

Promoting Legal and Sustainable Supply Chains for Sustainable Global Teak Markets



ITTO
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WORLD CONGRESS
26th
IUFRO
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Teak and Sir Brandis



**Sir Dietrich Brandis (1824 - 1907):
German botanist and forester
Father of tropical forestry**

https://en.wikipedia.org/wiki/Dietrich_Brandis

Teak (*Tectona grandis* Linn. f.) is one of the most valuable tropical hardwoods of the world

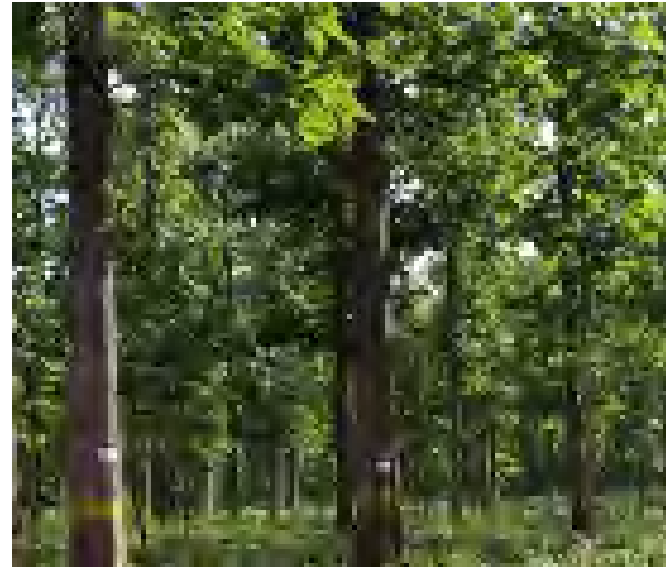
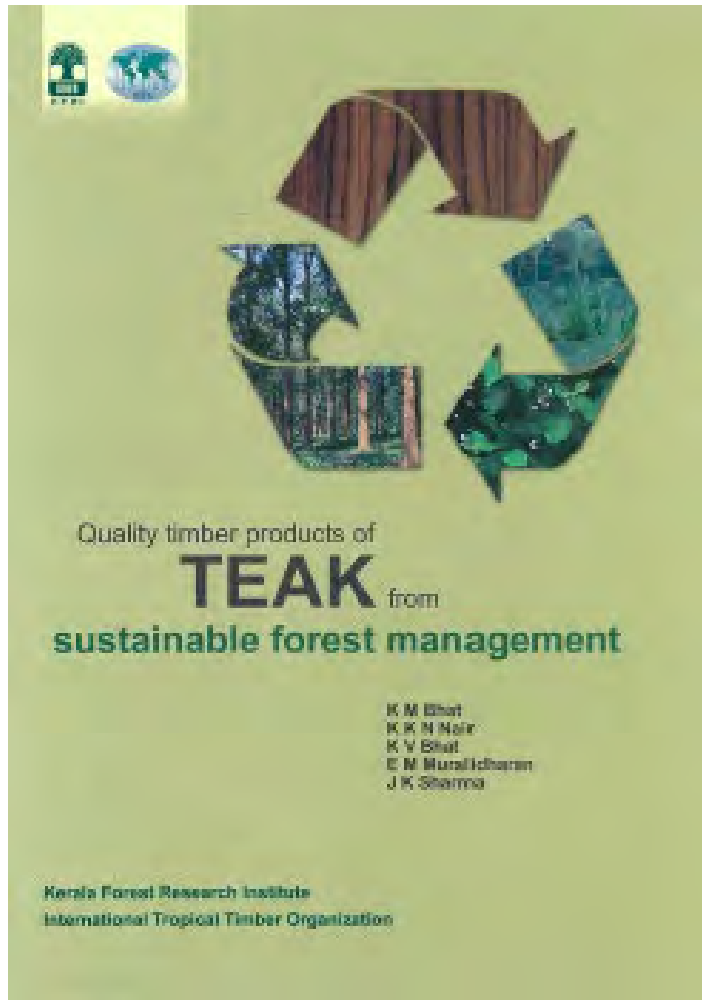
“AMONG timbers, teak holds the place which diamond maintains among precious stones and gold among metals”.

