System of
Environmental
Economic
Accounting

System of Environmental-Economic Accounting (SEEA)

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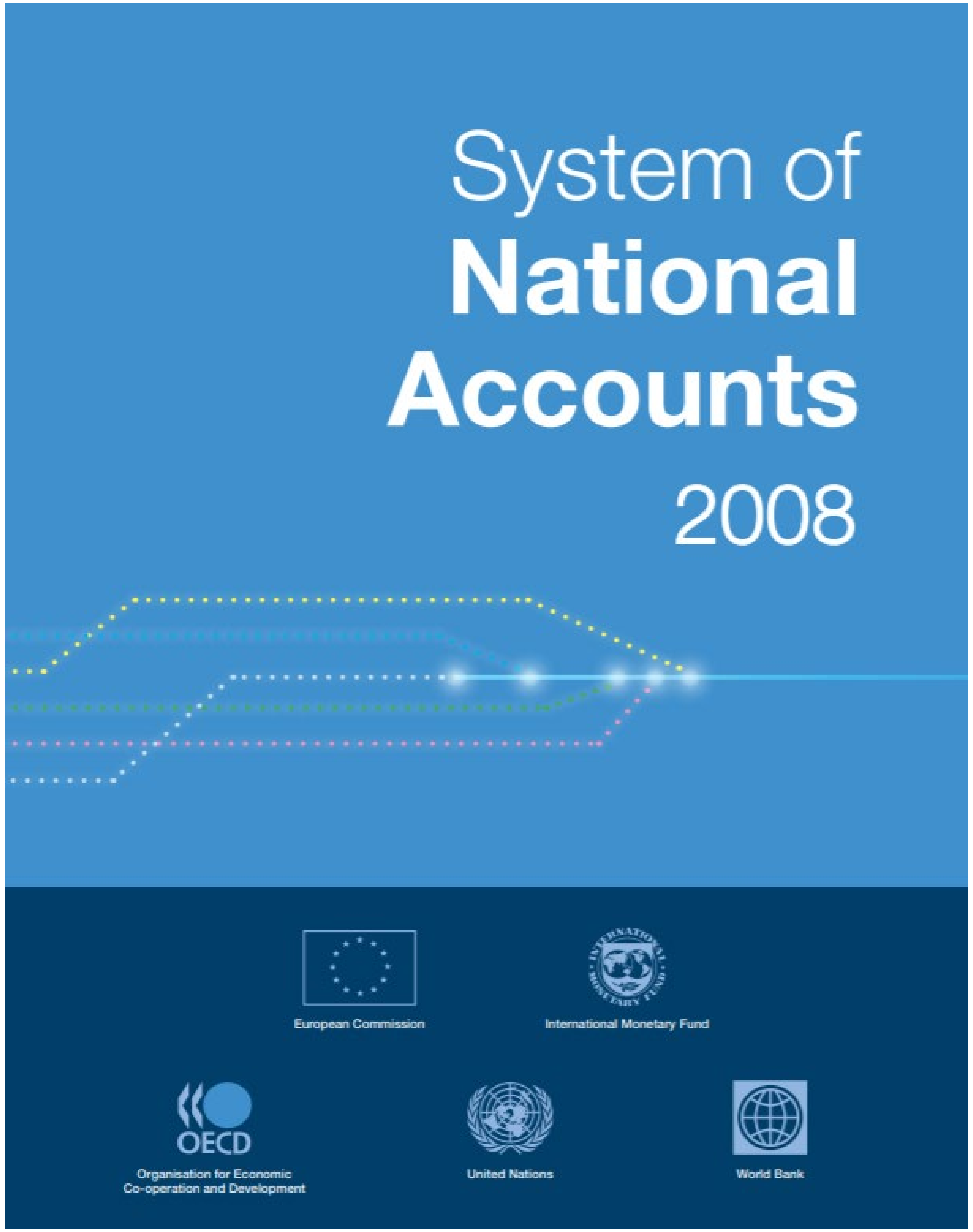
National Accounts

- The United Nations System of National Accounts (SNA) formalised in 1950s
    - Most recent version SNA 2008
    - Updates in 1953, 1968, 1993, 2008
- SNA accounts contain vital information economic activity and are one of the key building blocks of the macroeconomic statistics that form the basis for economic analysis and policy formulation.
- **But …**



