



WORLD
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GOVERNANCE

Valuing Nature Sub-Forum
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Ecosystem Natural Capital Accounts (ENCA): Metrics and Governance Challenges

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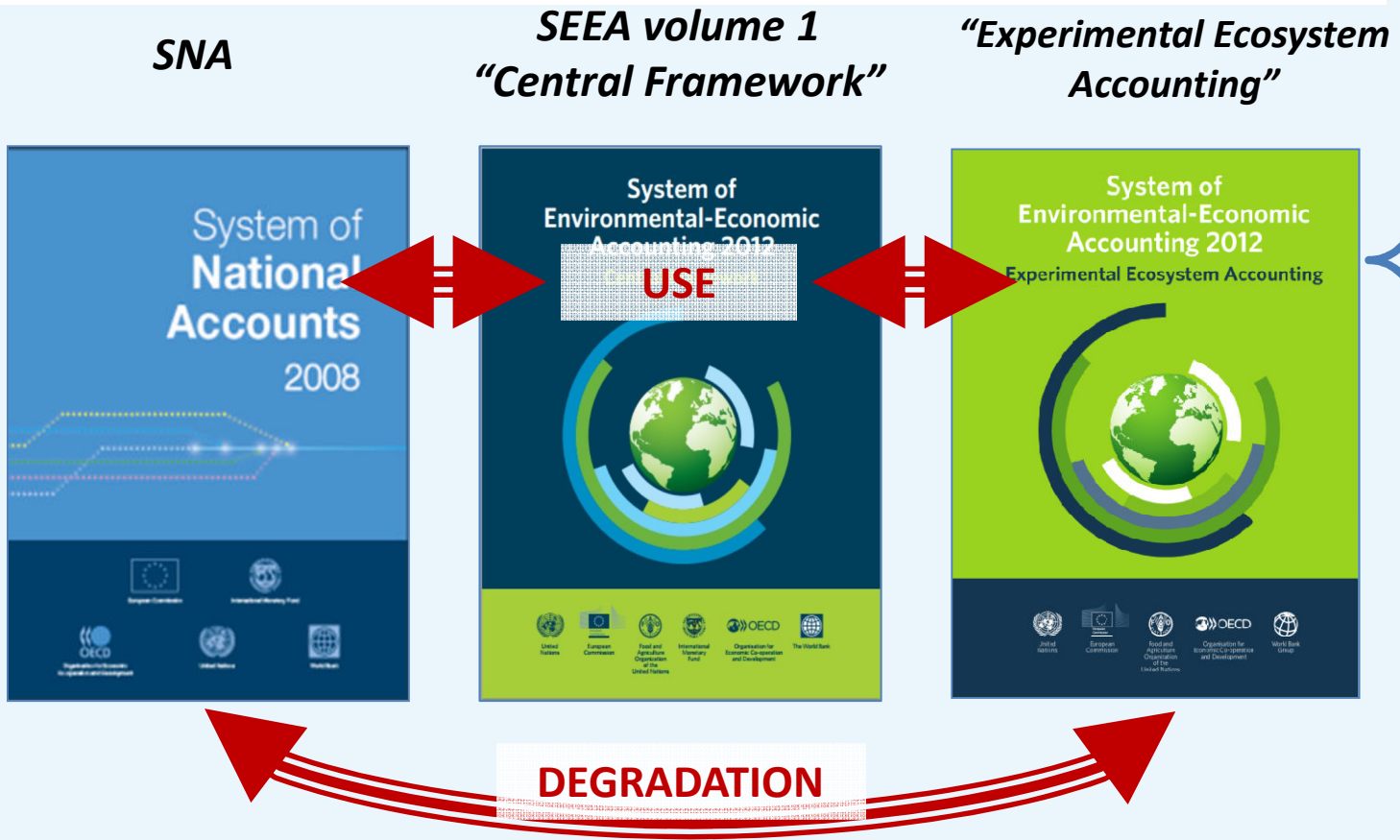
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Ecosystem Accounting : the International Statistical Context

The System of Environmental-Economic Accounts “Central Framework” (SEEA-CF) adopted by the UN Statistical Commission in 2012 as an international statistical standard on par with the System of National Accounts (SNA 2008) has been supplemented in 2013 by a volume on “Experimental Ecosystem Accounting” (SEEA-EEA). While the SEEA-CF is recommended for implementation, the SEEA-EEA which is a conceptual framework is now tested in various projects.

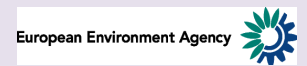
The CBD TS77 Ecosystem Natural Capital – Quick Start package (ENCA-QSP) is a contribution to the implementation of the SEEA.



