Federal Ministry of Food and Agriculture

# ITTO-BMEL Teak in Mekong: Key Achievements


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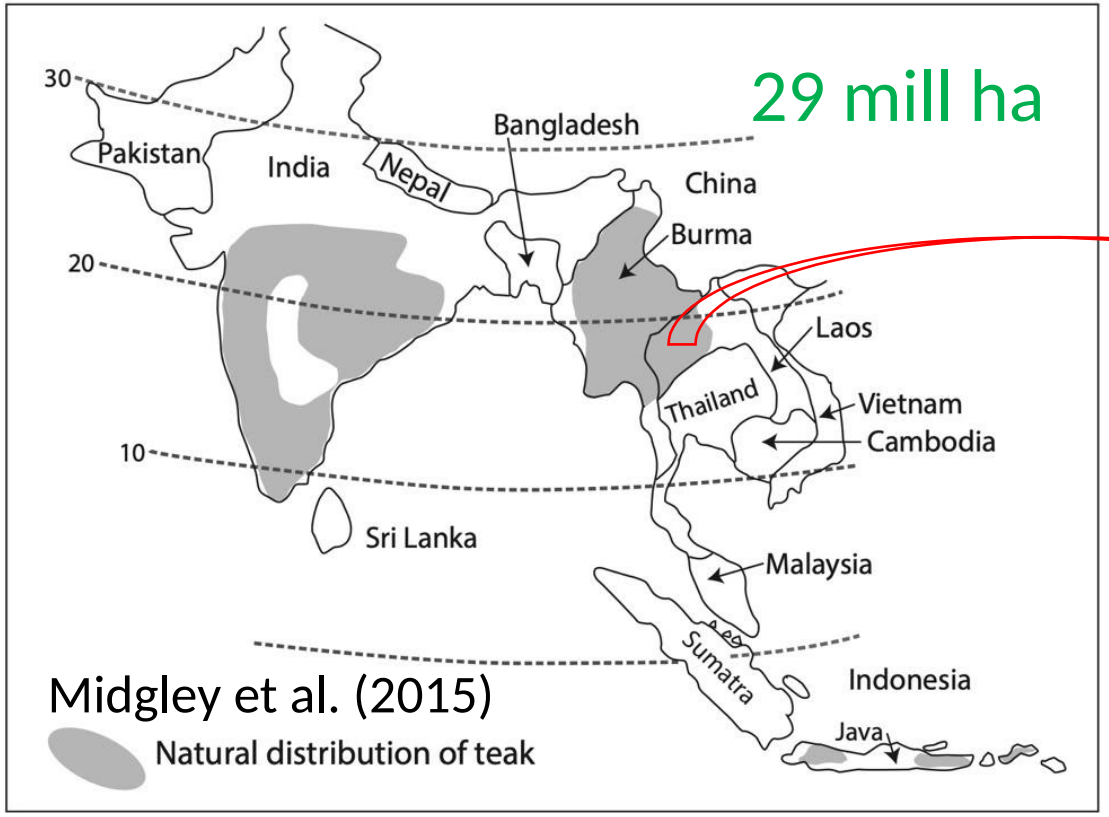
Faculty of Forestry, Kasetsart


59th ITTC; Committee Session CRF57/2

Pattaya, Thailand @ 13-17 November 2023

# Natural Teak Forests (IUFRO, 2017)

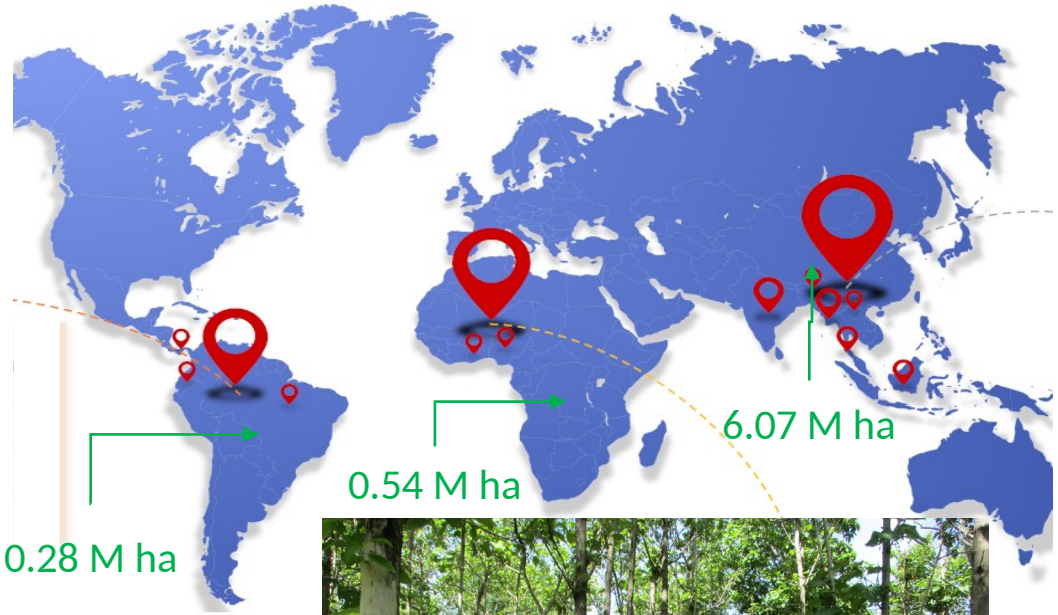
**Natural teak forests** in Myanmar, India, Laos and Thailand are substantially reduced (29 million ha, 2010) and **high risk of genetic lose.**




