Outline

1. **Rationale**

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   3.4. Forest accounts results

4. **Example**

5. **Forest Working Group of SEEA-EA**

1. Rationale

- Forest are the most dominant type of land use/land cover in many countries.

- Forest are highly relevant supplier of multiple ecosystem services essential for our economy and well-being.

- Forest degradation continues in many parts of world which undermine biodiversity and key ecosystem services at global level.

- Forest accounts can play a crucial role in supporting key environmental policies (e.g. Convention of Biological Diversity and mitigating climate change).

- Forest accounts has been requested by UNSC as an implementation strategy that involves building capacity in countries.

2. Opportunity and challenge

Opportunity: Forest accounts can be compiled by extending, adapting and integrating existing SEEA frameworks and complementing the System of National accounts.

- **SEEA Central Framework** (adopted as statistical standard in 2013)
- **SEEA Agriculture, Forestry and Fisheries Accounts** (a subsystem of the SEEA Central Framework)
- **SEEA Ecosystem Accounts** (adopted as statistical standard in 2021)

Challenge: Ensuring consistency among all this frameworks, data sources and conceptual relationships for forest accounts.

SEEA status of implementation 2020:

- 89 countries implementing the SEEA CF
- 34 countries compiling SEEA EA
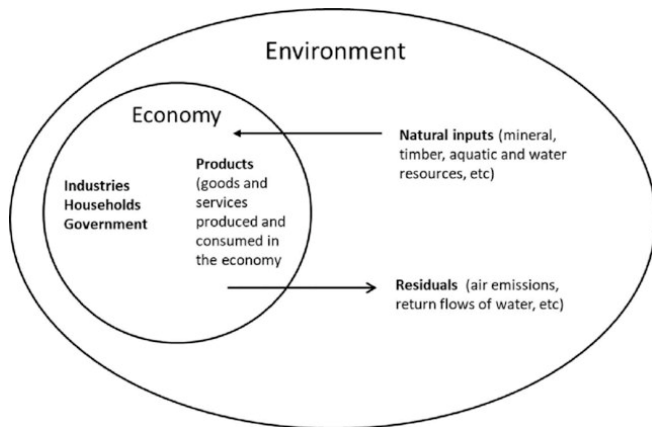- 27 countries planning to start implementation of the SEEA
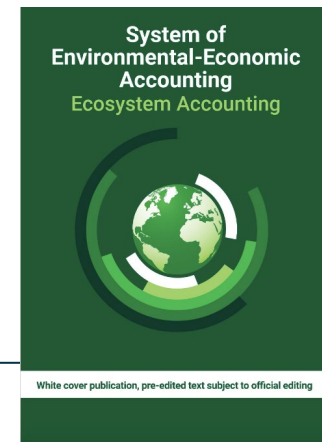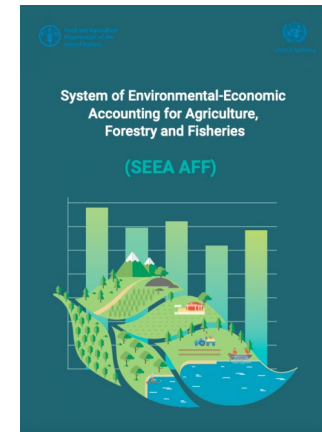
3. One Environment: Two Perspectives

3.1. Conceptual frameworks

Frameworks

CENTRAL FRAMEWORK

Environment

Economy

Natural inputs (mineral, timber, aquatic and water resources, etc)

Products (goods and services produced and consumed in the economy)

Industries
Households
Government

Residuals (air emissions, return flows of water, etc)

