

Certification and Future of Forest Management & Ecosystem Services in Türkiye

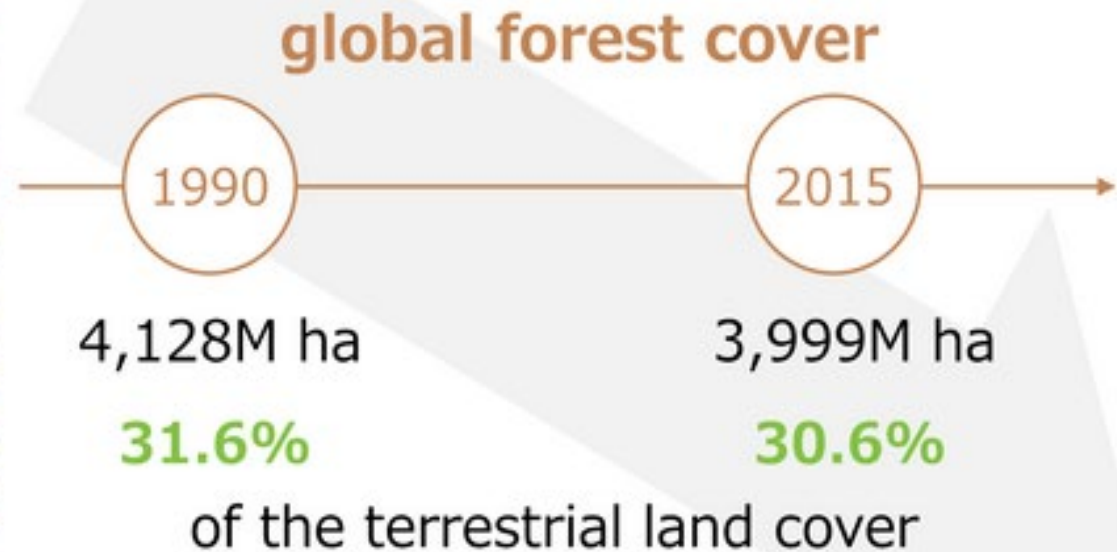
DERYA EŞEN

DEAN

FACULTY OF FORESTRY, İZMİR KATIP CELEBI UNIVERSITY, İZMİR, TÜRKİYE

& CERTIFIED FSC® FOREST MANAGEMENT LEAD AUDITOR

Deforestation



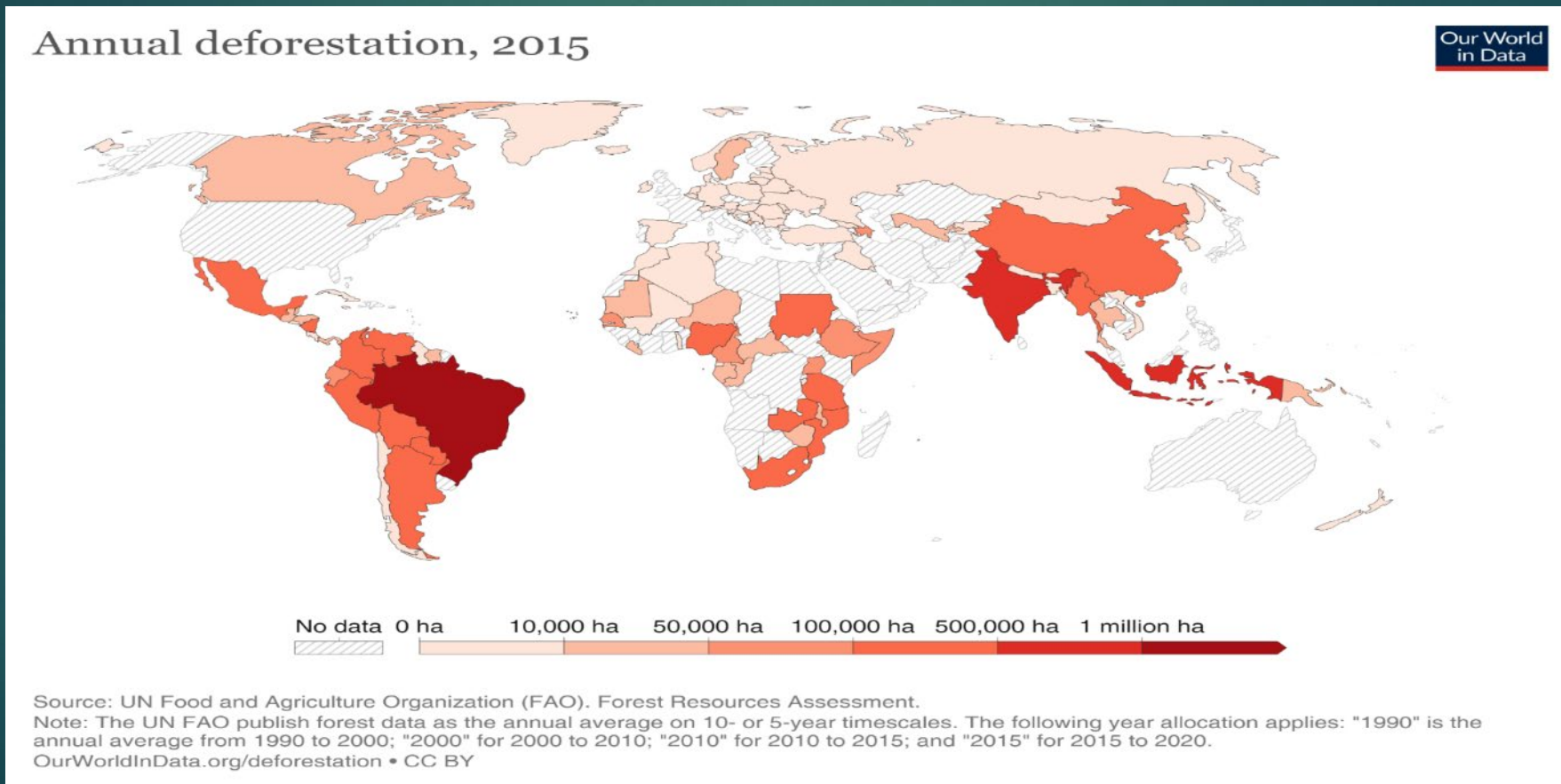
Deforestation

- ▶ The world loses around 10 million hectares of forest every year. This is an area the size of Portugal.



Forest Certification ?

- ▶ Nearly all of this deforestation (95%) occurs in the tropics. The Amazon rainforest is the most affected, followed by the Congo rainforest.



Major Causes of Deforestation



Agriculture (Soya & Palm oil)
& Grazing
80%



Logging



Mining

Plantations



x3

Demand for timber and wood fibre is set to increase significantly into the future, as the global population increases. Based on WWF modelling, **this demand may triple by 2050.**

1/2
3/4

Although accurate figures are difficult to calculate, some estimate that currently the world's planted forests, which amount to only 7% of global forest cover, provide **between half and two-thirds of current global timber and fibre supply.**

+250
M ha

This supply takes some of the pressure of natural forests but if these figures are to be maintained or improved on, then it is estimated that an additional 250M hectares of plantation are required before 2050.

Sustainable Forest Management - the UN Forest Principles (1992)

UN Forest Principle 2(b) reflects the focus on social and environmental requirements, as well as economic:

'Forest resources and forest lands should be sustainably managed to meet the social, economic, ecological, cultural and spiritual needs of present and future generations. These needs are for forest products and services, such as wood and wood products, water, food, fodder, medicine, fuel, shelter, employment, recreation, habitats for wildlife, landscape diversity, carbon sinks and reservoirs, and for other forest products. Appropriate measures should be taken to protect forests against harmful effects of pollution, including air-borne pollution, fires, pests and diseases, in order to maintain their full multiple value.'



Forest Certification

- ▶ Forest certification (FS) was born as result of serious concerns on sustainable forest management and lack of intergovernmental act to shephard it
- ▶ Forest certification (FS) is a voluntary process that helps to ensure that forests are managed in a sustainable/ responsible way
- ▶ FS brings together individuals, businesses, governments, and NGOs under a common goal: protecting healthy, resilient forests



Forest Certification

- ▶ Deforestation rate has yet slowed down in recent years, thanks to the efforts of forest restoration, sustainable management, and certification
- ▶ Almost 450 mil. ha (86 mil ha double certified) global forest area is certified as of 2022



Forest Certification

Elements of Certification

1
Forest
Management
Certification



2
Chain of
Custody
Certification



Forest Certification

Audit and certify socially, economically, and environmentally well-managed forest



