

System of
Environmental
Economic
Accounting

Session 1: Overview of the SEEA Central Framework and SEEA Ecosystem Accounting

Regional Training Workshop on SEEA Asset Accounts for Sustainable Development

16-19 June 2025, Chiba, Japan

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United Nations Statistics Division



United Nations

The need to account for the environment

- Nature and the services it provides support almost every aspect of human well-being
- But headline indicators like GDP, the unemployment rate and inflation do not capture the full economic contributions of nature
- Traditional accounts don't help us understand how the depletion of natural resources and degradation of the environment affect the economy and wellbeing
- The System of Environmental-Economic Accounts (SEEA) fills that gap
- SEEA integrates information on the economy and the environment showing their interrelationship complementing the System of National Accounts



Growing interest in Natural Capital Accounting



A historic step towards transforming the way how we view and value nature.

António Guterres
UN Secretary General



this new statistical framework moves beyond GDP and takes better account of biodiversity and ecosystems in national economic planning.

Frans Timmermans
VP European Commission



Monitoring framework for the GBF (COP 15 decision 15/5) :

- “Notes the value of aligning national monitoring with the United Nations **System of Environmental-Economic Accounting statistical standard** in order to mainstream biodiversity in national statistical systems and to strengthen national monitoring systems and reporting as appropriate and according to their national priorities and circumstances;“
- “Invites the Statistical Commission,..... and other relevant organizations to **support the operationalization of the monitoring framework** for the Kunming-Montreal global biodiversity framework;”
- “When possible, **indicators are aligned with existing intergovernmental processes under the Statistical Commission**, such as the SDGs, the FDES or the SEEA”

SEEA – a statistical standard for the environment



Adopted in 2012



Adopted in 2021



Brings together environmental and economic data using the same accounting principles of the SNA



Credibility, reliability, replicability of data



Consistency over time and space



Common language between different communities



Breaks down silos and fosters collaboration

SEEA Central Framework and SEEA Ecosystem Accounting two sides of the same coin

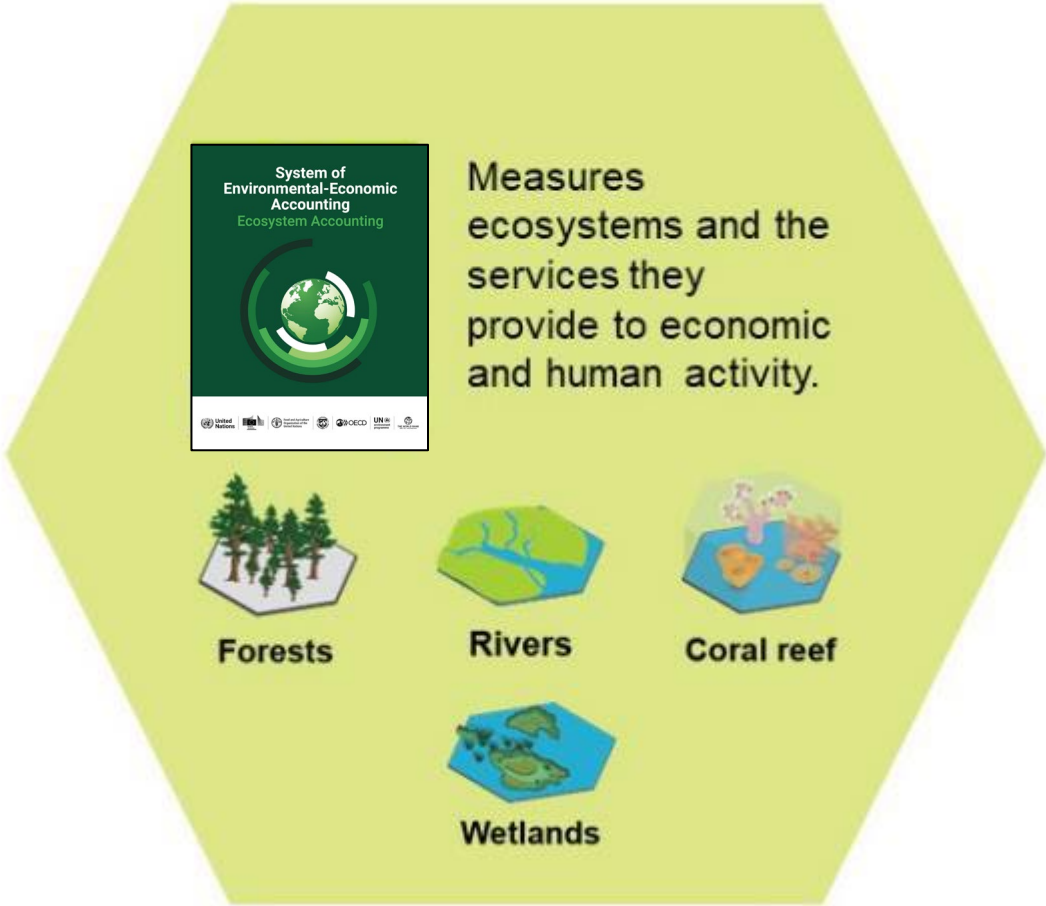


The diagram is a green hexagon containing a book cover on the left and text on the right. The book cover is titled 'System of Environmental-Economic Accounting 2012 Central Framework' and features a globe icon. The text reads: 'Measures environmental assets and individual resources and how the economy used them.' Below the text are five icons representing different resources: Timber (logs), Water (a blue drop), Fish (a fish), Soil (a small plant in a pot), and Minerals (a pickaxe and a rock).

System of Environmental-Economic Accounting 2012
Central Framework

Measures environmental assets and individual resources and how the economy used them.