ECOSYSTEM ACCOUNTING

Environment

Society

Ecosystem assets

Economy

Extent   Condition

Final ecosystem services

Benefits

Characteristics

The CF looks at how the economy use natural inputs (e.g. timber) and returns back to the environment (e.g. emissions)
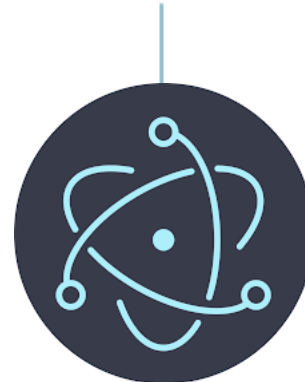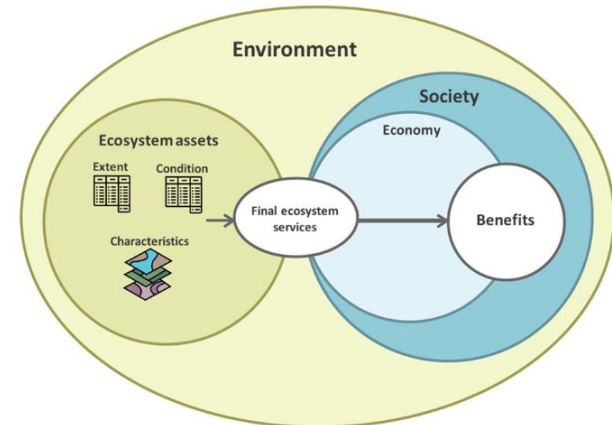
Complements the CF by taking the perspective of ecosystems (e.g. Forest) and considers how they interact with society as part of natural processes within a given spatial area.

SEEA

3.2. Standardization of measurement
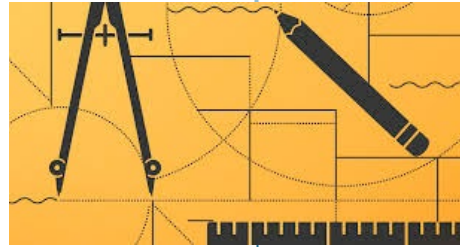
Measurement

CENTRAL FRAMEWORK

Assets

Timber

Water

Fish

*Assets are considered items of **value** to economy and society*

ECOSYSTEM ACCOUNTING

Services

Forests
e.g. flood control

Rivers
e.g. water purification

Coasts
e.g. recreation

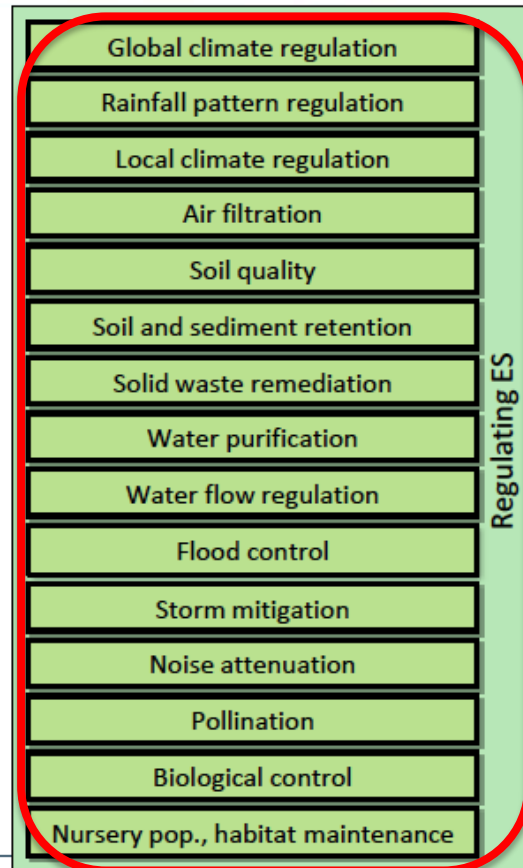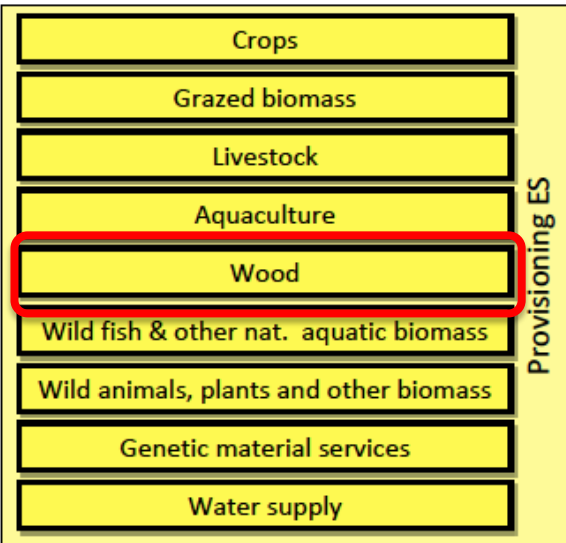*Services are considered as the **contribution** of ecosystems to the economy and social wellbeing*

