



# The System of Environmental-Economic Accounting (SEEA) and its Implementation Strategy

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## Policy settings

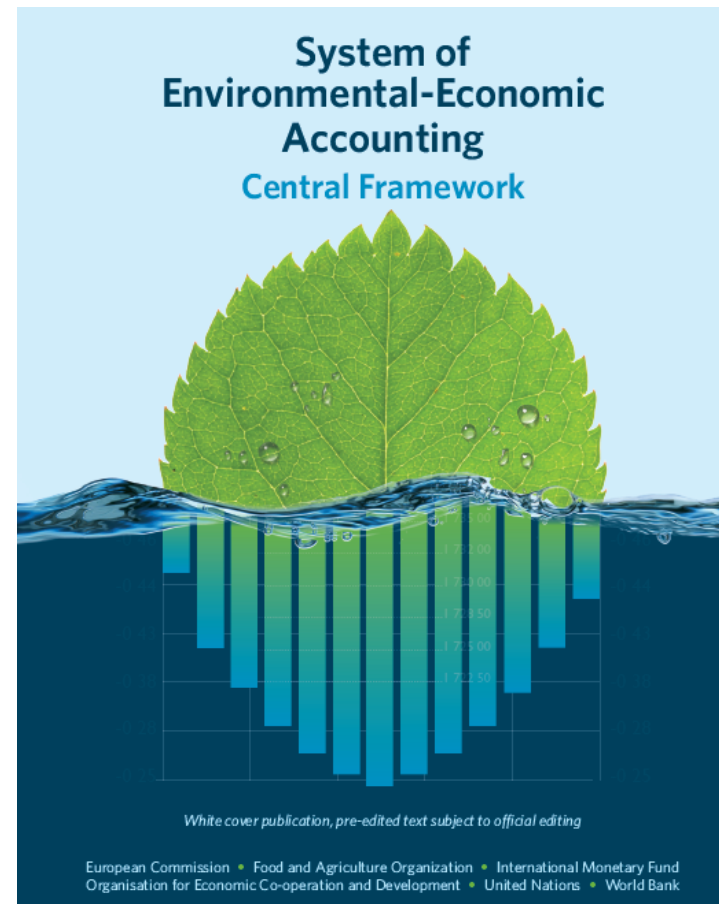
- Post-2015 UN development agenda/SDGs
- Green Growth/Green Economy
- Broader measures of progress/Beyond GDP
- Natural Capital Accounting/ WAVES
- Aichi targets (e.g. Target 2)
- Poverty and environment
- TEEB





## Recent advances - SEEA

- Internationally agreed statistical framework to measure environment and its interactions with economy
- SEEA Central Framework adopted as international statistical standard by UN Statistical Commission in 2012
- Developed through inter-governmental process
- Published by UN, EU, FAO, IMF, OECD, WB





## The Suite of SEEAs

- 1993** Handbook – interim publication
- 2003** Updated SEEA handbook – manual of best practices
- 2006** UNSC decided to elevate SEEA to an international standard
  
- 2012** **SEEA – The Central Framework (international standard)**
- 2013** **SEEA – Experimental Ecosystem Accounting**
- 2013** **SEEA – Applications and Extensions**

### **Subsystems:**

- SEEA – Water (adopted in 2007)
- SEEA – Energy
- SEEA – Agriculture



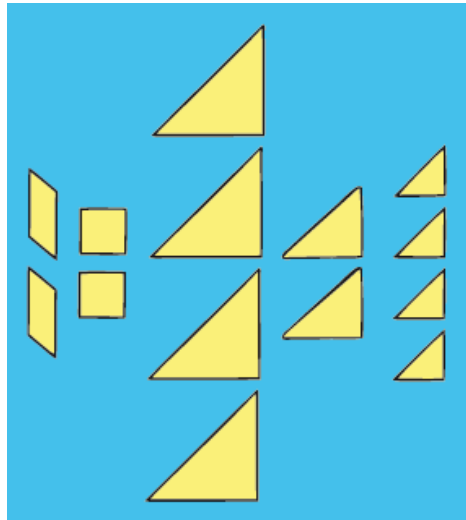
## Information is vital ...and it needs to be integrated

- The economy impacts on the environment and the environment impacts on the economy
- To understand these linkages we need to integrate environmental and economic information
- This is the explicit purpose of the SEEA