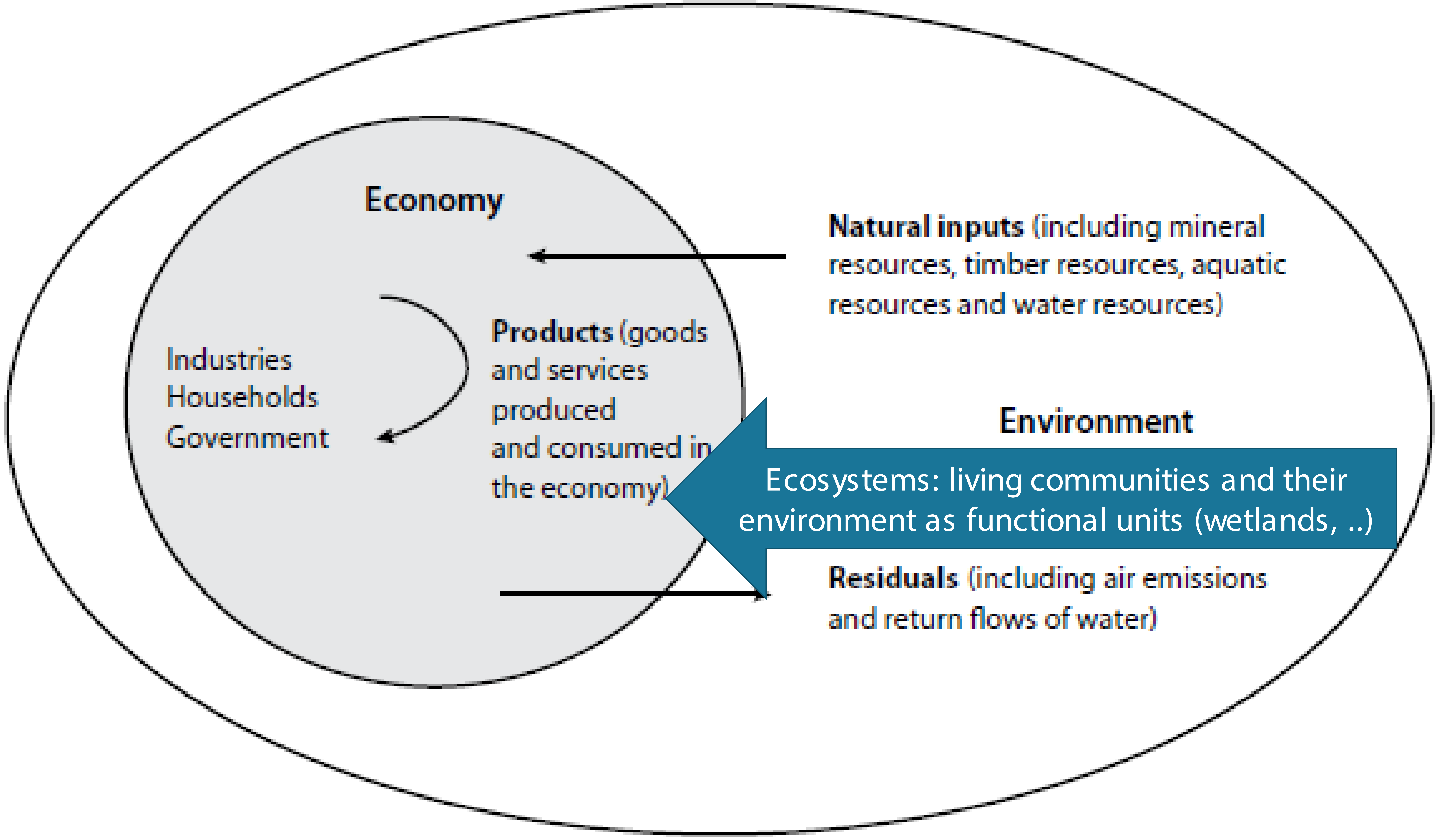
Limitations of Traditional Accounts

The SNA and headline indicators like GDP, the unemployment rate and inflation do not capture the economic contributions of nature.

As a result, decisonmakers don't have access to key information necessary to effectively pursue and track sustainable development.