**Remaining teak forests are mainly found in protected areas**

# Global Teak Plantations 6-7 M ha

Across about **70 tropical countries** in Asia-Pacific, Africa and Latin America.





Source: Anto Rimbawanto

First introduced by **Dutch** to Indonesia in Muna Sulawesi in 16th century and Java in the 17th century.

Poor quality seedling materials from unknown sources

Global Plantation Teak Market

**1.4M cbm/year**

Total **Latin American** Teak Traded

**1M** cbm/year

Total **African** Teak Traded

**0.4M** cbm/year

94%

Vietnam & China 6%


Brazil

Colombi

Ghana

Panama

Costa Rica

Benin

Ecuador

**~85%** of teak supply

25%


# Signing Ceremony for Teak Project at ITTC 54 on 6 Nov 2018, Yokohama, Japan

Federal Ministry of Food and Agriculture

**Gerhard Dieterle**, EX-ITTO ED (left); **Matthias Schwoerer**, BMEL-Germany (right)

ITTO-TEAK IN MEKONG

**ITTO Project: "Enhancing Conservation and Sustainable Management of Teak Forests and Legal and Sustainable Wood Supply Chains in the Greater Mekong Sub-region" (PP-A/54-331): 2019-2022**

# ITTO-BMEL Teak Project in Mekong

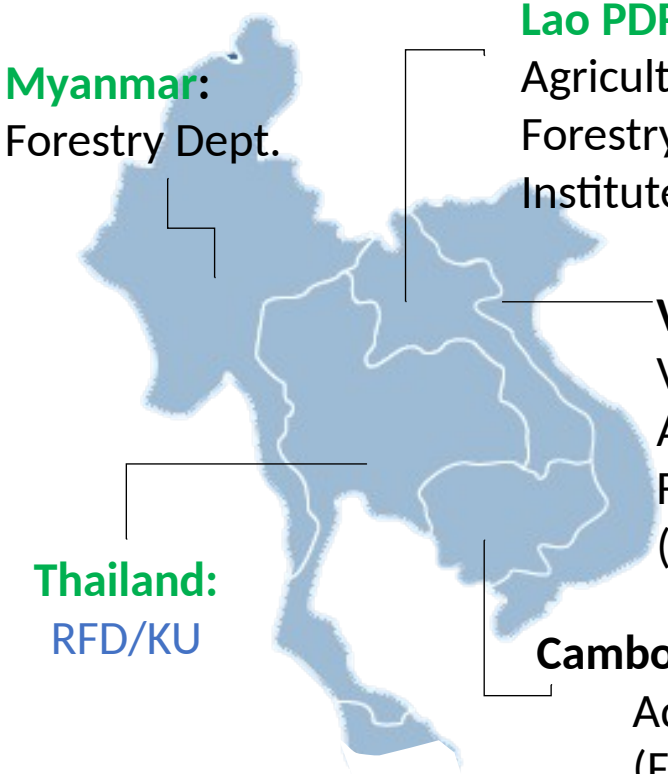
## Objective and Outputs

To demonstrate legal and sustainable teak supply chains with the engagement of local communities, smallholders and government actors in the Greater Mekong Sub-region

**Output 1**: The **conservation of teak genetic resources, sustainable management** and use of natural teak forests and market accesses of teak from legal sources have been shown

**Output 2: Community-based and smallholders** teak forest management and agroforestry systems have been strengthened with improved legal and sustainable supply chains

**Output 3: Regional and international collaboration**, information sharing and knowledge management, networking, policy development and outreach on the sustainable management of teak forests strengthened




**Total Budget**: USD 1,236,250
**Duration**: 1 Mar 2019 – 30 Sep 2022

# Teak Supply Chains

## Upper Stream

- Genetic conservation
- Clonal test & tree improvement
- Good quality material


## Intermediate Stream

- Silvicultural practices
- Minimizing harvesting loss
- Smallholder plantation
- Efficient transportation and wood processing
- Forest certification