Timber Water Fish
Soil Minerals



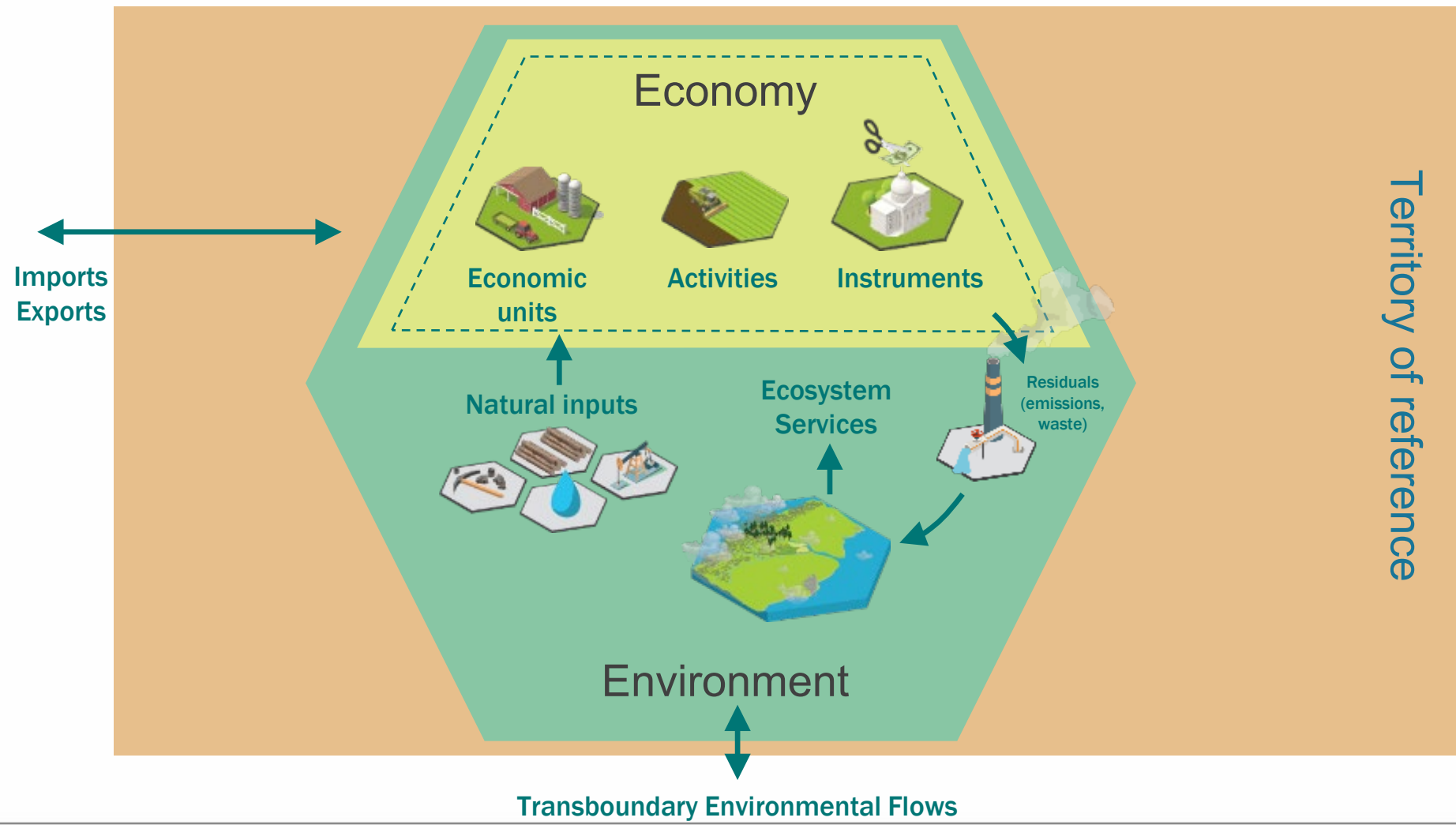
The diagram is a light green hexagon containing a book cover on the left and text on the right. The book cover is titled 'System of Environmental-Economic Accounting Ecosystem Accounting' and features a globe icon. The text reads: 'Measures ecosystems and the services they provide to economic and human activity.' Below the text are four icons representing different ecosystems: Forests (a group of trees), Rivers (a winding river), Coral reef (a coral reef structure), and Wetlands (a wetland landscape).

System of Environmental-Economic Accounting
Ecosystem Accounting

Measures ecosystems and the services they provide to economic and human activity.