For example, traditional accounts don't help us understand how the depletion of natural resources affects measures of the real wealth of a nation.

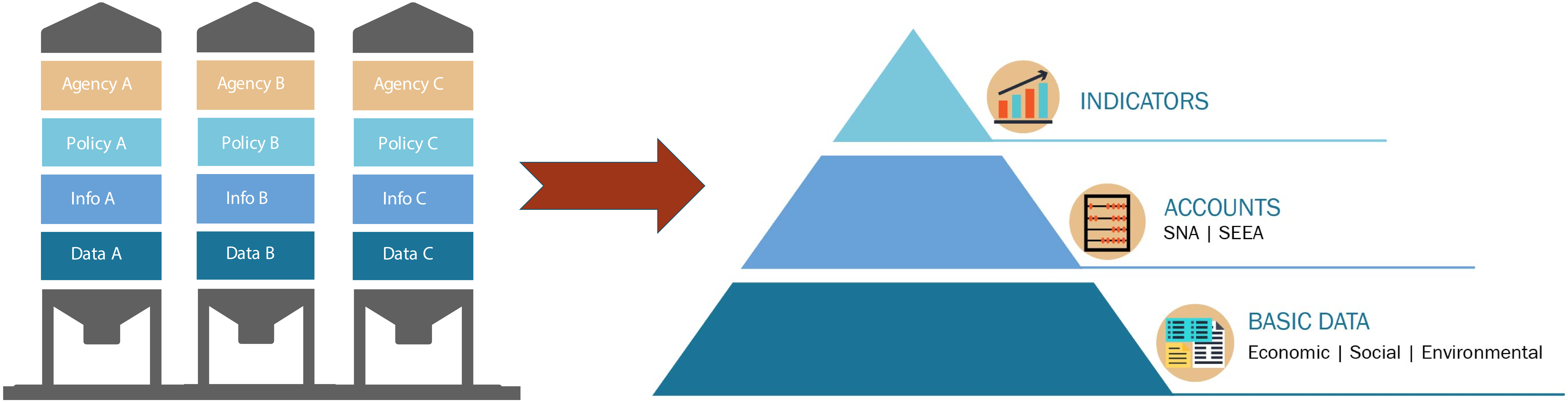
The Environment-Economy Nexus



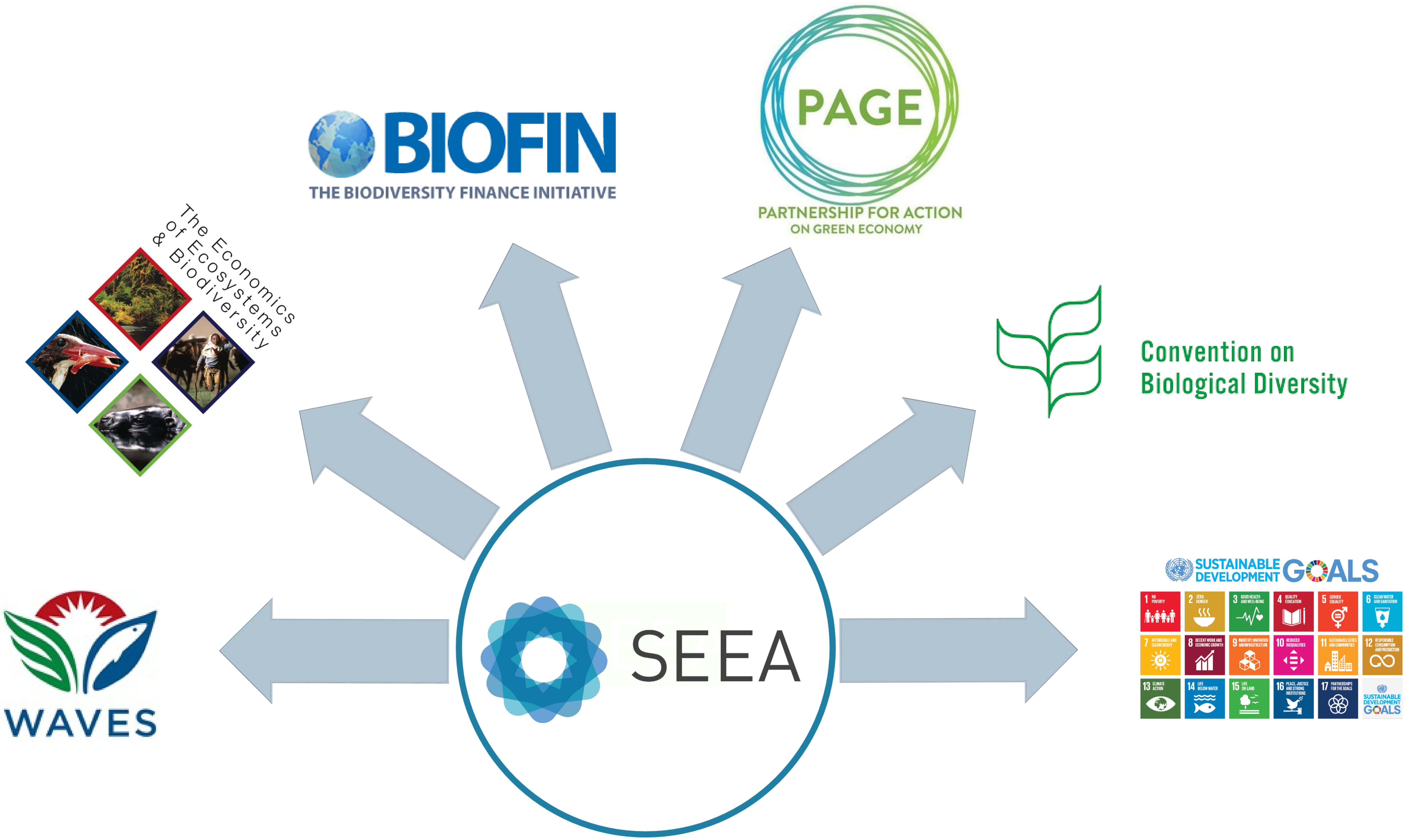
Why use an accounting framework for the environment?

