

1stDay -15 April 2016:

System of Environmental-Economic Accounting

EEA was born at the crossroads of two interrelated intellectual and political development processes. The first mainly belongs to the discipline of Economics, confronted with long-standing criticism to GDP as a measure of overall well-being, including the need to take environmental degradation into account. The second is linked to the need to better link economic considerations to overall sustainable development processes, as a key to support integrated policy-making. The response to this has led to the development, in countries' own economic accounting systems (System of National Accounts, SNA), of satellite systems of accounts describing Economy-Environment relationships.

The System of Environmental-Economic Accounting (SEEA) is a growing family of documents, published by the most important international statistical agencies and endorsed by the United Nations Statistical Commission, providing the necessary methodological specifications – frameworks, concepts, definitions, classifications, essential elements of accounting tables, for the compilation of environmentally-relevant data that are systematically connected and comparable with more traditional economic data in National Accounts. Such data allow for analytical uses that would otherwise not be possible or not be based on coherent data.

The presentation introduces basic SNA concepts that are common to the SEEA-Central Framework (CF) and SEEA Agriculture frameworks, concerning among others the definition of the national economy, the production boundary, the economic units and their functions in the economic system, the different institutional sectors' characteristics and the classification of economic activities into industries.



System of Environmental-Economic Accounting

ENVIRONMENTAL AND ECONOMIC ACCOUNTING TRAINING

APRIL 15 – 17, 2016 – ENTEBBE, UGANDA

ENVIRONMENT – TEAM
FAO STATISTICS DIVISION



Contents

- Why environmental satellite accounts?
- The System of Environmental-Economic Accounting (SEEA) family
- Integration and implementation
- Basic national/environmental accounting concepts used in SNA, SEEA-Central Framework (CF), SEEA Agriculture
 - > Defining the economy

Why environmental satellite accounts?



SEEA



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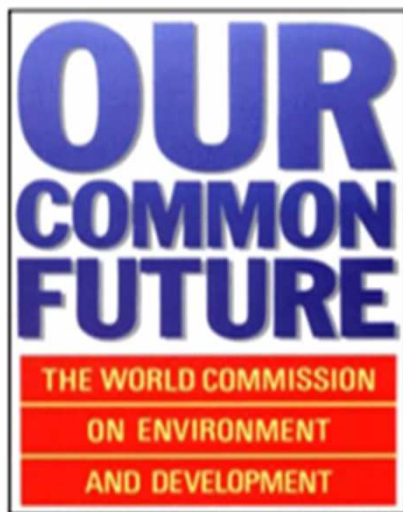


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National Accounts are a powerful tool, but they only tell one part of the story

Robert Kennedy, 1968: GDP “measures everything in short, except that which makes life worthwhile”.

Growing concerns on the impacts of economic activities on the natural environment called for the development of extensions to the System of National Accounts (not only environmental!)



In 1992 the RIO conference launched the idea of having the accounting system play a role in responding to these calls.