Sir Brandis

- In 1858 became head of the imperial forest administration of Myanmar.
- In 1864 became Inspector General of Forests in India

During his 20 years, Brandis' work included determination of teak volume, rate of harvest, forest protection plans against pests and fire, and establishment of managed teak areas with appointed *Conservators*

Kerala Calls for Action on Teak (2003)



- regain the pre-eminence of teak in view of its sterling properties;
- reduce production cost and improve the quality of teakwood and adjust to changing market requirements and specifications;
- meet the existing and emerging demand for teakwood at prices fair to the consumer and remunerative to the producer;

International Conference on Quality Timber Products of Teak from SFM (Peechi, India, 2-5 December 2003)

Overview of Global Teakwood Supply



Teak Resources
and Market
Assessment
2010



Global Teak
Resources and
Market Assessment
2022

Natural teak forests in Myanmar, India, Laos and Thailand:

- 29 mil ha (2010) - 30.2 mill ha (2022)

Planted teak forests are estimated to cover:

- 4.35 - 6.89 mil ha in 70 countries (2010) – 4.85 mil ha in 80 countries (2022)
- 80% grew in Asia, 13% in Africa, 7% in Latin America.
- Top 3 countries:

India with 1.69 mil ha (35 % of the total),
Indonesia with 1.27 mil ha (26 %) and
Myanmar with 0.48 mil ha (10 %)

Demonstration Plots in Thailand: Teak Supply Chains

1. Mae Ka Silviculture



2. Ngao Silviculture



3. Khunmae Kummae Teak Plantation (FIO/FSC)



4. Mr. Suchat's Plantation



High quality seeds

Propagation and
smallholder networking

SFM and minimize loss

Smallholder &
silvicultural practices

FIO teak plantations:
43,000 ha (50%)

Thai National Standard
TIS 14061: The **Sustainable** Forest
Plantation Management (2016)
TIS 2861: **Chain of Custody**
Standard Forest- based Products
(2018)

5. Smallholder teak enterprise



RFD registration
Using ITTO's C&I/CoC
(2019)

(August 2020 in Nan province, Thailand)

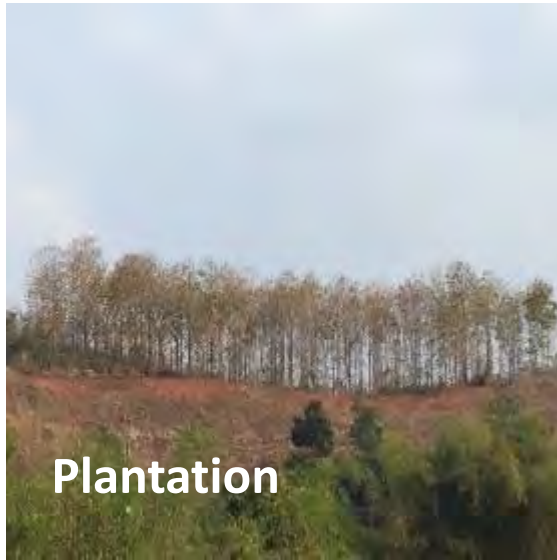
Sustaining Teak Forests in Mekong Basin (Yangon, Myanmar in September 2019)

- Enhancing the *in-situ* and *ex-situ* conservation of teak genetic resources through seed production areas and seed orchards to improve the genetic base of populations and avoid genetic erosion; **improving silvicultural aspects of teak plantations**, from the selection of suitable sites to thinning and harvesting techniques.
- **Promoting the engagement of smallholders and communities**, including young people and women, and motivated local restoration leaders
- **Promoting value chains for teak timber and timber products** through value-added product development, improved marketing and greater access to finance and long-term investment

https://www.itto.int/news/workshop_explores_contributions_of_mekong_teak_forests_to_sdgs/



Teak Value Chain Analysis of Smallholders In Vietnam



Plantation

Demonstration site in Son La province in March 2020

Net return per cubic meter of final product for the sawmills and manufacturers is higher than that of growers and traders (middlemen; 10% margin & sawmill; 10% margin)