- Presents environmental and economic information together in a consistent way
- Allows for environmental data to be connected with existing System of National Accounts measures
- Provides:
    - International comparability
    - Broad credibility
    - Replicability
- *Transforms **data** into **information***

From data silos to integrated information



SEEA as supporting framework



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The SEEA

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The System of Environmental-Economic Accounting (SEEA)

System of Environmental Economic Accounting

The SEEA is the statistical framework to measure the environment and its interactions with economy.

- The **SEEA Central Framework** was adopted as an international statistical standard by the UN Statistical Commission in 2012.
- The **SEEA Experimental Ecosystem Accounting** complements the Central Framework and represent international efforts toward coherent ecosystem accounting.
- **SEEA Applications and Extensions** helps compilers and users of SEEA accounts understand how the accounts can be used in decision making, policy review and formulation, analysis and research.

The SNA and SEEA: Systems of integrated information

SEEA

One Environment: Two perspectives

Individual environmental **assets & resources:**

Timber
Water
Soil
Fish

Ecosystems: Biotic and abiotic elements functioning together:

Forests
Lakes
Cropland
Wetlands

SEEA Central Framework (SEEA_CF) starts with economy and links to physical information on natural assets, flows and residuals

+

SEEA Experimental Ecosystem Accounting (SEEA-EEA) starts with ecosystems and links their services to economic and other human activity