SEEA

3.2. Standardization of measurement: Forest ecosystem services

CENTRAL FRAMEWORK

Provisioning ES
- Crops
- Grazed biomass
- Livestock
- Aquaculture
- Wood
- Wild fish & other nat. aquatic biomass
- Wild animals, plants and other biomass
- Genetic material services
- Water supply

Regulating ES
- Global climate regulation
- Rainfall pattern regulation
- Local climate regulation
- Air filtration
- Soil quality
- Soil and sediment retention
- Solid waste remediation
- Water purification
- Water flow regulation
- Flood control
- Storm mitigation
- Noise attenuation
- Pollination
- Biological control
- Nursery pop., habitat maintenance

ECOSYSTEM ACCOUNTING

Cultural ES
- Recreation-related
- Visual amenity
- Education, scientific and research
- Spiritual, artistic and symbolic
- Ecosystem and species appreciation
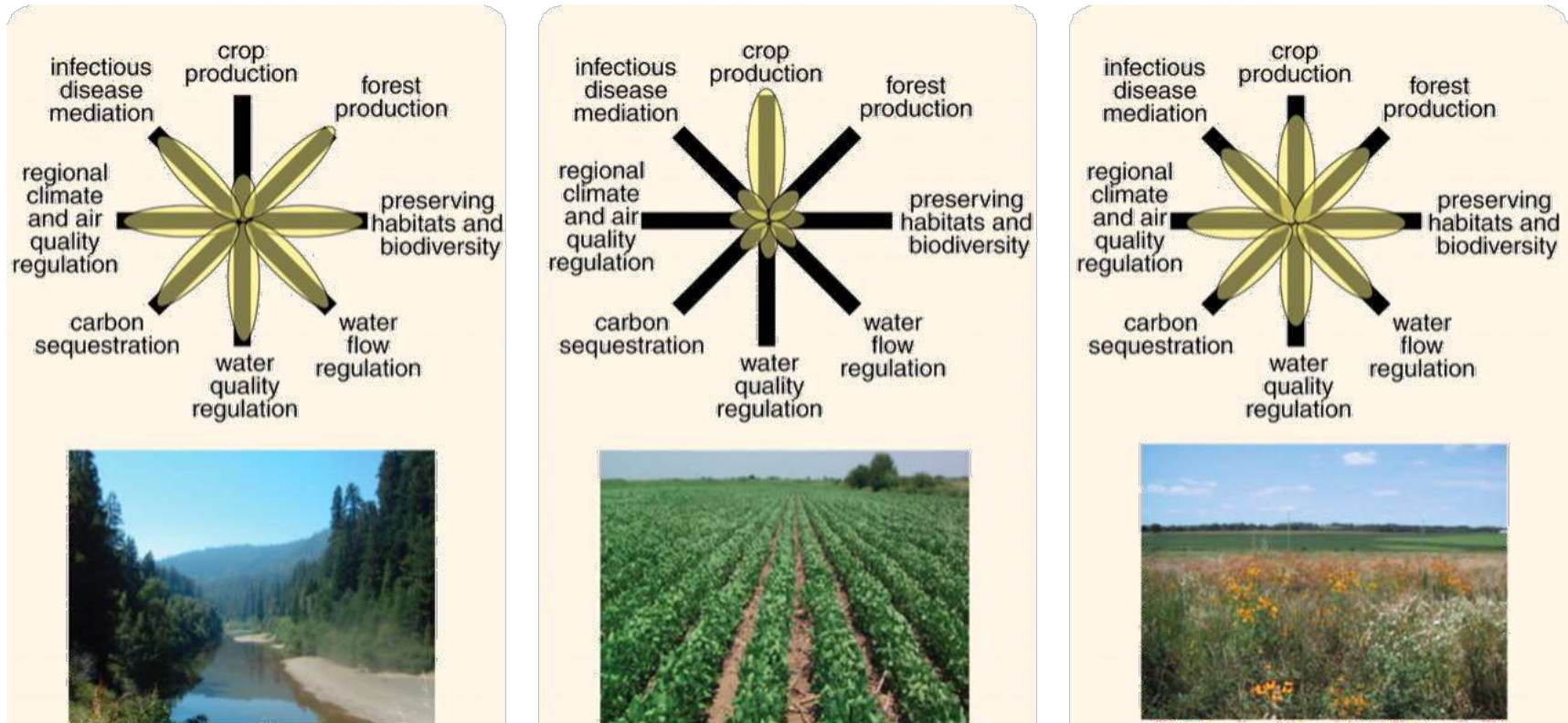
based on SEEA EA reference list of selected ecosystem services (United Nations et al. 2021)