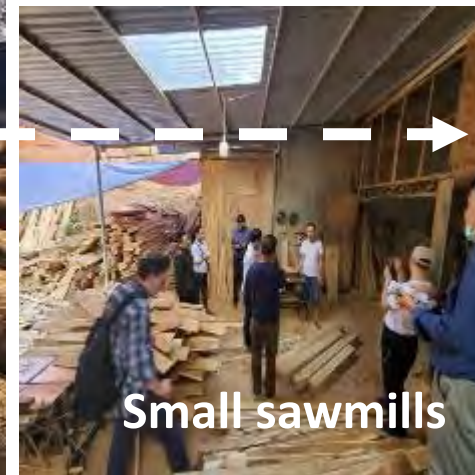
Markets/Cons



Middle-men



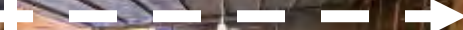
transaction cost



Small sawmills

Farmer house in Son La province

Sawmill in Son La province



World Largest Teak Plantation in Brazil



Brazil - TRC Agroflorestal Ltd;
40,000 ha



Smallholder Teak Plantations in Indonesia

- In Java, about 1.5 million farmers grow teak, managing over 400,000 ha of mixed cropping systems
- High demand from furniture industry
- Recently, local clone (JUN) is available as fast growing teak harvestable at 8 years



Genetic Improvement of Teak

- Seed production from clonal seed orchard ~ 40 ton/year, equivalent to 35,000 ha plantation
- Planting materials from hedge orchard by cutting ~ 24 million plants = 36,000 ha plantation
- Growth of improved clones at age 5 years height - 17.8m, dia. - 18cm. MAI 14m³/ha/yr

Innovative Teak Plantations in Cambodia



Innovative method for teak plantations shortens the rotation length to **6-8 years** from the traditional **20 years**

Irrigation management; rapid-growth Teak plantations (MAIs of **20-35 m³/ha** Thailand (with 8 m³/ha)

TEAK FARM 
Cambodia

Innovation afforestation
Fertigation



Teak Investments in Ghana



- Established in 2007; 9,895 ha planted with commercial plantations; a certificate for sustainable forest management awarded by the FSC in 2010
- **Benefit sharing mechanism:**
 - The Forestry Commission shall receive **12%** of the Standing Tree Value of commercial thinnings and of the final harvest
 - Form Ghana Ltd. shall receive **80%**,
 - the Landowner shall receive **6%** and
 - the Local Community shall receive **2%**.

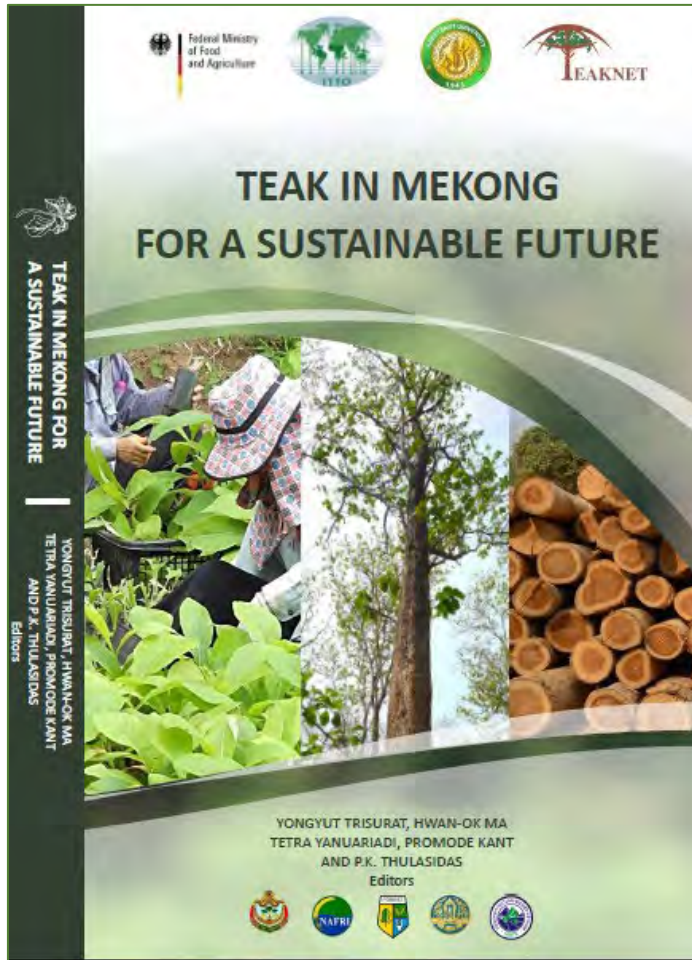
2007
Year
Established

9895
Hectares planted
with commercial
plantations

2317
Hectares natural
forest planted &
protected

1086
Employees

Teak in Mekong for a Sustainable Future



6 sections, 27 chapters
360 pg.



