STUDY FOR UNDERSTANDING TIMBER FLOWS & CONTROL IN LAO PDR

August 2012

FLEGT Asia

Background
The European Commission (EC) published a Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan in 2003. FLEGT aims not simply to reduce illegal deforestation, but in promoting good forest governance, aims to contribute to poverty eradication and sustainable management of natural resources.

The European Forest Institute (EFI), an international research organisation with its headquarters in Finland, conducts, advocates and facilitates forest research networking at the pan-European level. Under its Policy & Governance programme, the EFI assists in the EU's implementation of the FLEGT Action Plan. In 2007, the EU FLEGT Facility was established, hosted and managed by the EFI. The Facility supports the bilateral process between the EU and tropical producing countries towards signing and implementing —Voluntary Partnership Agreements (VPAs) under the FLEGT Action Plan.

In November 2008, the EFI signed a contribution agreement with the EC on a —Regional Support Programme for the EU FLEGT Action Plan in Asia. The FLEGT Asia programme is part of EU FLEGT Facility and is executed by the Facility. A FLEGT Asia Regional Office (FLEGT Asia) of the EFI's EU FLEGT Facility was formally established in October 2009. FLEGT Asia seeks to collaborate and build synergies with existing regional initiatives and partners in Asia.

The EU FLEGT Facility is managed and implemented by the EFI in close collaboration with the EU.

Goal of FLEGT Asia
The goal of the FLEGT Asia Regional Programme is the promotion of good forest governance, contributing to poverty eradication and sustainable management of natural resources in Asia, through direct support of the implementation of the EU's FLEGT Action Plan.

Strategy
The strategy to achieve this goal focuses on promoting and facilitating international trade in verified legal timber – both within Asia and exported from Asia to other consumer markets. In particular, it aims to enhance understanding of emerging demands in key timber-consuming markets and promote use of systems that assist buyers and sellers of Asian timber and timber products to meet these demands.

Work Programme
The work programme to achieve the Programme's goal has three phases:

1. **Information Collection**
Baseline information (trade statistics, product flows, future scenarios, stakeholder identification and engagement strategies), applied to countries in the region. Information on producers, processors, consumers, and to major consumers of exports from this region will be collected and collated. It will then be used to develop training and communication materials; to further define the nature of the capacity building to be undertaken (who are the target beneficiaries and what the training needs are) and form the baseline for monitoring the progress of the programme over the 3 years duration of the programme.

2. **Capacity Building**
The second phase is the strengthening of key institutions (companies, trade associations, NGOs, government agencies, customs etc.) for improved forest governance in each country and across the region to meet the identified market needs. This will consist of training (at individual level, training of trainers, workshops, pilot studies e.g. on individual supply chains and for Timber Legality Assurance); information dissemination and communications (road shows, seminars, communication materials, website, etc).

3. **Customs & Regional Collaboration**
The work to support trade regionally and to invest in customs capacity in accordance with market requirements will be undertaken in collaboration with other programmes in the region.
FLEGT Asia financed this report because it is part of phase 1 and 2 activities. The objective of the final report is to present all major public outputs. The final report has a summary of the work including an overview of trade, trends and forecasts (using graphics with sup-porting data in an annex) and key findings and proposed next steps.

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ACRONYMS

CoC	Chain of Custody
DAFI	Department of Agriculture and Forestry Industries
DoF	Department of Forestry
DAFO	District Agriculture Forestry Office
DOA	District of Office of Administration
DoFI	Department of Forest Inspection (Ministry of Agriculture and Forestry)
EU	European Union
FLEGT	Forest Law Enforcement, Governance and Trade
FOMACOP	Forest Management and Conservation Program
FSC	Forest Stewardship Council
GoL	Government of Lao PDR
LFAP	Land and Forest Allocation Program
MAF	Ministry of Agriculture and Forestry
MoIC	Ministry of Industry and Commerce
MONRE	Ministry of Natural Resources and Environment
NA	National Assembly
NAFES	National Agriculture and Forestry Extension Service
NBCA	National Biological & Conservation Areas (or Conservation Forests)
NLMA	National Land Management Authority
NSDEP	National Socio-Economic Development Plan
NTFP	Non-Timber Forest Products
PAFO	Provincial Agriculture and Forestry Office
PFA	Production Forest Area
PFS	Provincial Forestry Section (under PAFO)
PMO	Prime Minister‘s Office
PLUP-LA	Participatory Land Use Planning and Land Allocation
POA	Provincial office of Administration
PoIC	Provincial office of Industry & Commerce
PSFM	Participatory and Sustainable Forest Management
REDD+	Reduced Emissions from Deforestation and Degradation
SPCP	Stakeholder Participation and Consultation Plan
SUFORD	Sustainable Forestry for Rural Development
T-LUC	Temporary Land Use Certificate
ToR	Terms of Reference
VFA	Village Forestry Association
VPA	Voluntary Partnership Agreement
TLAS	Timber Legality Assurance Systems
VLO	Verification of Legal Origin
WWF	World Wildlife Fund
UNFCCC	United Nations Framework Convention on Climate Change

Study for Understanding Timber Flows & Control in Lao PDR

1. Executive Summary

The key objective of this study was to improve the understanding of timber flows in Lao PDR and to understand the roles of the government agencies involved in the timber supply chain, from forest area to processing. The study has analysed the current system and procedures in Laos PDR and identified elements that need to be addressed to ensure legality of wood supply in Laos. The analysis is based on data collected from government agencies and site visits in Vientiane, Salavan, Xekong, Sayaboury and Luang Prabang Provinces.

Laos has a formal system for regulating timber harvests based on a volume quota system, classified as either annual or special. Through this system, approvals are through the central government or through a local, regulated quota issued by provincial or district government agencies. The volume quota system does not directly correlate to defined harvest areas, and this limits its effectiveness in terms of both driving sustainable management of resources and enabling traceability of material to a licensed harvest area. The main government agencies involved in the timber supply system are the Ministry of Agriculture and Forestry (MAF), Provincial Agriculture and Forestry Offices (PAFO), Provincial Forestry Section (PFS), District Agriculture Forestry Office (DAFO), who are responsible for regulating PFAs and infrastructure projects harvests, and the registration of timber at Log Landing 2. The Provincial office of Industry & Commerce (PoIC) calculates the price of material for sale and payment of royalty and taxes and issues transport permits for material to be processed or exported.

Overview of key findings: In general, there were significant inconsistencies in the data collection processes and availability of records for several aspects forest management, including during harvest and timber production. Some key issues include:

- In most provinces there was lack of data on PFA and infrastructure project harvests.
- The analysis of the records that detail the material registered at Log Landing 2 and the amount of material entering the mills are significantly different from the volume of raw material required to produce the levels of finished goods reported.
- The results of the study indicate that a significant volume of timber is not registered at Log Landing 2. Undocumented material can enter the mills and be exported and subsequently receive documentation through export permits from government agencies. This study does not imply that the material not registered at Log Landing 2 is illegal, but that the material will not have adequate documentation to demonstrate legal origin.

  The timber control system is in a state of change: with an announcement in January 2012 that there would be no quotas for timber from production Forest Areas in 2012, and with evolving discussions on the roles and responsibilities of different agencies, including an interest to encourage provincial and local level officials take more responsibility for implementing the law and use permit issuing system properly.

  Key recommendations: This study has identified of a number of key recommendations that should be considered in the development and implementation of the control systems for timber in Laos.

- **Timber supply: *Quota system*** – Clear licensing of harvesting areas within PFAs, infrastructure projects and village forest areas is required. Allocation of quota must be directly related to the specific areas licensed for harvesting as determined by forest management plans or approved infrastructure project level planning.

- **Timber supply: *Production Forest Areas* -** PFAs should contribute to the long-term supply of sustainable timber resources to local mills. Sustainable forest management is critical to sustain the resources as conventional logging and a narrow focus on a few commercial species results in degrading the resource. Efforts should be expanded to encourage more PFA areas to be sustainably managed.
- **Timber supply: *Infrastructure projects*** - Laos is a rapidly developing country that needs to enhance the country's infrastructure facilities, which requires planning and approval of development projects. Areas proposed for clearing under infrastructure projects should be planned as part of the project approval process, which would directly link harvest licensing to the approved infrastructure project plan. Material harvested from infrastructure projects must then be registered at Log Landing 2 and be traceable back to the harvest license and project site.
- **Timber supply: *Village Forest Areas – (1)*** Village forest areas should be identified and mapped in each province as they form a significant portion of the provincial forest resource area. Licensing for commercial harvesting should include village forest areas. In this way, all timber from these areas would have to be registered at Log Landing 2, which would enable traceability from the forest to processing.
- **Timber supply: *Village Forest Areas – (2)*** the recognition of Village Forests should be formalized within Lao PDR and within each province as a forest type that can be included within the Forest Land Use Strategy.
- **Timber supply: *Plantation areas*** - Evaluate the potential for plantation registration within each province to identify owners, location and areas planted by different species.
- **Transport & Sale of Timber: *Log Landing 2 – (1)*** All harvested logs for the commercial market should be formally registered at Log Landing 2, and information should be collected to identify all logs, measure and calculate volume of logs and trace materials back to the licensed harvest area. Records of log lists generated at Log Landing 2 should be maintained by both the PAFO and the PoIC as well as summarized for each licensed harvest area within PFA, village forest areas and infrastructure projects.
- **Transport & Sale of Timber: *Log Landing 2 – (2)*** Transport documents issued by PoIC to move material from Log Landing 2 needs to clearly identify the log numbers being transported on specific truck or vessel, the document needs to reference the log list as well as show payment of all associated fees, royalties and taxes payable for the material. Transport documents also should identify the destination such as a specific wood processing mill or for export.
- **Transport & Sale of Timber: *Sale of timber* -** Each mill should maintain a formal log register that records the incoming shipment of raw material from Log Landing 2 and would provide traceability of each log back to the licensed harvest area. The registration would require the log list and transport permit that for the actual logs being transported to the mill. Copies of transport permits and log lists should be maintained by the factory and the PoIC as evidence of receipt of raw material and for verification of legality.

- **Local production:** The PoIC should collect data on mill capacity product range and require local processing factories to provide monthly production records and annual production reports. Reports should include raw material used for production, volumes of products produced each month in addition to the volume of products exported.
- **Exports:** The DOFI and the PoIC should monitor factory production and exports and maintain documentation of exported material, including information on product volumes and values to be summarized for each province
- **Exports:** Export data maintained by MoIC should include both volumes of material as well as USD value to enable reconciliation of volume production and export of material to volume of raw material available in the supply chain.
- **Monitoring:** Increase the capacity DOFI to oversee and inspect the entire system through providing necessary equipment for field staff to conduct required activities. Promote inter-agency knowledge sharing for the timber supply chain and develop approaches to data reconciliation. Provide continual capacity building for DOFI staff.
- **Monitoring:** Ensure factories maintain formal records of incoming raw material, transport permits and log lists to enable the PoIC and the DOFI to monitor and inspect material received against documentation.

Transparency & traceability: The study also makes some recommendations on basic elements that need to be addressed in order to develop a reliable transparency and traceability system:

- There should be clear licensing of defined areas for harvesting within defined management units, infrastructure projects or village 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 utilize modern technology to support tree identification and data recording.
- Ensure that all material harvested within licensed areas is registered at Log Landing 2 and references the harvest license number.
- Maintain detailed and summarized sales records for material registered at Log Landing 2 along with destination of material through travel permits issued by the PoIC.
- Require formal registration of raw material received at local processing mills that can be inspected by government agencies.
- Records of exports need to contain information on both volumes as well as value in USD to enable reconciliation to the availability of timber supply.

Implications for the VPA in Lao PDR: The EU's timber trade regulation will be effective as of March 2013. Following this it will be prohibited to put illegal timber products on the EU market, and suppliers will require a due diligence system or have licensed timber (through the VPA). Laos supplies tropical timber to China, Vietnam and Thailand, which are all manufacturing hubs that supply the EU market. A VPA will require involvement of stakeholders associated with social, environmental and production and governmental administration aspects of forestry. In relation to this study, key implications are:

- Addressing the weaknesses identified in this study can be an initial step of the process towards legality licensed timber through a timber Legality assurance system (TLAS).
- In theory, timber control systems in place do not raise insurmountable problems, and it should be possible to raise the minimum standards of data collection to provide reliable data that will be needed for a TLAS.
- A list of known stakeholders is provided under section 11.0 that include both government and non-government organizations.

This study recommends that Lao PDR enters into a Voluntary Partnership Agreement to support development of a TLAS and been seen as a low risk trade partner for timber directed to the EU.

2. BACKGROUND

Laos forests have been undergoing extensive commercial logging over the past 30 years which has reduced forest cover from 70% to about 40% in 2009 (*Tong 2009; Tokola et al 2010*). The Lao government instituted an official ban of export of logs from Production Forest Areas (PFA) in the efforts to reduce deforestation. Yet there is still wide spread logging and trade of logs to neighbouring countries through land clearing for infrastructure projects such as mining, hydropower and road construction, agricultural projects and through illegal logging.

This study forms part of the work plan of the FLEGT Asia program, the overall goal of which is the promotion of good forest governance, contributing to poverty eradication and sustainable management of natural resources in Asia. The FLEGT Asia program is implemented by EFI and provides direct support to the implementation of the EU FLEGT Action Plan. The strategy to achieve this goal focuses on promoting and facilitating international trade in verified legal timber – both within Asia and exported from Asia to other consumer markets. In particular the program aims to enhance understanding of emerging demands in key timber consuming markets and promotes use of systems that assist buyers and sellers of Asian timber and timber products to meet these demands.

In the context of the Government of Lao PDR (GoL) preparation for potential VPA negotiations with the European Union (EU), a study was commissioned to inform the GoL and the EU about the tracking of timber flows in Lao PDR, the quality of control by the GoL, and requirements on consultation within the framework of FLEGT VPAs. The study was conducted in close cooperation with the GoL, in particular the FLEGT Focal Point at the Department of Forest Inspection (DOFI).

The key objective of this study on understanding timber flows in Laos is to evaluate the timber supply chains in Laos PDR including production forests, plantations, conversion area from infrastructure projects that are either sold into the domestic market or form part of the export market to neighbouring countries. The Project Terms of Reference were designed to obtain information critical to support the VPA negotiations and development of a definition of legality that will form the basis of the Timber Legality Assurance System (TLAS) (**Appendix 1 – Terms of Reference**).

2.1 Scope

This study is to cover timber material for the wood processing industry 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 evaluated main timber sources that included: Production Forests Areas, infrastructure projects, village forests plantations and imports. The project also evaluated production of wood products and exports in relation to the timber supply based on field observations and data collected from 4 provinces according to the approach listed in the Terms of Reference.

2.2 Approach and key activities

The study collected data from original and secondary sources, used 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 FLEGT TLAS.
The study was implemented through the activities listed in section 3.2 of the TOR (**Appendix 1 – Terms of Reference)**

2.3 Project team

- Dr. Kevin Grace - Team leader (Global Forestry Services Inc)
- Mr. Souksompong Prixar - Local consultant
- Dr. Kaison Phengsopha - Local consultant

3. Methods of Project Study

The study commenced with a desk study in Vientiane where the study team met with several officials in the Department of Forestry Inspection (DOFI); Ministry of Industry and Commerce (MoIC) and other organizations to obtain basic information to develop an inception report that included a generic timber flow model. The systems that control timber flows in Laos have been developed over decades during which changes in market and political conditions have tended to modify the system without formal changes in procedures therefore the study was not able to plot one universal system. The method of the study was to focus on the collection of field data to enable individual flows within trade chains in 4 selected provinces to be documented. For timber sourced from PFAs there is a clear documentation system, however, timber coming from special quota and local regulated quota sources does not have clearly defined requirements. There are also areas of weakness in data management that require site evaluation of supply sources, flows to local production and export to document system implementation and determine the validity of current records being maintained by the associated government agencies.

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

The study was conducted from August through November 2011 in Vientiane, Salavan, Xekong and Sayaboury & Luang Prabang Provinces as recommended in the TOR. The study project was facilitated by the Department of Forestry Inspection (DOFI) to enable the team to consult government agencies related to forestry and timber trade in Laos. The project team visited both government and Non-government organizations in Vientiane to collect information and conducted site visits for a period of 30 days in Salavan, Xekong and Sayaboury and Luang Prabang Provinces from September through October 2011 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 with both Government and non-government agencies that included:

GIZ - Vientiane office
WWF - Vientiane office
Department of Forestry Inspection (DOFI) – Vientiane Office
Ministry of Industry and Commerce (MoIC)
Provincial Agricultural & Forestry Office (Salavan, Xekong, Sayaboury, Luang Prabang)
Provincial Forestry Section (Salavan, Xekong, Sayaboury, Luang Prabang)
Provincial Industry and Commerce Division (Salavan, Xekong, Sayaboury, Luang Prabang)
WWF Field Office - Salavan Province
Mining Coordination Office - Salavan Province
Wood processing factories: (Salavan, Xekong, Sayaboury provinces)
Provincial Water Resource and Environment Division Xekong province
SUFORD – (Xekong, Sayaboury Provinces)
GIZ field office - Sayaboury Province
Hongsa Coal Mining Project
Nam Pui NBCA Office

Data on timber volumes recorded from the main supply sections (PFAs, Infrastructure projects, village forests, plantations and imports were obtained from the Provincial Forestry Section and the Department of Forest Inspection (DOFI). The Provincial Office of Industry & Commerce (PoIC) provided data on imports, local processing mills, raw material supplies for production, volumes of finished goods and export volumes. The study team solicited the assistance of local contacts within the government agencies to facilitate the collection of data that was often difficult to obtain due to different roles of the

agencies associated with timber supply resulting in a fragmented nature of data collection and record keeping. This fragmentation gave rise to a great deal of inconsistency of data collection throughout the timber supply system and subsequent production and export data.

Compilation of data sets between central level and provincial level and comparison between data collection systems in different provinces varied considerably. Therefore the study team took the approach of accumulating information made available from the various agencies, organizations, companies, etc, documenting the information within the report to analyse the timber supply system for production and export. This approach may be seen to be unsystematic but provided the best means to acquire a wide array of information on the current systems being implemented in the provinces sampled and illustrates the inadequacy of available data that should essentially be maintained by the various agencies.

The study team also conducted workshops in 3 provinces to provide a better understanding of FLEGT; the Voluntary Partnership Agreement process; Timber Legality Assurance Systems (TLAS) and to clarify data collected and obtain missing information on various aspects of the timber supply in each of the provinces. (**Appendix 3 - Workshop attendance lists**). A final workshop to present the findings of the study was conducted on 9 January 2012 in Vientiane Laos. Numerous stakeholders were invited to the final workshop to discuss the findings, results and recommendations. The draft report was finalized and translated into Lao language following the workshop to obtain local input from the secretariat and provincial stakeholders. This report has been incorporated into the report.

Field data from the timber supplied from all sources was analysed against the records of material recorded at Log Landing 2 where all harvested material entering the commercial trade should be registered. The data on timber supply and registered log data from Log Landing 2 was also compared with records of volumes of finished goods being produced by local manufacturing companies to evaluate the raw material input required to meet that level of production. By trying to triangulate the information gathered from within government agencies with contributions from the private sector and other stakeholders the study attempted to document the reliability of the timber supply data obtained from the various agencies.

The data collected and analyzed 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 drafted the report and requested additional information on national import and export data from government agencies located in Vientiane Laos. The model reflects the actual systems that were identified, as functioning on the ground thus it was not possible to identify a clear “ideal model” which captures the theoretical process.

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 and methodology applied. The study aims to identify 2 types of gap that would need to be addressed in the development of a comprehensive TLAS. First, the gaps within the system, where relevant data is not being required or collected by government agencies. Second, where the system or framework is theoretically in place but there are clear gaps in implementation or the collection and management of data.

4. Roles of Government Agencies

4.1 Ministry of Agriculture & Forestry (MAF)

The MAF is authorized to manage forestland, to define forestland types in collaboration with other sectors concerned, to formulate regulations in the management, preservation, development and utilization of these types of land including preservation of environment and submit them to the government for consideration and approval (Article 57. Management of forestland- Forest law; 24 Dec 2007).

The government has assigned the responsibility to MAF, in collaboration with other Ministries including, the Ministry of Industry and Commerce; the National Land Management Authority; the Water Resource and Environment Agency (now merged to Ministry of Natural Resources & Environment); the Ministry of Energy and Mining; the Ministry of Public activities and Transport; the National Tourism Authority (now part of Ministry of Information & Culture); the Ministry of Planning and Investment; the Ministry of National Defense; and the Ministry of Information and Culture; to promote the conservation and development of forest and forestland resources in a sustainable manner in accordance with strategic national socio-economic development plans, the forestry strategy, and the environment management strategy and the formulated management plans (Article 77. Forest and forestland developed and preserved by the central level; Forest law; 24 Dec 2007). Department of Forestry Inspection, Department of Forestry, Provincial Agricultural & Forestry Offices all fall under the authority of MAF.

4.1.1 Department of Forestry Inspection (DOFI)

DOFI was formed in 2008 with a mandate to provide official inspection of timber, forest products and wildlife. DOFI also has a role as the direct secretariat for the ministerial committee, with responsibility for forestry inspection, forestry land, investigation, protection of aquatic animals and wildlife and improving the effectiveness of relevant regulations.

The inspection of logs at log landing 1 includes authorized logging quota, pre-harvesting inventory data, logging license, logging contract, machine use license, logging site. At landing 2, the inspection covers log list, pre-harvesting inventory data, logging license and logging contracts. In the case of sawn wood and semi-manufactured wood products, the inspection includes transport permit (issued by Provincial Industry and Commerce Division), invoice from the processed mill, and removal permit by Provincial Agriculture and Forestry Office (PAFO).

The inspection system is carried out through (1) regular inspection at fixed intervals and performed by randomized wood processing factory visits, temporary check points establishment at critical sites, (2) inspection, when deemed necessary, of 24 hours notice to the particular wood processing factories or landing 2, and (3) impromptu inspection is conducted when deemed necessary, and undertaken without sending any advance notice.

4.1.2 Department of Forestry (DOF)

DOF's function is to compile logging quota from PAFOs to submit to MAF and supervise technical operations relating to forestry at each province. The monitoring by DOF covers logging operation and log origin.

4.1.2.1 Provincial Agriculture & Forestry Office (PAFO)

PAFO's functions include developing a logging quota within the province to submit to MAF through DOF, issuing logging licenses and developing logging contracts. Monitoring by PAFO covers logging operations, log origin and documentation including logging contracts and logging licenses.

4.1.2.2 Provincial Forestry Section

PFS is under PAFO and its functions are to compile logging quotas from districts within the province to submit to PAFO, supervise timber harvest to scale and grade logs, and the listing of logs at landing 2. PFS responsibility is from forest to forest gate (Landing 2). The monitoring by PFS covers logging operation and log origin and concerned documents including logging contract and logging license and etc.

4.1.2.3 District Agricultural & Forestry Office (DAFO)

DAFO is under PAFO and its functions include implementing forest management plans, logging supervision, and developing annual operation plans that are submitted to PAFO for approval. Monitoring by DAFO covers logging sites, log origin and documentation such as logging contracts and logging licenses. DAFO staff measures logs at Log Landing 2 and issues a formal log list (Form 4) to be used to register harvested material from ALL areas (PFA, Infrastructure, Plantations, Village Forests) that can enter into the Timber Supply Chain or exported if applicable.

4.2 Ministry of Industry & Commerce

The MoIC functions to regulate all types of industry and trade of Lao PDR. The MoIC oversees the sale, transport, processing and export of logs, processed timber and finished wood products. The MoIC has provincial offices (PoIC) to regulate and control the activities within each province.