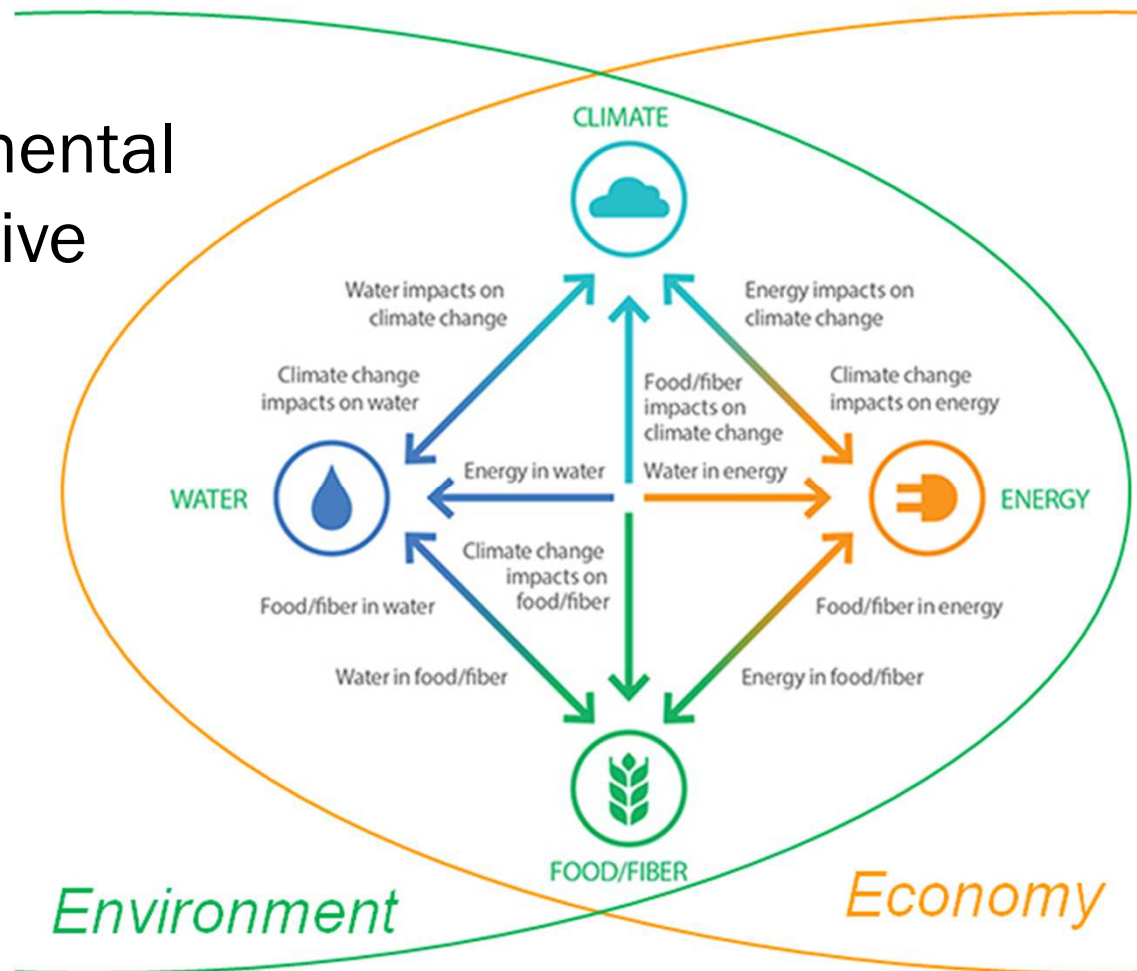
Progress to now includes methodological developments, experimentations, manuals and further calls for improvements, such as, recently, the Stiglitz Commission's.

Information needs of sustainable development (SD) policy

- Sustainable Development Policy should:
 - > Take an **integrated approach**, helping understand interactions and tradeoffs between the different realms of sustainability
 - > Be **based on** rigorously established **evidence**
- To achieve this, an information system is needed to support policy analysis and decisions, which provides integrated information on:
 - > The multiple issues relevant to sustainable development
 - > The interconnections between these issues
- The System of Environmental Economic Accounting (SEEA) responds to these information needs *as far as the environment and its interaction with the economy is concerned.*

Integration of perspectives on Environment and Economy: the food-water-energy-climate nexus example

Environmental
perspective



National
Accounts
perspective

Background material/notes:

☐ Robert Kennedy on limits of GDP, 1968:

<http://www.theguardian.com/news/datablog/2012/may/24/robert-kennedy-gdp>

☐ UN Conference on Environment and Development in 1992:

<http://www.un.org/geninfo/bp/enviro.html>

☐ Report of the World Summit on Sustainable Development in 2002:

http://www.unmillenniumproject.org/documents/131302_wssd_report_reissued.pdf

☐ UN Conference on Sustainable Development in 2012:

<https://sustainabledevelopment.un.org/rio20>

☐ The “Stiglitz” Commission report 2009:

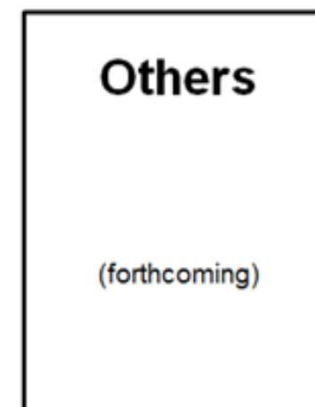
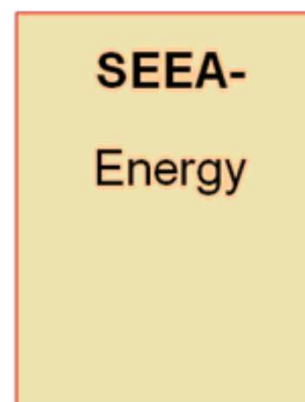
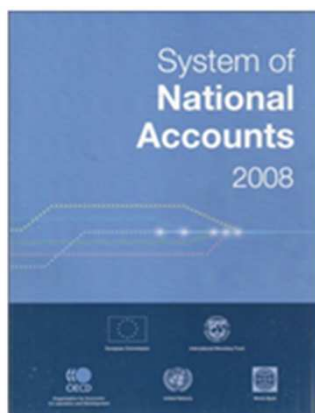
http://www.insee.fr/fr/publications-et-services/dossiers_web/stiglitz/doc-commission/RAPPORT_anglais.pdf

The System of Environmental-Economic Accounting (SEEA) family



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The SNA and SEEA: Systems of integrated information



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The System of Environmental Economic Accounting - Central Framework (SEEA-CF)

- Internationally agreed statistical framework to **measure the environment and its interactions with economy**
- Adopted as an **international statistical standard** – like the SNA – by the UN Statistical Commission (2012)
- It describes:
 - > The economic facts in their physical dimension, i.e. in their importance for the environment (Drivers, Pressures)
 - > The way economic facts are influenced by environmental concerns (Responses)
- It also provides a broader view (than the SNA's) on an economy's asset basis

