

United Nations
Convention to Combat
Desertification



GENERATION RESTORATION DIALOGUES

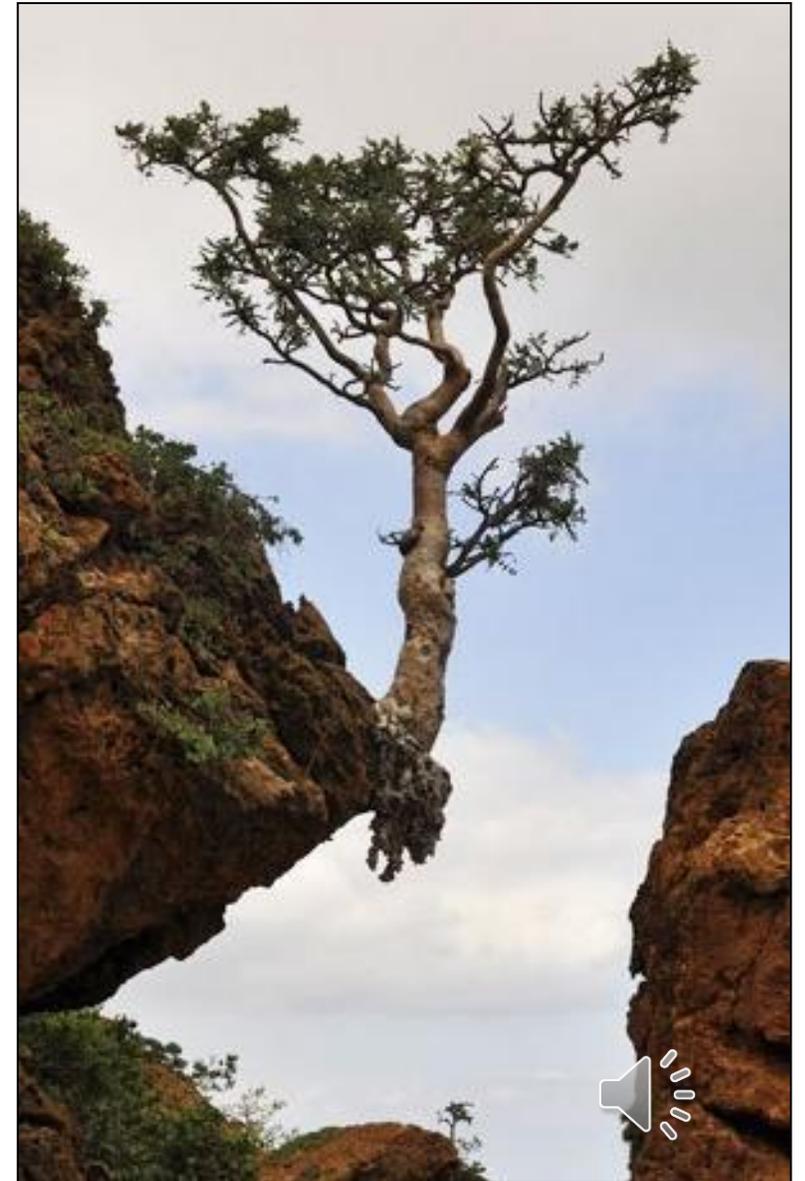
FOREST FUTURES

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FOREST FUTURES

1. Framing the Issue - Forests Past & Present
2. Forest Functions and Forest Values
3. Building Action on Forests and Land Restoration