Manage and process timber produced from certified forest



Purchase FSC certified products with FSC logo



**FM Certification
(Forest
Management)**

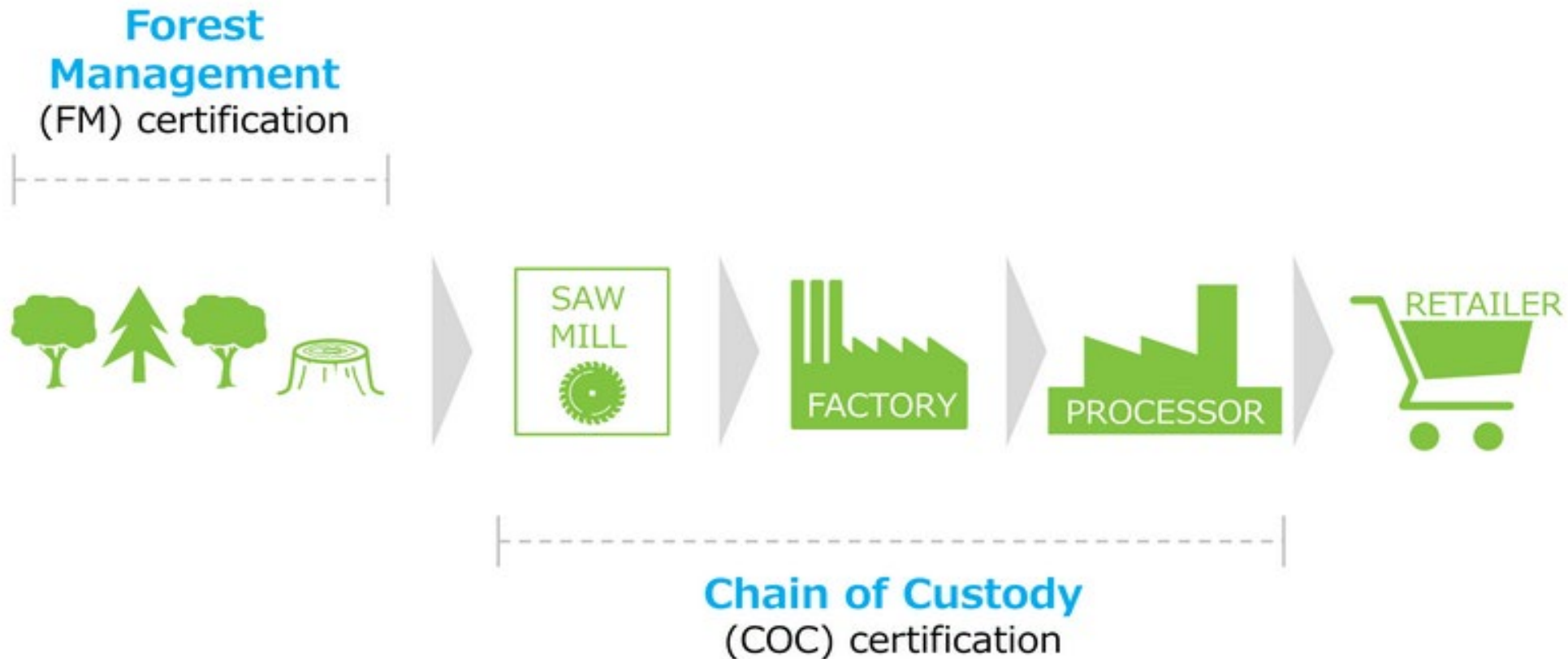


**COC Certification
(Chain of Custody)**

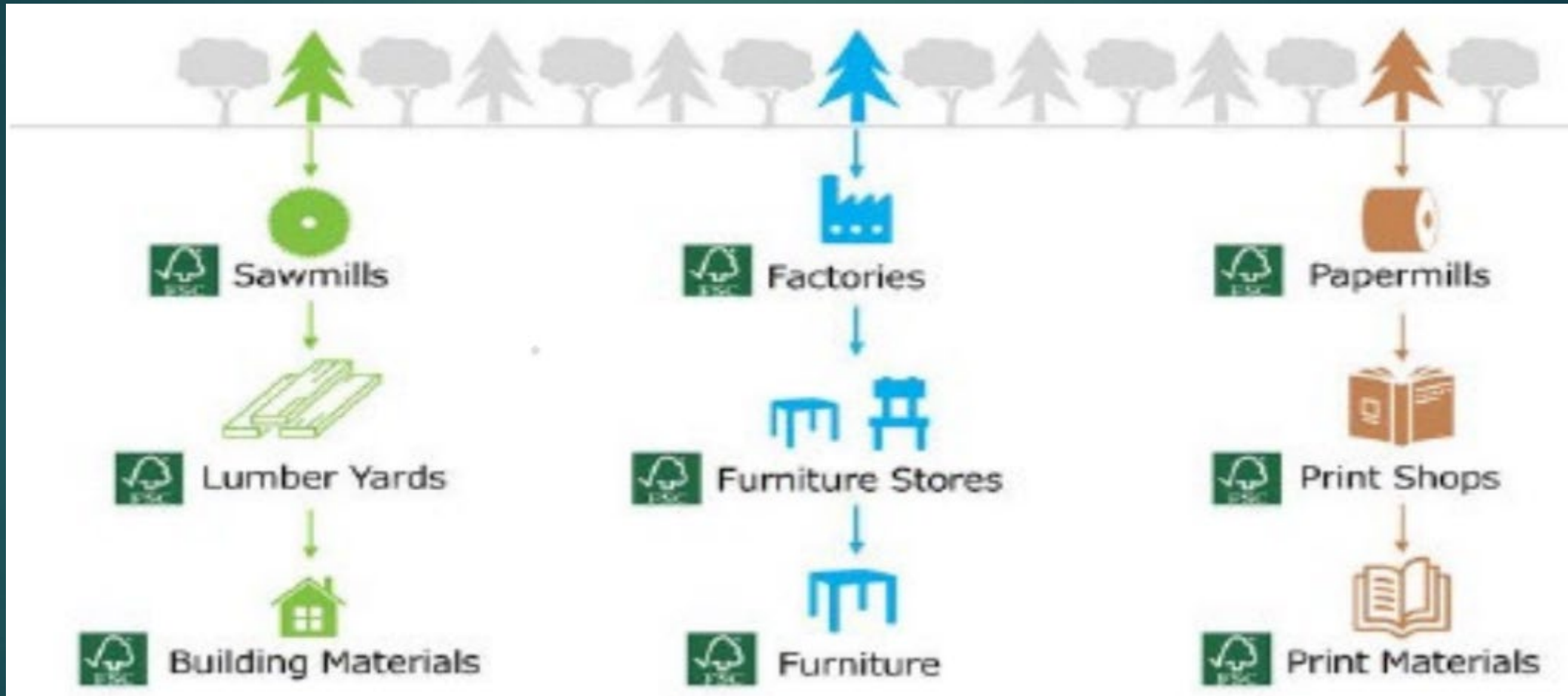


**Promote
well-managed forest**

Forest Certification



Forest Certification



Forest Certification

- ▶ There are a number of different forest certification schemes,



The Programme for the Endorsement of Forest Certification® (PEFC®)
280 mil. ha

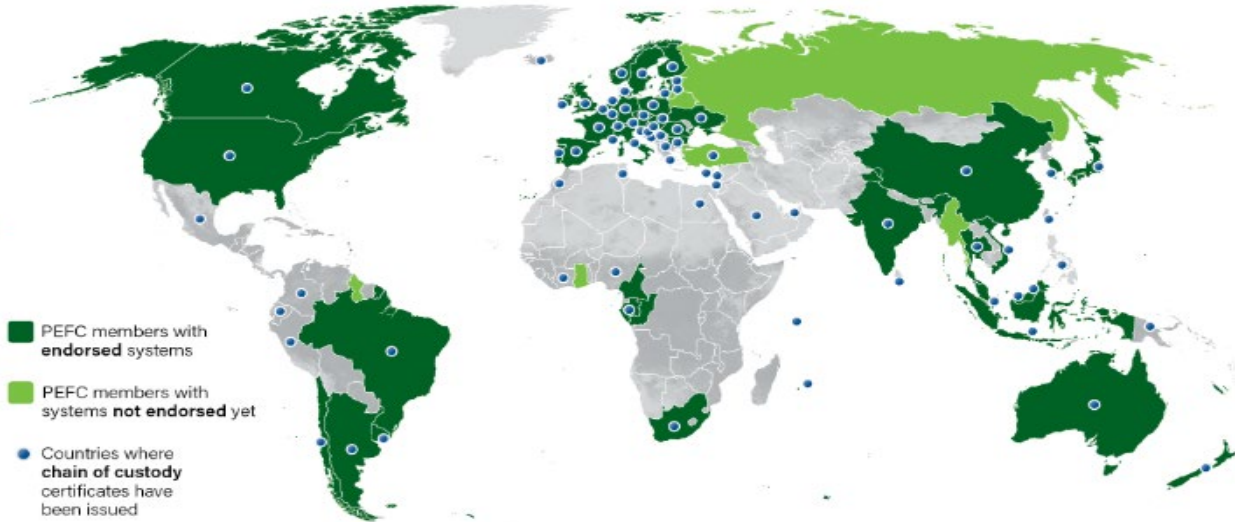


The Forest Stewardship Council® (FSC®) 160
mil. ha



140 mil. ha in USA & Canada

The Programme for the Endorsement of Forest Certification



PEFC's Vision:

"A world in which people manage forests sustainably."



PEFC's Mission:

"To give society confidence that people manage forests sustainably."

PEFC's Core Values



Respect for all forest ownership structures, and the social, cultural, environmental and economic values they provide.



Respect for the social infrastructures of forest based communities.



Belief in co-operation, openness and transparency.



Respect for the tenets of federalism.



Belief in free and fair market systems.



Belief in multi-stakeholder participation.