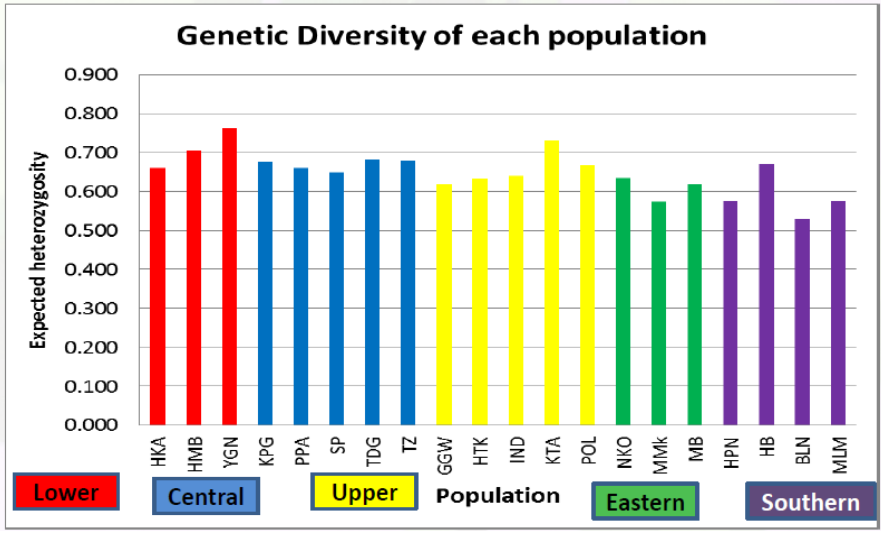
## Down Stream

- Value-added products
- Marketing (domestic & international)
- Value-chain
- Trade permission & transaction cost

# Outputs and Activities

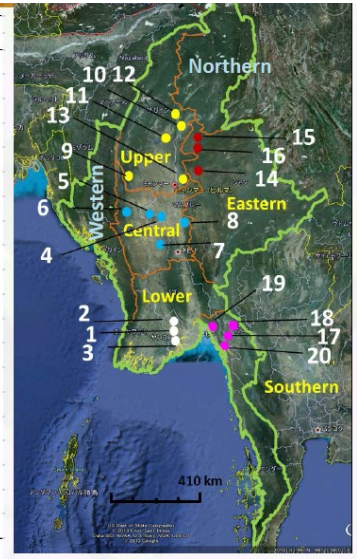
## Conserve teak genetic variation (Laos, Myanmar and Thailand)


- Laos: identify 170 mother tress in natural forest and seed sources
- Thailand: 3rd clonal test of remaining 104 clones (>600 mother trees)






| Region | Population Name | Sample size |
|---|---|---|
| (1) Lower (3) | 1. Hlawkha (KHA) | 16 |
| | 2. Hmawbi (HMB) | 20 |
| | 3. Yangon (YGN) | 20 |
| (2) Central (5) | 4. Kyaukpadaung (KPG) | 20 |
| | 5. Popa (PPA) | 20 |
| | 6. Seitphyu (SP) | 24 |
| | 7. Taungdwingyi (TDG) | 32 |
| | 8. Tharzi (TZ) | 24 |
| (3) Upper (5) | 9. Gangaw (GGW) | 32 |
| | 10. Hteechaik (HTK) | 24 |
| | 11. Indaw (IND) | 24 |
| | 12. Kathar (KTA) | 24 |
| | 13. Pyinoolwin (POL) | 32 |
| (4) Eastern (3) | 14. Naungkhio (NKO) | 32 |
| | 15. Moemeik (MMK) | 24 |
| | 16. Mabein (MB) | 16 |
| (5) Southern (5) | 17. Hpa-an (HPN) | 24 |
| | 18. Halinebwe (HB) | 24 |
| | 19. Bilin (BLN) | 24 |
| | 20. Mawlamein (MLM) | 24 |
| | Total | 480 |



# Outputs and Activities

**Output 1**: The conservation of teak genetic resources, sustainable management and use of natural teak forests: **Establish 16 demonstration plots**

