Sustainable Natural Forest and Teak Forest Management in Laos/Luang Prabang Province

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Lao PDR predominantly a mountainous and land lock country with a relatively large area of 236,800 Km$^2$ in relation to its small population of approximately 7.12 million, 17 provinces. All most 70% of the total land area cover by mountain, forest covers only 68% or 16.28 million ha in the whole country (Department of Forestry, 2019).

(i) Production Forest (3.1 M ha)- 51 areas

(ii) Conservation Forest/National protected areas (4.5 M ha)- 24 NBCAs + 2 corridors

(iii) Protection Forest 47 areas (7.9 M ha)
1. **Conservation Forest** determined for purpose conservation of: plant species, wildlife species, ecosystems, and high nature value areas, historical, cultural, tourism, environment, education and scientific research.

- Forest and forest land divided into 4 levels namely: national level; provincial or city levels; district or municipality levels; and village level.

2. **Protection Forest** determined for purpose protection of: watershed areas, the natural environments, the soil erosion, natural disasters, strategic points for the national defense-public security and other types of forests as determination.

- Forest and forest land divided into 4 levels: national level; provincial or city levels; district or municipality levels; and village level.

3. **Production Forest** determined for purpose production of: Forestry products as timbers and NTFPs.

- Only National level
Forest Management

✧ **Conservation Forests** are classified into two zones:
  - Absolutely prohibited zone; and
  - Utilization under management zone

✧ **Protection Forests** are classified into two zones:
  1) The absolutely prohibited zone and utilization zone under management (protected strictly and not allowed any activity)
  2) The utilization under management zone:
     - Allows using without negative impact on the environment and eco-system of the forest in that area.
     - Allowing the people to use the trees and forest products in accordance with allocation program

✧ **Production Forest Management**
  - Base on sustainable management plan developed by PAFO together with DAFO and signed by the DOF;
  - Forest management would be review and improve after 15 years
Forest Outside of 3 Categories

Village Forest
- Village Forests are the forest both within and outside of the conservation forest, protection forest and production forest;
- VF management plan (VFMP) is the land allocation and forest land management within the village administration aims to make the village inside and outside of 3 types forests have the ownership in managing, protecting, developing and using forests according to the rights and duties of villages as determined in laws and regulations.

VFMP processes/steps:
① Review the land use planning and the forest & land allocation planning
② Identify and demarcate each forest category within the village jurisdictional area
③ Develop VFMP;
④ Implemented VFMP;
⑤ Monitoring
Village forest management planning implemented in Luangprabang province

Install signs and do the demarcation for reforestation
Land Use Planning Map of HadKham Village, Pak Ou District, Luang Prabang Province
Luangprabang Province is located in the Northern part of Lao with total area of 1.6 M.ha, and forest covering approximately 65% of the province's total area.

(i) Production Forest: 147,000 ha (2 areas)
(ii) Conservation Forest/NBCA: 160,819 ha (1 NBCA, 1 PCF, and 22 DCFs)
(iii) Protection Forest: 47 areas: 1.24 M ha (1 NPF, 1 PPF, and 12 DPFs)
Teak forest resources in LPB province is planted forest (monoculture) which almost all belong to private as smallholder growers within contexts of:

✓ Poor teak plantation management: low productivity, thinning from above, poor genetic stock
✓ No forest understory: susceptible to fire and erosion
✓ Teak plantation and wood sales not compliant with national laws
✓ Unfair trade, low prices, and lack of negotiation power
Teak Resources Context in LPB Province

- Reported by DAFO
  - 27,481 ha (1986-2013)
  - 29,000 ha (2017)

- RAFT3 Project >25,000 ha (2018)

- Research by VALTIP/ACIAR 18,170 ha (2018)

Source: VALTIP2
Teak Resources Context in LPB Province
Mapping by VALTIP2
Sustainable Teak Forest Management (STFM) in LPB

Luang Prabang Teak Program (LPTP) established in 2008 for the purpose of forest certification. LPTP is a partnership between teak farmers in LPB Province and the government of Laos with objectives:

✓ To improve *the socio-economic benefits of smallholder teak farming* in Luang Prabang (Market linkages, Capacity building, Farmer groups formation, productivity of plantations)

✓ *Environmental responsibility*: Soil erosion prevented, Teak forest’s understory enhanced, High conservation value forest management

✓ *Supported FS goals*

LPTP currently funding and technical support by Earthworm Foundation (formerly known as The Forest Trust) and ACIAR/VALTIP3 project.
• Provide trainings to teak farmers: SFM, teak markets, environmental management (established a SFM demonstration plot for each group)

• Teak Farmer Groups forming and networking

• Facilitate **Plantation Registration** Process (Certificate issued by DAFO & PAFO)

• Support and build the capacity of district authorities to administer teak registration

• Develop Forest Management Plans: thinning, pruning, harvesting

• Forest management monitoring

• Facilitate wood sales (marketing and sales support)

• Farmer capacity building: wood sales by volume instead of standing tree; increase sale value for timber
History of STFM Supported by LPTP

2008

LPTP Established:
GoL. Teak farmers and TFT (MoU)

2011

LPTP achieves FSC Certification
First community forest project certified in Laos; 4 villages registered

2013

Scope of Certificate was expanded to additional villages and plantations

2015

Developed LPTP system and supporting farmers in 22 villages around Luang Prabang; only 4 covered by the FSC certificate

2016

PFS and TFT decide not to extend the FSC certificate for LPTP; systems maintained