3.2. Standardization of measurement: Forest ecosystem services

Maximization of targeted assets or ecosystem services is causing significant trade-offs that need to be taken into account.

Foley et al. (2005)

3.3. Forest definition and classification

CENTRAL FRAMEWORK

Enviromental Assests: Timber resources

Cultivated and Natural forest?
Forest Available for Wood Supply (FAWS)
and not available (FNAWS)

ECOSYSTEM ACCOUNTING

Forest ecosystem types

Around 20 functional groups are identified as forest ecosystem with potential spatial distribution

3.4. Forest accounts outputs

CENTRAL FRAMEWORK

ECOSYSTEM ACCOUNTING

Source: Chapter 5 SEEA –CF, 2013

Table 2   Forest asset account for forestland (sq. km)

	Available for wood supply		Not available for wood supply	Total forest land
	Plantation	Natural forest		
Opening Stock	29,653.33	10,118.4	3585.21	43,356.94
Changes due to economic activities				
Afforestation	605.95	117.68	112.78	836.41
Deforestation	−9.42	−5.68		−15.1
Other changes				
Natural expansion				
Natural regression	−2.5	−30.37		−36.05
Changes in classification				
Closing area	30,247.36	10,200.03	3697.99	44,142.2

Source: Computed by the author

Present accounting tables of stocks and flows of timber assets in physical and monetary terms

Example: Ecosystem services flow accounts

Source: SEEA-EA, 2020

First-level indicators	Second-level indicators	Third-level indicators		2016	2017	Net change
Provisioning services	Food/material provisioning	Agricultural /forestry/hay/ /seafood products	aquatic	1405.6	1389.4	-16.2
Summation of provisioning services				1405.6	1389.4	-16.2

