and met with the Ministry of Environment to obtain data on forest areas and supply of timber volume recorded from the main supply sections (ELCs, annual coupes, Community Forests, plantations and imports). The study team met with GDCE to obtain data on imports, and export volumes of finished goods. The study team worked with local contacts within the government agencies to facilitate the collection of data, which was often difficult to obtain due to the different roles of the agencies associated with timber supply resulting in fragmented data collection and record keeping. This fragmentation has resulted in a great deal of inconsistency of data collection throughout the timber supply system.

The study team accumulated information made available from the government agencies and supplemented it with data from non-governmental organisations and companies. The study team documented the available information within the report to analyse the areas for timber supply, and the system for recording and controlling the production of logs through wood processing, local sales and export. This approach could be seen as unsystematic but in fact it provided the best means to acquire a wide array of information on the current systems being implemented in the selected provinces and illustrates the inadequacy of data that should be maintained and published by the various agencies.

The data on timber supply based on log lists (Log Book A) was observed in relation to input records of an associated factory to evaluate the traceability of material through processing. The study team intended to obtain data on mill output relative to timber supply records to evaluate the availability of raw material input required to meet that level of production. There was a lack of data from the Forestry Administration on timber production from each province that they could have obtained by summarising the log lists associated with Licence Permits that permit the concessionaire to use the timber and mill input data based on a Permit of Conveyance (PC) and

production output data based on PC-1 and PC-IMEX that limit effective evaluation of the timber supply and production.

The data collected and analysed from the provinces was then used to formulate a Timber Supply Model to illustrate the flows of timber from the sources defined in the Terms of Reference. Following site visits to the provinces, the study team requested additional information on production areas, provincial data on ELC areas and records of harvesting volumes and mill production volumes from government agencies located in Phnom Penh. The model reflects the actual systems that were identified as functioning on the ground and can be compared with the regulated processes.

The fragmented nature of the available data from the government agencies has resulted in difficulties in developing a consistent methodology during the study that may be reflected in the development of the VPA and TLAS. The resulting projections detailed in the report are made based on the available data but the validity of the projections depends on the strength of the data and methodology. By drawing these fragments of information together the study aims to identify two types of gaps that need to be addressed in developing a comprehensive TLAS: gaps within the system where relevant data is not available or collected by government agencies; and where the system or framework is theoretically in place but there are clear gaps implementing or collecting and managing data.

3 Roles of government agencies

3.1 Regulatory basis

The Forestry Law of 2002 states that the Permanent Forest Estate (PFE) must be managed sustainably to maximise social, economic and environmental benefits and the cultural values of Cambodia (RGC 2002e). The Ministry of Agriculture Forestry and Fisheries is responsible for classifying and registering defined boundaries for all forests within the PFE. The PFE is classified as Production Forests, Protection Forests or Conversion Forests.

Sub-decree 53 (01 April 2005) includes Procedures for Establishment, Classification and Registration of the Permanent Forest Estate and authorises the Ministry of Agriculture Forestry and Fisheries to conduct forest demarcation in collaboration with local authorities based on 2002 data on forest cover. Many PFE boundaries have been defined through the previous logging concessions, Protected Areas, Protection Forests, Conservation areas, community areas, however the Ministry recognises that changes might need to be reviewed.

3.1.1 National Forest Policy

The Government has instituted a National Forest Programme 2010–2029 (NFP) to support the establishment of a policy framework and strategy for sustainable management of Cambodia's valuable forest resources to address the National Forest Policy Statement (2002).

The operational framework of the NFP consists of six key programmes:

1. Forest demarcation, classification and registration

Implementation of a systematic and transparent forest demarcation and classification system, harmonised with other legal frameworks to contribute to the prevention of land conflicts in relation to ownership and user rights through participatory processes that encourage the involvement of all stakeholders. It contains two sub-programmes: Sub-programme 1.1 – Forest demarcation, forest classification and registration

Sub-programme 1.2 – National function-based forest classification

2. Conservation and development of forest resource and biodiversity

Forest resource management and conservation focuses on implementing existing and emerging sustainable forest management models, and adding value to forest products to increase forest contributions to poverty alleviation, enhanced livelihoods and economic development, while safeguarding environmental services through:

Sub-programme 2.1 – Forest management plan

Sub-programme 2.2 – Development and management of Production Forests

Sub-programme 2.3 – Monitoring, assessment and reporting for sustainable forest management

Sub-programme 2.4 – Biodiversity and wildlife conservation

Sub-programme 2.5 – Conservation and development of genetic resources and seed sources

Sub-programme 2.6 – Tree planting and development of forest plantations

Sub-programme 2.7 – Development of forest product and market promotion

Sub-programme 2.8 – Wood technology development and forest product processing

Sub-programme 2.9 – Forest certification

3. Forest law enforcement and governance

Forest governance and law enforcement are fundamental to NFP sustainability. The NFP promotes the participation of all stakeholders in sustainable forest management and law enforcement through:

Sub-programme 3.1 – Legal and administrative reform

Sub-programme 3.2 – Law enforcement and forest crime monitoring and reporting

Sub-programme 3.3 – Rapid response on forest crime information

Sub-programme 3.4 – Conflict management system. This programme will address conflict management capacity needs within forestry authorities in order to prevent, or respond to, destructive forest based conflicts.

Sub-programme 3.5 – Monitoring, reporting and learning system. A monitoring and reporting system will provide detailed programmatic implementation, checks and balances, and learning for efficient and sustainable performance.

4. Community Forestry Programme

The Community Forestry Programme directly contributes to NFP objectives. It enables sustainable forest management in a participatory manner for equitable benefit and the improvement of livelihoods. It consists of three sub-programmes:

Sub-programme 4.1 – Community Forest identification and formalisation

Sub-programme 4.2 – Community, institutional and livelihoods development

Sub-programme 4.3 – Community forestry development support

5. Capacity and research development

This programme will identify strategic capacity needs and initiate relevant capacity development programmes to better place stakeholders to meet NFP objectives. It will consist of:

Sub-programme 5.1 – Institutional and human resource development

Sub-programme 5.2 – Extension and public awareness

Sub-programme 5.3 – Research capacity building development

5. Sustainable forest financing

Sustainable forest financing provides an economically sustainable and transparent framework for meeting all NFP objectives. This will be achieved through:

Sub-programme 6.1 – Government financing

Sub-programme 6.2 – Income from the forest sector

Sub-programme 6.3 – Income from the private sector and community forestry

Sub-programme 6.4 – Financing via donors

Sub-programme 6.5 – Innovative financing from payments of environmental services and carbon credit

3.1.2 Regulations for timber supply

List of regulations associated with the timber supply:

- Law on forestry (RGC 2002)
- Sub-decree on community forestry management (RGC 2003)
- Sub-decree on Forest Concession management in 2000
- Sub-decree on Procedure Establishment Classification and Registration of Permanent Forest Estate in 2005
- Circular related to illegal occupation of state land in 2007
- Declaration of the Government on land policy (RGC 2009)
- Protected area law (RGC 2008)

3.2 Ministry of Agriculture Forestry and Fisheries

The Ministry of Agriculture Forestry and Fisheries has the mandate to lead and manage the agricultural sector (forestry, fisheries, agricultural crops and livestock) in Cambodia. The main function of the Ministry includes the following:

- Implement agricultural policy
- Develop and implement agricultural legal instruments for sustaining natural resources, livelihood improvement and economic growth
- Participate in developing land reform policy
- Co-ordinate and co-operate with internal and external organisations and non-governmental organisations to develop the agriculture sector

- Monitor and manage natural resources of the agriculture sector and facilitate the exploitation on these resources to meet domestic demands with respect to the stability of the ecosystem
- Guide the development and improvement of agricultural land, agricultural land uses, plants, animal, use of chemical fertilisers and pesticides in accordance with Cambodia geography and climate for high yield while balancing environment issues

Forestry Administration is the key agency under the Ministry that regulates forestry operations within Production Forests, Protected Forests, Forests under Private Concessions and Community Forests.

3.2.1 Forestry Administration

The Forestry Administration has several departments including Department of Forestry and Community Forestry and Department of Forest Industry and International Cooperation. The Department of Forestry and Community Forestry is responsible for regulating and managing approximately 7.9 million hectares of forest areas under the Ministry of Agriculture Forestry and Fisheries. Forestland uses include Production Forests, Protection Forests, Forests under Private Concessions and Community Forests.

Under the authority of the Ministry, the Forestry Administration is the government institution for implementing the management of forest and forest resources according to the national forest policy and forestry law. Based on Forestry Law (2002), the Forestry Administration shall perform the following duties:

- issue regulations governing forest activities to ensure the sustainable management of the Permanent Forest Estate
- collect data on state forests regarding scientific, economic, social and environmental factors in order to determine a sustainable production level
- assess boundaries, classify and demarcate forest areas in order to develop a land use map of the Permanent Forest Estate in coordination with the Ministry of Land Management, Urban Planning and Construction, local authorities and communities
- prepare and implement the National Forest Management Plan at each level of the Forestry Administration
- promote reforestation in conversion forests and on idle land
- promote the development of Community Forest agreements and Community Forest programmes by providing financial and technical assistance suitable to communities
- develop and conduct research, protection and conservation programmes for forest resources and wildlife
- take appropriate measures to investigate, prevent and suppress forest destruction, forest fires and clearing to ensure effective enforcement of this law
- promote public education programmes that demonstrate the importance of managing, maintaining and protecting forest resources, as well as taking action to rehabilitate natural ecosystems and conserve national forests
- promote international cooperation to strengthen the capacity to protect and develop forest resources
- ensure the timely and complete assessment of all forest related activities that may have a significant adverse social and environmental impact prior to approval of such activities

The Forestry Administration with its headquarters, inspectorates, cantonments, divisions and triage will fulfill these tasks.

3.2.1.1 Forestry Administration headquarters

The Forestry Administration has seven main departments within its headquarters to separate the various functions of the organisation. Departments within the Forestry Administration include Department of Administration, Planning and Finance, Department of Legislation and Law Enforcement, Department of Plantation and Private Forest Development, Department of Wildlife and Biodiversity, Department of Forest Industry and International Cooperation, Department of Forest and Community Forestry, Institute of Research and Development of Forest and Wildlife.

3.2.1.2 Forest inspection

Inspectorates are defined regions that overlap provincial boundaries in respect to managing forest areas. There are four inspectorates (Mekong, North Tonle Sap Lake, South Tonle Sap Lake, and Gulf inspections). Forest inspections involve coordinating, monitoring, and evaluating performance within its jurisdiction.

3.2.1.3 Forest cantonment

There are a total of 18 cantonments in Cambodia that do not directly relate to the existing 24 provinces (including Phnom Penh). The main functions of forest cantonment involve developing a management plan, and the necessary steps to achieve the plan. Below are the detailed roles and functions of forest cantonment:

- to control, lead and coordinate the Forestry Administration divisions and triages within its jurisdiction to implement the policy and management plan of national forestry sector
- develop forestry sector management plans within its jurisdiction, to set up the work plan for the implementation of the divisions and triages after the plans approved by the head of Forestry Administration
- to manage the forest areas and establish Community Forests for traditional uses
- to issue the harvesting quota timber and non-timber forest products (NTFP) for local communities
- to issue permits to establish timber and NTFPs delivery stock and small scale handicrafts
- to issue permits to establish all kilns in industrial or handicraft forms which use timber and NTFPs as primary materials
- to sign community forestry agreement with local communities that reside inside or near the permanent forest reserves
- to report regularly to the head of Forestry Administration by month, quarter, semester, nine-months and year on the working activities of the forestry sector within its jurisdiction

3.2.1.4 Forest division

The forest division is mainly responsible for implementing forestry activities in order to achieve the management plan developed by forest cantonment. The forest division plays an important role in issuing permits for transporting timber and non-timber forest products. The main tasks of the forest division include:

- implementing the assessment of forest and wildlife resources and demarcating the forest boundaries

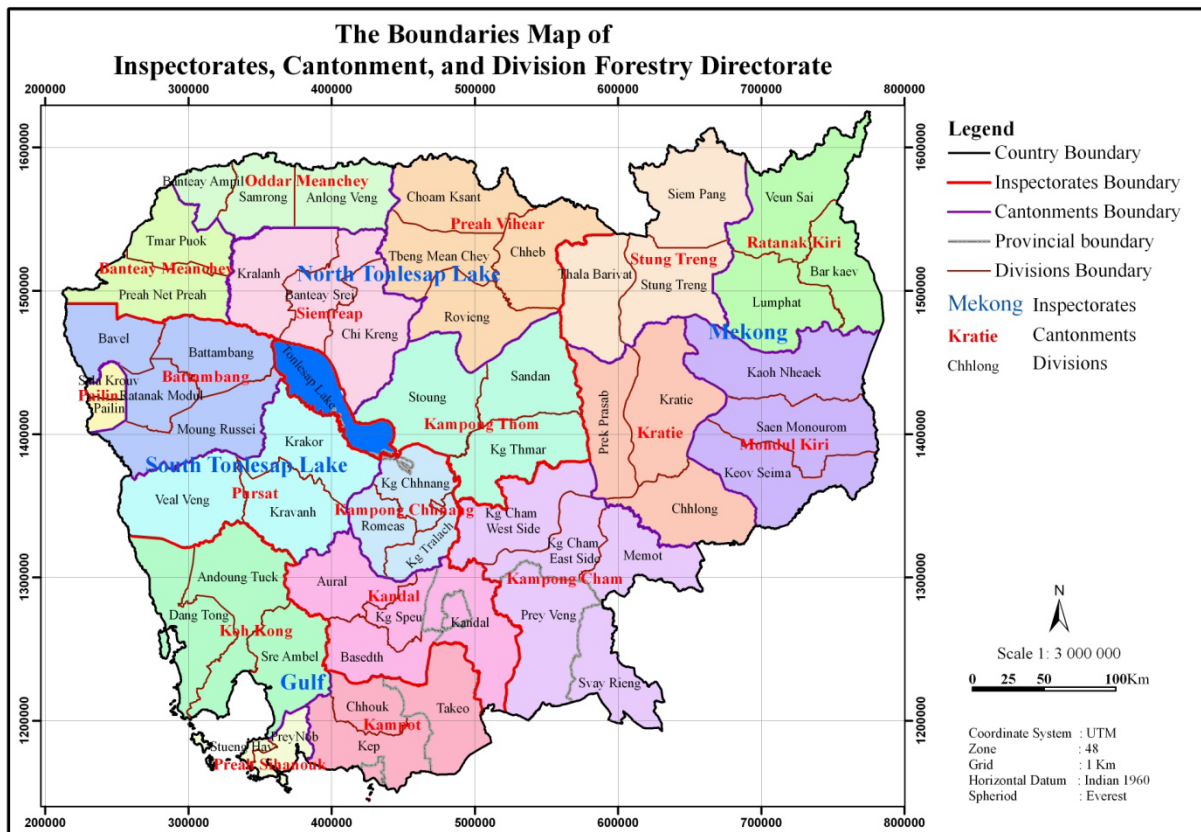
- studying, researching and implementing the management and conservation of wildlife and its habitats
- studying, developing and implementing the forestry sector management plan within the jurisdiction
- developing the management plan of ex-concession Production Forests within its jurisdiction and submitting the plan to the head of Forestry Administration for approval
- implementing forestation and forest rehabilitation
- conducting extensions, to prevent and fight against forest fires
- facilitating, reviewing and providing technical assistance to community forestry
- controlling forest harvesting operations, and measuring and evaluating the quantity and quality of timber and NTFPs in order to record in Log Book A.
- investigating and preventing all forest and wildlife crimes
- filing forest and wildlife crime cases and sending them to court
- issuing harvest permits for timber and NTFPs exceeding the traditional use rights of the local community in Community Forests
- issuing transportation permits for timber and NTFPs originating within its jurisdiction
- reporting to the chief of cantonment by month, quarter, semester, nine-months and year on the working activities of the forestry sector within its jurisdiction

3.2.1.5 Forest triage

Forest triage is the local implementing agency to support the forest division. The roles and responsibilities of the triage are as follows:

- conducting ground patrols to monitor and protect forest and wildlife resources as well as to combat forest fires
- conducting forestry extension and seeking local community participation in the management and protection of forest and wildlife resources
- establishing forest nurseries to plant trees for forest rehabilitation
- facilitating and providing technical assistance to Community Forests
- implementing forest and wildlife inventories and management
- implementing the measurement, assessment and determination of quantity of forest and non-wood forest products
- monitoring, reporting and filing forest crimes, and preventing forest and wildlife offences

Figure 1 Map of inspectorates, cantonments and divisions in Cambodia (Source: RGC 2012)



3.3 Ministry of Environment

The Ministry of Environment has a mandate to supervise and manage the environmental sector in Cambodia. The Ministry has the following functions:

- implementing environmental policies to ensure sustainable development of the country, and to prepare proposals for National and Regional Environmental Action Plans in collaboration with concerned ministries
- developing and implementing environmental legal instruments to promote and ensure the sustainable development of the country

The Ministry regulates 2.8 million hectares of Protected Areas. The Ministry also has the authority to issue permits for ELCs that can be used for agriculture, plantation or infrastructure development within sustainable use and Community Zones within Protected Areas. The Government has developed a Protected Area Law dated January 2008 to define the framework of management, conservation and development of Protected Areas. The objectives of Protected Area Law are to ensure the management, conservation of biodiversity and sustainable use of natural resources in Protected Areas.

Under Article 11 of the Protected Area Law, each protected area shall be divided into four management zoning systems as follows:

Core zone

The core zone manages areas of high conservation values containing threatened and critically endangered species and fragile ecosystems.

Access to the zone is prohibited except to Nature Conservation and Protection Administration officials and researchers who conduct nature and scientific studies, with prior permission from the Ministry, for the purpose of preserving and protecting biological resources and the natural environment with the exception of national security and defence sectors.

Conservation zone

The conservation zone manages areas of high conservation value including natural resources, ecosystems, watershed areas and natural landscapes located adjacent to the core zone.

Access to the zone is allowed only with the prior consent of the Nature Conservation and Protection Administration with the exception of national security and defence sectors.

Small-scale community uses of NTFPs to support the livelihoods of local ethnic minorities may be allowed under strict control, provided they do not present serious adverse impacts on biodiversity within the zone.

Sustainable use zone

The sustainable use zone manages areas of high economic value for national economic development, management and conservation of the Protected Areas that contribute to the local community and indigenous ethnic minorities' livelihood improvement.

After consulting with relevant ministries and institutions, local authorities and local communities in accordance with relevant laws and procedures, the Government of Cambodia may permit development and investment activities in this zone in accordance with the request from the Ministry of Environment.

Community zone

The community zone manages areas for the socio-economic development of the local communities and indigenous ethnic minorities. The zone might include existing residential land, paddy fields and field gardens or swidden (*chamkar* in Khmer).

3.4 Ministry of Commerce

The Ministry of Commerce is responsible for regulating and promoting the commerce and trade of Cambodia. The Ministry issues business licences to companies in Cambodia as well as import-export licences and certificates of origin. A company can request an import-export licence, which is issued by the Department of Export-Import under the Ministry. Export licences are issued following submission of several documents, such as:

- announcement letter from the Government (Sor. Chor. Nor. from the Council of Ministers, allowing in principle for the company to export timber from Cambodia)
- letter asking the Ministry for a principle agreement for import-export from the Ministry of Agriculture Forestry and Fisheries
- company's letter requesting an import-export licence

- Certificate of Business Registration, company's by-laws and patent
- authorisation letter from the company's manager
- contract agreement between the buyer and seller
- approval letter from the Forestry Administration Director General for export licences
- payment receipts (then Ministry of Commerce issues the export licences)

Next Steps:

- after Ministry of Commerce issues the export licence, the company shall apply for export permits at GDCE headquarters
- Forestry Administration measures and checks the volume and quality of export timber products in a container at the mill that forms the basis of the PC-IMEX issued by Forestry Administration staff to permit transporting the container to the port
- when the container arrives at the port, customs and Cambodia Import-Export Inspection and Fraud Repression Directorate General (Camcontrol under MOC) jointly check and verify the contents against the Forestry Administration PC-IMEX. then the customs office issues a Single Administrative Document-SAD.
- GDCE verifies the amount of export tax to be paid by the Company.

3.5 General Department of Customs and Excise of Cambodia

The GDCE is headed by the Delegate of the Government and assisted by five deputy director-generals. The major functions of GDCE include:

- revenue collection (customs duties, taxes, penalties and other charges and fees)
- preventing, investigating, surveying and suppressing any smuggling or other customs related offences including drug trafficking, CITES smuggling, illegal cross border movement of hazardous wastes and so on
- facilitating international trade and protecting national economy and trade
- compiling trade statistics, analysing trade patterns and providing recommendations to policy makers
- with regard to timber trade, the GDCE issues import/export permits to importers/exporters and conducts inspections of imported/exported goods

4 Forests of Cambodia

4.1 Forest cover and types

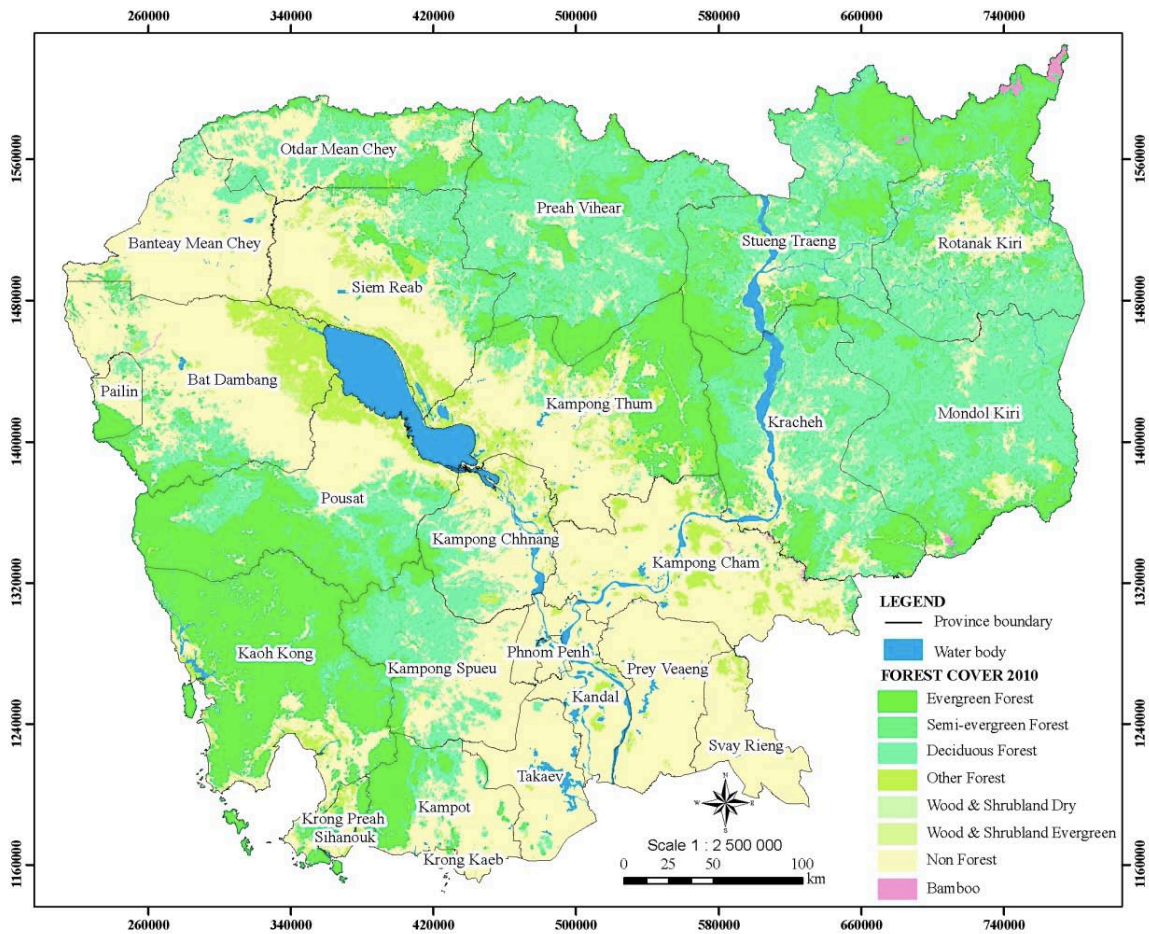
Cambodia covers an area of 181 035 square kilometers including a large alluvial central plain where the Mekong River flows from north to southeast. The forests of Cambodia include several main forest types: evergreen (which are non-coniferous), semi-evergreen, deciduous, swamp, mangrove and bamboo forest in various conditions from closed to disturbed and mosaic formations. Moist lowland evergreen, semi-evergreen and deciduous forests dominate the forest cover. The total area of forest cover in 2010 is reported to be 10.36 million hectares, which is

about 57% of total land area that predominately consists of 25% deciduous forest, 19% evergreen forest and 7% semi-evergreen forest (Table 2; Figure 2).