Promoting Teak Supply and Value Chains: National Teak Forum (Lao PDR in Feb 2020)



4th World Teak Conference 2022 (Accra, Ghana)



Forest Certification Programs: Sustainability



- Forest certification is a way of informing consumers about **the sustainability of the forests** from which wood and other forest products were produced. A tool for recognizing SFM
- Two types of forest certification;
 - ✓ **Certification of forest management:** Are forest being sustainably managed?
 - ✓ **Certification of the chain of custody (CoC);** How can we responsibly source products in supply chains?
 - ✓ Criteria and indicators provide practical assessments (FSC- 10 principles and 70 criteria; PEFC-7 Criteria)
- In 2023, the total area of forests certified by the globally recognized FSC and PEFC forest certification programs reaches **451 million ha** (160 M ha; FSC and 291 M ha; PEFC). It represents approximately **5% of the world's timber** and non-timber production forests, estimated at 1.15 billion ha (2020 FRA).

Challenges of Certification

High transaction costs for developing countries and small producers



Limited Market Recognition and Regulatory Issues



Examples of National Forest Certification

Brazilian Forest Certification Program (CERFLOR) (2005)



**Lembaga Ekolabel Indonesia (LEI);
National Timber Legality Assurance System (SLVK)**



Malaysian Timber Certification Council (MTCC) (1999)



Indian Forest and Wood Certification Scheme (IFWCS)

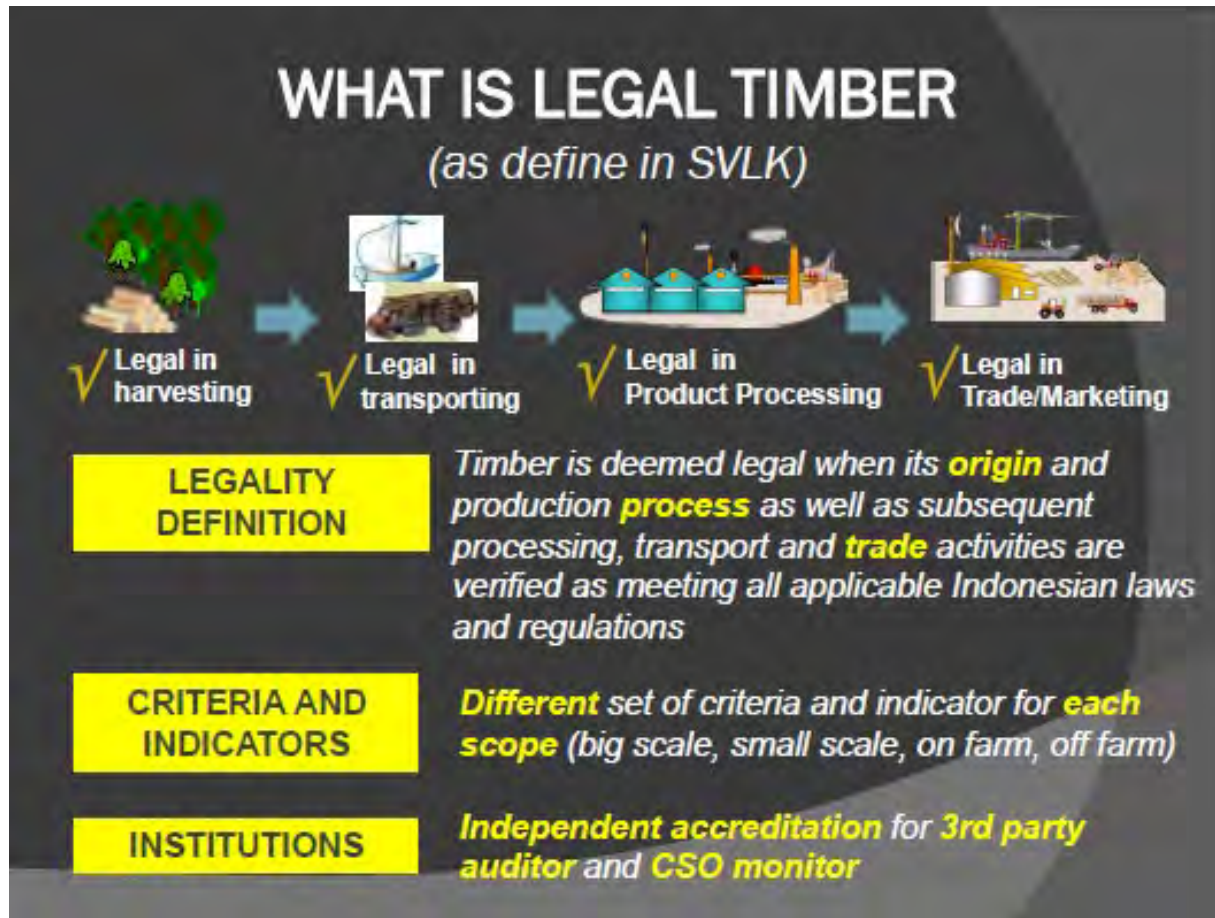
- governed by the **Indian Forest Certification Council (IFCC)** under Additional General of Forests; **Indian Institute of Forest Management (IIFM)** as Scheme Operating agency
- Based on the Principles of Sustainable Forest Management
- Covers Forest Management, Trees outside Forest (TOF) / Agroforestry, Chain of Custody
- **8 Criteria & 69 Indicators** in Indian Forest Management Standard
- **5 Criteria & 22 Indicators** for Trees Outside Forests/ Agroforestry