**World Bank/
WAVES
Applications**



**AEE: SEEA/ECA
Ecosystem Capital
Accounts**



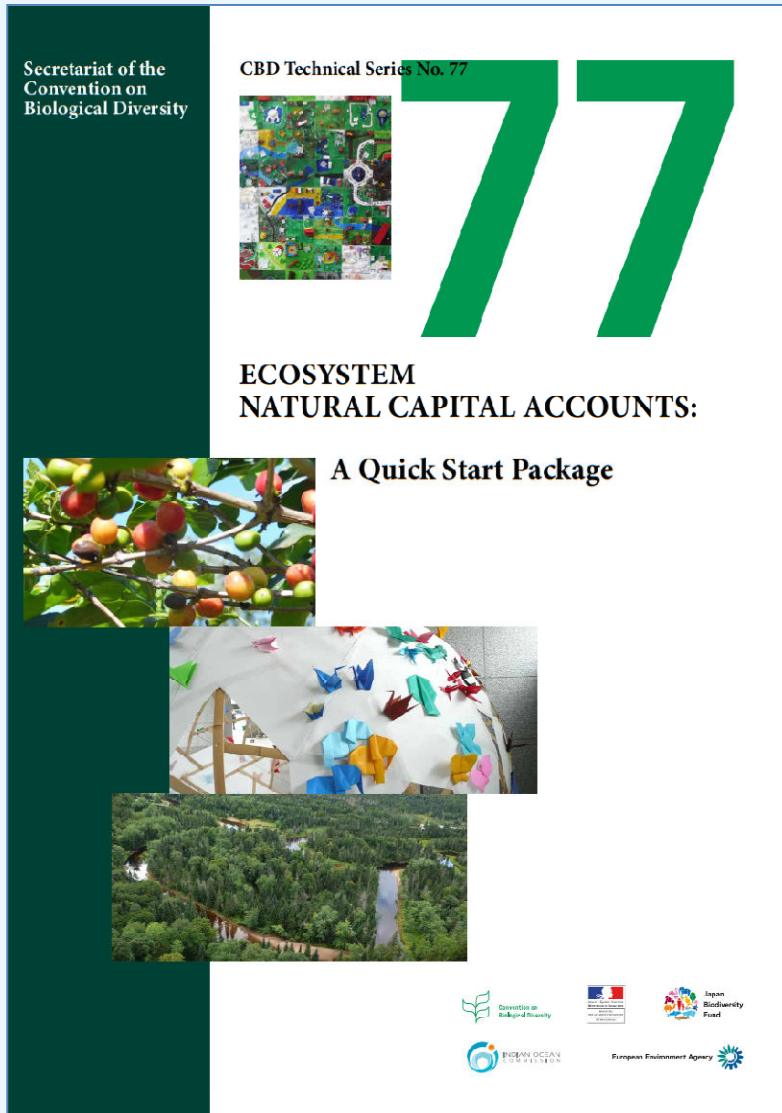
**SEEA-EEA/ENCA
Mauritius**



**UN CBD:
SEEA/ENCA-QSP**



ENCA-QSP: A Quick Start Package to support the experimentation of the SEEA-Experimental Ecosystem Accounts



- A response to the requirement of the **CBD Aichi Target 2** call for *incorporating, as appropriate and by 2020 at the latest, biodiversity values into national accounting.*
- A **Quick Start Package**
- A **technical accounting framework** for measuring ecosystem sustainable capacity, resilience and economic sectors' accountability to the ecosystem.
- It includes a **full set of tables** and guidance for compilation.
- A “distribution” (in the sense used for open source software) of the SEEA-EEA, aimed at putting it to work
- Supported by a **tutorial for technical training** of experts (Kangaré)

<http://www.ecosystemaccounting.net/>

Accounting for What? To Measure Ecosystem Capital Degradation

Ecosystem degradation impacts

- Biodiversity loss
- Desertification
- Food security
- Water regulation
- Climate change and adaptation
- Exposure to natural risks
- Sustainability of ecosystem services
- ...

and associated socio-economic issues

- Economy's liability to its impacts on ecosystems
- Accounting for ecosystem capital depreciation and related monetary costs (Restoration, Avoidance, Offset...)
- Ecological debts and related financial risks
- Health (clean water, clean urban air...)
- Sustainability of economic growth

Ecosystem capital degradation

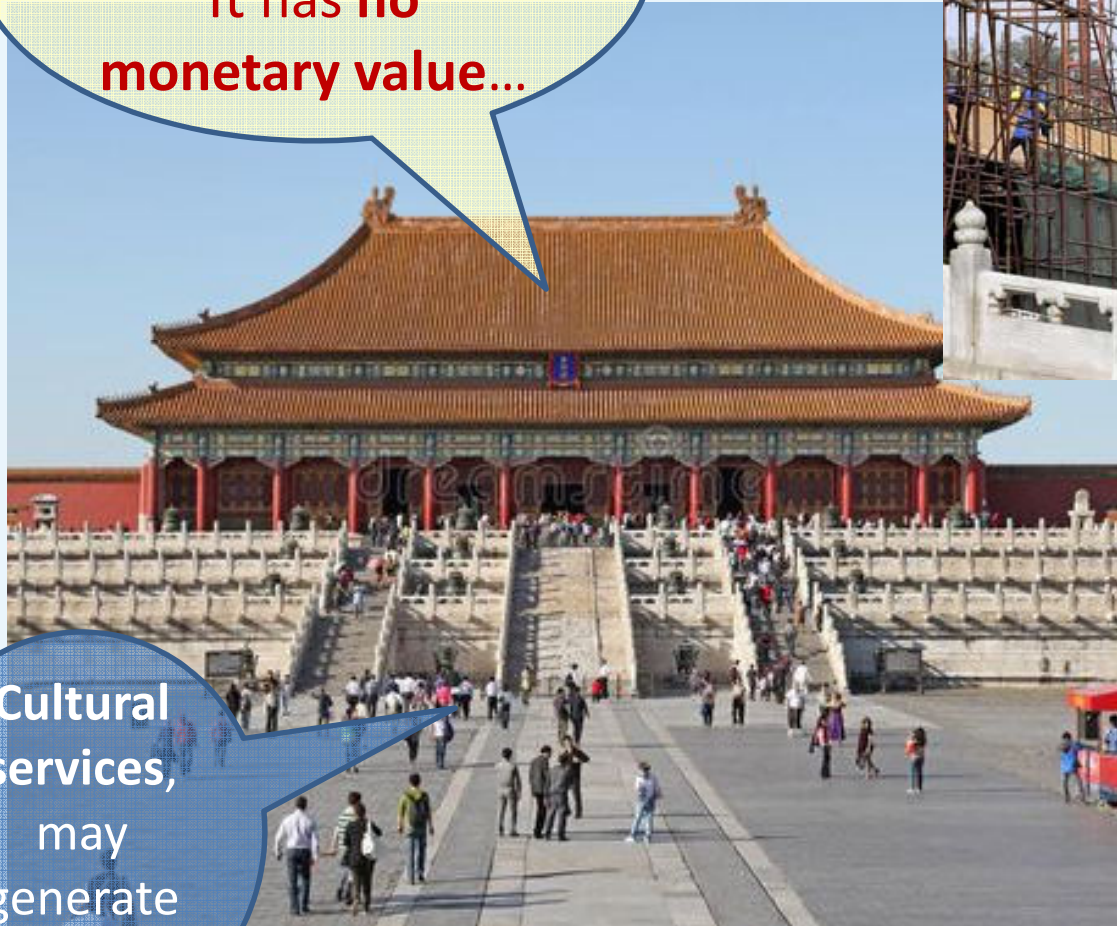
= Loss of ecosystem capability to supply services and sustain life on Earth

= Loss of intrinsic ecological value

Value is not just about money...