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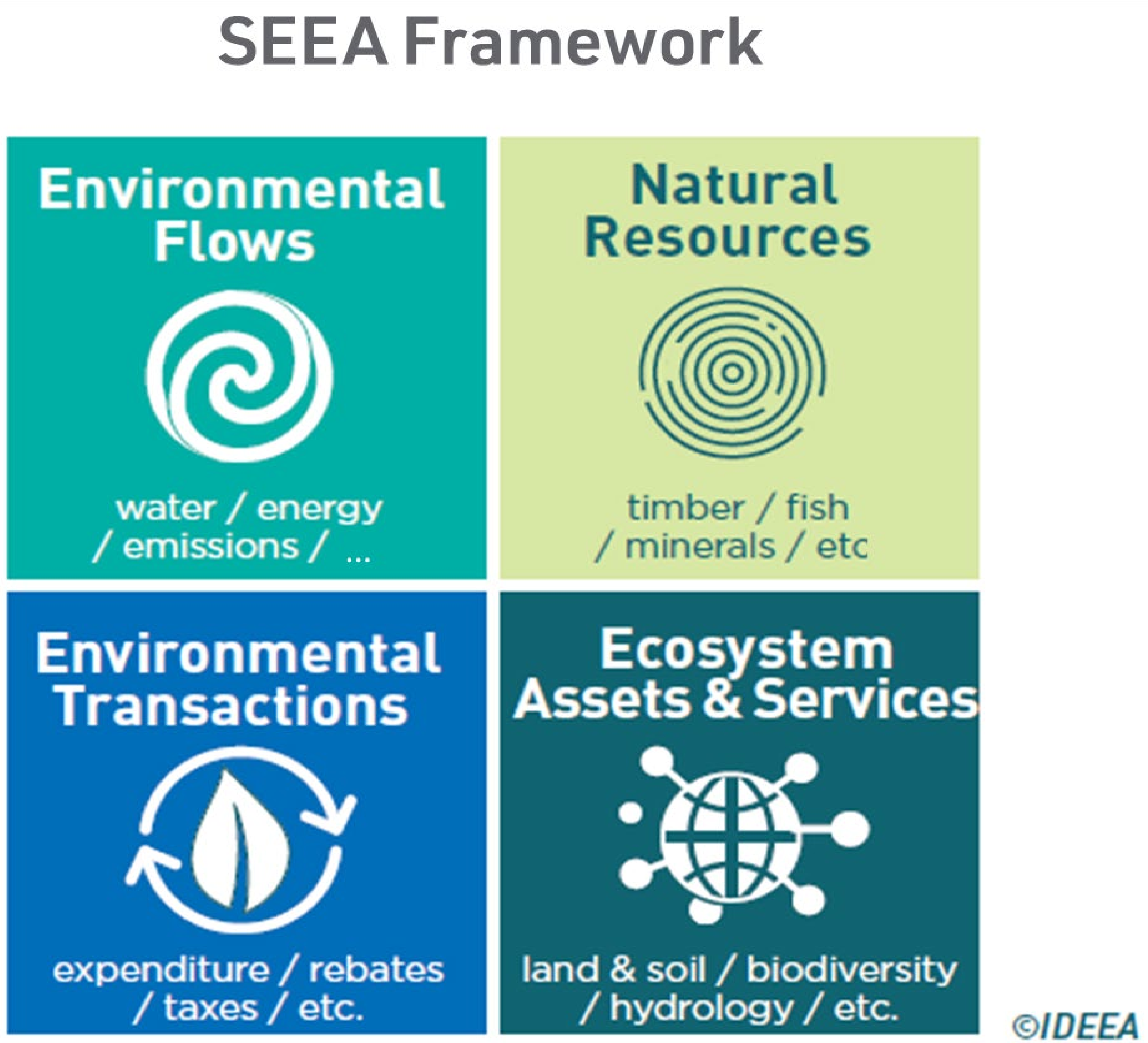
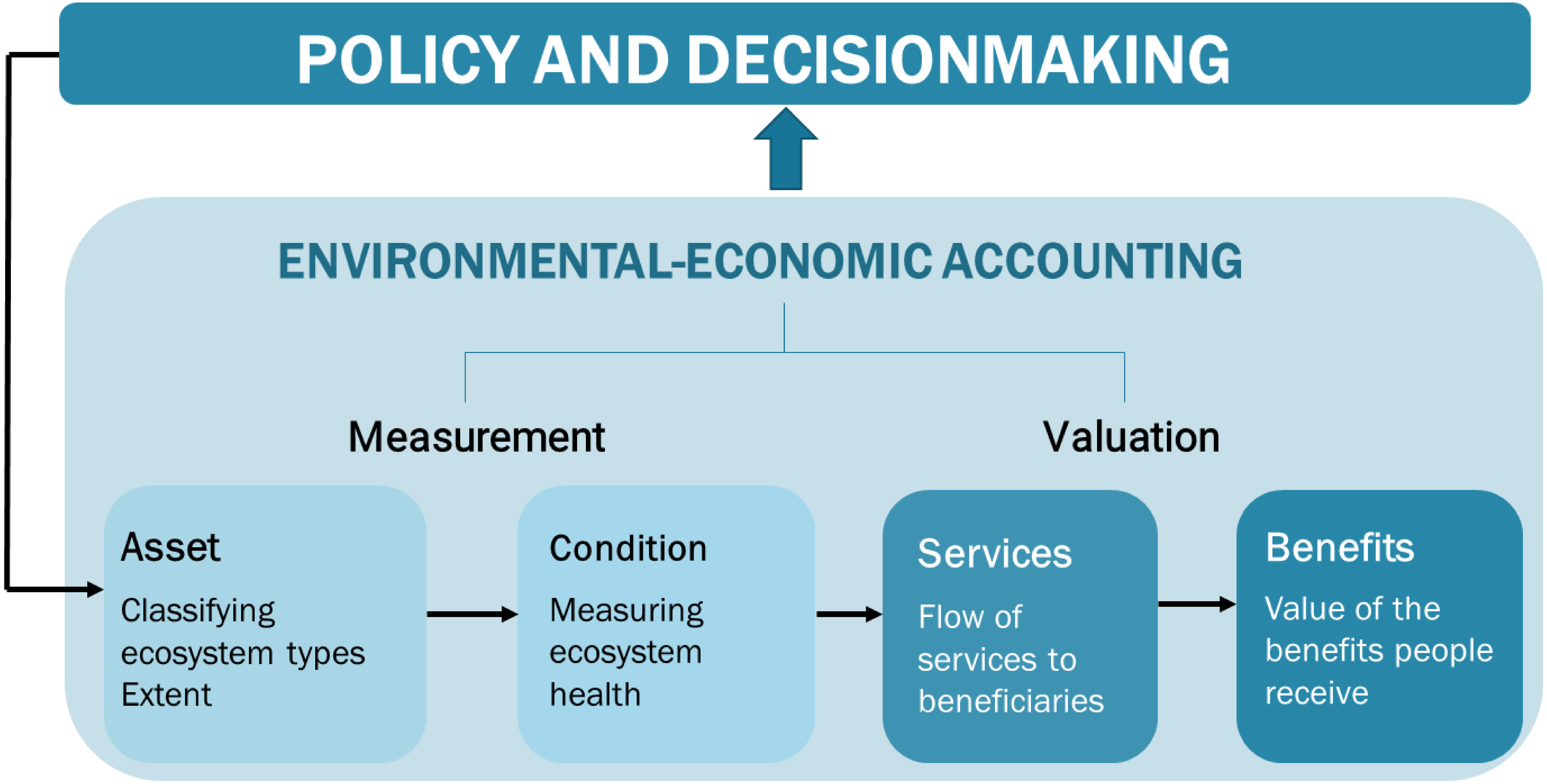
Together, they provide the foundation for measuring the relationship between the environment, and economic and other human activity

