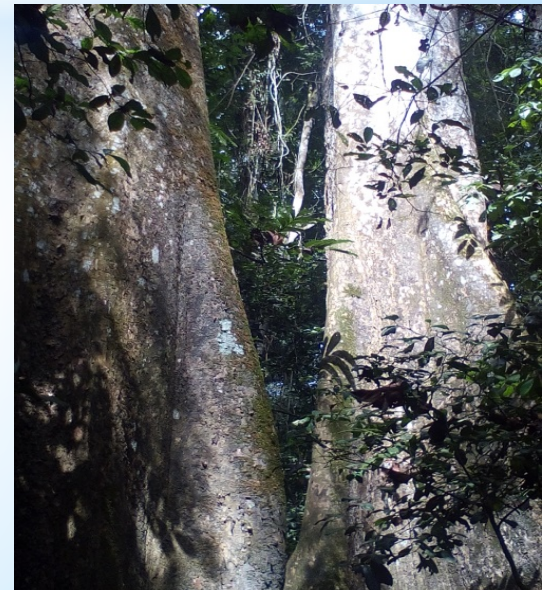




MALAYSIAN FORESTRY CONFERENCE 2018
31 July - 2 August
Kuching, SARAWAK

**** Advancing Sustainable
Forestry through
Digitalisation & Technology***

S. Satkuru
ITTO





ITTO's mandate: Article 1 ITTA 2006:

Include.....a consultative forum for producing and consuming members.....the expansion, diversification, and structural improvement of the international tropical timber trade..... reforestation and other forest management activities.....processing of tropical timber in the producing countries.....research and development.....technology transfer.....support for development of national policies in sustainable utilization and conservation of tropical forests..... with special regard for ecological balance.....

ITTO'S PRIORITIES ARE.....

FORESTS (WOOD PRODUCTS + NTFPS) DIRECTLY AND INDIRECTLY





SOME STARK FACTS:

UNSPF TARGET - Reverse forest loss and INCREASE forest area by 3% by 2030

Deforestation reduced to 3.3 million ha in 2015 from 7.3 million ha in 2000 BUT

Agriculture still responsible for 80% of forest loss (conversion)

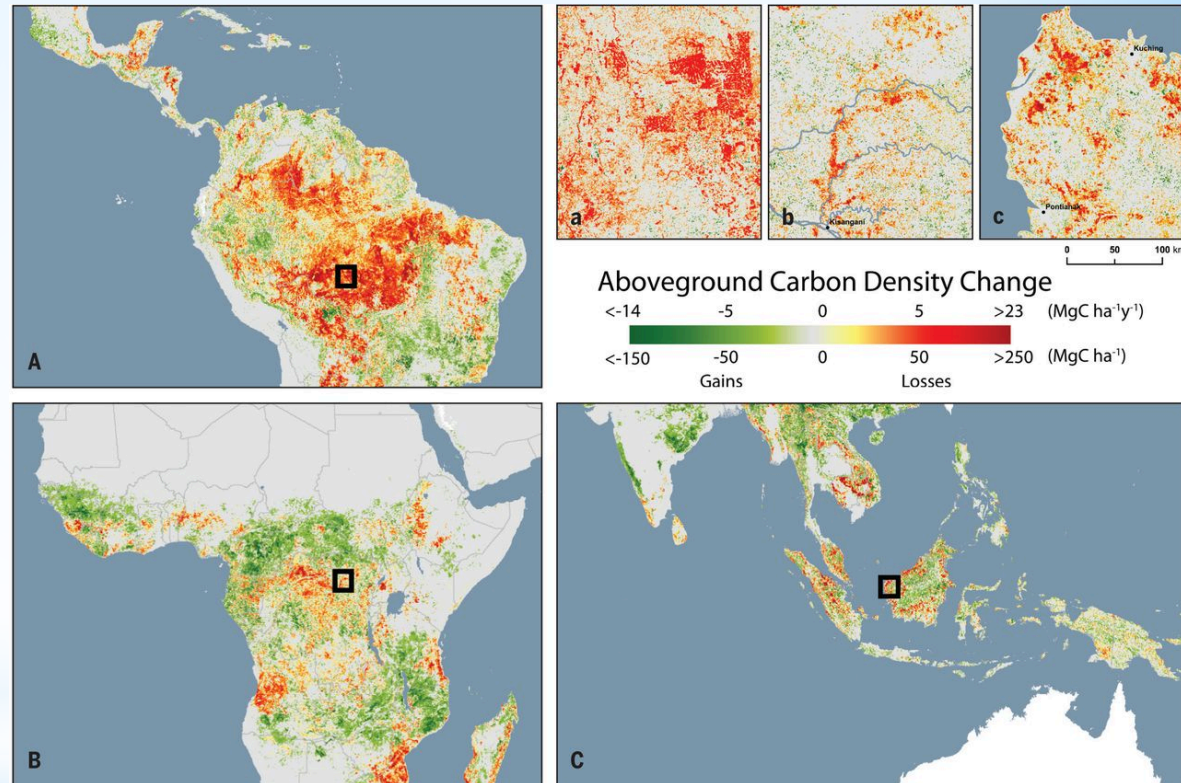
More than 50% of 193 UN member states have less than 20% forest cover

