SEEA: THE INTERNATIONAL STANDARD FOR ENVIRONMENTAL-ECONOMIC ACCOUNTING

Carl Obst

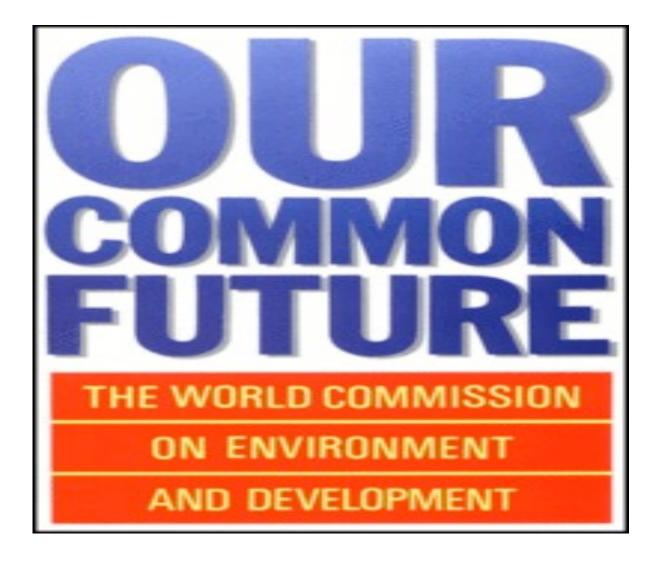
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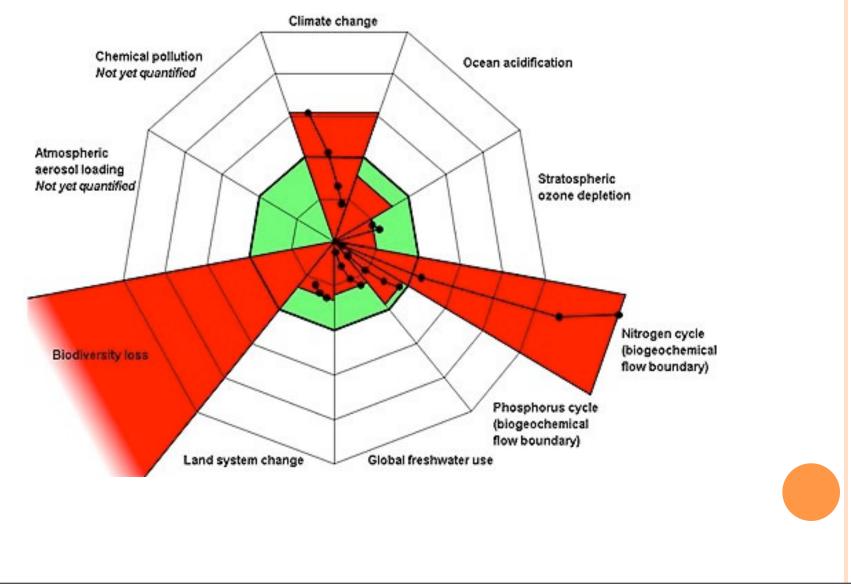
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SEEA HISTORY AND CURRENT PLANS

- Versions in 1993 & 2003 and various handbooks
- Technical leadership from the London Group
- 2012 UNSC adopted SEEA Central Framework as an international statistical standard
- 2013 SEEA Experimental Ecosystem Accounts and SEEA Applications and Extensions
- 2013 global implementation commencing

SEEA'S GROWING CONNECTIONS

Corporate accounting and reporting

- PUMA, The B Team, TEEB for Business, GIST
- Accounting and reporting standards (e.g. IIRC, GRI)
- Financial markets & risk analysis, UNEP-FI & NCD

• Academic community

Economists, Physical scientists, Geo-spatial community
IPBES, CBD, IPCC, Ecosystem Services Partnership, ESPA