Forests Rivers Coral reef
Wetlands

SEEA Conceptual Framework





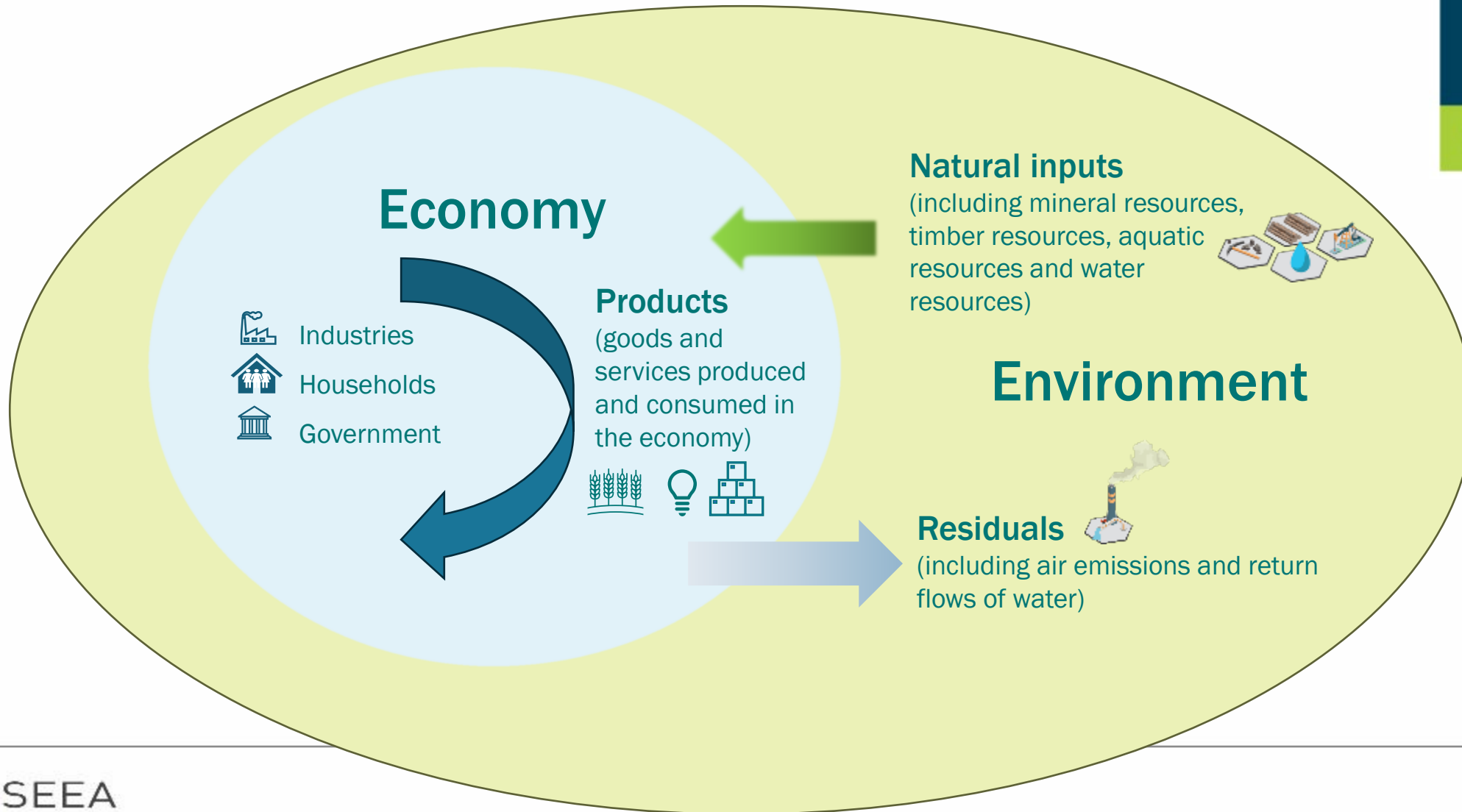
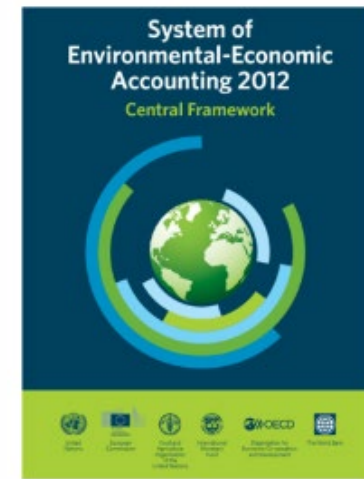
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SEEA Central Framework



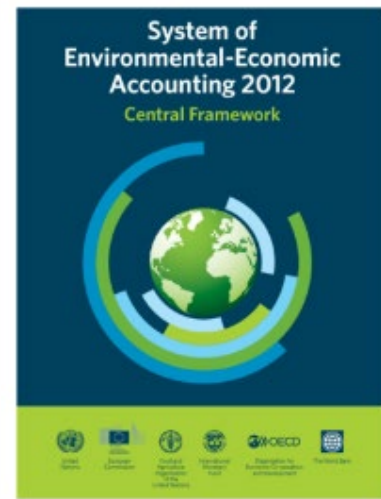
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SEEA Central Framework conceptual framework



SEEA principles

- A coherent measurement framework linked to SNA (aligns concepts, classifications and methods)
- Based on accounting principles & systems theory
- Flexible and modular
 - > NOT a model, database or analytical framework
- Provide guidance on producing “accounts” for:
 - > Natural inputs to the economy,
 - > Impacts of the economy on the environment, and
 - > Expenditures to mitigate impacts
- Support sustainable statistical infrastructure to regularly produce relevant accounts and indicators
- Improve coherence by standardizing concepts, classifications and methods
- Improve relevance by linking to SNA



SEEA Central Framework - accounts

- **Stock accounts for environmental assets:** natural resources and land
 - > physical (e.g. fish stocks and changes in stocks) and/or monetary values (e.g. value of natural capital, depletion)
- **Flow accounts:** supply and use tables for products, natural inputs and residuals (e.g. waste, wastewater) generated by economic activities.
 - > physical (e.g. m³ of water) and/or monetary values (e.g. permits to access water, cost of wastewater treatment, etc.)
- **Activity / purpose accounts** that explicitly identify environmental transactions already existing in the SNA.
 - > e.g. Environmental Protection Expenditure (EPE) accounts, environmental taxes and subsidies
- **Combined physical and monetary accounts** that bring together physical and monetary information for derivation indicators, including depletion adjusted aggregates