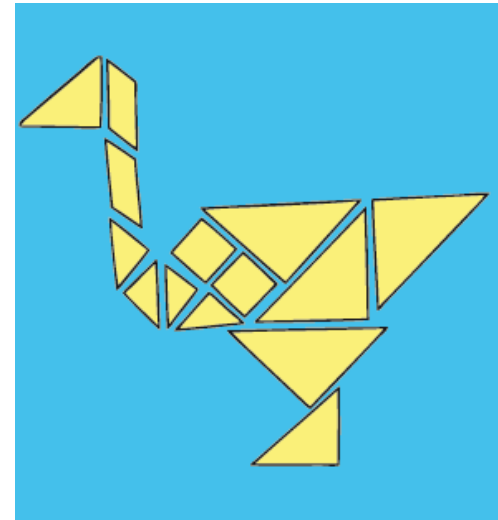
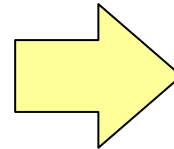




The System of Environmental-Economic Accounting (SEEA) provides the framework for transforming sectoral data into integrated policy-relevant information.



**Sectoral Data**



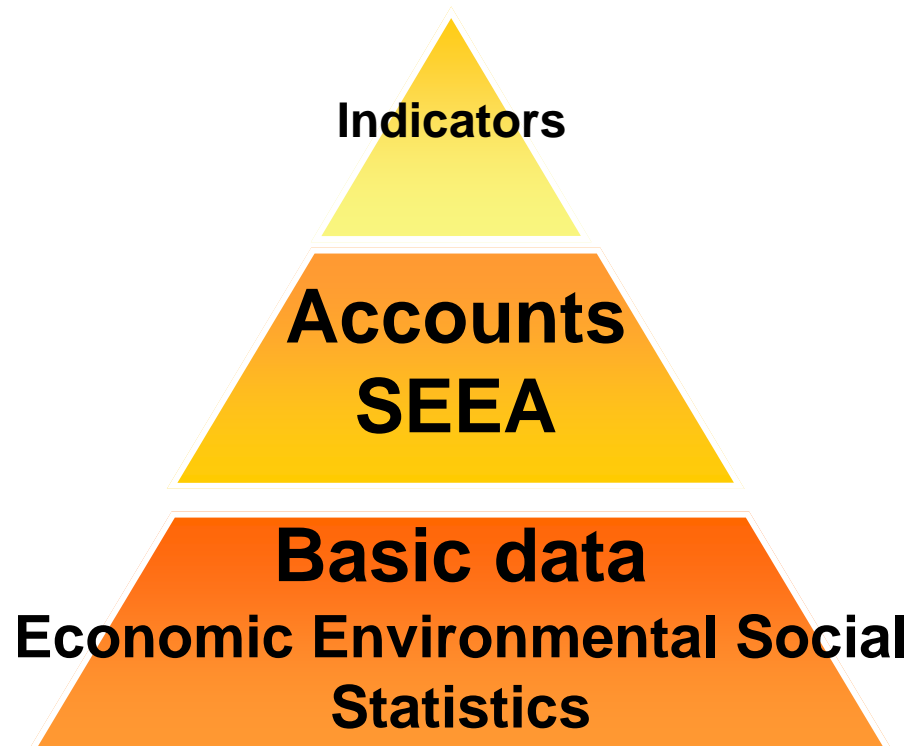
**Integrated information**

**Integrated information provides a comprehensive picture to support policy making.**



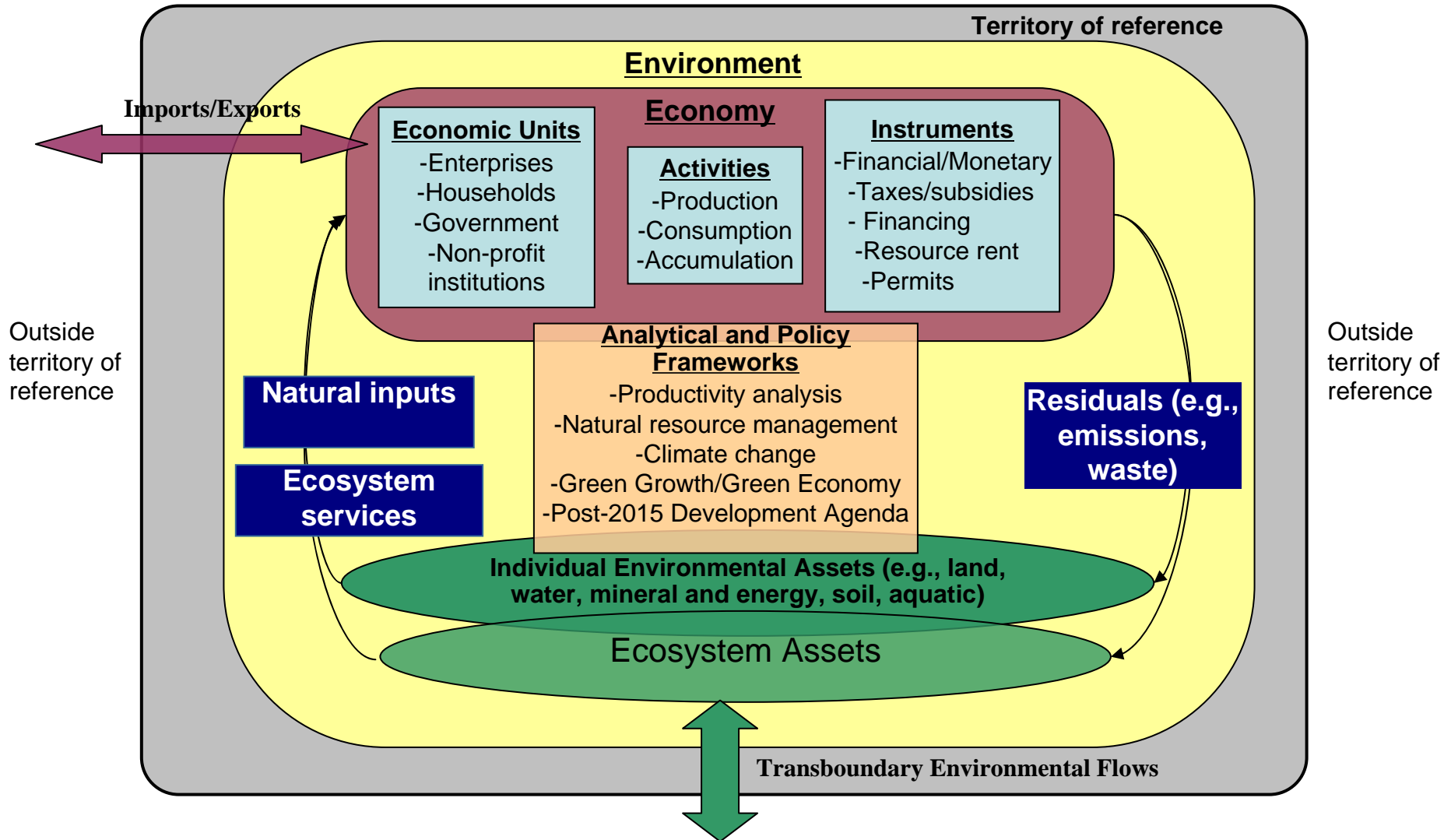
## Integrated statistics

- Linking policy needs and statistics
- Understanding the institutional arrangements
- Integrated statistical production process/chain and services
- Consistency between basic data, accounts and tables and indicators





## SEEA Conceptual Framework







## The SEEA Central Framework Accounts

- 1. Flow accounts:** supply and use tables for products, natural inputs and residuals (e.g. waste, wastewater) generated by economic activities.
  - physical (e.g. m<sup>2</sup> of water) and/or monetary values (e.g. permits to access water, cost of wastewater treatment, etc.)
- 2. 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)
- 3. Activity / purpose accounts** that explicitly identify environmental transactions already existing in the SNA.
  - e.g. Environmental Protection Expenditure (EPE) accounts, environmental taxes and subsidies
- 4. Combined physical and monetary accounts** that bring together physical and monetary information for derivation indicators, including depletion adjusted aggregates

