

An aerial photograph of Stockholm, Sweden, taken during the golden hour of sunset. The city's dense urban landscape is visible, with numerous buildings and the city's characteristic architecture. The water of the harbor is calm, reflecting the warm light of the setting sun. In the foreground on the left, a prominent church tower with a golden, ornate spire is visible. The overall atmosphere is peaceful and scenic.

Innovations to maximize the contributions of tropical forests to sustainable development

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ITTO Outreach and Communications Officer

Tropical forests are central to sustainable development

- The sustainable harvesting, processing and trade of tropical timber and other forest products:
 - ✓ supplies residential and commercial consumers worldwide,
 - ✓ contributes to local and national economies, and
 - ✓ enhances value of tropical forests—a key factor in reducing forest conversion to other economic land uses.
- When sustainably managed, tropical forests are:
 - ✓ healthy, productive and renewable ecosystems.
 - ✓ contribute to nature-based solutions.
- Sustainably produced tropical wood has a wide range of uses and is an essential for the transition to more sustainable and circular bioeconomies.
- The sustainable management of forests is of critical importance to the 2030 Agenda for Sustainable Development and **almost all SDGs.**



Despite their importance, tropical forest are under pressure

- The world lost an estimated 10 million ha of forest (the size of the Republic of Korea) per year between 2015 and 2020:
- Most deforestation occurs in the tropics:
 - ✓ competing land uses that produce higher/more rapid financial returns (agriculture, energy, mining and infrastructure),
 - ✓ failure of market policies (don't reflect the full value of forests),
 - ✓ illegal logging, fragmentation, food security, woodfuel/energy needs,
 - ✓ wildfires and
 - ✓ climate change.
- Crucial to advert these threats.