but this asset is **invaluable**.
It has **no monetary value...**

...however maintaining the intrinsic value of a priceless asset may have a cost



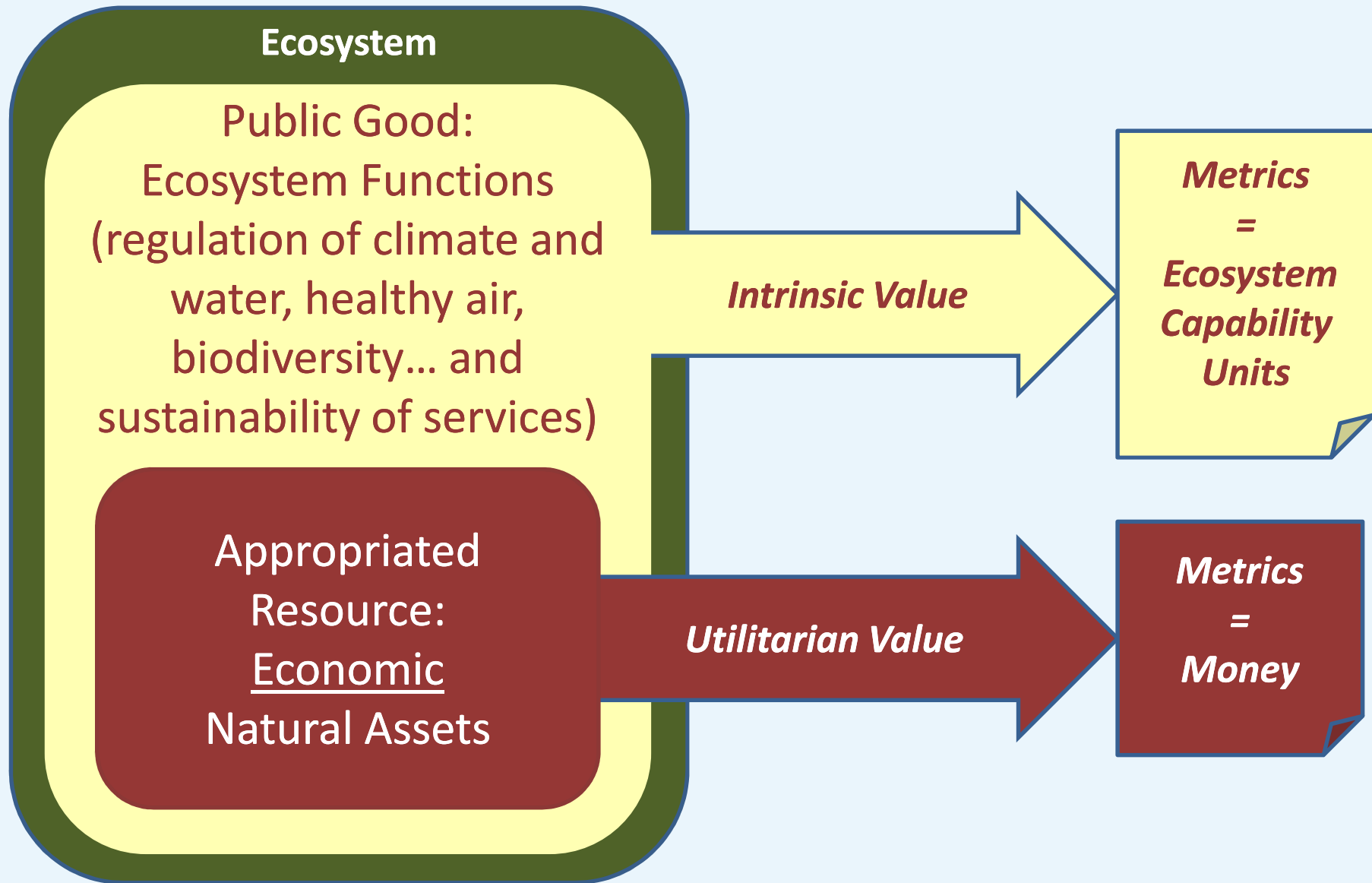
Paid costs of maintenance and restoration



*Estimated cost of not (yet) paid repairs
=
Measurement of asset depreciation*

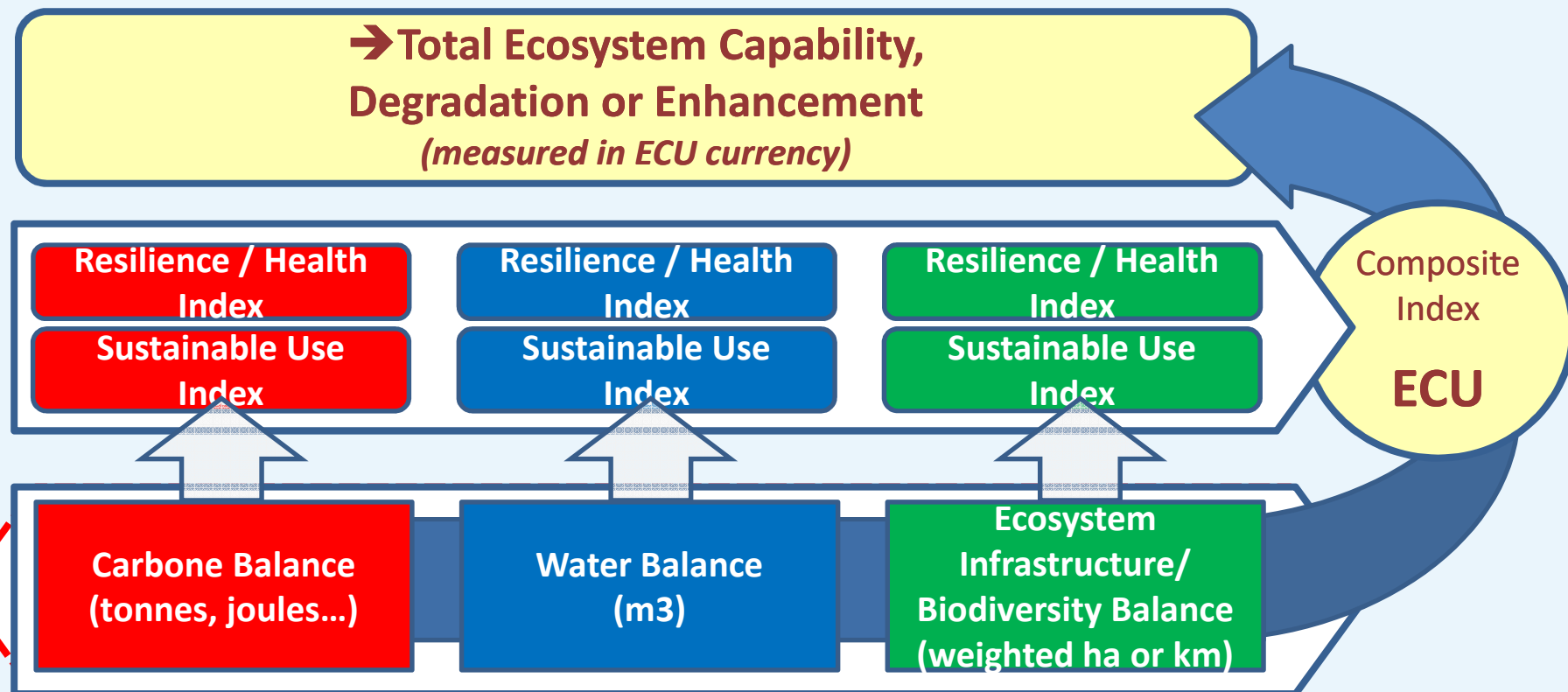
Cultural services, may generate income...