### 1. Mae Ka Silviculture


High quality seeds

### 2. Ngao Silviculture

ropagation and good
uality Seedling productio

### 3. Khunmae Kummae Teak Plantation (FIO/FSC)

SFM and minimize loss

### 4. Smallholder Plantations

Smallholder & silvicultural practices

### 5. Smallholder teak Enterprise (Co-op)


RFD certification
Using ITTO's C&I/CoC

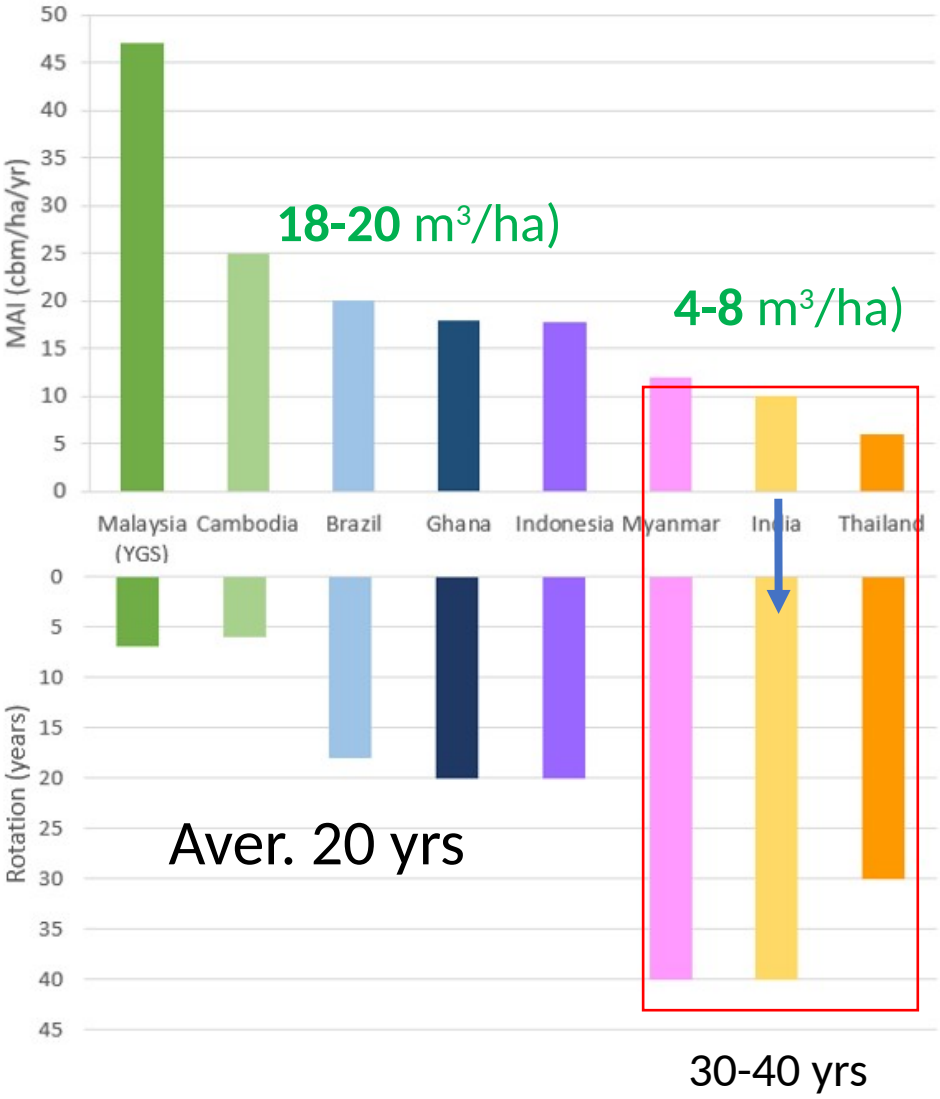
# Improvement of the Silvicultural Practices

- Innovative method for teak plantations shortens the rotati length to **6-8 years** from the traditional **20 years; MAI of 20-35 cbm/ha/yr**


**Cambodia**

Innovation afforestation

**Fertigation**



# Outputs and Activities

**Output 2.** Community-based and smallholders teak forest management and agroforestry systems have been strengthened with improved legal and sustainable supply chains.