Source: IIFM

Timber Legality Assurance Systems

Indonesia SVLK

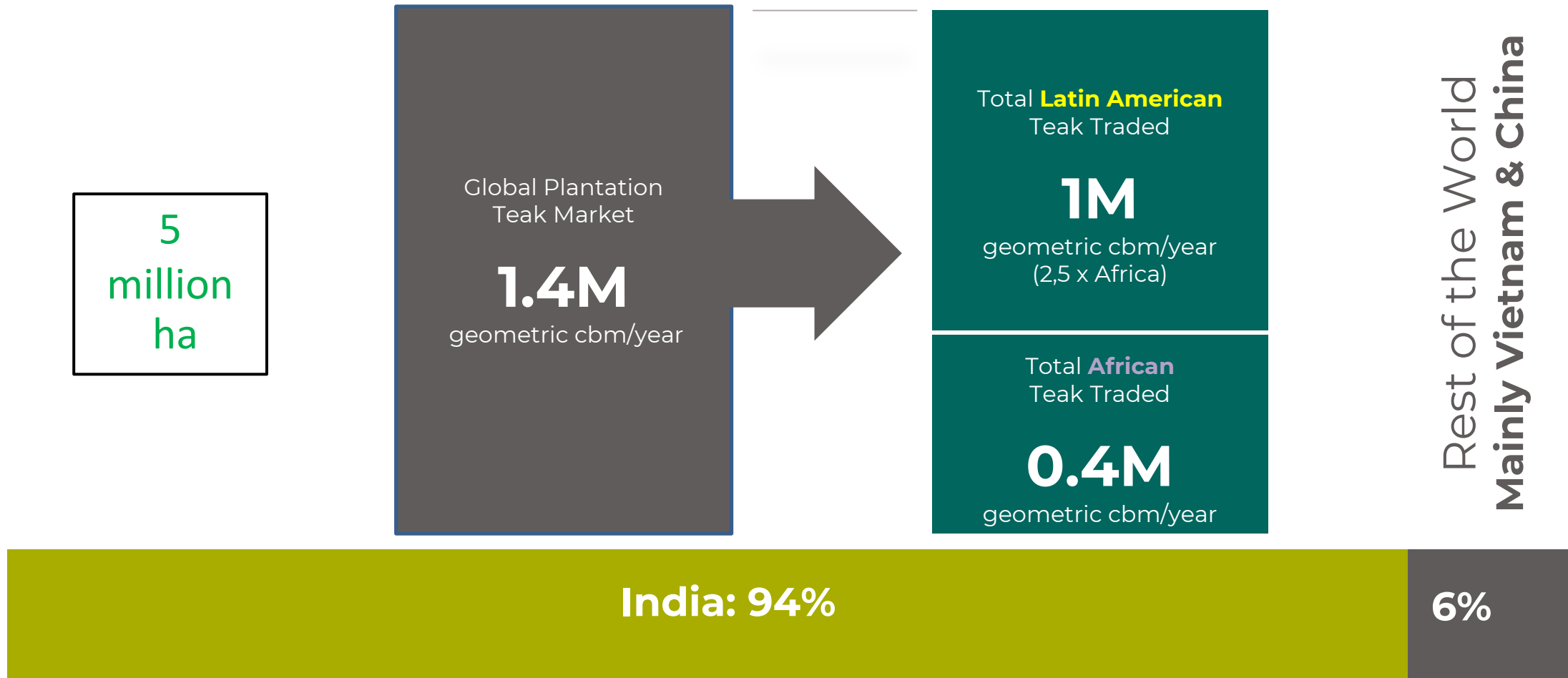


Courtesy from Arbi Valentinus

Ghana Legal Definition : Scope of Timber Legality Verification – 7 Principles

1. Source of Timber
2. Timber Rights Allocation
3. Timber Harvesting Operations
4. Transportation
5. Processing
6. Trade
7. Fiscal Obligation