Table 2 Forestry Administration 2010 statistics on forest types (RGC 2012)

Forest type	Area (hectares)	%
Evergreen Forest	3,499,185	19.27
Semi-evergreen Forest	1,274,789	7.02
Deciduous forest	4,481,214	24.68
Other forest	1,108,600	6.10
Total Forest land	10,363,789	57.07
Non-Forest	7,796,885	42.93
Total Area	18,160,674	

Figure 2 Forest cover map 2010 (Source: RGC 2012)



According to Forestry Law (RGC 2002a) Article 10, all natural Production Forest types are state property and are managed by the Forestry Administration under the Ministry of Agriculture Forestry and Fisheries. The Forestry Law states that private forest plantations are encouraged. For economic management purposes, the natural forests of Cambodia are classified as the following (Article 10): Permanent Forest Estate that consists of Permanent Forest Reserves and private forests.

The Permanent Forest Reserves consist of three categories:

1. Production Forests that are maintained in a manner to allow for the sustainable production of forest products (timber) and by-products such as NTFP. Their protection function is considered a secondary priority. Production Forests are primarily for the sustainable production of timber and NTFP.

Production Forests consist of the following:

- Forest Concessions
- Production Forests not under concession
- rehabilitated forests
- reserve forestland for reforestation or tree plantation
- reserve forestland for forest regeneration

- degraded Forestland
 - Community Forests under agreement
2. Protection Forests that are maintained primarily for the protection of the forest ecosystems and natural resources therein. Forest areas primarily protect forest ecosystems including:
- water resources regulation
 - conserving biodiversity, land, water, watershed and catchments areas
 - wildlife habitat, fisheries, preventing erosion, seawater intrusion
 - soil fertility
 - cultural heritage, which serves the public interest

Protection Forests under Forestry Law do not include Protected Areas under the jurisdiction of the Ministry of Environment pursuant to the environmental protection and natural resource management law.

Protection Forests consist of the following:

- Reserve Forests for special ecosystems
- research forests
- forests for regulating water sources
- forests for watershed protection
- recreation forests
- botanical gardens
- religious forests

Local communities have customary user rights to collect Forest Products and NTFP within the Protection Forest with minimal impact on the forests.

3. Conversion Forestland for other development purposes is typically land classified as forests, comprised mainly of secondary vegetation that is not yet designated for use by any sector and shall be classified as Permanent Forest Reserves until the Government decides to use and develop the land for another purpose.

Conversion forestland includes private forests that consist of forest plantation or trees, whether planted or naturally generated on private lands under registration and legal title and pursuant to authorised legislation and procedures. Private lands under registration are plots of land belonging to an individual family or household. Currently, most private land plots in Cambodia do not have official titles. Since 2005 several bilateral and multilateral donors have provided co-funding with the Government to support the Land Registration Process in order to provide an official Land Title for each private land plot to the private landowners. Private forests should be planted on the private lands that have official land title. Private forests shall be maintained by the owners with the interest rights to manage, develop and harvest, use, sell and distribute the products themselves.

4.2 Forest land-use categories

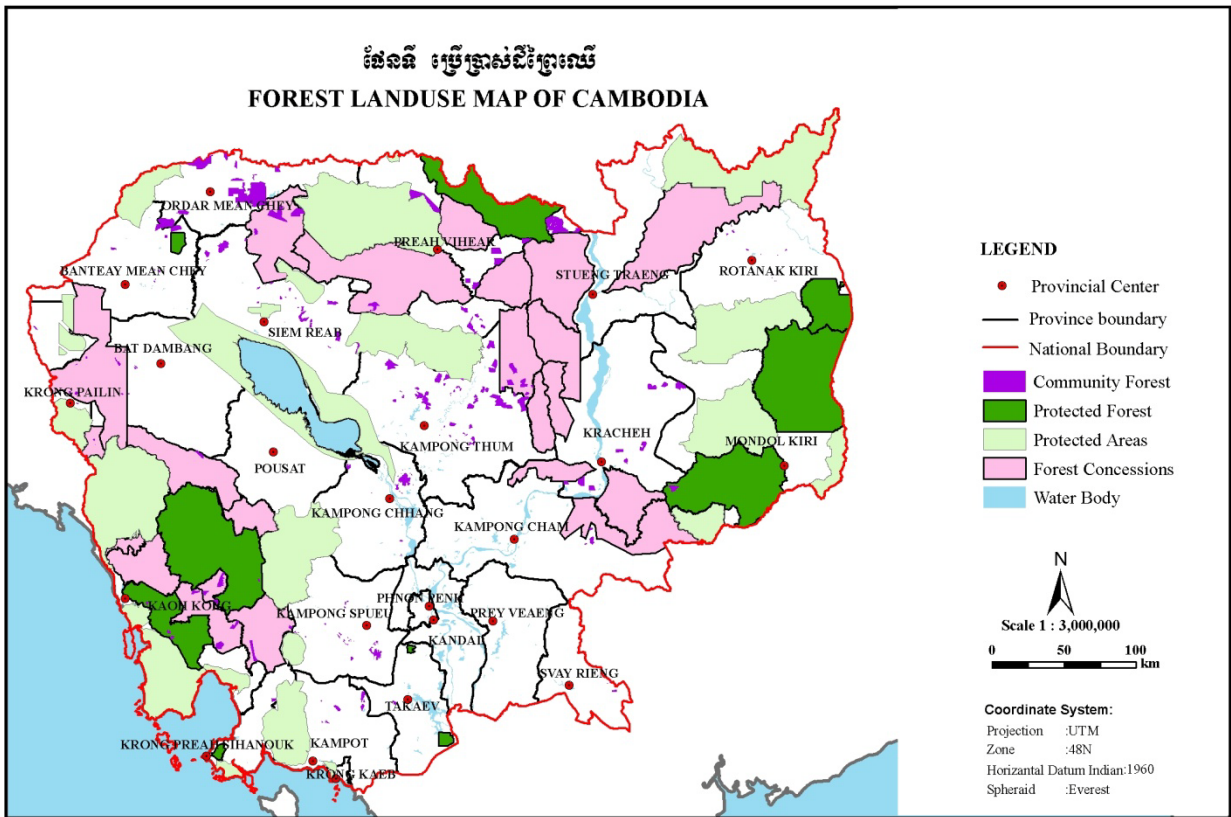
Cambodia has 10.36 million hectares of forest areas that are under several different land-use categories and are regulated by two separate Ministries (the Ministry of Agriculture Forestry and Fisheries and the Ministry of Environment). Based on the NFP, the Government has divided forest-

land use into five main categories. The Ministry of Environment regulates Protected Areas that oversee permit management plans, etc. The role of the Forestry Administration in respect to Protected Areas is limited to recording extraction for issuance of Licence Permits for royalty payments and PC for transporting logs to mills. The Ministry of Agriculture Forestry and Fisheries regulates Protected Forests, Community Forests, Forest Concessions and Production Forests. The Government has indicated general targets for managing the various forest categories that may change during the NFP.

Table 3 Current land use classification according to the NFP that defines government responsibility by land use type and approximate areas (hectares) (RGC 2010)

Ministry of Environment	Ministry of Agriculture Forestry and Fisheries/Forestry Administration			
Protected Areas	Protected Forests	Community Forests	Forests under (private) concessions	Production Forests
3 million hectares	1.5 million hectares	2 million hectares	3.2 million hectares	1.2 million hectares
Other and non-use 200 000 hectares	Other and non-use 100 000 hectares	Other and non-use 200 000 hectares	Other and non-use 300 000 hectares	Other and non-use 200 000 hectares
Effective net 2.8 million hectares	Effective net 1.4 million hectares	Effective net 1.8 million hectares	Effective net 2.9 million hectares	Effective net 1 million hectares

Figure 3 Land use classification of forestland in Cambodia (Source: RGC 2012)



Currently, there is no identification of the 1.2 million hectares area classified as Production Forest in the NFP that fall outside the Forest Concession areas. The Forestry Administration has a geographic information system office with information on forest areas within Cambodia to generate a land use map in accordance to the classification within the NFP. There is currently no published map that includes Production Forests managed by the Forestry Administration. Thus, the Land Use map provided to the timber flow study did not include Production Forest areas.

4.2.1 Protected Areas managed by the Ministry of Environment

The Ministry of Environment is the key agency responsible for environmental protection and natural resources conservation. The Ministry is entrusted to manage about 3.2 million hectares that are designated as Protected Areas as well as Flooded Forests and Mangroves inside Protected Areas, which are managed by the General Department of Administration for Nature Conservation and Protection (Table 4).

The Protected Area Law (2008) defines the framework of management, conservation and development of Protected Areas. The purpose of the law is to ensure the management, conservation of biodiversity and the sustainable use of natural resources in Protected Areas. It

recognises the right of forest dependent and indigenous peoples to use sustainably natural resources and reside within Protected Areas. It divides the protected area into four zones, defining land-use and management for that particular zone. They are the core zone, conservation zone, sustainable use zone and community zone. The Protected Areas are under the jurisdiction of the Ministry of Environment (Ministry of Environment 2011) which provided a list of areas under an action plan for implementing the Convention on Biological Diversity's programme of work on Protected Areas in Cambodia. The study team held discussions with the Ministry to obtain information on the system for establishing ELC and data related to areas and control of harvesting and volume of logs produced that were entering the timber supply. The Ministry indicated that, because of an internal lack of resources to conduct the environmental surveys, it was in the process of defining the four zones within each Protected Area and was looking for external assistance to define the zones based on scientific research. The status of zoning in the Protected Areas is currently unknown but the Ministry has established the ELCs in areas that are not considered as core or conservation zones.

Table 4 Protected Areas by management type (Ministry of Environment 2011)

Province	Name	Type	Area (hectares)
Kampong Speu, Koh Kong	Kirirom	NP	33 855
Kampot	Bokor	NP	149 895
Kampot	Kep	NP	2 795
Preah Sihanouk	Ream	NP	32 401
Koh Kong	Botum-Sakor	NP	183 408
Siem Reap	Phnom Kulen	NP	37 373
Stung Treng, Rattanak Kiri	Virachey	NP	334 173
Total		NP	773 900
Koh Kong, Pursat, Kampong Chhnang	Phnom Aural	WS	255 036
Koh Kong	Peam Krasop	WS	25 897
Koh Kong	Phnom Samkos	WS	332 566
Battambang	Roniem Daun Sam	WS	178 750
Siem Reap, Preah Vihear	Kulen-Promtep	WS	402 500
Kampong Thom	Beng Per	WS	249 694
Rattanak Kiri, Mondul Kiri	Lomphat	WS	252 575
Mondul Kiri, Kratie	Phnom Prich	WS	222 500
Mondul Kiri	Phnom Nam Lyr	WS	54 903
Kratie	Snoul	WS	75 335
Total		WS	2 049 756
Siem Reap	Angkor	PL	10 800
Banteay Meanchey	Banteay Chhmar	PL	81 200
Preah Vihear	Preah Vihear	PL	5 000
Total		PL	97 000
Koh Kong	Dong Peng	MUA	27 700
Battambang	Samlaut	MUA	60 000
Kampong Chhnang, Kampong Thom, Siem Reap, Battambang, Pursat	Tonlé Sap	MUA	316 250
Total		MUA	403 950
Grand total		All 23 areas	3 324 606

NP = National Park - category II of IUCN

WS = Wildlife Sanctuary - category IV of IUCN

PL = Protected Landscape - category V of IUCN

MUA = Multiple Use Area - category VI of IUCN

The Environmental Protection and Natural Resources Management Law (1996) is the main law regarding environmental protection, pollution control and natural resource management in Cambodia. The purpose of the law is to:

- protect and promote environmental quality and public health through the prevention, reduction, and control of pollution
- assess the environmental impact of all proposed projects prior to the issuance of a decision by the Government
- ensure the rational and sustainable conservation, development, management and use of the natural resources of Cambodia
- encourage and enable the public to participate in environmental protection and natural resource management
- prevent any act that could harm the environment

4.2.2 Protected Forest Areas managed by the Forestry Administration

The forest areas that primarily protect the forest ecosystems include:

- water resources regulation
- conservation of biodiversity, land, water, watershed and catchments areas
- wildlife habitat, fisheries, prevention of erosion, seawater intrusion
- soil fertility
- cultural heritage, which serves the public interest

Protection Forests under Forestry Law do not include Protected Areas under the jurisdiction of the Ministry of Environment pursuant to the environmental protection and natural resource management law (Table 5).

Table 5 Protected Forests by province – (RGC 2012):

Province	Name	Area (hectares)
Mondul Kiri	Mondul Kiri Protected Forest Area	429 438
Mondul Kiri, Kratie	Seima Protected Forest Biodiversity	292 690
Rattanak Kiri	Oyaday Protected Forest for Recreation and Hunting	101 348
Koh Kong	Southern Cardamom Elephant Corridor	144 275
Koh Kong, Pousat	Central Cardamom Protected Forests	401 313
Siem Reap and Kampong Thom	Bengal Florican Conservation Site	31 159
Preah Vihear	Preah Vihear Protected Forests	190 027
Banteay Meanchey	Ang Trapeang Thmor Sarus Crane Reserve	12 650
Preah Sihanouk	Kbal Chhay (Preak Tueksap)	6 202
Takeo	Phnom Tamao Zoological Garden	2 285
Takeo	Sarus Crane and Water Bird Conservation	8 205
Kampot	Sarus Crane and Water Bird Conservation	217
Stung Treng	Siem Pang protected forest	66 932
Total		1 646 332

4.2.3 Community forestry

Community Forests involve the management of forests with the active participation of local communities with support from the Forestry Administration, at both the central and local levels. The National Poverty Reduction Strategy (RGC 2002e) requires all sectors to contribute to the national goal of poverty reduction while the Cambodian Millennium Development Goal is to increase the current 57% cover to 60% of the total land area as forest cover by year 2015. The Forest Law of 2002 (RGC 2004c) gives the Forestry Administration authority to grant areas of Production Forest to local communities in order to manage, and benefit from, the resource. Communities apply and work with the Forestry Administration to establish Community Forest management plans within forest areas located near the community to preserve land use rights under a signed Community Forest Agreement with the Forestry Administration.

In December 2003, Cambodia approved the Community Forestry Sub-Decree (RGC 2003) whereby Community Forests became part of the national strategy to support poverty reduction and support maintenance of forest cover. Community Forests are developed with the support of the Forestry Administration for communities that apply to establish a Community Forest agreement. The community needs to develop a Community Forest management plan, approved by the Forestry Administration, to allow timber and NTFP to be harvested and sold. Under Article 12: Based on the Community Forest Agreement, a Community Forest community has the right to plant, manage, harvest forest products and NTFPs and sell tree species as approved in a Community Forest management plan. Community Forest agreements are for a maximum of 15 years and are renewable for another 15 years based on article 27.

Box 1: Case study – Pu Kroch, Mondul Kiri

The site visit to the village of Pu Kroch in Mondul Kiri province involved a discussion of the development of the Community Forest area of 1 231 hectares, and the draft of a management plan submitted to the Forestry Administration for approval. The main objective of the management is to collect NTFPs as well as to produce, in future, 399 trees per year for timber. A non-governmental organisation assisted in developing the draft management plan, but upon evaluation the study team observed several deficiencies in the draft plan. Roles, responsibilities and benefits for this community of nearly 300 families are not defined, and the data presented on existing standing tree volumes of 1 100 m³/hectare was not realistic. The community does have a seven-member management committee to work with the Forestry Administration to establish a management plan and a Community Forest agreement. The draft management plan was not yet approved and is still under review by the Forestry Administration.

Villagers often do not readily understand the basic principles of sustainable forest management. Therefore, a credible management plan must include clearly defined operational guidelines on NTFP and timber production along with defined roles and responsibilities of the community members who are actively working with the forest. It should clearly outline the benefits to those working in forests and to the community as a whole.

The Agricultural Sector Strategic Development Plan 2006 – 2010 (Ministry of Agriculture Forestry and Fisheries 2006) further stresses the importance of formalising Community Forestry and has incorporated a target of 2 million hectares to be allocated for Community Forests. Currently 207

000 hectares of Community Forests have been signed and are operational while an additional 100 000 hectares of Community Forest projects have been approved and nearly another 100 000 hectares are being planned. The current data on the development of Community Forests in Cambodia are published in June 2013 by the Government (RGC 2013) and presented in Table 6.

Table 6 Community Forests by province

No	Province	Planned		Approved		Signed agreement	
		Community Forests	Area (hectares)	Community Forests	Area (hectares)	Community Forests	Area (hectares)
1	Kep	3	1 009	3	1 009	1	60
2	Koh Kong	13	17 514	13	17 514	1	3 046
3	Kratie	41	59 042	19	29 397	10	17 351
4	Kampong Cham	11	3 521	6	1 824	5	1 783
5	Kampong Chhnang	34	11 571	15	6 714	15	6 714
6	Kampong Thom	82	80 907	64	53 902	57	48 478
7	Kampong Speu	48	19 030	18	8 280	15	5 877
8	Kampot	27	12 530	21	8 703	11	5 720
9	Takeo	13	10 791	13	10 791	4	1 843
10	Banteay Meanchey	12	4 970	12	4 970	12	4 970
11	Battambang	27	9 549	13	3 531	13	3 531
12	Pailin	4	858	4	858	4	858
13	Pursat	57	7 460	40	2 841	35	2 504
14	Preah Vihear	21	45 344	18	37 063	8	19 347
15	Sihanouk Ville	2	1 274	2	1 274	1	592
16	Mondul Kiri	4	4 176	4	4 176	0	0
17	Rattanak Kiri	32	20 838	19	15 712	9	908
18	Siem Reap	37	18 122	37	18 122	35	17 523
19	Stung Treng	8	16 208	8	16 208	2	1 370
20	Svay Rieng	2	504	2	504	2	504
21	Utdarr Mean Chey	14	65168	14	65 168	13	64 318
	Totals	492	410 386	345	308 561	253	207 297

4.2.4 Forests under Private Concessions

Cambodia established a logging concession system during 1994-1997 whereby the Government granted 36 Forest Concessions covering nearly 7 million hectares, (close to 70% of the forest area) (RGC undated–a). Poor management and regulatory control of the concessions resulted in the Cambodian Government decision to issue a logging moratorium in January 2002 for all natural Forest Concessions. Subsequently the Government established legal precedence for classification of the PFE based on the Forestry Law (RGC 2002a). Some concession areas have been taken back by the Government, so currently there are approximately 3.3 million hectares of forest still under valid concession licences (Table 7). The future of Forest Concessions is not clear for companies holding valid (not expired) concession licences as the Ministry of Agriculture Forestry and Fisheries has indicated that areas of concessions may be reallocated to Protected Forests and Community Forests. The existing Forest Concession companies are able to operate the concession upon renewed contract agreement with the Forestry Administration based on sustainable management of the concession.

Table 7 Forests under Private Concessions

Province	Name	Expiry date	Area (hectares)
Kampong Thom	Colexim Enterprise		147 187
Kratie	Casotim Enterprise		131 380
Mondul Kiri, Kratie, Kampong Cham	SL International		467 484
Kampong Speu, Koh Kong	SL International		298 598
Kratie, Kampong Thom	Pheapimex Fuchang Cambodia		137 475
Stung Treng	Pheapimex Fuchang Cambodia		221 250
Stung Treng, Rattanak Kiri	Pheapimex Fuchang Cambodia		350 000
Preah Vihear	Cambodia Cherndar Plywood	2021	103 300
Siem Reap	Sam Rong Wood Industry		200 050
Kratie, Stung Treng	Everbright CIG Wood		136 376
Pursat, Kg Speu	Super Wood IPEP		94 418
Kg Cham, Kratie, Preah Vihear	Timas Resources		161 450
Koh Kong, Pursat	Silveroad Wood Products		215 460
Koh Kong,	Silveroad Wood Products		100 000
Pursat, Battambang	You Rysaco		214 000
Siem Reap, Preah Vihear, Pursat	TPP Cambodia Timber Product		395 900
Total	-	-	3 374 328

4.2.5 Production Forests

Production Forests are forest areas having the primary function for sustainable production of timber and NTFPs. According to the NFP the Government has 1.2 million hectares of Production Forests outside the existing licensed Forest Concession areas. A Production Forest includes:

- forest permitted for harvesting outside concession areas
- degraded forest
- forest to be rehabilitated
- reserved area for forest regeneration or forest plantation
- reforested areas
- forest areas under agreement between the Forestry Administration and the local community

Based on the results of the timber flow study, the Forestry Administration has not defined areas of Production Forests outside Forest Concessions within each province or mapped areas in relation to the 1.2 million hectares as defined in the NFP.

4.3 Private Forests/plantations

Private forests include forest plantation or trees, whether planted or generated naturally on private lands under registration and legal title and pursuant to authorised legislation and procedures. Private lands under registration are plots of land belonging to an individual family or household. Currently, most private plots of land in Cambodia do not have official titles. Since 2005, several bilateral and multilateral donors have been co-funding with the Government to support the Land Registration Process in order to provide an official land title for each private plot of land to the private landowners. The National Development Programme in Cambodia includes efforts to create multipurpose tree plantations and to develop plantation forestry with the potential to supply domestic timber needs and increase the incomes of local communities. The main species being established include: rubber, *Eucalyptus* spp., *Acacia* spp. and teak (*Tectona grandis*). Private forests are not associated with Economic Land Concessions but are owned by individuals.

The Forestry Administration has also developed plantation areas in state land forest areas that are managed directly by the Forestry Administration. Plantation projects are designed to promote private initiatives, where communities plant trees on their own on open land.

Table 8 Plantations areas (stations) managed by the Forestry Administration

Name	Province	Year established	Total area (hectares)
Toek Chhar	Kampong Cham	1996	72
Mear Nork	Kampong Chhnang	1997	10 000
Phnom Kray	Kampong Speu	1988	298
Toul Prich	Kandal	1986	290
Phnom Athras	Kandal	1992	20
Angkor Chey	Kampot	1999	3 909
Kamchay Mear	Prey Veng	1995	8 705
Romeas Hek	Svay Rieng	1990	8 002
Krosang	Svay Rieng	1990	5 012
Phnom Tamao	Takeo	1993	1 300
Banteay Angkor	Takeo	1987	1 100
Kbal Chhay (Preak Tueksap)	Preah Sihanouk	1997	6 027
Tropang Thom	Takeo	1998	1 015
Dorng Tung	Kampong Cham	1997	4 800
Tronab Utianchiat Pnom Kulen	Siem Reap	2000	14 000
Boeung Leach	Kratie	2000	5 662
Phnom Samrong	Kratie	1997	4 381
Phnom Porn	Kep	2001	32
Salakraov	Pailin	2002	200
Total			96 349

Data on areas planted by the Forestry Administration within each station are unavailable. Only annual planting records are maintained and they indicate a total of 14 345 hectares were planted in areas managed by the Forestry Administration between 1985 and 2011.

Box 2: Key findings – forests of Cambodia

1. The Government identified 10.8 million hectares classified as forests based on forest cover that was divided into five functional land use categories: Protected Area, Protected Forests, Community Forests, Forest Concessions and Production Forests in accordance with the NFP.
2. The current classification of Production Forests indicates a total area of 1.2 million hectares not yet defined in respect to location, boundaries, area and mapping of each unit within each province.
3. The Ministry of Environment regulates Protected Areas based on defined zones for protection in core and conservation zones and land use within sustainable use and community zones. However, zoning of Protected Areas has not been completed to define sustainable use zones and community zones that are eligible to be used as part of the timber supply.
4. Forest Concessions occupy approximately 3.3 million hectares that are still under a harvesting moratorium and that currently do not provide material to the timber supply.
5. Community Forests are targeted to grow to 2 million hectares from the current 308 561 hectares of approved Community Forest areas and can become a significant source of timber to the market. The management of Community Forests needs assistance from the Forestry Administration to ensure the forests are managed to produce a sustainable yield.
6. The Forestry Administration has 96 000 hectares of plantation station areas under the Ministry of Agriculture Forestry and Fisheries of which an area of 14 000 hectares has been planted. Private forest and plantation areas outside the ELC should be better defined as these areas can provide timber to the Cambodia supply chain in the near future.

5 Supply of timber

Cambodia's forest area of 10.8 million hectares includes a significant portion of Protected Areas (4.5 million hectares) regulated by the Ministry of Environment and Protected Forest Areas regulated by the Ministry of Agriculture Forestry and Fisheries and more than 4 million hectares classified as private concessions and Production Forests. Due to the moratorium on logging in private concessions in January 2002, most of the timber supply comes from harvesting and land clearing for conversion for plantation establishment, agricultural development and infrastructure projects within ELCs.

The supply of timber in Cambodia is regulated through approvals from the Ministry of Agriculture Forestry and Fisheries and the Ministry of Environment that can originate from Production Forest areas managed by the Forestry Administration or through development projects that include ELCs, mining hydropower projects and other infrastructure projects. The Ministry of Environment issues ELCs within sustainable use and community zones within Protected Areas. ELCs issued under the Ministry of Agriculture Forestry and Fisheries can be within Protected Forest Areas or Production Forest Areas. Social land concessions are also granted through the Ministry of Agriculture Forestry and Fisheries whereby land is granted specifically for rural community development that is mainly used for small-scale agricultural production and village expansion. Trees cleared under social land

concessions are meant for use within the community and not for commercial use, as such, data regarding social land concessions was not available for the timber supply study.