4.2.1 Provincial Industry & Commerce Division

Provincial Industry and Commerce Division is responsible of timber flow from Log Landing 2 to processing factory and up to export. The log list of Log Landing 2 is prepared by PAFO and transferred to Provincial Industry and Commerce Division to calculate the log price and inspect logs at landing 2 against the log list. The Provincial Industry and Commerce Division prepares a sales contract of logs with wood processing companies/factories that are a member of the national and provincial Wood Processing Industry Association and then issues transport permits for the logs from landing 2 to processing factories or direct export. Monitoring by the Provincial Industry and Commerce Division covers the transport of logs from landing 2 and wood products.

Provincial Industry and Commerce Division uses transport permits and documentation as the main system to regulate flow of logs from Log Landing 2 to the mill or direct for export. Inspections conducted for the output of mill are mainly for export of wood products that require PoIC to issue export documentation. There is no formal inspection of material entering wood processing mills, PoIC only utilizes the records of material received based on transport permits.

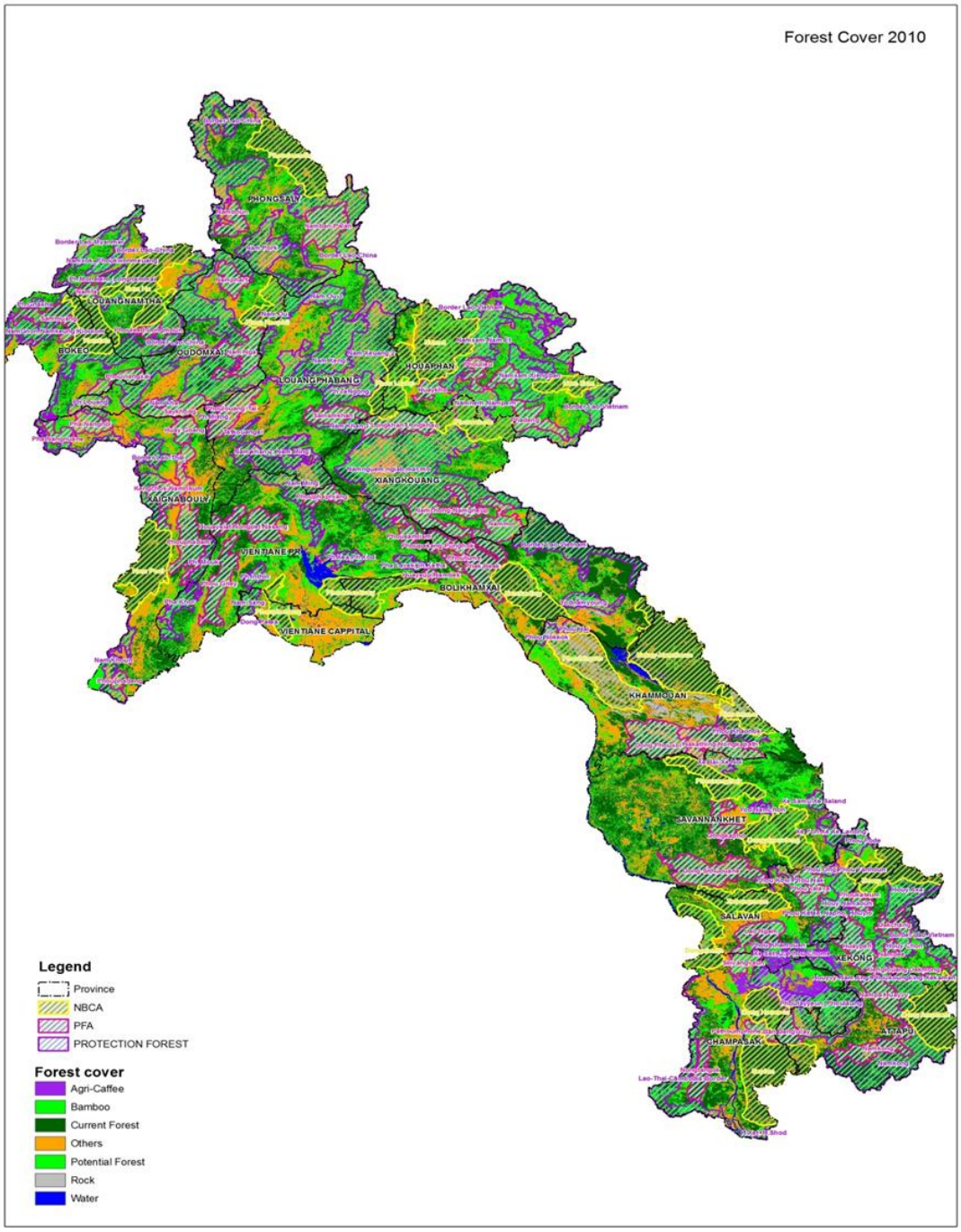
4.3 Ministry of Natural Resources & Environment (MONRE):

MONRE was established at the end of 2011 during the preparation of the Timber Flow Study for Lao PDR. The responsibility of this new Ministry is to manage designated Protection and Conservation Forest Areas, with new functions still requiring development. The monitoring of timber supply from these areas remains under the jurisdiction of MAF.

5. Forests of Lao PDR

Laos is particularly endowed with rich forest, which essentially contributes to the consumption and income of the nation. It contributes 3.2 % of GDP by log production and its share might be much higher if subsistence use and NTFPs are included. It also contributes some 34 % of total export earnings – up to almost 50% in some years. Forest royalties contribute some 11 % of total tax revenue, down from some 20 % in the mid-nineties (MAF 2004, FS 2020). The total forest area is estimated in 2010 to be 9,5 million ha which is 40.3 % of total land area (National Forestry Conference, 2010). Forest designations are one of the primary instruments for the management of forest resources at all levels of administration from the Ministry of Agriculture and Forestry (MAF) through to the Provincial Forestry Sections with the main objective to balance forest resource use within the country (**Figure 1**).

Figure 1. Forest Cover in Lao PDR 2010 (SUFORD Project)



5.1 Forest Categories

Forest designations are one of the primary instruments for the management of forest resources at all levels of administration from the Ministry of Agriculture and Forestry (MAF) through the Provincial Forestry Sections. The Government of Lao PDR (GoL 2007) classified forests into three categories: (i) Production Forest, (ii) Conservation Forest, and (iii) Protection Forest (**Figure 2**).

5.1.1 Production Forest Areas

Production Forest is forest and forestland classified for the purpose of satisfying the requirements of natural economic and social development and people's livelihoods, for timber and other forest products without significant negative environmental impacts. It covers 34% (3.2 million ha) of the total forest area. PFAs became legal land status through Prime Minister Decree No. 59/PM (2002) on Sustainable Management of Production Forest and the ministerial regulations No. 0240/MAF.2003 of the Ministry of Agriculture and Forestry on establishment and sustainable management of production forests; and No. 0060/2003 which defines principles for logging and harvesting of forest products. In 2006, 8 PFAs were officially demarcated through Decree of Prime Minister No. 27 (2006), and an additional 29 PFAs through Decree of Prime Minister No. 321 (2006). Currently, Laos has a total of 51 nationally designated PFAs covering a total area of 3,089,423 ha.

5.1.2 Protection Forests

Protection Forests are forest and forestland classified for the purpose of: protection of watersheds, prevention of soil erosion, national security, protection against natural disaster and protection of the environment. Protection forest covers 29% (2. 8 million ha) of total forest area.

5.1.3 Conservation Forest Areas (NBCA)

Conservation Forests are forest and forestland classified for the purpose protecting and conserving animal species, plant species, nature and areas which have specific historical, cultural, tourism, environmental, educational or research values, with total area covering 37% (3.4 million. ha) of total forest area. These forests are rich in species with a high degree of endemism and biological distinctiveness and include at least 8,100 plant species, 166 species of reptile and amphibian, 700 bird species, and 100 mammal species (MAF, FS 2020). Conservation forest areas or national biodiversity conservation areas (NBCAs) have been established since 1993 by Prime Minister Decree No. 164(1993)**.** Provinces and districts also designate conservation forests, which increases the overall total to 5.3 million ha, or 22.6% of the country's total land area (GoL, 2005). These conservation areas are protected and harvesting is restricted (GoL, 2007). The Government of Laos PDR imposes restriction on the livelihood activities of households living adjacent to conservation areas and employs a resettlement policy for villages within the conservation areas to reduce pressures (Baird & Shoemaker, 2005).

The total forest area of these 3 categories is 9.4 million ha, however, a significant proportion of this forest area (estimated at 4.0 million ha or 43%) is considered degraded and requires regeneration. Forest clearing, shifting cultivation, uncontrolled logging, conversion to agriculture and weak law enforcement are the primary causes of forest loss and forest degradation (MAF, FS 2020). Forests are becoming increasingly fragmented, with forest quality significantly decreasing from 128m^3/ha in 1990 to 29 m^3/ha in 2000. There are several key factors impacting the deterioration of forest resources, including: (K.Manivong and P. Sophathilath, 2007)

- increasing market demands on timber and NTFPs in the region
- lack of controls for over harvesting,
- increasing demand for high value tree species,
- inadequate control by central provincial and district government offices

Generally, local villages employ slash and burn agriculture practices and use timber from Conservation and Protection Forests for infrastructure projects, where trees harvested can legally enter the supply chain. These practices have led to forest degradation, causing existing land use classifications to become inaccurate. One key issue is the lack of data on actual land use and quality of forests within the protection and conservation forest categories.

The forest policy for Lao PDR is outlined in the Forest Strategy for the Year 2020 (GoL, 2005) and sets out the governmental goals for: production forests, NTFPs, plantation forests, logging plans, wood processing, protection forests, biodiversity conservation and rural poverty eradication. Much of the legal basis for the strategy comes from the Forest Law (GoL, 2007). A significant policy goal in the Forest Strategy is the restoration of forest cover in Lao PDR to 70% by the year 2020. The policy identifies the need for natural regeneration of over 6 million ha of unstocked forests. In 2010, the policy was reemphasized in the 7th 5 year NSEDP that targets 65% forest cover by the year 2015 (GoL, 2010a). *Lao Forest Policies Ref: GIZ draft report 2011.*

5.2 Village & District Forests

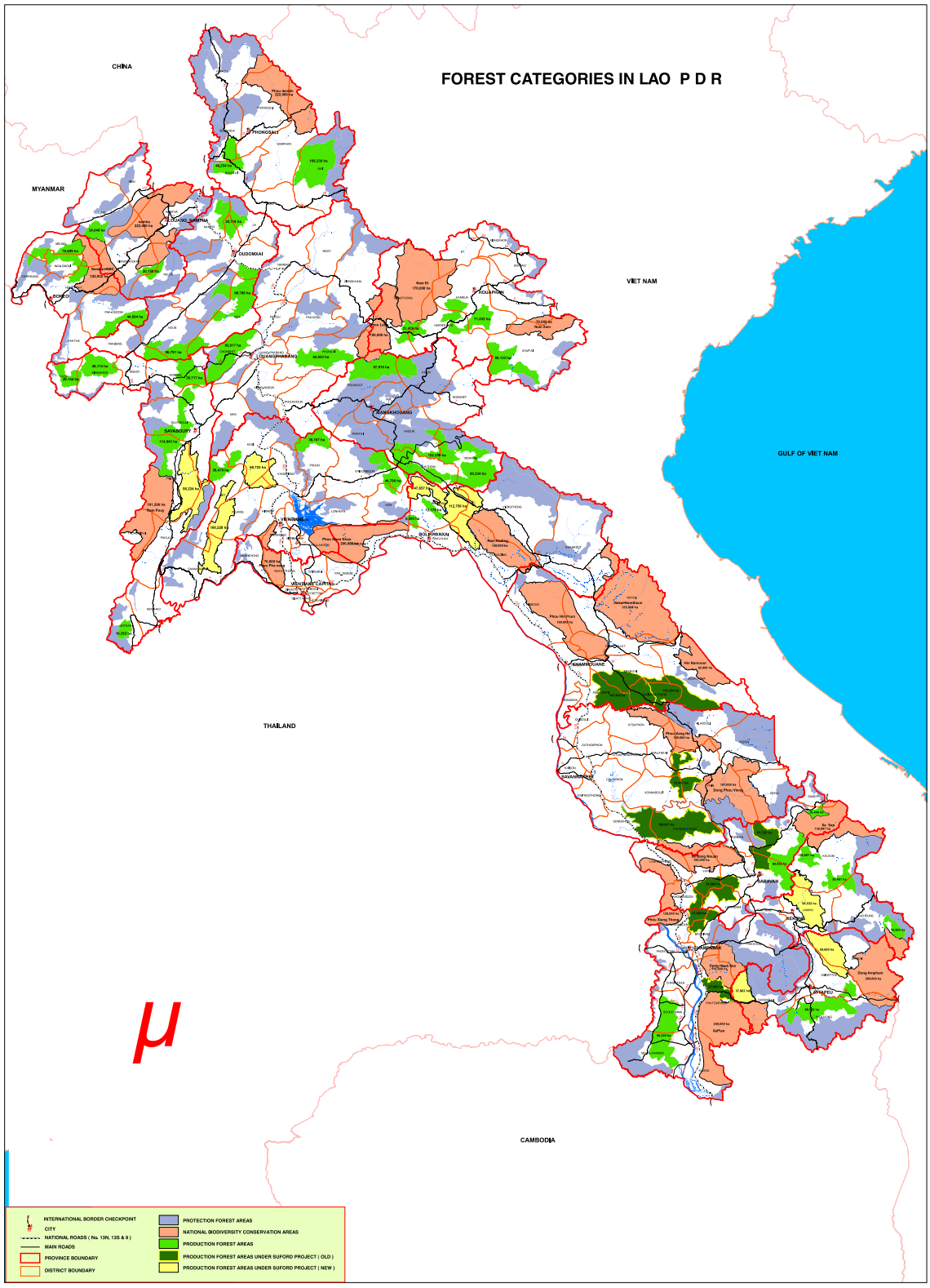
Village forests are poorly recognized and not included in the three forest types as well as indicated in the current version of Lao forest law. The harvests in these forest types are mainly meant for local village consumption. The permission process for timber harvesting by forest dwellers varies based on the intended output. Dwellers who wish to harvest timber for house construction and maintenance are required to consult with the village head, who will then request permission from the District Office of Administration (DOA). If the timber will be used for community improvements, such as for the construction of a village office, school, or temple, the village head needs to approach the DOA to request a harvest authorization from the Provincial Office of Administration (POA). The Provincial and District Forestry Office can use these areas for commercial extraction in agreement with the village head.

5.3 Plantations

Investment in plantations in Laos by private, national and multi-national companies has strong support by the country. PM Decree No 46/PM (2001) provides incentives and measures for all timber industries to source timber from plantations. The goal of this policy is to ensure that any timber supply beyond the sustainable amount supplied from the state production forests under the management plan will be from forest plantations.

In 2005, the country's total area of plantations was about 146,600 ha with Teak being the dominant species planted by numerous small holder farmers (MoAF 2005). According to Midgley (2006), the annual harvest of teak could reach 40,000 m^3 per year by 2012. Eucalyptus and rubber trees are also being planted for pulpwood and latex. Much of the area planted with rubber trees has been planted recently and is expected to be under a typical 25-year rotation.

Figure 2. Map of Production, Conservation and Protection forests in Laos PDR (SUFORD Project)



6. Supply of Timber

6.1 Quota system of resource allocation

Laos has instituted a quota system of allocated timber volumes issued from the central government to the provinces that can then be allocated to districts for harvesting. The quota system is mainly designed as an annual allocation for Production Forest Areas (PFA) but can also include other areas where timber can be harvested. PFAs are mainly harvested in association with annual quotas issued by the Central Government. Areas harvested under various infrastructure projects such as dams, mining areas and road construction are harvested using a special quota that may not be subject to restrictions placed on the annual quota system. Annual and special volume quotas issued to provinces that are not fully utilized can be carried forward to the following year as a balance quota. Annual and special quotas issued by the central government are not directly related to specific planned harvest areas. Currently most of the PFAs in Laos do not have formal management plans which are currently being developed under the SUFORD project funded by the World Bank and Finnish Government.

Logs harvested through allocated quotas are measured and recorded at Log Landing 2 by the PAFO and DAFO staff and this generates an official log list for sale and royalty payments. Log Landing 2 is a temporary site, usually located near a PFA logging area or infrastructure project, Using this log list, the provincial office of industry & commerce arranges the sale of the logs either though a bidding process or through direct sale. It then arranges the transport permit and documents once payment for the logs is made to the Finance Department. Sales of logs are restricted to commercial species and logs of other species harvested from infrastructure projects are often wasted. After scaling and grading the logs at Log Landing 2, the log list is sent to Provincial Commerce Section, Provincial Industry and Commerce Division which calculates the log price. The calculation is referred to as Notice of Ministry of Industry and Commerce on the implementation of log price at Landing 2, dated 27/01/2010. The buyer then has to deposit money at Provincial Finance Division which then issues Receipts.

The PoIC issues log transport permits to transport logs from Log Landing 2 to factories or for export. The documents accompanying the transport permit include: Business license, copy of log list of Landing II approved by Provincial Agriculture and Forestry Office (PAFO), copy of sale contract of timber (signed between PAFO, PoIC and buyer), payment receipts (Royalty, tax and fee) issued by Provincial Finance Division, and log transport permit issued by Provincial office of Industry and Commerce (PoIC).

Table 1. National Quota Allocation: Central Government quotas to provinces for the period 2010/2011 (Source DOF 2011)

Province	Planted trees (m^3)	Natural Forest (Annual quota)			Special quota		Stump	Total Vol. (not including stump)
		PFA (m^3)	Uprooted (m^3)	Balance 2009/2010 (m^3)	Central govt (m^3)	Provincial governor (m^3)		
Luangnamtha	500							500
Oudomxay	500	100						600
Luang Prabang	4,000				1,505		1,000	5,505
Sayaboury	1,850						1,900	1,850
Bokeo	1,000							1,000
Xiangkhouang				24,000				24,000
Vientiane	1,000				1,754	300		3,054
Bolikhamxay	150			80,020	4,048	2,626	525	86,844

Khammouane	10,000	9,722			1,105	4,900	3,800	25,727
Savannakhet	200	4,400			15,015	570		20,185
Salavan	1,120	3,034			264	2,430	150	6,848
Champasak	500	709	5,799			492		7,500
Xekong	780			11,137			295	11,917
Attapua	200			17,664	8,056		330	25,920
Totals	**21,800**	**17,965**	**5,799**	**132,821**	**31,747**	**11,318**	**8,000**	**221,450**

Harvesting is conducted through several main processes:

- Annual Quota issued by the central government
- Special Quota issued by the central government
- Local Regulated Quota system issued by local government

6.1.1 Annual Quota

The system for annual quota is based on the Provincial Agriculture and Forestry Office (PAFO) submitting a request to the central government for timber harvesting volumes based on annual budget and assessment of log availability in the province. Log availability includes trees from PFAs (PFA); infrastructure areas (mines, roads, dams, transmission lines, etc); land clearing for plantation, agricultural, etc; planted areas mainly teak, eucalyptus, Acacia, etc that can be large or small scale. The quota requested by PAFO is not directly related to specific harvest areas but also considers required volumes for development and to sustain the wood processing industries in each province.

The Ministry of Agriculture and Forestry (MAF) aggregates the provincial annual quota submissions for the Minister Council to review and then is presented to the National Assembly for approval. Following approval by the NA, MAF distributes the approved quota to the Provincial Agriculture and Forestry Office PAFO. PAFO issues permits for logging in the various forest areas according the approved quota.

6.1.2 Special Quota

Special Quotas are based on the immediate needs of the Central or Provincial Government. Special quotas issued under the central government are often based on projects controlled by the central government. The Central Government issues a Special Quota through the Government Secretariat to the Provincial Governor that is provided to PAFO for implementation.

The Provincial Government can submit a request to the Central Government for a Special Quota for social development needs that can be approved directly by the Government Secretariat. The Government Secretariat will then inform MAF to implement the approved Special Quota.

6.1.3 Local Regulated Quota

Timber harvest data reported in this study often did not directly reflect allocated annual and special quota volumes. Reported harvest volumes were sometimes greater than allocated quota volumes or did not reflect annual or special quotas. PAFO can also issue harvesting permits, approved by the Provincial Governor, for local infrastructure projects and village forest use areas that may not be related to a Special Quota. Trees harvested this way have formal provincial or district government approvals and are legally harvested under a *Local Regulated Quota*.

Villages or farming communities can obtain harvesting permits from DAFO to cut trees for personal use of up to 5 m^3/family (Article 41 Forest law 2007). DAFO and PAFO can also issue harvesting permits for Village Forest areas for commercial production. Records of actual harvested volumes compared with annual and special quotas showed a difference, which could be attributed to Local Regulated Quotas (**Table 2**).

Table 2. Provincial quotas (m^3) and records of log production (m^3)

Province	PFA		Infrastructure		Plantation	
	Quota	Actual	Quota	Actual	Quota	Actual
Salavan	2,366	1,925	4,160	10,141	1,050	744
Xekong	14,780	9,876	6,000	18,614	NA	0
Sayaboury	0	0	0	3,255	1,100	520
Luang Prabang	0	0	1,505	3,327	4000	2052
Totals	17,146	11,801	11,665	35,307	6,150	3,316

6.1.4 National Production Records

Records of quota allocation and actual production are maintained by the Department of Forestry based on data supplied by the provinces (**Appendix 5 – Quotas issued to provinces**). Data on the actual volume harvested should be derived through Log Landing 2 log record data where all harvested logs are measured and recorded on a log list by PAFO & DAFO staff (**Table 3**).

Table 3. Summary of quotas (Annual & Special) issued to provinces according to timber source. (Source: DOF, 2008-2010

Timber source	2008-2009		2009-2010		2010-2011	
	Quota (m^3)	Actual harvest (m^3)	Quota (m^3)	Actual harvest (m^3)	Quota (m^3)	Actual harvest (m^3)
Planted trees	17,000	6,068	35,000	9,007	21,800	6,060
PFA	133,000	71,429	21,181	17,234	17,965	10,870
Balance of log quota from previous year			59,127	39,807	132,821	112,826
Special quota (Infrastructure projects)	492,055	271,379	431,382	250,750	48,864	59,577
Wood stump	1,000	132	6,700	2,860	8,000	2,287
Total	643,055	354,828	553,390	319,658	229,450	191,620

6.1.5 Quota vs. Sustainable Forest Management:

The quota system directly relates to industry needs and central and local government revenue needs. The quota system is solely based on timber volume, often without relation to a specific harvest area or sustainable management of forest resources. Most of the material originated from infrastructure projects, such as mining, dam construction and road building, and not from PFAs. The legality of the material can be evaluated through the approval system under the annual, special or local regulated quotas. As most of the material is from land clearing for infrastructure, sustained yield is not relevant. Annual quotas for PFAs should be based on sound long term management planning that considers the sustainability of annual harvesting quotas. Unfortunately, only a small portion of the PFA has forest resource inventories and management planning for sustained yield.

Key Findings – Quota System:

- The Central Government issues volume-based quotas that allow timber harvesting. Central Government quotas can be issued as Annual Quotas for PFA areas or Special Quotas for infrastructure projects. The Provincial Government can submit a request to the Central Government for a Special Quota for social development needs that can be approved directly by the Government Secretariat. The Government Secretariat will then inform MAF to implement the approved Special Quota.

- The majority of material planned for harvesting and actual harvest volumes from 2008 – 2011 was derived from infrastructure projects under Special Quotas issued by the Central Government.

- The study identified inconsistent use of Special Quotas in regards to harvesting across the sampled provinces. Significant volumes of timber are harvested through permits issued from the local government to serve as a Local Regulated Quota.

- The current timber supply in Laos is not all directly related to quotas issued from Central Government, as the volume data indicates a significant portion comes from Local Regulated Quotas, as demonstrated in Table 2.

- The volume based quota system is not directly related to specific planned harvest areas or sustained yield of forest resources and consequently, traceability becomes much more difficult to establish.