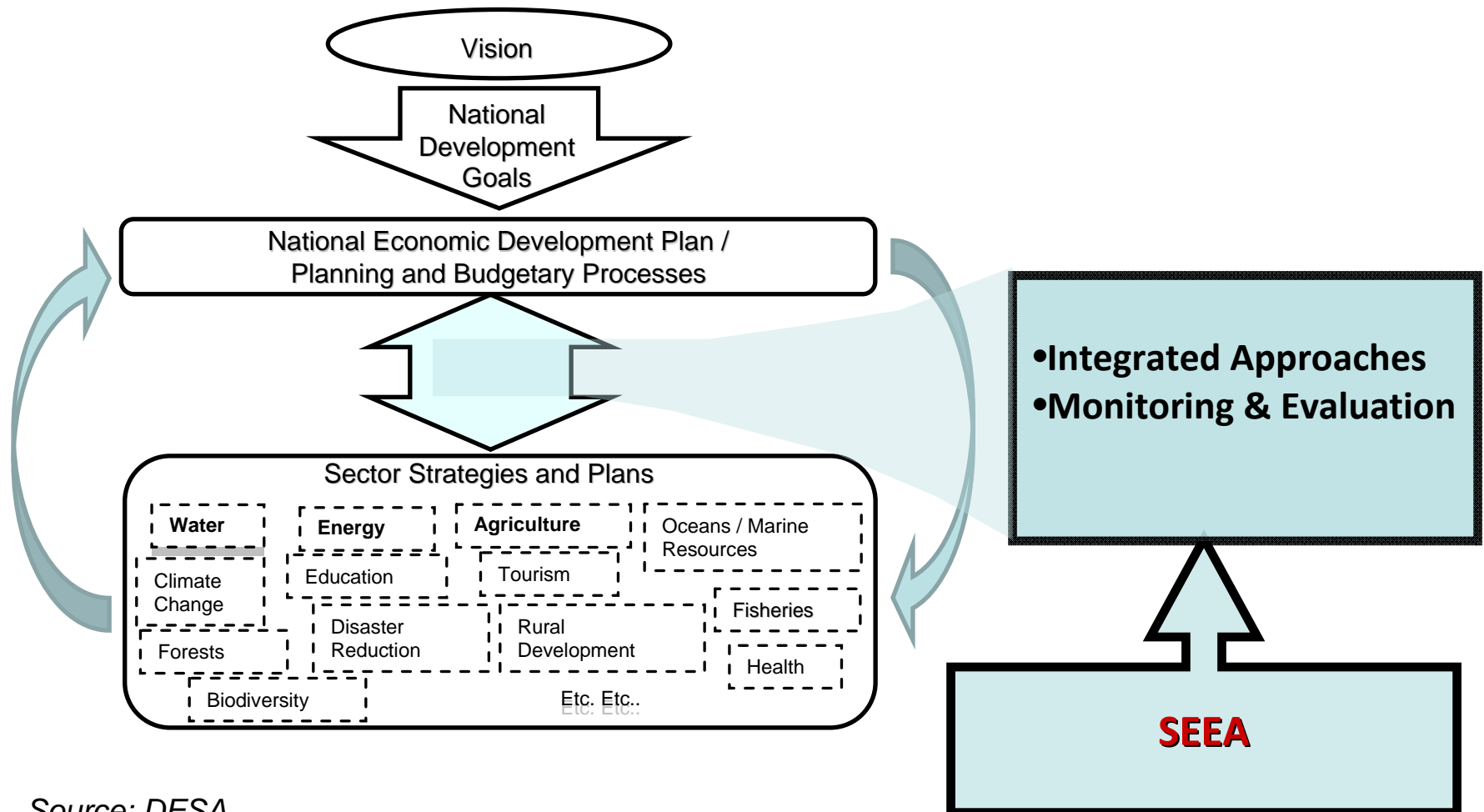


# SEEA as a monitoring framework for sustainable development policy



## Defining Goals/Targets/Indicators at country level

- **Linked to National Development Planning Process**





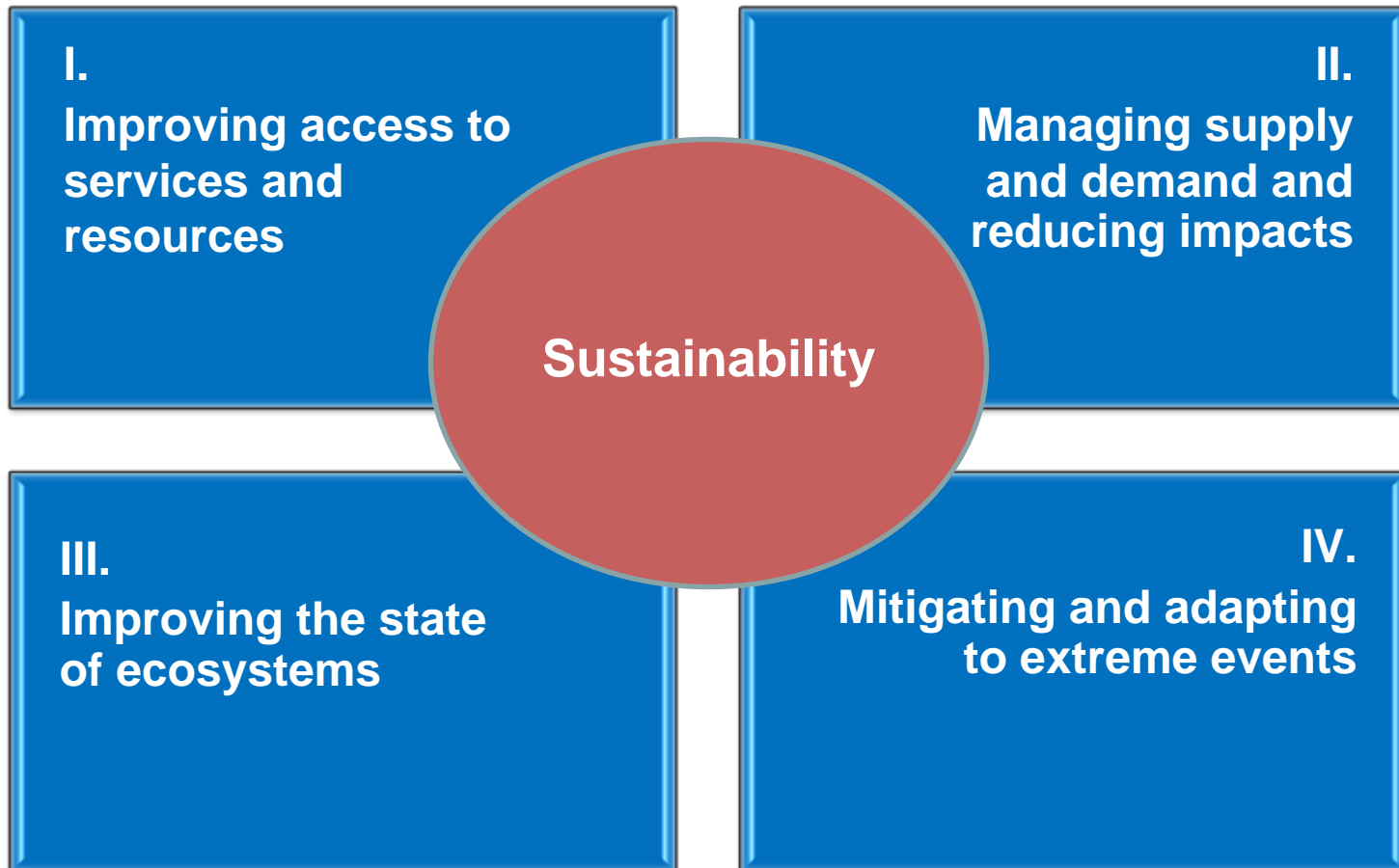
## BPoA and MSI: Thematic areas

Identifies priority areas for SIDS :

- Climate change
- Natural and environment disaster
- Waste management
- Marine
- Freshwater
- Land
- Energy
- Tourism
- Biodiversity
- Transport
- Science
- Human Resources
- LDC graduation
- Trade
- Sustainable capacity development
- Sustainable production & consumption
- Enabling environment (governance)
- Health
- Knowledge
- Culture



## The SEEA Policy Quadrants





## Quadrant I: Improving access

### I. Improving access to services and resources

### Key information in this quadrant (household sector related):

- Costs associated with the provision of services to households
- Investments in network infrastructure
- Employment and compensation in household production units
- Household consumption and disposable income
- Poverty and inequality



## Quadrant 1. Improving access to services and resources

Issue sub-category	SEEA Accounts
Costs of provisioning of services	Water flow, Energy flow
Equity of natural resource exploitation	Materials and Energy Flow Accounts
Losses in distribution (water, energy, food)	Materials and Energy Flow Accounts
Quantity of resources used	Mineral and energy asset accounts, Land, EEA
Sustainability of resource exploitation	Mineral and energy asset accounts, Land, EEA
Tourism	Land, EEA



## Quadrant II: The economy and the environment

### II. Managing supply and demand

#### Key information in this quadrant:

- Efficiency of production
  - Decoupling
- Efficiency of consumption
  - Footprint indicators
- Costs of production and payments by users (e.g. fees, taxes, rents, permits, etc.)
- Employment and compensation
- Financing (who pays for investments and current costs)
- Depletion
- Solid waste and emissions
- Environmental protection and resource management expenditures
- Natural resource assets (e.g. fish stocks, etc.)