5.1 Private concession forests

Cambodia has significant forest areas under private concessions (3.3 million hectares) regulated by the Forestry Administration under the Ministry of Agriculture Forestry and Fisheries with no timber being harvested as the government instituted a moratorium on harvesting in January 2002 that is still in effect. The moratorium was instituted by the Government due to a lack of control on forest harvesting by logging concessionaires. Cambodia published a code of practice for timber harvesting in 1999, which was supported by the Australian Agency for International Development (AUSAID). It includes guidelines for sustainable forest management planning as well as harvesting operations.

The moratorium is still in effect but according to the Forestry Administration staff concessionaires may submit a revised contract agreement based on a commitment to manage the areas under Sustainable Forest Management principles. The Ministry for Agriculture Forestry and Fisheries can approve the operation of the concession. There are no records of timber being harvested from concession areas under the concession licence. Although there may be areas within concessions that have been licensed as ELC. Locations of ELCs are not clearly defined by the Ministry of Environment or the Ministry of Agriculture Forestry and Fisheries to exclude areas from Forests Under Private Concessions.

5.2 Production Forests - coupe licensed areas

One of the options that can complement the supply of wood for domestic needs, as mentioned above, is the allocation of a forest coupe for bidding within the Production Forest areas regulated by the Forestry Administration. The 'Production Forest' refers to forest area that was not under valid concession forest licences regulated by the Forestry Administration under the Ministry of Agriculture Forestry and Fisheries. Based on the NFP, there are 1.2 million hectares classified as Production Forests that mostly consist of (non-coniferous) evergreen forest type areas that are generally associated with wet sites. Large areas of Production Forest outside the concession forest were heavily logged and deforested over the past decade, while some forests have not yet been exploited. The Forestry Administration and the Ministry of Agriculture Forestry and Fisheries manages the allocation of forest areas for annual forest coupe for bidding that is open to private companies. The 1.2 million hectares designated as Production Forests are not identified on maps or defined within the various provinces by location or area. Therefore, there is no clear knowledge of the potential for timber supply from these forest areas.

Box 3: Case study – Mondul Kiri Province

During the field study for Mondul Kiri Province, the cantonment planned to harvest four coupes totaling 5 006 hectares. At this stage, only forest Coupe 4 is operated with an area of 1 342 hectares divided into eight blocks. The forest coupe has a master plan and inventory according to the sustainable forest management principles and selective tree cutting. The forest inventory data estimated a total of 6 086 m³ for commercial trees over 45 cm in diameter that averaged only 4.5 m³/hectare. The Forestry Administration officers mark the trees to be cut as per the forest management plan.

The actual harvest yield for Coupe 4 was 4 456.5 m³ that averages only 3.3 m³/hectare, which is considered extremely low. Most logging operations try to yield more than 20 m³/hectare of commercial timber to ensure the harvesting is economical. Logging operations in Coupe 4 were completed in July 2013.

The Government only had one coupe permit for 2012 within Production Forests in Cambodia thus forming an insignificant portion of the current timber supply (Table 9).

Table 9 Valid coupe licences in Production Forests

Province	Permit area	Area (hectares)	Inventory volume (m ³)	Harvest volume (m ³)	Expiry date
Mondul Kiri	Coupe 4	1 342	6 086.6	4 456.5	July 2013
Totals		1 342	6 086.6	4 456.5	

5.3 Economic Land Concessions (ELC) – Ministry of Environment and Ministry of Agriculture Forestry and Fisheries

The main supply of timber in Cambodia comes from ELCs, which occur within the various land-use categories managed under the Ministry of Agriculture Forestry and Fisheries or the Ministry of Environment. ELCs are approved and registered in accordance with the Land Law of 2001 (RGC, 2001c) that defines land classification and land ownership rights. The Land Law of 2001 includes provisions on social and ELCs, indigenous land rights, land registration and land dispute resolution. The Land Law authorises the granting of land concessions for economic purposes based on legal documents issued by the Ministry of Environment for Protected Areas or the Ministry of Agriculture Forestry and Fisheries for other forest areas.

Ministry of Agriculture Forestry and Fisheries grants ELCs in accordance to the Sub-decree 146 ANK/BK and, under article 37, ELCs should be limited to 10 000 hectares but can be greater based on article 39 (see Box 4). There are several ELCs above 10 000 hectares and most concessions are granted for 70 or 90 years. The Ministry of Environment grants ELCs based on the Protected Area Law January 2008, where the Government permits development and investment activities in the sustainable use zone. The objective of the sustainable use zone is to establish high economic values for national economic development and management, as well as contributing to the local community, and improving the livelihoods of indigenous ethnic minorities. The registration process of issuing an ELC includes consulting with relevant ministries and

institutions, local authorities and local communities in accordance with relevant laws and procedures.

Box 4: Summary extract from Sub-decree on Economic Land Concessions, No. 146 ANK/BK, Dated 27 December 2005

Contracting Authority refers to the authorities who have the legal power and exercise such power as granted by the Prime Minister to enter into ELC Contracts on behalf of the Government and who carries out duties in accordance with provisions of this sub-decree.

Regulatory Institution refers to an authority with the legal power to issue and enforce rules and regulations governing the activities or facilities that are the subject of the ELC Contract.

Technical Secretariat refers to the Technical Secretariat for ELCs (based at the Ministry of Agriculture Forestry and Fisheries).

The Technical Secretariat reviews the ELC project document (project document shall include master plan, detailed work plan for tree cutting and plantation) and consults with the Provincial Land Use and Allocation Committee and Regulatory Institution.

The Technical Secretariat arranges an environmental and social impact assessment (ESIA) of the proposed economic land concession project (where the detailed consultation process takes place at all levels with different concerned stakeholders and the local communities).

After positive recommendations from the ESIA, the Technical Secretariat shall prepare Terms of Reference for Solicited Proposals, which shall include:

- ELC project description and supporting documents
- business plan detailing the planned use for the land, the investment plan, expenditure and revenue planned for the land development, and the sources of capital to support the proposed concession project
- a description of the labour needs for the concession project and the source of the labour
- information about technology, equipment, machinery, fertiliser, pesticide, use plan for types of priority crops
- indication of the environmental and social impacts of the proposed investment activity and preventive or reduction measures the proposer will take
- a description of any linkages and mutual support between social land concessions and economic land concessions
- a description of any linkages to processing raw materials from domestic harvests
- the proposer's land use fee offer to the state
- disclosure of any land concession holdings by the proposer as provided under article 59 of the Land Law
- any guarantee sought by the proposer from the State.

The Technical Secretariat shall, at least 30 days prior to the deadline for submission of proposal, organise a public meeting for clarification on any point of the solicitation documents, and shall prepare a public document of all clarifications. The Technical Secretariat shall develop and publish the scoring for ranking each proposal based on the set criteria. The highest-ranking proposal is invited to negotiate an ELC Contract.

The Minister of Agriculture, Forestry and Fisheries is authorised and responsible for granting economic land concessions with a total investment value of more than USD 2 500 (KHR 10 000 000), or more, or a total concession land area of 1 000 (one thousand) hectares or more.

The Ministry of Environment grants ELC licences to private companies (both local and foreign) within sustainable use zones based on the enactment of the Protected Area Law (2008). ELC areas granted by the Ministry of Environment prior to the 2008 Protected Area Law were transferred to the Ministry of Agriculture Forestry and Fisheries jurisdiction.

The process used to register an ELC under the Ministry of Environment observed during the field assessment in Mondul Kiri included a Joint Border Committee in addition to the procedure in the Protected Areas Law 2008 as the concession bordered Vietnam. The process was as follows:

1. Company makes a request of the Ministry of Environment Contracting Authority for agro-industry such as rubber tree plantation based on a formal proposal.
2. The Ministry of Environment has an Inter-ministerial Committee that consists of the Ministry of Environment, the Ministry of Agriculture Forestry and Fisheries and the Ministry of Economy and Finance Technical Secretariat.
3. The Ministry of Environment submits request for the ELC to the Prime Minister's Office.
4. The Prime Minister Office submits requests for approval to the King.
5. The Council of Ministers issues a letter agreeing to the proposal that may contain amendments such as jurisdictional changes from the Ministry of Environment to the Ministry of Agriculture Forestry and Fisheries.
6. In respect to ELCs along the Cambodian border, the Joint Border Committee must grant approval for an ELC with a defined buffer zone along the border.
7. The Prime Minister gives the right to the Ministry of Agriculture Forestry and Fisheries to enter into a contract agreement within the company on the ELC.
8. The Ministry of Agriculture Forestry and Fisheries creates a signed agreement with the company to establish the ELC in accordance with the Sub-Decree on ELC No. 146 ANK/BK.

Current data on ELC establishment and status is not readily published by the relevant government agencies (the Ministry of Environment and the Ministry of Agriculture Forestry and Fisheries). The Forestry Administration Cantonment in Mondul Kiri had a recent map of ELCs that was observed during the site visit to their office. Other data from NGOs indicate the same areas and some different areas (Table 10).

Table 10 List of ELC areas in Mondul Kiri according to the Forestry Administration Mondul Kiri and Open Development.

No.	Company	Open Development Cambodia 2013 Area (hectares)	Forestry Administration Mondulkiri Map data 2012 Area (hectares)
1	Wuzhishan L.S Group	10 000	0
2	Coviphama Co., Ltd	5 345	5 345
3	Agro Forestry Research	7 000	7 000
4	DTC Group Co., Ltd.	4 000	4 000
5	Land and Developing (Cambodia)	7 000	7 000
6	Mo Hy Pa Masu Orn Kampuchea Co	7 800	7 800
7	Mondul Agri-Resource Co., Ltd	9 100	10 570
8	Seang Long Green Land Investment	7 000	7 000
9	Unigreen Resource Co., Ltd.	8 000	8 000
10	Sitthi Agriculture Plantation Co., Ltd.	522	0
11	Villa Development	825	0
12	Sethikula Co., Ltd.	4 273	0
13	Pacific Lotus Joint-Stock Company	9 014	9 014
14	Pacific Pearl Joint-Stock Company	9 614	9 614
15	Pacific Grand Joint-Stock Company	9 656	9 656
16	Pacific Pride Joint-Stock Company	9 773	9 773
17	Mega First Corporation Berhad	9 477	0
18	Huor Ling (Cambodia) International Insurance (Forestry Administration Vogisan)	8 400	10 000
19	Kasekam Khmer Angkor Co., Ltd.	9 160	0
20	Heng Hean Siv Chan Tour Trading Co., Ltd.	4 000	4 000
21	Lim Royal Joint Stock Company Limited	9 068	0
22	Benh Hoeruk Kratie Rubber (Forestry Administration Binh Phuoc)	8 926	10 000
23	Varanacy	0	2 346
24	Dak Lak	0	4 162
25	Tach Wood	0	11 642
	Totals	157 953	126 932

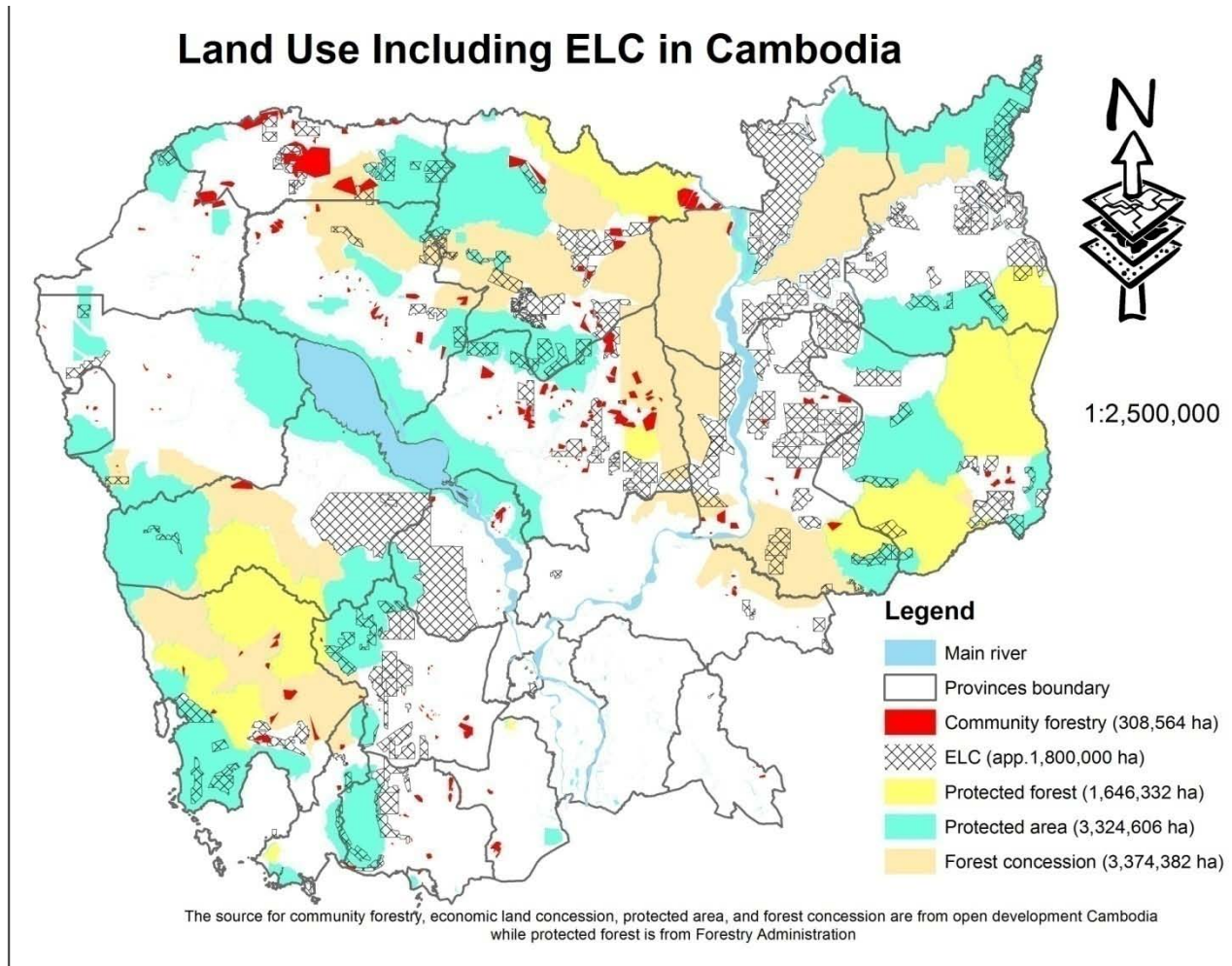
Data between the Forestry Administration Mondul Kiri Cantonment and Open Development were identical for 12 of the 25 ELC areas identified in Mondul Kiri. Open Development Cambodia listed 22 ELC areas while the Forestry Administration Cantonment identified 18 ELC areas. Table 10

demonstrates the variability in figures provided by non-governmental organisations and the Forestry Administration Cantonment. One of the key objectives of the timber flow study is to define both timber supply as well as the system used to control timber flow from licensed areas through the supply chain to export of products. As such, areas of timber supply are an important attribute of the study to evaluate traceability with regard to meeting the EU Timber Regulations and for potential future VPA negotiations.

Areas and locations of ELC issued under the Ministry of Environment and the Ministry of Agriculture Forestry and Fisheries are not published by the ministries and were not available for the timber flow study. The only indication of ELC areas is referenced on the Ministry of Agriculture Forestry and Fisheries website (<http://www.elc.maff.gov.kh> 2013) that states: "Until 08 June 2012, totally the Royal Government of Cambodia has granted Economic Land Concession to 118 Companies of the total land area of 1,204,750Ha." Availability of a descriptive list of ELC or maps of ELC licensed areas is currently through non-governmental organisations that are not official and may differ from actual areas approved by the ministries (**Appendix 3**).

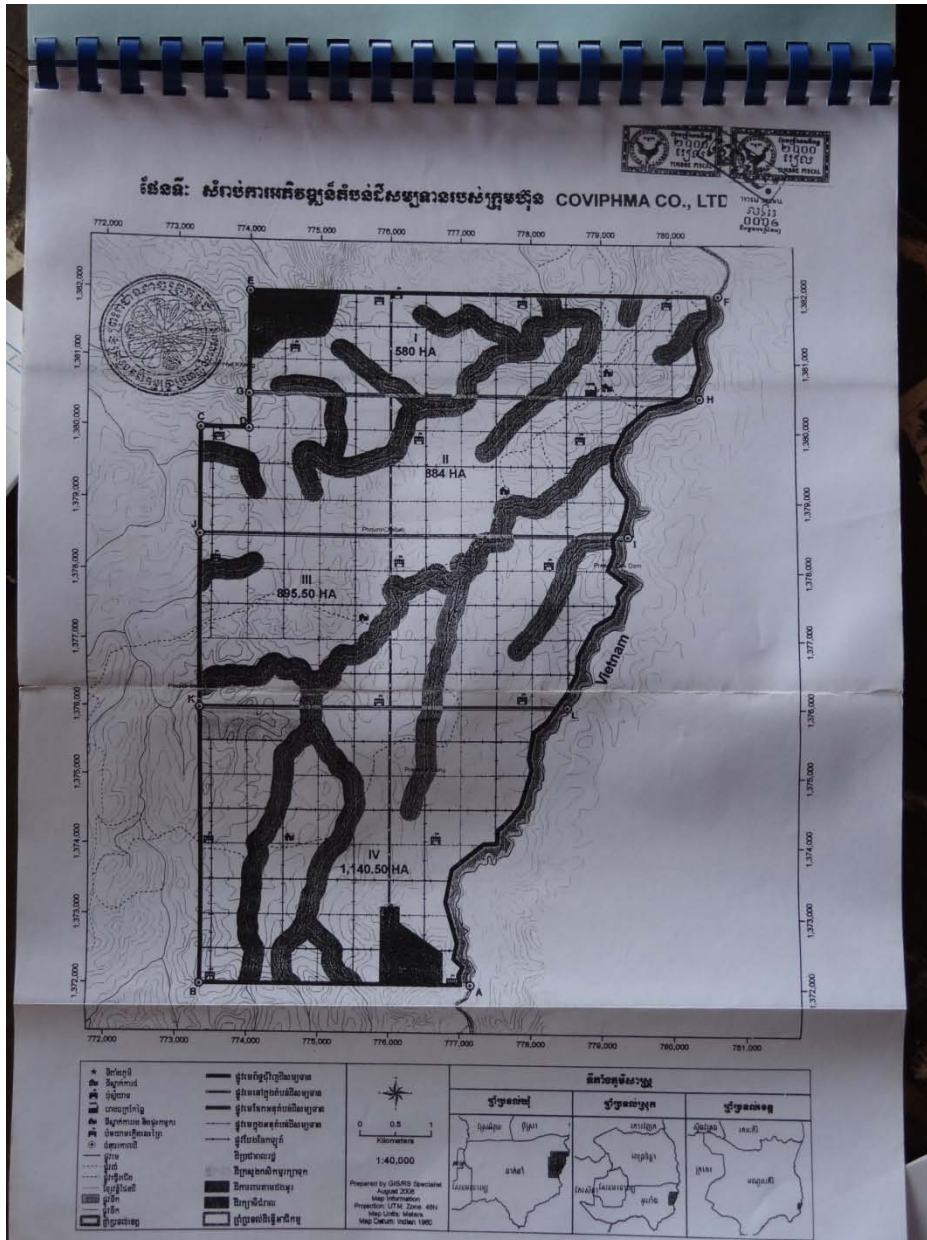
ELC areas mapped through non-governmental organisations such as Open Development Cambodia are based on data released by the Government during the registration process and acquired by the organisation. The timber flow study has included an unofficial map of ELC areas based on non-governmental organisation data and shape files to establish a reference of listed ELCs relevant to forest-land use classes (**Figure 4**). The number of hectares listed in the map legend comes from data published by the Forestry Administration and the Ministry of Environment and listed in this report. Thus the areas identified by the shape files are only indicative of the actual areas as listed in the legend.

Figure 4 Map of ELC Concessions 2013 (Open Development Cambodia 2013 shape files)



Both the Ministry of Environment and the Ministry of Agriculture Forestry and Fisheries require the development of a master plan that defines the net area of the ELC to be planted as well as areas to be protected (Figure 5). Areas for protection include stream systems that are normally associated with evergreen swampy areas, steep slopes and community areas. The development of the master plan includes an ESIA to identify effects on the environment as well as areas occupied by communities and the social effects on local communities. The ESIA is extremely important to define the net planting areas based on limiting social and environmental impacts of the project. The social assessment should identify all areas that may have overlapping land claims for which the company needs to resolve through exclusion from the ELC or through engaging the community to develop mutually beneficial agreements. Buffer zones for streams, evergreen forests and swamps need to be defined to mitigate environmental impacts.

Figure 5 Example of Land Use Area Map within a master plan for Coviphama



The master plan blocks out the ELC usually in about 1 000-hectare harvest blocks for land clearing, site preparation and planting. The Ministry of Agriculture Forestry and Fisheries provides a separate approval for harvesting trees and clearing in each block within the ELC under its jurisdiction. The Ministry of Agriculture Forestry and Fisheries division conducts a survey using systematically designed sample plots of the blocks to estimate tree harvest volumes for royalty payments. The Ministry of Agriculture Forestry and Fisheries issues a Letter of Permission for clearance for each harvesting block separately. Survey activities are conducted as part of operational activities in that the master plan is completed and approved prior to completion of the resource survey as observed in Seang Long Green Land Investment.

The Ministry of Environment does not conduct an inventory of the ELC prior to logging but only records Logs Produced from the ELC that is registered in a log list (Log Book) for each step (sub-block) within a harvest block. Harvesting blocks are defined in the master plan based on areas defined for harvesting that exclude areas for protection, thus there is no standard size for blocks. There is no inventory data to estimate the volume of timber to be harvested within the ELC area. The inventory is critical to provide anticipated yield volumes of logs, poles and firewood for monitoring extraction that is used to compare anticipated yields against log production within the planned harvesting areas.

The Ministry of Environment staff inspects the Log Book based on a 30% sample of logs extracted at a stumping point usually within the harvest block and issues an audit report if the measurements are acceptable. If the measurements are not correct then the Forestry Administration will require all logs to be measured. The Forestry Administration division staff places a single hammer mark on each log to indicate that all logs have been measured adequately. The Forestry Administration then issues a Licence Permit from the Forestry Administration headquarters in Phnom Penh for the concessionaire to pay a royalty to the Treasury. The Ministry of Environment issues a letter of approval to the company to pay a royalty based on current national rates for species and volumes (m³) that include: logs (30+ cm diameter), poles (15-30 cm diameter) and firewood (<15 cm diameter) to the Treasury. Royalty payments differ between logs, poles and firewood. Treasury issues a receipt for the royalty payment whereby the company requests the Forestry Administration division staff to place three more hammer marks on each log and to issue a PC to move the logs from the ELC to the mill.

In ELC areas managed under the Ministry of Agriculture Forestry and Fisheries there is a clear system to measure trees within sample plots in each block and measure logs extracted in the Log Book. The Forestry Administration headquarters issues a Licence Permit (Transport Licence) following confirmation of the royalty payment and subsequently, a PC is issued by the Forestry Administration division, which allows the material to move to the mill.

Since there is no clear listing of ELC areas under the Ministry of Agriculture Forestry and Fisheries and the Ministry of Environment, available data published by non-governmental organisations are not considered official nor approved and as illustrated can differ from government data. Data on log productions from all ELC areas are collected through Licence Permits issued by the Forestry Administration for payments of royalty and premium. Statistics on volumes of logs produced from ELCs from 2007–2012 were provided from the Forestry Administration based on published the Forest Statistics of Cambodia (RGC 2012) and annual reports of 2011 and 2012 (Table 11).

Table 11 Volumes of logs produced from ELC based on Licence Permit data collected by the Forestry Administration (RGC 2012)

Year	Volume (m³)
2007	13 491
2008	31 049
2009	37 113
2010	48 644
2011	135 728
2012	128 482

The timber flow study has included an unofficial list of ELCs along with data on log production from Licence Permit data from ELCs listed in Forestry Administration annual reports for 2011 and 2012 in **Appendix 3**. This list should be verified and revised as needed to provide a complete current list

of ELC areas in each province of Cambodia. A summary list of ELC and log production data by province was available through annual reports by the Forestry Administration for 2011 and 2012.