1. Framing the Issue - Forests Past & Present

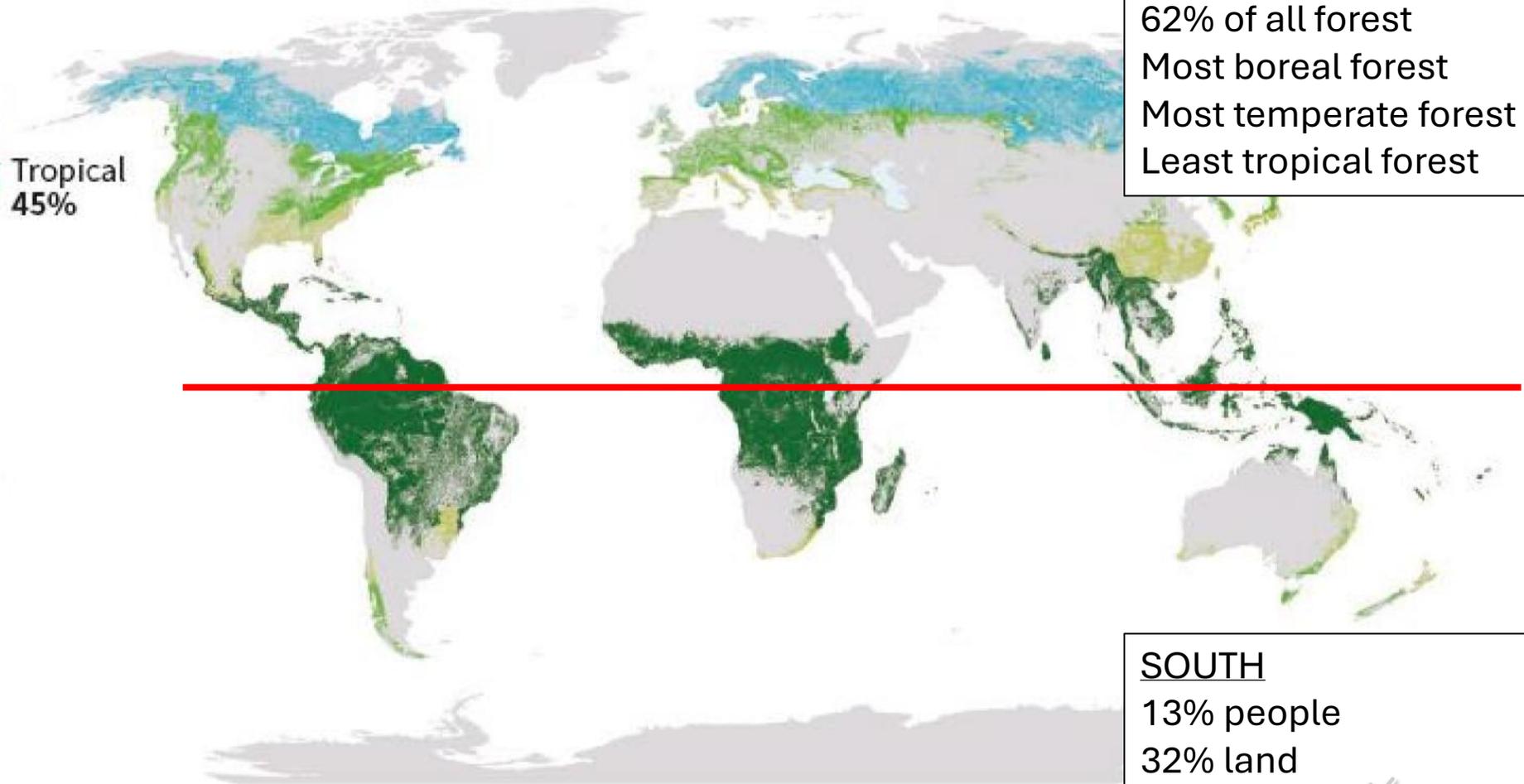
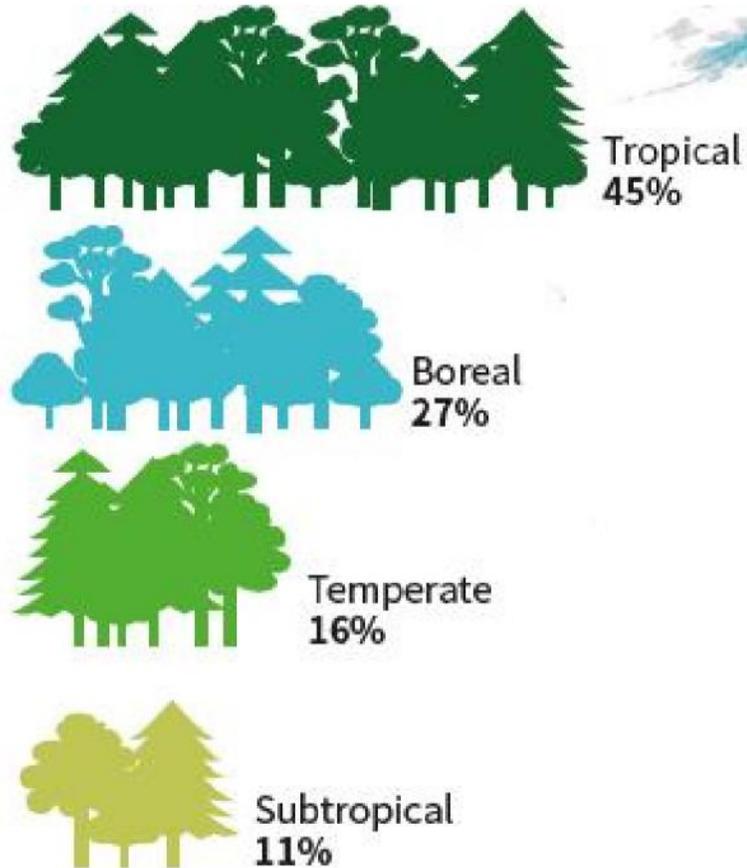
- Our planet once had 60% of its land covered by forests, we are now down to 31% forest cover
- We have lost more forest in the past 100 years than in the previous 10,000 years
- Agricultural expansion accounts for 88% of global forest loss (49% crops, 39% livestock)
- More than 90% of forest loss is from tropical forests