Global Plantation Teak Market

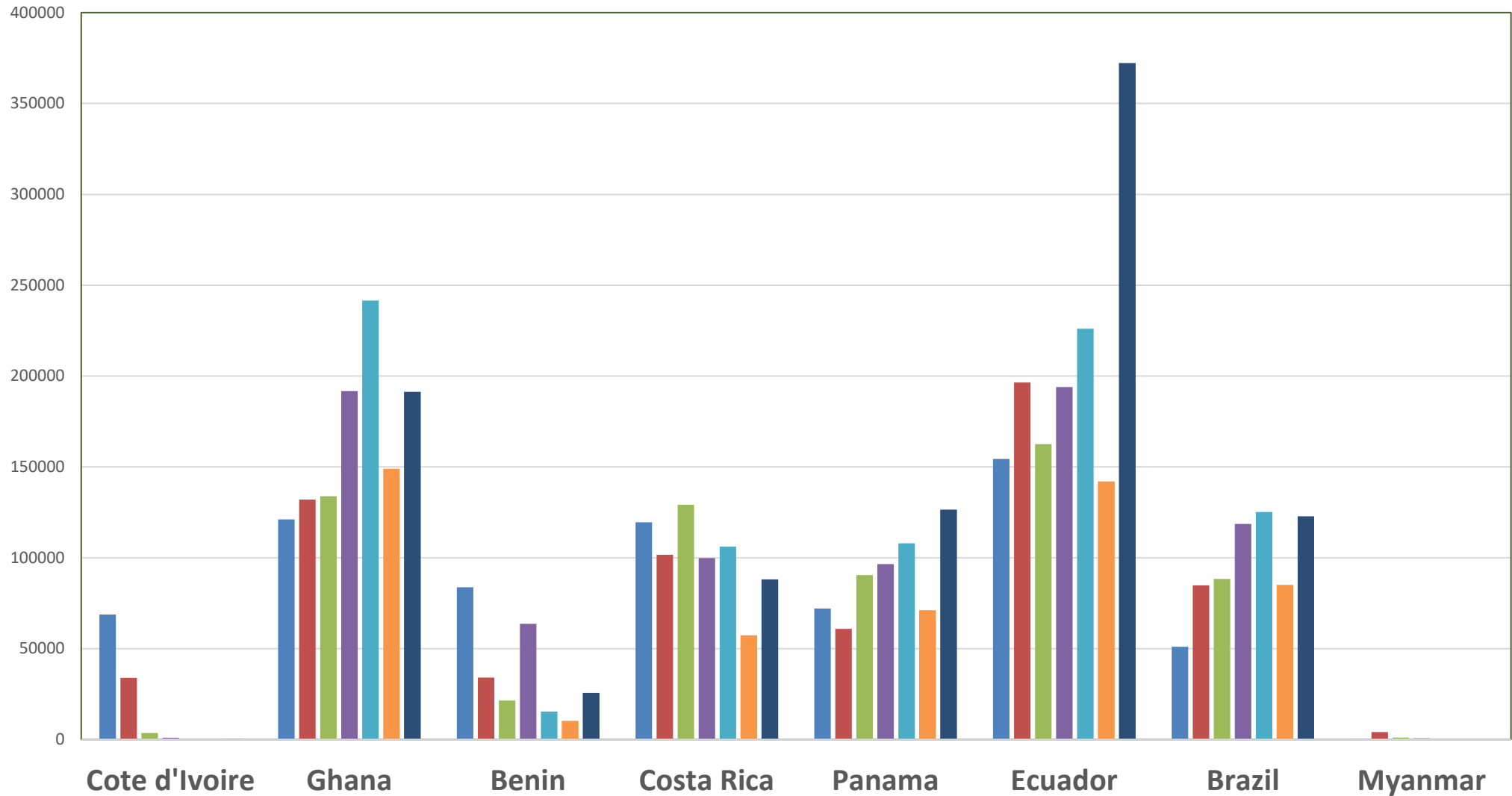


Main Uses of Teak in India (Doors & Door Frames (spiritual value ;80%, Furniture; 15%, Other; 5%)

Teak has been the most preferred timber in India owing to its favorable wood properties such as excellent nail- holding capacity and resistance to attack by diseases and insect pests.