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4. Example
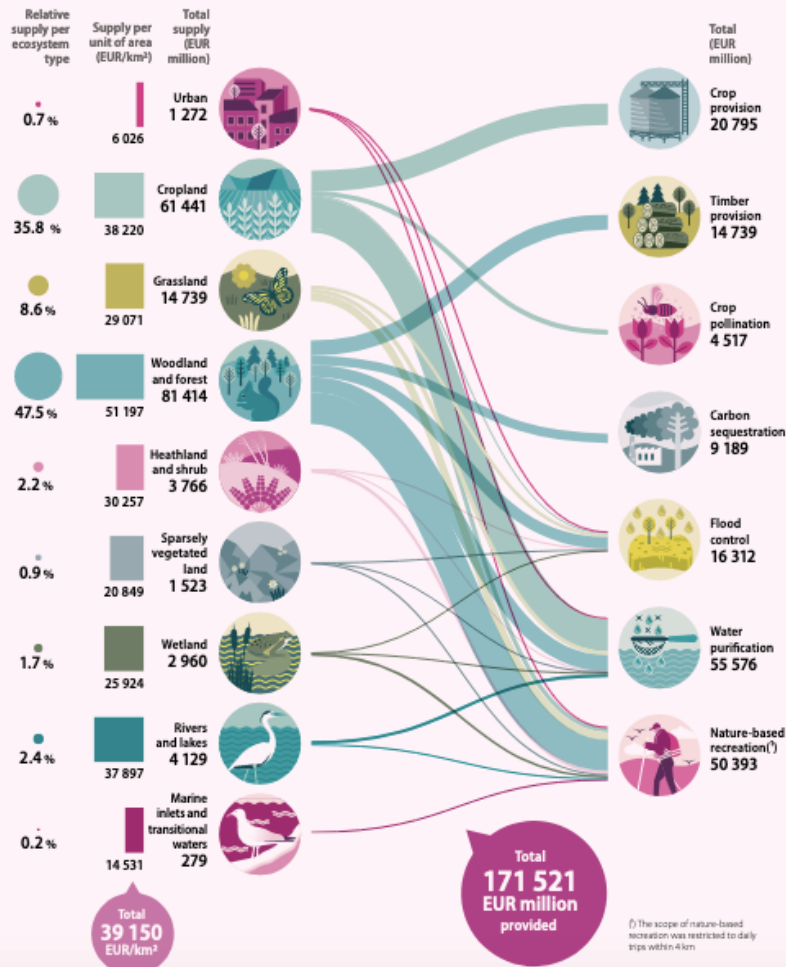
- The total supply of the
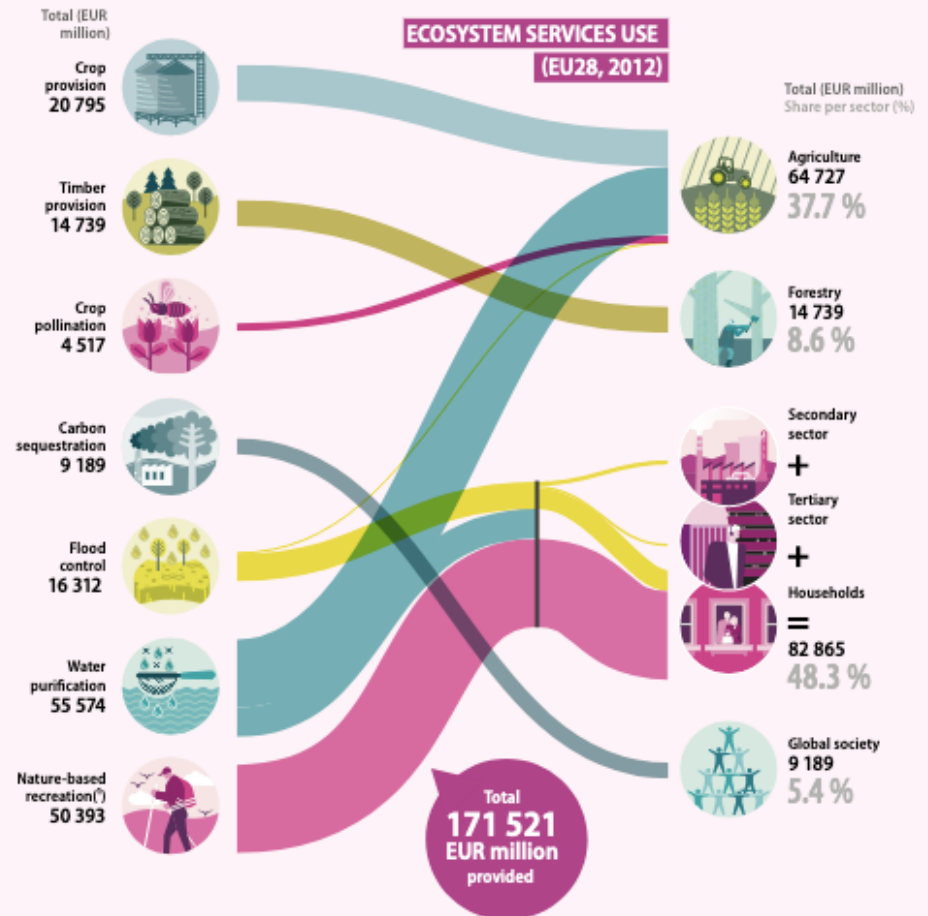
5. Forest Working Group SEEA-EA

DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION
UNITED NATIONS

System of
Environmental
Economic
Accounting

**Working Group on Implementation
of the SEEA EA – Forest areas**

Terms of reference

Version: 13 October 2021
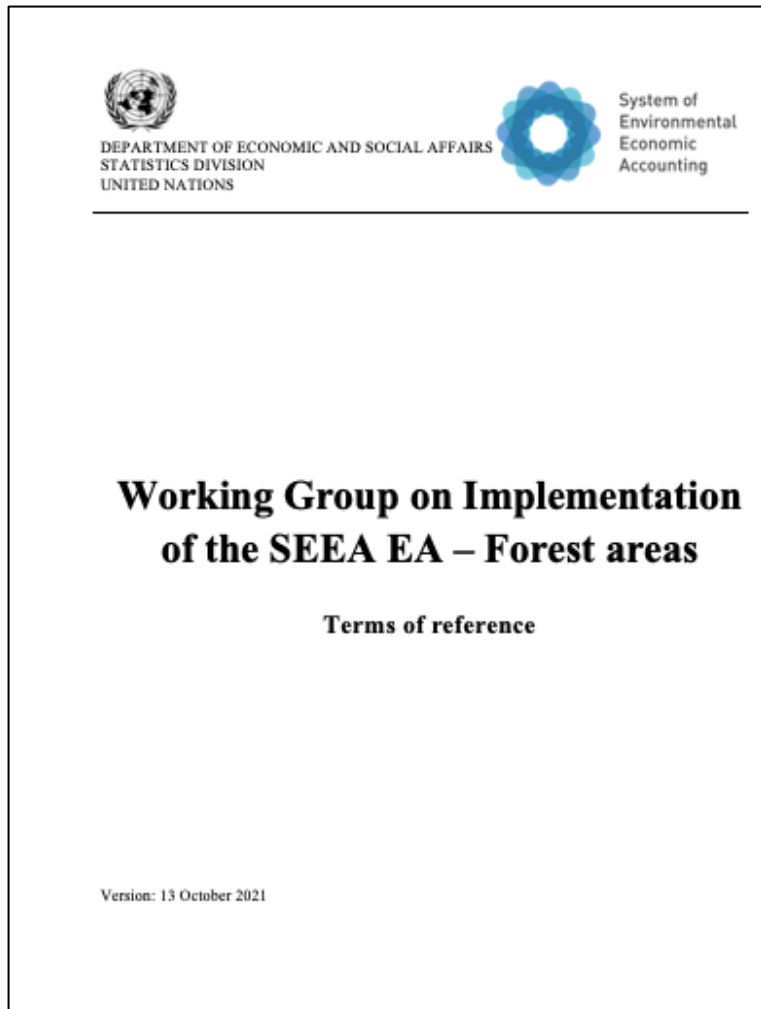
- Working Group was established in Nov 2021 and meet regularly every 2 months. Already has met 9 times, last one 24th January 2023.

- Broad membership (around 25 members) across national and international organisations.

- The **main objectives of the WG** are to contribute to the advancement of **the implementation of forest ecosystem accounts (**specially at national level) including identifying best practices, models, data and tools, looking at both biophysical and monetary aspects.

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