Table 12 ELC production for 2011 and 2012 by province

Province	Total # ELC in province**	ELC area (hectares)**	Active # ELC harvesting 2011*	Volume logs 2011*	Active # ELC harvesting 2012*	Volume logs 2012*
Banteay Meanchey	1	6 000	0	0	0	0
Battambang	3	17 295	0	0	0	0
Kampong Cham	4	9 070	0	0	0	0
Kampong Chhnang	1	315 028	0	0	0	0
Kampong Speu	20	101 521	4	3 352	4	3 089
Kampong Speu, Preah Sihanouk	1	585	0	0	0	0
Kampong Thom	19	77 697	12	9 958	1	2 841
Kampong Thom, Preah Vihear	3	18 343	1	2 849	0	0
Kampot	5	38 672	0	0	0	0
Kandal, Phnom Penh	1	2 572	0	0	0	0
Koh Kong	12	57 901	0	0	0	0
Koh Kong, Kampot	1	7 187	0	0	0	0
Kratie	37	188 752	14	59 402	14	50 657
Kratie and Stung Treng	1	34 007	0	0	0	0
Kratie, Kampong Thom	1	58 658	0	0	0	0
Kratie, Mondul Kiri	1	6 525	0	0	1	6 868
Mondul Kiri	24	157 953	7	4 994	10	15 082
Utdarr Mean Chey	22	58 872	7	6 269	5	9 414
Utdarr Mean Chey, Preah Vihear	1	6 500	0	0	0	0
Phnom Penh	3	323	0	0	0	0
	4	3 624	0	0	0	0
Kampot	1	18 987	0	0	0	0
Preah Vihear	21	141 692	5	11 582	5	14 678
Preah Vihear, Siem Reap	1	6 000	0	0	0	0
Pursat	4	9 323	2	5 018	1	894
Rattanak Kiri	27	190 119	3	7 810	11	17 780
Siem Reap	6	29 499	0	0	1	258
Siem Reap, Utdarr Mean Chey	1	9 658	0	0	0	0
Stung Treng	15	201 066	8	18 066	3	5 581
Svay Rieng	1	1 200	0	0	0	0
Totals	242	1 774 629	63	129 300	56	127 142

* source: Forestry Administration annual reports of 2011 and 2012

** source: Open Development Cambodia website (Nov 2013)

5.4 Community Forests

The development of Community Forest approval is quite recent and most activities are associated with the collection of NTFPs. Currently there is no recorded timber being harvested from the 345

Community Forest approved areas that total more than 308 564 hectares within the timber supply chain based on the Forestry Administration 2012 annual report. Since the Government has set a target of nearly 2 million hectares of Community Forest areas throughout Cambodia, this source can become a significant future timber supply for factories.

5.5 Plantations and private lands

Most of the plantation areas have been planted fairly recently and are not ready for harvesting. There are no records of harvesting trees planted within 14 000 hectares out of the 96 000 hectares of tree planting station areas under the Forestry Administration. Private land owners and concession areas that planted trees are not required to obtain a harvesting permit, Licence Permits for using logs and PC for transporting planted trees. The Forestry Administration is under no legal obligation to regulate the harvest of planted trees and record volumes of logs from planted areas.

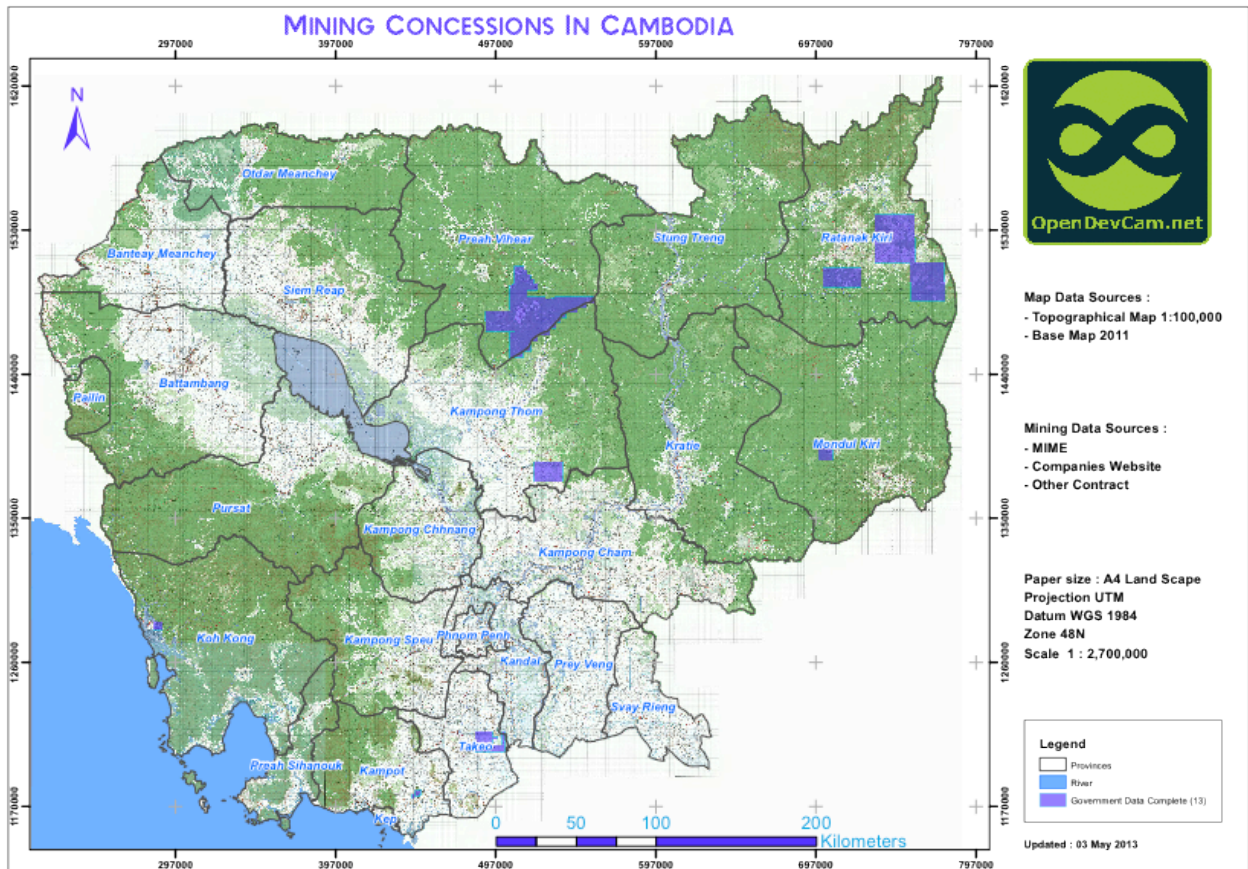
5.6 Mining projects

According to Open Development Cambodia data from 2013, there are a number of mining areas in Cambodia that total more than 400 000 hectares in concession area (Table 13). The Forestry Administration does not have data on mining areas, as the activity is not under their jurisdiction. The Forestry Administration does regulate logging activities where the company must develop a log list for trees harvested through mining operations. The Forestry Administration is responsible for measuring logs extracted, hammer marking logs and issuing a Licence Permit and PC according to procedures. Actual mining operations within the concession areas may be based on exploration and impact of a very small area. There were no records of log production in 2011 and 2012 based on Licence Permit data collected by the Forestry Administration for the entire country from mining areas.

Table 13 List of mining areas and volume of log production 2011 and 2012 based on Forestry Administration annual reports

Name	Area (hectare)	Province	Mining type	2011 Harvest volume (m3)	2012 Harvest volume (m3)
Khaou Chuly Development Co. Ltd. and Tong Yang Cement Corporation	696	Kampot	Limestone	0	0
Khaou Chuly Development Co. Ltd. and Tong Yang Cement Corporation	344	Kampot	Limestone	0	0
Jupiter International Resources Inc.	29 552	Rattanak Kiri	Mineral exploration	0	0
Delcom Cambodia Pte Ltd.	43 234	Preah Vihear	Metallic minerals exploration	0	0
Serika Co. Ltd.	3 044	Koh Kong	White Sand Exploration	0	0
Lian Heng Trading Co., Ltd.	19 600	Takeo	Mineral exploration	0	0
Brewer Natural Resources Development Co. Ltd	72 500	Rattanak Kiri	Mineral Exploration	0	0
Brewer Natural Resources Development Co Ltd	50 400	Rattanak Kiri	Mineral Exploration	0	0
Suntrading Co Ltd	9 400	Mondul Kiri	No information	0	0
Golden Forwin trading Limited	638	Kampot	Limestone	0	0
Cambodia Iron and Steel Mining Industry Group	130 674	Preah Vihear	Iron ore exploration	0	0
Delcom Cambodia Pte. Ltd.	19 800	Kampong Thom	Mineral Exploration	0	0
Delcom Cambodia Pte. Ltd.	21 600	Preah Vihear	Mineral Exploration	0	0
Ultra Marine Kiri (Cambodia) Ltd.	400	Battambang	Gem Stone Exploration	0	0
Totals	401 882			0	0

Figure 6 Map of mining concessions (source: Open Development Cambodia 2013)



5.7 Hydropower dams

Cambodia has several hydropower projects under development that provide timber to the supply chain. The status of land clearing activities in each of the dam projects is unavailable, therefore, the amount of timber that can enter the supply chain from hydropower projects is unclear. Current records of log production from Forestry Administration annual reports of 2011 and 2012 indicate that only a small portion of the total timber supply volume originates from hydropower projects (Table 14).

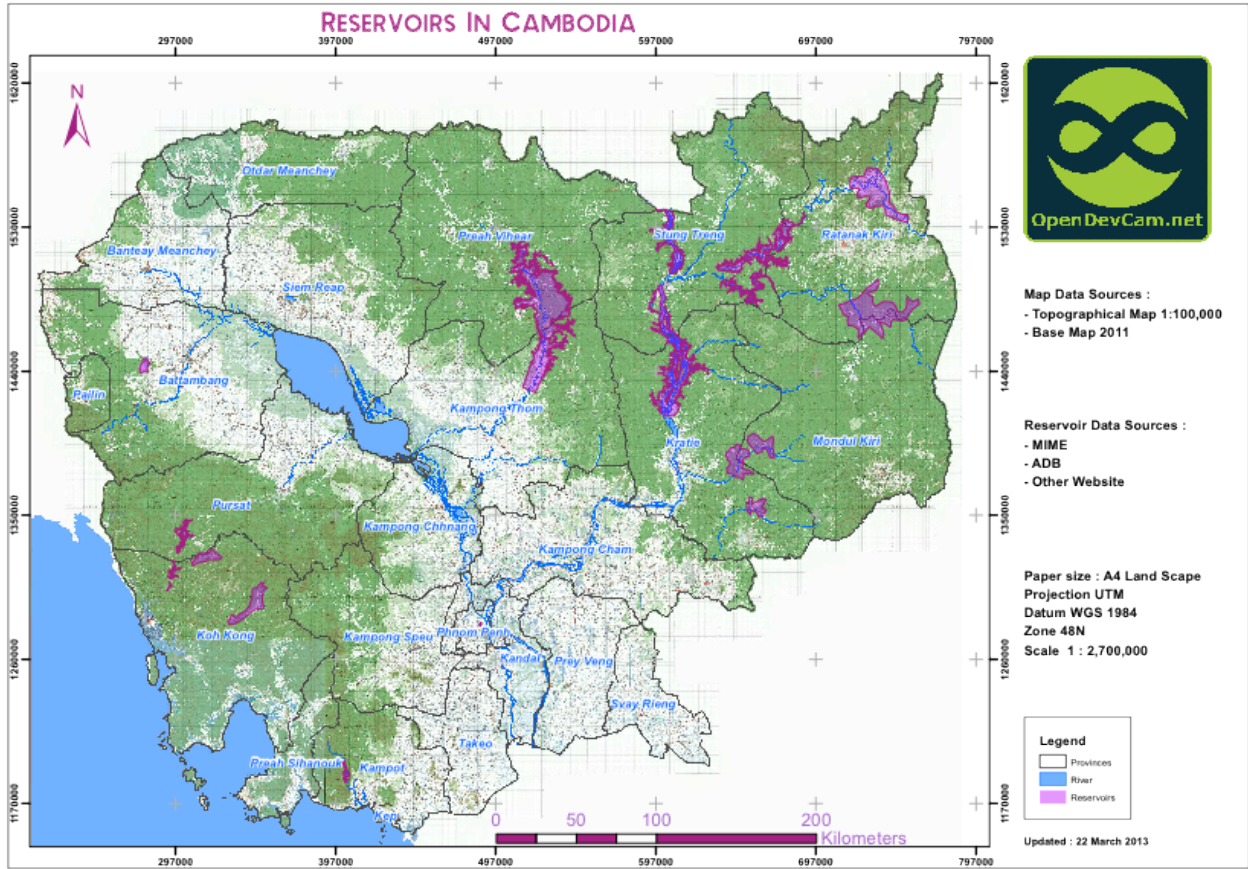
Table 14 Harvest volumes from hydropower dam projects, 2011 and 2012 annual reports from the Forestry Administration

Dam	Province	Area (hectares)*	Volume (m3) 2011**	Volume (m3) 2012**
Stung Ah tai	Pursat	4 179	5 679	8 179
Stung Tah Tai	Koh Kong	NA	0	217
Russei Chrum Krom	Koh Kong	1 481	1 189	0
Kirirom 3	Koh Kong	NA	913	0
Kamchay Dam Reservoir	Kampot	1 990	0	0
Sambor	Kratie	62 000	0	0
Stung Treng	Stung Treng	21 100	0	0
Stung Sen Upper	Kampong Thom	6 900	0	0
Stung Sen Upper Command	Kampong Thom	86 000	0	0
Stung Sen Lower Command	Kampong Thom	33 800	0	0
Upper Sesan 2	Rattanak Kiri	40 300	0	0
Lower Sesan 2	Rattanak Kiri	35 500	0	0
Srepok 2	Rattanak Kiri	12 000	0	0
Kamping Puoy Water Reservoir	Battambang	0	0	0
Totals		299 590	7 781	8 396

*source of data: Open Development Cambodia (2013)

**source of data: Forestry Administration annual reports for 2011 and 2012

Figure 7 Map of hydropower projects (source: Open Development 2013)



Box 5: Key findings – supply of timber

13. Data on the establishment of an ELC by the Ministry of Agriculture Forestry and Fisheries and the Ministry of Environment is not clearly available with respect to area, locations and volume of timber supplied to the market.
14. The Ministry of Environment has approved the establishment of ELCs within Protected Areas in the absence of pre-defined sustainable use zones. No inventories are conducted within ELC harvest blocks in Protected Areas to estimate volumes of timber that should be extracted within a block.
15. The current classification of Production Forests indicates an area of 1.2 million hectares that are not identified within each province or mapped but may contain significant areas of ELC.
16. Timber supply in Cambodia is dominated by harvesting within ELC concession areas with a total of 129 300 m³ harvested in 2011 and 127 142 m³ in 2012 based on Forestry Administration annual reports. Very little material was recorded as supplied during 2011–2012 from hydropower projects (7 781 m³ and 8 396 m³ respectively), and no material was recorded from Community Forests, plantations and mining areas based on Forestry Administration annual reports in 2011 and 2012.
17. ELC areas regulated by the Ministry of Agriculture Forestry and Fisheries do include an inventory using systematic sample plots to estimate saleable timber and serve as a check on the Log List (Book A) and Licence Permit data.
18. The Forestry Administration records all timber produced from ELC areas as logs (≥ 30 cm diameter, except for luxury wood); poles (15-29 cm diameter) and firewood (< 15 cm diameter) in a log list in each harvest block and issues a Licence Permit for the concessionaire to use the timber after paying the royalty. Once it has been measured, the Forestry Administration makes a hammer mark on each log more than 30 cm diameter then an additional three hammer marks after paying the royalty. The Forestry Administration issues a Licence Permit from the headquarters in Phnom Penh and the local Forestry Administration office issues a PC to transport the logs to a wood-processing mill.

6 Import timber

6.1 System for importing timber

There are five key phases involved in the process for importing, as follow: .

Phase 1 – Application for import of Timber and NTFP

The applicant should submit an application request for import of timber or NTFPs to the head of the Forestry Administration, under the Ministry of Agriculture Forestry and Fisheries. Upon receiving the application, the Department of Forest Industry and International Cooperation, which is responsible for reviewing the application, will check the legality of timber and recommend the application for approval by the head of the Forestry Administration. The application should be accompanied by two copies of the application request letter, a copy of the list of detailed timber or NTFPs, a copy of the invoice, and a copy of the contract for supply and acceptance of goods, the

business registration licence, value added tax licence, patent, letter of transfer rights and power of attorney if the chairperson of the requested company is not a signatory of the application. A certificate of origin is required for the import application.

Phase 2 – Verification and decision by Forestry Administration

Following receipt of an import application request, the Forestry Administration shall review and comment on the whole application document then forward the application with comments to the Ministry of Agriculture Forestry and Fisheries. The Ministry approves and sends a further request to the Council of Ministers for reviewing and approval.

Phase 3 – Permission for import

Permission for import relevant to the availability of legal timber supply and contract that cover a specific quantity of material under a contract agreement, is given by the Council of Ministers and the Ministry of Agriculture Forestry and Fisheries with quota validity for one year. Permission can be extended by sending a request for extension indicating clear reasons for the delayed case or an inability to import the defined quantity within the supply contract agreement.

Phase 4 – Import licence

Following permission from the Council of Ministers and the Ministry of Agriculture Forestry and Fisheries to import the material, the company must obtain the approval of the Director General of the Forestry Administration to submit a request for an import licence from the Ministry of Commerce. The Ministry of Commerce issues a licence based on a supply contract volume for the import of timber products or NTFP required by law while the GDCE issues a customs permit for import clearance.

Phase 5 – Transport permit

In order to transport from the border checkpoint, the importer applies to the Forestry Administration for a transport permit (PC-IMEX) prior to the actual transport of the goods. The application includes the import licence that describes the goods imported and their destination.

Timber and non-timber forest products allowed for export or import, prohibited products, and conditions of export or import are stipulated in the Sub-decree, No. 131 Or.Nor.Kror. dated 28 November 2006 of the Royal Government of Cambodia.

6.2 Data of imported timber

The main source of data on import statistics is available through the Forestry Administration's Department of Forest Industry and International Cooperation. Statistics on imports were published in the 2007–2012 Forestry Statistics Cambodia and indicated that very little timber suitable for further processing was imported between 2007 and 2011 (Table 15).

Table 15 Summary of import timber (m3) 2007–2012 Forestry Statistics Cambodia 2011 (RGC 2012)

Products	2007	2008	2009	2010	2011	2012*
Sawn timber	500	14	635	774	250	1000
Processed timber	0	0	465	0	0	0
Logs	0	0	0	0	50	0
Square logs	0	0	382	100	0	0
Total (m3)	500	14	1 483	874	300	1 000

* source: data from Department of Forest Industry and International Cooperation (DFI) annual report 2012

Processed timber: S2S; S4S; plywood; veneer; mouldings; fiberboard, etc.

The FAO Statistics (FAOSTAT 2013) website, which contains data from 2003–2011, is another source of import data for Cambodia. Based on an evaluation of the Forestry Administration and FAO data sets, the product categories did not match exactly. Forestry Administration statistics aggregated S2S, S4S, plywood, veneer, mouldings, fibreboard, etc. into processed timber products. The import data from FAO of similar product types indicated a larger volume of timber being imported over the Forestry Administration statistics. Data on sawn timber, plywood, veneer and particleboard repeated from 2004–2006 within FAO data sets thus appear to be unreliable. However, data from 2007–2011 differed significantly between the Forestry Administration and FAO statistics in that the total import volume recorded for 2007–2011 from the Forestry Administration Cambodia was only 3 171 m3 while FAO data indicated 18 317 m3. The inconsistency between data from FAO and the Forestry Administration indicates a problem with recording and reporting of data on imports.

There was no evidence of transition timber observed during the timber flow study as the Forestry Administration stated that no companies have transported timber through Cambodia in recent years. Transition timber is under the jurisdiction of the Ministry of Commerce (GDCE). The Forestry Administration currently has no operational role in the administration of transition timber.

Box 6: Key findings – imports

19. The system for importing timber is regulated through the Council of Ministers, the Ministry of Agriculture Forestry and Fisheries, the Forestry Administration with import licences from the Ministry of Commerce and import permits issued by GDCE.
20. Imports of timber reported under Forestry Statistics Cambodia 2011 varied greatly from FAO statistics from 2007–2011, which indicates a lack of reliable data collection and reporting.
21. Import volumes form a small portion (less than 5%) of the timber supply that could be used in further manufacturing as compared to log volumes extracted from ELC areas in Cambodia.
22. The Forestry Administration has no operational role in the administration of transition timber.

7 Transport and local sales of logs

7.1 Description of regulations on harvesting trees and transport of logs

The Forestry Administration regulates the harvest and transport of all trees from natural forest areas in Cambodia. Harvesting requires a permit issued by the Government for areas in natural forests based on the jurisdiction of the respective Ministry. The Ministry of Agriculture Forestry and Fisheries issues permits for ELC areas under Production Forests and Protection Forest Areas. The Ministry of Environment issues the for ELC areas in sustainable use zones within Protected Areas in accordance with the Protected Area Law 2008.

The Ministry of Agriculture Forestry and Fisheries requires an inventory of the planned area for harvesting within ELC blocks. The inventory is conducted with support from the local Forestry Administration office (division/triage) and is submitted to the Ministry to obtain a letter (cutting permit) allowing the company to cut a specific harvest block within the approved master plan. ELC areas under the Ministry of Environment do not require an inventory of trees prior to felling. But all natural forest timber harvested in ELC areas under the Ministry of Environment or the Ministry of Agriculture Forestry and Fisheries must be registered in a log list (Log Book A) and then must be measured by Forestry Administration staff to obtain a hammer mark and subsequent Licence Permit from the Forestry Administration headquarters, after paying the royalty, and a PC-1 for transporting raw material is issued by the local Forestry Administration office. The Forestry Administration has three types of PC:

- PC/A for material from private concessions
- PC/B for material from Production Forest areas and ELCs
- PC/C for material from Community Forest areas

PC-1 is the term used by the Forestry Administration to identify logs being transported from ELCs that are converting natural forest areas to plantations. In this way, the Forestry Administration registers all material harvested and transported in Cambodia.

Based on the harvest permit, the company usually sub-divides the harvest block and fells trees within a sub-block area then moves the material to a landing in the concession area. At the landing, all logs 30+ cm diameter are identified by a sequential number measured and recorded in a log list (Log Book A) with the support of the Forestry Administration division staff. All poles (logs 15-29 cm diameter) and firewood (logs below 15 cm diameter) are also recorded in the Licence Permit for calculation of royalty and premium payments. The local Forestry Administration staff will put one hammer mark on all logs 30cm and more to show they have been measured.

The log list is the main record of log production within the harvest sub-block that references log numbers species and measurements and associated volumes. The local Forestry Administration submits information to the Forestry Administration headquarters for their approval. The Forestry Administration headquarters issues a letter to the company to pay a royalty and premium against the approved log list. The company pays the royalty to the Treasury as a tax on timber extracted and the premium to the Forestry Administration as part of a fund for forest restoration. Following confirmation of payment for royalty and premium, the Forestry Administration headquarters checks all relevant information with respect to the company, harvesting and log production based on a formal 14-point checklist. Following approval of the information on the checklist, the Forestry Administration headquarters will issue a hand written Licence Permit to the company permitting the company to use the timber (logs, poles and firewood) listed in the Log Book A (log list) for the block area (*step*) that was harvested.

Licence Permit (English translation – page 1):

Kingdom of Cambodia

Ministry of Agriculture Forestry and Fisheries

Nation Religion King

Forestry Administration

No: 142 Ror. Por. Kor. Kor. Por./LP/B

Transport permit

Timber and NTFPs from Production Forest outside ELC

Referred to article 26 of forest law dated on 31 Aug 2002

Referred to permission of collection of timber and NTFPs No:..... Date.....

Issued by head of the Forestry Administration.

Permit Mr/MsPho Mady company.....Age.....Years Ethnicity
Nationality.....Owner of forest cup outside ELC No:.....Year..... Identity
card.....Issued by.....

Transport timber and NTFPs as shown at the back of this permit:

Departure from:.. Economic Land Concession (sub-block 2; Step 3) of the Forestry Administration Triage: Kbal romeas,
Sre Kor. Forestry Administration division Stung Treng Forestry Administration cantonment: . Stung Treng Forestry
Administration inspectorate:..... Mekong to destination:..Saw mill...Village:.....Commune:
.....Sre Kor..... District:.....Sesan.....Province:..... Stung Treng.....

Means of transportation:.....Vehicle..... Payment Receipt No:
ref. 0010cu120870407 Date:....26-27 March 2012

Amount¹: USD 127 267.08 (one hundred twenty seven thousand two hundred sixty seven US Dollars and eight cents)

Issued by:.. National Bank of Cambodia

Phnom Penh, Date:... 27 April 2012..

for **Head of the Forestry Administration**

Signed by Mr. Sear Ra

Licence Permit (English translation - page 2):

Detail table on timber and NTFP transportation

No.	Type of Product	Unit	Remark
1.	Logs 1 st Quality 352 logs = 506.377 m3		
2.	Logs 2 nd Quality 1,183 logs = 1,412.064 m3		
3.	Logs 3 rd Quality 37 logs = 49.330 m3		
4.	Logs (ordinary) 43 logs = 51.715 m3		
Total	1,615 logs = 2 019.486 m3		

Deputy Head of Forest Management Office

Signed by Mr. Kao Dana

- Round log must be attached with Book "A" or log list

The company then uses the Licence Permit to obtain an additional three hammer marks for each log and one or more PC-1 from the local Division of the Forestry Administration to move the timber (logs, poles and firewood) from the forest or ELC to a wood processing mill or other destination. The PC-1 references the volume of logs by quality that can relate to the Licence Permit and log list in Log Book A, which may require many trucks to deliver the material. The Forestry Administration uses a separate minutes of inspection document to list all logs associated with a PC-1 on a specific truck that can provide traceability of the material being transported from the licensed area.