## Quadrant 2: Managing supply and demand

Issue sub-category	SEEA Accounts
Carbon and energy embedded in products	Materials and Energy Flow Accounts
Coordinating land use (e.g., watershed) and activities	Land, EEA
Decoupling indicators of emissions and resource use	Air emissions, Water accounts
Energy supply and demand	Energy, Materials and Energy Flow Accounts
Environmental goods and services sector	Environmental Goods and Services Sector statistics
Environmentally-adjusted aggregates for depletion	Mineral and energy asset accounts, Land, EEA
Fish stock and food supply	EEA
Forest stock and use; Deforestation	Forest/Timber



## Quadrant 2: Managing supply and demand

Issue sub-category	SEEA Accounts
Generation of emissions and wastes	Materials and Energy Flow Accounts
Green jobs	Environmental Goods and Services Sector statistics
Investment in infrastructure	Environmental protection expenditure accounts
Natural wealth and changes in natural capital	Mineral and energy asset accounts, Land, EEA
Resource efficiency (e.g., resource productivity); rent	Mineral and energy asset accounts, Land, EEA
Resource use of production and consumption	Mineral and energy asset accounts, Land, EEA
Sustainability of production and consumption	Materials and Energy Flow Accounts
Sustainable agriculture	Land, EEA
Sustainable economic development	Land, EEA
Water supply and demand	Water stock



## Quadrant III: Ecosystems

**III. Improving the state of the ecosystems**

### Key information in this quadrant:

- Ecosystem extent
- Ecosystem conditions
  - Water cycle
  - Carbon cycle
  - Nutrient cycle
  - Primary productivity
- Degradation
- Biodiversity
- Regulatory services provided by ecosystems



## Quadrant 3: Improving the state of the ecosystem

Issue sub-category	SEEA Accounts
Air quality: emissions and treatment	Air emissions
Ecosystems and biodiversity	Land, EEA
Endangered species	Land, EEA
Environmental impact of exploitation	All
Environmental protection expenditures and resource management	Environmental protection expenditure accounts
Land use and land cover	Land, EEA
Nature and recreation; Protected areas;	Land, EEA
Sea level rise	Land, EEA
Solid waste and treatment	Waste
Stock of natural resources	Mineral and energy asset accounts, Land, EEA
Water quality: Effluents and treatment	Water flow, Energy flow



## Quadrant IV: Extreme Events

**IV. Mitigating and  
adapting to  
extreme events**

### Key information in this quadrant:

- Natural disasters
- Investments for mitigation
- Investments for adaptation



## Quadrant 4: Mitigating risks and adapting to extreme events

Issue sub-category	SEEA Accounts
Adaptation to climate change and extreme events	Environmental protection expenditure accounts; Environmental Goods and Services Sector statistics
Capacity and capacity building	Diagnostic
Compensation for environmental damages	Environmental taxes and subsidies, EEA
Contaminated land (e.g., brownfields)	Land, EEA
Coordination of sustainability policies	Diagnostic
Education and awareness	Diagnostic
Effectiveness of policy instruments	All
Environmental research	Diagnostic
Expenditures on mitigation (e.g., technologies)	Environmental protection expenditure accounts
Extreme events: floods, landslides, heat waves, droughts, etc.	Environmental protection expenditure accounts



## Quadrant 4: Mitigating risks and adapting to extreme events

Issue sub-category	SEEA Accounts
Greenhouse gas emissions	Materials and Energy Flow Accounts
Investment and incentive infrastructure	Diagnostic
Legislative and regulatory infrastructure	Diagnostic
Progress of societies	All
Residuals in food	Materials and Energy Flow Accounts
Urbanization and urban planning	Land, EEA



# Implementation Strategy for the SEEA Central Framework





## Background

- SEEA CF adopted by UNSC in 2012
  - SEEA implementation should be a **long-term program**, to be implemented **flexibly and incrementally**, giving full consideration to **national circumstances and requirements**
  - Requested UNCEEA to develop an implementation strategy
- Implementation strategy endorsed by 2013 UNSC
  - Practical actions that can be taken by international organizations and national statistical systems to maximise the extent to which SEEA is implemented in the short to medium-term



## Current state of play

- At the national level, many countries already have extensive environmental-economic accounting programs
  - Eg Australia, Canada, China, Colombia, Italy, Mexico, Netherlands, Norway, Philippines, South Africa, Sweden
- There are also a range of international initiatives relevant to environmental-economic accounting
  - WAVES (Wealth Accounting and the Valuation of Ecosystem Services) – World Bank
  - Green Growth Strategy – OECD
  - Green Economy Initiative – DESA, UNEP, UNDP
  - Poverty and Environment Initiative - UNDP
  - EU strategy for Environmental Accounting – European Commission