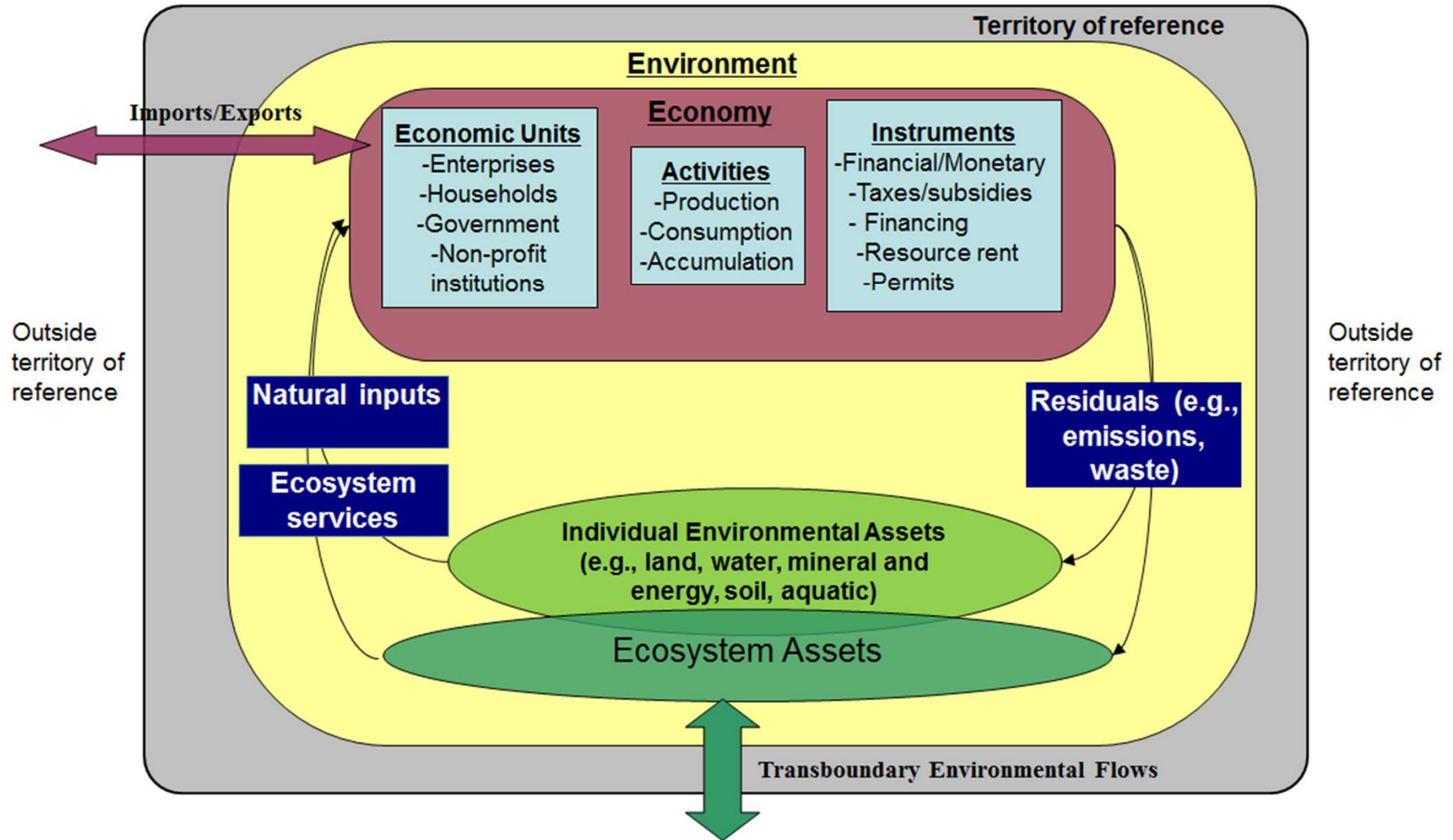


The SEEA for Agriculture, Forestry and Fisheries

- Application of the SEEA-CF to Agriculture, Forestry and Fisheries and to the environmental assets relevant for them
- Examined by the **UN Statistical Commission** (march 2016), which:
 - > urged its revision by the UN Committee of Experts on environmental economic accounting (UNCEEAA), given the “importance [...] in support of the implementation of the SEEA Central Framework for the 2030 Agenda for Sustainable Development”.
 - > encouraged its “expedient implementation in countries”.



SEEA Conceptual Framework



Background material/notes:

□ SEEA-page at UNSD – providing all useful links:

<http://unstats.un.org/unsd/envaccounting/seea.asp>

Integration and implementation



SEEA



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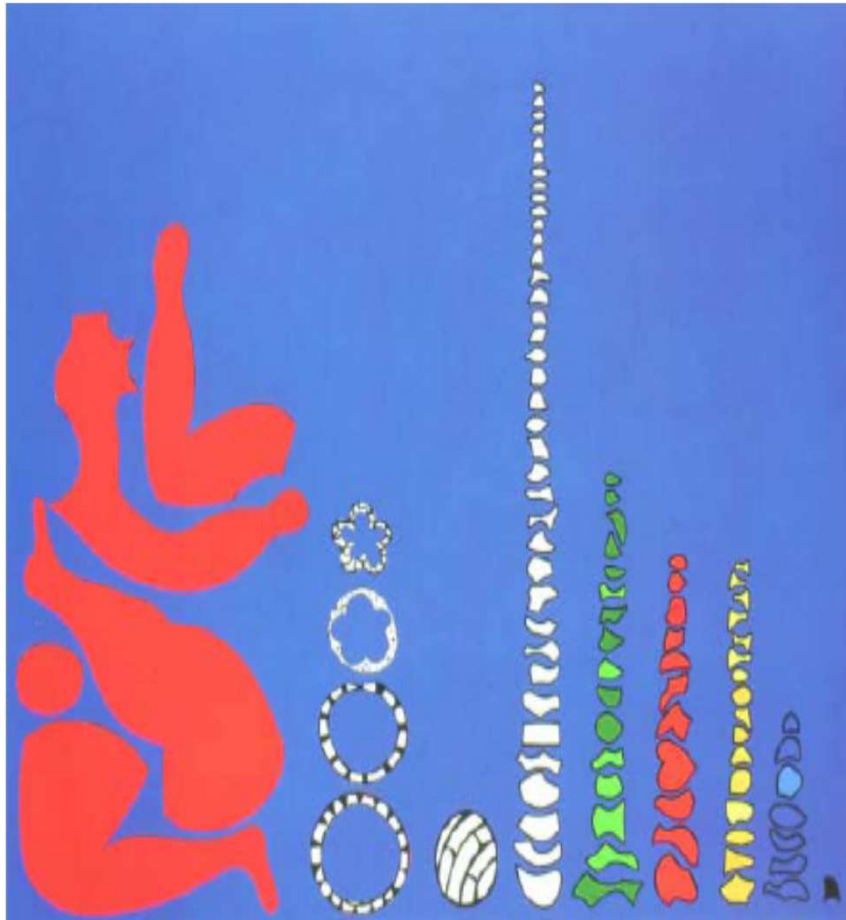


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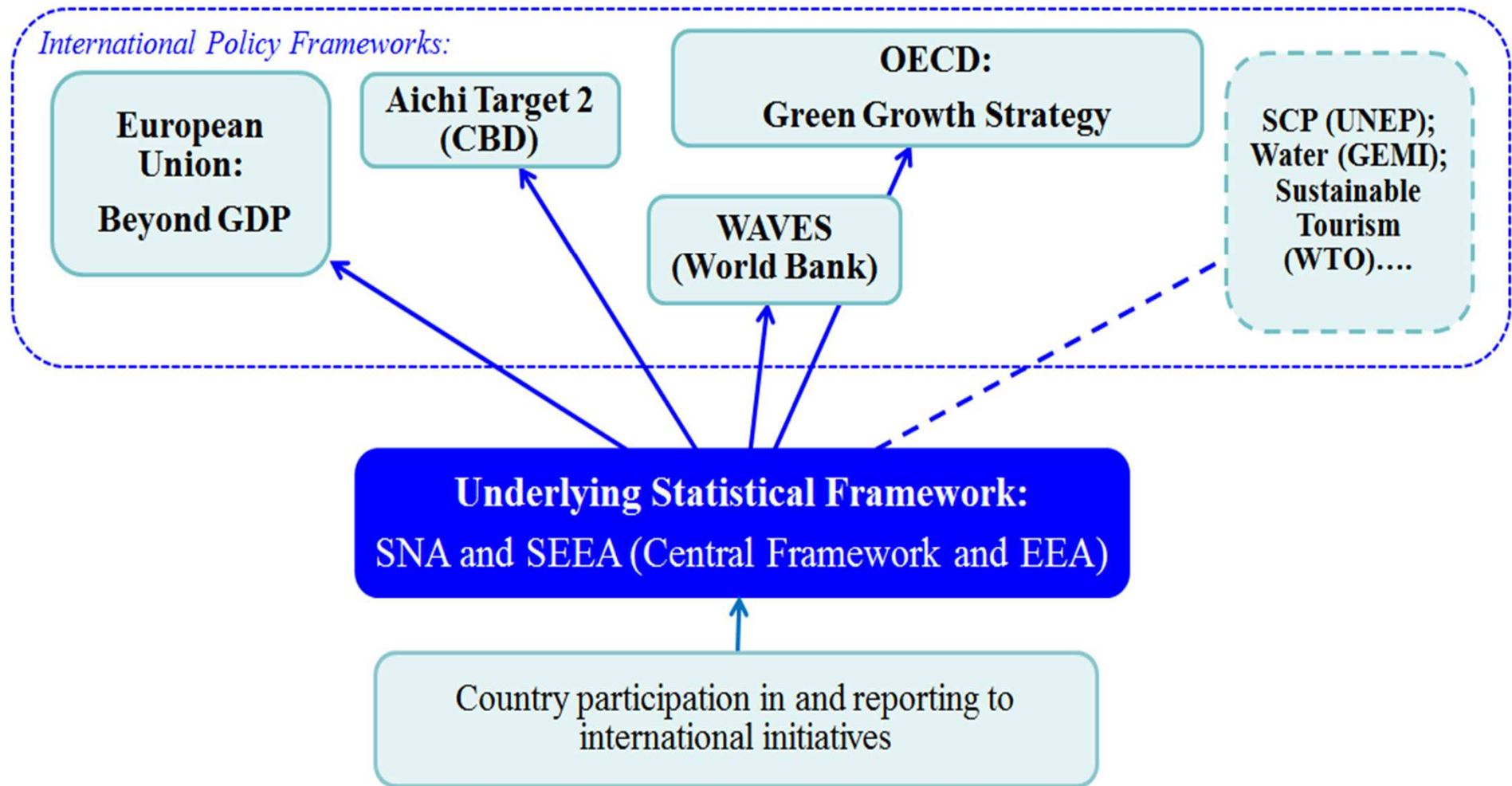
Integration of environmental-economic information means a number of things