Global population \geq 9 BLN 2050, = \uparrow food, wood products, woodfuel, income

Forest DEGRADATION larger problem, URGENT NEED FOR REFORESTATION & RESTORATION/SUPPLEMENT RAW MATERIALS

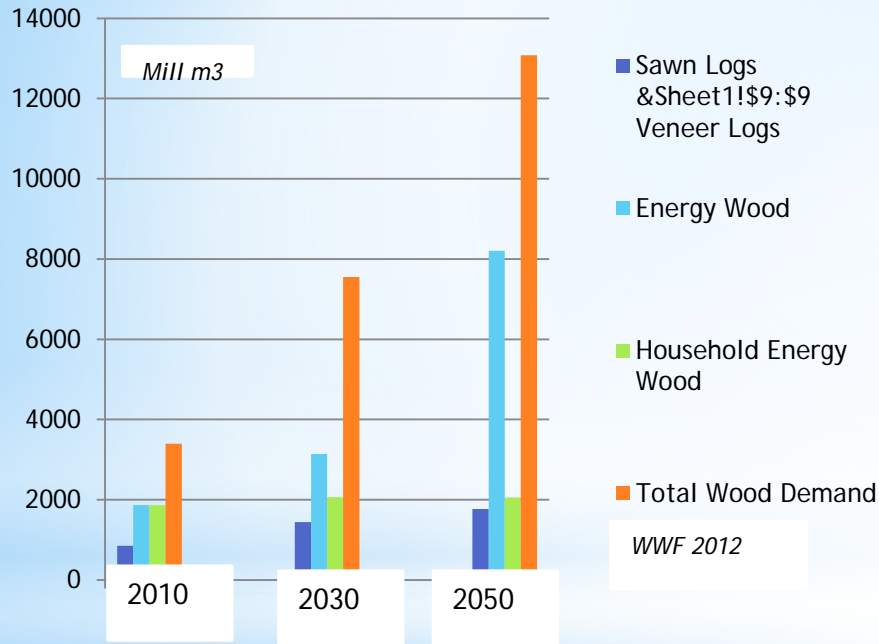
Tropical forest degradation: geography of carbon density change

- Tropical forests are a **net release of carbon** of $425.2 \pm 92.0 \text{ Tg C yr}^{-1}$ (losses of $861.7 \pm 80.2 \text{ Tg C yr}^{-1}$ and gains of $436.5 \pm 31.0 \text{ Tg C yr}^{-1}$ from forest growth)
- Losses result from (i) deforestation and (ii) reductions in carbon density within standing forests (**degradation**) accounting for **68.9%** of overall losses