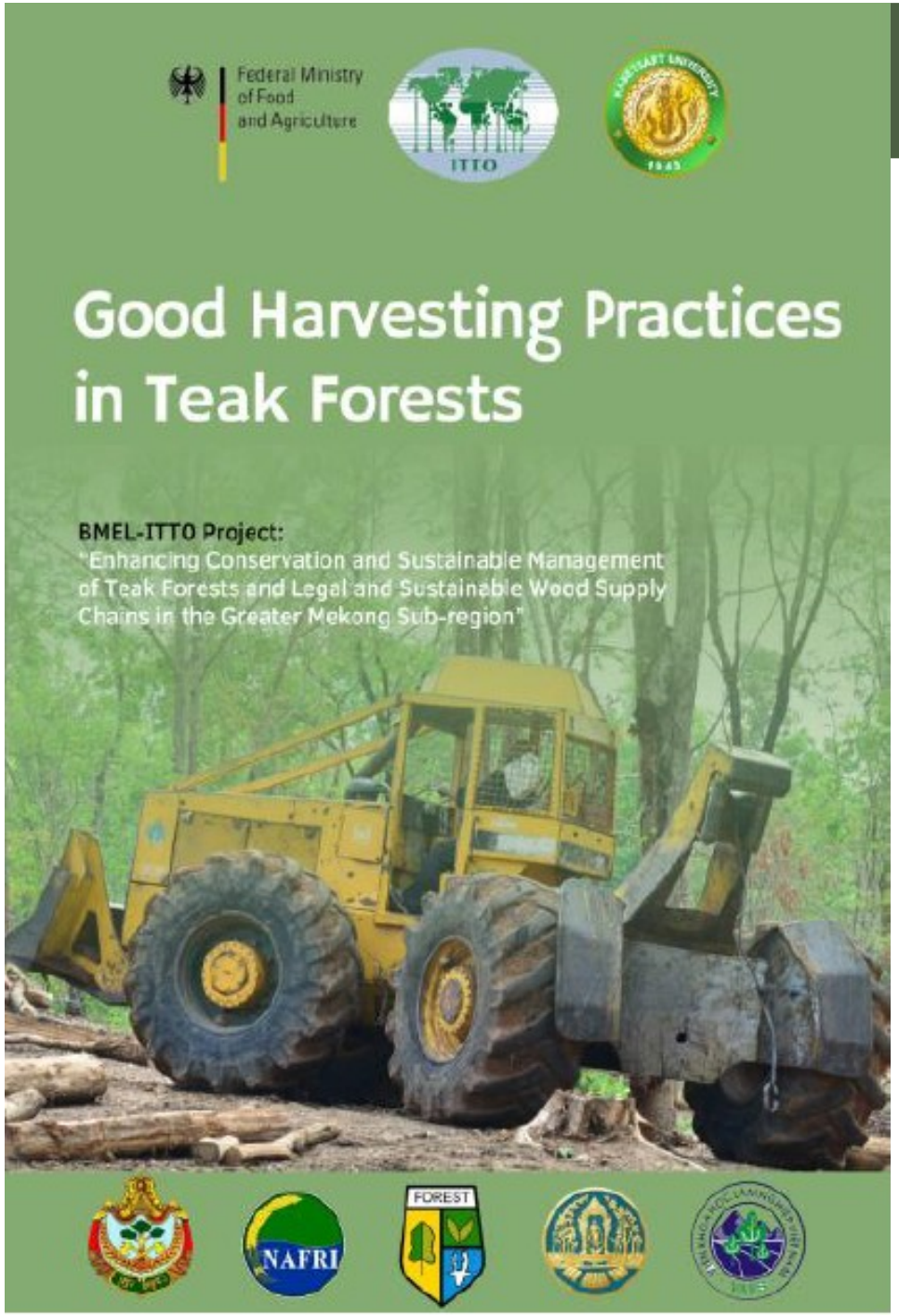
## Capacity building & training

| Country | No of trainings | No of participants |
|---|---|---|
| Cambodia | 3 | 25 |
| Laos | 4 | 250 |
| Myanmar | 4 | 70 |
| Thailand | 7 | 165 |
| Vietnam | 6 | 163 |
| **Total** | **24** | **673** |

*seed production, silviculture, community-based (enterprise) plantation, minimizing harvesting loss, supply chains and marketing; wood certification*



# Tech. Report and Handbooks




# Outputs and Activities

## Establish teak-based forest user groups

**Myanmar:** Deliver teak seedings to teal-based forest group

Vietnam- Good quality seedling propagation and delivering to smallholders

**Good quality seedling prod.**

**Teak intercrops with rubber Plantations in Phayao**

**Enable** trained farmer to produce good qual. seedlings and earn income

**Thailand/Myanmar:**

- Organize teak small-holders networking workshops


Line groups

# Outputs and Activities

## Review legal framework and wood certification

Inter. certification.

