



Some lessons from SEEA for the measurement of sustainable tourism

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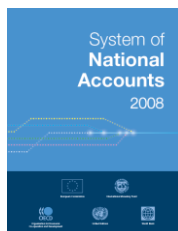
Environmental statistics and accounts, sustainable development

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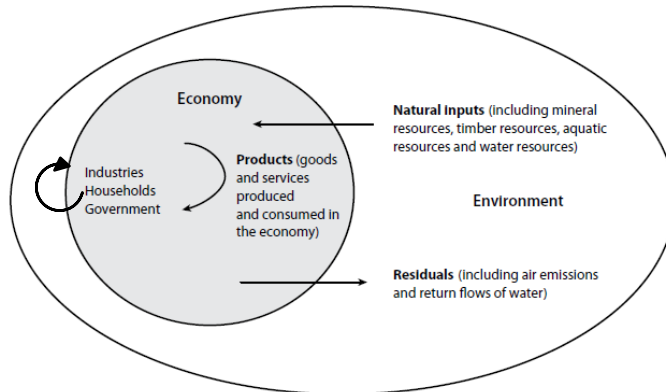
Scope of this presentation

1. *Types of SEEA accounts*
Central Framework, experimental ecosystem accts
2. *Experience developing SEEA in the EU*
3. *Ideas for sustainability aspects of tourism?*



Environmental accounts

Interrelations between the economy and the environment



2 types of SEEA CF accounts (1/2)

1. Physical accounts

- One account for each natural resource
 - **Energy, air emissions, water, etc.**
- Built around physical supply and use tables

	Industry	Industry 2	...	Households	Environment
Product 1					
Product 2					
...					

- Extra column for flows between environment and economy
- Use standard classifications ISIC and CPC



2 types of SEEA CF accounts (2/2)

2. Activity accounts

- *Focus on a part of the whole economy*
 - **'environmental sector'**
- *One account for each specific angle*
 - **Production, taxes, subsidies, expenditure, etc.**
- *Typical variables*
 - **Value added, employment, consumption, financing,...**
- *Use also special classifications of environmental activities (CEPA/CRoMA)*
 - **Mapped to ISIC & CPC for compilation, reporting and analysis**



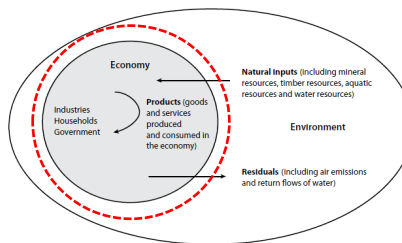
Recap 1: **Some ideas from SEEA CF for sustainable tourism**

- *Physical env. accounts: environmental impact of economic activity*
 - **complement tourism satellite account with physical environmental information**
- *Activity env. accounts: how to define a sub-set of the economy*
 - **'environmental goods and services sector' → 'sustainable tourism'**
 - **Special classifications crossing ISIC/CPC**

Ecosystem accounting

What if...

...we extended the scope of the economy to include natural capital?



- Experimental work
- Far less advanced than SEEA Central Framework

Ecosystem accounting

Two main differences with SEEA CF:

1. Based on geospatial information

- Maps & tables

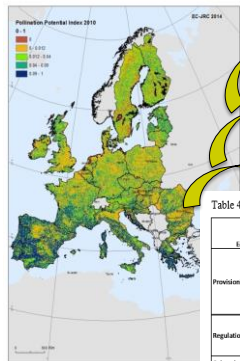


Table 4.2 Ecosystem extent account

Ecosystem type	Ecosystem extent	Ecosystem condition						Index
		Area	Vegetation	Soil	Water	Carbon	Index	

3. Ecosystem condition account (similar to SEEA EEA Table 4.3; see also SEEA EEA with changes in condition account)

Table 4.4 Ecosystem services supply account (LCEU by CICES)

Ecosystem service	Units	Land cover type							Provisional total
		Urban	Pasture	Cropland	Forest	Heath	Water	Other natural	
Fooding	kg meat	-	6,100	14,732	6,100	678	70	1,513	34,193
Drinking water extraction	10 ³ m ³ water	4,071	7,036	11,227	3,117	214	-	478	36,999
Crop production	10 ³ kg produce	-	-	1,868	-	-	-	-	1,868
Fodder production	10 ³ kg dry matter	-	533	251	-	-	-	-	784
Air quality regulation	10 ³ kg PM ₁₀	777	464	712	730	45	7	48	2,734
Carbon sequestration	10 ³ kg carbon	875	6,035	271	50,664	393	149	1,056	61,423
Cultural	Recreational cycling 10 ³ trips	2,480	1,861	2,611	1,056	30	51	238	9,123



Ecosystem accounting

2. Extension of "asset" and "production" concepts from national accounts

- **If there is an asset (say a forest), it is used in some form of production**
- **There is a service for society (provision of food, carbon sequestration, cultural visits)**
- **There is a flow of income**
- **There is somebody consuming**
- *Different "GDP measures"*
 - **Extension and condition of ecosystems affect value of assets and value of services provided**



Recap 2: Ideas from SEEA EEA for sustainable tourism

- *Geo-information systems for accounting*
- *Measurement of condition & degradation of ecosystems*
 - **Extensible to degradation of other touristic destinations (cities)?**
- *Link between tourism and ecosystem services*
 - **Alternative measures of gross value added, output, intermediate consumption,...**



Experience SEEA in Europe

Since 90's:

- **Developing methodology**
- **Pilot data collections**
- **Voluntary data collections**

Since 2000's:

- **Modular approach**
- **Strategy agreed with countries (co-ordination)**

Since 2010's

- **EU legal basis (=mandatory data collections)**
- **Database for some 30 countries**



European environmental accounts

Activity accounts

- **Environmental taxes**
- **Environmental goods and services sector ('environmental growth and jobs')**
- **Environmental protection expenditure**
- **Environmental subsidies***

Physical accounts

- **Material flows (=material extractions)**
- **Air emissions**
- **Energy flows**

Also forest accounts, water accounts