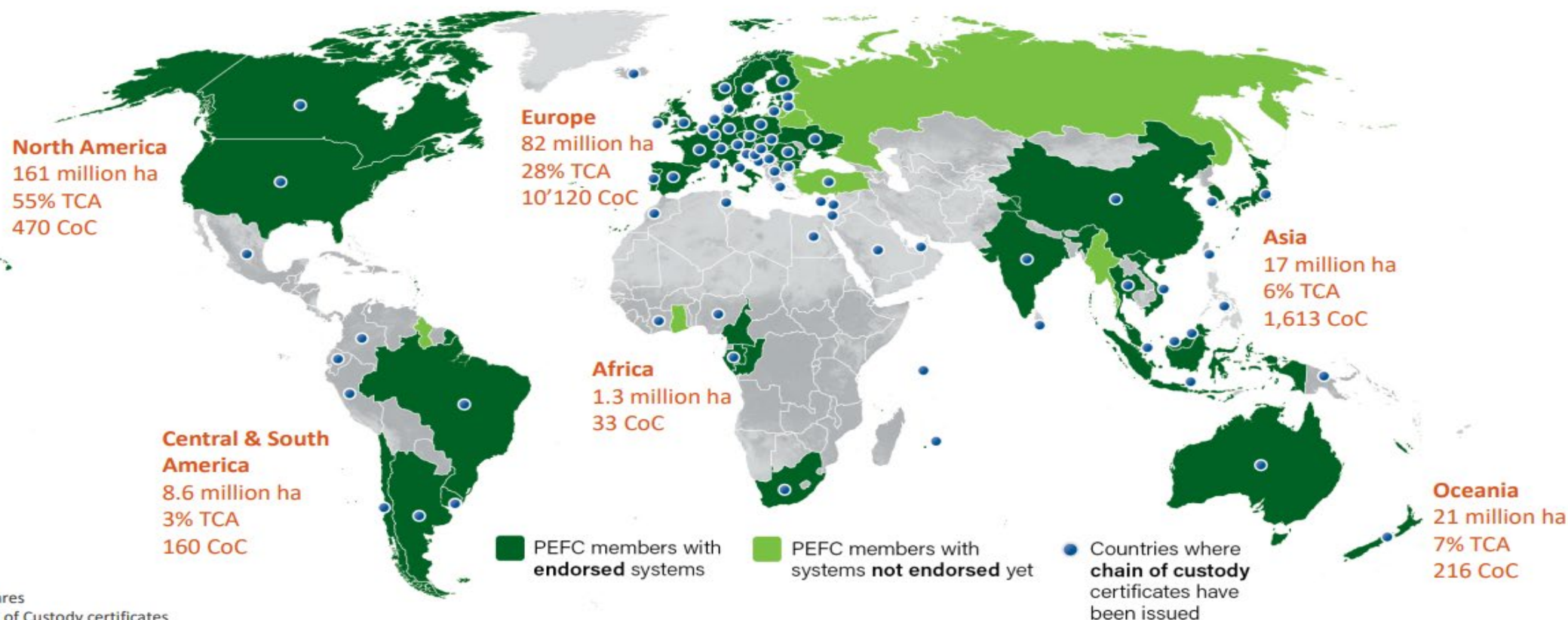


Commitment to excellence and continuous improvement.

PEFC

Members, endorsed systems, distribution of certificates

Data:
June 2023

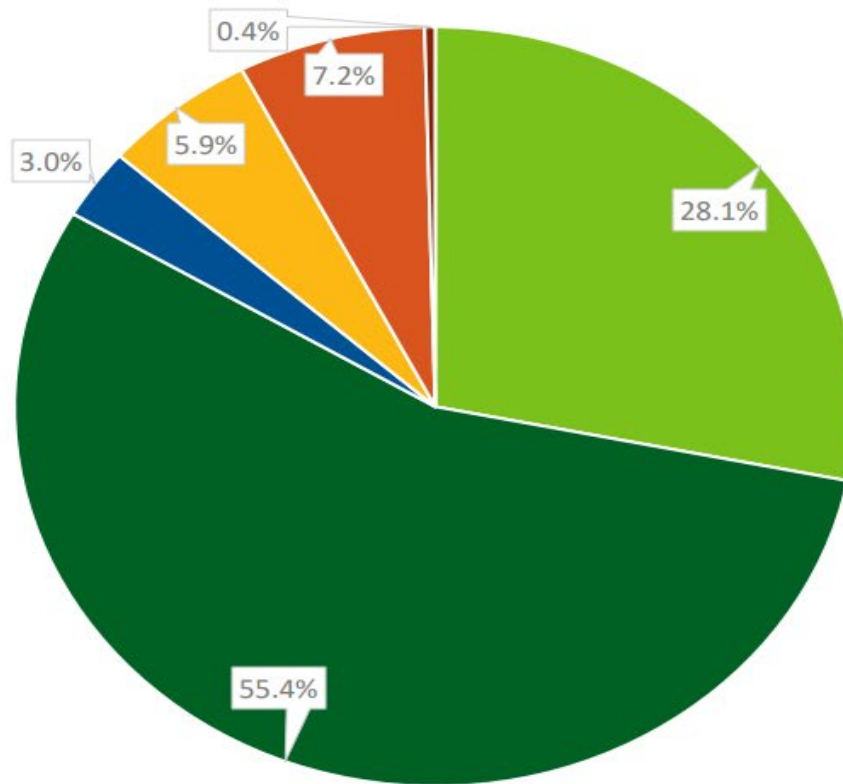


* ha - hectares
CoC - Chain of Custody certificates
TCA - % of total PEFC certified area

PEFC

Certified forest area by region

Data:
June 2023



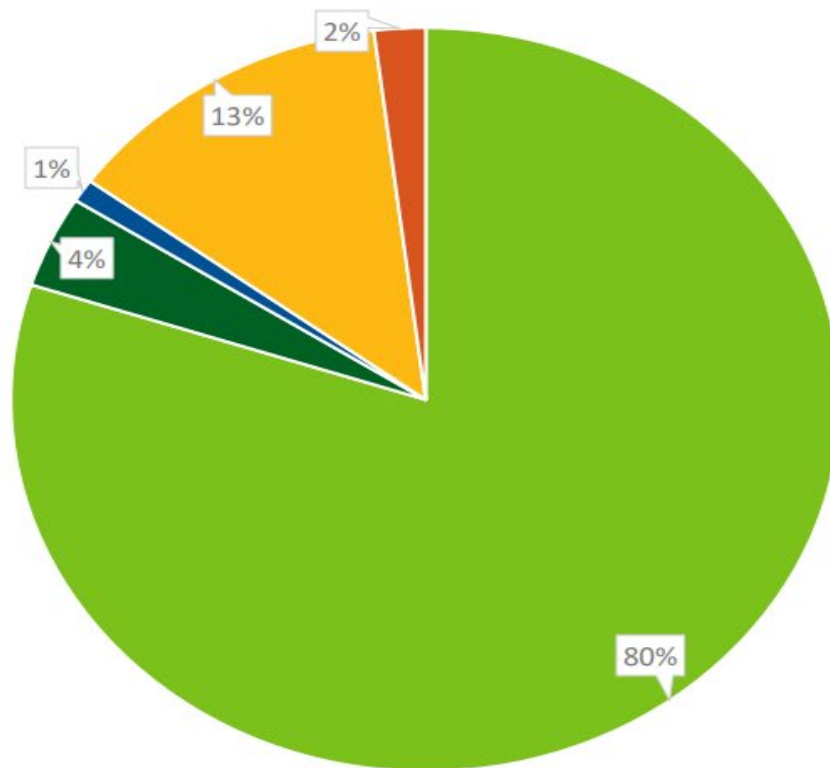
- Europe
- North America
- Central and South America
- Asia
- Oceania
- Africa

280 mil. ha

PEFC

Chain of custody by region

Data:
June 2023



- Europe
- North America
- Central and South America
- Asia
- Oceania

12612 certificates

Forest Stewardship Council® (FSC®)



Established in 1993, with a founding assembly in Toronto, Canada.