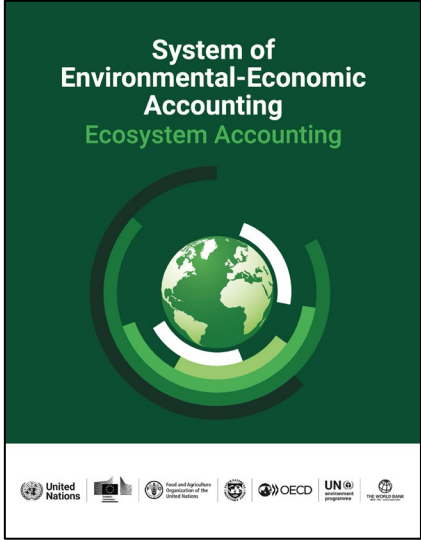
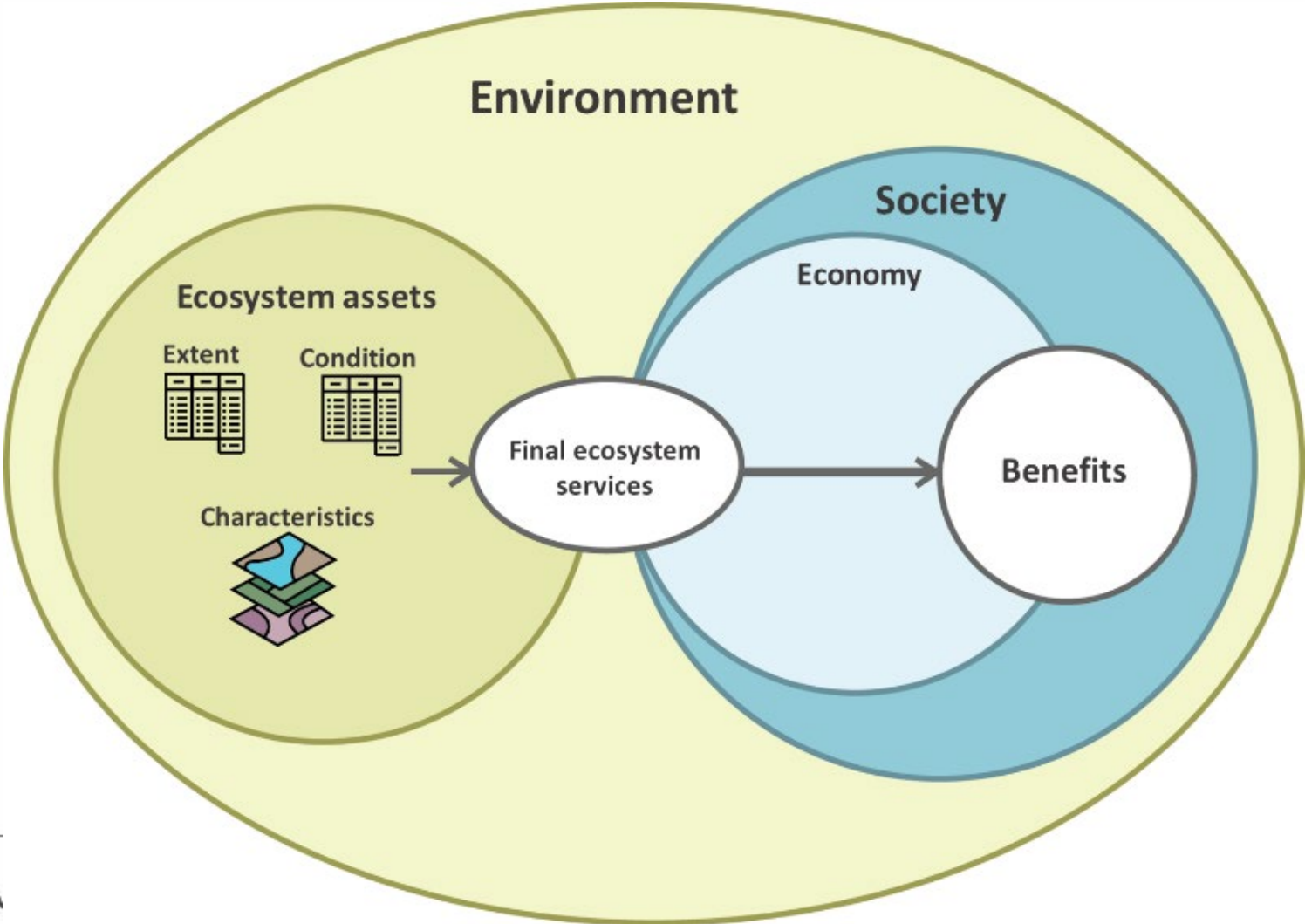
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SEEA Ecosystem Accounting

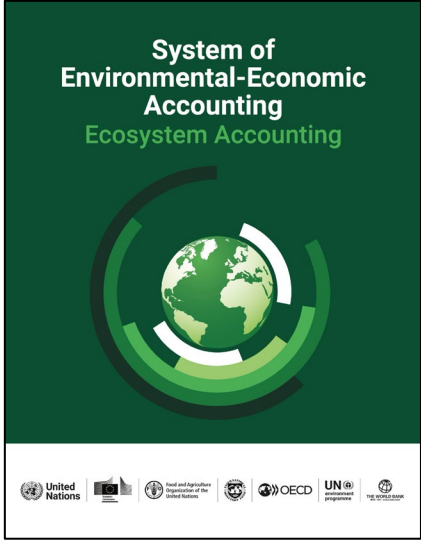
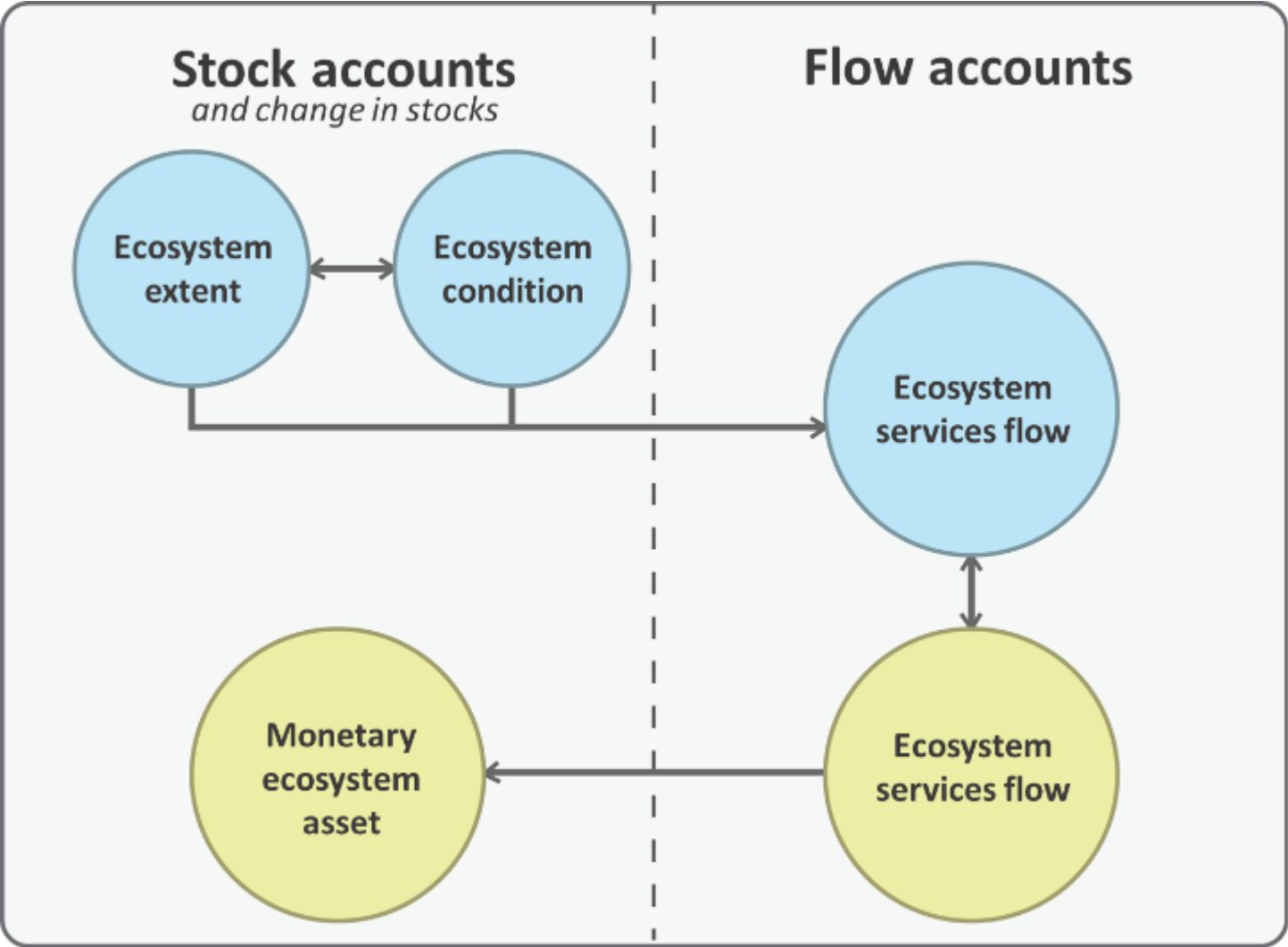