**Vietnam**: community certificatein process.

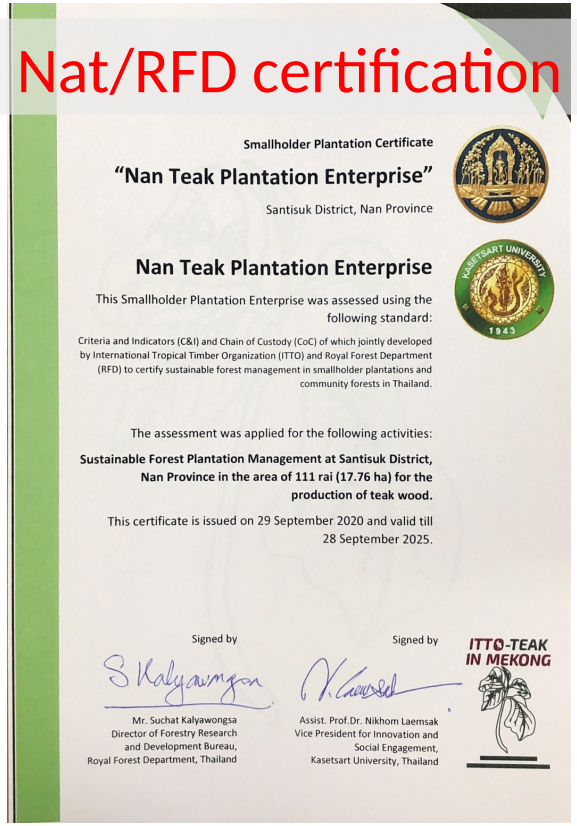
ITTO/RFD C&I





Prov. certification
**Lao PDR**

Nat/RFD certification



# Teak Value Chains in Mekong

Tree growers


Middle men

Sawmill owners/ furniture finishers

Retailers & consumers

- Teak industry was **well-established** in the region.
- Profits margin among the VC actors are **relatively fairly distributed in Vietnam (not Laos)**.
- Selling teak products (furniture) by **design is valued-added**.

**Vietnam**

- Price of standing tree: USD130 (DBH 25-30 cm
- Profit of middleman 10%
- **Simple** regulation
- Transportation cost is cheap.

**Laos**

- Price of standing tree: USD10-25
- Profit of middleman 39%
- **Complex** regulation
- Transportation is costly.

# Valued-added products by design



## Wood Products


# Newspaper, TV, VDO clips

Vientiane Times 9

Phongsavanh BANK **Business**

Read more news at www.vientianetimes.org.la Thursday February 20, 2020

## Forum building framework for teak value chains

Times Reporters



Participants from lower Mekong countries pose for a group photo at the National Teak Forum in Vientiane.

Lower Mekong countries comprising Laos, Cambodia, Myanmar, Thailand and Vietnam are discussing efforts to develop and manage sustainable value chains for teak to contribute to socio-economic development.

The National Teak Forum hosted by Laos from February 19-20 is discussing issues around sustainable teak value chains in the country by reviewing lessons from the promotion of teak-based sustainable forest management (SFM) among the private sector and community forest enterprises.

Topics being covered include technical aspects such as growing seedlings, silviculture, forestry management, value-adding processing and economic factors, particularly investment, incentive mechanisms and credits.

The forum will also help to enhance teak value chain research and sustainable teak forestry in the Lower Mekong Region.

The event includes a one-day meeting in Vientiane to share lessons learnt, experiences and project planning for the future, and a field excursion to Luang Prabang province.

The opening of the meeting was attended by the Deputy Director General of the National Agriculture and Forestry Research Institute (NAFRI), Dr Chansamone Phongoudom; International Tropical Timber Organisation (ITTO) Project Manager, Dr Ma Hwan-ok; German Federal Ministry of Food and Agriculture (BMEL) representative, Mr Stephan Wagner; and Deputy Director-General of the Royal Forest Department of Thailand, Mr Jirasak Chukwamdee.

NAFRI, as the Lao representative, is implementing several key project activities in conserving teak genetic variation through improved management of existing seed production areas, seed orchards and provenance trials.

The project activities support local communities and stallholders through the establishment of demonstration plots and field training and information sharing and knowledge management, networking, policy development and outreach on the sustainable management of teak forests in regional and international areas.

The project is being implemented in Luang Prabang and Xayaboury provinces from March 2019-March 2021.

Many rural people in the northern provinces of Laos depend on planted teak forests for their livelihoods.

They gain employment and income from teak forestry as the most economically viable land-use option, particularly in remote and underdeveloped areas.

The multiplier effect on local employment at small-scale wood processing and service sector levels is significant when value-added activities are developed in the local economy and among the forest-dependent workforce.

In Laos, teak is a priority native species, and the area of natural teak forests was estimated to be almost 70,000 hectares in 2010.

In addition, teak plantations have been established by private companies and rural communities.

The Department of Forestry has promoted community-based teak plantations with an estimated 36,000 hectares mainly located in Luang Prabang and Bokeo provinces.

The activities are a part of the government's Forest Strategy 2020 goals which include increasing transparency of natural resource policy and disseminating information on forest cover, forestry revenues, harvesting levels, plantation establishment and management actions.

Teak, with its outstanding physical and aesthetic qualities, is recognised as one of the most important and valuable hardwood species in the world.

Natural and planted teak forests are found in about 70 tropical countries in Africa, Asia and Latin America.

Given the importance of teak in the global timber market and its economic and community growth potential, the ITTO at its 53rd Session in Peru in 2017 approved an initiative called "Enhancing Teak Management" under the ITTO Biennial Work Programme for 2018-2019 as a comprehensive global activity to improve the management and marketing of both natural and planted teak in all three tropical regions.

In November 2018, the Federal Republic of Germany through the Federal Ministry of Food and Agriculture financed the first stage of this activity in the Greater Mekong Sub-region.