International sustainable development initiatives

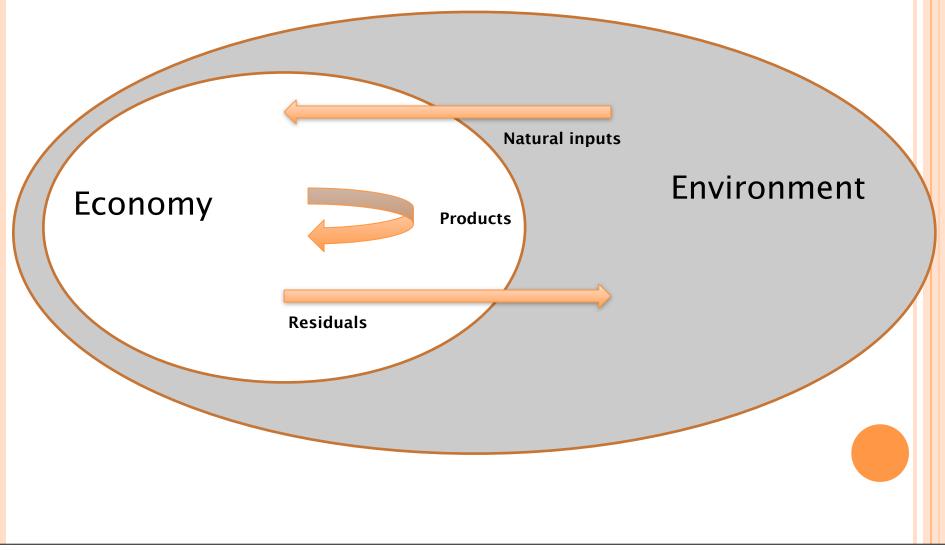
- Including development of Sustainable Development Goals (SDGs) and the post 2015 agenda + OECD, UNEP, World Bank (incl WAVES & Genuine saving), GGKP, GGGI, ...
- NGOs WWF, Conservation International, Nature Conservancy, World Resources Institute, ...
- Politicians : GLOBE network

• National initiatives

AN ACCOUNTING APPROACH







KEY ADVANTAGES OF SEEA

Broad conceptual approach not issue based

- National focus
- Potential at corporate / local levels

International standard

• Links to SNA

- Accounting principles
- Consistent classification, definitions, measurement boundaries
- Consistent aggregates, indicators
- Mainstreaming

COVERAGE OF THE SEEA

- Physical flow accounting
 - Energy, water, emissions, waste
- Accounting for environmental activities
- Natural resource accounting
 - Stocks, natural growth, extraction and depletion
- Land accounting
 - Changes in land use and land cover
- Ecosystem accounting



	Industries	Households	Accumulation	Rest of the world	Environment	Total
Supply table						
Natural inputs					Flows from the environment	Total supply of natural inputs
Products	Output			Imports		Total supply of products
Residuals						Total supply of residuals
Use table						
Natural inputs	Extraction of natural inputs	•				Total use of natural inputs
Products	Intermediate consumption	Household final consumption	Gross capital formation	Exports		Total use of products
Residuals						Total use of residuals

Industries	Households	Accumulation	Rest of the	Environment	Total
			world		
				Flows from the environment	Total supply of natural inputs
Output			Imports		Total supply of products
Residuals generated by industry	Residuals generated by final household consumption	Residuals from scrapping and demolition of produced assets			Total supply of residuals
	1				
Extraction of natural inputs					Total use of natural inputs
Intermediate consumption	Household final consumption	Gross capital formation	Exports		Total use of products
Collection & treatment of waste and other residuals	←	Accumulation of waste in controlled landfill sites		Residual flows direct to environment	Total use of residuals
	Output Output Residuals generated by industry Extraction of natural inputs Intermediate consumption Collection & treatment of waste	OutputResiduals generated by industryResiduals generated by final household consumptionExtraction of natural inputsIntermediate consumptionIntermediate consumptionHousehold final consumptionCollection & treatment of wasteImage: Collection & treatment of waste	Output Residuals generated by final by industry Residuals generated by final household consumption Residuals from scrapping and demolition of produced assets Extraction of natural inputs Intermediate Household final consumption Gross capital formation Intermediate consumption Household final formation Gross capital formation Collection & treatment of waste Accumulation of waste in controlled	Output Imports Residuals generated by final by industry Residuals generated by final household consumption Residuals from scrapping and demolition of produced assets Extraction of natural inputs Intermediate Household final consumption Gross capital formation Exports Collection & treatment of waste Accumulation of waste in controlled Accumulation of waste in controlled Exports	World Flows from the environment Output Imports Residuals generated by final by industry generated by final household consumption Residuals from scrapping and demolition of produced assets Extraction of natural inputs Intermediate consumption Gross capital formation Intermediate consumption Accumulation of waste Exports formation