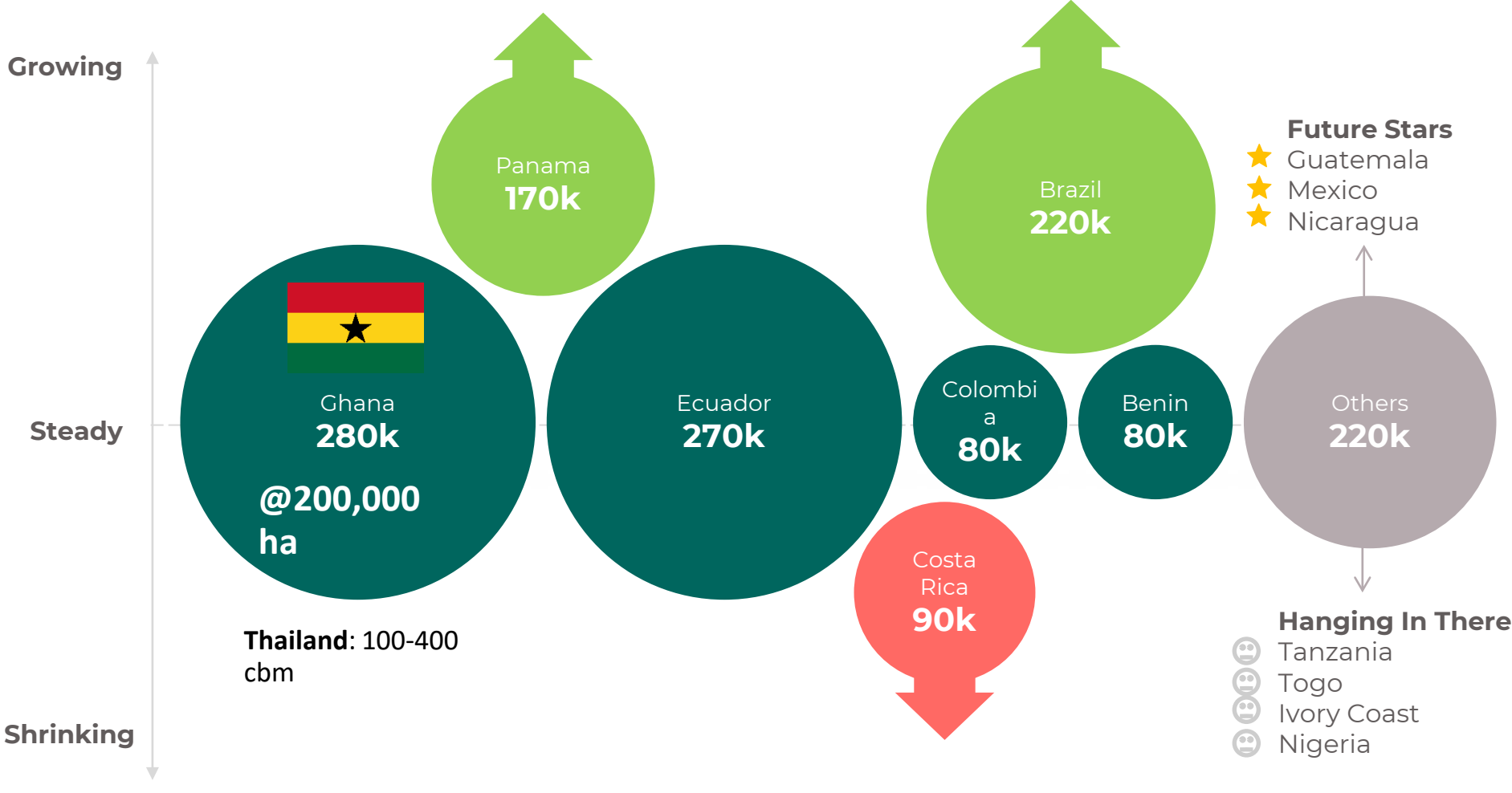


India: Imports of Teak Log 2015-2019 (m³)



Source: ITTO Timber Trade Portal

Growing Countries in Exporting Teak Wood



Current rotation period has a 15-year cycle for 85-90% of the plantations compared to traditional practices (30-60 years cycle (>25 years - Not commercially viable)).

Courtesy from: Aron Global

International Timber Trade Policies (Due diligence)



US Lacey Act Amendment (2008)

- 1900 US law that bans trafficking in illegal wildlife; Amended in 2008 to include plants and plant products, such as timber and paper
- Required specification of timber species origin and scientific name of any species used



European Union Timber Regulation (EUTR) (2010)

- Prohibition of illegally harvested timber and associated products in the EU market

European Union Deforestation Regulation (EUDR) (Dec 2024)

- EUDR will apply from Dec 2024 and replace EUTR from Dec 2027
- Operators must ensure that the items entering the EU market are not from land that has been deforested or subject to forest degradation since 31 December 2020
- Requires products to be certified through due diligence based on geolocation or based on satellite imagery and GPS coordinates



Australia Illegal Logging Prohibition Act (2012)

- Requires due diligence - an importer before importing regulated timber product should get evidence of compliance with the law of any foreign country; and evidence that the product has not been illegally logged



Japan Clean Wood Act (2017)

- Requires “Confirmation of Legality”, showing that registered companies that timber products they handle are harvested in compliance with the national regulations



Timber legality: A necessary first step in SFM

- Efforts to ensure the legal origin of timber and trade in timber products have brought many initiatives (information about raw material origin; risk assessment; risk mitigation) – **US Legacy Act; EUTR-EUDR; Australia’s Illegal Logging Prohibition Act; Japan Clean Wood Act**
- **Timber legality is a necessary first step in ensuring SFM** and the initial step in the international timber trade control