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SEEA Ecosystem Accounting conceptual framework



SEEA Ecosystem Accounting – core accounts



SEEA EA Framework – Illustrative Example

1
Asset –
forest

2
Conditions



Soil depth

3
Services



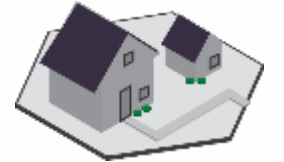
Water
filtration

4
Benefits

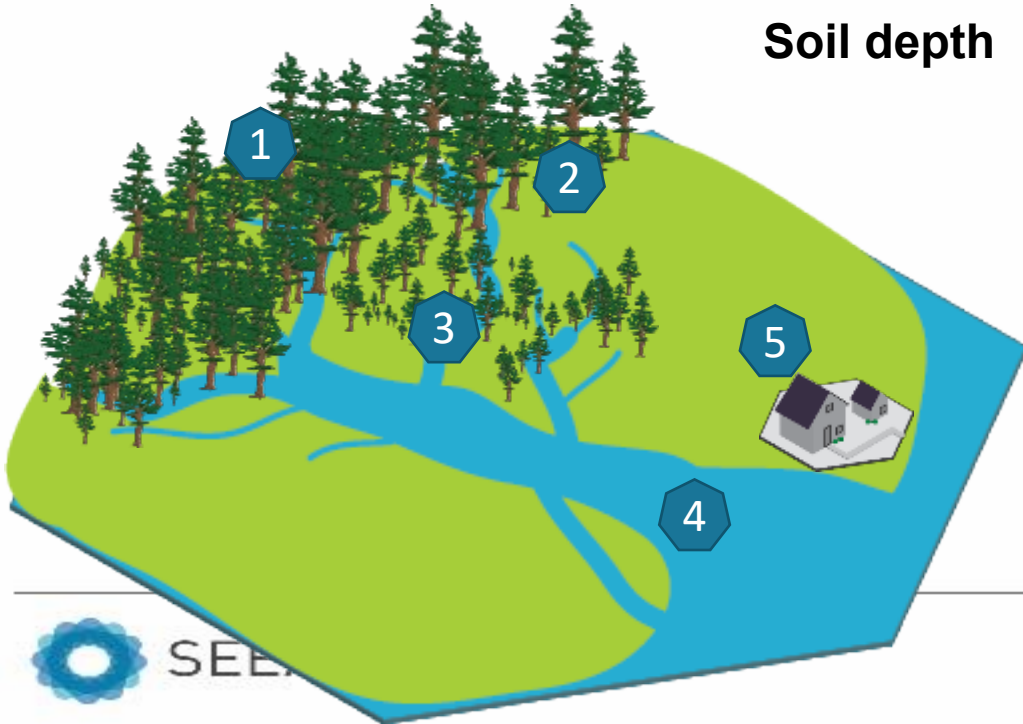


Clean water

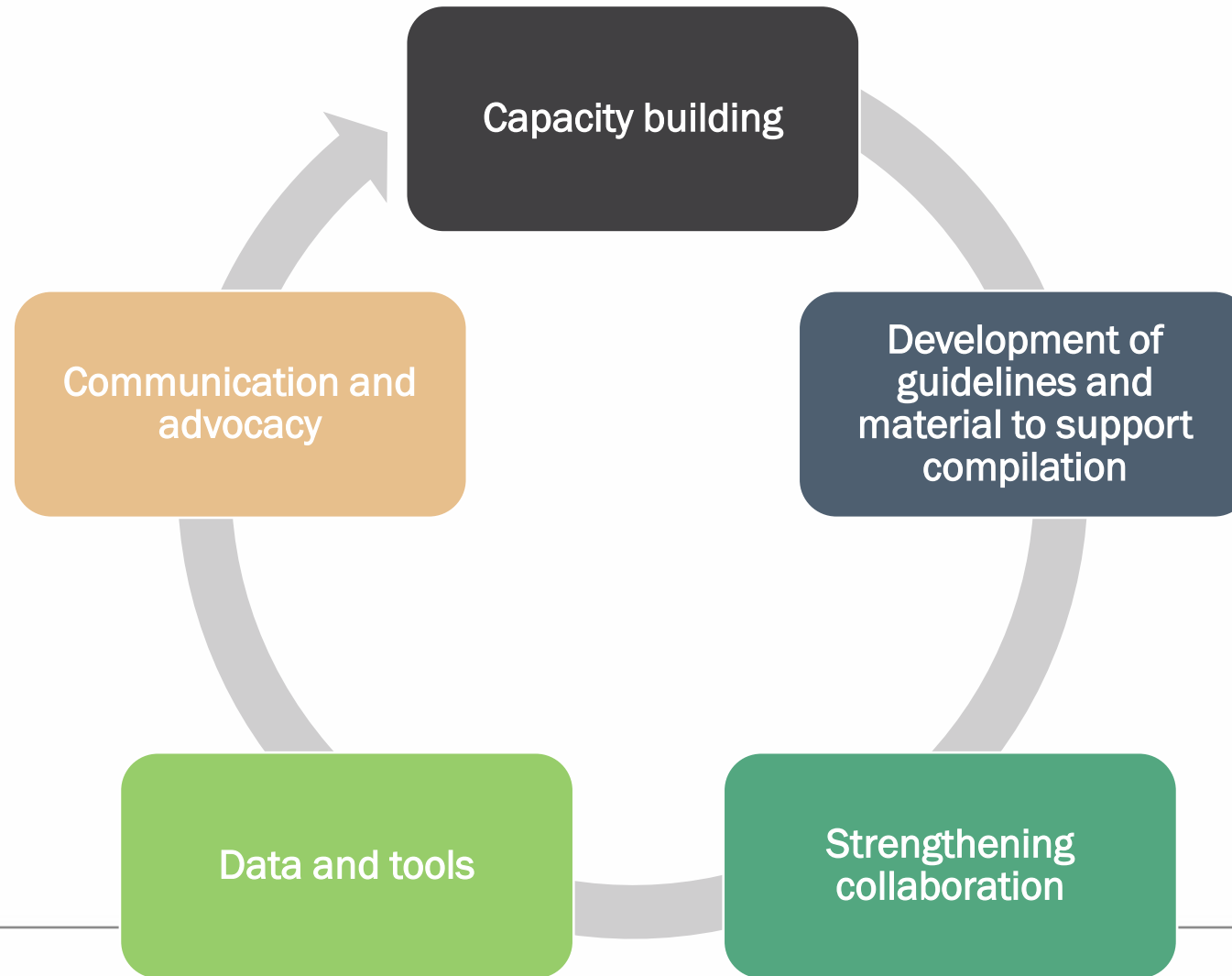
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Beneficiaries



People



Activities in support of the SEEA EA implementation





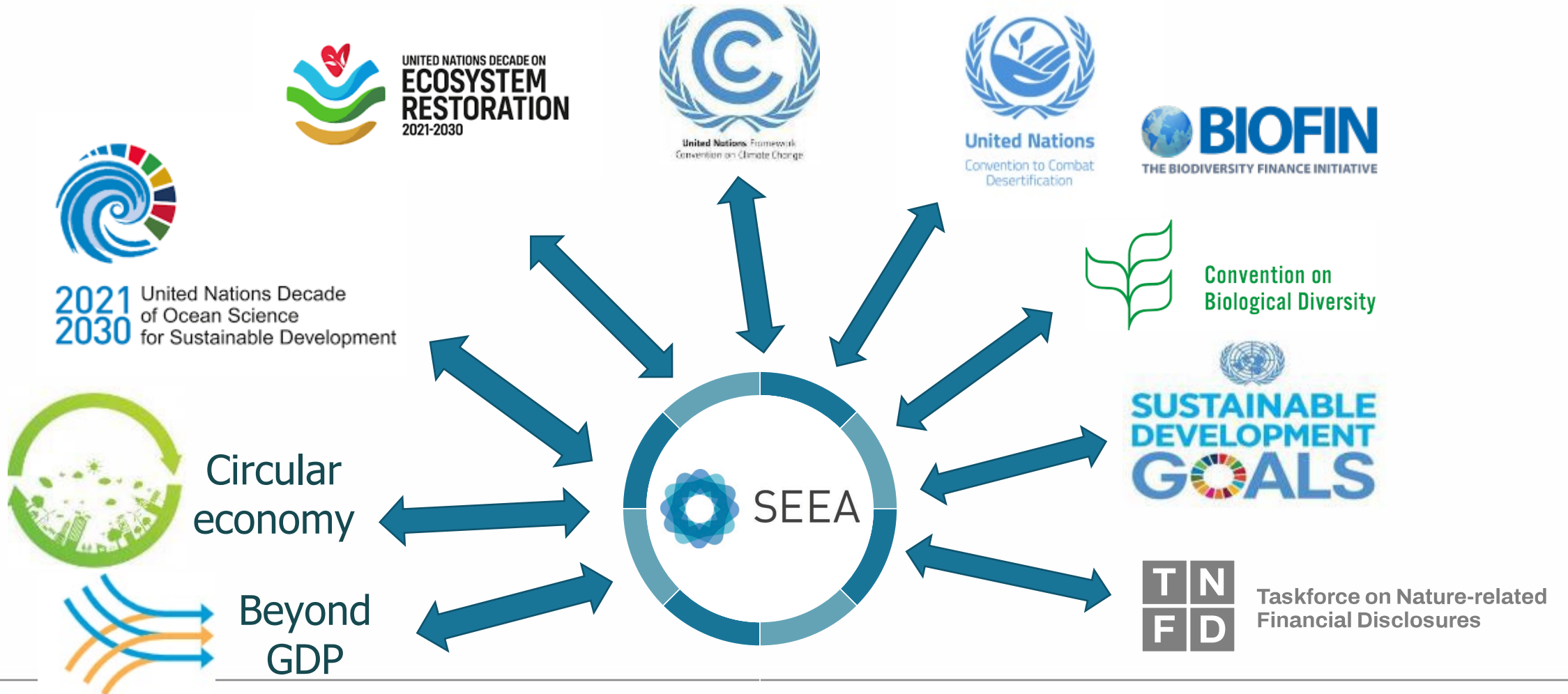
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SEEA applications



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The SEEA supports multiple ongoing initiatives



SEEA and Climate Change

Various climate related policies can be informed by various types of SEEA accounts:

- Informing **mitigation and adaptation strategies**
- Providing a comprehensive overview of how much **carbon is stored per ecosystem type** and how this develops over time
- Assessing how **climate change impacts** economic activities and households
- A proposed new **Data Gaps Initiative** (under the auspices of the G20 Finance Ministers and Central Bank Governors)
 - > 4 priorities endorsed: a.o. Climate Change
 - > SEEA air emission accounts and energy accounts included