ITTO-TEAK IN MEKONG

Bi-monthly online

Teak Mekong Newsletter

June 2019 - Volume 1(1)

Inside this issue

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TEAK Mekong Newsletter support and facilitates teak networking in the Mekong sub-region through ITTO member countries and partners, and support sharing lessons of the project results through short news release, occasional papers, project related teak-based research and development information. The bi-monthly newsletter is released online through TEAKNET webpage www.teaknet.org and co-hosted by Kasetsart University, Thailand.

For more information,

please contact PK Thulasidas (thulasidas.teak@gmail.com) or Yongyut Trisurat (fforyyt@ku.ac.th)

Welcome to the first edition of the online Teak Mekong Newsletter !

Signing Ceremony of the Teak Project during the International Tropical Timber Council (ITTC) meeting at its 54th Session in Yokohama, Japan on 6 November 2018

International Tropical Timber Organization (ITTO) launches project on sustainable teak management in Greater Mekong Sub-region entitled *"Enhancing Conservation and Sustainable Management of Teak Forests and Legal and Sustainable Wood Supply Chains in the Greater Mekong Sub-region"*.

The Federal Republic of Germany through the Federal Ministry of Food and Agriculture (BMEL) financed the first stage of activity in the Greater Mekong Sub-region (GMS) covering 5 countries, namely Cambodia, Lao PDR, Myanmar, Thailand and Vietnam. The signing ceremony of the agreement between ITTO and the Government of Germany for the commitment of funds to the teak project was held during the International Tropical Timber Council (ITTC) meeting at its 54th Session in Yokohama, Japan on 6 November 2018.

Matthias Schwoerer Germany, and Gerhard Dieterle Executive Director, ITTO, launching the project

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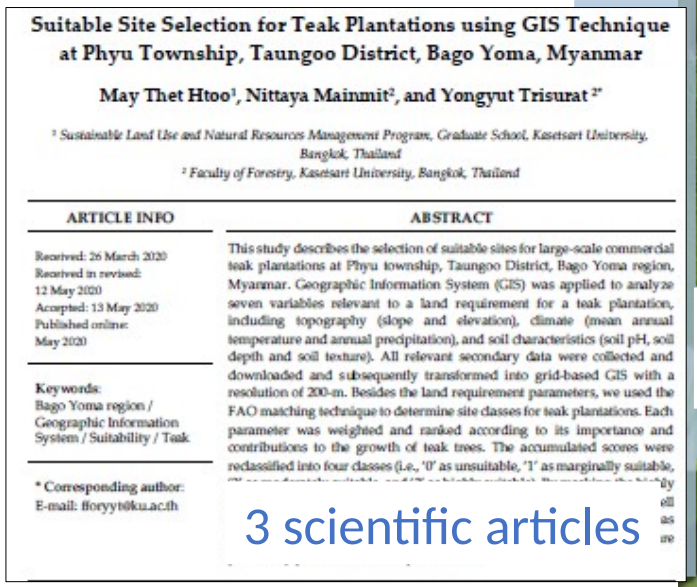
TEAKNET

**20 bi-monthly issues**

https://drive.google.com/drive/folders/1Fp9D5iU3M24I3_nTYkDke2hrZoyi-f7n?usp=sharing



**Suitable Site Selection for Teak Plantations using GIS Technique at Phyu Township, Taungoo District, Bago Yoma, Myanmar**

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ABSTRACT

This study describes the selection of suitable sites for large-scale commercial teak plantations at Phyu township, Taungoo District, Bago Yoma region, Myanmar. Geographic Information System (GIS) was applied to analyze seven variables relevant to a land requirement for a teak plantation, including topography (slope and elevation), climate (mean annual temperature and annual precipitation), and soil characteristics (soil pH, soil depth and soil texture). All relevant secondary data were collected and downloaded and subsequently transformed into grid-based GIS with a resolution of 200-m. Besides the land requirement parameters, we used the FAO matching technique to determine site classes for teak plantations. Each parameter was weighted and ranked according to its importance and contributions to the growth of teak trees. The accumulated scores were reclassified into four classes (i.e., '0' as unsuitable, '1' as marginally suitable,

3 scientific articles

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TEAK IN MEKONG

FOR A SUSTAINABLE FUTURE

YONGYUT TRISURAT, HWAN-OK MA
TETRA YANUARIADI, PROMODE KANT
AND P.K. THULASIDAS
Editors

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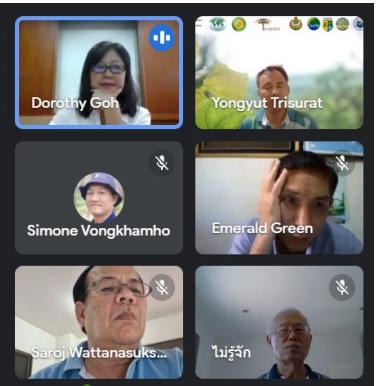
27 chapters
41 authors