## Objective

- To assist countries in the adoption of the SEEA Central Framework as the measurement framework for environmental-economic accounts and supporting statistics, and
- To establish incrementally the technical capacity for regular reporting on a minimum set of environmental-economic accounts with the appropriate scope, detail and quality



## Flexible and modular approach

- Countries differ in terms of their
  - specific environmental-economic policy issues
  - level of statistical development.
- Accordingly, countries may
  - prioritize the accounts they want to implement over the short to medium-term
  - based on the most pressing policy demands
- The flexible and modular approach is operationalized by a number of phases

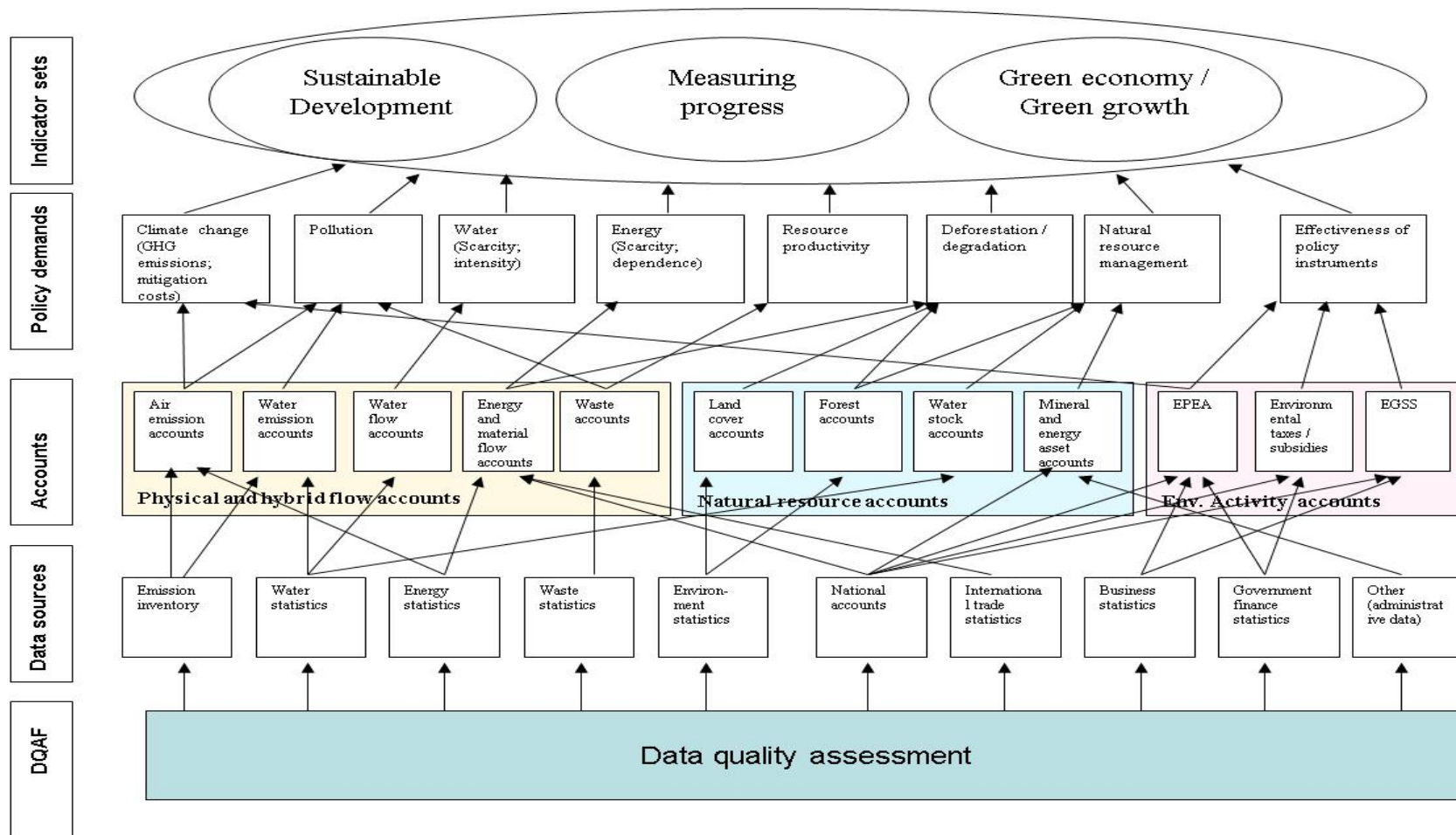


## Four phases

1. First phase – establish national institutional arrangements
  2. Second phase – self assessment using diagnostic tool
  3. Third phase -- data quality assessment
  4. Fourth phase – preparation of strategic development plan
- These phases would be supported by international activities