- Forests absorb 20-30% of the carbon dioxide we emit each year
- Forests contain more than 80% of terrestrial biodiversity
- Tropical forests cover 1/7th of land, but they evapotranspire 1/3rd of the total ET

- Forestry accounts for only 1.5% of global GDP
- Forests dropped out of “Convention” status at UNCED in Rio 1992 Meeting
- Recently - Global Forest Governance, Investments and Cooperation perceptively low



Global Forests



NORTH

87% people
68% land
62% of all forest
Most boreal forest
Most temperate forest
Least tropical forest

SOUTH

13% people
32% land
38% of all forest
Least boreal forest
Little temperate forest
Most tropical forest

Source: FAO's Global Forest Resources Assessment 2020

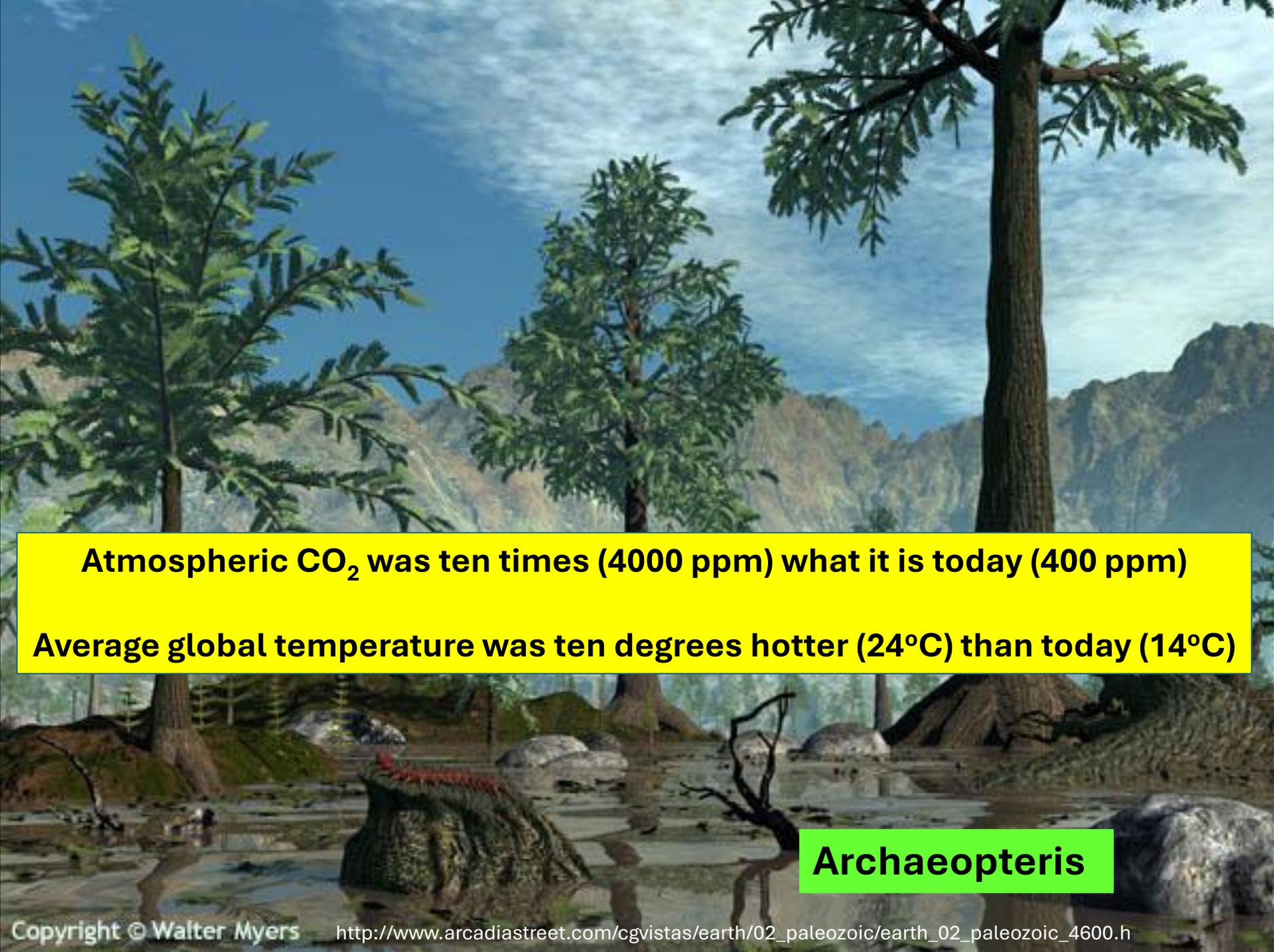
Bonn

Nearby fossils: [Iguanodon](#),
[Mantellisaurus](#), [Mosasaurus](#),
[Megalosaurus](#), [Pliosaurus](#)



Late Devonian. Life on land becomes more complex as plants develop. Insects diversify and fish develop sturdy fins, which eventually evolve into limbs. The first vertebrates walk on land. Oceans and coral reefs host a diverse range of fish, sharks, sea scorpions, and cephalopods. A mass extinction is about to take place that will stress marine life.





Atmospheric CO₂ was ten times (4000 ppm) what it is today (400 ppm)
Average global temperature was ten degrees hotter (24°C) than today (14°C)

Archaeopteris



Concepts of what a forest is, vary around the world







**Is this agriculture or a forest?
or agroforestry?**





Who is queuing up to invest here?
What are their motivations
Who are the customers or clients?
What is your value proposition?
How much is public vs private money?
What do the local communities think?
What does success look like?



Why trees in landscapes?

Nothing is better than a tree at:

Changing microclimate

Fixing Nitrogen from the air

Bringing up water from depth

Sequestering carbon from the atmosphere

Providing framework for biodiversity to flourish

Adding oxygen to the biosphere

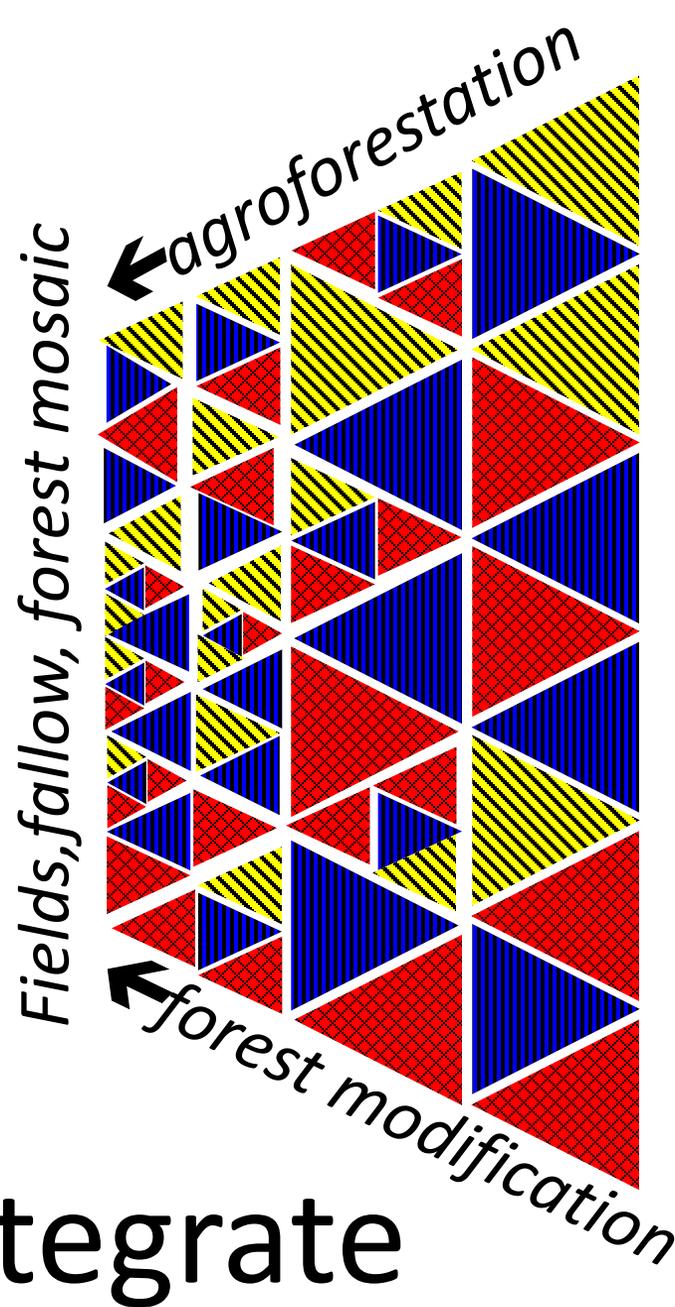
Diversifying farming enterprises

75% of on-farm biomass is associated with trees

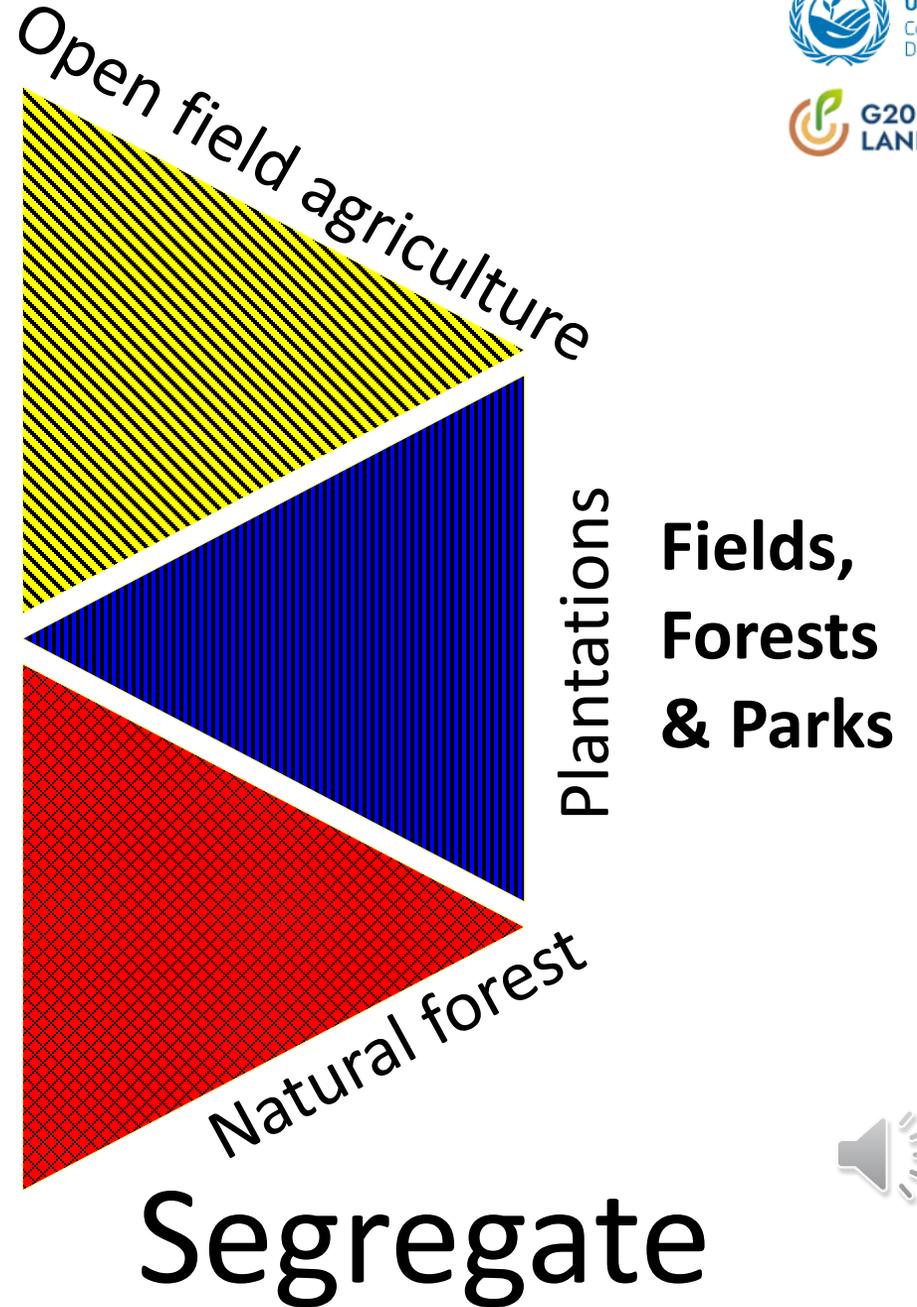


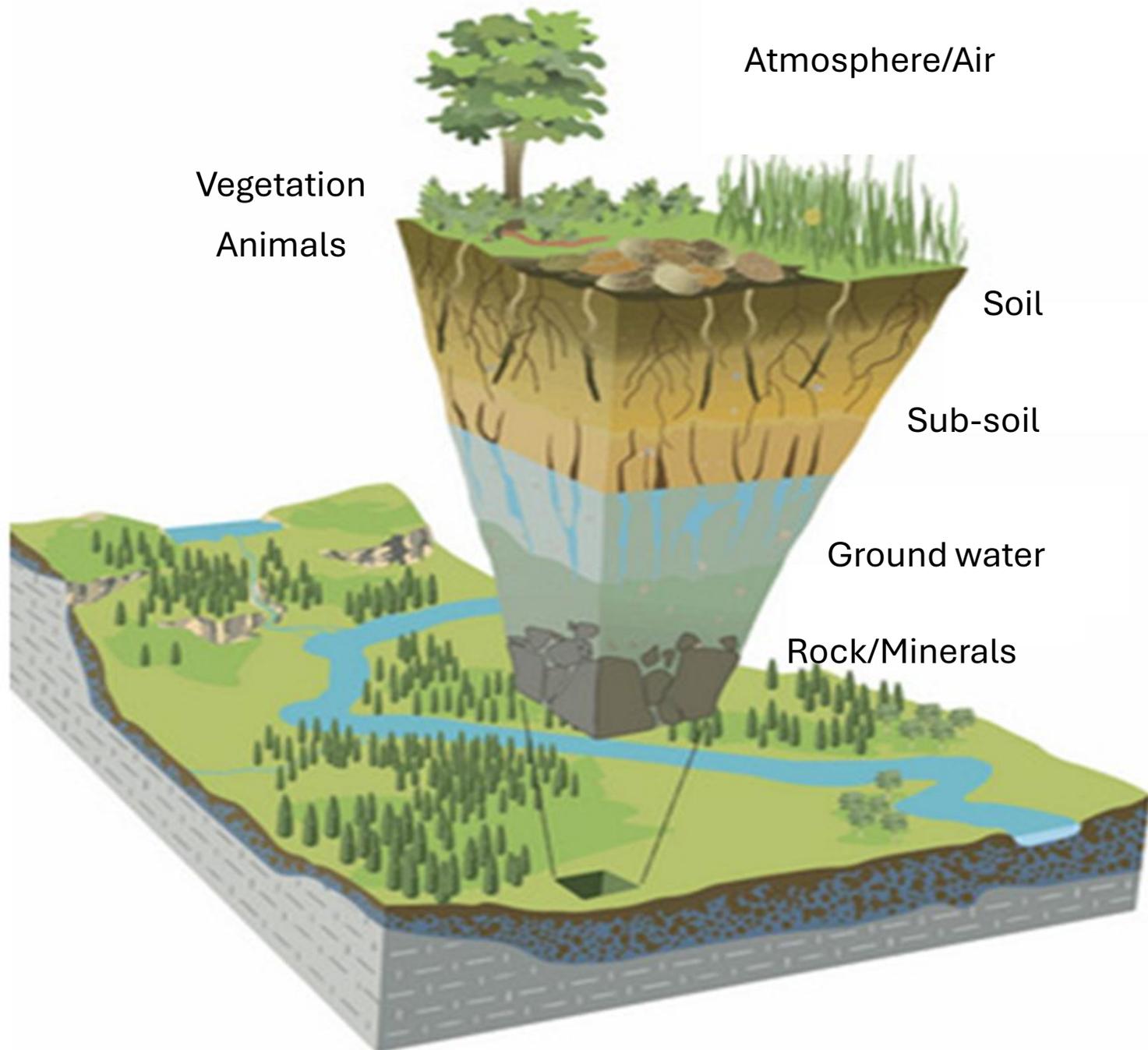
Boundaries in our thinking

Farm forestry, agroforests



deforestation → ← re- and afforestation





2. Forest Functions & Values

It has predominantly been Human Nature to:

“put Humans before Nature”

and for Forests and other Nature Assets this needs to change



© Matthias Ripp

© Matthias Ripp – Agriculture

The screenshot shows the top part of the TEEB website. At the top left is the logo for 'The Economics of Ecosystems and Biodiversity' (TEEB). To the right are social media icons for Facebook, Twitter, and YouTube, along with a search bar. Below these are navigation links for 'blog', 'partners', 'useful links', and 'contact us'. A main navigation menu includes 'FUNCTIONS', 'RESOURCES', and 'NEWS'. The page content is titled 'TEEB > Agriculture & Food'. A list of resources is provided, including 'TEEB Country Studies', 'Agriculture & Food', 'Natural Capital Accounting', 'TEEB for Business', 'Oceans & Coasts', 'Water & Wetlands', and 'TEEB Arctic'. There is also a section for 'Additional resources' with a link to 'TEEB for Agriculture and Food: A concept note'. A share button shows 17 shares.