Since the PC-1 only refers to the total volumes of logs according to log quality and the mill destination, a separate log list, which identifies the individual log by number, species of logs with dimensions and volume of each log, must be directly associated with the PC-1 to enable traceability of the material being transported. There is a generic reference to a requirement for attaching the Log Book A or log list as part of the PC-1 but the volume of logs described in PC-1 can be much greater than the amount transported by a given truck, in that volumes may not match between the PC-1 and the logs being transported on the truck. In the absence of the log list, the PC-1 does not contain adequate information to verify origin of individual logs being transported from a legal and licensed area.

Figure 9 Example of a PC document: PC-1 #295 used by the Forestry Administration

The image shows a Cambodian PC-1 document (Permit to Carry Timber) for PC-1 #295. The document is in Khmer and includes a header with the Forestry Administration logo, a title, and various fields for permit details. It features a large circular official seal and a signature. The right side of the document contains a table with two columns for 'Forest' and 'Forest PC/B' with rows for 'Permit Holder', 'Destination', 'Volume', and 'Remarks'.

PC-1 (English translation – page 1):

Kingdom of Cambodia

Nations Religion King

Forestry Administration

Forestry Administration division Stung Treng

Voucher No. 006445 khor/PC/B

No. 295 Phor. Ro. Por. Lor. Dor. Chor.

Permission letter for transportation of Timber and Non Timber Forest Product (T/NTFP)

Allow to: Phou Mady Company Mr XXX.....

Transport T/NTFP (1): Logs 1st Quality 352 logs = 506.377 m3; Logs 2nd Quality 1,183 logs = 1,412.064 m3; Logs 3rd Quality 37 logs = 49.330 m3; Logs (ordinary) 43 logs = 51.715 m3

Amount (2): Logs 1st Quality 352 logs = 506.377 m3; Logs 2nd Quality 1,183 logs = 1,412.064 m3; Logs 3rd Quality 37 logs = 49.330 m3; Logs (ordinary) 43 logs = 51.715 m3

Departure from: Phou Mady Economic Land concession Company **Forestry Administration Triage:** Kbal romeas Sre Kor **Division:** Stung Treng **FAC:** Stung Treng

Inspectorate: Mekong.....

Date: ...11 June 2012

Destination: .Saw mill **Commune/Sangkat** ... Sre kor ... **District/Khan:** .. Sesan **Province** Stung Treng .

Expiration date: ... 30 June 2012

Each truck load shall follow as indicated in the Prakas #527 Pror. Kor. Sor. Kor. Sor., dated 28-12 2001.....

Transportation means (3):..truck... **Plate #:** -----

Ref. Authorisation Letter: #142 Ror. Por Phor. Phor. Por /LP/B **dated** 27 March 2012.

Issued by:... Forestry Administration

Payment Voucher #: ref. 0010cu120870407 **dated** 27 March 2012

Total payment amount (2): USD 127 267.08 (one hundred twenty seven thousand two hundred sixty seven US Dollars and eight cents)

Issued by: National Bank of Cambodia.....

Dated 11 June 2012

Signed by Chief of the Forestry Administration Cantonment Stung Treng

Mr. Seth Samnang

(1) Enclosure Log Book A or List of detailed T/NTFP certified by Director General of the Forestry Administration

(2) Volume and /or cash amount should be written in numbers and words

(3) Transportation means should be recorded including the number of trucks and licence plate number, by the Forestry Administration division

PC-1 (English translation - page 2)	
Monitoring Sheet on Transportation of Timber and Non Timber Forest Product	Monitoring Sheet on Transportation of Timber and Non Timber Forest Product
<ul style="list-style-type: none"> • Date: 12 June 2012 <p>Had been monitored the transport products: Logs 1st Quality 352 logs = 506.377 m3; Logs 2nd Quality 1,183 logs = 1,412.064 m3; Logs 3rd Quality 37 logs = 49.330 m3; Logs (ordinary) 43 logs = 51.715 m3</p> <p>Total wood in words:</p> <ul style="list-style-type: none"> • Transportation means: Truck • Plate no.: • Departure from: Kbal Romeas Forestry Administration Triage; Stung Treng Division; Stung Treng Forestry Administration; Mekong Inspectorate • Authorised Forestry Administration Officer FAC: ... Kampong Chhnang • Forestry Administration Officer who is responsible for monitoring at : Kbal Romeas Forestry Administration Triage; Stung Treng Division; Stung Treng Forestry Administration; Mekong Inspectorate • Signature: signed Name: Mr. Pheth Vy 	<ul style="list-style-type: none"> • Date: • Had been monitored the transport products: <p>Total wood:</p> <p>Total wood in words:</p> <ul style="list-style-type: none"> • Transportation means: • Departure from: Forestry Administration Triage: Division: Inspectorate: • Forestry Administration Officer who is responsible for monitoring: • Signature..... Name

Since the PC-1 is a summary of material being transported to a mill based on a Licence Permit that can consist of the entire volume or a portion of material such as an individual truckload, a log list must be associated directly with the PC-1. For example, PC-1 #295 covers a total of 1,615 logs from Phou Mady ELC with a total volume of 2,019.48 m3 that must be used over many truck-loads of logs. Most trucks can only haul between 10-30 m3 of logs depending on the size of the vehicle. This means that to haul the entire volume of logs under PC-1 #295 would require about 100 truck loads. Therefore, a log list and volumes issued to a specific truck that carries only a few logs would greatly differ from the 1,615 logs that are permitted under the PC-1 #295.

The PC-1 references the Licence Permit number or can reference several Licence Permit numbers to transport logs from several different areas. Logs can be sold from a Licence Permit through a bidding process that is recorded by the Ministry of Agriculture Forestry and Fisheries as part of ELC production. The buyer would need to use the Licence Permit to obtain one or more PC-1s to transport the logs. Under the current system the Forestry Administration collects information on volumes of logs produced from each licensed harvest area in natural forests as well as the material being transported.

Planted trees do not require a Licence Permit or PC-1 as there are no royalty or premium payments on them.

Box 7: Key findings – transport and local sales of logs

17. All log production from natural forests including ELC areas are recorded by the Forestry Administration through log lists to obtain a Licence Permit, which identifies that royalty and premium payments were made allowing the concessionaire to use the material.
18. The log list is not officially used outside of obtaining a Licence Permit but has been observed to be used to define mill input during the field study. The volume of material according to the Licence Permit produced from each ELC is reported in Forestry Administration annual statistics.
19. A single hammer mark is placed on each log measured by Forestry Administration staff within a log list. Forestry Administration staff place an additional three hammer marks on each log after the royalty and premium are paid based on the Licence Permit.
20. A transport permit, or PC, is required to move logs from the forest to a defined mill even when the mill is located within the ELC. The PC-1 references a volume of logs based on quality but does not clearly identify or reference the actual logs being transported. The PC may consist of a large volume of material from more than one Licence Permit that can be for many truckloads of logs. Since the PC does not list the actual logs being transported on a specified carrier, a log list should be attached to the PC-1 to identify logs being transported on a specific carrier in order to be able to trace the material being transported from the licensed area. However, the log list may only be a portion of the PC-1 and so can differ in volume. Therefore, traceability of logs can only be verified against the original Log Book A associated to the Licence Permit and PC-1.

8 Production and export

8.1 Mills and associated production data

Based on national forestry statistics 2011, there were 50 primary processing mills registered by the Ministry of Agriculture Forestry and Fisheries that use logs as raw material to produce plywood, sawn timber and moulded products, and three mills that had secondary processing to produce furniture and handicrafts (RGC 2012). All wood processing mills registered under the Ministry of Agriculture Forestry and Fisheries are required to renew their licences annually with the Forestry Administration. The Ministry of Environment also licenses mills that operate in ELCs within Protected Areas that are not recorded in this study due to lack of available data. Data from DFI on wood processing facilities totalled 49 in 2012 that are under licence from the Ministry of Agriculture Forestry and Fisheries and usually associated with an ELC (Table 16).

Table 16 Number of active licensed mills by province registered under the Ministry of Agriculture Forestry and Fisheries and associated production for 2012 (DFI 2013)

Province	Wood processing facilities 2012	Volume products domestic (m3)	Volume of products exported (m3)
Mondul Kiri	6	NA	298
Rattanak Kiri	7	NA	1 605
Stung Treng	4	NA	0
Kratie	11	NA	502
Kampong Cham	5	NA	0
Kampong Thom	1	NA	1 000
Siem Reap	2	NA	0
Banteay Meanchey	0	NA	0
Utdarr Mean Chey	3	NA	282
Battambang	0	NA	10 791
Koh Kong	2	NA	0
Pursat	0	NA	0
Preah Vihear	3	NA	0
Kandal	3	NA	0
Preah Sihanouk	2	NA	15 000 tons*
Kampot	0	NA	0
Totals	49	NA	13 414 m3

* Wood chips (green) from acacia and eucalyptus plantations
 NA – Not Available (data for domestic production)

8.2 Mill production and transport of products

Currently, there is no clear data on domestic production and sales of wood products. There is a formal requirement under clause 2 of the ministerial proclamation, PRAKAS, of the Ministry of Agriculture Forestry and Fisheries for mill establishment that states: “The factory owner must have a book to record timber input and output of the mill.” The Forestry Administration has initiated a requirement for mills to formally report daily input and output on a standard format. Production of sawn timber from mills tend to be directly associated with ELC areas where logs from land clearing activities are used to manufacture timber products. Often mills are located within the ELC area thus the input volume into the mill should be directly related to the log volume produced from the ELC.

Box 8: Case study

Not all mills are actively producing wood products as the Forestry Administration in Mondul Kiri stated that there were five wood processing facilities but only two are operational and produce only for the domestic market. Currently logging of natural forests is only conducted in ELCs and infrastructure projects as part of land clearing activities, thus mills may be active only for the period of the land clearing. The study team observed a mill associated with Coviphama ELC that had not been operational since September 2011 because the company found it uneconomical to transport and sell processed timber outside the concession area. Some timber obtained through land clearing activities was used to support camp infrastructure development while the rest is left in the field to decay.


Based on data from current land clearing activities for Blocks 1 and 2 in Coviphama, a total area of 1 270 hectares cleared for planting resulted in 3 473 m³ of logs (30+ cm diameter), which reflects a mere 2.73 m³/hectare harvest yield. Coviphama is liable to pay royalty for all trees 30 cm and larger and a reduced rate for poles (trees 15-29 cm). The company needs to pay the royalty whether they sell the logs or leave them in the field to rot.

The Ministry of Agriculture Forestry and Fisheries and the Forestry Administration require all harvested logs, poles and firewood from natural forest areas to be registered in a log list (Log Book A) that is used to define royalty payments and to obtain a Licence Permit from the Forestry Administration to use the material. The Licence Permit references the number and volumes of logs, number of poles and volume of firewood produced from a licensed harvest block.

Transportation of material requires a PC-1 issued by the local Forestry Administration office based on quantities defined in the Licence Permit. The PC-1 contains summary information on volumes and the timber grade permitted for transport to a designated mill based on the Licence Permit. A log list is supposed to be attached to the PC-1 to identify logs by log numbers, species and associated dimensions and volume to provide clear traceability back to the licensed area.

Timber products must obtain a PC-2 to transport timber and wood products from the mill to the domestic market (Figure 10). The PC-2 is the same form used for transporting logs to the mill except it differs in the description of material. The PC-2 was observed to be associated with a minute of inspection by local Forestry Administration staff that includes a list of sawn timber inspected (Figure 11). The minute of inspection clearly quantifies and lists the material being transported under the PC-2. Timber products for export must have a PC-IMEX issued by the Forestry Administration headquarters along with an Export Licence issued by the Ministry of Commerce.

Figure 10 Example of a PC document: PC-2 #97 used by the Forestry Administration

 **ព្រះរាជាណាចក្រកម្ពុជា**
ជាតិ សាសនា ព្រះមហាក្សត្រ

អនុលោមនៃក្រឹត្យ (៩៩០)
លេខប័ណ្ណ: **០០០៧៩៨** / PC/B លេខ: **៩៧** ជំព.លដដ

លិខិតអនុញ្ញាតដីកែប្រែទំហំ អនុលោមនៃក្រឹត្យ

អនុញ្ញាតឱ្យឈ្មោះ: លោក ហ៊ុន សែន

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លោក ហ៊ុន សែន

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(២) - សរសេរលេខ និងអក្សរ

(៣) - មធ្យោបាយដីកែប្រែទំហំ និង លេខសម្គាល់ដោយផ្នែករដ្ឋបាលព្រៃឈើ

PC-2 (English translation – page 1):

Kingdom of Cambodia

Nations Religion King

Forestry Administration

FA Division Stung Treng

Voucher No. 000798 khor/PC/B

No. 97 Phor. Ro. Por. Lor. Dor. Chor.

Permission Letter for Transportation of Timber and Non Timber Forest Product (T/NTFP)

Allow to: Phou Mady Company

Transport T/NTFP (1): Sawn wood 1st Quality 1.251m3; sawn wood 2nd Quality 16.001 m3.

TOTAL: 17.252 m3

Amount (2): Sawn wood 1st Quality 1.251m3; sawn wood 2nd Quality 16.001 m3.

Each truck load shall follow as indicated in the Prakas #527 Pror. Kor. Sor. Kor. Sor., dated 28-12 2001.

Departure from: Phou Mady Economic Land concession Company **FA Triage:** Kbal romeas Sre Kor **Division:** Stung Treng **FAC:** Stung Treng **Inspectorate:** Mekong

Date: 20 March 2013.

Destination: Village: Doeum Chan; **Commune/Sangkat :** Chbar Ampao; **District/Khan:** Meanchey, Phnom Penh .

Expiration date: ... 22 March 2013

Transportation means (3):.truck... **Plate #:** Phnom Penh 3A-5246

Ref. Authorisation Letter: PC #295 Phor. Ror. Por. Phor Lor. Dor. Phor; **dated:** 11 June 2012

Issued by: FA Division Stung Treng.....

Payment Voucher #: ref. 0010cu120870407 **dated** 27 March 2012

Total payment amount (2): USD 127 267.08 (one hundred twenty seven thousand two hundred sixty seven US Dollars and eight cents)

Issued by: National Bank of Cambodia.....

Dated 11 June 2012

Signed by Chief of FA Cantonment Stung Treng

Mr. Seth Samnang

(1) Enclosure Log Book A or list of detailed T/NTFP certified by Director General of Forestry Administration

(2) Volume and /or cash amount should be written in numbers and words

(3) Transportation means should be recorded including the number of trucks and licence plate number, by the Forestry Administration division

The PC-1 of logs to the mill can represent a record of logs received into the mill while records of PC-2 and PC-IMEX can be used to record total mill output within a given time period. Thus data on mill receiving and output is indirectly collected through the existing system for licensing and permits issued for transport of logs (LP and PC-1) and wood products (PC-2 and PC-IMEX) but is not currently aggregated or reported by FA.

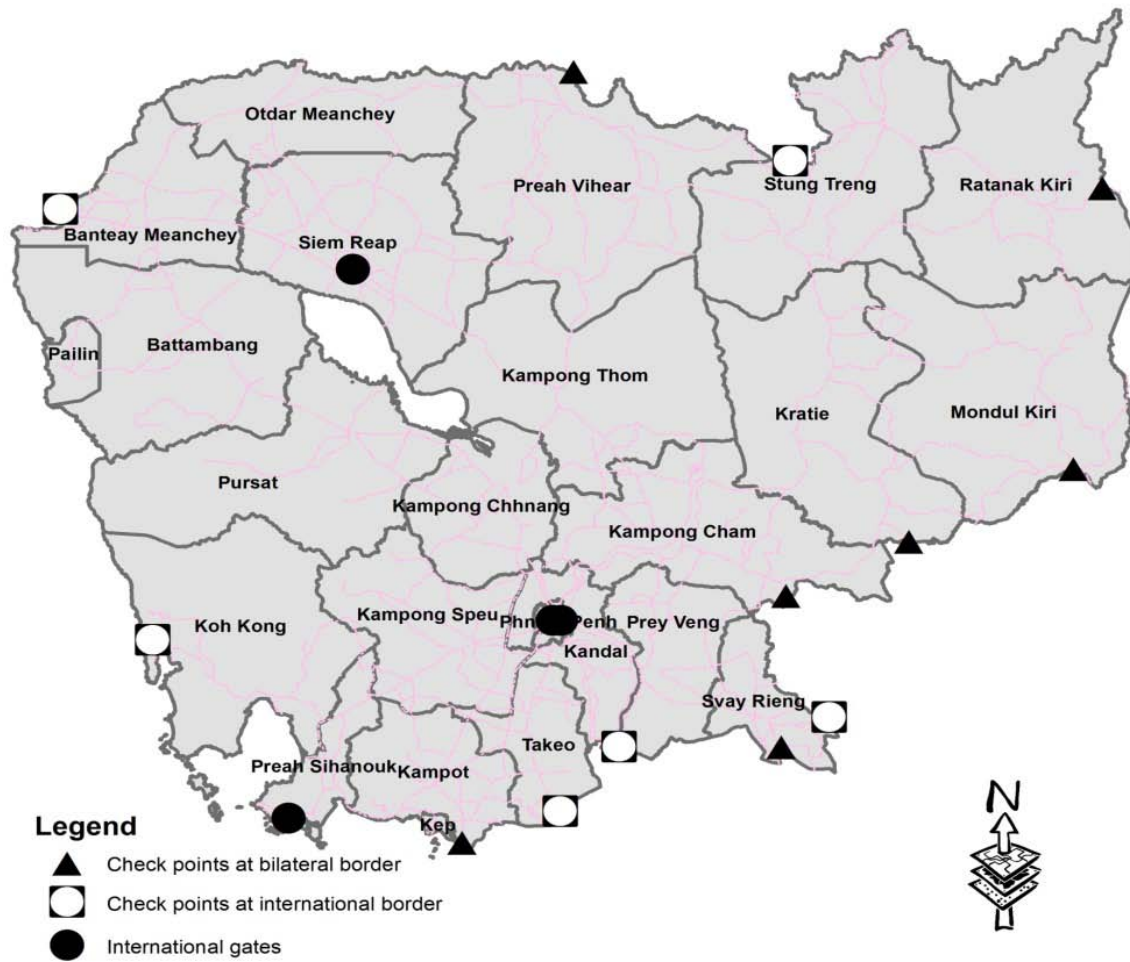
8.3 System/process for exporting timber

A company that wants to export timber needs to obtain an export licence from the Ministry of Commerce based on an approved amount and type of timber inspected by the Forestry Administration and a sales contract agreement. Documents required to obtain an export licence include the sales agreement, invoice, packing list and the permission letter for export (quota) from the Council of Ministers and the Ministry of Agriculture Forestry and Fisheries.

The export licence can cover multiple shipments within a single sales contract. The system for exporting timber products is the same as for importing timber as described in section 6. Logs and sawn timber of natural forest species are not allowed to be exported, but must be processed such as through mouldings (S2S; S4S and profiles), veneer, plywood, wood chips, etc., which can be exported. Companies are permitted to export logs and sawn timber from planted trees.

GDCE is responsible for issuing export permits valid for one month (extendable but not beyond the validity of the export license issued by Ministry of Commerce) and to check that export products conform to export documentation for export clearance, which includes an export licence, commercial invoices and packing lists as part of the container loading prior to sealing containers for export. Export clearance requires a physical inspection by customs at a checkpoint. By regulation and upon request, the customs inspection can be made outside of customs office. GDCE has the authority to control cross border trade and requires an export licence, export permit and clearance, PC-IMEX, etc. to allow goods to move across the international and bilateral border checkpoints (Figure 11).

Figure 11 Main customs checkpoints (based on RGC, 2001)



8.4 Export statistics

Export data from 2003–2012 was obtained through the published statistics of *Forestry Statistics Cambodia (RGC 2012)* as well as through FAO statistics FAOSTAT (2013).

Table 17 Summary volume (m3) for export timber products and green tons for wood chips 2003–2012 (RGC 2012)

Products	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012*
Logs	0	0	0	0	0	0	0	0	0	0
Sawn timber	0	0	0	0	0	0	0	0	0	2 000**
S2S / S4S	171	79	297	0	0	17	484	816	501	1 541
Squared / rectangular wood (max 25cm width)	0	0	0	0	392	76	3 141	13 074	25 212	12 451
Veneer	0	0	0	0	0	0	0	0	858	200
Plywood	0	0	4 530	0	0	0	0	0	297	0
Flooring	428	0	0	0	0	0	250	0	824	0
Furniture	32	46	0	0	0	0	0	7	108	0
Railway sleepers	951	0	0	0	0	201	0	0	0	0
*** Other processed wood products	167	853	3 186	134	910	643	993	0	0	0
Total (m3)	1 749	978	8 013	134	1 302	937	4 868	13 896	27 800	14 193
Wood chips (acacia and eucalyptus)	0	0	0	6 000	0	7 000	0	32 257	68 000	15 000
Total (tons)	0	0	0	6 000	0	7 000	0	32 257	68 000	15 000*

* Source : 2012 annual report – Forestry Administration (based on permit data)

** plantation timber

*** other processed wood products refers to miscellaneous products such as toys, wooden handles, etc.

The data published by the Government in Forestry Statistics Cambodia in 2012 differs significantly from FAO reported data on total volumes of timber exported annually from 2003–2011. In respect to more recent data from 2010 and 2011, the total volume of exports in 2010 recorded by the Government was 15 907 m3 while FAO statistics recorded 39 013 m3 while in 2011 total exports reported by the Government was 29 811 but FAO statistics dropped to 17 751 m3. The discrepancies in reported export data between the Forestry Administration and FAO questions the methodology and responsibility for collection of statistical data between the reporting country and the international organisation.

Table 18 Regional exports of timber products (m3) in 2011 (RGC 2012)

Product	Destination					Total (m3)
	China	Japan	Malaysia	Thailand	Vietnam	
S2S, S4S	206	0	0	0	296	502
Veneer	783	75	0	0	0	858
Plywood	0	297	0	0	0	297
Furniture	0	0	0	0	0	0
Flooring	823	0	0	0	0	823
Square rectangular wood (maximum width / thickness 25cm)	21 548	0	30	319	3 316	25 213
Total (m3)	23 362	372	30	319	3 612	27 693
Percent	85%	1%	0%	1%	13%	100%

Data on export volumes of timber products according to Cambodia Forestry Statistics (RGC 2012) indicate that 85% of the total volume of timber exported in 2011 went to China with only 13% to Vietnam. However, FAO statistics for 2011 reported different results with 71% of the total volume of timber products exported to Vietnam and only 11% to China. According to both Cambodia and FAO statistics, all wood chips produced from Cambodia were exported to China. The data on export volumes of timber products in 2011 had contradicting results whereby the Government reported the greatest volume being shipped to China and FAO reported the greatest volume to Vietnam. The volumes of timber products reported by each source also differed as FAO reports log exports of 1 077 m3 while Cambodia did not record any log volume exports in 2011. The difference in data between Cambodia Forestry Statistics and FAO reporting reflects an important problem with statistical reporting.

Box 9: Key findings – production and export

21. The Forestry Administration collects records of all logs produced from the forest through the Log List and associated Licence Permit. PC-1 is used to define material transported from the forest to a processing mill. The Forestry Administration also collects information on products to be transported to the local market based on PC-2 as well as for export recorded on PC-IMEX.
22. The Forestry Administration was not able to provide data on mill output through PC-2 to the study team as the documents are issued by the local Forestry Administration office. The Forestry Administration is instituting a new required input-output book for all mills based on daily production records.
23. The volume of material, according to the Forestry Administration annual statistics for product exports in 2011, was 7 800m³ and 14 192 in 2012. Statistics on volumes of timber products exported differed significantly from FAO data for 2011 of 17 751 m³. The data published by the Government in Forestry Statistics Cambodia in 2012 differs significantly from FAO reported data on total volumes of timber exported annually from 2003–2011. This raises questions about the methodology and responsibility for collection of statistical data between the reporting country and international organisations.
24. Exports of timber products reported by the Forestry Administration in 2011 were mostly imported by China (85%) while Vietnam imported about 13% of total recorded timber exports. However, FAO statistics for 2011 reported different results with 71% of the total volume of timber products exported to Vietnam and only 11% to China. The difference in data between Cambodia Forestry Statistics and FAO reporting reflects an important problem with statistical reporting.
25. There is no available data for the volumes of wood products being consumed by the domestic market as reflected in Table 16.

9 Timber supply model

9.1 Structure of timber supply and flows

The study team has developed a model of the timber supply chain system in Cambodia based on a field study in three provinces and data available on timber availability from harvesting the known licensed forest areas and imports through mill processing and trade to domestic and export markets. Based on the model expressed in Figure 12, regulatory framework governing the flow of Cambodian timber was documented by visiting provincial government agencies, ELC areas, Community Forest areas and wood processing facilities.