# Outputs and Activities

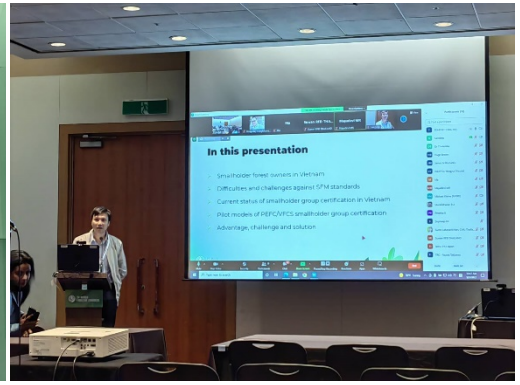
**Output 3.** Regional and international collaboration, information sharing and knowledge management, networking, policy development and outreach on the teak SFM

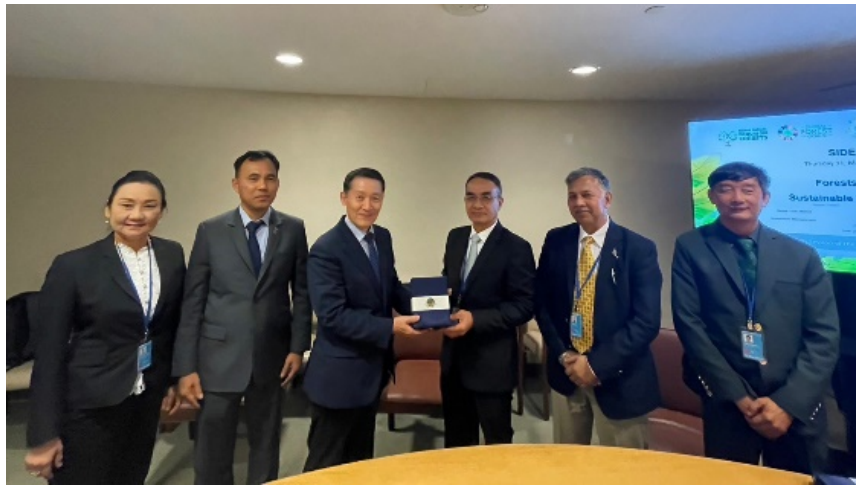

Comparative average height (H) and diameter at breast height (DBH) of the 8 YSG clones in two different planting sites in Lahad Datu, Sabah, 5 years after planting. Clone identity was changed. N: number of trees recorded.

| Clones | Site 1 | | | Site 2 | | |
|---|---|---|---|---|---|---|
| | N | H (m) | DBH (cm) | N | H (m) | DBH (cm) |
| D | 20 | 15.61 | 15.31 | 30 | 13.79 | 17.73 |
| X | 20 | 14.81 | 13.67 | 30 | 13.42 | 17.18 |
| Z | 20 | 13.88 | 14.44 | 30 | 13.71 | 17.82 |
| O | 20 | 16.8 | 15.58 | 30 | 15.31 | 14.62 |
| C | 20 | 15.26 | 16.82 | 30 | 13.54 | 17.26 |
| E | 20 | 15.66 | 18.06 | 30 | 13.7 | 17.88 |
| K | 20 | 17.45 | 15.34 | 30 | 13.27 | 14.88 |
| S | 20 | 17.28 | 17.99 | 30 | 13.54 | 17.23 |
| Mean | 160 | 15.84 | 15.90 | 240 | 13.78 | 16.82 |
| MAI | | 3.2 | 3.2 | | 2.8 | 3.4 |




10 webinar meetings during the COVID-19 pandemic

Side Event on "**Forest of Thailand: Sustainable Teak Management**" on 11 May 2023

***18th UN Forum on Forests,* New York, USA**

# Challenges and Opportunities for SFM

Future of Teak trade **lies in teak plantations**, not natural teak forests;
**Smallholder teak plantations** with the involvement holds the key.

## Challenges

- **Poor quality of seedling materials** and silvicultural techniques
- Lack of access to **supportive financial** schemes for smallholders (harvested too early before the plantations reach their optimum age with respect to **timber quality and value**)
- Complicated legal system and expensive **wood certification**
- **Limited knowledge** sharing and cooperation

## Needs (opportunities)

- Provide and propagate good quality materials
- Innovation to use thinning wood & value-added design
- Access to financial schemes to promote longer rotation > enhancing carbon storage in plantation forests, which can also generate **additional incomes** from carbon credits
- National certificate (reduce cost/domestic & regional markets)

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# Special thanks to BMEL and all participating countries