The most tangible, and probably the most successful follow-up initiative to the UN Conference on Environment and Development (the Earth Summit), held in Rio de Janeiro in 1992.



FSC International is based in Bonn, Germany, with a regional network worldwide.

FSC

FSC is an independent, non-governmental, not-for-profit organisation, established to promote the responsible management of the world's forests.



VISION

The world's forests meet the social, ecological and economic rights and needs of the present generation without compromising those of future generations.



MISSION

The Forest Stewardship Council (FSC) shall promote environmentally appropriate, socially beneficial, and economically viable management of the world's forests.

<https://ic.fsc.org>

FSC Vision & Mission



Forest governance and economic systems in much of the world provide greater incentives for forest destruction and poor management than they do for responsible forest management.

CORE CHALLENGE!

 2050
BEACON

A new forest paradigm

This true value of forests is recognised and fully incorporated into society worldwide.

Aspiration: FSC is the leading catalyst and defining force for improved forest management and market transformation, shifting the global forest trend toward conservation, restoration and respect for all.

Objective:
20 BY 2020
20% share of forest
trade by 2020



Environment appropriate forest management ensures that the production of timber, non-timber products and ecosystem services maintains the forest's biodiversity, productivity, and ecological processes.



FSC Vision & Mission



Socially beneficial forest management helps both local people and society at large to enjoy long term benefits and also provides strong incentives for local people to sustain the forest resources and adhere to long-term management plans.



Economically viable forest management means that forest operations are structured and managed so as to be sufficiently profitable, without generating financial profit at the expense of the forest resource, the ecosystem, or affected communities.



FSC Principles

The 10 FSC principles

FSC's 10 principles are the foundation of our forestry standard.

Developed to be relevant to different kinds of forest ecosystems and in diverse cultural, political, and legal settings, they require any managers of certified forests to:

1. comply with all applicable laws;
2. maintain or improve the social and economic well-being of workers;
3. uphold the rights of Indigenous Peoples
4. maintain or improve the social and economic well-being of local communities;
5. manage their products and services in a way that maintains or improves their long-term economic viability, social benefits, and environmental benefits;
6. maintain, conserve, and/or restore the **ecosystem services** and environmental values of managed forests; and also avoid, repair, or mitigate negative environmental impacts;
7. establish a management plan that outlines their economic, environmental, and social policies and objectives;
8. demonstrate progress toward meeting these objectives;
9. maintain or improve high conservation values;
10. ensure that all management activities comply with FSC principles and criteria.

FSC's Global Strategy



GOAL 1



Provide Leadership in advancing globally responsible forest management.

GOAL 2



Ensure equitable access to the benefits of the FSC system.

GOAL 3



Ensure integrity, credibility and transparency of the FSC system.

GOAL 4



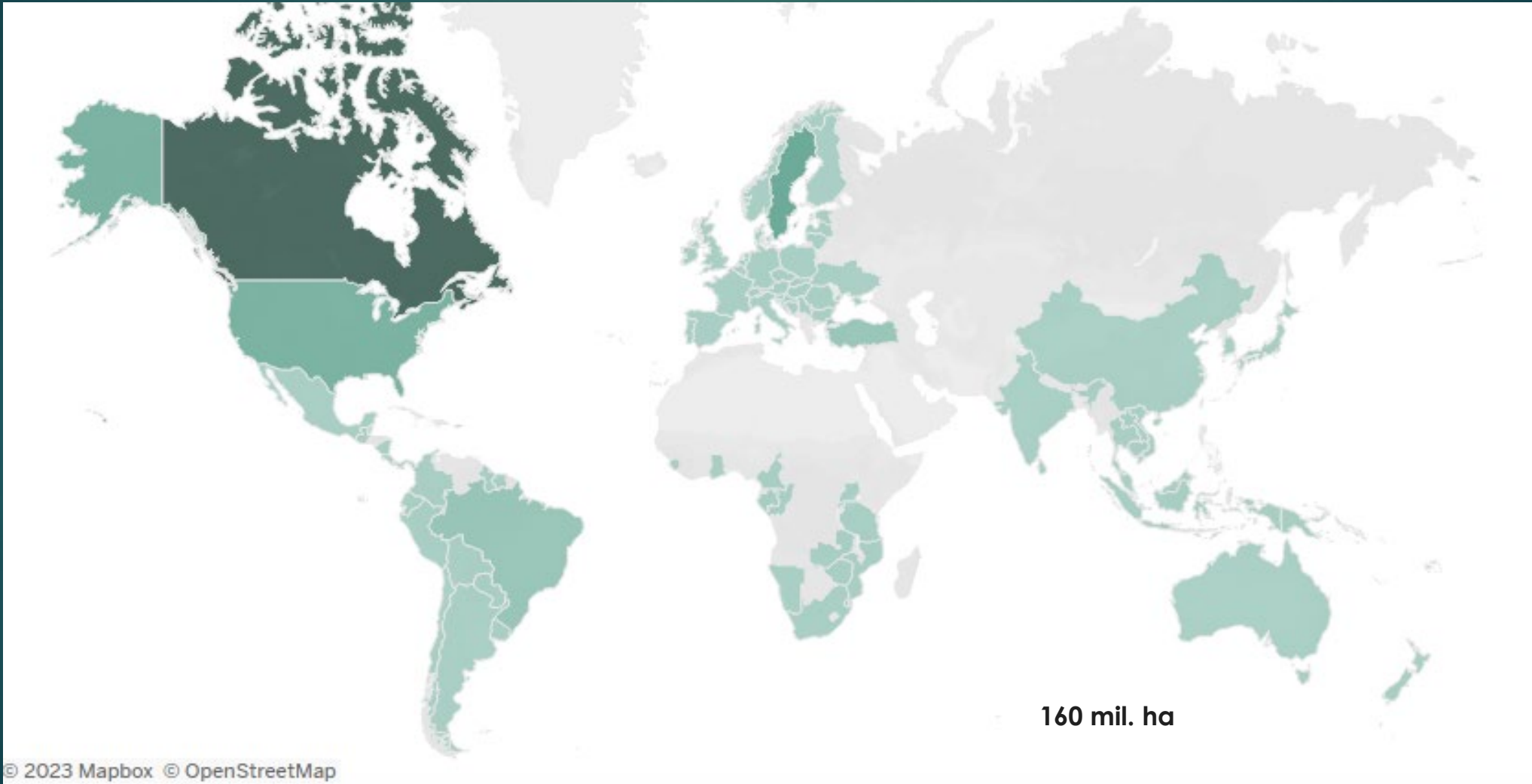
Products from FSC certified forests will create more business value than products from non-FSC certified forests.