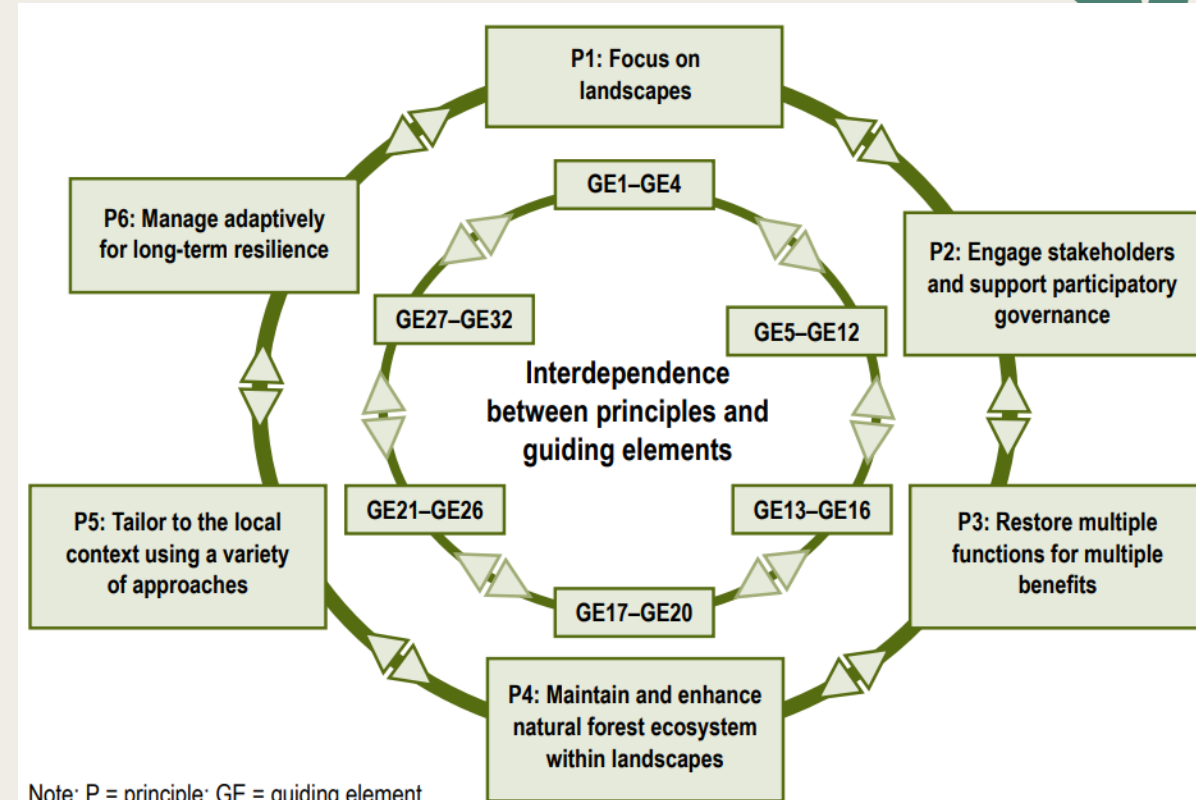
Sheam Satkuru, ITTO Executive Director

Policy innovations improve SFM and the multiple contributions of tropical forests



Forest landscape restoration (FLR)— an example of policy innovation

- FLR is the process of regaining ecological functionality and enhancing human wellbeing across degraded and deforested forest landscapes.
- It is directed towards two scales of interventions:
 1. Enables SFM for production and protection forests.
 2. Integrates natural and planted forests and trees as part of functional mosaic landscapes.
- It is a nature-based solution to global challenges and national priorities.
- ITTO FLR guidelines are structured around six principles and 32 guiding elements.
 - ✓ Enriched with 18 case studies in the tropics.



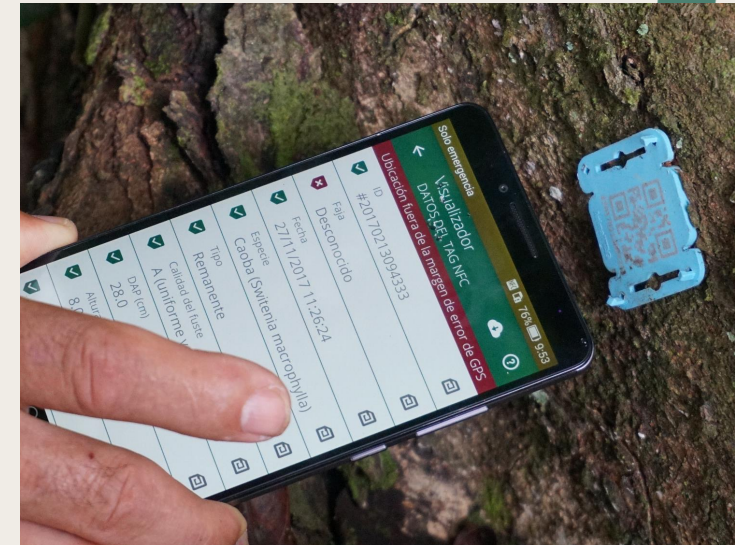
Field innovations from ITTO projects

- Provide tailored solutions for the conservation, sustainable management and sustainable use of tropical forests.
- Increase efficiency of operations and the uptake of best SFM practices.
- Engage local stakeholders in their development and advance SFM.
- Can be easily replicated and scaled-up across the tropics:
 - ✓ **More investments are urgently needed to encourage increased uptake!**



Timber traceability and wood identification— innovations that creates trust across the supply chain

- Provide reliable information on the flow of forests products through the supply chain:
 - ✓ improves SFM, forest governance and efficiency across the supply chain,
 - ✓ provides assurance of legality and sustainability,
 - ✓ facilitates monitoring and control of forest products and assists in combatting illegal logging.
- Rapid evolution of timber tracking systems and timber identification methods:
 - ✓ physical methods (barcoding, radio frequency, near-infrared spectroscopy—supported by apps).
 - ✓ chemical methods (DNA, stable isotopes).
- Some examples of ITTO projects on timber identification and traceability:
 - ✓ Brazil: Mahogany identification using near-infrared spectroscopy.
 - ✓ Cameroon: DNA tracking.
 - ✓ China: Blockchain.
 - ✓ Guatemala: Barcoding supported by apps.
 - ✓ Indonesia: Forensic identification.
 - ✓ Madagascar: DNA tracking.
 - ✓ Panama: Barcoding supported by apps.