What to Account For? ENCA Measures Ecosystems Intrinsic Value

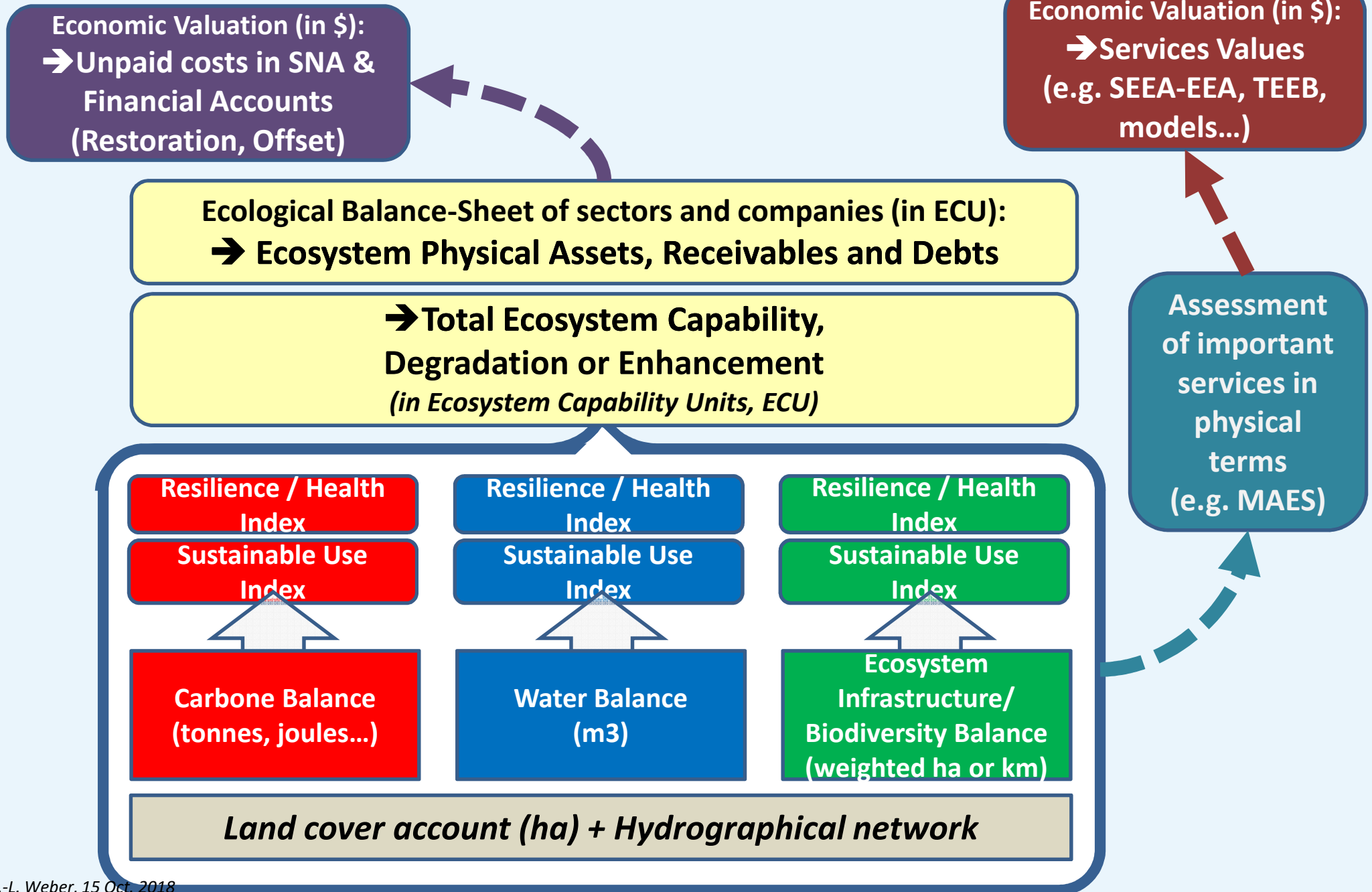


How to Count? In Ecosystem Capability Units (ECU)

- **SEEA-EEA**: integration of services and assets in monetary units. It measures **utilitarian value**.
- **ENCA-QSP** : integration of ecosystem capital with a composite index called **Ecosystem Capability Unit (ECU)**. **ECU** is a currency to measure **intrinsic value**.