6.2 Production Forest Areas (PFA)

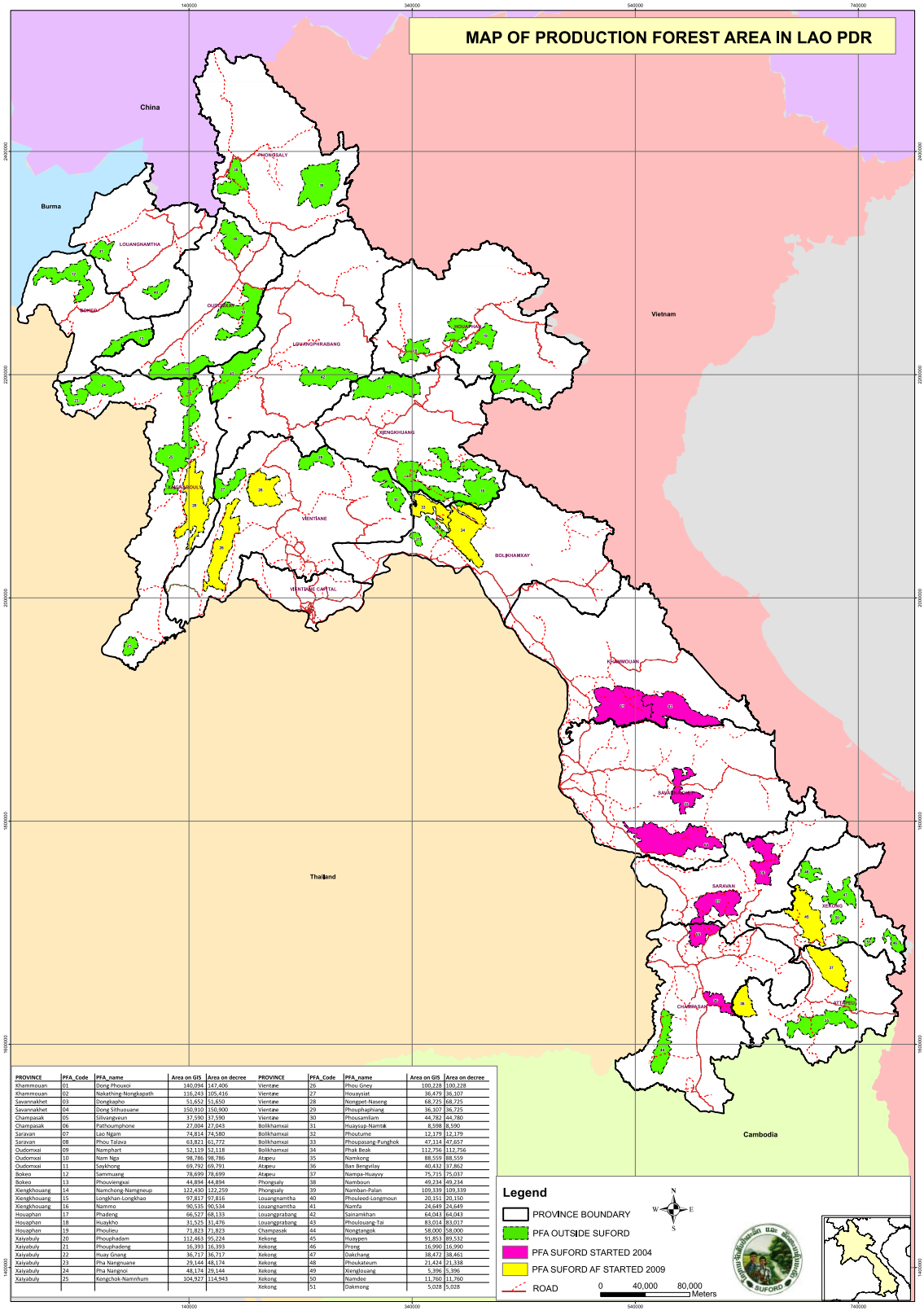
6.2.1 National PFAs

Laos has a total of 51 nationally designated PFAs, with a total area of 3,089,423 ha, of which 16 areas are under the SUFORD project (**Figure 3**). The SUFORD project seeks to apply a sustainable yield system to these PFAs. The development of forest management planning in SUFORD areas is a long and slow process, as there is significant preparatory work in respect to forest inventory data measurement, analysis, social and environmental assessments. So far, only 10 sub forest management areas (sub-FMA) totalling 82,760 ha under different PFAs have obtained FSC group certification under the Department of Forestry of Lao PDR (**Table 4**). The sustained yield system is not yet being replicated in the other 35 PFAs

Table 4. FSC Certified – Production Forest Areas

Province	PFA sub-unit	Ha
Bolikhamxay	Boungpatao village	210
Bolikhamxay	Donsat village	207
Bolikhamxay	Phonthong village	376
Bolikhamxay	Sophuoane Village	349
Savannakhet	Sub FMA GVD 7 - Khaengpae Village	12,452
Savannakhet	Sub FMA Kathong Neua	26,422
Khammouane	Sub FMA Naphakeo	10,741
Savannakhet	Sub FMA Noncharn	11,289
Savannakhet	Sub FMA Nongkan	8,346
Savannakhet	Sub FMA Thapi - Thapi village	12,368
Total		**82,760**

Figure 3. Production Forest Areas in Laos 2010 (SUFORD Project 2011)



PROVINCE	PFA_Code	PFA_name	Area on GIS	Area on decree	PROVINCE	PFA_Code	PFA_name	Area on GIS	Area on decree
Khammouan	01	Dong Phouxoi	140,094	147,406	Vientiane	26	Phou Gney	100,228	100,228
Khammouan	02	Nakathing-Nongkapath	116,243	105,416	Vientiane	27	Houayxiat	36,479	36,107
Savannakhet	03	Dongkapho	51,652	51,650	Vientiane	28	Nongpet-Naseng	68,725	68,725
Savannakhet	04	Dong Sithouxaine	150,910	150,900	Vientiane	29	Phouphaphiang	36,107	36,725
Champasak	05	Sithongneun	37,590	37,590	Vientiane	30	Phouxamlam	44,782	44,780
Champasak	06	Pathoumphone	27,004	27,043	Bolikhamxai	31	Huaysup-Namtik	8,598	8,590
Saravan	07	Lao Ngam	74,814	74,580	Bolikhamxai	32	Phoutume	12,179	12,179
Saravan	08	Phou Talava	63,821	61,772	Bolikhamxai	33	Phoupasang-Punghok	47,114	47,657
Oudomxai	09	Namphart	52,119	52,118	Bolikhamxai	34	Phak Beak	112,756	112,756
Oudomxai	10	Nam Nga	98,786	98,786	Atapeu	35	Namkong	88,559	88,559
Oudomxai	11	Saykhong	69,792	69,791	Atapeu	36	Ban Bengvilay	40,432	37,862
Bokeo	12	Sammsaing	78,699	78,699	Atapeu	37	Nampa-Ruayxy	75,715	75,037
Bokeo	13	Phouviengxai	44,894	44,894	Phongsaly	38	Namboun	49,234	49,234
Xiengkhouang	14	Namchong-Namgneup	122,430	122,259	Phongsaly	39	Namban-Palan	109,339	109,339
Xiengkhouang	15	Longkhan-Longkhao	97,817	97,816	Louangnamtha	40	Phouleed-Longmoun	20,151	20,150
Xiengkhouang	16	Nammo	90,535	90,534	Louangnamtha	41	Namfa	24,649	24,649
Houaphan	17	Phadeng	66,527	68,133	Louangprabang	42	Sainamkhan	64,043	64,043
Houaphan	18	Huaykho	31,525	31,476	Louangprabang	43	Phoulouang-Tai	83,014	83,017
Houaphan	19	Phoulieu	71,823	71,823	Champasak	44	Nongtangpok	58,000	58,000
Xaiyabuly	20	Phouphadam	112,463	95,224	Xekong	45	Huayyen	91,853	89,532
Xaiyabuly	21	Phouphadeng	16,393	16,393	Xekong	46	Prong	16,990	16,990
Xaiyabuly	22	Huay Gnang	36,717	36,717	Xekong	47	Dakchang	38,472	38,461
Xaiyabuly	23	Pha Nangnsane	29,144	48,174	Xekong	48	Phoukateum	21,424	21,338
Xaiyabuly	24	Pha Nangnoi	48,174	29,144	Xekong	49	Xiengloung	5,396	5,396
Xaiyabuly	25	Kengchok-Namnhum	104,927	114,943	Xekong	50	Namdeo	11,760	11,760
					Xekong	51	Dakmong	5,028	5,028

The area of forests capable of producing sustainable quantities of timber is limited, as much of the forest area has been degraded by the previous logging and slash and burn agricultural practices of local communities. According to SUFORD, only an estimated 15% of the entire PFA remains good quality forests, containing at least 60m^3/ha of commercial standing stock, representing about 465,000 ha.

6.3 Provincial Forest Areas (Salavan, Xekong, Sayaboury & Luang Prabang)

The study team conducted site visits to 4 provinces (Salavan; Xekong; Sayaboury & Luang Prabang) to evaluate the system for timber supply transport, documentation, production and export of wood based products in each of the provinces. The objective was to document and evaluate the consistency of the implemented timber supply system from various sources namely: PFAs, infrastructure areas, plantations and village forest areas in relation to the production output and export of wood products in each province.

Previous studies conducted in Laos indicate that the timber supply comes from many forest types through infrastructure projects and land clearing activities that are permitted in protection and conservation areas. Detailed information on the total forest area in each province is important for planning purposes, as timber from all forest types can enter commercial and export supply chains.

6.3.1 Salavan Province

Salavan Province has a total estimated forest area of 570,427 ha that includes 138,679 ha of production forests, 107,959 ha of protection forests, 240,163 ha of conservation areas, 1,892 ha of teak plantations and scattered village forests estimated at 81,000 ha (**Figure 4 & Table 5**).

Figure 4. Map of Salavan province forest areas

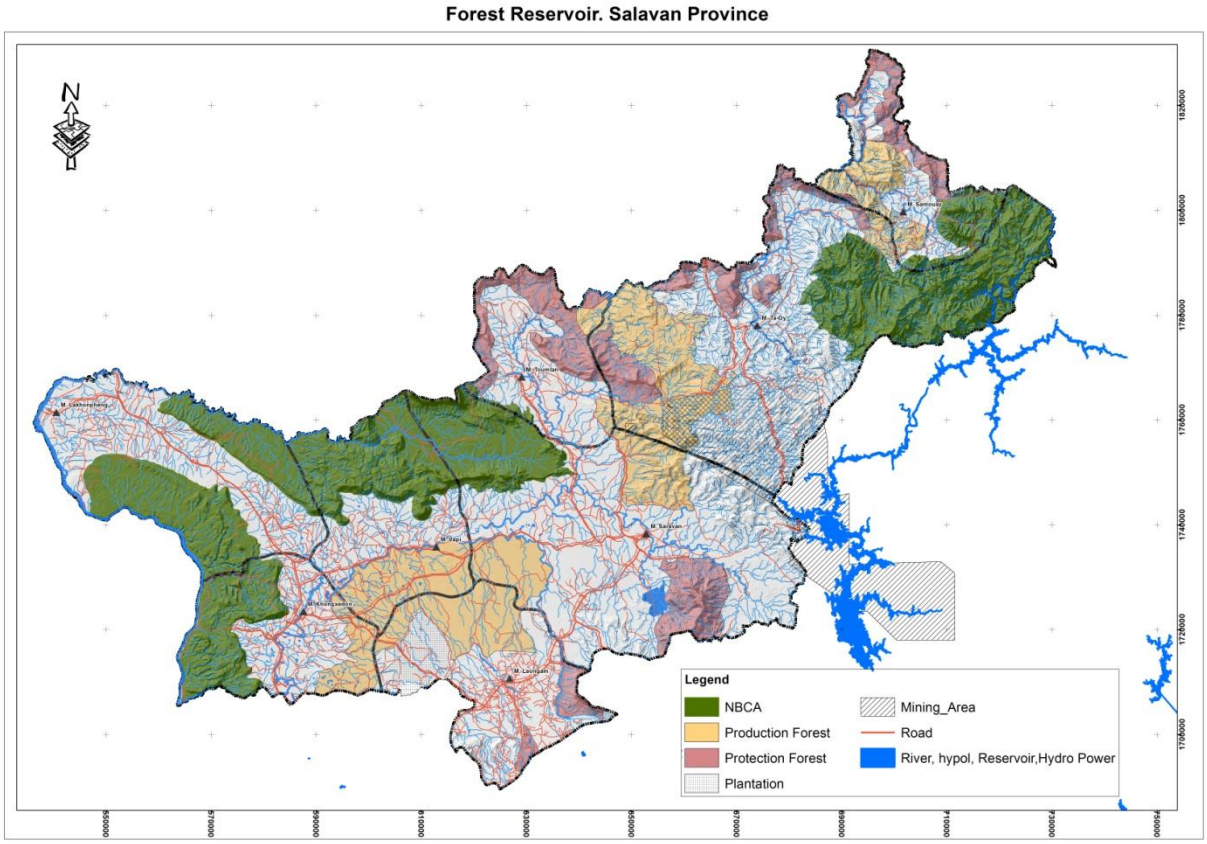


Table 5. Salavan province forest areas

Forest Category	Area (ha)
Production Forest Areas	138,679
Protection Forest	107,959
Conservation Forests (NCBA)	240,163

Plantation	1,892
District & Village Forests	81,734 (estimated)
Total Forest Area	***570,427***

6.3.2 Xekong Province

Xekong Provincial forest areas are documented as a total of 425,222 ha, with 190,923 ha of production forests, 141,350 ha of protection forests and 92,949 ha of conservation areas. Village forest areas are not documented by the Provisional Forestry Office. (**Figure 5 & Table 6**).

Figure 5. Xekong province forest areas

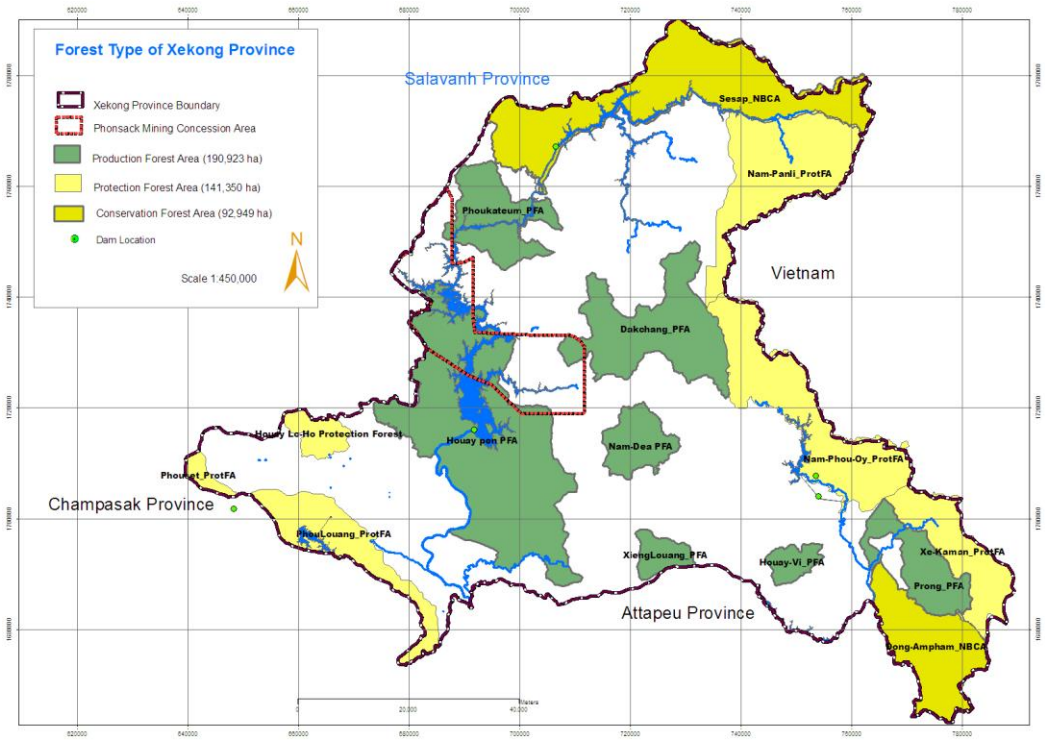


Table 6. Xekong Province forest areas:

Forest Category	Area (ha)
Production Forest Areas	190,923
Protection Forest	141,350
Conservation Forests	92,949
Plantation	**NA**
District & Village Forests	**NA**
Total Forest Area	***425,222***

6.3.3 Sayaboury Province

Sayaboury province has large areas of forest that are poorly documented. The project study team obtained records of forest areas from both GIS mapping and provincial forest records that differed significantly in most forest area categories. The most significant difference between the official records and GIS mapping was for Protection Forests, with a difference of over 700,000 ha between 997,000 ha

and 261,000 ha. Production forests had a difference of over 12,000 ha, which is about 3% of the area (**Figure 6 & Table 7**).

Figure 6. Sayaboury province forest areas: (SUFORD Project Sayaboury Province 2011)

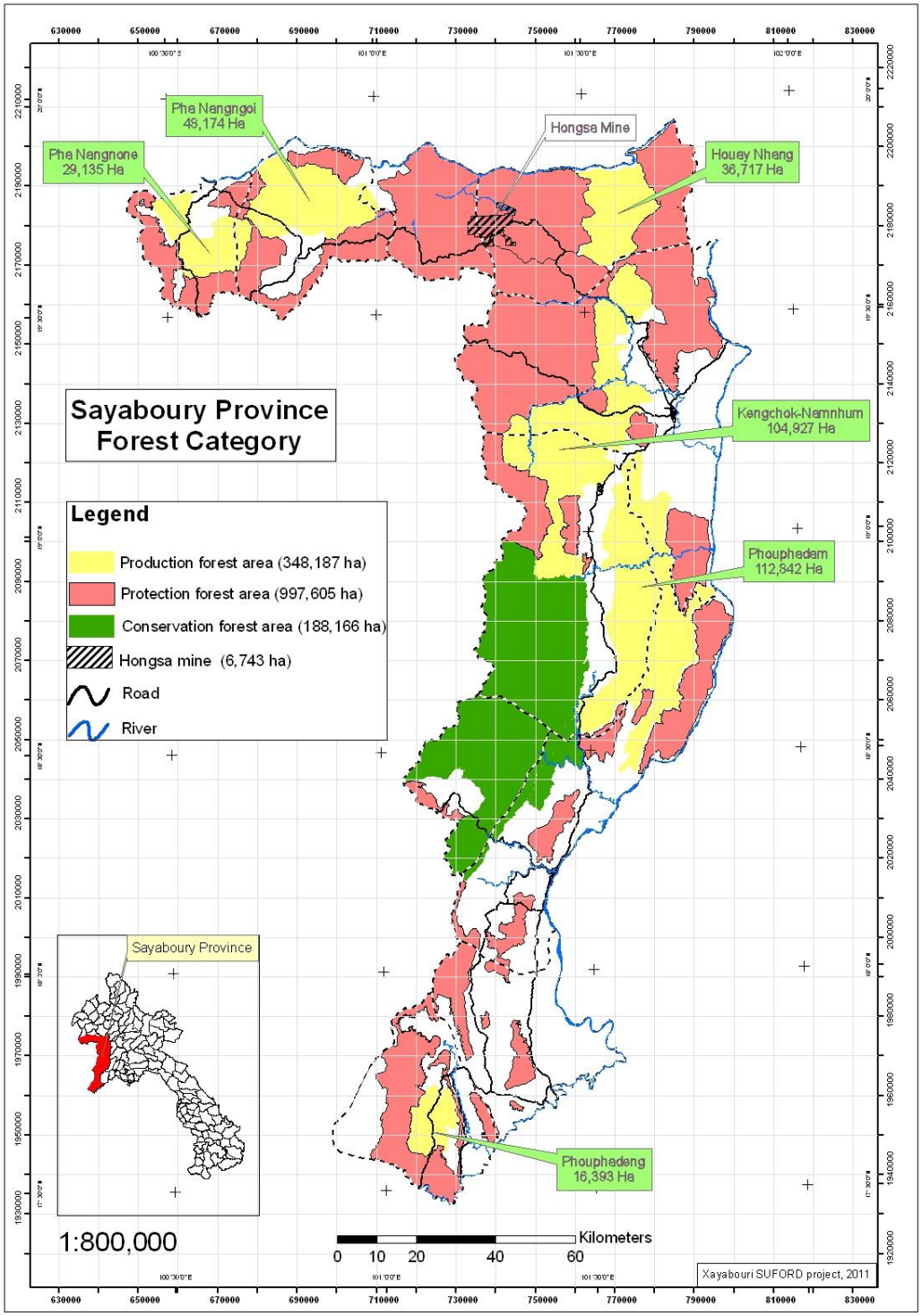


Table 7. Sayaboury Province forest areas (Source : SUFORD Sayaboury Province 2011)

Forest Category	GIS Mapping Area (ha)	Provincial Records

Production Forest Areas	349,187	336,277
Protection Forest	997,605	261,252
Conservation Forests	188,166	177,045
Plantation	NA	NA
District & Village Forests	NA	29,527
Total Forest Area	**1,534,960**	**843,668**

The study team also observed that the areas mapped as protection were often used for agricultural production and even included major town areas. Thus, a significant portion of the areas mapped as protection was already under alternative land use. This was highlighted in the Hongsa district where the entire district area was mapped as protection and production forests but in reality contained the town of Hongsa, large areas of low land agricultural and the Hongsa mining concession (**Figure 7**).

Figure 7. Hongsa district Sayaboury Province mapped as protection forest

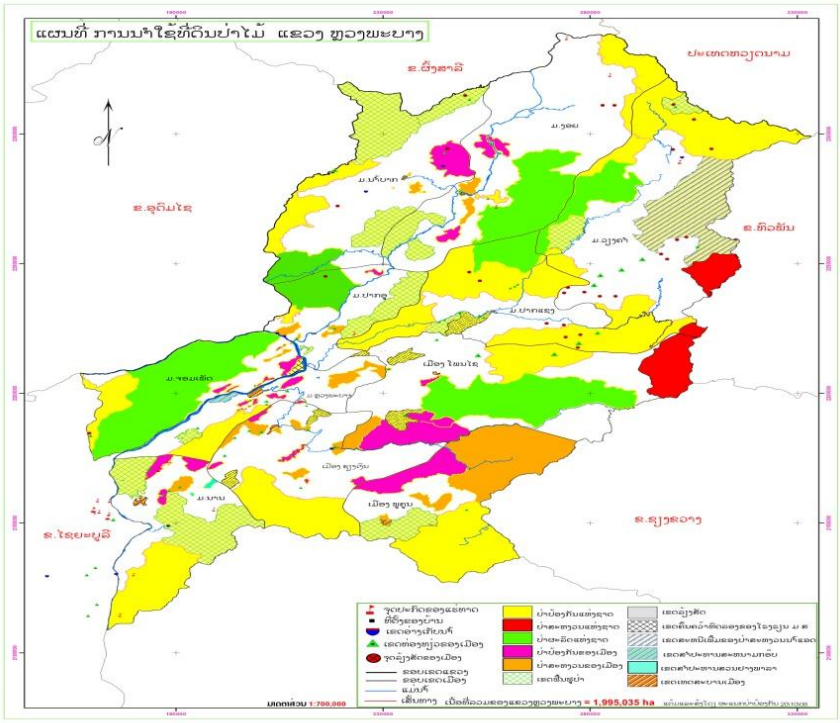
6.3.4 Luang Prabang

Luang Prabang Province forest area includes a total of 1,186,868 ha, with 147,060 ha considered production areas, 498.217 ha as protection forest areas and 121,403 ha conservation areas. There is a large area of village forest documented by the Provisional Forestry Section, estimated at 379,083 ha, yet mapping areas were not available. English versions of land use mapping was not available from the Provincial Forestry Section. Luang Prabang also has a significant area of plantations consisting mostly of smallholder teak areas planted by villagers as a long-term investment (**Figure 8 & Table 8**).