The study observed that the Ministry of Environment and the Ministry of Agriculture Forestry and Fisheries are the key agencies responsible for licensing harvest areas in the defined forest land use categories. ELCs, granted by the Ministry of Environment and the Ministry of Agriculture Forestry and Fisheries contribute the dominant portion of documented timber volume supplied to the domestic and export markets. Most ELCs also consist of mills that are approved by the Ministry of Environment for ELCs in Protected Areas and the Ministry of Agriculture Forestry and Fisheries for other ELCs that process timber on site for both export and domestic markets. The second

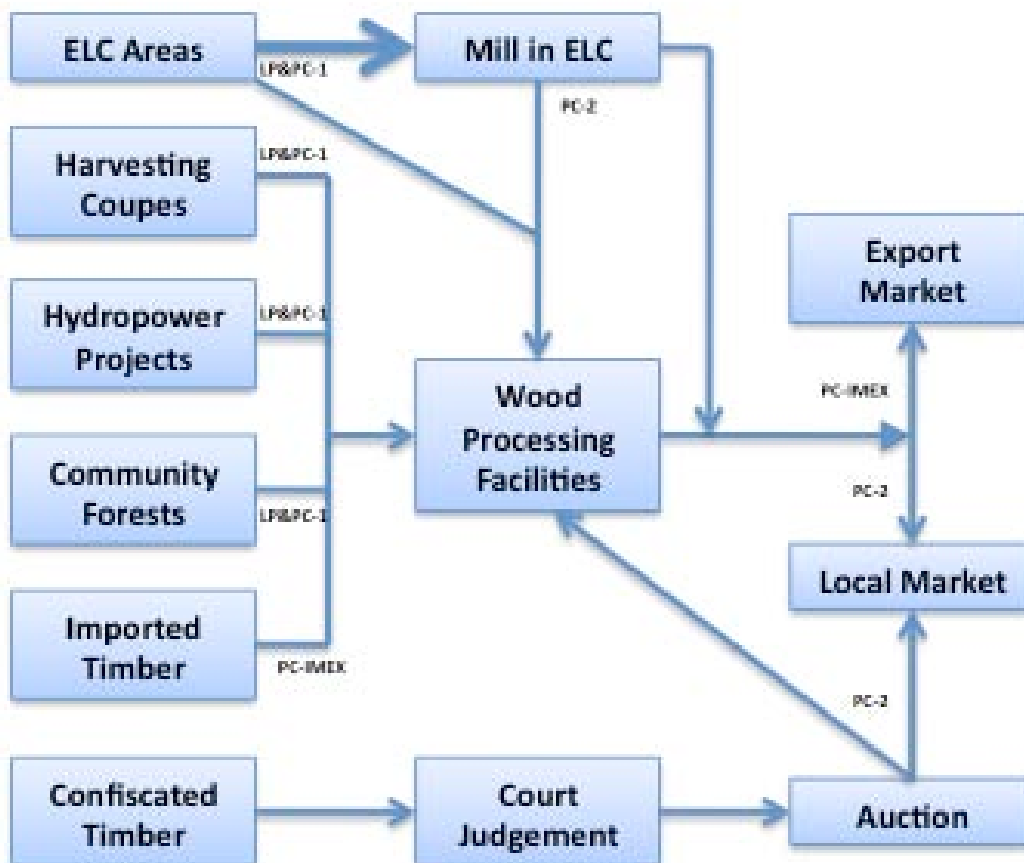
source of material to the market was from hydropower projects where forest areas that are planned to be under water are cleared of commercial timber that includes logs 30+ cm diameter, poles between 15–29 cm diameter and firewood for timber below 15 cm diameter.

All logs and timber extracted as part of land clearing for ELCs or infrastructure projects must be recorded in log lists used to obtain a Licence Permit from the Forestry Administration office in Phnom Penh and a PC from the local Forestry Administration office to transport the material from the harvest block to the mill even when the mill is located within the ELC.

Figure 12 Timber supply model for Cambodia

Timber sources

→ Timber flows



9.2 Description of timber flows and export

As shown in Figure 9, there are six sources that provide or are expected to provide the future supply of logs and timber to the supply chain from forest areas under harvesting and land clearing to timber processors/exporters and local distributors. In 2013, timber was supplied from ELCs, hydropower and coupes that are regulated under the Ministry of Environment or the Ministry of

Agriculture Forestry and Fisheries that have some variation in control of harvesting. All logs produced from harvesting and clearing activities in ELC areas, hydropower projects, harvesting coupes and Community Forests must be registered in a log list (Log Book A) checked by the Forestry Administration local forestry staff. Log Book A is used to obtain a Licence Permit issued by Forestry Administration headquarters after the royalty and fees are paid. Transportation of logs from forest to mill requires a PC-1 while processed timber products require a PC-2 for domestic sales. A PC-IMEX is required to transport material from imports or for products for export. Currently a Licence Permit and PC-1 are not used for logs produced from planted trees.

9.2.1 Log and timber supply

- **ELC areas.** These areas form the major source of timber supply to the domestic and export markets and are regulated by the Ministry of Environment for Protected Areas and the Ministry of Agriculture Forestry and Fisheries for other forest areas. There is no published data on ELC by the Ministry of Environment or the Ministry of Agriculture Forestry and Fisheries on licensed ELC areas or on volumes produced from each ELC. The estimated area of 1.8 million hectares of ELC comes from unofficial data from Open Development (2013), while data on volumes produced for 2011 of 129 300 m³ and 127 142 m³ in 2012 were recorded by the Forestry Administration through the Licence Permit data in annual reports.

ELCs are issued to private companies based on a master plan that defines areas to be cleared and planted and areas for conservation. The Ministry of Agriculture Forestry and Fisheries requires an inventory for areas to be harvested and cleared but the Ministry of Environment does not require an inventory prior to land clearing. Inventory data to calculate estimated harvest yields is a key point at the beginning of the supply chain to define anticipated log production from the licensed area. The lack of data on harvest yield limits the effectiveness of monitoring volumes to be extracted and transported from areas being harvested and cleared. Yield estimates from inventory data could be used to monitor volume production recorded in log lists and License Permits and transported through PCs.

- **Harvesting coupes.** These consist of the selective felling of trees within Production Forests regulated by the Forestry Administration. Harvesting of an estimated 1.2 million hectares of Production Forest areas outside the Forest Concessions can be allocated through a bidding process. In 2012 only one coupe in Mondul Kiri Province (Coupe 4) consisting of 1,342 hectares was harvested that yielded only 4 456 m³. The current level of coupe harvesting in Production Forest areas does not play a significant role in the timber supply.
- **Hydropower projects.** These projects occupy an estimated area of reservoirs of more than 300 000 hectares that are in various stages of completion with regard to clearing the land in projected flooding areas and constructing dam sites. The Forestry Administration recorded timber supplies from hydropower project areas in 2011 was 7 781 m³ and 8 396 in 2012, which is less than 10% of the total timber supply.
- **Community Forests.** These occupy an estimated area of more than 308 564 hectares of forests that have approval from the Ministry of Agriculture Forestry and Fisheries but there are no current records of timber being supplied based on Forestry Administration annual reports for 2011 and 2012. Since the Government has set a target to establish nearly 2 million hectares of Community Forest areas throughout Cambodia, it could become a significant future timber supply for factories.

- **Imported timber.** This is regulated by the Forestry Administration and import licences issued by the Ministry of Commerce. Imported timber products recorded by the Forestry Administration forms an insignificant source of timber to the Cambodian supply chain as only 250 m³ was imported in 2011 and 1 000 m³ was imported in 2012 (Table 15). However, data from FAO from 2007–2011 vary greatly from Forestry Administration statistics where 6 913 m³ of timber products were reported as imported in 2011.
- **Confiscated timber.** This is recorded annually with the volume amounting to nearly 3% of total production volume in 2012 (see Table 19 below). Most of the timber was confiscated because of a lack of documentation and is expected to consist of extremely high value species such as the leguminaceous rosewoods, *Azela xylocarpa* and *Dalbergia cochinchinensis*. However, annual records of confiscated timber do not identify the material as luxury species or record the estimated value of the confiscated timber. The process includes confiscating the timber and often impounding vehicles used in transport. The Forestry Administration must file a case to obtain court judgement that when in favour of the Government, can result in the material being sold through a bidding process. The winning bidder legally buys the wood and can further process the material, sell it on the local market or export the processed products.

9.2.2 Timber flow

The transport of logs to the mill from within or from outside the ELC requires a PC issued by the local Forestry Administration office. The PC-1 is only a summary of the timber being transported based on quality and volumes without reference to physical identification to log numbers, species and dimensions. The PC-1 can be issued for more than one truckload thus the quantity registered on a PC-1 may not match the volumes being transported on a specific truck. A log list is required to be attached as an associated document to the PC-1 and it can serve to trace the material on a specific truck to the licensed harvest area. The lack of clear identification of logs and associated volumes between the PC-1 and the log list can prohibit verification of the physical material against the documents to control against abuse.

Transport of wood products to the domestic market requires the use of a PC-1 issued by the local Forestry Administration office. A PC-IMEX issued by the Forestry Administration headquarters is required for transporting wood products for export.

- **ELC Mills.** Many ELCs have wood processing mills owned by the concessionaire directly on site within the ELC to process timber during land clearing and possibly for future wood supply where timber trees are planted. There are many ELCs that intend to plant rubber trees under agro-forestry projects whereby trees usually produce latex for 25 to 30 years before harvesting the tree. The Forestry Administration has recorded a total of 48 mills as of 2012 against an estimated 240 ELC project sites. The status of harvesting within the ELCs is not well documented but based on Forestry Administration annual records a total of 63 sites actively harvested logs while in 2012 the number of active harvesting ELCs was 56.

ELC mills may receive logs from outside the ELC concession. Harvested logs, poles and firewood being transported, whether within or external to the ELC, must be registered in a Log Book A and must have a Licence Permit from the Forestry Administration headquarters used for determining the payment of royalty and fees. Mills located within an ELC would normally obtain logs that are measured and recorded within the concession, through land clearing. The

logs would then be transported to the mill using a PC issued by the local Forestry Administration office. However, mills within an ELC can also obtain logs from external sources that would be identified using a PC.

There is a formal requirement under clause 2 of the PRAKAS of the Ministry of Agriculture Forestry and Fisheries when establishing a mill that states: "The factory owner must have a book to record timber input and output of the mill." The Forestry Administration has initiated a requirement for mills to formally report daily input and output on a standard format. Logs obtained from within the ELC can be mixed with other logs purchased. The study team did observe one mill within an ELC using the Log Book A to record logs received by the mill as well as input for production. This, however, may not be a common practice.

As there is no formal system to record mill input and output based on the current system, the aggregated volumes recorded on the PC received by the mill should reflect mill stock and input. Transporting wood products requires a PC-1 for domestic markets or a PC-IMEX for exports. The mill output can be roughly evaluated based on the total volume of PC-1 and PC-IMEX but would need to consider the stock of finished goods.

Based on common recovery rates of logs to sawn timber of 40 to 50% the anticipated output volume in 2011 from 129 300 m³ and 127 142 m³ in 2012 of logs would be less than 60 000 m³ per year. Mills within the ELC can supply timber products to the local market or directly export the products based on obtaining export licences and permits.

- **Wood processing mills.** These are simply mills not associated with an ELC that produce timber products that can be both primary-processed, e.g. sawn wood from log input through value-added products such as mouldings, flooring and furniture. The numbers of mills located outside vs. inside ELCs were unavailable from the Forestry Administration.

Mills outside the ELC would need to purchase raw material from licensed areas identified through a PC to transport material converted from natural forests issued by the local Forestry Administration office for a specific volume of material that can include more than one truckload. Although the PC defines the destination of a volume of logs based on quality being transported, the document does not clearly identify the logs by log number species and dimensions. Thus the physical traceability of logs to a licensed area is unclear. The aggregate volumes of timber recorded through PCs received by the mill should reflect the volume of log input less stock.

Wood processing mills are not required to have a chain of custody system to control production or segregate material. The Forestry Administration does not require formal records or reporting of input/output by the mills but is looking to initiate a recording system for all mills. The mills can supply timber products to the domestic market identified using a PC-1 or directly export the products based on obtaining export licences from MOIC and permits from the Forestry Administration (PC-IMEX) and customs.

Box 10: Key findings – timber supply model

26. Six sources provide or are expected to provide logs and timber to the supply chain from forest areas under harvesting and land clearing to timber processors/exporters and local distributors.
27. Timber originating from ELCs contributes more than 90% of the timber supply to the domestic and export markets that are regulated by the Ministry of Environment for Protected Areas and the Ministry of Agriculture Forestry and Fisheries for other forest areas.
28. Timber extracted as logs (>30 cm diameter), poles (15-29 cm diameter) and firewood (<15 cm diameter) are listed in a Log Book A that is used to obtain a Licence Permit for paying the royalty and then a PC for transporting material from the forest to the mill.
29. PC-1s are issued for processed timber products and PC-IMEXs are issued for export products.

10 Monitoring systems

To address the causes of deforestation and forest degradation, the Government has initiated policies and regulations to eliminate illegal operations in the forestry sector and to develop sustainable forest management to meet international standards, as well as the requirements of the Cambodian people (RGC 2004d, RGC 2006). The Government has taken measures across the spectrum of forest law enforcement, prevention, detection and suppression and has supported all national institutions and international agencies. The Government supports provincial authorities through forest law awareness and extension programmes primarily targeting local communities and local authorities, and encourages them to contribute to law enforcement and crime monitoring.

The Department of Legislation and Law Enforcement is designated to control, prevent and suppress illegal forest crimes in the whole country to support effective forest management, protection and development. Activities to be implemented are as follows:

- control, monitor, investigate and suppress illegal forest activities
- field monitoring of the law enforcement of the local Forestry Administration to strengthen the system
- collaborate with relevant local authorities, armed forces and agencies in law enforcement
- provide training on forestry law and regulations to local stakeholders

10.1 Description of monitoring system

There are different cutting systems within forest areas such as clear-cut and selective cutting systems. Clear cutting is applied within areas defined for development and economic land concessions, whereby areas defined for planting or other uses are cleared of all timber (logs, poles and firewood). Selective logging is conducted for annual coupes from Production Forest areas, which requires a complete inventory of selected trees for harvesting to be listed in a harvest plan. The concessionaire of an annual coupe must register all machinery and vehicles with the Forestry Administration in order to obtain an identification tag for each vehicle and machine. It is prohibited

to mobilise unregistered and unlicensed machinery and vehicles within the Permanent Forest Reserve.

Under the Ministry of Agriculture Forestry and Fisheries' regulated areas, inventory is conducted in order to estimate the standing volume of trees in the area. After cutting, logs are measured and recorded in a log list (Log Book A) usually in the harvesting block and marked with one hammer stamp by the Forestry Administration division and triage staff to indicate the log was measured and recorded. Logs are classified by categories and quality of wood, including best quality, A, B, C and as unclassified wood. Both logs and poles are subject to royalties. After the concessionaire pays the royalty and premium, the Forestry Administration places three more hammer stamps. The Forestry Administration division and triage marks each log. In total, there are four hammer marks per log. They are to be verified by the Forestry Administration headquarters. The Forestry Administration division issues a Licence Permit to the company to be able to transport the logs.

All timber products and NTFPs must be moved from the forest to a stockpile/log landing within one month after harvest for measurement by the Forestry Administration to obtain a Licence Permit. A PC is issued by the Local Forestry Administration division to transport logs to a designated mill.

Within wood processing mills the local Forestry Administration division and triage have their own staff to check incoming and outgoing wood and products. The Forestry Administration division issues a PC-1 to transport wood products from a factory to the domestic market. Companies wanting to export products require a PC-IMEX issued by DFI from the Forestry Administration headquarters in Phnom Penh.

All transportation of logs/wood are checked at the local Forestry Administration check points (division/triage level) by the local foresters to verify that all documents required for transporting timber and wood products are correct. Local Forestry Administration officers that including division and triage levels, within a cantonment patrol and inspect along roads and around the forest as part of monitoring. In order to crack down on illegal logging and transportation, a local Forestry Administration officer will receive information from different sources including local villagers, and other stakeholders through their network.

In cases where illegal wood/timber is observed, appointed forestry staff, gendarmeries (military police) and the police are authorised to detain people, confiscate wood and timber products, impound vehicles and file a case and submit it to the forest cantonment, where it is then sent to the court.

10.2 Confiscated timber

Based on data collected during the site visits, the Forestry Administration can confiscate timber from natural forests that is not covered by a harvesting or transport licence (Licence Permit) or a PC. Planted timber does not require harvesting or transport licences or permits.

Forestry Administration staff, gendarmeries, and local police work together to confiscate illegal timber and to detain and arrest the people involved. This process often includes impounding the timber and the vehicles used to transport it. The initial step when identifying illegal timber is to develop a Preliminary Investigation Report by local Forestry Administration staff.

Preliminary Investigation Report – Case tracking system

The local Forestry Administration staff upon identifying illegal timber needs to develop a Preliminary Investigation Report to document evidence of illegal activities and material that is reported to the Forestry Administration headquarters to be entered into the Case Tracking System. The Preliminary report details all aspects of the forestry offence, including:

- case number
- incident report
- place of occurrence
- date
- type of forest
- personal information of suspect(s)
- transportation information for vehicles used
- information on impounded items
- details of the offence including photos and other evidence

Case ID is used as the reference point for registering all details on confiscated material into the Case Tracking System database. The Forestry Administration provides a follow up investigation (Memo of Forest Crime/Offence) following the preliminary report to further define if the offence falls under a transaction fine or is for court judgment. The database is used to provide details of each case for reporting to the court or transaction fine. The information in the database is used by the Forestry Administration for internal reporting as well as for evidence to the court. If the court awards the case to the Forestry Administration, the timber and vehicles will be auctioned through a bidding process. All money derived through transaction fines and the sale of confiscated material goes to the Treasury. There is often an award for facilitating the confiscation, as 49% will be awarded to the implementers (local Forestry Administration and police), 1% to the Ministry of Economy and Finance and 50% to Treasury.

Confiscated timber is recorded annually and does have some impact on the supply chain as much of the timber consists of high-value luxury species. Records of confiscated timber in the Case Tracking System identify the type of material, such as luxury timber species, and its estimated value. The total recorded volume of confiscated timber amounted to nearly 3% of total production volume (Table 19).

Table 19 Records of confiscated timber 2008–2012 (DLE 2013)

	2008	2009	2010	2011	2012
Legal cases (number)	569	498	1 378	1 673	993
Round/square logs (m3)	355	1 053	1 443	815	2 255
Sawn timber (m3)	1 540	1 573	7 739	2 704	2 337
Total (m3)	1 895	2 626	9 182	3 519	4 592

Box 11: Key findings – monitoring

30. Monitoring by the Forestry Administration includes measurements and records of logs, physical inspections and hammer marks. But there is a lack of data between potential and actual yields within defined licensed harvest areas.
31. Inventory data on areas licensed for harvesting and clearing is critical to estimate harvest yield. Lack of inventory data limits the effectiveness of monitoring volumes to be extracted and transported from areas. Yield estimates from inventory data could be used to monitor the production volume recorded in log lists (Log Book A) and Licence Permits and transports through PCs.
32. The effectiveness of monitoring logs in transit and those delivered to mills is limited since the volume specified in the log list may not physically match what is measured on the truck and in the associated PC-1.
33. The Forestry Administration established a Case Tracking System to record all forestry offences within a database that provides details on confiscated timber and wood products and associated transport vehicles. The Forestry Administration issues a preliminary investigation report and follow-up memo of the forestry offence to further define the offence as a transaction fine or court judgment.

11 Discussions and recommendations

11.1 Resources

The key objectives of this study were to improve the understanding of timber flows in Cambodia and to understand the roles of the government agencies involved in the timber supply chain, from forest areas through processing and trade. Cambodia records 10.8 million hectares under forest based on the Government's 60% forest cover policy. The forest sector is regulated by two key ministries: the Ministry of Agriculture Forestry and Fisheries and the Ministry of Environment. Key laws pertaining to the timber supply include the Forestry Law 2002 and the Protected Area Law (Jan 2008). The Government has developed a NFP that defines five Land Use categories that cover 10.8 million hectares to be regulated by the Ministry of Environment and the Ministry of Agriculture Forestry and Fisheries.

The timber flow study documented forest classes that include Protected Areas (3.3 million hectares), Protected Forests (1.6 million hectares), Community Forests (0.2 million hectares) and Forests Under Private Concessions (3.3 million hectares). The Production Forest category of 1.2 million hectares was not defined within the provinces or clearly mapped by the Forestry Administration. The Protected Areas regulated by the Ministry of Environment are to be zoned into core zones and conservation zones that are not to supply timber while sustainable use zones and Community zones are permitted for economic and community development. The Ministry is looking into zoning the Protected Areas in accordance with the Protected Area Law 2008 but needs support to conduct the required scientific survey and data analysis to define the zones within each area.

Box 12: Recommendations

1. The Government Land Use classifications for Protected Areas, Protected Forests, Community Forests, Forest Concessions and Production Forests need to be clearly defined for each province, mapped and published.
2. The zoning within Protected Areas for core areas and conservation zones, sustainable use and Community zones need to be clearly defined, mapped and published in accordance with the Protected Area Law (2008). The Ministry of Environment can use external support to define the four zones within Protected Areas.
3. Forest Concessions occupy approximately 3.3 million hectares that are still under moratorium from harvesting and that should be reviewed with regard to sustainable forest management in accordance with international standards. Forests under well-managed licence agreements can contribute a significant supply of legal timber into the market.
4. Community Forests are targeted to grow to 2 million hectares from the current 308 564 hectares of approved areas and can become a significant source of timber to the market. Managing Community Forests will require the assistance of the Forestry Administration to ensure the forests are managed for sustained yield of wood and non-wood products.
5. The Forestry Administration should provide clear information on Production Forest areas as well as private forests and plantations that may provide timber to Cambodia's supply chain in the future.

11.2 Timber supply

The main supply of timber in Cambodia comes from ELCs regulated under the Ministry of Environment in Protected Areas and the Ministry of Agriculture Forestry and Fisheries in other forest areas. The data on ELCs are not clearly available or published in respect to area, location and volumes of timber being supplied to the market. The documented log volumes from all ELCs for logs 30+ cm diameter from Forestry Administration annual reports entering the market in 2011–2012 are slightly below 130 000 m³ each year. Other sources such as hydropower projects and annual coupes combined are less than 10% of the total timber supply.

Table 20 Overview of records on timber supply and flow in Cambodia

Source/activity	Approximate area (hectares)	Timber volume (m ³) 2011	Timber volume (m ³) 2012
ELC (Ministry of Environment and Ministry of Agriculture Forestry and Fisheries)	1 800 000	129 300	127 100
Hydropower projects	305 000	7 781	8 396
Annual coupes	1 300	0	4 456
Mining areas	401 000	0	0
Community Forests	207 000	0	0
Imported timber	NA	250	1 000
Total timber supply	NA	137 331	140 952
Exported timber products	NA	27 800	16 192

ELCs currently supply timber to Cambodia as part of land clearing activities but may not provide a long term supply if large areas are planted with rubber or other agricultural crops. Rubber plantations require significant manpower that may not be available in rural areas to tap and collect latex. Rubber plantations are usually maintained for 25 to 30 years before harvesting and replanting with new trees. Current areas under ELC being cleared may not be planted according to the agreement. The study team observed ELC areas that were cleared but not planted in Mondul Kiri and Kratie Provinces.

The records on timber supply depend on the data collected, following the harvest, within log lists (Log Book A) to obtain a Licence Permit to use the material. ELC areas under the Ministry of Agriculture Forestry and Fisheries have systematic inventories of harvest blocks supported by the Forestry Administration that should provide a credible estimate of timber volumes to be removed from the ELC. ELCs regulated by the Ministry of Environment in Protected Areas do not require an inventory of standing timber prior to harvesting. Thus the amount of timber to be extracted from the ELC is not known. The Ministry of Agriculture Forestry and Fisheries and the Forestry Administration only verify records of material presented in the log lists (Log Book A) to provide a Licence Permit, hammer marks and PC for transporting timber. There is potential to abuse the lack of volume control from ELC in Protected Areas to add additional timber into the log list from areas outside the ELC that would be checked as part of the log list and Licence Permit.

Box 13: Recommendations

6. Areas licensed as ELC and regulated by the Ministry of Environment and the Ministry of Agriculture Forestry and Fisheries need to be defined for each province, mapped and published. ELC areas should not overlap valid Forests under Private Concession licensed areas unless there is a formal agreement with the licensee.
7. Sustainable use zones within Protected Areas need to be defined prior to establishing ELC areas to conform to Protected Area Law (2008).
8. Inventories of timber stocks should be conducted as part of the development of the master plan for areas planned for planting to provide a clear estimate of timber resources that are planned for extraction within an ELC.
9. Volumes of timber extracted and areas cleared from ELC and other licensed areas should be recorded clearly and published in annual reports.
10. Areas harvested within an ELC should be planted in accordance with the ELC agreement.
11. Commercial timber supplied to the market from Community Forests under signed agreement and approved management plan and from plantations should be documented through the existing system for timber from natural forest areas by recording timber extracted in a log book and transported using a Licence Permit and PC.
12. Status of land clearing for hydropower dam projects should be monitored in relation to the progress of development and records of timber harvested based on the master plan.
13. Import records need to be maintained against import licences whereby the material should clearly be defined as to international standards (Harmonized System codes) along with destination, volumes, quantities, etc., which can be used for traceability and reporting to international organisations such as ITTO and FAO.