Overview of CBD-ENCA-QSP



Ecosystem Natural Capital Accounts are extracted from maps

Economy

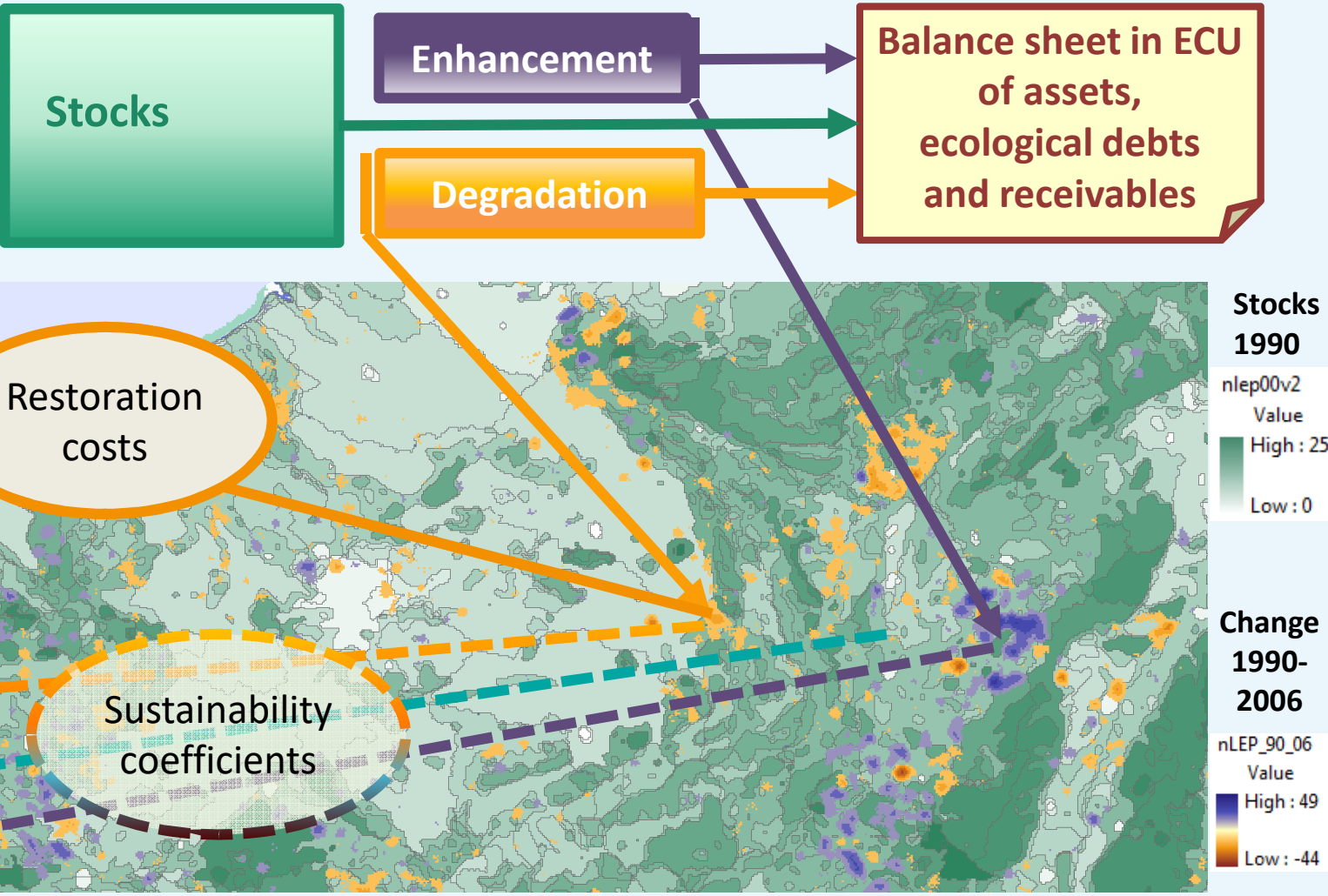
Total Ecosystem Capital Capability in ECU, Stocks and Change

Unpaid costs:

Ecosystem Capital Consumption (National accounts) or Depreciation (Financial Accounts)

Final Demand at Full Price

Ecological sustainability of Value Added supported by ecosystem services

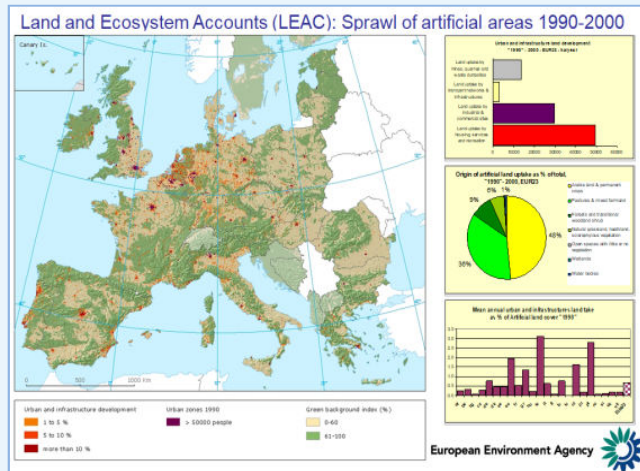


Landscape Ecological Potential change 1990-2006, by ecosystem landscape units

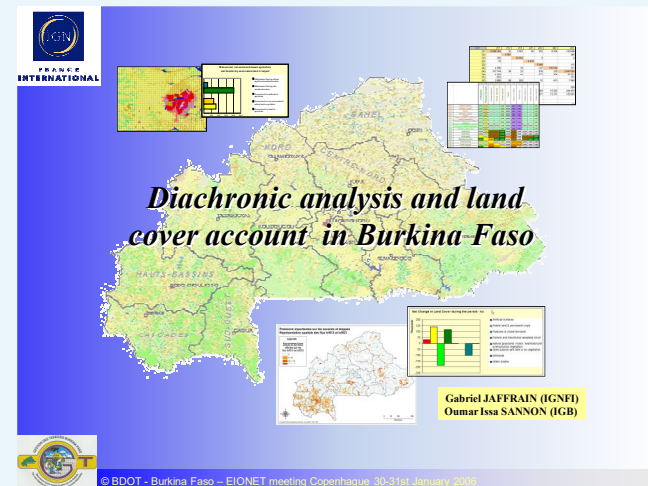
Stocks 1990
nlep00v2
Value
High : 255
Low : 0

Change 1990-2006
nLEP_90_06
Value
High : 49
Low : -44

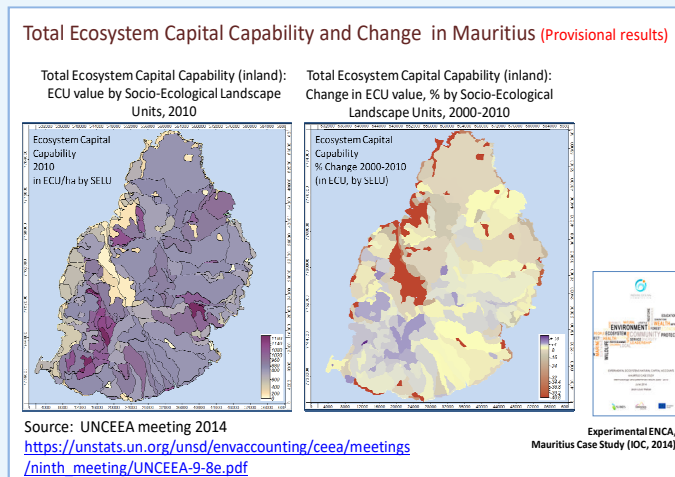
Examples of land and ecosystem natural capital accounts