Table 8. Luang Prabang province forest areas

Forest Category	Area (ha)
Production Forest Areas	147,060
Protection Forests	498,217
Conservation Forests	121,403
Plantation	41,105
District & Village Forests	379,083
Total Forest Area	**1,186,868**

Figure 8. Map Luang Prabang province forest areas (source Luang Prabang PFS 2011)



6.4 Provincial timber supply (Oct 2010 – May 2011)

Timber supply in Laos is typically regulated through the quota system whereby the central government issues an annual or special volume quota to each of the provinces, which then allocates permits for harvesting in the designated forest areas or through infrastructure projects. The main harvesting period is within the dry season, from Oct to May. At the final workshop held in Vientiane 9 Jan 2012, the Ministry of Transportation & Civil Engineering stated that much of log transport occurs during the rainy season, causing severe damage to road systems. It would be advantageous if the transport of material was correlated to felling activities and not be delayed until the rainy season.

6.4.1 Production Forest Areas

The majority of timber supply could be expected to originate from the PFAs thus the study team obtained data on the areas of Production Forest, Annual & Special Quotas issued for harvesting and records of volumes harvested in each province during the harvesting season from Oct 2010 through May 2011 (**Table 9**).

Table 9. Timber supply from Production Forest Areas (PFA) in Salavan, Xekong, Sayaboury & Luang Prabang Provinces (Oct 2010 – May 2011)

Salavan Province Production Forest Areas	Area total (ha)	Quota m^3	PFS Reports (m^3)	Harvest 2010/2011 (ha)	Quota Type
Phoutalava	63,818		300	200	Annual
Lhao Ngam	74,856		1125	448	Annual
Totals	***138,679***	***2,366***	***1,425***	***648***	

Xekong Province Production Forest Areas	Area total (ha)	Quota m^3	PFS Reports (m^3)	Harvest 2010/2011 (ha)	Quota Type
Huaypen	91,853	0		NA	NA
Prong	16,990	0		NA	NA
Dakchang	38,472	0		NA	NA
Phoukateum	21,338	7,731	NA	NA	Annual
Xienglouang	5,396	3,120	NA	NA	Annual
Namdee	11,760	1,932	NA	NA	Annual
Dakmong	5,028	1,997	NA	NA	Annual
Totals	***190,923***	***14,780***	***9,876***	***NA***	***Annual***

Sayaboury Province Production Forest Areas	Area total (ha)	Quota m^3	PFS Reports (m^3)	Harvest 2010/2011 (ha)	Quota Type
Pha Nangnuon	29,135	0	0	0	NA
Pha Nangnoi	48,173	0	0	0	NA
Houay Nhang	36,717	0	0	0	NA
Kengchok Namnhum	104,926	0	0	0	NA
Phouphadam	112,842	0	0	0	NA
Phouphadeng	16,393	0	0	0	NA
Totals	***348,187***	***0***	***0***	***NA***	***NA***

Luang Prabang Province Production Forest Areas	Area total (ha)	Quota m^3	PFS Reports (m^3)	Harvest (ha) 2010/2011	Quota Type
Sainamkhan	64,043	0	0	0	NA
Phoulouang Tai	83,017	0	0	0	NA
Totals	***147,060***	***0***	***0***	***NA***	***NA***

All 4 Provinces combined	Area total (ha)	Quota m^3	PFS Reports (m^3)	Harvest (ha) 2010/2011	Quota Type
Product Forest Areas	**824,849**	17,146	**11,801**	NA	Annual

Based on data collected in the provinces, 2 of the provinces had no annual or special quota associated with PFA areas in 2010- 2011 harvesting season while Sayaboury PFS stated that the province has had no annual quota for PFA areas over the past 5 years. The provinces with harvesting quotas for PFA (Salavan & Xekong), did not reach the target quota volumes. Harvest area and volumes from the various forest areas were not consistently available.

The PFA within the 4 provinces totalled 824,849 ha, with the allowable cut based on the quota being a total 17,146 m^3. However, the 2 provinces could only extract 11,301 m^3 during the 2010/2011 - harvest season. The harvest data from Salavan Province of 1,425 m^3 extracted from 648 ha yielded a mere 2.2 m^3/ha, which is far below the normal viable economic extraction rates of 20-40 m^3/ha and suggests that the forest area was highly degraded or the harvest was limited to a few commercial species. One of the

objectives of the SUFORD project is to increase the recognition of lesser known species to increase the economic viability of forest management.

Harvest data from Xekong Province was insufficient for evaluation, as there was no data on volumes or harvest areas logged within each of the forest areas. It is noteworthy that the province with the largest PFA also had no annual or special quota for harvesting over the past 5 years. The data collected demonstrated that the PFA production records include extremely low levels of harvest yield from a large forest area and lack of data on areas harvested relative to volume production.

Key Findings – Production Forest Areas:

- The contribution of the PFA areas to timber supply was not consistent across the provinces as only 2 of the 4 provinces utilized PFA as an available timber source.
- The volume actually harvested from PFA areas in the 4 provinces evaluated totalled only 11,301 m^3, which is very little relative to the total size of the PFA areas (824,800 ha).
- Production levels of the PFA (2.2 m^3/ha) do not reflect normal economic and sustained yield systems and indicate that the forests are highly degraded or that harvesting is limited to a few commercial tree species.
- Data on harvest areas are not consistently maintained or reported outside SUFORD managed areas.

6.4.2 Infrastructure Projects:

A significant amount of timber is produced as a by product of infrastructure projects, including road construction, dam construction, mining of coal and limestone, and other land clearing activities such as clearing for plantation establishment and development projects. Timber cleared from infrastructure projects can enter the local supply chain for local factories or be exported directly to neighbouring countries such as Vietnam, Thailand and China. The study team collected data from each of the provinces to evaluate the quantity of material originating from various infrastructure projects and determine the significance relative to the total supply of timber originating from each province (**Table 10**).

Data collected included volumes from quota allocations as well as actual volumes harvested for all reported infrastructure projects. The study team also looked at the availability of data on areas harvested and for information, at the provincial level, in relation to traceability of material back to the actual harvest area.

Table 10. Timber supply from Infrastructure Areas in Salavan, Xekong, Sayaboury & Luang Prabang Provinces (Oct 2010 – May 2011)

Salavan Province	Area total (ha)	Quota m^3	PFS Vol extracted Reported (m^3)	Harvest area (ha) 2010/2011	Quota Type
Mining - Total	***38,500***	***4,160***	***10,141***	***151.1***	
Phonesack	36,000	NA	6,524	100	Special (area based)
Bor Hinpoon – Coal & limestone	1,125	4,160	3,617	51.1	Annual &

					Special
Dams - Total	0	NA	NA	NA	NA
No dams					
Land clearing - conversion	NA	**7,007**	**4,575**	NA	Local
No clear data on areas					
Roads	NA	**12,238**	**1,289.4**	NA	Annual & Special
No identification of specific road areas					
Buildings	NA	**331**	**213**	NA	Local
No data on areas harvested					
Totals (Salavan)	**38,500 ha**	**23,498**	**16,218**	NA	

Xekong Province	**Area total (ha)**	**Quota m^3**	**PFS Reported (m^3)**	**Harvest (ha) 2010/2011**	**Quota Type**
Mining	***54,000***		***1,044***	***NA***	Special
Phonesack	54,000	NA	1,044	NA Survey	(area based)
Dams	**25,192**		**17,570**		
Xekong 5	3,200	Planning	NA		Planning
Xekaman 3	516.5 flooded	Construction	*2000 prior to 2010*	0	NA
Dak F Muen	NA	MOU	No land clearing		MOU
Xekong 4	17,000	NA	11,339	NA	Special
Xekong 3a	2080	NA	No land clearing		Planning
Xekong 3b	1,517	NA	No land clearing		Planning
Houay Laphan Gnau	870	6000	6,231	NA	Remaining quota 2009-2010
Land Clearing	**NA**	**16,175**	***Included in PFA harvest Data***		NA
Stumps	NA	295			
Construction Ketsana storm	NA	15,330			
New villages	NA	550			
Roads	NA		NA		
Totals (Xekong)	**79,192**	*Inconsistent*	**18,614**	NA	

Sayaboury Province	**Area total (ha)**	Quota m^3	PFS Reported (m^3)	**Harvest (ha) 2010/2011**	**Quota Type**

Mining - total	***6,743***	***0***	***NA***	*0*	Local Quota
Hongsa (lignite coal)	6,743	NA	0	0	
Dams - total	**49.2**	0	**49**	NA	
Mekong dam flood area	NA	Planning	NA	NA Survey	Planning
Transmission line	49.2	0	49	49.2	Local quota
Land Clearing	**29,527**	0			
Villages / construction		0			
Roads - total	**174**		**3,758**	**105**	
Hongsa District	105	NA	3255	105	Local quota
Mekong dam access road	69	NA	503	69	Local quota
Totals	**6,966**	**0**	**3,807**	**223**	

Luang Prabang Province	**Area total (ha)**	**Quota m^3**	**PFS Reported (m^3)**	**Harvest (ha) 2010/2011**	**Quota Type**
Mining - total	**0**	**0**	**0**	**NA**	
Dams - total	**2963**		**280**	**963**	Local Quota
Namkhan	2000	Planning	NA	NA Survey	Planning
Namting	963	NA	280	NA	construction
Nam Ou	NA	NA	NA	NA	Planning
Land Clearing	NA	0	**0**		
Villages / Construction		0	0		
Roads - total	**830**		**3047**	**830**	Local quota
Phonthong-Pakvang	150		434	150	
Pak Ou	105		650	105	
Houy Ot	60		350	60	
Bouak Khouay	65		383	65	
Donkoun to Tabak	115		486	115	
Houytong	260		629	260	
Pakbak-Pakfan	75		115	75	
Totals (Luang Prabang)	**3 793**		**3,327**	**1,793**	

All 4 Provinces combined	**Area total (ha)**	**Quota m^3**	**PFS Reported (m^3)**	**Harvest (ha) 2010/2011**	**Quota Type**
Infrastructure Areas	**128,451**	NA	**44,414**	NA	NA

Timber supply from all infrastructure projects in the 4 provinces totalled 44,414 m^3 for the harvest season of Oct 2010 to May 2011.

Mining Projects:

Only Luang Prabang province does not contain a mining concession. Salavan and Xekong share the 90,000 ha Phonsack mining concession, which has been issued a special quota based on area to be harvested and not volume. Sayaboury province includes the 6,700 ha Hongsa mining concession. Areas harvested for mining projects were not consistently reported. Total timber volume originating from mining projects in the 4 provinces was 11,185 m^3, with most of the material coming from Salavan

Province. All records of timber volumes harvested from mining projects are supposed to be recorded at Log Landing 2.

Dam Projects:

Dam projects can also generate significant timber volumes through clearing for construction and proposed dam sites. Xekong province has numerous dam projects while Salavan and Sayaboury provinces had no reported dam projects and Luang Prabang has 2 small active projects and one under planning. Xekong province provided detailed information on the dam projects that clear areas based on special quotas (Table 11).

Table 11. Xekong Province – Dam Projects

Dam project	Dam GPS Location	Area to be flooded ha	Status	Harvest area 2010/2011	Volume extracted 2010/2011 (m^3)
Xekong 4	15 30' 50" 106 47' 16" UTM 1715966.1 691759.94	17,000	Dam construction Land clearing schedule not available	NA	11,339
Xekong 5	15 58' 30" 106 55' 50" UTM 1767128.2 706611.6	3200	Dam construction Land clearing finished 2009	NA	NA
Xekaman 3	15 22' to 15 26' 107 20' - 107 25' UTM 1703962.2 754017.9	525	Finished land clearing 2009 Dam construction	NA	NA 2000 in 2009
Dak E Muen	15 58' 30" 106 55' 50"	NA	MOU No land clearing	NA	NA
Xekong 3a	16 13' 50" 105 34' 58" UTM 1794527.0 562281.3	2080	Planning – EIA approval No land clearing	NA	NA
Xekong 3b	16 13' 50" 105 34' 58"	1,517	Planning – EIA approval No land clearing	NA	NA
Houay Laphan Gnau	N 15 23.286' E 106 22.966 UTM 1701661.1 648400.75'	870	Land clearing Dates not available	NA	6231 (7000 2011 / 2012)
Totals		**25,192**			**17,570**

Xekong province generated the greatest volume of timber from dam projects with 17,570 m^3 of timber from a total of 17,889 m^3 during the Oct 2010-May 2011 harvest season. In general, there is insufficient data related to the area harvested within each dam concession, as Xekong 4 & Houay Laphan Gnau both are actively clearing timber but there are no records of associated harvest areas. Xekong 4 is the largest dam project in the 4 provinces, covering an estimated area of 17,000 ha, but data on the actual area cleared to date is not available.

There are a number of planned dam projects in Xekong, Luang Prabang and Sayaboury provinces, though locations of the planned dams and inundated areas are still under study. The future supply from these planned dam projects could provide significant local timber supply.

Roads Construction Projects:

Salavan province recorded 1,289 m^3 of timber extracted from road construction, Sayaboury recorded 3,758 m^3 and Luang Prabang recorded 3,047 m^3. Xekong province did not report any timber derived from road construction. The total volume of timber from road construction in the 4 provinces was 8,094 m^3. Areas cleared for road construction were not consistently recorded in all provinces. Salavan had no records of areas harvested for road construction and Xekong did not report any timber harvesting related to road construction.

Land Clearing Projects:

Land clearing projects other than roads and transmission lines that can also be associated with dam or mining projects were not recorded except in Xekong province whereby a quota was issued for 16,175 m^3, mainly for salvage logging for construction from Ketsana storm. The actual volumes extracted were not available as they were included with PFA data that totaled 9,876 m^3 for Oct 2010 to May 2011 harvest season.

Key Findings – Infrastructure Projects:

- The data obtained from the various provinces on infrastructure projects was highly varied in regards to use of annual, special and local regulated quotas, actual harvested volumes and areas harvested within each project.
- The total reported timber supply available from infrastructure project over the 4 provinces was 44,414 m^3, representing an estimated 4 times the volume reported from PFA areas.
- Quotas issued for various infrastructure projects are not consistent as most are volume based but some can be area based, for example the Phonesak mining area is based on concession area not annual volume.
- Quotas can be issued for much higher volumes than those actually derived from the project. For example, the quota for the roads in Salavan Province, was 12,238 m3 but actual volume attained was only 1,289 m^3. The unused quotas can apparently be used as a balance for next years harvesting.
- Dam projects were prevalent in Xekong Province and contributed the greatest amount of timber (17,570 m^3) while mining contributed (11,185 m^3) and roads contributed 8,094 m^3.
- Another potential large contribution was derived from the Ketsana storm in Xekong Province that was issued a quota of 15,000 m^3. However, actual volumes obtained from the area were not recorded and mixed with the PFA total of 9,876 m^3.
- Trees to be cleared in infrastructure projects are not clearly identified, making traceability of this material limited.

6.4.3 District & Village Forests

Village forests are considered as forest lands within Provinces and Districts, and are not classified as Production, Protection or Conservation where timber can be harvested and enter the timber supply. Village use forests are the forest areas located within village areas and allocated for village management, preservation and utilization according to the land and forest allocation plan. Use for timber under the 2007 forestry law is permitted for village benefit under Articles 40, construction & repair of households under Article 41 & customary utilization under Article 42. Villages have the right to harvest up to 5 m^3 per family upon permission granted by the district agriculture & forestry office

(DAFO) for upgrading housing and other village needs. Villagers do not have the right to sell material licensed for extraction for use as defined in the Articles 41 & 42.

Under article 43 of the forest law (2007), logging for commercial purposes is allowed in both construction of infrastructure areas and PFAs and shall comply with the principles described in Article 49 of the Law. Thus, infrastructure projects can be licensed within village forest use areas and can be used for commercial sale. There is no clear prohibition within the forestry law (2007) that timber harvested from village forest use areas cannot be used in commercial supply chains.

As the forestry law (2007) indicates that village forest areas are meant for village use, the material harvested does not have to be formally recorded at Log Landing 2. Material can be sent to local mills for processing and can either return to the village or sold. Local processing mills do not have formal chain of custody systems that can trace raw material used in production to finished goods unless under international certification. Thus material from village forest use areas entering the supply chain can be mixed with processed material from other forest areas (**Table 12**).

In general, information on village forest areas is not available at the provincial forestry section. There was no data on village forest areas within the districts nor was information available on volumes of timber extracted. Maps of village forest areas are not available in any of the provinces. Material harvested from village forests for village use is not recorded under Log Landing 2. Material harvested within a Village Forest as part of an infrastructure project should be scaled and registered at a temporary Log Landing 2 prior to sale to local manufacturing companies. However, timber harvested from Village Forest Areas was observed to be poorly documented and could contribute a significant amount of timber to local processing mills.

Table 12. Village forests areas

Salavan Province District Forests	Area total (ha)	Quota m^3	PFS Reported (m^3)	Harvest (ha) 2010/2011	Quota Type
Salavan	NA	2569	NA	NA	Special
Ta Oy	NA	NA	NA	NA	
Samouay	NA	NA	NA	NA	
Toumlan	NA	NA	NA	NA	
Khongxedon	NA	NA	NA	NA	
Vapi	NA	NA	NA	NA	
La Khongpheng	NA	NA	NA	NA	
Salavan ProvinceTotals (estimated)	**81,734**	NA	NA		NA
Xekong Province District / Village Forests					
Dakcheung	NA	NA	NA	NA	
Kaleum	NA	NA	NA	NA	
Lamam	NA	NA	NA	NA	
Thateng	NA	NA	NA	NA	
Xekong Totals	NA	NA			NA
Sayaboury Province Village Forests					
Xayaboury	0	NA	NA	NA	
Hongsa	3,207 Village	NA	NA	NA	
Kaenthao	26,220 bamboo	NA	NA	NA	
Xianghone	0	NA	NA	NA	
Ngeun	0	NA	NA	NA	
Khop	0	NA	NA	NA	
Botaen	0	NA	NA	NA	
Paklay	100 rubber	NA	NA	NA	
Phiang	0	NA	NA	NA	
SayabouryTotals	**29,527**	NA	NA		NA
Luang Prabang Province District / Village Forests					
Luang Prabang	NA	NA	NA	NA	
Xieng Ngeun	NA	NA	NA	NA	
Nan	NA	NA	NA	NA	
Pak Ou	NA	NA	NA	NA	
Nambak	NA	NA	NA	NA	
Ngoi	NA	NA	NA	NA	
Pakxeng	NA	NA	NA	NA	
Phonxay	NA	NA	NA	NA	
Chomphet	NA	NA	NA	NA	
Viengkham	NA	NA	NA	NA	
Phounkhone	NA	NA	NA	NA	
Luang Prabang Totals	**379,083**	NA			NA

Key Findings – Village Forest Areas:

- The areas of village forests within each province are inadequately identified and documented. The study team did not observe any records of harvesting within village forest use areas within Log Landing 2 data provided by the 4 provinces.

- According to 2007 forest law, timber harvest from village forests is meant for village use and cannot be sold, however areas within village forests can be licensed for infrastructure projects and timber from those can enter commercial supply chains.
- Records of material harvested for village use are not required to be registered at Log Landing 2 unless areas are harvested for infrastructure projects.
- Timber from village forest use areas can be sent to local mills for processing and could represent a significant volume that is currently not documented.

6.4.4 Plantations

The recent widespread investment in plantations in Laos by private, national and multi-national companies has been strongly supported. PM Decree No 46/PM (2001) provides incentives for industries to source timber from plantations. For example, foreign direct investment in the timber industry is only allowed to utilize wood from their own plantations (PM order No 18/PM, 2002). The goal of this policy is to ensure that any timber beyond the sustainable yield from the state production forests will be from forest plantations.

Based on data collected in the 4 provinces, most of the plantation area consists of teak (*Tectona grandis*) planted by smallholder landowners in villages. Most of the planted areas are below 5 ha and should have a plantation register, with details on owner, the area and the species planted. There is a strong interest in expanding the planted areas of both teak and rubber (*Hevea brasiliensis*). Most of the rubber areas were planted within the last 5 years and there were no records of the harvesting of rubber trees in any of the provinces studied (**Table 13**).

Table 13. Plantation areas in Salavan, Xekong, Sayaboury & Luang Prabang Provinces

Plantation areas (teak)	Area total (ha)	Quota m^3	PFS Reported (m^3)	Harvest (ha) 2010/2011	Quota Type
Salavan Province	1,892	1,050	744.4	NA	Annual
Xekong Province	NA	NA	NA	NA	
Sayaboury Province	NA	1,100	520 m	NA	Annual
Luang Prabang Province	27,000	4,000	2.052	NA	Annual
Totals	28,892	6,150	3,316.4		

Stumps are extracted for local processing into tables, chairs and decorative wood items. The quantity of stumps is not significant and there are only a few specialized processing factories. All material harvested is recorded at Log Landing 2 by the PAFP & DAFO staff on log lists, with MoIC issuing transport permits.

Key Findings – Plantations Areas:

- Plantations are primarily teak (*Tectona grandis*) planted by small holders
- The contribution of the Plantation areas to timber supply was only significant in Luang Prabang province.
- Data on plantation areas are not well documented in regards to location and area as the plantations are fragmented within village forest and agricultural areas. Registration of plantation areas is not consistent as the process is fairly new.
- Rubber plantings are increasing but are generally new and will not enter the supply chain until maturity (20-25 years).

7. Import Timber

During the site visits to Salavan, Xekong and Sayaboury, the Provincial Offices of Industry & Commerce stated that there were no documented imports of timber into the provinces. According to the Ministry of Industry and Commerce there is no data available on the import of logs or unfinished wood products into Lao PDR.

8. Transport and sales of material within Laos

Sale of logs harvested within Laos is mainly based on 2 processes. 1) Pre-sale of standing trees based on a pre-harvest inventory or 2) sale of harvested logs scaled at Log Landing 2. Pre-sale of trees from PFAs that have had a pre-harvest inventory conducted by Provincial and District forestry staff are sold through an auction process by the provincial office of industry & commerce. Logs produced from Infrastructure and land clearing areas are normally sold following scaling at Log Landing 2.

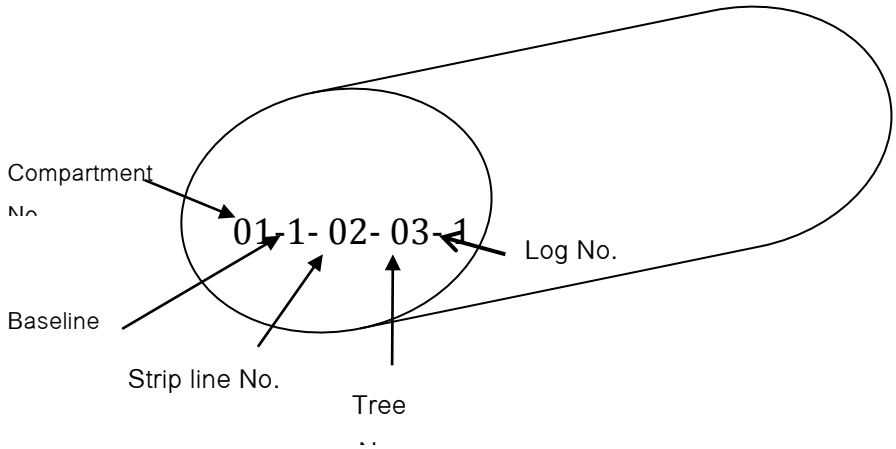
Log Landing 2 is the focal point for recording and sale of ALL logs harvested from licensed areas in Laos. Log Landing 2 is NOT a permanent checkpoint but a temporary site used to scale and record logs from ALL licensed (permitted) areas. Log Landing 2 is usually located near or within a logging area, to reduce transport costs. Staff from both Provincial Agriculture & Forestry Office (PAFO) & District Agriculture Forestry Office (DAFO) scale (measure and grade) all logs at *Log Landing 2* and create a log list to be used for sale by the provincial office of industry & commerce (PoIC). PoIC can arrange sales though a bidding process or directly to factories. The PoIC issues the transport permit and payment receipts for the logs to the Finance Department. Sales of logs from infrastructure projects only apply to commercial species and other harvested material is often un-used.