The SEEA and GBF indicators



Convention on
Biological Diversity

- The Convention of Biodiversity (CBD) adopted the Kunming-Montreal Global Biodiversity Framework (GBF) in December 2022
- Headline indicators were adopted to monitor each Goal and Target. A few indicators related to the SEEA:

- > Extent of natural ecosystems (Goal A)
 - > Services provided by ecosystems (Goal B and Target 11)
 - > *Integrating Biodiversity in Decision-Making (Target 14)*
-
- > Domestic public funding, and private funding on conservation and sustainable use of biodiversity and ecosystems (Goal D and Target 19)





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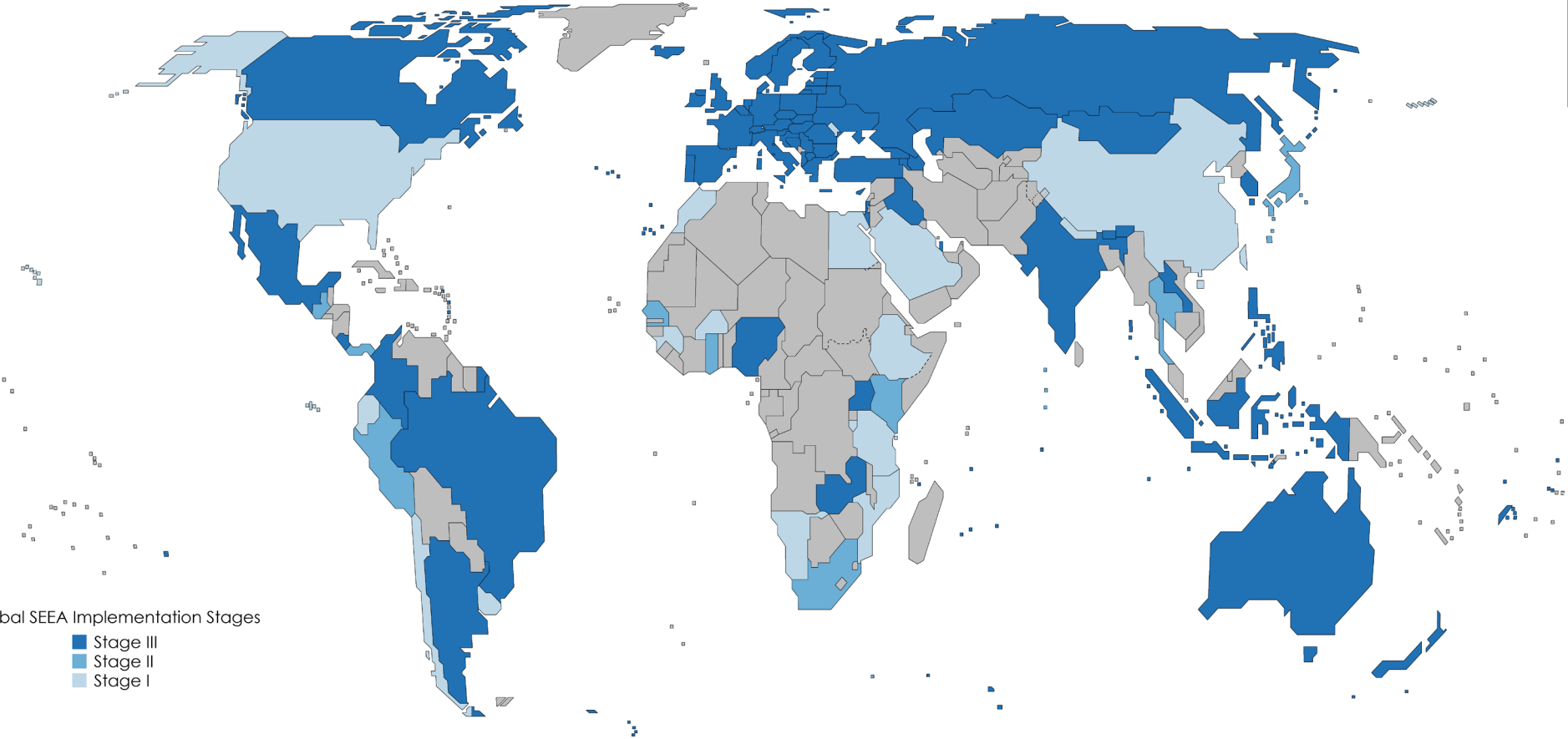
SEEA implementation



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SEEA implementation

Based on the 2024 Global Assessment



Global SEEA Implementation Stages

- Stage III
- Stage II
- Stage I



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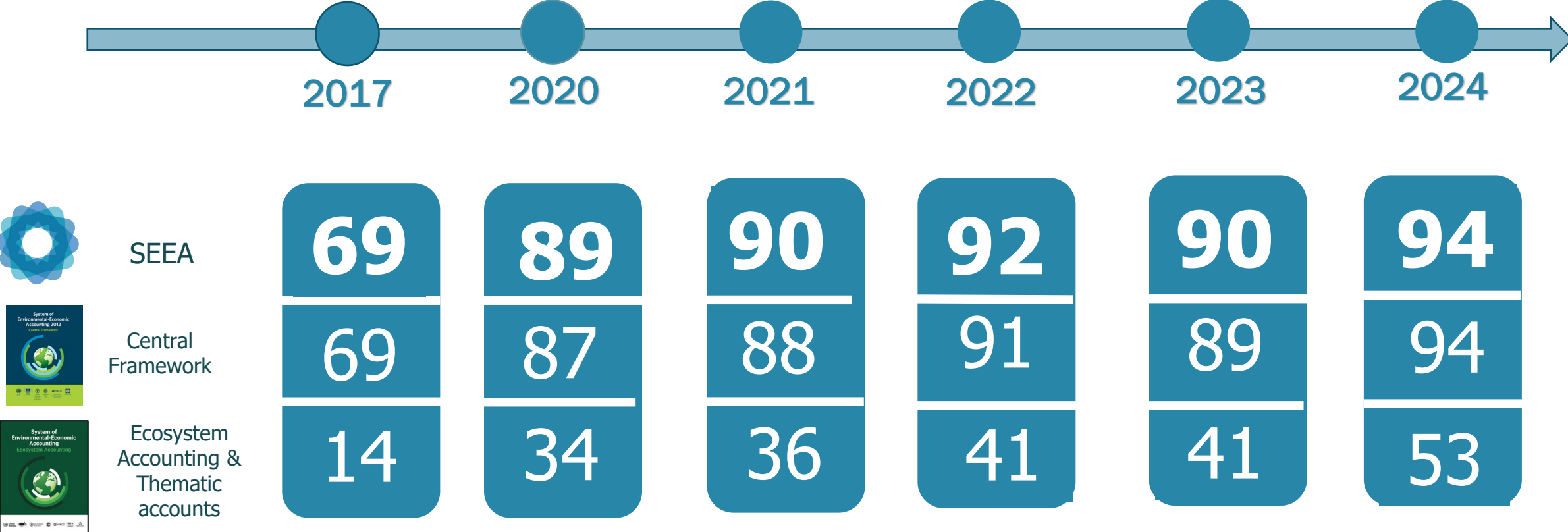