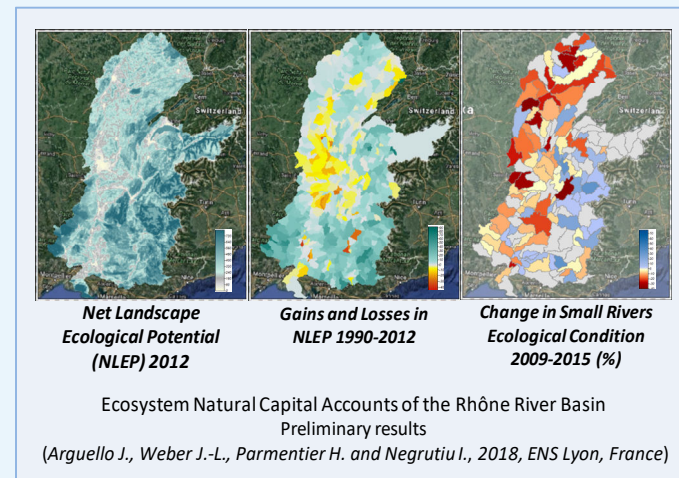
Land cover account for Europe:
Urban Sprawl 1990-2000 (in red)



Burkina Faso / IGB & IGNFI, 2009, LEAC/BDOT
Land over account 1992-2002

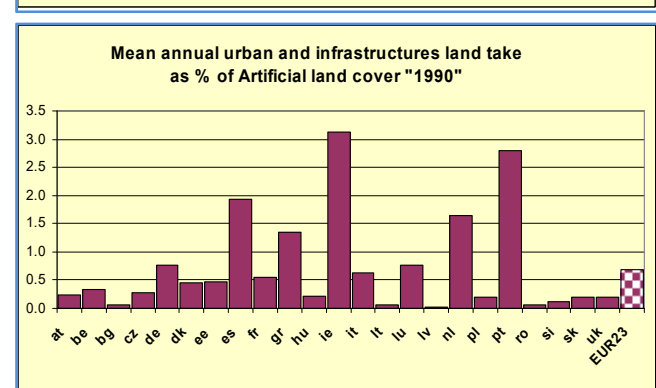
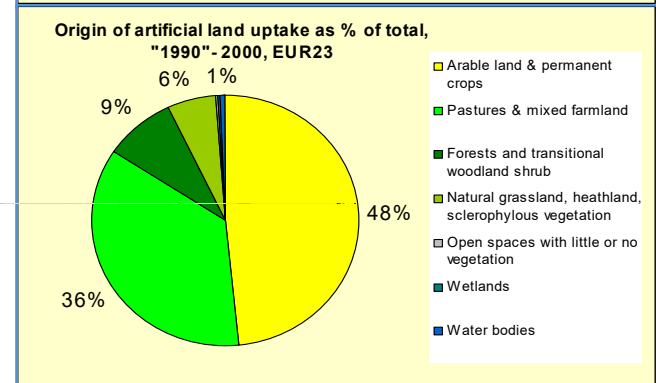
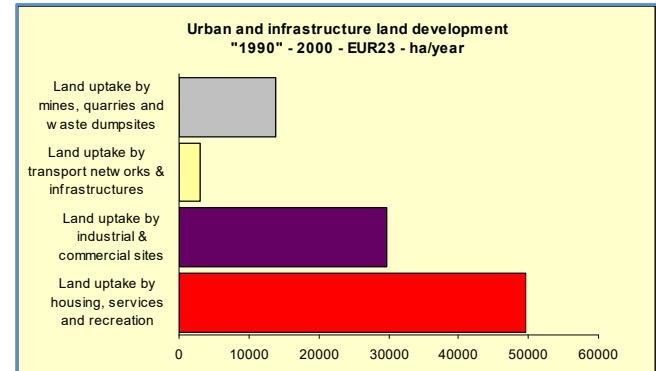
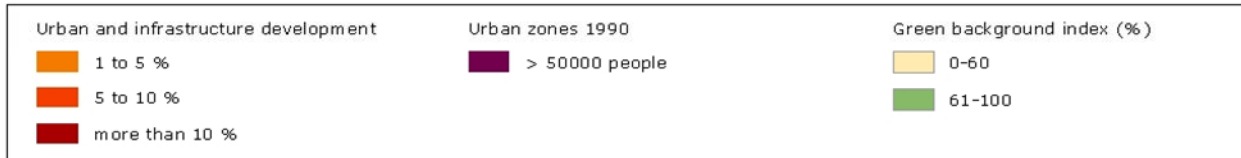
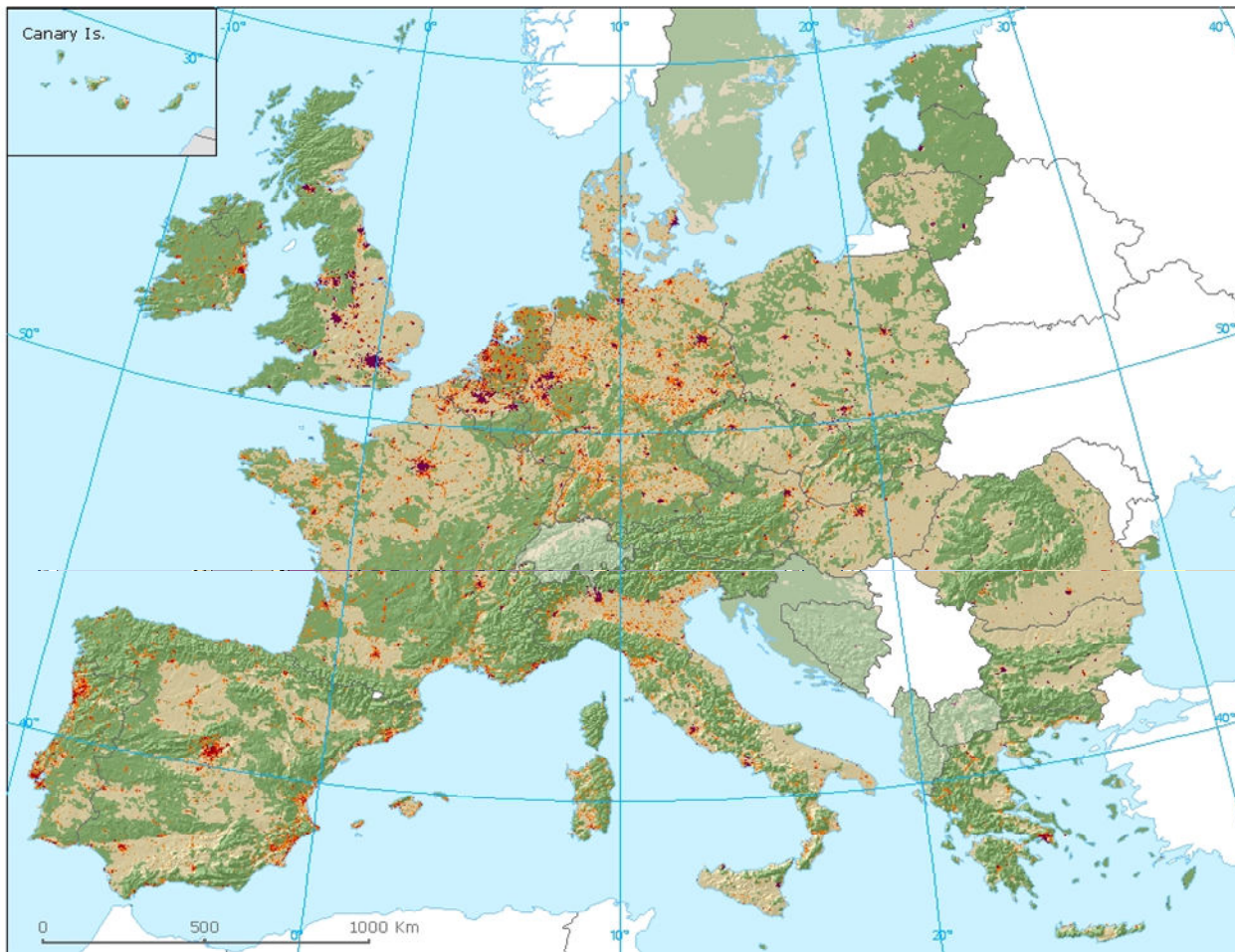