PFA sales in Salavan & Xekong Provinces were from trees marked and numbered during the pre-harvest survey that were scaled, marked for payment and transport at Log Landing 2. Sales from infrastructure and teak plantations were based on logs delivered and registered at Log Landing 2. PFA to Log Landing 2 is regulated under the Guidelines on Chain of Custody (CoC) Control of Timber Harvesting & Transport in Production Forest established by the Department of Forestry of Lao government.

8.1 Bucking and log marking at harvesting site / Landing 1

Bucking must follow the techniques specified in the Guideline No. 2157/DOF, dated 6/11/2006 on Principle of Logging in Production Forest. Then code number must be marked clearly at each log by special chalk, such as harvesting compartment #; baseline #; strip line #; tree # and log #. (See figure 2). If the harvested tree has more than one commercial log, then log marking follows the convention: (01.1.02.03.1), (01.1.02.03.2), and (01.1.02.03...n) (**Figure 9**).

Figure 9. Log marking at harvesting site/Landing 1



In addition to the procedures mentioned above for certified logs, FSC must be marked with special chalk to facilitate identification at Landing 2. The number of logs from bucking must be recorded in Form 1.

8.2 Transport of logs to Log Landing 2

Logs to be transported from harvesting site/Landing I shall have a transport slip (Form 2). The transport slip is divided into three sections, with identical information. The DFO and VFA members in charge of logging complete the transport slip. The first section is retained by the officer in charge of logging supervision, the second section by the truck driver, and the third section by officer in charge of Landing II.

8.3 Log arrival listing at Log Landing 2

Logs transported from harvesting site/ Landing 1 must be stacked at Landing 2 as specified in the Guideline No. 2157/DOF. Log listing must follow:

(1) Logs and log lists of certified pool must be separated from non-certified logs.

(2) Log marking at Landing II, for the origin of log has two groups of numbers separated by a horizontal line.

- The group above the line consists of 4 codes (7 digits) including:
  - Code for PFA has 2 digits,
  - Code for the FMA has 1 digit,
  - Code for the sub-FMA has 2 digits,
  - Code for the harvesting compartment has 2 digits.
- The group below the line also consists of 4 codes (6 digits) including:
  - Code for baseline has 1 digit,
  - Code for strip line has 2 digits,
  - Code for tree number has 2 digits,
  - Code for log number has 1 digit.

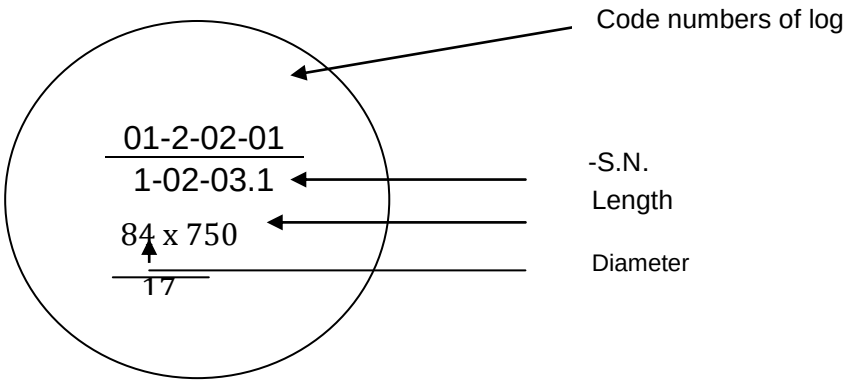
Serial number, diameter and length must be additionally marked to each log besides above code number mark. This mark must not overlap to log origin code number (**Figure 10**). Marking must use only oil-based paint.

(3) Logs from certified pool must be stamped by using of "FSC" branding hammer and DOF provides "FSC" branding hammer to PFS responsible for certified pools to use.

(4) For the code numbers of PFA, FMA and SFMA; DOF provides these code numbers to each PFS.

(5) After marking, all logs are summarized in the Log Arrival List at Landing 2 (Form 3) using this procedure.

Figure 10. Log marking at Landing 2



8.4 Log listing at Log Landing 2

Log scaling and grading must be further summarized in the Log List at Landing 2 (Form 4), which is given in this guideline.

Documents and records relevant to COC, timber identification and log tracking include:

- Annual harvesting plan including selected tree lists (Form 1) and tree location map.
- Permission of logging
- Logging contract
- Harvesting control list (form1)
- Transport slip to Landing 2 (form 2)
- List of log arrival at Landing 2 (form 3)
- Log List at Landing 2 (form 4)
- Bidding and sale

8.5 Infrastructure tree harvesting to Log Landing 2

Infrastructure projects have no formal inventory or pre-marking of trees for harvest. All logs extracted should be taken to a Log Landing 2 for measuring and registration by District Agriculture and Forestry Office (DAFO), who develop a log list.

8.6 Plantation to Log Landing 2

Plantations have no formal inventory or requirement to mark trees for harvest. All trees harvested are taken to a Log Landing 2 for measurement and registration (form 4) by DAFO, who develop a log list.

8.7 Log Landing 2 to mills

The log list created at Log Landing 2 is used by the Provincial Office of Industry & Commerce (PoIC) to calculate the price of the material, royalty and other taxes. The buyer makes payments for fees and taxes to the Provincial Finance Division, and then the PoIC issues a permit to move the material for local processing or export.

Both PoIC and PAFO maintain the log list records of all material harvested and registered at Log Landing 2. However, the study team observed significant discrepancies in the records of harvested timber volume (56,583 m^3) and the volume of logs (19,545 m^3) registered at Log Landing 2 (**Table 14**). Only 34% of the logs from all sources are registered at Log Landing 2.

Table 14. Log Landing 2 data (m3) vs. reported harvest data (m3) (source : PAFO 2011):

Province	Log Landing 2 records (m^3)	PFA Harvest (m^3)	Infrastructure Harvest (m^3)	Plantation Harvest (m^3)	Total (m^3) PFA, infrastructure & plantations
Salavan	640	1,425	16,218	744	18,387
Xekong	13,425	9,876	18,614	NA	28,490
Sayaboury	381 (stumps)	0	3,807	520	4,327
Luang Prabang	5,099	0	3,327	2,052	5,379
Totals	**19,545**	11,301	41,966	3,316	**56,583**

8.8 Log Identification at processing mills

Based on site visits to 6 mills in 3 different provinces, there was no evidence that the material entering the mills was registered by PoIC. Records of the timber supplied to each mill were not available. Identification of logs was inconsistent, as the study team observed a number of logs without proper numbering, required to trace the product back to a licensed forest or infrastructure project area (**Figure 11**).

Figure 11. Example of log identification in mills in Salavan, Xekong and Sayaboury Provinces

Salavan Province

Xekong Province

Sayaboury Province

Key Findings – Transport & Sale of Timber :

- Log Landing 2 is the focal point for recording and sale of ALL logs harvested from licensed areas in Laos
- Logs are measured and scaled by DAFO & PAFO staff to develop a log list to register each log with a log number, identified species, measured diameter and length for calculation of volume.
- The study team observed significant discrepancies in the records of harvested timber volume and volumes of logs registered at Log Landing 2.
- The log list is used by the PoIC to calculate the price of the material for payment of the wood, royalty and other taxes. Payments made by the buyer are issued to the Provincial Finance Division. Following payment of all fees and taxes, PoIC issues a permit to move the material to local processing or export.
- There was no evidence that material entering the factories was registered by PoIC. Identification of logs was inconsistent, as the study team observed a number of logs without proper numbering, required to trace the product back to a licensed forest or infrastructure project area.

9. Production & Export

9.1 Local Production

Key information was collected from each province related to volume of material registered at Log Landing 2, volume of material entering mills and volume of finished product. This information enabled an overall analysis of the timber flows in Laos.

9.1.1 Salavan Province

There are 23 wood processing factories in Salavan province. Each mill has an average monthly output capacity of about 150 m^3, would equate to an output of nearly 86,000 m^3/year, assuming a 10-month production period and a typical 40% recovery from logs to finished products. In general, production of sawn timber from logs ranges from 40-60% while finished goods such as parquet flooring from logs have a recovery rate of 35-45% (**Table 15**). The PoIC reported that all material is sold via an auction process of logs registered in log lists from Log Landing 2.

The team visited 2 mills in Salavan Province, one was a sawmill and the other produces sawn timber and flooring products for local and export markets. Both mills were managed by Vietnamese living in Laos or managed directly from Vietnam. One mill had a capacity of 200 m^3/month, but was only issued a quota of 600 m^3/yr. The mill records of logs received consisted of only 2 records in May 2011 that totalled 823 logs and 316 m^3. The second mill visited was established in 2008 and obtained a quota of 4,000 m^3 for the 2009-2010 season, but only received a quota for 300 m^3 for the 2010-2011 seasons. The company produced 600 m^3 of parquet flooring for export to Vietnam and 400 m^3 for domestic use in 2010. The production of 1,000 m^3 of parquet flooring requires a log input of approximately 2,500 m^3. The study team also observed about 1,000 – 2,000 m^3 of timber stock in the factory that would end up as unused material. There was no system to record log numbers or volumes of material entering production in either mill.

Table 15. Data on wood processing in Salavan Province: (source: PoIC Salavan Province 2011)

Number of wood primary processing factories :	23
Annual output capacity (estimated)	34,000 m^3/yr
Log volume received for all mills (2010/2011)	NA
Total Production of semi finished and finished goods 2010/2011	6,382 m^3
Log Landing 2 - Total volume registered 2010/ 2011	640 m^3
Log Landing 2 - Total number of logs registered 2010/ 2011	32,885 logs

Records of wood received by each mill are not available from the PAFO or PoIC. The mills visited in Salavan Province stated that the material is often purchased at Log Landing 2 from sales through the PoIC.

The data collected on timber supply from Salavan province totalled 16,218 m^3 which is not consistent with the 640 m^3 reported for Log Landing 2 records. Quotas allocated for Salavan province of 23,498 m^3 also does not agree with actual harvest data or the required volume to maintain the production levels reported for 2010-2011 season.

Neither the PoIC nor PAFO in Salavan province had reliable records of production for each of the mills, as there is no system to monitor output volume of finished products, only export records. The PoIC

records for Salavan province from all mills indicate a production level of 6,382 m^3 from the 23 factories, which requires a log input volume of nearly 16,000 m^3. Yet the annual registered volume of logs at Log Landing 2 was only 640 m^3, which does not match production level. In addition, the data on the number of logs registered at Log Landing 2 (32,885 logs) would likely result in a significant amount of small logs below 0.02m^3/log, which is not suitable for flooring but only chip wood material. The volume of logs recorded at Log Landing 2 as well as the reported production figures are far below the requirements to maintain industry production levels, which requires require nearly 80,000 m^3 to run at or near full capacity.

9.1.2 Xekong Province

There are 13 registered wood processing factories. Each mill has an average monthly output capacity of about 150 m^3, resulting in a maximum requirement of 48,000 m^3/year. The study team visited 2 wood processing mills in Xekong province that both produced moulded floorboards. The first mill visited had very little log stock but had a significant percentage of logs without log numbers. The second mill was much larger in scale and had produced about 3,000 m^3 of sawn timber and parquet moulded flooring boards during the 2010-2011 seasons. The mill stated they held a special quota for 5,000 m^3 of logs from Huay Lumphan Dam project in Xekong. Monthly production of parquet was estimated at 200 m^3/month. There was no system to record log numbers or volumes of material entering production in either mill (**Table 16**).

Table 16. Data on wood processing in Xekong Province: (source: PoIC Xekong Province 2011)

Number of wood primary processing factories :	13
Annual output capacity (estimated)	18,000 m^3/yr
Log volume received for all mills (2010/2011)	15,874 m^3
Total Production of semi finished and finished goods 2010/2011	23,851 m^3
Log Landing 2 - Total volume registered 2010/ 2011	13,425 m^3
Log Landing 2 - Total number of logs registered 2010/ 2011	21,083 Logs

Xekong province provided summary records of production for all 13 mills. The PoIC records for Xekong province indicate a total production level of 23,851 m^3, which requires a log input volume of nearly 59,000 m^3. However, records of log volume received at the 13 mills totalled only 15,874 m^3, which is only 30% of the amount required for 2010-2011 production levels. The annual registered volume of logs at Log Landing 2 was only 13,425 m^3, which is 5,000 m^3 below the harvest volumes reported from the PFA, and from infrastructure projects for the 2010-2011 harvest seasons. The total volume of timber available based on supply data was 18,614 m^3 while the Log Landing 2 data was only 13,425 m^3. However, both volumes do not reflect the volumes of timber needed (59,000 m^3) to support output production volumes.

9.1.3 Sayaboury Province

There are 95 registered wood processing factories. Each mill has an average monthly capacity between 50-150 m^3, which requires an estimated log input volume of 235,000 m^3/year. The study team visited 2 wood processing mills in Sayaboury province, one produced moulded floor boards and the second produced decorative products from stumps. The first mill visited had very few logs in the log yard and was not operating, but claimed to produce about 800 m^3 of products for export. The stump factory produced numerous handicraft furniture items, including benches and tables. There was no system to

record log numbers, the volume of material entering production in neither mill nor any measure of the volume of finished products (**Table 17**).

Table 17. Data on wood processing in Sayaboury Province: (source: PoIC Sayaboury 2011)

Number of wood primary processing factories :	95
Annual output capacity (estimated)	95,000 m^3/yr
Log volume received for all mills (2010/2011)	266 m^3 (*stumps only*)
Total Production of semi finished and finished goods 2010/2011	27,074 m^3
Log Landing 2 - Total volume registered 2010/ 2011	381 m^3 (*stumps only*)
Log Landing 2 - Total number of logs registered 2010/ 2011	NA

Data on log availability recorded at Log Landing 2 was only for stumps. No data was formally provided for logs registered at Log Landing 2 to meet the raw material requirements for the 95 factories located in the province. The harvest volume of 4,327m3 from infrastructure projects under Local Regulated Quotas was not included in Log Landing 2 data. According to supply data obtained from the Provincial Forestry Section harvesting was primarily from roads in the Hongsa District. There is a significant difference in volume from Log Landing 2 data and supply data that should have been reported and the total volume of logs needed (***approximately 67,000 m^3)*** to produce the 27,000 m^3 of finished products recorded for 2010-2011 season. The 27,000 m^3 of finished goods produced during 2010/2011 by the 95 mills would result in 284m^3/mill of products annually, which is well below the capacity of the mills.

9.1.4 Luang Prabang Province

There are 20 registered wood processing factories that have an average monthly capacity of 150 m3, which would require an input volume of nearly 30,000 m3/year, assuming a 10 month production cycle. The study team did not have the chance to visit any wood processing mills in Luang Prabang but received mill production data from the PoIC (Table 18).

Table 18. Data on wood processing in Luang Prabang Province: (source: PoIC Luang Prabang 2011)

Number of primary wood processing factories :	20
Annual capacity (estimated)	28,000 m^3/yr
Log volume received for all mills (2010/2011)	7,248 m^3
Total Production of semi finished and finished goods 2010/2011	3,230 m^3
Log Landing 2 - Total volume registered 2010/ 2011	5,099 m^3
Log Landing 2 - Total number of logs registered 2010/ 2011	NA logs

The data from Luang Prabang presents a difference in the volume of logs registered at Log Landing 2 and the data from log volume received by local processing mills. This difference could be caused by mills receiving logs from other provinces. Log supply data obtained from the Provincial Forestry Section totalled 3,327 m3 from roads and 2,052 m3 from teak plantation. This amount almost matches the information from Log Landing 2.

The volume of logs received by the mills of Luang Prabang was 7,248 m3, and does not meet the raw material requirements of the 20 registered wood processing mills to remain economically viable. The amount received only provides enough raw materials to operate for only 2-3 months.

9.1.5 Overview of production and log input requirements

The data demonstrates a distinct difference between the log volume recorded at Log Landing 2 (19,545 m^3) and the input material required to manufacture the finished goods reported by the PoIC (60,537 m^3). The raw material required to meet the output production of 60,537 m^3 is approximately 151,000 m^3 of log input. This estimate is based on industry recovery rates that average 50% from logs to sawn timber and 70-85% from sawn timber to finished goods, which averages 40% from raw material to finished goods (**Table 19**). The data from PoIC is mostly based on export figures as local production figures are not consistently recorded.

Table 19. Timber study data (2010/2011) comparison of Log Landing 2 data, volumes recorded entering the mills, production records and raw material required to meet production. (Source of data PoIC 2011)

Province	Log Landing 2 (m^3)	Number of mills	Log volume received at mills (m^3)	Records of finished goods (m^3)	Required log volume (m^3) input @ 40% recovery
Salavan	640	23	NA	6,382	15,900
Xekong	13,425	13	15,874	23,851	59,600
Sayaboury	381 (stumps)	95	266 (stumps)	27,074	67,600
Luang Prabang	5,099	20	7,248	3,230	8,000
Totals	***19,545***	151	NA	***60,537***	***151,000***

Key Findings – Local Production:

- Records of quantity of logs and associated volumes received by mills in each province are not adequately maintained.
- Data on the volume of material registered at Log Landing 2 is not consistent with the records of material entering the mills.
- Records of log volumes based on Log Landing 2 data does NOT reflect the volume of log input required to maintain the level of production reported by each province.
- The discrepancy between the data on log availability and the level of production indicates a significant portion of material is NOT registered at Log Landing 2.
- PoIC does not have clear data on mill capacity and production records do not correlate with average estimated capacity (PoIC 2011).

9.2 Exports

Logs produced in Laos are predominantly used to manufacture both indoor and outdoor furniture for export, depending on the quality of wood. A significant portion of export goes to Vietnam. Valuable timber species such as Maidu (*Giáng hương* in Vietnamese, *May đen* in Laos or *Pterocarpus pedatus*), Thai rosewood (*Trắc* in Vietnamese, *May khan nhung* in Lao or *Dalbergia cochichinensis*), and Pyinkado (*Căm xe* in Vietnamese, *May đen* in Lao, or *Xylia xylocarpa)* are often used for indoor furniture which is mainly exported to countries such as China, Hong Kong, Taiwan, and Singapore. Outdoor furniture products are typically made from less valuable timber species, such as Keruing (*Dầu* in Vietnamese, *May nhạn* in Lao, or *Dipterocarpus spp*) and Mersawa (*Vên vên* in Vietnamese, *May bạc* in Lao, or *Anisoptera cochinchinensis*), and are mainly exported to Germany, France, Australia, and North America.

Government regulations require local processing of round-wood within Laos to be registered under the regular quota system issued for PFA. Timber harvested from non-PFA forests may be exempted from local processing requirements depending if the project is under the jurisdiction of the central government located within the Province. Exports of logs are regulated directly by the central government, which issues export permits and associated documentation. Salavan and Xekong Provinces are permitted to export logs from the central government dam and mining projects, while logs from provincial projects are not permitted for export. In Sayaboury Province, no logs are permitted to export and all material is sent to one of the 95 local wood processing mills. The PoIC controls exports of finished goods and issues export permits to the factories and provided export records for each province. The availability of export data differed between provinces. For example, Salavan Province could only supply total export data while other provinces maintained more detailed export data.

9.2.1 National Export Statistics

The Ministry of Industry & Commerce provided annual export statistics for wood product groups over the period from 2006-2011 (**Tables 20**). National data on products was not available but the team frequently observed wood flooring in the provinces.

The national export statistics based on the product groups are not consistent over the 2006-2011 periods especially in finished goods. The value of log exports in 2006/2007 was recorded as US$ 3.7 million, which nearly doubled in 2007/2008 to US$ 6.9 million. The value dropped quickly to US$ 2.9 million in 2008/2009 and continued to drastically decline in 2009/2010 to US$ 0.28 million. In 2010/2011 there were no records of log export sales.

Table 20. Timber and wood product export values (US$) by product class from 2006- 2011

	2006/2007			2007/2008			2008/2009			2009/2010		2010/2011	
	Log/Round wood	Semi finished	Finished goods	Log/Round wood	Semi finished	Finished goods	Log/Round wood	Semi finished	Finished goods	Log/Round wood	Finished goods	Semi finished	Finished goods
ASEAN (US$)	3,016,649	24,665,742	90,642,343	6,753,835	7,487,031	151,311,987	2,578,725	22,245,126	17,529,370	264,997	32,901,560	37,275,892	23,546,834
Cambodia	-	-	26,820	-	-	-	-	-	21,303				
Malaysia	-	-	40,701	-	-	80,145	-	-	18,704		6,914		
Singapore	-	-	18,036		-	2,474	-	-	-				
Thailand	816,611	16,096,275	44,079,424	2,792,193	1,070,228	24,446,055	11,221	9,614,538	9,851,310	99,488	24,702,725	27,475,761	11,586,273
Vietnam	2,200,038	8,569,467	46,477,362	3,961,642	6,416,803	126,783,313	2,567,504	12,630,588	7,638,053	165,509	8,191,921	9,800,131	11,960,561
China	709,666	575,626	3,018,904	148,077	43,839	4,132,895	356,682	75,269	1,107,264	23,659	2,862,936	632,634	10,699,815
Japan	-	-	813,092	-	-	1,378,950	-	885	873,661		631,070	653,624	3,861,613
Korea (N+S)	-	-	170,112	60,704	-	268,386	-	-	117,693	-	214,866	-	878,906
EU	-	-	242,789	-	21,035	578,630	-	-	274,357	-	88,097	28,090	119,489
US	-	-	62,001	-	-	47,983	-	-	478,934		36,141	-	0
Australia	-	61,892	48,657	-	-	26,264	-	-	37,628	-	22,862	147,999	3,692
Total (US$)	**3,726,315**	**25,303,260**	94,997,898	**6,962,616**	**7,551,905**	157,745,095	**2,935,407**	**22,321,280**	20,418,907	**288,656**	36,757,532	**38,738,239**	39,110,349
Grand total			**124,027,473**			**172,259,616**			**45,675,594**		**37,046,188**		**77,848,588**

9.2.2 Salavan Province

Salavan province exported a significant volume of logs, over 50% of total export volume. Salavan province produced 6,382 m^3 of semi and finished goods in 2010-2011.Total exports were 6,381 m^3, which indicates that most goods produced are exported or that production figures are based on export figures. However, the Salavan export records do not match National export statistics for 2010/2011 (**Table 21**).

Table 21. Data on timber exports for Salavan Export Data:

Product	Thailand		Vietnam		Total - All Countries	
	Volume (m^3)	USD	Volume (m^3)	USD	Volume (m^3)	USD
Logs	NA	NA	NA	NA	8,620	NA
Semi-finished goods	NA	NA	NA	NA	4,101	NA
Finished goods	NA	NA	NA	NA	2,280	NA
Total	NA	NA	NA	NA	***15,001***	NA

9.2.3 Xekong Province

Xekong province exported a very small volume of logs, representing less than 2% of total export volume. Xekong province produced 27,042 m^3 of semi and finished goods in 2010-2011.Total exports were 27,463 m^3, which demonstrates that most goods produced are exported or that production figures are actually based on export figures. Export volumes in 2010-2011 exceeded production figures over the same period by 3,600 m^3 which could reflect stocks from production of the previous year. The export volume of 27,463 m^3 are significantly higher than data of log availability over the same period, which only recorded 13,425 m^3 of stumps from Log Landing 2, and does not include losses occurring during production (**Table 22**).