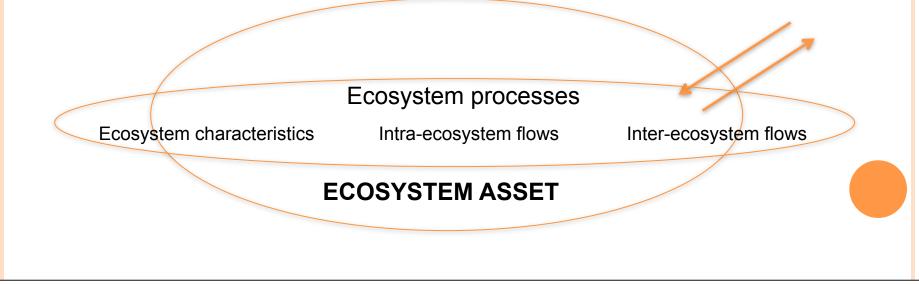
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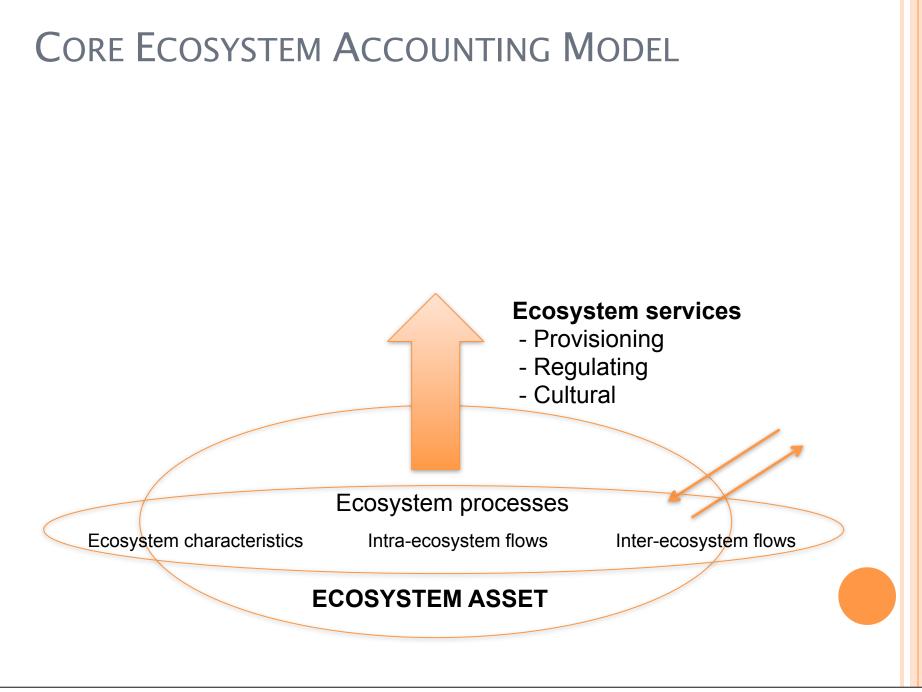
CORE ECOSYSTEM ACCOUNTING MODEL