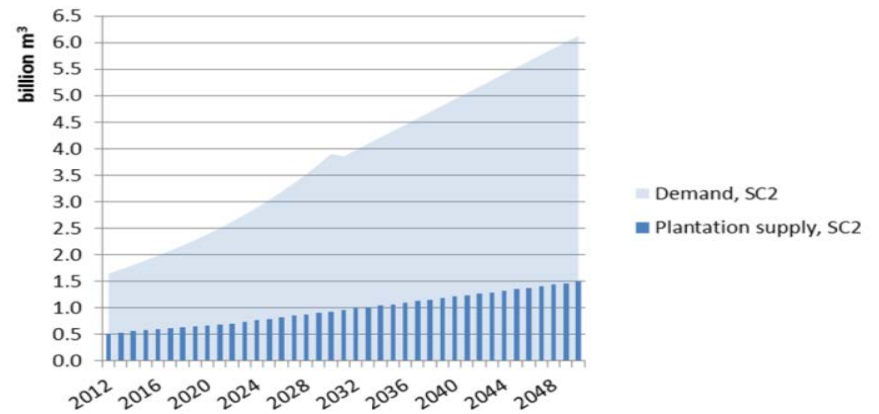


A. Baccini et al. Science 2017;science.aam5962

Increasing Global Wood Demand

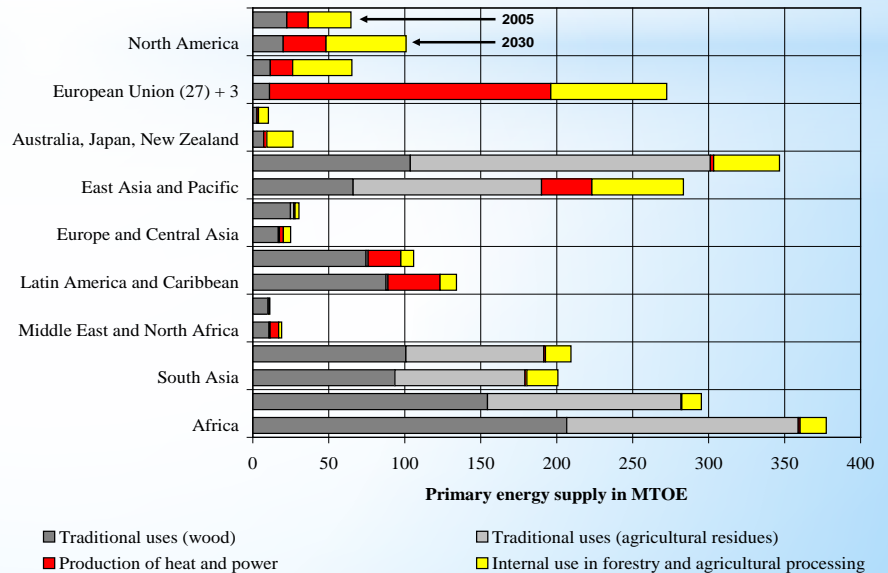


Increasing Gap for Industrial Roundwood