2020

LPTP management system maintained according to FSC principles

FSC System

LPTP System
LPTP activities and supporting:

- Established teak farmer group (TFG) in 5 districts, with 26 groups, 655 families as member, 1,019 plantation plots, total area of 731 hectares, and 2 value adding units as micro SMEs.
- All of 1,019 teak plantations have been registered with sustainable management plan for each.
- Capacity building for teak growers with training on:
  - Teak plantation management consider on environmental responsible (stop burn plantation to maintain natural vegetation understory, high valuable conservation plants species preserved, grow evergreen native plants along teak plantation boundaries and space within the plantation)
  - Timber supply or wood sell compliance with laws and regulations
  - Capacity building on value added for wood from plantation
  - Establish a network of teak grower link to market by selling timber and wood directly to woods producers
Pre-entry Assessment Implemented
Scratch map to identify boundary, natural/remnant tree, stream, SMA, HCV, etc.
LPTP activities and supporting (Cont.)

Value adding support and wood supply from thinning
LPTP activities and supporting (Cont.)

- Plantation registration
- Plantation certificate hand over
- Timber supply training
- Teak farmer group leaders workshop on timbers supply networking
Value Adding and Market Networking Supported
Training on Pruning Practice @ the demonstration plot
Collaborated with IGESE-JISE supported sustainable teak plantation

Seeds collection (1st)

Seedling production and growing test

Prefectural nursery (5,860 seedlings)

Office nursery (345 seedlings)
Collaborated with IGESE-JISE
supported sustainable teak plantation (cont.)

Mai Kor seedling produce experiment
### FSC Wood Sales Supported

<table>
<thead>
<tr>
<th>Year</th>
<th>Item</th>
<th>Cost (USD)</th>
<th>Volume Sold (m3)</th>
<th>Net Income (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>Main audit</td>
<td>7,203</td>
<td>20.6</td>
<td>2,309</td>
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<tr>
<td>2012</td>
<td>1st surveillance audit</td>
<td>4,432</td>
<td>159.3</td>
<td>13,774</td>
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<tr>
<td>2013</td>
<td>2nd surveillance audit</td>
<td>4,879</td>
<td>106.7</td>
<td>8,194</td>
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<tr>
<td>2014</td>
<td>3rd surveillance audit</td>
<td>6,284</td>
<td>27.3</td>
<td>6,416</td>
</tr>
<tr>
<td>2015</td>
<td>4th surveillance audit</td>
<td>3,083</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>Audit Cost</td>
<td>25,879</td>
<td>313.8</td>
<td>30,692</td>
</tr>
</tbody>
</table>

- The 2016 AAC for LPTP villages is 2530 m³.
## Impact of LPTP Supported Teak growers networking under LPTP System

<table>
<thead>
<tr>
<th>No</th>
<th>District Name</th>
<th>No. of Villages</th>
<th>No. of TFG members</th>
<th>No. of lots</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lunag Prabang</td>
<td>11</td>
<td>317</td>
<td>496</td>
<td>394.93</td>
</tr>
<tr>
<td>2</td>
<td>Xieng ngeun</td>
<td>1</td>
<td>32</td>
<td>74</td>
<td>61.648</td>
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<tr>
<td>3</td>
<td>Phonsay</td>
<td>3</td>
<td>34</td>
<td>51</td>
<td>50.097</td>
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<tr>
<td>4</td>
<td>Paksaeng</td>
<td>5</td>
<td>111</td>
<td>199</td>
<td>93.28</td>
</tr>
<tr>
<td>5</td>
<td>Pak Ou</td>
<td>6</td>
<td>166</td>
<td>234</td>
<td>178.61</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>25</strong></td>
<td><strong>628</strong></td>
<td><strong>980</strong></td>
<td><strong>720.2817</strong></td>
</tr>
</tbody>
</table>
Impact of LPTP Supported

**Forest Certification, SMEs & Transaction Costs**

1. **Farmer Groups Established**
   - Four villages experienced under FSC
   - 26 groups established

2. **Years of FSC FM Certification experience**
   - 2011-2016
   - 5 years of experience

3. **Small Farmer Enterprises**
   - Ban Kokngiew & Ban Xieng Lom
   - Square logs and teak furniture – value adding
   - 2 enterprises

4. **Reduction in Transaction Costs**
   - 33% reduction
   - 37% to 4%
Impact of LPTP Supported

Improved Forest Management

- 655 Individual Forest Management Plans:
  - Silviculture (genetics, thinning, pruning)
  - Special management areas + Conservation

- 100 Plantations monitored each year

- 26 Forest management trainings completed across all villages
Impact of LPTP: Shorting the Value Chain

**Before** “Middle Man” Scenario: Selling standing trees locally

**After** “Village Incorporated” Scenario: Selling round logs at roadside

**Next** “TFG, LPTP cooperate with Local trader” Scenario: Selling standing tree with fare by volume to trader
Impact of LPTP: Shorting the Value Chain

Selling round logs at roadside
Challenges

- Lack of SME and Micro-SME supported as well as smallholders value adding;
- Growers do not an incentive to follow forest management plans;
- Policies interpreting in different ways
  - Branding and SME & Micro-SME producers barrier;
- Plantation register and transection cost still high;
- Unfair trade
- Unsustainable of resources due to export logs allowed;
- Lack of research on Agro-forestry in case of existing teak resources (old plantation that 10 years up)
- Poor genetic stock
- Lack of financial support
Opportunities

- New MOU with EF
- Collaboration with IGESE-JISE
- ACIAR support
- More support from ITTO???