- Use of the same concepts
 - > System boundaries
 - > Definitions
 - > Classifications
 - > Methods
- Presentation of different information using common format and classifications
- Presentation of descriptive statistics and indicators on pressure, state, response
- Construction of analytical models for environmental-economic analysis

Silo Approach → Integrated Statistics



SEEA has been adopted by many international policy initiatives



Supports to implementation

- Implementation Strategy
- Development of in-depth modules like the SEEA-Agriculture
- Implementation Guide and Diagnostic Tool
- Technical Notes and Core Tables
- Compilation Guidelines
 - > Water
 - > More being developed...
- SEEA Training

Background material/notes:

☐ Beyond GDP, EU:

http://ec.europa.eu/environment/beyond_gdp/index_en.html

☐ Aichi Biodiversity Targets - Convention on Biological Diversity:

<https://www.cbd.int/sp/targets/>

☐ Green growth strategy, OECD:

<http://www.oecd.org/env/towards-green-growth-9789264111318-en.htm>

☐ [Wealth Accounting and the Valuation of Ecosystem Service- \(WAVES\)](https://www.wavespartnership.org/) –
World Bank

<https://www.wavespartnership.org/>

☐ [Sustainable Consumption and Production - UNEP](http://www.unep.org/rio20/About/SustainableConsumptionandProduction/tabid/102187/Default.aspx)

<http://www.unep.org/rio20/About/SustainableConsumptionandProduction/tabid/102187/Default.aspx>

Basic SNA/SEEA-Central Framework (CF)/SEEA Agriculture concepts

- Defining the economy
 - The production boundary
 - Economic units – sectors and industries
 - ...

Defining the “Economy”

- Economic activities
 - > Production, Consumption, Accumulation
- Economic products
 - > Goods and services
- Economic assets
 - > Produced, Non-produced, Financial assets
- Economic units
 - > Establishments, enterprises, households, governments
- Economic territory
 - > Residence, geographic coverage

Constituents of an Economy

All institutional units residing in the economic territory of a country during the accounting period constitute its economy.

Constituents of an Economy

Institutional unit: an entity capable of owning assets, incurring liabilities, carrying out economic activities taking decisions on all aspects of economic life and engaging in transactions with other entities.

Economic Territory: The geographic territory administered by the government of the country within which persons, goods, and capital can circulate freely.