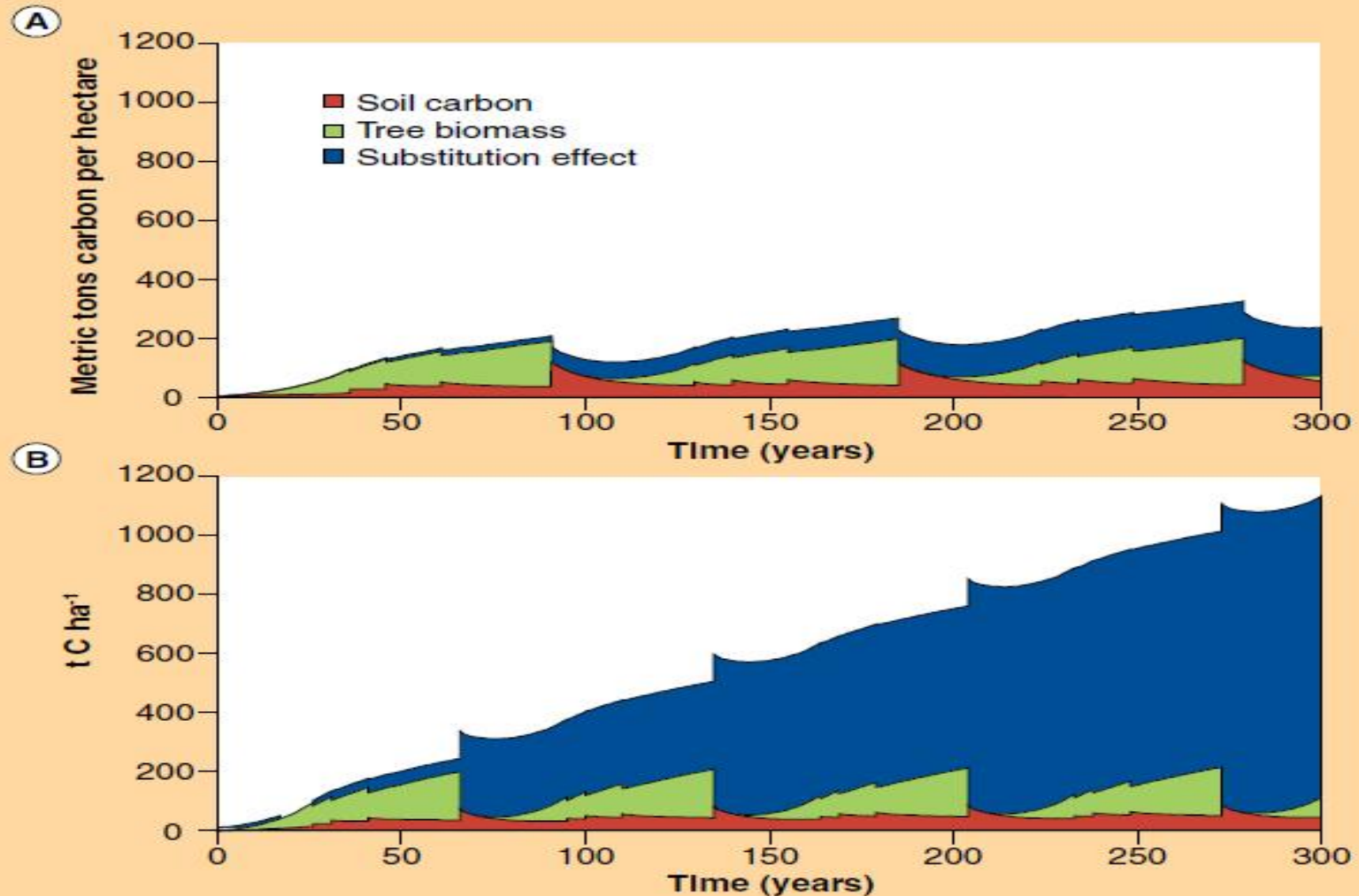


Demand in woodfuel and charcoal continues to increase

- 2.8 billion people will depend on **TRADITIONAL FUELS** in 2030
- Massive increase in demand for wood energy in industrialized countries