Pilot ENCA for Mauritius:
Total Ecosystem Capability (in ECU) (left)
and Change 2000-2010 (right)



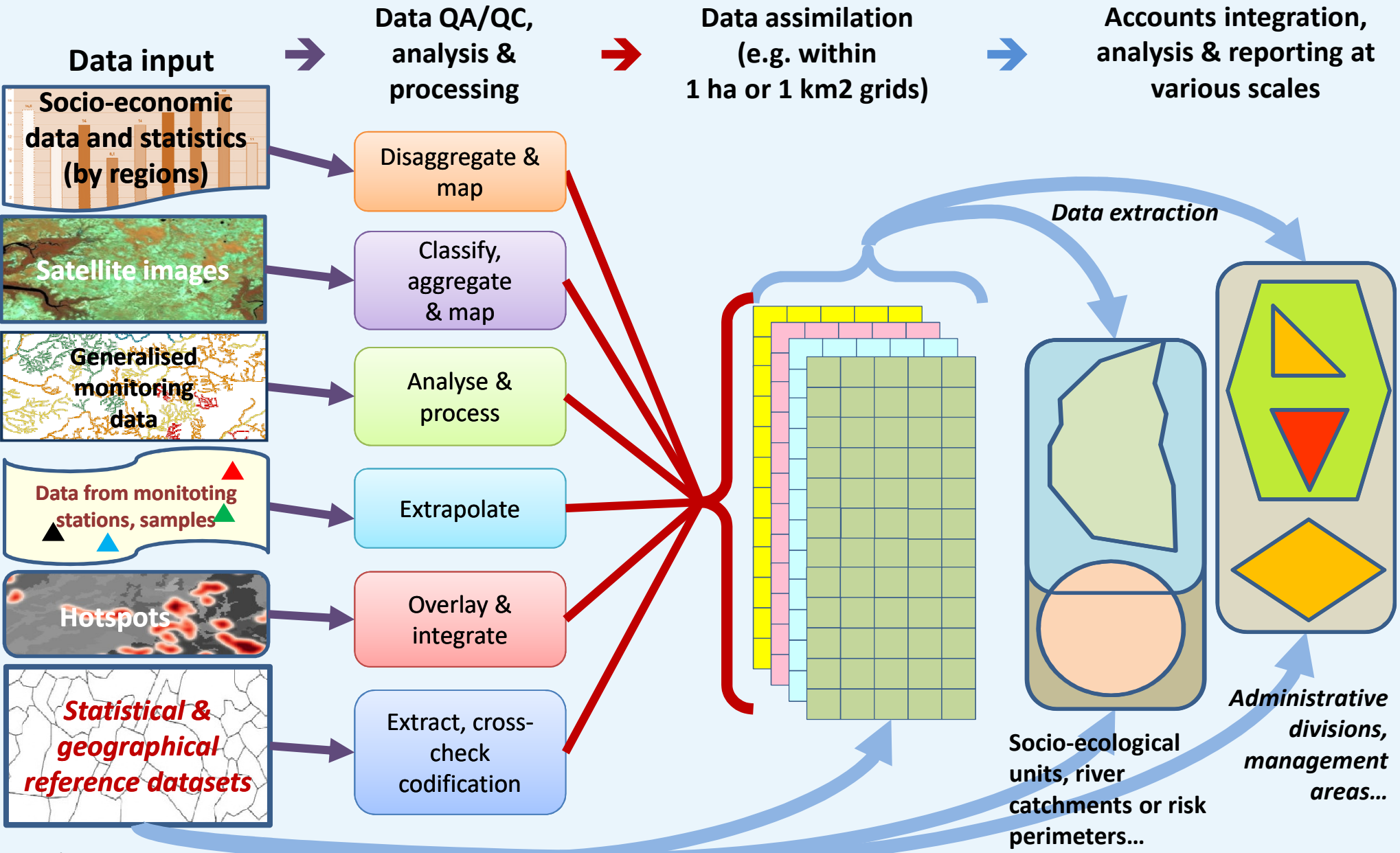
ENCA for the Rhone River Catchment : NLEP (left), Change in NLEP 1900-2012 (middle) and Change in Small Rivers Ecological Condition 2009-2015 (right)