11.3 Transport and sale

Transport of material is based on the registration of logs in a log list (Log book A) that identifies all logs according to log number, species, dimensions and volumes and is used to obtain a Licence Permit following payments of royalties and premiums. The Licence Permit references the log list

and provides an adequate summary of the log list. The local Forestry Administration division issues a PC to transport material based on the volumes within the Licence Permit. The PC does not define the actual logs being transported but is a summary of log quantity and volume based on log quality classes. Since the PC does not contain the actual list of logs (including log numbers) listed in the Log Book A, there is no clear system to verify that the logs being transported come from the licensed area. In addition, the volume of timber registered in the PC may be for a single truck-load or many truck loads up to the maximum volume listed in the Licence Permit. Thus, the current PC is not adequate to trace material being transported to the licensed area.

Box 14: Recommendations

14. The PC-1 summarises a defined volume of logs based on quality that depends on a separate log list identifying materials to be transported on a specific truck to provide traceability of materials. The volumes may differ between the PC-1 and the log list as the PC-1 can consist of a large volume of logs that far exceed a single truck. This limits the ability to verify that the materials being transported are actually part of a PC-1 that would need to be checked against the Log Book A associated with the Licence Permit and PC-1.
15. The PC-1 should be limited to a single truck load that is directly associated to a list of logs that includes log number, species, dimensions and volumes being transported on a specific carrier from a defined licensed area associated with a Licence Permit to the site of destination. The PC-1 should provide a means to verify physically that the material being transported matches the documents used for transport.

11.4 Domestic production and exports

The records for the local production of mills are not taken directly by the Forestry Administration, but there are records available for transport products to local markets through a PC-1 and for exports through a PC-IMEX for volumes of sawn timber and moulded products. The Forestry Administration is planning to initiate data collection of mill production on a daily basis for input and output in 2014. Production can be estimated using estimated recovery rates of logs to sawn timber that is commonly reported to be 40 to 50%. Thus 129 000 m³ of logs from Licence Permit data produced in 2011 would yield approximately 50 000 to 55 000 m³ of sawn timber. The percentage of timber products being sold for domestic consumption can be estimated by taking the estimated production less reported export volumes. Therefore, for 2011, an estimated production volume of 50 000 m³ of sawn-timber less 25 000 m³ of reported export timber indicates that the domestic market consumed about 50% of total production.

Companies wanting to export wood products must obtain an export licence from the Ministry of Commerce that is good for a specific volume of products and valid for a specific time frame, usually up to one year based on a sales contract. The export licence can cover multiple shipments under a single contract. All export products undergo a customs inspection prior to loading a container in the factory as part of export clearance procedures. GDCE issues an export permit for a specific shipment of products for export that can be part of a sales contract. The export systems used in Cambodia include inspection of products to be exported that can be traced to the exporter and production mill through export documentation such as PC-IMEX, export permits and export licences.

The data published by the Government in the Forestry Statistics Cambodia 2012 differs significantly from FAO reported data on total volumes of timber exported annually from 2003–2011. The discrepancies in the reported export data between the Government and FAO questions

the reliability in collection of statistical data between the reporting country and international organisations.

Box 15: Recommendations

16. Although there is a formal requirement for the factory owner to record the timber input and output of the mill, the Forestry Administration must acquire comprehensive data on mills and local production of timber products at least through existing records of PC-2 and PC IMEX for forest sector analysis and planning. The Forestry Administration has initiated a requirement for mills to make a formal report for their daily input and output in a standard format.
17. Recording raw material input such as log numbers with associated volumes within a defined unit of production can provide a flexible system to trace and measure log input against quantity and volume output of wood products.
18. Export records need to be maintained against export licences whereby the material should be traceable to production units. Records of products to be exported should be clearly defined as to international standards (Harmonized System codes) along with destination, volumes, quantities, etc., which can be used for traceability and reporting to international organisations such as ITTO and FAO.

11.5 Monitoring

The Department of Legislation and Law Enforcement under the Forestry Administration and The Ministry of Agriculture Forestry and Fisheries is designated to control, prevent and suppress illegal forest crimes in the whole county to support effective forest management, protection and development. Within forest areas there are clear-cut and selective cutting systems. Clear cutting is applied within areas defined for development and ELCs where areas defined for planting or other uses are cleared of all timber (logs, poles and firewood). Selective logging is conducted for annual coupes from Production Forest areas, which requires a complete inventory of selected trees for harvesting to be listed in a harvest plan.

All timber products and NTFPs must be moved from the forest to a stockpile/log landing within one month after harvest for measurement by the Forestry Administration to develop a log book (Log Book A) and obtain a Licence Permit. A PC is issued by the Local Forestry Administration division to transport logs to a designated mill. The PC does not contain adequate descriptions of logs transported to ensure physical traceability of the logs from the licensed area to the mill destination. Transportation of logs/wood are checked at the local Forestry Administration check points as part of law enforcement by the local foresters to verify all documents required for transportation. Local Forestry Administration officers (cantonment, division and triage) also patrol and inspect along roads and around the forest as part of monitoring.

Box16: Recommendations

19. The lack of data on harvest yields limits the effectiveness of monitoring volumes to be extracted and transported from areas being harvested and cleared. Yield estimates from inventory data could be used to monitor volume production recorded in log lists (Log Book A) and Licence Permits and transported through PCs.
20. Monitoring of logs in transport and delivered to mills could be greatly improved if the PC-1 contained a clear identification of logs being transported from a licensed forest area on a specific carrier including log numbers, species and dimensions that can be checked physically and measured.

11.6 Voluntary Partnership Agreement

The timber flow study was designed to provide details on the current system and procedures in Cambodia and identify elements that need to be addressed to ensure legality of wood supply in Cambodia. The European Union has newly established a timber trade regulation effective as of March 2013, and now it is prohibited to place illegal timber products on the European Union market. Although only an estimated 10% of the timber in the European Union is imported from outside the European Union, an estimated 20% of these imports are believed to be from illegal sources. Cambodia supplies tropical timber to China, Vietnam and Thailand, which are all manufacturing hubs that supply the European market (EU FLEGT Facility presentation, Kuala Lumpur, Malaysia, 8 July 2011). In general, tropical timber has a poor reputation for legality, which makes it necessary for suppliers to make available comprehensive information for European Union importers' due diligence systems or have licensed timber through the VPA to meet the EU Timber Regulation.

In general there were significant inconsistencies between different sources in data and availability of records for several aspects of forest management records of timber supply, production and trade. The basic identification of forest resources needs to include the 1.2 million hectares of Production Forest areas as well as information regarding the licensing of ELCs under both the Ministry of Agriculture Forestry and Fisheries and the Ministry of Environment. Neither ministry has published information on ELC areas in each province and associated maps of ELC, which would be required for traceability of material to a legal source of origin, as would be needed to comply with requirements for due diligence or due care in timber sourcing.

A critical component of the Cambodia timber supply system is the registration of logs within log lists as part of the process to obtain a Licence Permit, which enables the Forestry Administration to scale all logs (30+ cm), record poles and firewood harvested and cleared from natural forest areas. The use of a PC does not clearly define the logs being transported but only provides a basic summary of log volume by quality classes that is not adequate for traceability.

Basic elements for transparency and traceability:

- formal identification of forest areas within land use classes that can form the timber supply for Cambodia
- clear licensing of defined areas for harvesting and land clearing within identified ELC projects, development projects and Community Forests that should include maps of licensed areas

- licensing should contain reliable estimates of available material within the licensed area. There is the potential to use modern technology to support tree identification and data recording
- ensure that all material harvested within licensed areas is registered in a log list (Log Book A) and references the harvest licensed area and permit
- maintain detailed and summarised sales records for material registered in the Licence Permit and associated log list along with a PC that should include clear identification of logs (log numbers, species and dimensions) being transported within the PC
- require formal registration of raw material received at local processing mills that can be inspected by government agencies
- require data on mill production that can be traced to raw material input
- export records need to clearly define products according to international standards including volumes and quantity destination and be maintained for all export companies

Engaging in the process towards a VPA can serve as a formal commitment by Cambodia to address the weaknesses identified in the timber flow study, help address improvements in forest law enforcement and governance and pave the way towards FLEGT licensed timber. The VPA process would begin with a formal communication from Cambodia to the European Union to outline the country's commitment to engage in developing a formal TLAS.

The process of negotiating a VPA requires national stakeholders to participate in a national process of defining timber legality, developing a TLAS and contributing to discussions on transparency to ensure the development of a credible and nationally supported VPA. The negotiation of a VPA between the European Union and Cambodia would require the involvement of a range of stakeholders from government, industry and civil society. Information provided in the timber flow study could be used to inform national consultations, and in negotiations with the European Union to identify some of the gaps and weaknesses in the current system and actions needed to address them.

The European Union has entered into VPA negotiations with a number of countries. Six countries have completed negotiations and are now developing the systems and building capacities to realise the commitments outlined in their VPAs. Once these systems are operational in accordance with the requirements of the VPA, a country will be able to export FLEGT licensed timber products to the European Union.

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Appendix 1. Terms of reference

Scope and tasks

Scope

This analysis will cover timber material for the wood processing industry (including rubber wood) and its passage through the supply chains to point of export or end consumer in country, through points of processing, transport and change of ownership. The study will cover all main timber sources (including the different conversion areas and imports) and products. It does not cover NTFP.

In addition, it will provide more background on the requirements of a TLAS and inform local stakeholders about FLEGT and VPAs.

Approach and key activities

The study will collect original data and will draw on secondary data sources, expert knowledge, interviews and experience to provide an analysis of the timber supply and identify potential points of risk in the supply chain for meeting the EU Timber Regulation and the requirements of a TLAS.

The study will be implemented in the following steps:

1. Analyse the timber production and movements in Cambodia in volume and value, drawing on original data collections provided by the Forestry Administration and GDCE for the last three years, secondary information, other statistics and results from additional studies, including the draft EFI baseline report for Cambodia. Describe and assess, when possible, the origin of the data and the methodology used for their collection. Special focus shall be put on timber exports (volume/value, export points) and how evidence of legality can be demonstrated by the Government. The role and procedures for imports, seized timber and transition timber (e.g. timber originating in Vietnam and transported through Cambodia to Thailand) shall also be clarified.
2. Develop a generic supply chain model that maps the principal timber supply chains in Cambodia and indicates general volumes/values traded in each chain from the forest source to the points of end use (domestic consumption and export).
3. Describe documentation, field verification, licensing (e.g. transport licences, customs declarations, export licences, import licences, Certificate of Origin) and control tasks of the government agencies with authority over the supply chain at all points in the identified chains, including customs procedures on imports/exports. The analysis shall highlight points in the supply chain that bear a high risk of unverified timber by-passing the control procedures, making the system unlikely to meet European Union requirements.

4. Based on the above analysis, identify all key points where timber from non-verified sources could enter the supply chains, by-passing the control procedures (gap analysis considering the Government's control system and its implementation).
5. Verify this desk work with field explorations in at least two provinces with the aim of describing production activities in these provinces according and control of selected supply chains (at least one for each type of timber source, i.e. timber from Production Forests, plantations, conversions, communities and imports).

The provinces to be visited will be defined in the course of the study.

6. Inform individual local stakeholders in these provinces about FLEGT and VPAs.
7. Revise the generic supply chain model (refer to 3.22) and the description of verification tasks based on the results of the field work. In particular consider requirements for verifying timber flows back to the harvesting site, and points in the supply chain that are high risk in terms of meeting the European Union requirements either due to the system or a lack of verification by government agencies. Clearly describe identified gaps.
8. Give recommendations by describing options to address identified gaps.
9. Present the preliminary findings of the study at a meeting of the Steering Committee and improve the final report based on comments received.

Appendix 2. Field itinerary

Project inception – 19/8/2013

Dates	Activities
18/8/2013	Fly to site Phnom Penh – Meet with consultants, EFI Meeting – European Union Delegation
19/8/2013	Meeting - Forestry Administration – DG Dr. Chheng Kimsun Meeting - Forest Sector -Development Partners
20/8/2013	Meeting – Forestry Administration, Forest Industry Development and Trade Office – Mr Hang Suntra and Mr Bun Vanna Data – Collection for Inception Report
21/8/2013	Forestry Administration, Forest Management Office, Mr Makara Meas Meeting European Union Delegation World Wide Fund for Nature
22/8/2013	Department of Forest and Community Forestry Ministry of Commerce
23/8/2013	Technical Working Group on Forestry Reform
24/8/2013	Study team meeting and Depart: Phnom Penh–Kuala Lumpur, Malaysia
26/8/2013	Submission of draft inception report

Field visit – Mondul Kiri and Kratie Provinces

Dates	Activities
1 Sept 2013	Travel to Mondul Kiri Province
2 Sept 2013	Meeting with Mondul Kiri Forest Cantonment, Meeting with Economic Land Concession (Tong Ming Company), Meeting with Forest Coupe Company
3 Sept 2013	Visited Economic Land Concession (COVIPHAMA Company), Visited COVIPHAMA Company mill, Visited Community Forest in Pou Kroch village, Sre Amboum Commune, Pechreda District, Mondul Kiri Province
4 Sept 2013	Meeting with custom and excise officer at O'Reang Dak Dam Customs and Excise Office in Mondul Kiri Province, Visited Tong Ming Mill in Kratie Province
5 Sept 2013	Departure for Phnom Penh
6 Sept 2013	Meeting with Ministry of Environment office in Phnom Penh to discuss the process of granting ELC within Protected Area, Meeting with CDCE in Phnom Penh to discuss the process of recording
7 Sept 2013	Data analysis and report preparation

Field Visit Koh Kong and Sihanouk Provinces

Dates	Activities
9 Sept 2013	Travel to Koh Kong Province
10 Sept 2013	Meeting with Green Rich ELC in Koh Kong Province, meeting with Camagro

Investment Group Company in Sihanouk Province)

- 11 Sept 2013 Visited Chip mill in Preah Sihanouk Province (Camagro), visited Chip mill in Preah Sihanouk province (HMM International Co. Ltd.)
- 12 Sept 2013 Visited export check point and meeting with customs and excise officer at Preah Sihanouk port, departure for Phnom Penh
- 13 Sept 2013 Meeting Forest Industry Development and Trade Development Office
- 14 Sept 2013 Data analysis and report preparation; Depart : Kuala Lumpur

Phnom Penh (Forestry Administration Headquarters)

Dates	Activities
22 Oct 2013	Travel to Phnom Penh, Meeting with the Forestry Administration Focal Point for more data collection
23 Oct 2013	Discussion on the structure of the report. Report writing, partly
24 Oct 2013	Report writing and data collection
25 Oct 2013	Data analysis and report writing
26 Oct 2013	Study team meeting and depart for Kuala Lumpur
31 Oct 2013	Travel to Phnom Penh Study team meeting – submitted letter to the Forestry Administration regarding data collection from various departments
1 Nov 2013	Meeting – the Forestry Administration data collection at Department of Forest Industry and International Cooperation
2–3 Nov 2013	Data analysis and draft reporting
4 Nov 2013	Arrange for meetings – Forestry Administration, Department of Forest and Community Forestry and Department of Forest Industry and International Cooperation
5 Nov 2013	Meeting – Forestry Administration and Department of Forest and Community Forestry on licensing and permits and volume data
6 Nov 2013	Meeting - Forestry Administration Department of Forest and Community Forestry – geographic information system mapping, a letter for meeting with Ministry of Environment
7 Nov 2013	Meeting – Forestry Administration, Department of Legislation and Law Enforcement monitoring
8 Nov 2013	Study team meeting and depart for Kuala Lumpur

Appendix 3. List of ELC areas and production volumes in 2011 and 2012

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Cheat Aphivat	6,000	Banteay Meanchey		21/03/2011	2011	NA			NA	
Leang Hour Hong Import And Export, Agro Industry Development And Processing	8,000	Battambang		07/06/2000	2000	70			Sugar Cane and Tapioca	
Rath Sambath	5,200	Battambang	MAFF	03/04/2009	2009	70			Rubber plantation	
Suon Mean Sambath	4,095	Battambang		06/04/2011	2011	NA			NA	
Agro Star Investment	2,400	Kampong Cham	MAFF	09/01/1996	1996	NA			Cashew-Apple plantation and Animal husbandry	
Men Sarun Import Export	4,400	Kampong Cham	MAFF	10/02/2006	2006	70			Rubber plantation and other crops	
TTY Industrial Crops Development Import-Export	1,070	Kampong Cham	MAFF	02/05/2000	2000	70			Tapioca (Cassava) plantation	
Vannma Import-Export Co., Ltd	1,200	Kampong Cham	MAFF	29/09/2004	2004	70			Sugar Cane and Tapioca	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
									(Cassava)	
Meang Lyheng Investment	3,000	Kampong Cham	MAFF	08.11.2005						
Phea Phimex Co., Ltd	315,028	Kampong Chhnang, Pursat		08/01/2000	2000	70			Trees Plantation and Papers Factory	
C.J Cambodia Co., Ltd 1	5,000	Kampong Speu	MAFF	20/04/2001	2001	70			Tapioca (cassava or manioc)	
C.J Cambodia Co., Ltd 2	3,000	Kampong Speu	MAFF	15/11/1999	1999	70			Tapioca (cassava or manioc)	
Forestry Investment Limited	739	Kampong Speu		28/11/2011	2011	NA			NA	
Fortuna Plantation (Cambodia) Limited	7,955	Kampong Speu	MAFF	12/10/2009	2009	70			Oil Palm and Jatropha plantation	
Golden Land Development Co.,LTD	4,900	Kampong Speu	MAFF	05/03/2004	2004	70			Agro-Industrial Crops and processing factory	
Grandis Timber	9,820	Kampong Speu	MAFF	31/12/2009	2009	70			Maysak plantation	
Great Field	9,059	Kampong Speu	MOE	29/01/2010	2010	NA	1,736	131	Agro-industrial crops,	
HLH Agriculture Cambodia Co., Ltd.	9,985	Kampong Speu	MOE	30/03/2009	2009	NA	186		Corn Plantations	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Kampong Speu Sugar I	11,990	Kampong Speu	MOE	22/09/2009	2009	NA		422	NA	
Kampong Speu Sugar II	4,005	Kampong Speu	MOE	21/03/2011	2011	NA	265	748	NA	
Kampong Speu Sugar III	695	Kampong Speu		21/03/2011	2011	NA			NA	
Kirirom Eco-Tourism Investment	609	Kampong Speu		08/04/2010	2010	NA			Eco-Tourism	
Phnom Penh Sugar	10,000	Kampong Speu		22/09/2009	2009	NA			NA	
Reththy Kiri Sakor	1,521	Kampong Speu		06/04/2011	2011	NA			NA	
Uk Khun Industrial Plants and Other Development	12,506	Kampong Speu	MAFF	25/05/2001	2001	70			Cashew apple, Agro-Industrial Crops, and Animal Husbandry	
Yee Jia Tourism Development(Cambodia) company	1,000	Kampong Speu		03/05/2011	2011	NA			Tourism	
Yellow Field	8,449	Kampong Speu	MOE	29/01/2010	2010	NA	1,165	1,788	NA	
Yun Khean Minerals	288	Kampong Speu		07/12/2010	2010	NA			NA	
Suon Vatanak Co.,Ltd	585	Kampong Speu, Preach Sihaknok		24/05/2010	2010	90			Ecotourism	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
An Mady Group Co.,Ltd	9,863	Kampong Thom	MAFF	09/05/2005	2005	70			Agro-industrial plantation and animal husbandry	
An Sophy Farming (Cambodia)	967	Kampong Thom		09/07/2007	2007	70	151		Agro-Industrial	
Bean Heach Investment Co., Ltd	4,385	Kampong Thom		29/01/2010	2010	NA	1,296		NA	
BNA (Cam) Corp	7,500	Kampong Thom	MAFF	25/09/2009	2009	70			Rubber and Cassava plantation	
C C V Co., Ltd	5,730	Kampong Thom	MAFF	05/05/2010	2010	70			Acacia plantation	
C R C K Rubber Developement Co., Ltd. I	6,155	Kampong Thom		05/05/2010	2010	70	3,839		Rubber Plantation	
C R C K Rubber Developement Co., Ltd. II	7,289	Kampong Thom	MAFF	08/01/2010	2010	NA	3,154	2,841	Rubber Plantation	
C R C K Rubber Developement Co., Ltd. II	2,183	Kampong Thom		21/03/2011	2011	NA			Rubber Plantation	
Farming Investment Co.,Ltd (Cambodia)	901	Kampong Thom		09/07/2007	2007	70	92		Agro-Industrial	
Gold Foison (Cambodia) A/C Import Export & Construction	7,000	Kampong Thom	MAFF	13/11/2007	2007	70			Acacia plantation and processing factory	
Golden Farming	925	Kampong	MAFF	09/07/2007	2007	70			Agro-	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Investment Co.,Ltd		Thom					120		Industrial	
H.M.H Co., Ltd	5,914	Kampong Thom	MAFF	17/03/2006	2006	70	661		Acacia plantation and other trees	
Heam Kok Ham Co.,Ltd	400	Kampong Thom		06/11/2011	2011	NA			Agro-Industrial	
Heng Mean	0	Kampong Thom	MAFF				78			
Mean Rithy Co., Ltd	9,784	Kampong Thom	MAFF	16/03/2006	2006	70	15		Agro-industry	
Noupheap Sophy Investment Co.,Ltd	0	Kampong Thom	MAFF				80			
Ratanak Cam	0	Kampong Thom	MAFF				419			
Rithmuny Samnang Leab Co.,Ltd	1,678	Kampong Thom	MAFF	16/01/2012						
Siv Guek Investment Co.,Ltd	601	Kampong Thom		09/07/2007	2007	70			Agro-Industrial	
Ta Bien Kampong Thom Rubber Development	8,100	Kampong Thom	MAFF	18/07/2007	2007	70	53		Rubber plantation and processing factory	
Caoutchouc Mekong Co.,Ltd	8,000	Kampong Thom, Preah Vihear	MAFF	05/06/2010	2010	NA	2,849		Rubber Plantation, Agro-industrial	
An Mady Group Co.,Ltd	9,993	Kampong Thom,		05/08/2010	2010	0			Agro-Industrial	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
		Preah Vihear								
Pour Khouch Aphivath Group Co.,Ltd	350	Kampong Thom;Preah Vihear		13/12/2011	2011	70			Agro-Industrial, Rubber Plantation	
Cam Try Cooperation	2,409	Kampot	MAFF	05/05/2010	2010	70			Acacia plantation	
Camland Co., Ltd (Region I)	5,643	Kampot		26/10/2000	2000	70			Oil Palm	
Camland Co., Ltd (Region II)	10,820	Kampot		26/10/2000	2000	70			Oil Palm	
First Biotech Investment (Cambodia) Co.; Ltd	10,000	Kampot	MAFF	21/04/2005	2005	70			Agro-industrial plantation and animal husbandry	
World Tristar Entertainment (Cambodia) Co., Ltd	9,800	Kampot	MAFF	21/04/2005	2005	70			Corn plantation and processing factory	
Boeung Tumpun Development	2,572	Kandal, Phnom Penh		11/03/2011	2011	NA			NA	
Cammagra Investment Group (Region I)	527	Koh Kong	MAFF	NA		NA			NA	
Cammagra Investment Group (Region II)	286	Koh Kong	MAFF	NA		NA			NA	Master Plan 5525 ha under 5 zones 3000