## Diagnostic tool





## Implementation activities

- Technical assistance and training
- SEEA implementation guide, compilation manuals, diagnostic tools, technical notes, data quality assessment framework and training materials
- Core sets of SEEA tables for data collection and reporting
- Creation of partnerships at global, regional and national level, including cooperation with the policy and scientific communities
- Advocacy and communication



# Considerations for SEEA implementation

- Strategic approach to the implementation
  - National Strategies for the Development of Statistics (NSDS) should be linked to strategic planning frameworks such as the National Development Strategies, National Sustainable Development Strategies (NSDS) and National Biodiversity Strategies and Action Plans (NBSAP)
- Linking the implementation to policy demands
  - The SEEA can serve as the statistical infrastructure in response to existing policy frameworks such as Post 2015 Development Agenda, Natural Capital Accounting and Wealth Accounting and Valuation of Ecosystem Services (WAVES), green economy/green growth, sustainable production and consumption (SPC), etc





## Considerations for SEEA implementation

- Bottom-up approach
  - countries owning the implementation process and agreeing on national implementation strategies and implementation plans
- Sub-regional and regional approach
  - sub-regional organizations have played important roles in bringing together countries, compiling existing statistics, promoting standards and developing capacity in countries and fostering south-south cooperation
- Linked to the 2008 SNA implementation programme and the global strategy for agriculture and rural statistics
- Stages of implementation based on national priorities
  - 2016 baseline
  - 2020 medium-term implementation



## Outcome of the SEEA Seminar in Samoa, 20-23 August 2013

- Recognizes the SEEA as a promising framework for improving coordination and develop integrated environment statistics in the Pacific region.
- Commitment of the countries to start working in developing a programme on integrated environmental-economic accounting starting from selected topics based on policy priorities and statistical development
- A way forward to establish a regional programme on environment statistics based on the SEEA which will be submitted to the Pacific Statistics Steering Committee for consideration



# Upcoming SEEA Seminars and Expert Group meetings in 2013

- National SEEA Seminar in Brazil (18 Sep, Brazil)
- Regional SNA and SEEA Seminar in the Latin American and Caribbean Region (17-20 Sept, Brazil)
- SIAP Country Course on SEEA (23-27 September, Malaysia)
- Valuing and Accounting for the Environment in the Asia-Pacific Region (8-10 October, Bangkok)
- London Group on Environmental Accounting (12-14 November, London)
- Expert Group Meeting for Water Accounts and Statistics (November 18-20, New York)
- Testing of the SEEA Experimental Ecosystem Accounting (November 20-22, New York)
- GCC meeting for SEEA (2<sup>nd</sup> week of December, Qatar)
- CARICOM meeting for SEEA (early 2013)



## Reference Material

### Briefing notes:

Briefing note on SEEA Central Framework:

<http://unstats.un.org/unsd/envaccounting/Brochure.pdf>

Briefing note on SEEA Experimental Ecosystem Accounting:

[http://unstats.un.org/unsd/envaccounting/workshops/int\\_seminar/note.pdf](http://unstats.un.org/unsd/envaccounting/workshops/int_seminar/note.pdf)

Briefing note on SEEA Water and International Recommendations for Water Statistics (IRWS)

[http://unstats.un.org/unsd/envaccounting/WWAP\\_UNSD\\_WaterMF.pdf](http://unstats.un.org/unsd/envaccounting/WWAP_UNSD_WaterMF.pdf)

### Methodological publications:

SEEA Central Framework:

[http://unstats.un.org/unsd/envaccounting/White\\_cover.pdf](http://unstats.un.org/unsd/envaccounting/White_cover.pdf)

SEEA Experimental Ecosystem Accounting:

<http://unstats.un.org/unsd/statcom/doc13/BG-SEEA-Ecosystem.pdf>

SEEA Applications and Extensions:

<http://unstats.un.org/unsd/statcom/doc13/BG-SEEA-AE.pdf>

Library – searchable library of publications (e.g. country case studies, methodological publications, etc.)

<http://unstats.un.org/unsd/envaccounting/ceea/archive/>

Research agenda accompanying SEEA-Experimental Ecosystem Accounting

<http://unstats.un.org/unsd/statcom/doc13/BG-SEEA-ResearchAgenda.pdf>

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Thank you