The economic territory in which an institutional unit has its centre of predominant economic interest [2008 SNA] is the residence of the unit.

Some Examples – Domestic Economy - Residence

1. A branch of a Kenian company in Uganda is resident of Uganda
2. Foreign students staying for three years are NOT considered residents.
3. A branch of Citi Bank (an American bank) in Uganda is a resident of Uganda.
4. Ugandan crew of a ship of an Italian company are residents of Uganda.
5. Non-residents are not considered to be owners of immovable assets.
6. Branch of foreign NPI serving residents households is treated as a resident NPISH.

The Production Boundary

- “Production is an activity carried out ... by an institutional unit that uses inputs of labour, capital and goods and services to produce outputs of goods and services” (2008 SNA, 6.24)
- In practice:
 - > Exclude things you do only for yourself
 - > Exclude household production of services for itself
 - Except rent of owner-occupiers & wages of domestic staff
 - > Include household production of goods for itself
 - Agricultural products, fishing, fuelwood, clothes, furniture, water, energy
 - > Include concealed and illegal activity

Types of Output and Production

- Market output
 - > Transactions between economic units at market prices
- Non-market output
 - > Not transacted at market prices (government education, health)
 - > Valued at cost of production
- Own-account production (within establishments)
 - > For own final consumption (e.g. subsistence agriculture) : INCLUDED
 - > For own final capital formation (e.g. building own house) : INCLUDED
 - > For own intermediate consumption : EXCLUDED (except ancillary activity)

Enterprises, Establishments and Industries

- Enterprises
 - > Institutional units from the perspective of being producers of goods and services
- Establishments
 - > Enterprises in a single location performing a single or predominant type of productive activity
- Industries
 - > Groupings of establishments undertaking similar types of productive activity

Principal, secondary ancillary activities

Principal activity:

- The activity whose value added exceeds that of any other activity carried out within the same unit.

Secondary activities

- A secondary activity is an activity carried out within a single producer unit in addition to the principal activity and whose output, like that of the principal activity, must be suitable for delivery outside the producer unit.

Ancillary:

- incidental to the main or secondary activities. It facilitates the efficient running of the enterprise but does not normally result in goods and services that can be marketed.

National Accounting practice

At its beginnings, NA was based on limited information

⇒ **Estimation** based on administrative data, expert knowledge, models, indicators, common sense was and is common, accepted, practice

surveys are usually not *ad hoc*, often also not harmonised

- Adaptation of data is pervasive. Concepts come first.

P.s. «Volume» measures are in crisis

National Accounting practice

Three perspectives on GDP converge in the estimation:

- The production view (supply side)
- The demand view (use side, expenses)
- The income view (production factors remuneration)

⇒ Pre-balancing based on expert judgment of solidity of information used and of trends, mathematical balancing

P.s. «Volume» measures are in crisis

National Accounting practice

Benchmarking: use of more complete info sets for certain years

- For changes in concepts and conventions (SNA revisions)
- For new data sources
- For better methodologies

⇒ Reconstruction of time series

P.s. «Volume» measures are in crisis

SNA framework

	<u>Industries</u>	<u>Final demand</u>	<u>Assets</u>
Sectors			Financial and produced assets, opening balance
Commodities	Output of goods and services		
	Intermediate demand	Final demand	Gross fixed capital formation
Wastes			
Sectors			Other changes in volume & holding gains/losses on financial & produced assets
			Financial and produced assets, closing balance

Background material/notes:

☐ System of National Accounts 2008:

<http://unstats.un.org/unsd/nationalaccount/sna2008.asp>

Key Messages

- National accounting is not only GDP
- Many aspects to defining the economy
- Measurement boundaries are important to understand
 - > Production boundary key determinant of the size of GDP
- Own- account activity needs special consideration
- Estimation, even based on scanty information, is common practice

Thank you!

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<http://www.fao.org/economic/ess/environment/en>