Table 22. Data on timber exports for Xekong Export Data: 2010/2011

Product	Thailand		Vietnam		Total	
	Volume (m^3)	USD	Volume (m^3)	USD	Volume (m^3)	USD
Logs	0	0	421.6	$24,744	421	24,744
Semi-finished goods	16,805	$1,697,402	9,152	$910,684	25,957	2,608,086
Finished goods	0	0	1,085	$272,256	1,085	272,256
Total	***16,805***	***$1,697,402***	***10,658***	***$1,207,684***	**27,463**	**$2,905,086**

9.2.4 Sayaboury Province

Sayaboury province did not record any export of logs during the 2010-2011 production season. Sayaboury province produced 27,074 m^3 of semi and finished goods in 2010-2011, total exports were 22,243 m^3, and again indicating that most goods produced is exported. Production volumes in 2010-

2011 exceeded export figures over the same period by 4,800 m^3 which could reflect domestic sales. However, export volumes of 22,243 m^3 are significantly higher than data of log availability over the same period, which only recorded 381 m^3 of stumps from Log Landing 2 (**Table 23).**

Table 23. Data on timber exports for Sayaboury Export Data: 2010/2011

Product	Thailand		Vietnam		Total - All Countries	
	Volume (m^3)	USD ($000)	Volume (m^3)	USD ($000)	Volume (m^3)	USD ($000)
Logs	0	0	0	0	0	0
Semi-finished goods	5208	$ 733	97	$ 18	13,976	$ 1,653
Finished goods	1159	$ 70	0	$0	8,267	$ 1,606
Total	***6,367 m3***	***$ 803***	***97 m3***	***$18***	***22,243***	***$ 3,259***

9.2.5 Luang Prabang Province

Luang Prabang province did not record any export of logs during the 2010-2011 production season. Luang Prabang province produced 3,230 m^3 of semi and finished goods in 2010-2011 with total exports the same volume (3,230 m^3), again indicating that most goods produced are exported or that production figures are actually based on export figures. Export volumes in 2010-2011 did not exceed the volume received by the mills as in other provinces (**Table 24**).

Table 24. Data on timber exports for Luang Prabang Export Data: 2010/2011 (PoIC data)

Product	Thailand		Vietnam		Total - All Countries	
	Volume (m^3)	USD ($000)	Volume (m^3)	USD ($000)	Volume (m^3)	USD ($000)
Logs	0	0	0	0	0	0
Semi-finished goods	0	0	1071	$4,229	2,246	9,581
Finished goods	193	$469	0	0	984	4,101
Total	**193**	**$469**	**1071**	**$4,229**	***3,230***	***13,682***

Most exports are bound for neighbouring countries, especially Vietnam and Thailand, with an increasing market to China. There are numerous international and provincial export points along the border with Vietnam and Thailand (Figure 10 & Table 19). The PoIC issues export documentation that is verified at the point of export. The Customs departments of importing countries receive the timber exports and issues new import documentation that legalises material entering the import country. Thus there is potential for material that may have been illegally harvested to be legalized through the export process.

9.2.6 Overview of provincial exports and log supply

The data from the 4 provinces sampled was analysed to evaluate the export volumes relative to reported log volumes registered at Log Landing 2. The analysis demonstrated a distinct difference between the log volumes recorded at Log Landing 2 relative to reported log and finished goods export

volumes reported by the PoIC (68,036 m^3) (**Table 25**). The data from PoIC is mostly based on export figures as local production figures are not consistently recorded.

Table 25. Timber study data (2010/2011) comparison of Log Landing 2 data with reported export volumes for each province. (Source of data PoIC 2011)

Province	Log Landing 2 volume records (m^3)	Log Exports (m^3)	Semi-finished Goods Exports (m^3)	Finished Goods Exports (m^3)	Totals Exports (m^3)
Salavan	640	8,620	4,101	2,280	15,101
Xekong	13,425	421	25,957	1,085	27,463
Sayaboury	381 (stumps)	0	13,976	8,267	22,243
Luang Prabang	5,099	0	2,246	984	3,230
Totals	**19,545**	**9,042**	**46,280**	**12,616**	**67,937**

9.3 Export Points

The timber supply study observed export documentation provided to processing mills to enable export of timber products but did not have the opportunity to visit any of the checkpoints in Salavan, Xekong and Sayaboury provinces to evaluate the process and recording systems. The study team obtained the list of border crossing checkpoints based on recognised international checkpoints and local provincial checkpoints (**Figure 12 & Table 26**).

Figure 12. Map of Laos border checkpoints

Table 26. List of Laos International and provincial border checkpoints.

International border check points			
S.N	**Name of check point**	**Location (Province)**	**Country**
1	Boten	Luangnamtha	China
2	Panghok	Phongsaly	Vietnam
3	Namsoy-namaew	Huaphan	Vietnam
4	Namkan	Xiengkhouang	Vietnam
5	Namphao	Bolikhamxay	Vietnam
6	Namphau	Khammouane	Vietnam
7	Laobao	Savannakhet	Vietnam
8	Samouay	Salavan	Vietnam
9	Phou Khua	Attapua	Vietnam
10	Houayxay-Xiengkong	Bokeo	Thailand
11	Namhuang	Xayabouly	Thailand
12	Khua Mittaphap (Friendship bridge)	Vientiane capital	Thailand
13	Paksan	Bolikhamxay	Thailand
14	Thakek	Khammouane	Thailand
15	Khua Mittaphap 2 (Friendship bridge 2)	Savannakhet	Thailand
16	Vangtao-Songmek	Champasak	Thailand

Provincial border check points			
S.N	**Name of check point**	**Location (Province)**	**Country**
1	Ban Dan-Xiengkhueng	Huaphan	Vietnam
2	Pa Hang-Longsap	Huaphan	Vietnam
3	Somvang-Taenten	Huaphan	Vietnam
4	Naxon-Houay Puak	Luang Prabang	Vietnam
5	Nam On	Bolikhamxay	Vietnam
6	Nong Ma-Kalong	Khammouane	Vietnam
7	Salay-Salo	Salavan	Vietnam
8	Kotay-Hongveun	Salavan	Vietnam
9	Tavang-Adeud	Salavan	Vietnam
10	Ta Ok	Sekhong	Vietnam
11	Pa Kha-Ban Chom	Phongsaly	China
12	Pa Chang-Sinchay	Phongsaly	China
13	Phou Lakkham	Oudomxay	China
14	Ban Khouang	Oudomxay	China
15	Pang Hay-Mouang Nang	Luangnamtha	China
16	Ton Pheung	Bokeo	Thailand
17	Khon Pheung-Houay Kom	Xayabouly	Thailand
18	Nam Ngeun-Houay Kom	Xayabouly	Thailand
19	Khaenthao	Xayabouly	Thailand
20	Xanakham	Vientiane	Thailand
21	Ban Vang-Ban Khok Phay	Vientiane	Thailand
22	Tha Doua	Vientiane Capital	Thailand
23	Xebang Fai	Khammouane	Thailand
24	Tha Hua Savannakhet	Savannakhet	Thailand
25	Thapathoum	Savannakhet	Thailand
26	Dan Wai-Ynakha	Savannakhet	Thailand
27	Ban Houanhin-Ban Yak Khou	Savannakhet	Thailand
28	Pak Thaphan	Salavan	Thailand
29	Ban Khanthoungxay	Salavan	Thailand

Key Findings – Exports:

- Log exports were identified in 2 of the 4 provinces during 2010/2011 under study. The volume of these was only significant in 1 province. However, there were no records of log exports based on national statistics for the same period.

- In several provinces records of export volumes far exceeded the log volumes registered in Log Landing 2 that would be required to produce the level of exports recorded by the Provincial Office of Industry & Commerce.

- Export documentation is issued by the Provincial Office of Industry & Commerce for processed timber products that may effectively confer legal status on the wood products concerned.

- Export records are not consistently maintained for each province but normally include volumes. However, national records only report export value in USD and this cannot be easily converted to volume to enable comparisons to be made.

- There are 16 international border checkpoints and another 29 provincial checkpoints where timber can cross the border into neighboring countries.

10. Timber Supply Model

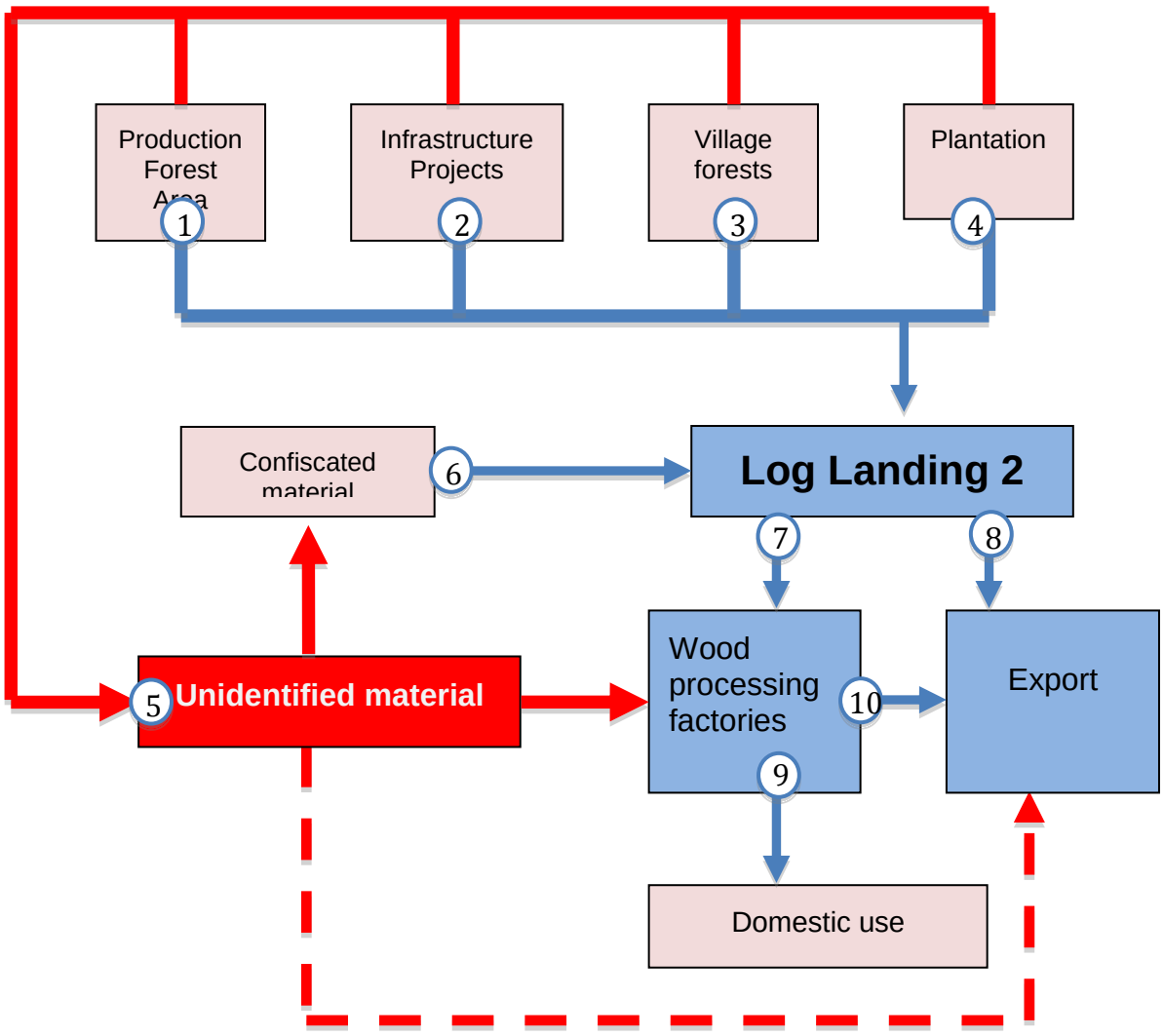
10.1 Structure of Timber Supply & Flows

The timber supply chain study in Laos is based on PFAs, Infrastructure Projects, Village forests and Plantations. Timber can enter the supply chain through formal registration at Log Landing 2 or through a system outside the formal registration process (**Figure 13**). This latter material is often not traceable to origin or legality. The result of the timber flow study in Laos can be summarized in Figure 13

From Log Landing 2, logs harvested under special quota infrastructure projects managed by the central government can be formally exported to the international markets or processed domestically. Log lists have details on registered logs and are used by PoIC for price, payment of royalties and associated taxes and provides a formal system to track material from licensed harvest areas under annual, special or local regulated quotas.

Local processing facilities can obtain logs from different sources, including those registered at Log Landing 2 or from non-registered sources. The timber products produced can then be exported or distributed to the domestic markets and subsequently legalized through export permits or local transport permits.

Figure 13. Model of Laos Timber Supply & Flows



10.2 Description of timber flows and export

(1) Logs from production forest areas (PFA) to Log Landing 2:

Permission for harvesting is granted by the central government through annual quota systems, Appendix 4 covers details for each province. The harvesting and log control is regulated by the Guidelines on Chain of Custody (CoC) Control of Timber Harvesting & Transport in Production Forest (described in sections 6.1-6.4). This study noted that there is a very small quantity of material from PFA areas entering the timber supply chain. Only 2 provinces (Salavan & Xekong) had quota allocated for harvesting in PFAs. The volume of timber allocated by the quota was greater than the actual volume extracted in the 2010/2011 harvesting season in both Salavan and Xekong provinces. The data indicates that logs harvested from PFA areas were not consistently being registered at Log Landing 2.

(2) Logs from infrastructure development projects to Log Landing 2:

Infrastructure development can occur at the national and local scale. National scale development primarily concerns hydropower construction and mining. Since the late 1990s, natural forests within hydropower construction projects have been a vital source of log supply in Laos. Between 1997 and 1998, the forests within these project sites alone supplied over half of the total national timber supply

of about 600,000 m^3 notably from Nam Teurn Dam, Nam Ngum Dam, Nam Leuk Dam, Xe Nam Noi Dam and Xepian Dam (Southavilay and Castrén 1999; EU and FAO 2002). In the 1990s, the average annual removal of logs from these forests was 303,500 m^3, accounting for 57.5% of the total log harvest of the country (WorldBank, Sida et al. 2001). Nevertheless, if the log supplies from other development projects, such as infrastructure and concession areas for agribusiness and mining, are included, the estimated log supply would be much higher, especially over the past five years. The Department of Energy Promotion and Development revealed that the Lao Government signed MOUs to supply 7,000 MW of energy to Thailand after 2015, 3,000 MW to Vietnam after 2020, and 5 MW to Cambodia by the end of 2009. For these reasons, the Government is seeking additional sites for hydropower construction. Up to 2008, the Government has signed MOUs for the development of 74 hydropower projects (EPD 2008).

The results of the Timber Supply Study in the 4 provinces indicate that:

Salavan Province: extracted 10,141 m^3 from mining areas against a quota of 3,922 m^3 and 5,864 m^3 from road construction and land clearing against a quota of 19,245 m^3. Extraction from infrastructure projects represented 75% of the total reported log volume (21,337 m^3) extracted in the province during the 2010/2011 harvest season. Log Landing 2 data for the province indicates a registered log volume of 640 m^3. The registered log volume was only 3% of total reported log volume extracted in the 2010/2011 harvest season.

Xekong Province: extracted 1,044 m^3 from mining areas with no quota and 17,570 m^3 from dam construction against a quota of only 6,000 m^3. The total volume extracted in 2010/11 was 34,745 $m^{3\ of}$ which 8,614 m^3 (53%) was extracted from infrastructure projects and 13,425 m^3 (38.6%) was reported Log Landing 2 log volume. ***Sayaboury Province:*** was reported to have no quota for the past 5 years, meaning all timber extracted is based on a local regulated quota system. Sayaboury had a significant amount of confiscated timber (4,971 m^3) of which 2489 m^3 came from Nam Poi Conservation Forest. The total volume of logs extracted from infrastructure projects was greater than the reported Log Landing 2 log volume data. The 95 mills reported receiving a stump volume of 266 m^3, however the total reported production of finished goods from these mills was over 27,000 $m^{3,}$ which requires an estimated input of 67,000 m^3, assuming a typical 40% recovery rate. The total registered volume of Log Landing 2 included only stumps, which consisted of 10% of the total reported log volume extracted in the 2010/2011 harvest season.

Luang Prabang Province: Extraction from roads and dam construction represented 61% of the total reported log volume extracted during the 2010/2011 harvest season. The total volume of logs extracted from infrastructure projects was less than the amount reported at the Log Landing 2, which includes a significant amount of teak plantation logs. The total registered volume of Log Landing 2 was 95% of total reported log volume extracted in the 2010/2011 harvest season.

The quantity of logs removed from infrastructure projects do not appear to have been properly recorded. The study indicates that the majority of available material comes from infrastructure projects and is not associated with annual and special quotas approved by the central government but sometimes by local regulated quotas. There is also inconsistent recording of key data, which results in significant discrepancies between reported harvest volumes and log volumes registered at Log Landing 2. Data from Log Landing 2 recorded only 34% of total harvest volume from the 4 provinces indicating a significant portion of material is NOT being registered at Log Landing 2.

3 Logs from Village forests to Log Landing 2

Village forests are poorly recognized and not included in the three forest types as described in the current version of Lao forest law. Harvests from village forests are primarily used for village consumption. Timber harvesting permission process, outlined in Section 5.4.3, depends on the intended output. For example, if the timber will be used for community improvements, such as for the construction of a village office, school, or temple, the village head must approach the DOA and request a harvest authorization from the POA.

In many cases, harvests in this forest are part of the provincial special quota. For example, temple construction in the Salavan district of the Salavan province used timber from a village forest with the provincial governor's approval. As mentioned previously, timber for infrastructure projects within village forest areas, and extracted materials must be recorded at Log Landing 2, and can result in timber used for commercial sale. However, the study team did not record any logs from village forest areas registered at Log Landing 2 in any of the 4 provinces studied.

The study noted that the boundaries and areas related to village and district forests are not clearly defined by the Provincial Forestry Section in each of the provinces studied.

4 **Logs from plantation to Log Landing 2**

The process of asking permission for timber harvesting in privately-owned forest plantations appears to be simple. Given *de jure* rights, the owners can arbitrarily use timber from their own plantations or from their own land. However, if they harvest for commercial reasons, a harvest of controlled species, permission from PAFO is required and may be included in the annual quota system. Documents associated with plantations from Luang Prabang include:

i. Plantation Certificate
ii. Cutting Permission
iii. Moving Permission
iv. MIC (PAFO Document)
v. Loading Certificate from Luang Prabang Teak Plantation (LPTP) and
vi. Log List from the farmers (endorsed by the Lao government)

All material harvested from plantations should be registered at Log Landing 2 prior to transport to mills.

Unidentified material

5 The data collected on timber supply registered through Log Landing 2 from each of the 4 provinces did not match the reported log volume received at the mills nor the raw material requirement to meet and maintain reported production levels. There was a significant discrepancy in records from Log Landing 2, which represents the formal estimate of the timber supply in Laos, suggesting that a significant portion of raw material entering the mills is not being registered and recorded (Table 14).

A significant volume of unidentified timber appears to enter the local timber processing sector and is subsequently manufactured into finished goods and exported into international markets (EIA 2010, DOFI annual report 2011). This study found no evidence of the direct export of unidentified timber in the studied provinces. The harvest records indicate that total harvest was 56,583 m^3, with the volume of registered logs at Log Landing 2 only 19,545 m^3 indicate that only 34% of the logs from all sources are as registered at Log Landing 2.

The results of the analysis are that there is a distinct deficit between log volumes recorded at Log Landing 2 (***19,545 m^3***) and the volume needed to manufacture the total finished goods reported by the PoIC (***60,537 m^3***). The raw material required to create the recorded production of 60,537 m^3 of finished goods is estimated to be approximately ***151,000 m^3*** based on industry average recovery rates (Table 19).

This demonstrates that the raw material is not being adequately recorded under the current system and must originate from a variety of different forest areas, including village forest use areas.

Confiscated logs to Log Landing 2

6 DOFI is responsible for inspection of wood products in regards to legality. Since its establishment in 2008, DOFI has confiscated over 70,000 m^3 of logs and other semi-finished products that did not have

proper identification (see section 10.1). However, this amount does not cover all illicit timber as both DOFI and POFI admitted that there has been collaboration between investors, local officials and local people who engage in logging, which has led to a lively trade in illicit timber throughout the country.

Confiscated logs become part of the timber supply chain in Laos through a formal sale process similar to that for logs from infrastructure projects. PAFO creates the log list of confiscated timber for sale through a bidding process under PoIC.

7 Logs from the landing 2 to processing firms

The log list created at Log Landing 2 is sent to Provincial Commerce Section and PoIC to calculate the log price, based procedures outlined in the Notice of Ministry of Industry and Commerce on the implementation of log price at Log Landing 2, dated 27/01/2010. The buyer pays the Provincial Finance Division, who issues a receipt. Then, the PoIC issues a transport permit to move the logs from Log Landing 2 to factories. The documents accompanying the transport permit include: Business license, Copy of log list of Landing II approved by the PAFO, Copy of sale contract of timber (signed between PAFO, PoIC and buyer), Payment Receipts (Royalty, tax and fee) issued by Provincial Finance Division, and log transport permit issued by PoIC. Legal timber originating from village forest use can travel to mills without a permit.

8 Logs from Landing 2 to international markets

Laos has been trading timber products with neighbouring countries since the colonial period in the early 20th century (Chanthirath 1998; CPI, NSC *et al*. 2006), playing an important role in the Lao economy. In the 1990s, timber exports accounted for about 40% of the total Lao commodity exports, or about 30% of national foreign currency earnings (EU and FAO 2002; CPI, NSC *et al*. 2006). The key timber products traded during this period were logs, sawn wood, finished products, including furniture, flooring and photo frames, stumps, and plywood (MAF 2005).

Logs from infrastructure projects are permitted to be exported directly while logs from PFA must be locally processed into semi-finished or finished goods. National export figures are only in USD terms and cannot be used to calculate volumes of logs exported. Annual national export figures from 2006/2007 indicate a clearly decreasing trend in log exports (Table 20).

2006/2007	USD 3,726,315
2007/2008	USD 6,962,616
2008/2009	USD 2,935,407
2009/2010	USD 288,656
2010/2011	USD 0

National export figures show that no goods were exported in 2010/2011, which does not correlate to information from the provinces.

9 Timber products from processing firms to domestic markets

The domestic timber markets in Laos are primarily for fuel wood, house construction and furniture. Figures for timber consumption construction and furniture are imprecise, due to the lack of research to assess timber usage at household levels. MAF estimates that domestic consumption of sawn wood is about 200,000 m^3 per year or about 37 m^3 per year per 1,000 people (MAF 2005) primarily for house construction and furniture. Wood and wood products for domestic consumption must be

accompanied by the following documents: Business License, Copy of sale contract of timber (singed between PAFO, PoIC and buyer), Payment Receipts (Royalty, tax and fee) issued by Provincial Finance Division, formal receipt issued by Provincial Finance Division and Log Transport Permit issued by PoIC. If timber is transported between districts copies of the business license and formal recipes are also required.

The PoIC was unable to provide data on production of semi or finished goods for the local market. PoIC maintained records of exports but does not have consistent records of annual factory production.

10 Timber products from processing firms to international markets

Documents required for export of processed products include: Business license, transport permit issued by PoIC, wood products list, export tax invoice, export tax exemption in case of finished wood products, copy of sale contract with destination company, and copy of advanced payment for other costs specified in the concerned laws and regulations.

National statistics include information on semi-finished and finished goods exported to each country in only USD (Table 20). Provincial records of exports of semi-finished and finished goods for each province were available through the PoIC for the period of 2010/2011 (Tables 25-28).

10.3 Summary of Timber Supply Model

The Timber Supply Study identified that the annual and special quotas approved by the central government does not accurately reflect the actual volume of material harvested and available to the local market. There is a critical lack of information from Log Landing 2 across the provinces, which has led to an inconsistency between the log volume of the timber supply and the records of mill production. The study team observed logs without numbers in several mills that were understood to come from village forests and from unidentified sources. Since wood processing factories do not have chain of custody systems, unless they are certified under FSC, material from all sources will be mixed as part of the production process. Timber products from the various supply sources can be exported or distributed to the domestic markets based on permits issued by the PoIC.