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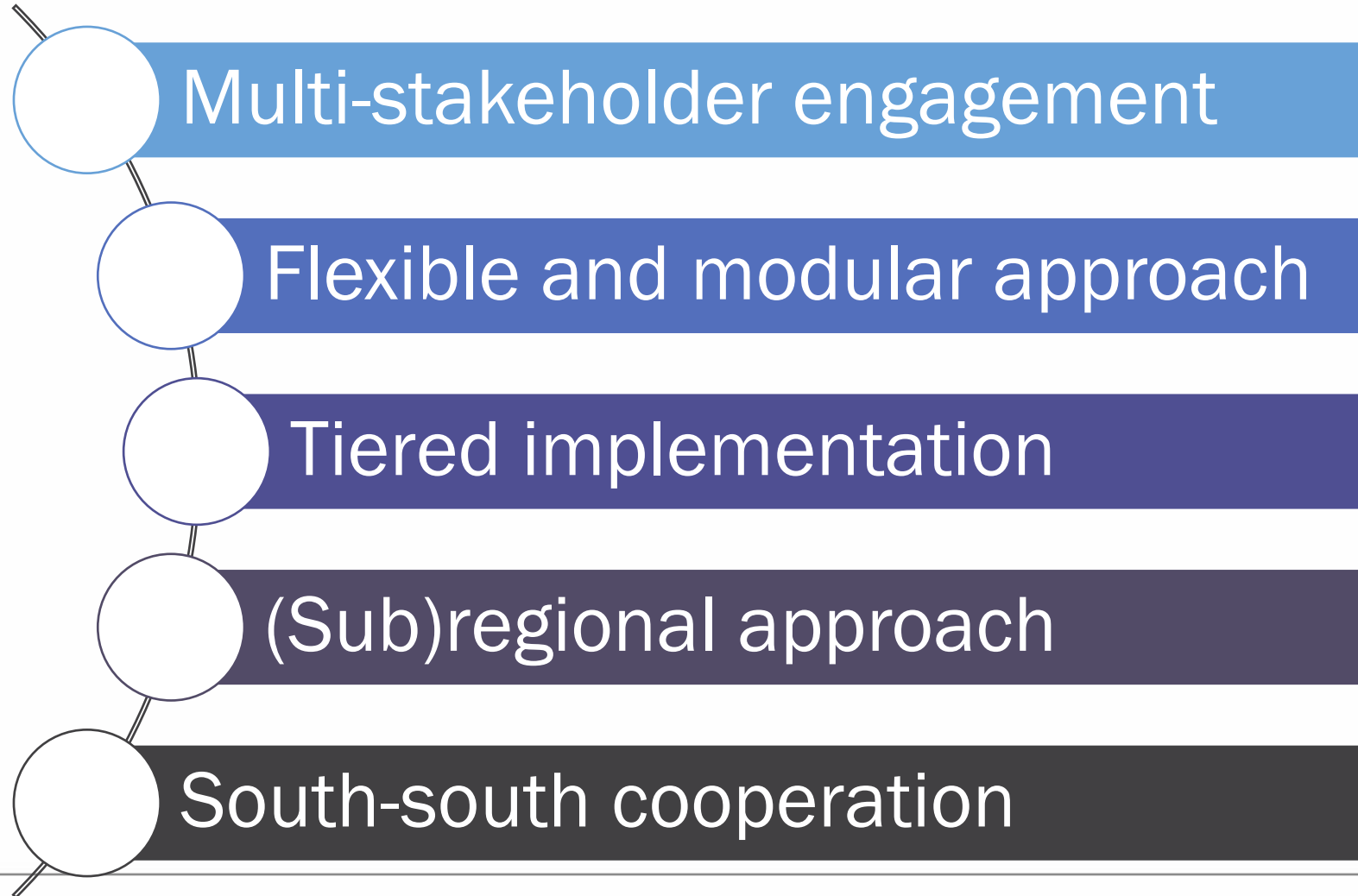
The boundaries and names shown, and the designation used on this map do not imply official endorsement or acceptance by the United Nations. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).



Number of countries compiling SEEA accounts



Approach and main principles



SEEA Implementation Guide



- Published in 2023 to support implementation of the SEEA Central Framework and SEEA Ecosystem Accounting
- Provides guidance and support for implementation work at the national level in all countries, including examples with lessons learned

Strategic planning

- Characteristics of a strategic plan and its development in two steps: (1) establishing a core group, and (2) conducting a national assessment

Mechanisms for implementation

- Potential institutional set-ups needed for successful implementation of the SEEA

Compiling accounts

- Aspects related to compilation, such as data sources; work of the technical committee; collaboration with partners; and additional resources and activities to support implementation

Disseminating accounts

- Good practices around disseminating the accounts, identifying the main users of accounts and their information needs

Institutionalizing the SEEA

- Legal mandates, formalization of mechanisms between institutions, funding mechanisms, and moving from piloting to regular production

Guidelines and tools in support of implementation

Ecosystem Accounting

- Biophysical guidelines
- Monetary valuation
- Policy scenario analysis
- Eurostat guidance notes (in development)



Tools

- ARIES for SEEA



Policy applications

- Linkages of global indicators with SEEA
- How NCA contributes to sustainability policies



SEEA

THANK YOU

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