 - Legal right to harvest and trade within legally gazetted boundaries
 - Compliance with legislation related to forest management, environment, labour and welfare, health and safety
 - Compliance with legislation related to taxes and royalties
 - Compliance with requirements for trade and export procedures.
- **Timber legality assurance system (FLEGT) development** could be scaled up to meet EUDR requirements (deforestation and degradation free; geolocation)



Legality, Certification and Trade



Legality and sustainability are a complex issue for many teak growing tropical countries

- Improve the development and implementation of a **competent monitoring system** (a set of criteria, indicators, and verifiers) to demonstrate the legality and sustainability
- The **digitalization** of forest management activities and cost-effective verification tools are increasing important in tropical countries
- Establishing **transparent and traceable timber supply chains** will provide teak growers more opportunities to participate in global markets while addressing global environmental issues

Innovative certification systems that substantially reduce transaction costs for smallholder teak planters

- The certification of smallholder teak plantations by local forestry authorities, as is being done under the **Luang Prabang Teak Program in Lao PDR** and **Thailand C&I certification for plantations** (good examples)



ITTO Work on Legal & Sustainable Supply Chains (LSSC)



- ITTO Strategic Action Plan 2022-26
- Capacity building of LSSC:
 - E-course on LSSC developed (<https://lsscourse.com/>)
 - CITES Program; LSSC in Mekong, Guatemala, Panama, etc.
 - Promotion of sustainable domestic consumption of wood products in Thailand, Indonesia, Vietnam and Malaysia
 - Wood identification programmes to identify illegal logs



Legal, sustainable timber supply and value chains are key nature-based solutions to promote circular bioeconomy (ITTO ED, Sheam Satkuru, 2023)



Way Forward

Teak – a bridge to the bio economy and the future; Plantation and natural teak forests are vital

A sustainable teak for a sustainable world:
Promotion of legal and sustainable supply chains