Material to be exported is registered with the PoIC, which formally allows wood products to be exported legally to neighbouring countries. Importing countries can issue import documents against the wood products at the border to legalize the material at the entry border checkpoint (Figure 12). This allows processed timber that could have been illegally harvested to be legalized through processing and export to neighbouring countries.

The incomplete use of annual and special quotas approved by the central government does not imply that harvested timber material is illegal; it may be permitted through local regulated quotas issued by the province or district government. Log Landing 2 is a critical point, enabling traceability of material back to a known forest origin with a permit for harvesting. The discrepancies uncovered in this study provide clear evidence that the system used by Laos does not adequately function to consistently quantify and trace harvested material.

Key Findings: Timber Supply Model

- There are 4 main timber supply sources: PFA, Infrastructure, Village Forest areas and plantations.
- Log Landing 2 is the critical point where PAFO & DAFO scale and register log numbers and volumes. This forms the basis of the regulated timber supply in Laos. However, based on the data obtained from the 4 provinces studied, only 34% of the material entering the supply chain is being registered at Log Landing 2. This infers that a significant portion of material is unidentified.
- The timber supply in Laos is not restricted to annual and special quotas approved by the central government and are supplemented by Local Regulated Quotas issued by the Provincial and District governments.
- Most of the timber entering the supply chain does not come from PFAs, but from infrastructure projects from which logs can be exported without local processing.
- There is a significant discrepancy between production figures, records of log volume entering the mills and Log Landing 2 data.
- Some mills have logs without the marks required for traceability back to Log Landing 2 and forest of origin.
- Logs registered at Log Landing 2 as well as unregistered material can enter the processing system and finished goods can subsequently be legally exported by obtaining government export permits.
- Unidentified material may be associated with Local Regulated Quotas that are not being registered at Log Landing 2 but can be considered legal as there is a license to harvest issued within the province.

11. Monitoring System

11.1 Department of Forest Inspection (DOFI)

DOFI was formed in 2008 with a mandate to conduct official inspections of timber, forest products and wildlife. DOFI functions are to inspect logging activities as well as to conduct inspections of log transport and sale throughout the country, including unregistered material that does not have supporting documentation and could be determined as illegal. However, logging activities do not appear to be regularly inspected and the focus is on checking the transport of logs and wood products. Since its establishment in 2008, DOFI has recorded a total of 70,000 m^3 as illegal in the initial 2 years of operation (**Table 37**).

Table 27. Confiscated timber by DOFI

Products	2008/2009		2009/2010		2010 – Oct 2011	
	Pieces	M^3	Pieces	M^3	Pieces	M^3
Logs	NA	NA	65,843	32,422	NA	NA
Sawn timber	NA	NA	324,218	11,165	NA	NA
Stumps	NA	NA	615	347	NA	NA
Totals	NA	***26,069***	390,676	**43,934**	NA	**9,249**

The volume of illegal timber confiscated by DOFI has reduced dramatically, but the data collection is not consistent as the details on reported figures are not readily available.

Based on field observations in the 4 provinces, the DOFI does not have sufficient field staff and equipment to adequately conduct inspections. The DOFI admitted that there has been collaboration between investors, local officials and local people who engage in logging which has led to illicit timber trade throughout the country (Pongern 2009). Officials in Sayaboury reported that they can arrest most of the cases, Luang Prabang estimated 50-60% of the cases can lead to an arrest, while Salavan and Xekong offices admitted that less than 30% of the illicit activities are expected to be discovered.

11.2 Provincial Agriculture and Forestry Offices (PAFO)

PAFO function is to develop logging quotas within each province, supervise timber harvests, scale and grade logs, and create the list of logs at Landing 2. It is responsible for activities from the forest to the forest gate (Landing 2).

11.3 Provincial Forestry Section

PFS function is to compile logging quotas from districts in the province and submit to PAFO, supervise timber harvest, scale and grade logs, and create the list of logs at landing 2. PFS is responsible for activities from the forest to the forest gate (Landing 2).

11.4 District Agriculture and Forestry Offices (DAFO)

DAFO monitors logging operations and log origin and relevant documentation. DAFO staff measure logs at Log Landing 2 and issues a formal log list (Form 4) to be used to register harvested material from all

areas (PFA, Infrastructure, Plantations, Village Forests) that can enter into the timber supply chain or exported if applicable.

11.5 Provincial Office of Industry and Commerce (PoIC)

The PoIC monitors log transport from Log Landing 2 to the point of processing, using transport permits and documentation to regulate log flow. Inspection of mills is conducted based on applications to register wood products for export. There is no formal inspection and registration of material delivered to wood processing mills apart from records of material received through transport permits.

11.6 Nam Poi Conservation Forest:

Nam Poi Conservation Forest is a nationally designated forest area of 191,200 ha. However, the area contains several villages that engage in slash and burn agriculture practices as well as unregulated logging. The Nam Poi Conservation Project has established a monitoring system based on regular ground patrols. Three check posts have been established at main access points and five more posts are planned for 2012. Each check post has 6 staff, including 2 foresters, 2 soldiers and 2 villagers. Patrols are carried out for 15 days a month with reports issued monthly. In the event of serious illegal activity, the staff reports directly to the field office and headquarters. 2,489 m^3 of illegal logs and sawn wood were identified and confiscated in 2010-2011 (Annual Report of Nam Poi Conservation Forest Field Office, 2010-2011).

Key Findings - Monitoring

- Laos has several government agencies that conduct monitoring from forestry operations to measuring logs at Log Landing 2 to mill production.
- DOFI is the main department that inspects logs at Log Landing 1 & 2 as well as at processing mills. DOFI does not have a sufficient amount of staff or equipment to conduct inspections over the entire country. Based on the evidence collected from the 4 provinces studied, they estimated that they can identify between 30% to 80% of illegal timber.
- DAFO is the key agency to monitor harvesting operations to Log Landing 2, where all material is scaled and recorded (form 4) that is used by PoIC to value, support the sale and issue the transport permits. Data and records generated by DAFO and PoIC need to be shared and reconciled between both organizations.
- Monitoring data is not consistent and does not adequately reflect the availability of timber supplied to the market to maintain recorded levels of production of finished goods.

12. Laos Stakeholders

The EU FLEGT Voluntary Partnership Agreement (VPA) process requires the partner country to actively identify and engage national and local stakeholders that have an interest in the forest and timber trade in Lao PDR. The VPA involves stakeholders during the negotiation and implementation process, and should include government agencies, industry associations and non-governmental organizations. The credibility of the VPA depends on stakeholder involvement and adoption of the legality assurance system that must be developed as part of the VPA process to license timber exports to the EU. Some key stakeholders are listed below. See also Barney and Canby (2011).

12.1 Industry associations

Wood Industry Association

Lao Furniture Association

Lao National Chamber for Commerce and Industry

12.2 Non-government agencies

Global Association for People and the Environment
Address: Ban Kang P.O.Box 860 Pakse, Champasack Province
Contact Persons: Mr. Gerry Duckitt, *Program Manager* Mr. Randy Arnst, *Executive Director*
Telephone: (856)-(031) 251427 Fax: (856)-(031) 251427
Email Address: gerryduckitt@yahoo.com
Website: http://www.gapeinternational.org

Oxfam Australia
Address: 073/06 Sisangvone Rd, Thatluangtay P.O.Box 2927 Vientiane
Contact Persons: Khamlouang Keoka, *Country Representative* Pornthip Khennavong, *Office Manager*
Telephone: (856)-(021) 450870 Fax: (856)-(021) 414660
Email Address: oauslaoadm@oxfam.org.au

Oxfam Honk Kong
Address: 60/5 Sisangvone Rd, Ban Thatluangtay, Vientiane Municipality
Contact Persons: Ratsamy Souvannanethy, *Country Programme Manager*
Telephone: (856)-021-453075
Email Address: ratsamys@oxfam.org.hk

Oxfam Solidarity (Belgium)
Address: 60/5 Sisangvone Rd, Ban Thatluang Tai P.O.Box 4723 Vientiane Capital,
Contact Persons: Mr. Bong Munsayaphom, *Program Coordinator* Ms. Vatsana Phetdavong, *Office Manager*
Telephone: (856)-(021) 450863 Fax: (856)-(021) 414660
Email Address: oxfamsol@laopdr.com

Village Focus International
Address: 207, Ban Phonsavan Tai, Unit 2 P.O.Box 4697Sisattanak District, Vientiane,
Contact Persons: Richard L. Reece, *Regional Director* Dr. Boualaphet Chouthavong, *Country Manager*
Telephone: (856)-(021) 312519 Fax: (856)-(021) 350740

Email Address: lao@villagefocus.org
Website: http://www.villagefocus.org

WWF
Address: House no. 39, Unit 05, Ban Saylom P.O.Box 7871Vientiane, Vientiane Municipality
Contact Persons: Mr. Roland Eve, *Country Director* Mrs. Seng Deuane Vithamaly, *Finance and Admin. Manager*
Telephone: (856)-(021) 216080, 251883 Fax: (856)-(021) 216080, 251883
Email Address: wwflaos@wwfgreatermekong.org
Website: http://www.panda.org/laos

13. Discussion & Recommendations

13.1 Summary

The Laos timber supply study was conducted between August - November 2011 and based on data collected from government agencies in Vientiane, Salavan, Xekong, Sayaboury and Luang Prabang Provinces. The key objective of the assignment was to improve the understanding of timber flows in Lao PDR and to understand the roles of the government agencies involved in the timber supply chain, from forest area to processing.

Laos has a formal system for regulating timber harvests based on a volume quota system, classified as either annual and special, that is approved by the central government or through a local regulated quota issued by provincial or district government agencies. The volume quota system does not directly correlate to defined harvest areas that limit the effectiveness of sustainable management of resources and traceability of material to a licensed harvest area. The main government agencies involved in the timber supply system are the MAF, PAFO, PFS, DAFO, who are responsible for regulating PFAs and infrastructure projects harvests, register timber at Log Landing 2. PoIC calculates the price of material for sale and payment of royalty and taxes and issues transport permits for material to be processed or exported.

The Timber Flow Study has identified of a number of key elements and provides recommendations to revise and enhance the current system used in Laos to meet international requirements for traceability and transparency needed within a legality assurance system.

13.2 Timber supply

Quota System: Central Government issues volume-based quotas that permit timber harvesting. Central Government quotas can either be Annual Quotas for PFA areas or Special Quotas for infrastructure projects. Provincial Government can request Special Quotas from the Central Government for harvesting infrastructure and development projects that do not go directly through MAF. The study identified inconsistency in the application of Special Quotas in the sampled provinces. A significant volume of timber is harvested through Local Regulated Quotas, which is issued by the local government.

A key issue related to the annual quota is that the volume based quota system is not directly related to planned harvest areas or based on a sustainable yields of forest resources, and as a consequence traceability is much more difficult. The study observed that information on licensed harvest areas within PFA was not consistently recorded.

Special quotas were noted to be inconsistent, some being based on volume and others on concession area. This makes it difficult to define areas to supply volumes allocated under the quota or volumes within concession areas that are not related to annual licensing for harvesting within specific project areas. Special quotas that are approved without MAF involvement make it difficult to control and monitor.

Local Regulated Quotas are harvesting permits granted by the provincial and district government. The study observed significant discrepancies between the amount documented as harvested, the special or annual quotas, the volume of timber provided to processing companies and governmental revenue associated with this timber. For example, in Sayaboury province the 95 registered processing mills that have not received central quotas for over 5 years, suggesting that the use of local regulated quotas may be the main supply source of raw materials for the mills. However, there was no evidence that local regulated quotas were directly related to specific harvest licensed areas.

The overall weakness in the quota system is the lack of a direct link between allocated quota volumes and planned harvesting areas within PFAs, infrastructure projects or village forest use areas, which cause the provincial and district government agencies to search for additional harvesting sites to fulfil the volume based quotas.

Recommendation- Quota System

Clear licensing of harvesting areas within PFAs, infrastructure projects and village forest areas is required. Allocation of quota must be directly related to the specific areas licensed for harvesting as determined by forest management plans or approved infrastructure project level planning.

Production Forest Areas: Based on the information collected in the 4 provinces in 2010/2011, PFAs provide a very small proportion of the timber supply relative to the size of the total forest area. Recorded extraction rates were not very significant, estimated at only 2.2m^3/ha, which appears uneconomical. Data on harvest areas was not consistently maintained or reported outside SUFORD managed areas. PFAs should be managed based on long-term sustained yields and include reliable forest inventories and long term and operational management planning. PFA resources should support the timber supply chain in Laos and promote the sustainability of forests.

Recommendation- PFA

PFAs should contribute to the long-term supply of sustainable timber resources to local mills. Sustainable forest management is critical to sustain the resources as conventional logging and a narrow focus on a few commercial species results in degrading the resource. Efforts should be expanded to encourage more PFA areas to be sustainably managed.

Infrastructure Projects: The data obtained from provinces related to infrastructure projects varied based on use of annual, special and local regulated quotas, actual harvested volumes and harvested areas. The total reported timber supply available from infrastructure project in the 4 provinces was 44,414 m^3, an estimated 4 times the volume reported from PFAs. Quotas can be issued for larger volumes than required to clear the projects, which allows unused quotas to be used as a balance for harvesting the following year in different areas or projects. There was inadequate evidence of licensing of specific harvest areas within infrastructure projects as part of an approved project plan.

Recommendation- Infrastructure projects

Laos is a rapidly developing country that needs to enhance the country's infrastructure facilities, which requires planning and approval of development projects. Areas proposed for clearage under infrastructure projects should be planned as part of the project approval process, which would link licensing for this harvest to the approved infrastructure project plan. Material harvested from infrastructure projects should be registered at Log Landing 2 and be traceable back to the harvest license and project site.

Village Forest Areas: The village forest areas within each province are generally insufficiently identified and documented. The study team was unable to identify any records of village forest use harvests from the 4 provinces' Log Landing 2 data. Materials harvested for village use are not required to be registered at Log Landing 2, unless areas have been harvested for infrastructure projects. Timber from village forest areas can be sent directly to local mills for processing and could represent a significant volume of timber arriving at the local processing mills that is currently not documented.

Recommendation- Village Forest Areas

Village forest areas should be identified and mapped in each province as they form a significant portion of the provincial forest resource area. Licensing for commercial harvesting should include village forest

areas. In this way, all timber from these areas must then be registered at Log Landing 2, which would enable traceability from the forest to processing.

The recognition of Village Forests should be formalized within Lao PDR and within each province as a forest type that can be included within the Forest Land Use Strategy.

Plantations Areas: Plantations are primarily teak (*Tectona grandis*) and have been planted by small holders. The contribution of the plantation areas to the timber supply was significant for the Luang Prabang province. Data for the plantation areas is not well documented for location and planted area, as they are frequently fragmented between the village forest and agricultural areas. Plantation development, such as teak, eucalyptus and rubber, is expanding and will likely provide a significant amount of timber to the local market in the near future. Plantation registration appeared to be inconsistent, but could be used as a method to identify and quantify plantations in each province.

Recommendation- plantations

Evaluate the potential for plantation registration within each province to identify owners, location and areas planted by different species.

13.3 Transport & Sale of Timber

Log Landing 2: is the focal point for recording and sale of all logs harvested from licensed areas in Laos. Log Landing 2 is a temporary log yard where DAFO and PAFO measure and scale logs, and use this information to develop a log list that includes log numbers, identified species, and measured diameter and length to calculate volume. At the moment log numbers cannot be used to track the material back to a specific licensed harvest area.

The study team observed significant discrepancies in the total recorded harvested timber volume from the 4 provinces (56,583 m^3) and the volume of logs registered at Log Landing 2 (19,545 m^3), which reflects insufficient data collection and record keeping. As only 34% of the material was registered at Log Landing 2, this could suggest that a significant portion of the materials may be unidentified and potential loss of revenue capture.

Recommendations– Log Landing 2

All harvested logs for the commercial market should be formally registered at Log Landing 2, and information should be collected to identify all logs, measure and calculate volume of logs and trace materials back to the licensed harvest area. Records of log lists generated at Log Landing 2 should be maintained by both the PAFO and the PoIC as well as summarized for each licensed harvest area within PFA, village forest areas and infrastructure projects.

Transport documents issued by PoIC to move material from Log Landing 2 needs to clearly identify the log numbers being transported on specific truck or vessel, the document needs to reference the log list as well as show payment of all associated fees, royalties and taxes payable for the material. Transport documents also should identify the destination such as a specific wood processing mill or for export.

Sale of timber: The PoIC uses the log list to calculate the price of the material, including costs for the wood, royalty and other taxes. The buyer issues payments to the Provincial Finance Division. Following payment of all fees and taxes, the PoIC issues a permit to transport the material for either local processing or export. There was no evidence that material entering the factories was registered by the PoIC, as records timber supplied to each mill were not available. The identification of logs was inconsistent, as the study team observed a number of logs without the proper numbering required for traceability to a licensed forest or infrastructure project area.

Recommendations– Sale of timber

Each mill should maintain a formal log register that records the incoming shipment of raw material from Log Landing 2 and would provide traceability of each log back to the licensed harvest area. The registration would require the log list and transport permit that for the actual logs being transported to the mill. Copies of transport permits and log lists should be maintained by the factory and the PoIC as evidence of receipt of raw material and for verification of legality.

13.4 Local Production

Records of the quantity and volume of logs received by mills in each province are not adequately maintained and does not reflect the volume of log input required to maintain the production level of finished goods reported by each province. Data provided by the PoIC from the 4 provinces indicated that the volume of finished goods in 2010/2011 was ***60,537 m^3***, which would require approximately ***151,000 m^3*** of input logs, based on industry average recovery rates (50% from logs to sawn timber and 70-85% from sawn timber to finished goods). Available material based on harvest and Log Landing 2 records are far below these figures.

The PoIC does not have clear data on mill capacity and production records do not correspond with average estimated capacity (PoIC 2011). Importantly, most processing firms rely on timber from unidentified sources. This suggests either an insufficient recording system or lack of capacity of PoIC to control the local wood processing.

Recommendations– local production

The PoIC should collect data on mill capacity product range and require local processing factories to provide monthly production records and annual production reports. Reports should include raw material used for production, volumes of products produced each month in addition to the volume of products exported.

13.5 Exports

Export records are not consistently maintained for each province, which includes information on volume, as compared with national records that report on USD value, which cannot be used to verify volumes of products exported. In several provinces the records of export volumes far exceeded the volume of logs registered at Log Landing 2, as well as the log volume required to produce the level of exports quoted by the PoIC. There are 16 international border checkpoints and another 29 provincial checkpoints where timber can cross the border into neighboring countries.

Log exports were identified in 2 of the 4 provinces during 2010/2011. However national statistics did not have any records of log exports for the same period. Export documentation is issued by the PoIC for processed timber products that may use unidentified material mixed with logs registered at Log Landing 2, which then becomes legally traded wood products through an issued export permits.

Recommendation- Exports

The DOFI and the PoIC should monitor factory production and exports and maintain documentation of exported material, including information on product volumes and values to be summarized for each province.

Export data maintained by MoIC should include both volumes of material as well as USD value to enable reconciliation of volume production and export of material to volume of raw material available in the supply chain.

13.6 Monitoring

Laos has several government agencies that conduct monitoring from forestry operations to log measuring at Log Landing 2 to mill production. DOFI is the main government agency that inspects logs at different stages, including at Log Landing 1 & 2 and at processing mills. DOFI does not have sufficient staff or equipment to conduct inspections over the entire country. DOFI has to rely on collaboration with the DAFO and the PAFO to provide support for transport to the field and more permanent checkpoints.

The DAFO and PAFO are the most critical agencies, as they are involved in monitoring logs from field operations to Log Landing 1 and 2, followed by PoIC, which that issues the transport permits. Monitoring data is not consistent and does not capture the actual timber supply that is required to produce the reported production levels of finished goods.

Recommendations- Monitoring

Increase the capacity DOFI to oversee and inspect the entire system through providing necessary equipment for field staff to conduct required activities. Promote inter-agency knowledge sharing for the timber supply chain and develop approaches to data reconciliation. Provide continual capacity building for DOFI staff.

Ensure factories maintain formal records of incoming raw material, transport permits and log lists to enable the PoIC and the DOFI to monitor and inspect material received against documentation.

13.7 Overview

In general there were significant inconsistencies in the data collection processes and availability of records for several aspects forest management, including during harvest and timber production. In most provinces there was lack of PFA and infrastructure project harvest data.

A critical component of the Laos timber supply system is the registration of logs at Log Landing 2, which enables government agencies to scale all materials harvested, and that will either enter the timber supply or be exported. However, the analysis of the records that detail the material registered at Log Landing 2 and the amount of material entering the mills are significantly different from the volume of raw material required to produce the levels of finished goods reported.

The results of the study indicate that a significant volume of timber is not registered at Log Landing 2. Undocumented materials can enter the mills and be exported and subsequently receive documentation through export permits from government agencies. This study does not imply that the material not registered at Log Landing 2 is illegal, but that the material will not have adequate documentation to demonstrate legal origin.

Basic Elements for transparency & traceability:

- Clear licensing of defined areas for harvesting within defined management units, infrastructure projects or village 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 utilize this technology to support tree identification and data recording.
- Ensure that all material harvested within licensed areas is registered at Log Landing 2 and references the harvest license number.
- Maintain detailed and summarized sales records for material registered at Log Landing 2 along with destination of material through travel permit issued by the PoIC.

- Require formal registration of raw material received at local processing mills that can be inspected by government agencies.

13.8 Voluntary Partnership Agreement (VPA)

This Timber Flow Study was designed to provide details on the current system and procedures in Laos PDR and identify elements that to be addressed to ensure legality of wood supply in Laos. The EU has newly established timber trade regulations that will be effective as of March 2013, following which it will be prohibited to put illegal timber products on the EU market. Although only an estimated 10% of the timber in the EU is imported, an estimated 20% of these imports are believed to be from illegal sources. Laos supplies tropical timber to China, Vietnam and Thailand, which are all manufacturing hubs that supply the EU market. In general, tropical timber has a poor reputation for legality which will cause suppliers to require a due diligence system or have licensed timber through the VPA to meet the EU Timber Trade Regulations.

Engaging in the VPA can serve as a formal commitment by Laos and addressing the weaknesses identified in the Timber Flow Study can be an initial step of the process towards legality licensed timber. The VPA process begins with a formal agreement between Laos and the EU that defines the country's commitment to engage in the development of a formal Timber Legality Assurance System (TLAS) that, upon approval, will enable licensing of timber products.

The nature of VPA involves stakeholder participation that will be both local and between EU and can also serve as a structure for developing a transparent process to establish a formal and credible definition of legality and TLAS for Laos.

The EU and Laos negotiations for the VPA will require involvement of stakeholders associated with social, environmental and production and governmental administration aspects of forestry. A list of known stakeholders is provided under section 11.0 that include both government and non-government organizations. The EU will need to recognize that the roles of government agencies have recently been revised and the VPA process will need to take this into consideration as part of the negotiation process.

The EU has entered into VPA negotiations with a number of countries, with 6 countries having completed negotiations but no timber has been licensed to date. Countries that have signed the agreement can use the formal process to obtain funding to support the VPA implementation process. Stakeholder input is required in the development of defining legality within Laos and should include the Lao National Assembly as a key organization and focal point for Laos - EU collaboration. The development of the TLAS requires involvement of government agencies at national and local level and relevant other stakeholders to ensure credibility. Implementation of TLAS will also require 3rd party verification (independent monitoring) to meet EU requirements for credibility and transparency. Approval of the TLAS by the EU would result in the ability of the Laos government to license exports of timber products acceptable for import to the EU. In other words: Laos's timber would be classified as "zero risk timber" on the EU market.