GOAL 5



FSC will strengthen its global network to deliver on all Global Strategy goals.

FSC Managed Forests

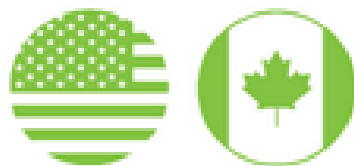


FSC CoC Certificates





is the only other voluntary third party certification program that is broader than a single country (United States and Canada)



was initiated to address the growing concerns in respect of forest management and illegal logging in North America

SFI came into force **in 1998.**

Now there are almost **140M** hectares of certified forest.



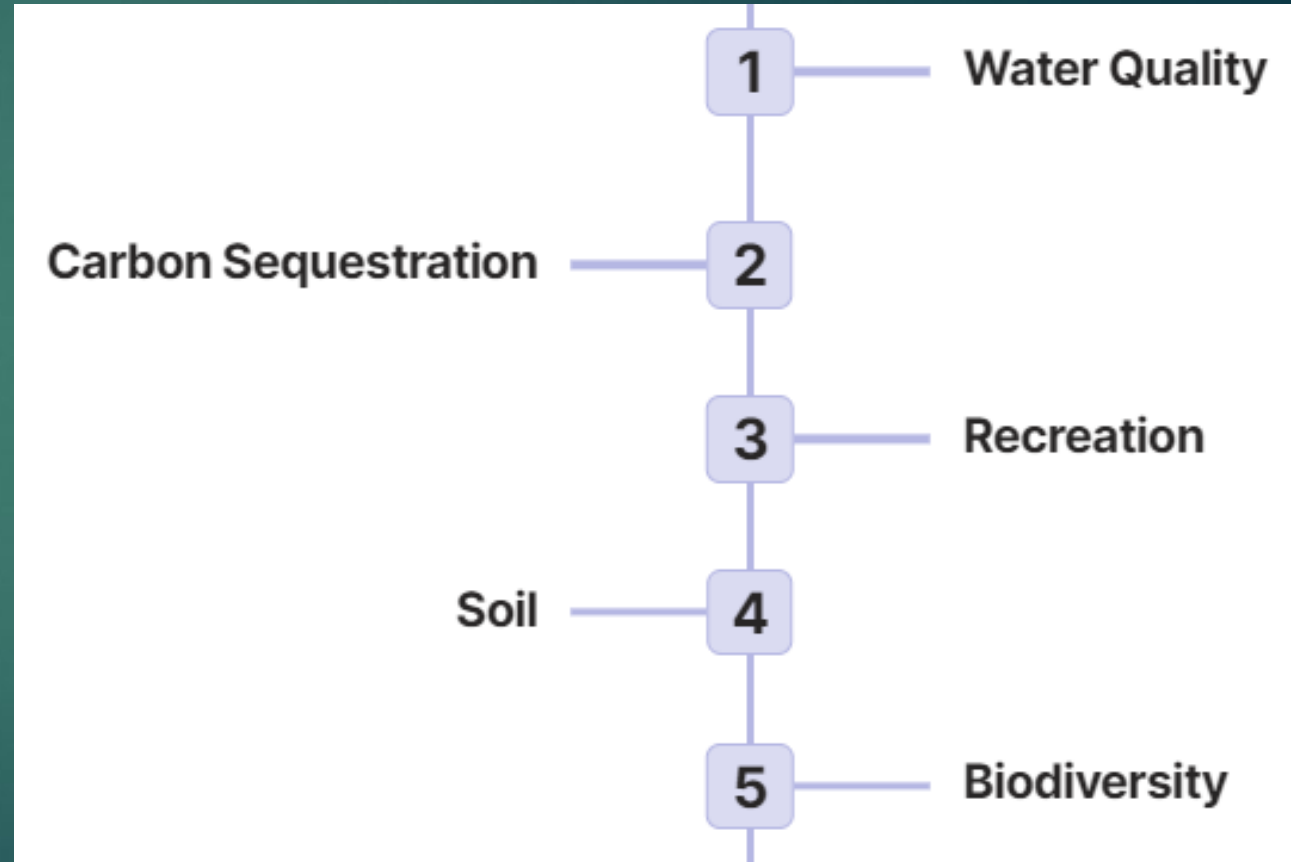
The SFI program is one of the PEFC endorsed schemes