Land and Ecosystem Accounts in Europe: Sprawl of artificial areas 1990-2000



Source: European Environment Agency 2006

The ENCA-QSP Data Model: Assimilation & Integration of Statistics and Geo-Data



The ECU Metrics and Policy Measures

Policies to Halt or Mitigate Ecosystem Degradation

Traditional policies

- Regulations, command & control
- Fiscal policy, taxes, PPP
- Public procurements

Novel or emerging policies involving actors

- Recording ecosystem degradation and depreciation
- Green finance
- Rating sovereign and private financial risks
- Integration of Environmental, Social and Governances (ESG) risks factors (OECD)
- Full price of commodities
- Offset payments
- Offset banking
- Private-Public Partnerships

Policies to Support Ecosystem Conservation & Enhancement

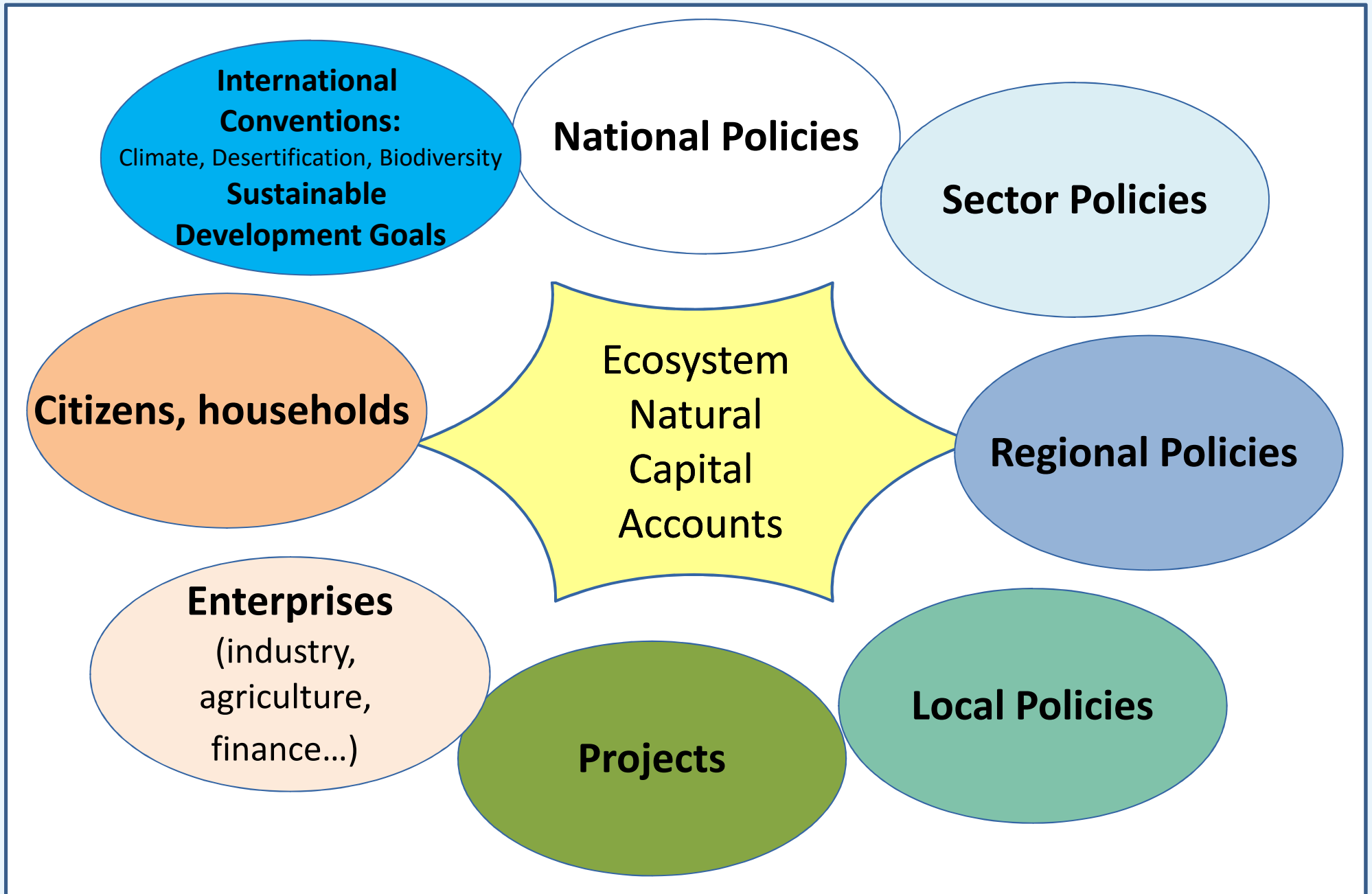
Traditional policies

- Public investments
- Public procurements
- Subsidies to programmes (conservation, reforestation, organic agriculture, water treatment...)

Novel or emerging policies

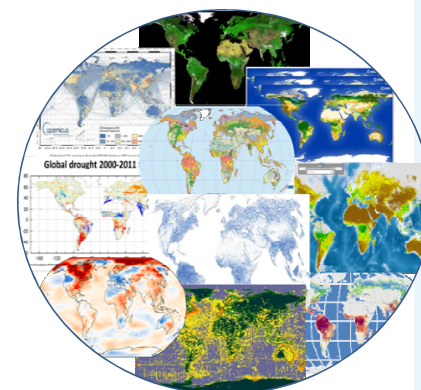
- Green finance
- Offset payments
- Offset banking
- Private-Public Partnerships

Liability to the Ecosystem: from local to global and vice-versa



International context: SDGs and the 3 Rio Conventions

- Need environmental accounts for better coordination of the 3 Rio Conventions and for the SDGs
 - Report for the CBD, 2016 <https://www.cbd.int/doc/meetings/cop/cop-13/information/cop-13-inf-27-en.pdf>
 - Natural capital accounting discussed at the Global Environment Facility expert meeting of 2017
- High potential of ecosystem natural capital accounts:
 - Integration of carbon with land, water and biodiversity
 - Possibility to speed up implementations with global monitoring with satellites: coarse but covering all regions, very high resolution for local accounts
- The possibility of Global ENCA by 2020
 - First step, using best accessible datasets
 - Mapping of physical ecosystem degradation
 - Presented at the CBD COP 15, in November 2020 in Beijing?



Thank You !

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