Ecosystem accounting in context



SEEA Experimental Ecosystem Accounting



Current Status of the SEEA-EEA

- A revision is underway and scheduled to be completed by 2020.
- Five working groups on:
  - Spatial units
  - Ecosystem Condition
  - Ecosystem Services
  - Key Ecosystem Services
  - Valuation and Accounting Treatment
    - Principles of valuation – exchange values vs. welfare values
    - Valuation of capital
    - Valuing externalities
    - Integration into the accounts – changing of the boundaries
- Ongoing stakeholder consultations
- Goal is for endorsement by UN Statistical Commission by March 2021

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Global databases

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Global databases

- Expanding towards global databases
    - Central Framework priority accounts
        - Energy
        - Air emissions
        - Material flow
- Development of global databases for ecosystem accounts
    - Use of big data and Earth observation
        - Land Use, Land Cover
        - Ecosystem Extent
        - Soil accounts
- SEEA accounts legislated in European Union (air emissions, material flow, physical energy flow, environmental taxes, environmental protection expenditure, environmental goods and services sector accounts)

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SEEA Around the World

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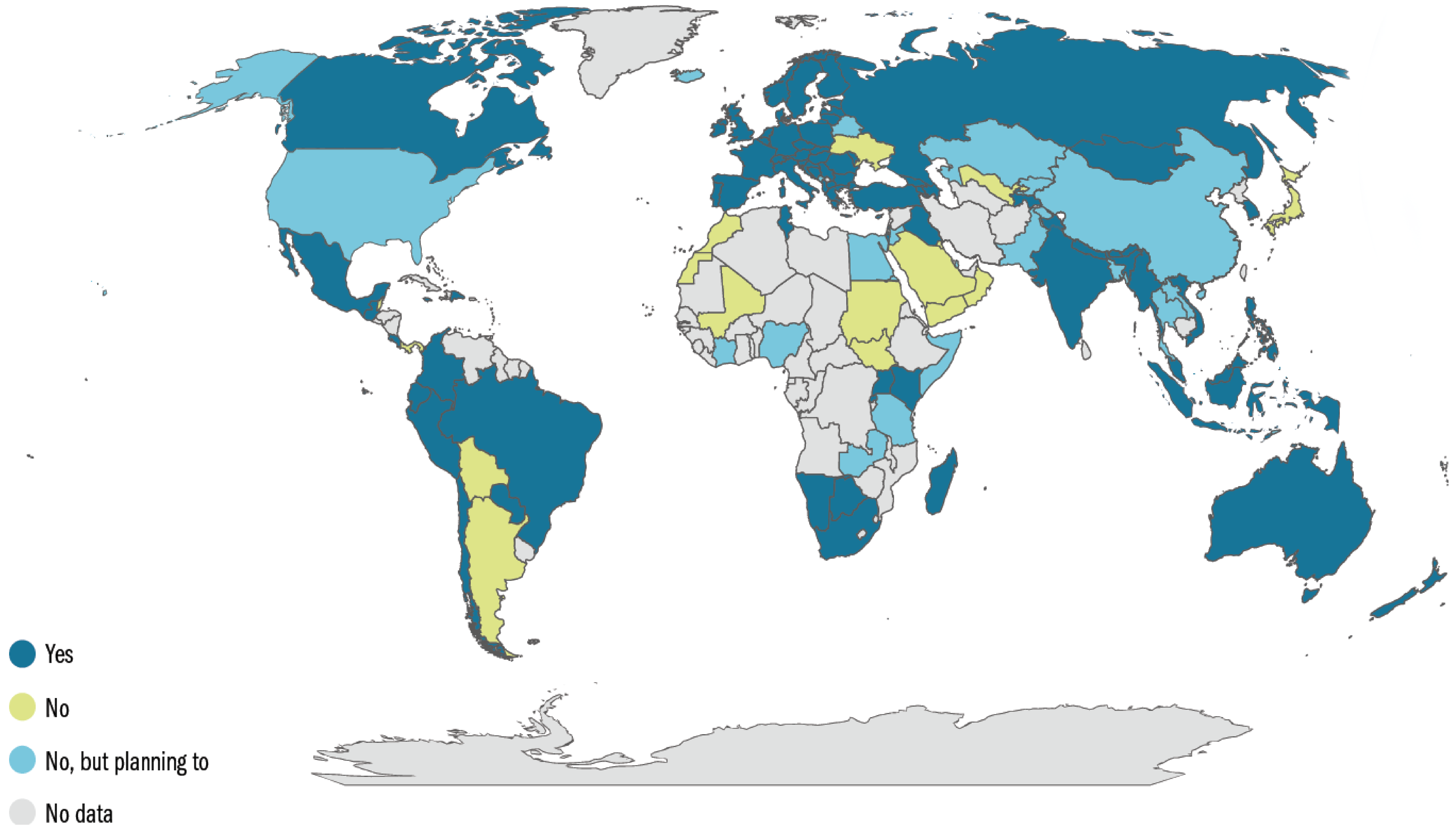
80 countries are compiling SEEA accounts



Some considerations

- SEEA is not an indicator framework but a system approach to organize information to support decision making
- Uses an accounting approach to measure the environment => environmental data can be analyzed using the same conceptual framework as national accounts
  - > Expands asset boundary to include natural resources – valuation of natural capital
  - > Expands production boundary to include ecosystem services
  - > Identifies economic instruments related to the environment (e.g. taxes, subsidies, green jobs, environmental goods and services sector, etc.)
  - > Allows for the measurement of degradation – measured as change in ecosystem capacity to produce services
  - > Spatially explicit
  - > Link to business accounting
- Can be used in modelling (I-O, CGE, etc.)

THANK YOU

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