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Appendices

Appendix 1. Terms of Reference

STUDIES FOR UNDERSTANDING TIMBER FLOWS AND THEIR CONTROL IN LAO PDR AND IN THAILAND

LAO PDR TERMS OF REFERENCE – NATIONAL EXPERTS

23 August 2011

1. Introduction

This study forms part of the work plan of the FLEGT Asia programme, the overall goal of which is the promotion of good forest governance, contributing to poverty eradication and sustainable management of natural resources in Asia. The FLEGT Asia programme is implemented by EFI and provides direct support to the implementation of the EU FLEGT Action Plan. The strategy to achieve this goal focuses on promoting and facilitating international trade in verified legal timber – both within Asia and exported from Asia to other consumer markets. In particular the programme aims to enhance understanding of emerging demands in key timber consuming markets and promotes use of systems that assist buyers and sellers of Asian timber and timber products to meet these demands.

In the context of the Government of Lao PDR (GoL) preparation for potential VPA negotiations with the European Union (EU), a study shall be commissioned to inform the GoL and the EU about the tracking of timber flows in Lao PDR, the quality of control by the GoL, and requirements on consultation within the framework of FLEGT VPAs.

The study is conducted in close cooperation with the GoL, in particular the FLEGT Focal Point at the Department of Forest Inspection (DOFI).

2. Objective of the assignment

The study will provide a thorough understanding of the timber flows in Lao PDR and their control through the Department of Forestry (DOF), the Ministry of Industry and Commerce (MOIC) and other agencies, incl. DOFI. In addition, the study shall provide the GoL with a better understanding on the FLEGT VPA concept and the FLEGT TLAS as an option to address the new requirements on the EU Timber Market. The main objectives are to:

1. Identify and systematically map out the main timber supply chains in Lao PDR based on Lao's legal and institutional framework for key timber product types (to be defined during the course of the study, aiming at all timber used or exported by Lao's wood processing industry) and all significant sources (production forest, plantations, conversion/infrastructure, conversion/mining, households, etc.). The timber supply chains shall be mapped for products sold on the domestic market, as well as for those that are exported.

2. Within the context of meeting the requirements of the EU Timber Regulation (EU TR) and in order to prepare for VPA negotiations, the study shall describe how Lao's current timber tracking system controls and documents the timber flows along the identified timber supply chains, i.e. from the forest resource (i.e. plantations, conversion, etc) to the point of export/final domestic sale. This will include identification of all points of processing where mixing of timber products from different sources occurs, points of change of ownership, and identification of transportation routes. The study shall identify potential gaps in the current system (i.e. points where unverified timber could enter the supply chains) and make recommendations for improvements.

3. Describe 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 shall identify potential gaps (i.e. where control is weak and fraud could occur) and make recommendations for improvements. A particular focus shall be put on exports.

4. Based on the analysis above, elaborate on gaps with regard to a FLEGT TLAS, and present key elements of the VPA concept, in particular the requirements for stakeholder engagement for the development of a FLEGT TLAS in Lao PDR.

The study shall be done in coordination with other related studies undertaken under the FLEGT Asia programme in Vietnam and in particular in Thailand (see above). Collaboration with work done by Lao's Development Partners, in particular the SUFORD project (WB et al.), the CliPAD programme (GIZ) and the WWF/KfW trans-boundary REDD Xe Sap NBCA Project shall be targeted.

3. Scope and tasks

3.1 Scope

This analysis will cover timber material for the wood processing industry 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 (incl. the different conversion areas) and products. In addition, it will provide more background on the requirements of a FLEGT TLAS.

3.2 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 FLEGT TLAS.

The study will be implemented in the following steps:

1. Desk top analysis of the timber production and movements in Lao PDR in volume and value, drawing on original data collections provided by DOF/DOFI/MOIC/Customs for the last 3 years, secondary information, other statistics and results from additional studies, including the FLEGT Asia baseline report. The origin of the data and the methodology used for their collection should be described and assessed when possible. Special focus shall be put on timber exports (volume/value, export points) and how evidence of legality can be demonstrated by the GoL. The role of imports and transition timber shall also be clarified.

2. Development of a generic model that maps the principle timber supply chains in Lao PDR and indicates general volumes/values traded in each chain from the forest source to the points of end use (domestic consumption and export).

3. Description of documentation, field verification, licensing (e.g. transport licenses, customs declarations) and control tasks of the government agencies with authority over the supply chains at all points in the identified chains, including customs procedures on imports/exports. The analysis shall highlight points in the supply chain that bear high risks of unverified timber by- passing the control procedures, making the system improbable of meeting EU requirements. Improvements shall be suggested.

4. Based on 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 GoL's control system and its implementation).

5. Verify desk work by field explorations in at least 3 provinces (5 example supply chains, one for each type of timber source, i.e. timber from production forest, plantations, conversion/infrastructure, conversion/mining, households). In particular look at supply chains which target the export market.

Example supply chains will be used to highlight points in the supply chain (e.g. at customs, at the forest, at processing and transportation sites) that are high risk in terms of unverified timber entering the supply chain. Proposed locations are:

a. KfW/WWF project site in Xekong or Salavan province (trade with Vietnam) – possibly build on work already done by the KfW/WWF Carbon Sinks and Biodiversity Project

b. GIZ pilot site in Sayabouri Province, buffer zone of Nam Phui National Conservation Area (trade with Thailand)

c. One additional province or Vientiane Capital (incl. trade to China)

6. Conduct awareness/stakeholder identification workshops in each of the 3 provinces on FLEGT and Lao's current timber tracking system, jointly with MoIC/DoFi/DoF/local agencies.

7. Revision of the generic supply chain model based on the results of the example chains and analysis to which extend the identified supply chains are covered by Lao's timber tracking system. In particular consider requirements for verification of timber flows back to the harvesting site, and points in the supply chain that are high risk in terms of meeting the EU requirements either due to system failure or lack of verification. Suggest improvements to the timber tracking system, if appropriate.

8. Outline options to address identified gaps by exploring the VPA option (incl. operator based approaches) and "interim" private sector solutions (voluntary certification/verification systems) building on related ASEAN initiatives. Highlight requirements and challenges of each option by considering system requirements, implementation challenges and capacity building. Demonstrate how a VPA would prepare Lao PDR for the EU Timber regulation.

9. Use the "best practice" approaches to illustrate the expectations for meaningful stakeholder consultation under a FLEGT VPA/ FLEGT TLAS in Lao PDR

a. Show the approaches used by different governments in their VPA consultation process

b. Highlight the need to ensure the stakeholder process reflects local context

c. Identify the potential steps that would be needed to have a national consultation process that would meet EU expectations

d. Identify how The Lao National Assembly could engage and support the process

10. Presentation of the preliminary findings of the study at a workshop (organized by the FLEGT Focal Point in Lao PDR) and improvement of the final report based on comments received.

4. Methodology and preparations

An international Team Leader and 2 national forestry experts will comprise of the LTS International consulting team. The team will liaise closely with EFI and its resources.

The analysis will draw on expert knowledge, primary and secondary sources of information (data, statistics, etc), supported by consultation with key stakeholders (industry, government, civil society representatives, development partners, etc). The case studies draw on interviews and discussions with local stakeholders.

The preliminary results of the study are expected to be presented and discussed at a stakeholder workshop to be organized by the FLEGT Focal Point.

The GoL and FLEGT Asia will set up a **Steering Committee** comprising FLEGT Asia's Regional Advisor and the Head of the FLEGT Focal Point in Lao to oversee the implementation of the study. The SC will meet first when the study team commences its work.

GoL will make available to the study team:

- Overview of production and import statistics (by products and sources) of the last 3 years
- Access to all data and field locations as required for the implementation of this study
- One counterpart in each relevant agency (GoL's contribution)
- Workspace for the study team

The GoL (FLEGT Focal Point) will further organize all workshops (in coordination with the consultants) and help with all logistics, incl. the organisation of the field trip. Per Diems and travel costs for GoL staff will be covered by the consultant (LTSI).

6. Deliverables and results

6.1 Inception Report

After **7 days** within the assignment, an Inception Report shall be submitted by the Team Leader to the LTS Project Manager who will quality assure the document and then forward to members of the Steering Committee. As specified in the ToR, the report shall provide an overview of the main supply chains identified (the generic model), describe available data sources, and outline the next steps of the consultancy, in particular related to the field work and the documentation of the verification and control requirements of the responsible agencies. Any identified problems related to the implementation of the study shall be highlighted for the Steering Committee to follow up.

6.2 Draft Final Report

A draft final report shall be submitted by the Team Leader to the LTS Project Manager by **3 November 2011** who will quality assure the document and then forward to EFI FLEGT Asia and the FLEGT Focal Point on **7 November 2011**. This report shall include all preliminary study results (e.g. trade data analysis, generic supply chains, example supply chain data, description of GoL's timber tracking control system including verification procedures, and all recommendations). The draft report shall be presented at the stakeholder workshop by the consultants and the government counterparts.

6.3 Final Report

The Final Report shall be submitted by the Team Leader to the LTS Project Manager by **2 December 2011** who will quality assure the document and then forward is to be completed by **7 December 2011.** The report shall be written in English, and shall contain not more than 60 pages plus annexes and an executive summary of each chapter. The Final Report will include comments provided by EFI, the GoL, experts and stakeholders. The EFI reporting format shall be used.

Appendix 2. Field Itinerary

Salavan Province

Date	Activity	Agency	Contact Person
19/Sept	Meeting with PAFO to inform the mission	1. Salavan Provincial Agriculture and Forestry Office (PAFO) 2. Salavan Provincial Forestry Section (PFS)	1. Mr. Somkhit Senthavy , Deputy head of Salavan PAFO 2. Mr. Hinkeo Pasansak- Deputy head of PFS
20/Sept	Interviewed and discussed	1. Salavan Provincial Forestry Inspection Division 2. Salavan Provincial Coal Mining Coordination Office 3. WWF field station office	1. Mr. Thatsin Phommasathit, 2. Mr. Sinouy Phomsoupha- Head 3. Mr Venvongphet Mr. Phonxay
21/Sept	Interviewed and discussed	1. Salavan Provincial Industry and Commerce Division 2. Salavan Provincial Import and Export Section. 3. Salavan Agriculture and Forestry Office (DAFO) 4. Salavan Provincial Mining and Energy Division 5. Salavan Provincial Mining Section	1. Mr. Chanthavone - Head 2. Mr. Soukxay- Head 3. Mr. Sakhounsy Keophilavan-Head 4. Mr. Thongxay Wuthisawad -Deputy head 5. Mr. Soukhan Sisamout
22/Sept	Interviewed and site visit	1. Q/S Wood Processing Factory, Salavan Province. 2. Vanda Wood Processing Factory, Salavan Province	1. Mr. Oudomsak- Director 2. Mr. Vanda Tran-Director
23/Sept	Workshop	Salavan PAFO	
24/Sept	Data and information summary	Salavan	
25/Sept	Travelled to Xekong Province		

Xekong Province

Date	Activity	Agency	Contact Person
26/Sept	Interviewed and discussed	1. Xekong Provincial Forestry Section 2. Xekong Provincial Forest Inspection	- Mr. Khongsouk Muangkhot- Deputy head - Mr. Khamvang Chanthavong- Deputy head 2. Mr. Bounthanath Phathana- Deputy head
27/Sept	Interviewed and site visit	1. Ban Phon Wood Processing Factory, Xekong Province 2. Khounmixay Wood	1. Mr. Khanthaly-Manager 2. Mr. Khamdaeng- Manager

		Processing Factory, Thataeng District, Xekong Province.	
28/Sept	Interviewed and discussed	1. Xekong Provincial Mining Section 2. Xekong Provincial Water Resource and Environment Division(WREA) 3. SUFORD-Xekong Province	1. Mr. Bounhieng-Head 2. Mr. Phetdavong - Head 3. Mr. Soulisak- National Consultant
29/Sept	Workshop and travelled to Pakse	Xekong Provincial Forestry Section	
30/Sept	Travelled from Pakse to VTE		

Sayaboury Province

Date	Activity	Agency	Contact Person
17/Oct	Travelled to Luang Prabang to Sayaboury		
18/Oct	Informed and discussed	1. Sayaboury Provincial Agriculture and Forestry Office (PAFO) 2. Sayaboury Provincial Clipad (GIZ) Office	- Mr. Somchit Chanthavong-Head of PAFO - Mr. Khongthong- Deputy head of Provincial Forest Inspection. - Mr. Soukpaseuth-head of Provincial Forestry Section 2. Mr. Thongsoune-Project Coordinator
19/Oct	Interviewed and discussed	1. Provincial Forestry Inspection Division 2. Provincial Forestry Section	1. Mr. Sengphet Silisombath-Deputy head 2. Mr. Phonpaseuth-Forester Mr. Phouvieng-Forester Mr. Sounan-Forester
20/Oct	Interviewed and discussed	1. Hongsa Coal Mining Project , Environment-system development. 2. Hongsa District Agriculture and Forestry Office (DAFO)	1. Ms. Haleuthai- Staff - Ms. Somhathai Wattanamongkol- Section manager - Mr. Nidonkeo-Staff 2. Mr. Thongphan Phanthou aman-Deputy head of DAFO - Mr. Souriya- Forester of DAFO
21/Oct	Interviewed and discussed	1. Sayaboury Provincial Industry and Commerce Division 2. Ban Souane Wood Processing Factory, Sayaboury Province 3. Stump processing factory	1. Mr. Bounxou Vilaysak - deputy head 2. Ms. Seng- Assistant manager 3. Manager
22/Oct	Data and information summary	Sayaboury	
23/Oct	Data and information summary	Sayaboury	
24/Oct	Interviewed and	Nam Pui NBCA Office	Mr. Chandy Chanthavong-

	discussed		Deputy head of Provincial Conservation Division
25/Oct	Meeting	Sayaboury Provincial Forestry Section	- Mr. Soukpaseuth-head of Provincial Forestry Section - Mr. Phonpaseuth-Forester - Mr. Phouvieng-Forester
26/Oct	Travelled to Luang Prabang		

Luang Prabang Province

Date	Activity	Agency	Contact Person
27/Oct	Interviewed and discussed	1. Luang Prabang Provincial Forest Inspection Division 2. Luang Prabang Forestry Section 3. Provincial Industry and Commerce Division 4. Luang Prabang Teak Smallholder farmer Plantation Project	1. Mr. Bounma Maly-Head Mr. Hongkeo- deputy head 2. Mr. Xang Xanaphone 3. Mr. Houmphang- head 4. Mr. Bounthan- staff Mr. Bounchan- Project head
28/Oct	Workshop and field visit	1. Luang Prabang Forestry Section 2. Kok Ngiew village	
29/Oct	Travelled from Luang Prabang to VTE		

Appendix 3. Attendance lists provincial workshops

GLOBAL FORESTRY SERVICES INC

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Form Title:	ADM 016 Attendance Record
Issue	02
Date	23 September 2011

ADMINISTRATION

Attendance Record

Program :	Site :
Training & Support.	PAFO Salavan Province

Activity:	Dates:
FLEGT Workshop	23 Sept 2011

	Name	Organization	Position	Signature
1.	Kevin T. Grace	GFS Inc	Lead	[signature]
2.	Soukksomphong PRIXAR	FOF	NC	[signature]
3.	Keophouvong	DOFI	Teachnical	[signature]
4.	[illegible]	[illegible]	[illegible]	[signature]
5.	[illegible]	PAFO	[illegible]	[signature]
6.	[illegible]	DIMEX	officer	[signature]
7.	[illegible]	[illegible]	[illegible]	[signature]
8.	[illegible]	[illegible]	[illegible]	[signature]
9.	[illegible]	[illegible]	[illegible]	[signature]
10.	[illegible]	PAFO	[illegible]	[signature]
11.	Mr. Bunthaxa	DAFO	Teachnicall	[signature]

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GLOBAL FORESTRY SERVICES INC

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Form	ADM 016
Title:	Attendance Record
Issue	02
Date	23 September 2011

ADMINISTRATION

Attendance Record

Program :	Site :
Training / Support	Provincial Forestry office Xekong

Activity:		Dates:
FLEGT STUDY workshop		29 Sept 2011

	Name	Organization	Position	Signature
1	Kevin T. Grace	GFS Inc	Lead	[illegible]
2.	Soulisompong Poixai	FOF	NC	[illegible]
3	Phetsomphou	DIMEX.	Officer	[illegible]
4	Mr. Keophouvong	DoFI	Teachnical	[illegible]
5	[illegible]	[illegible]	[illegible]	[illegible]
6	Kaisone Phengsopha	FOF	NC	[illegible]
7	[illegible]	[illegible]	[illegible]	[illegible]
8	[illegible]	[illegible]	[illegible]	[illegible]
9	[illegible]	[illegible]	[illegible]	[illegible]
10	[illegible]	[illegible]	[illegible]	[illegible]
11	[illegible]	[illegible]	[illegible]	[illegible] 552087
12	[illegible]	[illegible]	[illegible]	[illegible]
19	[illegible]	[illegible]	[illegible]	[illegible]
20	[illegible]	[illegible]	[illegible]	[illegible]
21	[illegible]	[illegible]	[illegible]	[illegible]
22	[illegible]	[illegible]	[illegible]	[illegible]
23.	[illegible]	[illegible]	[illegible]	[illegible]
24	[illegible]	[illegible]	[illegible]	[illegible]
25	[illegible]	[illegible]	[illegible]	22295533
26.	[illegible]	[illegible]	[illegible]	55265468
27.	[illegible]	[illegible]	[illegible]	98997224
28	[illegible]	[illegible]	[illegible]	99672990

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GLOBAL FORESTRY SERVICES INC		
Form Title:	ADM 016 Attendance Record	
Issue	00	
Date	12 July 2004	
ADMINISTRATION		

Attendance Record

Programme :	Site :
FLEGT -	Luang Prabang Provincial forestry office

Activity:	workshop	Dates:	28 Oct 2011

	Name	Organization	Position	Signature
1.	Kevin Greve	GFS	Team Leader	
2.	Kaisone Phengsopha	GFS	LC	
3.	Mr Sviengngeun	MOIC	official staff	
4.	Mr. Keophouvong	DOFI	Teachnical	
5.	[illegible]	TFT	Program Manager	
6.	[illegible]	[illegible]	[illegible]	
7.	[illegible]	[illegible]	[illegible]	
8.	[illegible]	— 11 —	[illegible]	
9.	[illegible]	— 11 —	— 11 —	
10.	[illegible]	[illegible]	— 1 —	
11.	[illegible]	[illegible]	[illegible]	
12.	[illegible]	[illegible]	[illegible]	
13	[illegible]	Luang prabang Trak program	LPTP staff	
14	[illegible]	[illegible]	[illegible]	
15	Soukkongpaseuth	FOF	LC	

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Appendix 4 Quotas issued to provinces and actual production from 2008-2011

Quota 2008-2009; (Quota volume m3) & Actual harvest volume m3

Province	Annual quota				Special quota		Wood stump (m^3)	Total Vol. (m^3)
	Planted trees	PFA (m^3)	Uproot (m^3)	Balance previous year(m^3)	Central govt(m^3)	Provincial govt (m^3)		
Phongsaly	200 (500)	1,301 (1,000)			6,973 (7,458)			8,474 (8,958)
Huaphan	0 (500)	4,664 (5,500)						4,664 (6,000)
Luangnamtha	0 (1,300)	1,221 (3,000)						1,221 (4,300)
Oudomxay	460 (1,000)	0 (800)						460 (1,800)
Luang Prabang	2,000 (4,430)	2,419 (8,200)						4,419 (12,630)
Xayabouly	0 (0.000)	0 (10,000)						0 (10,000)
Bokeo	103 (1,000)	6,318 (6,300)						6,421 (7,300)
Xiangkhouang	0 (0.000)	2,516 (2,500)			93,825 (115,806)			96,341 (118,306)
Vientiane	0 (0.000)	318 (1,300)			2,111 (31,133)			2,429 (32,433)
Bolikhamxay	0 (500)	16,905 (17,090)			3,848 (12,000)		100 (300)	20,853 (29,590)
Khammouane	0 (2,500)	13,616 (18,640)			4,950 (5,334)			18,566 (26,474)
Savannakhet	2,590 (2,500)	2,401 (14,310)			800 (1,154)			5,791 (17,964)
Salavan	577 (770)	5,439 (20,140)					32 (300)	6,048 (21,210)
Champasak	138 (1,000)	2,528 (2,500)			26,732 (42,262)			29,398 (45,762)
Xekong	0 (0.000)	7,243 (10,500)			3,247 (6,033)		0 (400)	10,490 (46,933)
Attapua	0 (1,000)	10,360 (11,220)			128,893 (240,875)			139,253 (253,095)
Total	**6,068 (17,000)**	**71,810 (133,000)**			**271,379 (**492,055**)**		**132 (1,000)**	**354,828 (643,055)**

(Source: DOF, 2009)

Note: Figure in bracket is quota volume (m3), while figures outside is actual harvested volume (m3)

Annual quota 2009-2010

Province	Annual quota				Special quota		Stump (m^3)	Total Vol. (m^3)
	Planted trees	PFA (m^3)	Uproot (m^3)	Balance previous year (m^3)	Central govt (m^3)	Provincial govt (m^3)		
Phomgsaly				491 (485)	6573 (6,500)			
Huaphan	60 (500)	856 (856)					71 (914)	987
Luangnamtha	24 (500)				988 (977)			1,012
Oudomxay	1,056 (500)						385 (86)	1,441
Luang Prabang	3,276 (4,000)				1,041 (7,572)			4,317 (11,572)
Sayaboury								0 (0)
Bokeo	223 (1,000)				3,864 (3,954)			4,087
Xiangkhouang				893 (987)	38,882 (62,123)			39,775
Vientiane	340 (3,000)				2,757 (75,961)			3,097
Bolikhamxay					41213 (84,014)			41,213
Khammouane	3,495 (21,000)	9,942 (10,500)		389 (384)	27,116 (34,691)		21,96 (2,000)	40,942
Savannakhet	0 (2,500)	4,736 (5,400)		161 (354)	34,405 (33,071)			39,302
Salavan	354 (950)	1,122 (1,425)			7,291 (8,783)		31(500)	8,798 (11,158)
Champasak	149 (500)	578 (3,000)		3,888 (3,850)	5,810 (5,851)		2,268 (2,800)	12,693
Xekong	30 (550)			1,380 (2,785)	4,203 (15,330)		105 (400)	5,718 (19,065)
Attapua				32,605 (50,282)	76,607 (92,555)			109,212
Total	**9,007 (35,000)**	**17,234 (21,181)**		**39,807 (59,127)**	**250,750 (431,382)**		**2,860 (6,700)**	**319,658 (553,390)**

(Source: DOF, 2010)

Note: Figure in bracket is quota volume (m3), while figures outside is actual harvested volume (m3)

Quota Allocation for 2010-2011

Province	Annual quota				Special quota		Wood stump (m^3)	Total Vol. (m^3)
	Planted trees	PFA (m^3)	Uprooted (m^3)	Balance previous year (m^3)	Central govt (m^3)	Provincial governor (m^3)		
Luangnamtha	500							500
Oudomxay	500	100						600
Luang Prabang	4,000				1,505		1,000	6,505
Xayabouly	1,850						1,900	3,750
Bokeo	1,000							1,000
Xiangkhouang				24,000				24,000
Vientiane	1,000				1,754	300		3,054
Bolikhamxay	150			80,020	4,048	2,626	525	87,369
Khammouane	10,000	9,722			1,105	4,900	3,800	29,527
Savannakhet	200	4,400			15,015	570		20,185
Salavan	1,120	3,034			264	2,430	150	6,998
Champasak	500	709	5,799			492		7,500
Xekong	780			11,137			295	12,212
Attapua	200			17,664	8,056		330	26,250
Total	**21,800**	**17,965**	**5,799**	**13,2821**	**31,747**	**11,318**	**8,000**	**229,450**

(Source: DOF, 2010)

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