therefore the **140M** hectares is shown in both programme's figures. Although not the only example of dual certification, this is the single biggest example.

SFI is the only forest certification standard in the world that requires participants to support forestry research.

Ecosystem Services

- ▶ Ecosystem services are the benefits that people derive from natural ecosystems, such as water, carbon sequestration, soil and biodiversity
- ▶ Forest ecosystems provide a range of valuable ecosystem services that are critical to human health and well-being.



Challenges Faced in FM

- ▶ **Environmental challenges:** Global climate change & its impacts - more extreme weather events & disturbances (forest fires, floods, more frequent & prolonged drought)

Adaptive FM



Challenges Faced in FM & Wood Industry

► Socio-economic challenges:

- increased disturbance and mitigation costs (e.g., salvation logging, site preparation, reforestation)
- difficulties in management planning
- capricious market conditions - forest product industry due to disturbances & policy changes (e.g., EU Deforestation Act, more strict certification rules (e.g., certification of subcontractors), politics (e.g., Russia-Ukraine war))



Challenges Faced in Certification of FM and Ecosystem Services

- ▶ **Costs:** Cost can be prohibitively high for smaller forest owners, particularly in developing countries

Certification with less complexity and requirements: SLIMF

- ▶ **Complexity:** The complexity & diversity of forest ecosystems, socio-economic conditions, & stakeholder interests

Developing national standards

- ▶ **Compliance:** It can be difficult to ensure compliance with certification standards, especially in remote areas
- ▶ **Credibility:** Despite tight auditing, still some problems with it

New technology

- ▶ **Impacts:** Difficult to measure certification impacts, especially for ecosystem services

Developing monitoring systems



Future of Forest Management & Ecosystem Services

- ▶ As the demand for forest products increases, there is a growing need for sustainable FM practices that balance environmental, social, and economic needs.
- ▶ In the future, innovative approaches and technologies to ensure the health and productivity of our forests and the ecosystem services they provide must be focused



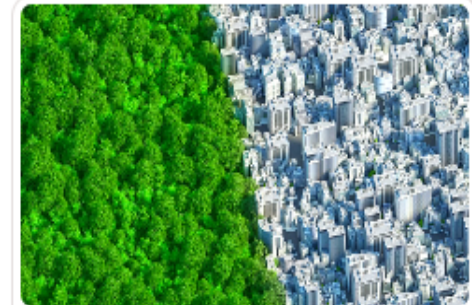
Regenerative Forestry

New techniques such as regeneration harvest, which mimics natural cycles, can improve ecological outcomes and increase economic returns.



New Technology

New Technologies such as remote sensing, GIS, and forest monitoring tools can improve accuracy and efficiency in forest management and certification.



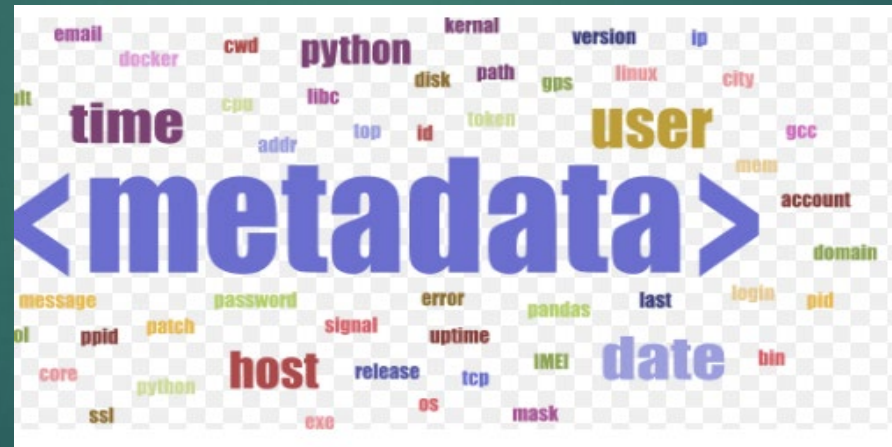
Urban Forestry

As cities grow, urban forestry can help to ameliorate the health and social costs of urbanization, as well as provide valuable ecosystem services such as air and water filtration.

New Technologies



Wood identification
to trace the timber species and
harvest location using wood
anatomy



Better management of
existing data and
digitalization

New (Old?) Techniques for FM

▶ Adaptive FM

Water-harvesting



Crescent (semi-circular) bunds



Baklava (Negarim) microcatchments

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A research project in Izmir, aiming to adapt water harvesting methods (baklava and crescent bunds)