Software for forest managers

- In the Brazilian Amazon operators are required by law to follow approved sustainable forest management plans:
 - ✓ a 100% forest inventory of the area to be logged in a given year,
 - ✓ specify the activities to be carried,
 - ✓ indicate the trees to be logged, with their geographic position, scientific name, diameter at breast height, height, and wood volume.
- The above generate a lot of data that needs to be processed.
- An ITTO project developed software that speeds up and improves the forest planning process by aiding the selection of harvest trees based on clear criteria, providing better control over timber production, and enabling sustainable forest management: *BoManejo*:
 - ✓ meets the data requirements of the forestry legislation,
 - ✓ enables forest managers to refine and adjust the criteria for selecting trees for felling, using combinations of parameters,
 - ✓ managers can quantitatively and qualitatively evaluate the volumes to be harvested and interactively select the trees to be harvested,
 - ✓ generates reports and spreadsheets for submission to the government offices,
 - ✓ enables precise quantitative monitoring of tree felling, extraction and log transportation, increasing managers' ability to control production and avoid exceeding cutting limits (and therefore penalties).
- More: www.itto.int/project/id/PD452_07-Rev.5-F and www.embrapa.br/bom-manejo

Categoria de espécies

Código: 1 Nome da categoria: Comercial 50+ Remanescente

Critérios de corte da categoria

Tipo de fuste aceitável: 1 1e2 1,2e3

Dímetro mínimo de corte - DMINC: 50

Dímetro máximo de corte - DMAXC: 999

Percentual de remanescentes exploráveis na UT: 10 %

Mínimo de remanescentes a cada 100 hectares: 3

Altura máxima da árvore: 999

Volume máximo da árvore: 999

Novo Salvar Limpar aa AA

Nome da categoria	QF Aceitável	DMINC	DMAXC	Mínimo / 100 ha	% Mínimo
Comercial 50+	Fustes 1 e 2	50	999	3	10
Comercial 55+	Somente fuste 1	55	999	3	10
Comercial 70+	Fustes 1 e 2	70	999	3	10
Vulneravel 50+	Fustes 1 e 2	50	999	4	15
Vulneravel 55+	Fustes 1 e 2	55	999	4	15
Vulneravel 70+	Fustes 1 e 2	70	999	4	15

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Forestry apps—innovations at our fingertips

- In 2022, an ITTO project in Indonesia launched an app to assist fire services in the prevention and the suppression of wildfires:
 - ✓ the app is supported by a SMART Patrol Information System that records and reports real-time action of fire-prevention patrols based on 88 parameters,
 - ✓ the app is being used by patrol teams in Kalimantan, Nusa Tenggara, Sulawesi and Sumatera.
- In Guatemala, an ITTO project developed in 2023 a smartphone app to calculate log volumes: *CUBIFOR*:
 - ✓ it requires only a photograph of the stack of logs (or other wood product) and the average width and length of the stack to estimate volume,
 - ✓ It has strengthened the capacity of forest companies to control their inventories, improved the efficiency of operations that require volumes, and generally advanced sustainable forest management in the country.



To conclude

- Innovations and technological advancements are:
 - ✓ improving SFM, expanding FLR and the sustainable use of a wide-range of forest products,
 - ✓ advancing forest governance and institutional development,
 - ✓ contributing to the development of the forest sector and enhancing the contributions of tropical forests to sustainable development.
- There is no shortage of inventiveness—more investments and incentives are needed to facilitate their uptake and further development.
- ITTO's role is to support these stakeholders in their efforts and to spread the best innovations for the benefit of communities worldwide.



Sheam Satkuru, ITTO Executive Director



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