* Mitigation Benefits of Sustainable Forestry Value Chain





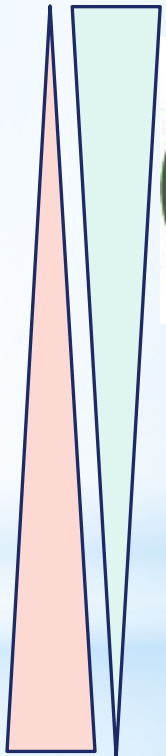
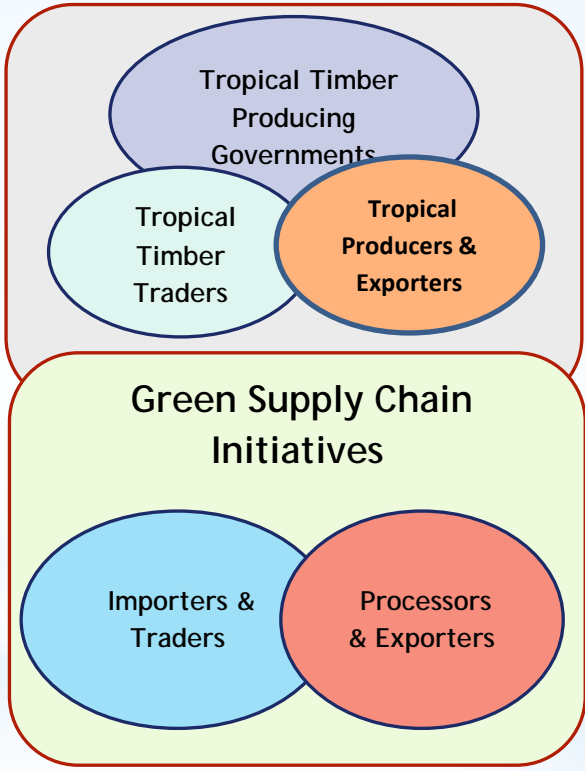
* Need for capacity building throughout Green supply chains

International and National Legality and Sustainability Frameworks

SDGs, UNSPF, National Policies, Intl. Agreements, Proofs of Legality (Certification Schemes, Timber Tracking Systems, DNA Fingerprinting,)

Need for Capacity Building

- Landscape Planning, Policy & Regulatory & Institutional Frameworks, Capacity Building , Analysis,
- Market Information, Guidelines, Capacity Building Self-organization, Access to Markets
- Data Base, Intl. Connectivity, Expert Advice, Market Monitoring, Capacity Building
- Market Information, Intl. Outreach, Training and Capacity Building, Networks
- Analysis, Information, Monitoring ...



Demand for Legal and Sustainable Products



National, Regional and International Markets;
8
Consumers ; Advocacy Groups



RECENT KEY ACTIVITIES:

- SUSTAINABLE SUPPLY CHAINS INITIATIVE CONFERENCE WITH CHINA PRIVATE SECTOR - ITTO web page:

http://www.itto.int/news_releases/id=5622

12 leading companies signed a formal declaration to adopt the principle of green supply chains for their businesses - Total Production value 2017 US\$ 12.8 billion, 15.6% of China's imports and exports of timber products in 2017 - 4% of China's total timber industry.

CPF Members ACTIVITIES:

- HALTING DEFORESTATION: From aspiration to action
- Sustainable Wood 4 a Sustainable World (SW4SW)
- Review of ITTO Forest Landscape Restoration Guidelines with GEF/IUCN
- Forest Landscape Restoration activities with CPF members



NTFPs & NTFS in ITTO & SFM

- Has been part of ITTO's portfolio as far back as 2002:

ITTO guidelines for the restoration, management and rehabilitation of degraded and secondary tropical forests

Non-wood forest products such as animal and vegetable foods and other useful plants are frequently extracted.....forests.....bamboo, rattan, edible fruits, medicinal plants, etc, are harvested.....(socio-economic element)

rehabilitation of degraded forest land must therefore be viewed in the context of an overall landscape approach and in the framework of sustainable development.....not just focus on single elements of SFM.....