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The real price of carbon

Carbon is the most variable commodity there is.

The same element has a huge range in price.



Firewood Carbon = \$60 per tonne



Diamond Carbon = \$100 billion per tonne



Atmospheric Carbon

= \$2-20 per tonne



The image shows several large stacks of tropical timber planks, likely teak, arranged in a neat fashion in an outdoor setting. The planks are light brown with a distinct grain pattern. In the background, there are trees and a stone wall, suggesting a forest or a logging site. A yellow text box is overlaid on the image, containing information about the timber's price and a question about why one might settle for a lower price.

Tropical timber

**Varies in price from \$100 to \$3500 per m³
Why would you settle for \$2-20 per m³**



Carbon and Oil



One barrel = 159 litres volume

Specific gravity = 0.85

Carbon content = 83% to 87%

**One barrel contains = $160 * 0.85 * 85\%$
= 115kg of carbon**

115 kg carbon = 422 kg CO₂

= US\$4.22 per barrel (at \$10 per tonne)

Russia, Saudi Arabia or USA – have we got a deal for you.

If you agree to extract, refine and lock away your oil in a warehouse for 100 years, we will pay you a staggering \$4.22 per barrel.

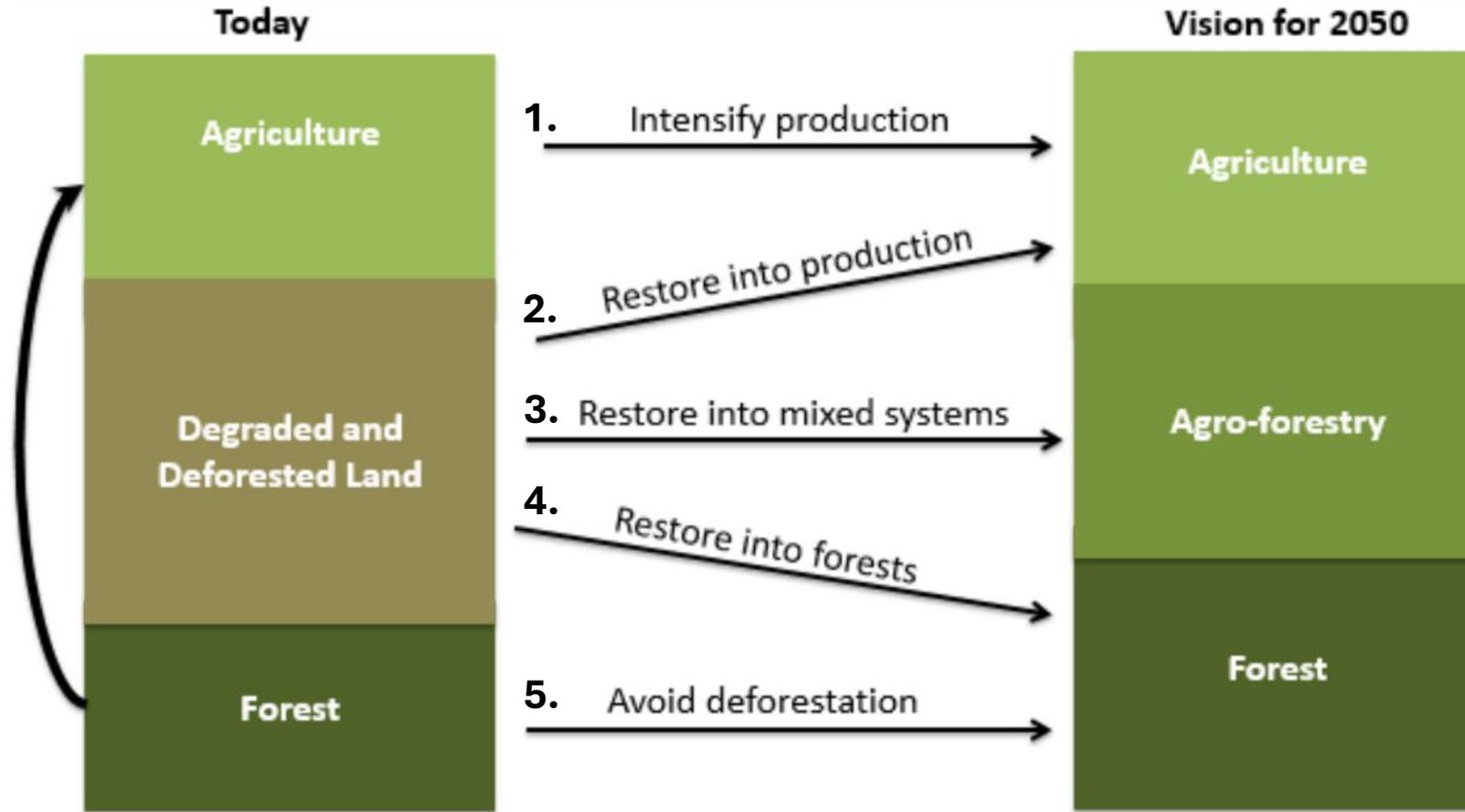
Well there might be some monitoring and verification costs also but we will keep them small