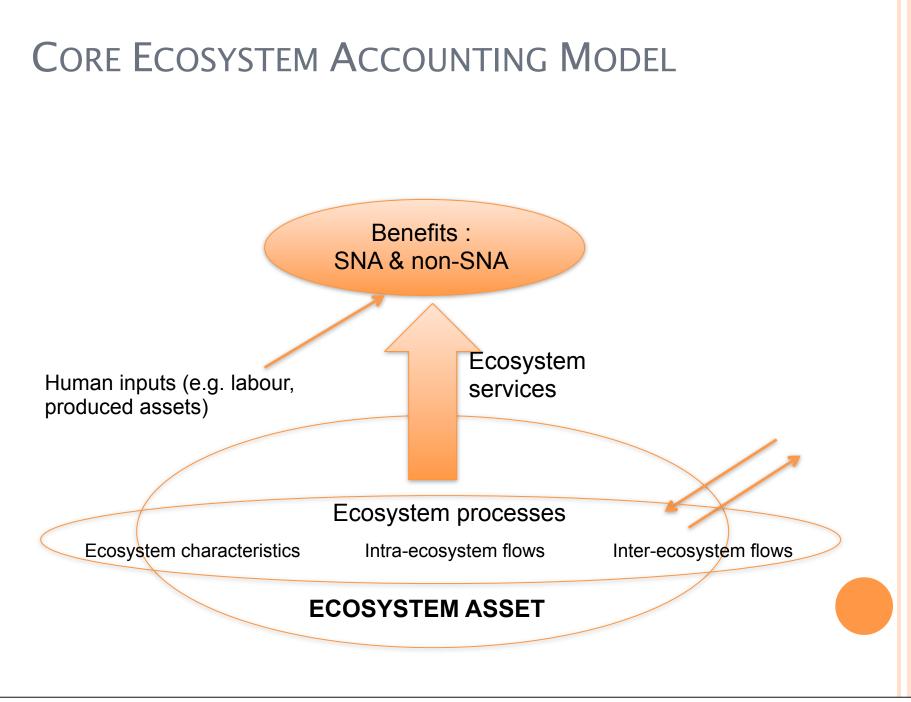
ECOSYSTEM ASSET

(e.g. forest, wetland, agricultural area, marine environment, or combinations in a region or landscape)

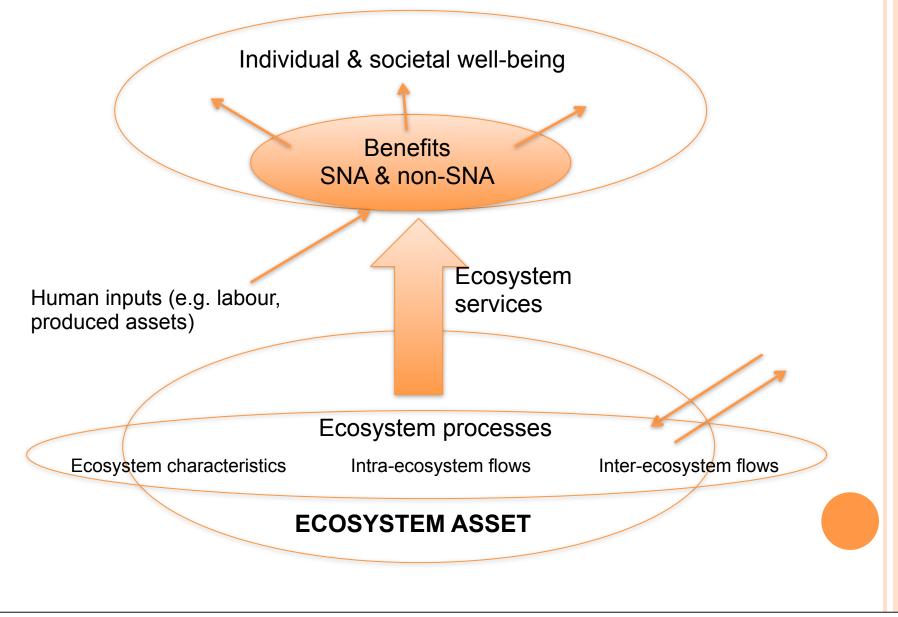
CORE ECOSYSTEM ACCOUNTING MODEL







CORE ECOSYSTEM ACCOUNTING MODEL



Aggregation and Valuation

- Judgements always required to evaluate relative importance of multiple pieces of information
- In economics prices are used to indicate relative value
- In physical sciences focus on assessment of systems and their key drivers but identification often difficult and situation specific
- Question is not the potential to aggregate to a single indicator but whether one has all of the information relevant to inform a course of action
- Choices of measurement boundaries critical

PRACTICAL WAYS FORWARD TO MEASURE ECOSYSTEMS

- Define spatial areas
- Measure changes in extent
- Select characteristics to reflect ecosystem condition and associated indicators
 - Water, carbon, soil, biodiversity
 - Reflect integrity, functioning of ecosystems
- Determine main ecosystem services for each area and indicators
- Use GIS techniques to bring together and present results
- Aggregate and model scenarios as appropriate

FINAL THOUGHTS

- Ambition is to get information used and have decisions better informed
- Challenge is to determine the right questions and structure relevant information
- SEEA provides a tool to integrate relevant information about the environment and the



References

- SEEA Central Framework http://unstats.un.org/unsd/envaccounting/White_cover.pdf
- SEEA Experimental Ecosystem Accounting http://unstats.un.org/unsd/envaccounting/ eea_white_cover.pdf
- SEEA Applications & Extensions <u>http://unstats.un.org/unsd/statcom/doc13/BG-SEEA-AE.pdf</u>