* Urgent Need for Action, inter alia:

- * Creating awareness across international forest regime; policy processes, broad public
- * Promoting the paradigm of bio-economy
- * Urgent need for fiscal and taxation incentives as stimulant
- * Capacity building at all levels: producers, traders, processors and consumers
- * Developing universal procurement criteria and GSC guidelines to reduce complexity
- * Piloting supply chains/markets: from legality to sustainability
- * Support emerging sustainable supply chain initiatives, etc etc etc



Actively promote sustainable production & consumption of wood products, NTFPs & NTFS in international and domestic markets



ITTO's Activities on Technology & Digitalisation

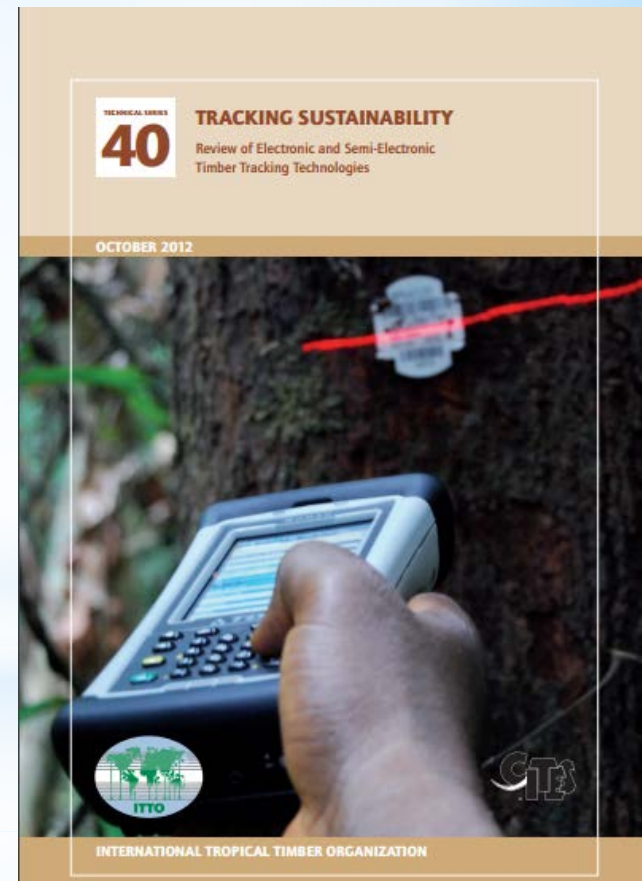
*ITTA 2006.....research and
development.....technology transfer.....*

SOME EXAMPLES OF ITTO'S WORK.....

* Timber tracking



- * Reliable information on the flow of forest products through the supply chain to:
 - * Improve forest management
 - * Assure legality and sustainability
 - * Ensure fair capture of forest revenues
- * Rapid evolution of timber tracking systems
 - * Technology
 - * Scope of products and scale





ITTO's work on timber tracking

- * Guatemala's electronic information system for forest enterprises

<https://www.youtube.com/watch?v=MyhZNKVYMqU>

A photograph showing a person from behind, wearing a yellow hard hat and an orange t-shirt with 'ITTO' printed on the back. They are sitting at a desk and looking at a computer monitor. The monitor displays a web application with a green and white interface, likely related to timber tracking. The background shows a window with a view of greenery.

* ITTO's recent work on timber tracking



* ITTO projects on legality and traceability of timber



Moving beyond conflict on procurement

Public timber procurement policies have been a hot topic of debate among governments, tropical timber traders and environmental groups for a very long time. Environmental groups argue that tropical timber importing countries can lead the way in sustainable forest management by buying only certified or at least legally verified tropical timber. Timber exporting countries say that such procurement policies give their tropical timber an unfair market advantage, and traders worry about the cost of conforming to new standards. Public timber procurement policies, therefore, are a divisive issue in international forest policy.

Yes, as Marten and Huberudite demonstrate in their article on page 3 of this edition of the Tropical Forest Update, major changes are under way in the tropical timber trade that overlook the impacts of public timber procurement policies. Most notably, the trade is shifting from its traditional markets (such as the European Union and the United States) towards emerging, north-south and domestic markets.