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
										ha planted in Acacia hybrid
Cammagra Investment Group (Region III)	467	Koh Kong	MAFF	NA		NA			NA	
Cammagra Investment Group (Region IV)	146	Koh Kong	MAFF	NA		NA			NA	
Chan Roth Group	63	Koh Kong		22/02/2011	2011	NA			Shrimp farm	
Koh Kong Plantation Company Limited	9,400	Koh Kong	MAFF	02/08/2006	2006	70			Sugar Cane	
Koh Kong Sugar Company Limited	9,700	Koh Kong	MAFF	38756	2006	70			Sugar Cane	
L.Y.P Group Co., Ltd	4,097	Koh Kong		13/04/2010	2010	NA			Tapioca plantation	
Paradise Investment	9,835	Koh Kong		01/01/2011	2011	NA			NA	
Sinimexim Investment Co., Ltd	4,280	Koh Kong		22/07/2011	2011	NA			Rubber Plantation, Agro-industrial	
The Green Rich Co., Ltd	10,000	Koh Kong	MAFF	25/11/1998	1998	70			Oil palms, fruit trees and acacia	Active land clearing / 5,000 ha planted Acacia spp
Union Development Group Co., Ltd	9,100	Koh Kong		22/07/2011	2011	NA			Hydrodam	
Virtus Green Plantation	7,187	Koh Kong, Kampot		22/02/2011	2011	NA			NA	
Tong Min Group Engineering (Cambodia)	7,465	Kratie	MAFF	08/12/2008	2007	70		4,516	Rubber, acacia, jatropa and	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
									processing factory.	
Agri-Industrial Crops Development	7,000	Kratie	MAFF	08/12/2008	2008	70		1,254	Rubber and acacia plantation	
Asia World Agricultural Development (Cambodia) Co., Ltd	10,000	Kratie	MAFF	15/03/2006	2006	70			Tectona grandis and processing factory	
Binh Phouc I	10,000	Kratie	MAFF	01/03/2011				2,509		
C & V Group	7,000	Kratie	MAFF	29/01/2010	2010	70			Rubber Plantation	
C X P B Development	8,202	Kratie	MAFF	29/01/2010	2010	70	1,591		Rubber Plantation	
Carmadeno Venture (Cambodia) Limited	7,635	Kratie	MAFF	NA		70			Sugar cane plantation	
Central First Company Limited	7,000	Kratie		25/09/2009	2009	70			Rubber plantation	
Chan Sophea	5,088	Kratie	MAFF	30/12/2010	2010	NA			NA	
Chhun Hong Rubber Better I	8,202	Kratie	MAFF	29/01/2010	2010	70	75	1,122	Rubber Plantation	
Chhun Hong Rubber Better II	0						1,047			
China Dynamic Investment	6,600	kratie	MAFF	29/01/2010						
CIV Development Agro Industry	740	Kratie		21/06/2011	2011	NA			NA	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Crops & Land Development (Cambodia)	7,200	Kratie	MAFF	08/12/2008	2008	70			Rubber and acacia plantation	
Dau Thieng (Cambodia) Rubber Development Co., Ltd	7,972	Kratie	MAFF	30/12/2010	2010	NA			NA	
Dau Thieng (Kratie) Rubber Development Co., Ltd	6,592	Kratie	MAFF	30/12/2010	2010	NA			NA	
Dong Nay Kratie rubber development	7,090	Kratie	MAFF	04/07/2008			4,196			
Dong Phou Kratie rubber development	9,194	Kratie	MAFF	04/07/2008				8,257		
Doty Saigon-Binh Phouc (SBK) II	6,436	Kratie		18/07/2007	2007	70		5,903	Rubber, cassava, cashew nut and processing factory	
Eastern Agro (Cambodia)	7,844	Kratie		16/08/2011	2011	NA			Agro-Industrial	
Easten Rubber	10,000	kratie	MAFF	24/10/2011				5,910		
E-Investment	0	Kratie	MOE				1,533	540		
Global Agricultural Development (Cambodia) Co., Ltd	9,800	Kratie		15/03/2006	2006	70			Tectona grandis and processing factory	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Great Asset Agricultural Development (Cambodia) Co., Ltd	8,985	Kratie	MAFF	11/08/2006	2006	70			Pistacia Chinasis Bunge and other tree plantation	
Great Wonder Agricultural Development (Cambodia) Limited	9,231	Kratie	MAFF	11/08/2006	2006	70			Pistacia Chinasis Bunge and other trees plantation	
Green Island Agricultural Development (Cambodia) Co., Ltd	9,583	Kratie	MAFF	15/03/2006	2006	70	4,579		Tectona grandis and processing factory	
Gro-vest building trading	9,996	Kratie	MAFF							
Hai Yong Investment Agro Industry Company	701	Kratie		NA		NA			NA	
Hee Ray Zin	0						67			
I P D Easter Pro-trading	987	Kratie	MAFF	05/05/2010						
JPE Co., Ltd	678	Kratie		29/07/2008	2008	NA			NA	
Mega Star Investment and Fores	8,000	Kratie	MAFF	31/07/2009	2009	70			Rubber plantation	
N.K.Agri (Cambodia) Limited	8,892	Kratie	MAFF	04/11/2010	2010	NA			Agro-industrial	
New Line Cam P T Y	8,977	Kratie	MAFF	29/03/2011				2,668		
PDA (Cambodia) Co., Ltd	5,256	Kratie	MAFF	22/10/2009	2009	NA		183	Rubber, Acacia and Cassava	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
									plantation	
Phou Reang Kratie Rubber Development	6,434	Kratie	MAFF	04/07/2008						
Rattanak Stone	479	Kratie		29/07/2008	2008	NA			NA	
SBK	6,436	Kratie	MAFF	18/07/2007				1,486		
Samnang Ankor	0		MOE				619			
Saydong Rubber Dok Dong	0		MOE				1,319			
Sovann Reachsey Co.,Ltd	0	Kratie	MOE				18,514			
Sovann Vuthy	5,000	Kratie	MOE	06/12/2010	2010	NA	7,128	927	Rubber Plantation	
Tay Ninh Kratie Sugar	8,725	Kratie		24/02/2012	2012	NA			Agro-Industrial , Sugar Cane Plantation	
Thera Investment	520	Kratie		29/07/2008	2008	NA			NA	
Tong Min Group Engineering (Cambodia)	0						2,964			
Trach Niem Han Dau Tu-Phat Trien Dai Nam (Cambodia) Co.,Ltd	4,468	Kratie	MOE	08/01/2010	2010	NA	2,711		Agro-Industrial , Rubber Plantation	
Viet Nam Kampuchia Economy, Trade and Industry Company	5,059	Kratie	MOE	08/01/2010	2010	NA	13,059	13,349	Agro-Industrial , Rubber	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Limited(VKETI) Co.,Ltd									Plantation	
Xay Dung Caout Duc Dung Co., Ltd	0	Kratie	MAFF					2,033		
Think Biotech Co., Ltd	34,007	Kratie and Stung Treng		NA		NA			Trees Plantation form as Agro-Industry	
Timas Resources	58,658	Kratie, Kampong Thom		10/07/2008	2008	NA			NA	
Sovann Reachsey Co.,Ltd	6,525	Kratie, Mondul Kiri	MAFF	08/01/2011	2011	NA		6,868	Rubber Plantation	
Agro Forestry Research	7,000	Mondul Kiri	MAFF	12/08/2009	2009	70		2,112		
Covyphama Co., Ltd	5,345	Mondul Kiri	MAFF	17/02/2008	2008	70	611	2,442	Rubber plantation	
Dak Lak Mondul Kiri Rubber Development	4,162	Mondul Kiri	MAFF	04/07/2008			590			
D.T.C (Group)	4,000	Mondul Kiri	MAFF	18/03/2009	2009	70	1,171	753	Rubber plantation	
Heng Hean Siv Chan Tour Trading Co., Ltd	4,000	Mondul Kiri		14/09/2012	2012	NA			Rubber Plantation and Other Plantation	
HUOR LING (Cambodia) International Insurance	8,400	Mondulkiri	MAFF	05/05/2011	2011	70			Pine Plantation	
Kasekam khmer Angkor Co.,Ltd.	9,160	Mondul Kiri	MAFF	07/09/2011	2011	NA		774	Rubber Plantation ,	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
									Agro-industrial	
KCD	2,346	Mondul Kiri	MAFF	04/10/2008						
Land and Developing (Cambodia)	7,000	Mondul Kiri	MAFF	08/12/2008	2008	70			Rubber and Acacia plantation	
Lim Royal Joint Stock Company Limited	9,068	Mondul Kiri		12/12/2012	2011	NA			Agro-Industrial	
Mega First Corporation Berhad (MFCB)	9,477	Mondul Kiri		18/04/2012	2012	90			Agro-Industrial, Ecotourism and Special Economic Zone	
MO HY PA MASU ORN Kampuchea Co	7,800	Mondul Kiri	MAFF	29/01/2010	2010	70	620		Rubber plantation	
Mondul Agri-Resource Co., Ltd	9,100	Mondul Kiri		25/09/2009	2009	70			Rubber plantation	
Pacific Grand joint-stock company	9,656	Mondul Kiri	MAFF	15/06/2011	2011	NA		2,186	Rubber Plantation	
Pacific Lotus joint-stock company	9,014	Mondul Kiri	MAFF	15/06/2011	2011	NA		447	Rubber Plantation	
Pacific Pearl joint-stock company	9,614	Mondul Kiri	MAFF	16/06/2011	2011	NA		896	Rubber Plantation	
Pacific Pride joint-stock company	9,773	Mondul Kiri	MAFF	15/06/2011	2011	NA		1,572	Rubber Plantation	
Raranasi (i)	0	Mondul Kiri	MAFF				761			
Raranasi (ii)	0	Mondul Kiri	MAFF				664			

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Seang Long Green Land Investme	7,000	Mondul Kiri	MAFF	08/12/2008	2009	70			Rubber and Acacia plantation	
Sethikula Co., Ltd.	4,273	Mondul Kiri	MAFF	17/03/2010	2010	99	577	2,826	Rubber Plantation	
Sitthi Agriculture Plantation Co., Ltd	522	Mondul Kiri		09/02/2011	2011	NA			NA	
Unigreen Resource	8,000	Mondul Kiri	MAFF	03/04/2009	2009	70			Rubber plantation	
Villa Development	825	Mondul Kiri	MAFF	01/04/2011	2011	NA		1,074	NA	
Wuzhishan L.S Group	10,000	Mondul Kiri	MAFF	30/12/2005	2005	70			Merkusii plantation and processing factory	
Benh Hoeurk Kratie Rubber 1 Co Ltd	8,926	Mundul Kiri	MAFF	29/11/2011	2011	70			Rubber Plantation.	
Angkor Sugar Co., Ltd (Region 1)	5,120	Utdar Mean Chey	MAFF	23/08/2012	2012	NA	2,425		Sugar Cane	
Angkor Sugar Co., Ltd (Region 2)	736	Utdar Mean Chey	MAFF	23/08/2012	2012	NA			Sugar Cane	
Angkor Sugar Co., Ltd (Region 3)	310	Utdar Mean Chey	MAFF	23/08/2012	2012	NA			Sugar Cane	
Angkor Sugar Co., Ltd (Region 4)	105	Utdar Mean Chey	MAFF	23/08/2012	2012	NA			Sugar Cane	
Angkor Sugar Co., Ltd (Region 5)	57	Utdar Mean Chey	MAFF	23/08/2012	2012	NA			Sugar Cane	
Best Royal (K) Co., LTD	0	Utdar Mean	MAFF							

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
		Chey						332		
Cambodia Cane and Sugar Weller Co., Ltd (B01)	551	Utdar Mean Chey	MAFF	23/08/2012	2012	NA	207		Sugar Cane and Refinery	
Cambodia Cane and Sugar Weller Co., Ltd (B02)	308	Utdar Mean Chey	MAFF	23/08/2012	2012	NA			Sugar Cane and Refinery	
Cambodia Cane and Sugar Weller Co., Ltd (B03)	497	Utdar Mean Chey	MAFF	23/08/2012	2012	NA			Sugar Cane and Refinery	
Cambodia Cane and Sugar Weller Co., Ltd (B04)	1,049	Utdar Mean Chey	MAFF	23/08/2012	2012	NA			Sugar Cane and Refinery	
Cambodia Cane and Sugar Weller Co., Ltd (B05)	1,304	Utdar Mean Chey	MAFF	23/08/2012	2012	NA			Sugar Cane and Refinery	
Cambodia Cane and Sugar Weller Co., Ltd (B06)	2,199	Utdar Mean Chey	MAFF	23/08/2012	2012	NA			Sugar Cane and Refinery	
Crystal Agro Company Limited	8,000	Utdar Mean Chey		17/07/2006	2006	70			Cassava and agro-industry plantation	
Data Rubber (Cambodia) Co.,Ltd	7,700	Utdar Mean Chey	MOE	14/06/2011	2011	NA	367	847	Agro-industrial	
Ford Meng Rita	0	Utdar Mean Chey	MAFF				166	3,648		
Nature Plantation (K.H) Co.,Ltd	9,020	Utdar Mean Chey		11/04/2011	2011	70			Agro-Industrial and Rubber Plantation	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Real Green Co.,Ltd	8,000	Utdar Mean Chey	MAFF	06/09/2006	2006	NA	49		NA	
Sok Samnang	0	Utdar Mean Chey	MAFF					1,211		
Tomring Rubber (Cambodia) Co., Ltd	7,750	Utdar Mean Chey	MOE	NA		NA	172	3,376	NA	
Tonle Sugar Cane Co., Ltd (Region 1)	5,809	Utdar Mean Chey	MAFF	23/08/2012	2012	NA	2,883		Sugar Cane	
Tonle Sugar Cane Co., Ltd (Region 2)	340	Utdar Mean Chey	MAFF	23/08/2012	2012	NA			Sugar Cane	
Tonle Sugar Cane Co., Ltd (Region 3)	15	Utdar Mean Chey	MAFF	23/08/2012	2012	NA			Sugar Cane	
Best Royal (K) Co., LTD	6,500	Utdar Mean Chey, Preah Vihear		03/11/2011	2011	70			Agro-Industrial, Rubber Plantation	
Beoung Kak	114	Phnom Penh		01/03/2010	2010	NA			NA	
Boeung Pong Peay	108	Phnom Penh		13/12/2012	2012	NA			Development	
Koh Pich	100	Phnom Penh		11/06/2008	2008	NA			NA	
Hong Kong Asia Resources Investment Development Consulting Group Co.,Ltd	1,650	Preah Sihanouk		13/04/2010	2010	NA			Eco-Tourism	
Vimean Seila Co.,Ltd	987	Preah Sihanouk		08/03/2010	2010	NA			Eco-Tourism	
Adwood Investment	750	Sihanouk		23/07/2009	2009	NA			International	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Group Co., Ltd.									Port	
Kong Keng International Airport	237	Preah Sihanouk		22/02/2008	2008	NA			International Airport Development	
Mong Reththy Investment Cambodia Oil Palm Co.Ltd	7,000	Preah Sihanouk	MAFF	09.01.1996						
Mong Reththy Casava Investment in Cambodia	1,800	Preah Sihanouk	MAFF	18.03.2000						
Sokha Hotel	18,987	Preah Sihanouk, Kampot		30/03/2011	2011	NA			Natural Tourism	
Ample Focus (Cambodia)	8,000	Preah Vihear		24/02/2012	2012	NA			Agro-Industrial and Rubber Plantation	No Master Plan yet
An Mani	0	Preah Vihear	MOEF					3,617		
Cambodia dawn plantation.ltd.	9,237	Preah Vihear	MOE	07/09/2011	2011	NA		1,107	Agro-industrial Plantation	
China Great Cause (Cambodia) Investment	5,980	Preah Vihear	MAFF	41066	2012	NA			Agro-Industrial, Rubber Plantation	No Master Plan yet
Distinct Harvest (Cambodia) Co.,Ltd	7,960	Preah Vihear	MAFF	24/02/2012	2012	NA			Agro-Industrial and Rubber Plantation	No Master Plan yet
Eminent Elite (Cambodia) Co.,Ltd	7,359	Preah Vihear	MAFF	03/08/2012	2012	NA			Agro-Industrial and	No Master Plan yet

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
									Rubber Plantation	
F P Malaysia (Cambodia) Plathasin.co.ltd.,	8,200	Preah Vihear	MAFF	26/01/2012	2012	NA			NA	No Master Plan yet
Green Choice (Cambodia) Co.,Limited	7,863	Preah Vihear		03/08/2012	2012	NA			Agro-Industrial and Rubber Plantation	No Master Plan yet
Green Development & Sichanthon	992	Preah Vihear	MAFF	08/01/2008	2008	80	573		Rubber Plantation	LP: no data
Heng Nong (Cambodia) Company Limited	8,959	Preah Vihear	MAFF	08/11/2011	2011	70	NA	NA	Sugar Cane & Acacia	Land Clearing 100ha
Heng Ruy (Cambodia) International Company Limited	9,119	Preah Vihear	MAFF	06/07/2011	2011	70	NA	NA	Sugar Cane & Acacia	Land Clearing 376ha
Heng You (Cambodia) Company Limited	8,959	Preah Vihear	MAFF	06/07/2011	2011	70	NA	NA	Sugar Cane & Acacia	Land Clearing 326ha & Planned 108ha
Kim Chea Toun Group	8,846	Preah Vihear		04/05/2011	2011	70	NA	NA	Rubber Plantation	No Master Plan yet
Lan Feng (Cambodia) International Company Limited	9,015	Preah Vihear	MAFF	06/07/2011	2011	70	NA	NA	Sugar Cane & Acacia	Land Clearing 2722ha & Planned 186ha
P N T Co., Ltd	7,900	Preah Vihear	MAFF	05/05/2010	2010	70			Rubber plantation	
Rethy Granite	2,036	Preah Vihear		25/01/2011	2011	NA			NA	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Ruy Feng(Cambodia) International Company Limited	8,841	Preah Vihear	MAFF	06/07/2011	2011	NA			Rubber Plantation, Agro-industrial	
Seila Damex	9,000	Preah Vihear	MAFF	01/03/2011			2,805	1,011		
Duong Sruoch - Social Land Concession	0	Preah Vihear	MAFF				904			
Sovannaphum viniyok Kase-Usahakam Co.,Ltd	9,913	Preah Vihear	MAFF	05/03/2011	2011	NA		6,576	Rubber Plantation, Agro-industrial	
Thy Nga Development and Investment Co., Ltd	6,060	Preah Vihear	MAFF	25/09/2009	2009	70	294		Rubber plantation	
Try Pheap Import Export	9,916	Preah Vihear	MAFF	19/02/2011	2011	NA	7,006	2,367	Rubber Plantation, Agro-industrial	
Ly Chhung construction and Import Export	6,000	Preah Vihear, Siem Reap		23/04/2012	2012	70			Agro-Industrial, Rubber Plantation	
Kieng sa Aphivat Co.,Ltd	1,950	Pursat		07/09/2010	2010	NA			Rubber Plantation, Agro-industrial	
MDS Import Export	4,373	Pursat	MAFF	30/12/2010	2010	NA	4,796	894	NA	
Ratana Visal Development Co., Ltd	3,000	Pursat	MAFF	15/10/1999	1999	70			Cashew-apple and oil palms	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Chea chanrith development	5,124	Rattanak Kiri	MAFF	12/11/2007						
Cheng Ly Investment Co.,Ltd	1,900	Rattanak Kiri	MAFF	30/11/2011	2011	NA		244	Rubber Plantation	
CRD	7,591	Rattanak Kiri	MAFF	01/06/2011	2011	NA		1,006	Rubber Plantation	
D M Group	749	Rattanak Kiri	MAFF	26/01/2012	2011	NA			Rubber Plantation	
Daun Penh Agrico Co.,Ltd	8,825	Rattanak Kiri		14/03/2011	2011	NA			Agro-industry	
Day Dong Yoeung	4,889	Rattanak Kiri	MAFF	29/01/2010				601		
Fu Sheng Hai (Cambodia) Co.,Ltd	7,079	Ratanak Kiri		19/05/2011	2011	NA			Rubber Plantation, Agro-industrial, Natural tourism	
Gialani Company Limited	9,380	Rattanak Kiri		26/04/2005	2005	70			Agro-industrial crops, animal husbandry and factory	
Global Tech Sdn., Bhd, Rama Khmer International and Men Sarun Friendship	6,324	Rattanak Kiri	MAFF	21/12/1999	1999	70			Oil palms, Coffee and additional crops	
Heng Brother	2,361	Rattanak Kiri	MAFF	31/07/2009	2005	70		2,438	Rubber and Acacia plantation	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Hoang Anh Andong Meas Co., Ltd	9,758	Rattanak Kiri	MAFF	15/03/2011	2011	NA		204	NA	
Holy Ykho Investment (Cambodia)	7,497	Rattanak Kiri	MAFF	17/08/2011	2011	NA		927	Rubber Plantation	
Hong An Mang Yang Khe Rubber Dev	6,891	Rattanak Kiri	MAFF	25e/09/2009	2009	70	3,414	5,649	Rubber plantation	
Horng Ann O ya dav Co., Ltd.	9,000	Ratanak Kiri	MAFF	16/08/2011	2011	NA		2,121	Rubber Plantation, Agro-Industrial	
Jing Zoung Tian Co., Ltd	9,936	Rattanak Kiri		19/05/2011	2011	NA			Rubber Plantation, Agro-industrial	
KAO SU EA LEV BM YOY STOCK	8,400	Rattanak Kiri	MAFF	05/10/2011	2011	NA		941	Rubber Plantation	
Kiri Development	807	Rattanak Kiri	MAFF	31/07/2009	2009	70	609		Rubber plantation	
Krong Pok Ratanakiri Rubber Development	6,695	Rattanak Kiri	MAFF	09/04/2010	2010	70	3,787	2,508	Rubber plantation	
MDS Thmorda SEZ Co.,Ltd	9,146	Rattanak Kiri		09/02/2011	2011	NA			Agro-Industrial, Rubber Plantation	
Mkok Pich Development Agro-Industry	1,950	Rattanak Kiri		14/03/2011	2011	NA			NA	
Noupheap Sophy Investment Co.,Ltd	9,780	Rattanak Kiri		15/02/2011	2011	NA			NA	
Oryung Construction (CAM) Co., Ltd	6,866	Rattanak Kiri		04/04/2006	2006	70			Rubber plantation	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Rat Sokhorn Incorporation Co., Ltd	9,000	Rattanak Kiri		24/08/2012	2012	NA			Agri-Industry and Rubber Plantation	
S K Plantation (Cambodia) PTE Region	8,000	Rattanak Kiri		18/05/2012	2012	NA			Rubber Plantation	
Sesan Kiri Joint Stock Investment Trading	4,721	Rattanak Kiri		NA		NA			NA	
Srun Sovannaphoum Investment Co., Ltd	8,998	Rattanak Kiri		15/02/2011	2011	NA			NA	
Try Pheap Import Export	9,709	Rattanak Kiri		19/05/2011	2011	NA			Rubber Plantation, Agro-industrial	
Veasna Investment	5,080	Rattanak Kiri	MAFF	01/06/2011	2011	NA		1,141	Rubber Plantation	
Ban Ya Group	7,000	Siem Reap	MAFF	31/04/2011	2010	NA			NA	
Bean Heach Investment Co., Ltd	5,095	Siem Reap		21/03/2011	2011	NA			NA	
Cambodia University	117	Siem Reap		28/07/2009	2009	NA			NA	
Kain Co., Ltd	4,535	Siem Reap	MAFF	29/09/2006	2006	70		258	Rubber and agro-industry plantation	
Ly Ye Rubber Co.,Ltd	7,710	Siem Reap		18/05/2012	2012	NA			Rubber Plantation and Agro-Industrial	
Sophorn Theory Peanich Co., Ltd	5,042	Siem Reap	MAFF	29/09/2006	2006	70			Rubber and agro-industry plantation	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Samrong Rubber Industries Pte., Ltd	9,658	Siem Reap, Utdar Mean Chey	MAFF	12/04/2006	2006	70			Rubber and other trees plantation	
Cambodia Farmer Investment	13,993	Stung Treng		23/06/2006	2006	NA			NA	
Cassava Starch Production Co., Ltd	7,400	Stung Treng	MAFF	13/09/1999	1999	70	3,883		Agricultural and Agro-industrial crops	
GG World Group (Cambodia) Development Co., Ltd	5,000	Stung Treng	MAFF	18/05/2005	2005	70	2,754	2,145	Agro-industrial crops, animal husbandry and factory	
Grand Land Agricultural Development (Cambodia) Co., Ltd	9,854	Stung Treng	MAFF	23/01/2006	2006	70		1,417	Agro-industrial crops	
Green Sea Agriculture Co., Ltd.	70,000	Stung Treng	MAFF	23/10/2001	2001	70	1,479		Trincomali plantation	
Phou Mady Investment Group	9,854	Stung Treng	MAFF	24/01/2006	2006	NA	1,036	2,019	Acacia, Trincomali wood, and other crops	
Research Mining and Development (Cambodia)	7,200	Stung Treng	MAFF	12/10/2009	2009	70			Rubber and Acacia plantation	
Sal Sophea Peanich Co., Ltd (Region I)	8,508	Stung Treng	MAFF	20/04/2005	2001	70			Acacia, Trincomali wood, and other crops	

Name	Hectares	Provinces	Govt Agency (MAFF / MoE)	Agreement Date	Year	Duration (yrs)	LP Volume m3 2011	LP Volume m3 2012	Purpose of ELC	Status of plantation development
Sal Sophea Peanich Co., Ltd (Region II)	1,409	Stung Treng	MAFF	20/04/2005	2001	70	3,097		Acacia, Trincomali wood, and other crops	
Samrong Rubber Industries Pte., Ltd	0		MAFF				1,495			
Sekong Aphivath Co., Ltd	9,850	Stung Treng		12/04/2006	2006	70			Agro-industry and animal husbandry	
Siv Guek Investment Co., Ltd.	10,000	Stung Treng	MAFF	24/01/2006	2006	70			Acacia, Trincomali wood, and other crops	
Sok Heng	620		MAFF	20.04.2010			1,503			
Sopheak Nika Investment Agro-Industrial Plants Co., Ltd	10,000	Stung Treng	MAFF	08/08/2005	2005	70	2,819		Acacia, Trincomali wood, and other crops	
Un-Inter Trading and Development	7,000	Stung Treng	MAFF	21/06/2011	2011	NA			Rubber and Acacia plantation	
N K Venture (Cambodia) Limited	1,200	Svay Rieng	MAFF	27/01/2010	2010	70			Sugar Cane plantation	
Totals	1,848,759						129,078	127,142		