And you can report all your success towards achieving the SDGs.

3. Building Action on Forests and Land Restoration

OPPORTUNITY: RESTORE PRODUCTIVITY AND FUNCTION



COP26: World Leaders Declaration on Forests and Landuse – 9 November 2021

We will strengthen our shared efforts to:

1. Conserve forests and other terrestrial ecosystems
2. Facilitate trade and development policies, in commodity production and consumption, that
3. Reduce vulnerability, build resilience and enhance rural livelihoods, including through empowering communities, the development of profitable, sustainable agriculture, and recognition of the multiple values of forests, while recognising the rights of Indigenous Peoples, as well as local communities, in accordance with relevant national legislation and international instruments, as appropriate;
4. Implement and, if necessary, redesign agricultural policies and programmes to incentivise sustainable agriculture, promote food security, and benefit the environment;
5. Reaffirm international financial commitments and significantly increase finance and investment from a wide variety of public and private sources, while also improving its effectiveness and accessibility, to enable sustainable agriculture, sustainable forest management, forest conservation and restoration, and support for Indigenous Peoples and local communities;
6. Facilitate the alignment of financial flows with international goals to reverse forest loss and degradation, while ensuring robust policies and systems are in place to accelerate the transition to an economy that is resilient and advances forest, sustainable land use, biodiversity and climate goals.

NDC – Nationally Determined Contributions
CDC – Corporate Determined Contributions
IDC – Individual Determined Contributions



**What is the current
level of
biodiversity?**

Will our actions enhance this?
(regenerative)

Will our actions maintain this?
(neutral)

Will our actions diminish this?
(degenerative)





URBANUS PLANTING BASINS + MANURE

NORMAL FARM PRACTICE

URBANUS COMPOST

NORMAL FARM PRACTICE

URBANUS COMPOST



Those with Powerful Data and those who manage data well will succeed the most

DATA ORIGIN/CONTROL

- Data (co-)Ownerships, IP
- Data Privacy
- Data Collection
- Data Access

DATA GOVERNANCE & PROTECTION

- Data Policies
- Data IP
- Data Storage, Backups
- Data Authentication
- Data Domain Specs
- National/Provincial Archives
- Data Security
- Data Licensing

DATA/EVIDENCE UTILITY

- Baselines, Proxy Metrics
- Monitoring & Reporting
- Machine Learning/A.I.
- Impact Assessments
- Investment Decisions

Data Sourcing

- Data Standards
- Acquisition Protocols
- Permissions, FPIC
- Batch Processing
- Data Security
- Recognition/Reward
- Verification

Existing Publicly Available Data

Community Generated Data

Project Generated Data

Third Party Sourced Data

Data/Metadata Integration

- Interoperable
- Geo-referenced
- Data Visualisations
- Registered & Indexed
- Encryptions & Fidelity
- Blockchain
- Identified Data Gaps

Human Subject,
Social, Diet &
Household Data

Land ownership,
Land Access &
Land Use Data

Biodiversity,
Land Health &
Habitat Data

Weather &
Climate
Data

Enterprise,
Commodity &
Financing Data

Infrastructure,
Transport &
Energy Data

Data Processing

- Data Publishing
- Data Discovery
- Dashboards
- Modeling
- Predictions/Forecasts
- Digital Tokens
- Analytics
- Applications
- Accountability
- Assurance
- Compliance
- Reports



Women's status and control over resources



Imagination, demonstration and belief



Northern Tigray, Ethiopia







Defining/Demonstrating your Value Proposition