Such a shift need not—and indeed should not—reduce the impetus in the trade to provide credible evidence of legality and



Inside: the impact of public procurement policies; timber legality verification

- * Species identification and timber tracking using DNA finger printing and stable isotopes (Africa & Indonesia)
- * Guatemala's timber traceability system
- * Data management system for the forest sector in Ecuador
- * Online platform to facilitate the flow of information on timber legality to SMEs in China
- * Chain of custody verification in PNG
- * Capacity building in monitoring and control mechanism in Panama

Further details of ITTO's projects available from ITTO's project search

http://www.itto.int/project_search/

A magazine with a comprehensive review of above projects is available

at

<http://www.itto.int/tfu/id=4367> or from "TFU app" (Apple & Google Play)

* DNA finger printing & stable isotopes



- * DNA fingerprinting and stable isotope techniques use characters inherent to the timber and are impossible to falsify
- * Testing = extracting DNA from wood samples- comparing the genotypes with the genetic reference material. Similar case for stable isotopes (carbon, hydrogen, nitrogen, oxygen, strontium and sulphur)
- * DNA fingerprinting and wood anatomical testing used to determine species
- * DNA fingerprinting and stable isotope testing is used for geographic origin – DNA DATABASES:
 - * iroko (*Milicia excelsa*)
 - * sapelli (*Entandrophragma cylindricum*)
 - * ayous (*Triplochiton scleroxylon*)
 - * from seven African countries: Cameroon, Congo, DRC, Côte d'Ivoire, Gabon, Ghana and Kenya



* DNA finger printing & stable isotopes



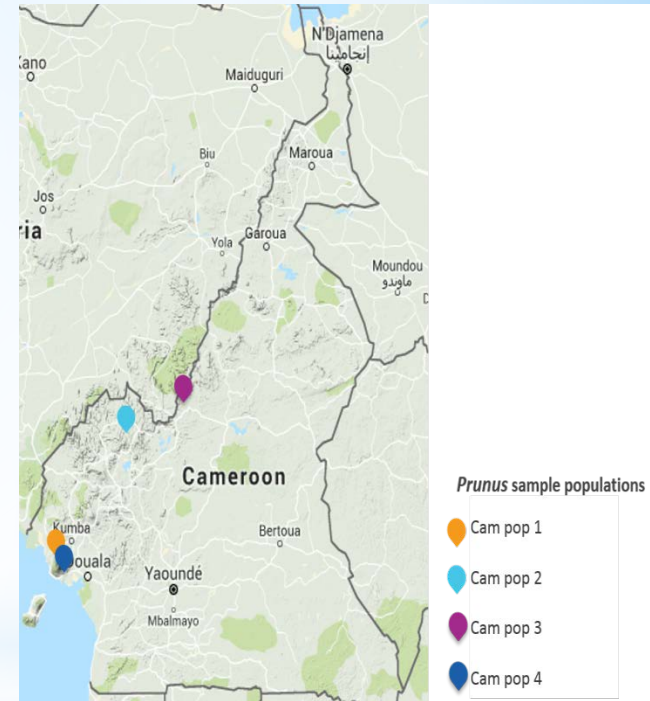
- * DNA-based traceability systems are assisting to control trade in two CITES-listed tree species: *Pericopsis elata* (timber) and *Prunus africana* (bark)
 - * Detect attempts to substitute timber and bark from non-authorized harvest zones with two approaches:
 - * Matching of *Prunus africana* bark with individual trees in controlled harvest zones
 - * Traceability of bark back to distinct *Prunus africana* populations for which sustainable harvest plans have been drawn up and approved. (known as “*Prunus* allocation units”)
 - * These capabilities enable the independent scientific verification of CITES document claims
 - * The identification of sufficient genetic markers enables reliable discrimination between individual trees the same species, and between trees of different geographical origin.



* DNA finger printing & stable isotopes

* Border applications:

- * Effective mechanism for detecting illegally harvested bark in the supply chain, closing off channels to market for illegally harvested forest products
- * DNA traceability works on top of existing document controls
- * Export markets gain access to a wider range of controlled timber sources, and responsible exporters gain better access to overseas markets





Videos from ITTO projects on timber tracking and timber identification:

Guatemala timber tracking

<https://www.youtube.com/watch?v=MyhZNKVYMqU>

Mapping selective logging in Brazil

<https://www.youtube.com/watch?v=75CNqHVG680>

Identification of CITES tree species

https://www.youtube.com/watch?v=W_0NG7r54mU

TFU issue 24/1 also features several articles of digitalization and use of technology for SFM, including DNA timber identification in Africa, Ecuador's forest information system, Guatemala's timber traceability system, Online platform in China to share information about timber legality.



• ITTO PROJECTS IN MALAYSIA

www.itto.int/projects

38 IN TOTAL - 24 DIRECTLY RELATED TO SARAWAK
Ongoing Projects :

Title	Executing Agency	ITTO budget (US\$) / donor Donors
PD635/12 Rev.2 (F) : BUFFER ZONE MANAGEMENT FOR PULONG TAU NATIONAL PARK WITH INVOLVEMENT OF LOCAL COMMUNITIES IN SARAWAK, MALAYSIA	Sarawak Forest Department (Leader: Dr Paul Chai)	517,450 Japan, JLIA, Switzerland
PD563/09 Rev.5 (F): COMMUNITY BASED FOREST MANAGEMENT OF SUNGAI MEDIHIT WATERSHED, SARAWAK, MALAYSIA	Sarawak Forest Department (Leader: Mohamad Shahbudin Hj Sabki)	460,000 APFNet (China)

QUOTE FROM DR. GERHARD DIETERLE Executive Director ITTO:



- *ITTO wishes to express its sincere gratitude to the Government of Malaysia for its outstanding commitment and support to ITTO from its inception.*
- *ITTO welcomes the commitment shown by the Sarawak Government and the Forest Department Sarawak over the years for proactively implementing ITTO projects and for its efforts to secure additional funding from the Sarawak Government to enable effective activities to be implemented. Gratitude also goes to our donors for their confidence in supporting Sarawak in its aims, proven by the quality outcome of projects executed.*
- *ITTO further congratulates the Sarawak Government's commitment aiming for the certification of its FMUs in the near future. ITTO stands ready to support our members in carrying forward our mandate under the ITTA 2006. WE WELCOME CONTINUOUS COLLABORATION!!*



FORESTS & SDGs 2030



SUSTAINABLE WOOD *for a* SUSTAINABLE WORLD



8 DECENT WORK AND ECONOMIC GROWTH	4 QUALITY EDUCATION	5 GENDER EQUALITY	13 CLIMATE ACTION	7 AFFORDABLE AND CLEAN ENERGY
6 CLEAN WATER AND SANITATION	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE		

17 PARTNERSHIPS FOR THE GOALS	1 NO POVERTY	2 ZERO HUNGER	14 LIFE BELOW WATER	16 PEACE, JUSTICE AND STRONG INSTITUTIONS
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13 CLIMATE ACTION	15 LIFE ON LAND	6 CLEAN WATER AND SANITATION
8 DECENT WORK AND ECONOMIC GROWTH		
10 REDUCED INEQUALITIES		



4 QUALITY EDUCATION	5 GENDER EQUALITY	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
		13 CLIMATE ACTION	8 DECENT WORK AND ECONOMIC GROWTH

13 CLIMATE ACTION	
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	
7 AFFORDABLE AND CLEAN ENERGY	
3 GOOD HEALTH AND WELL-BEING	

11 SUSTAINABLE CITIES AND COMMUNITIES	7 AFFORDABLE AND CLEAN ENERGY	13 CLIMATE ACTION
10 REDUCED INEQUALITIES		



TERIMA KASIH

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Timber Organization



Social media and apps