Policy aspects of Ecosystem Accounting (EA):

The paradigm shift, evidence, and the way forward

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OUTLINE

1. A paradigm shift: Rationale for integrating EA into policy, policy entry points, living principles
2. An illustrative example: The relative value of ES in San Martin, Peru
3. Linkages between global indicators, SDGs and SEEA
4. The evidence: Guatemala, Philippines and South Africa
5. The way forward: Overcoming obstacles and understanding the political process


Ecosystem Accounting:
Creating a paradigm shift in evidence, awareness,
policy making and impact
ten Brink, P. 2014
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The rationale for integrating EA into policy: Features

- **Status and trends**: Time series data enables understanding of change over time
- **Synergies and trade-offs**: Links environmental and economic data which enables joint analysis and assessment of policy alternatives
- **Macro-economic and sectoral policy-making**: Comprehensive coverage going beyond local decisions

Recuero et al. 2018

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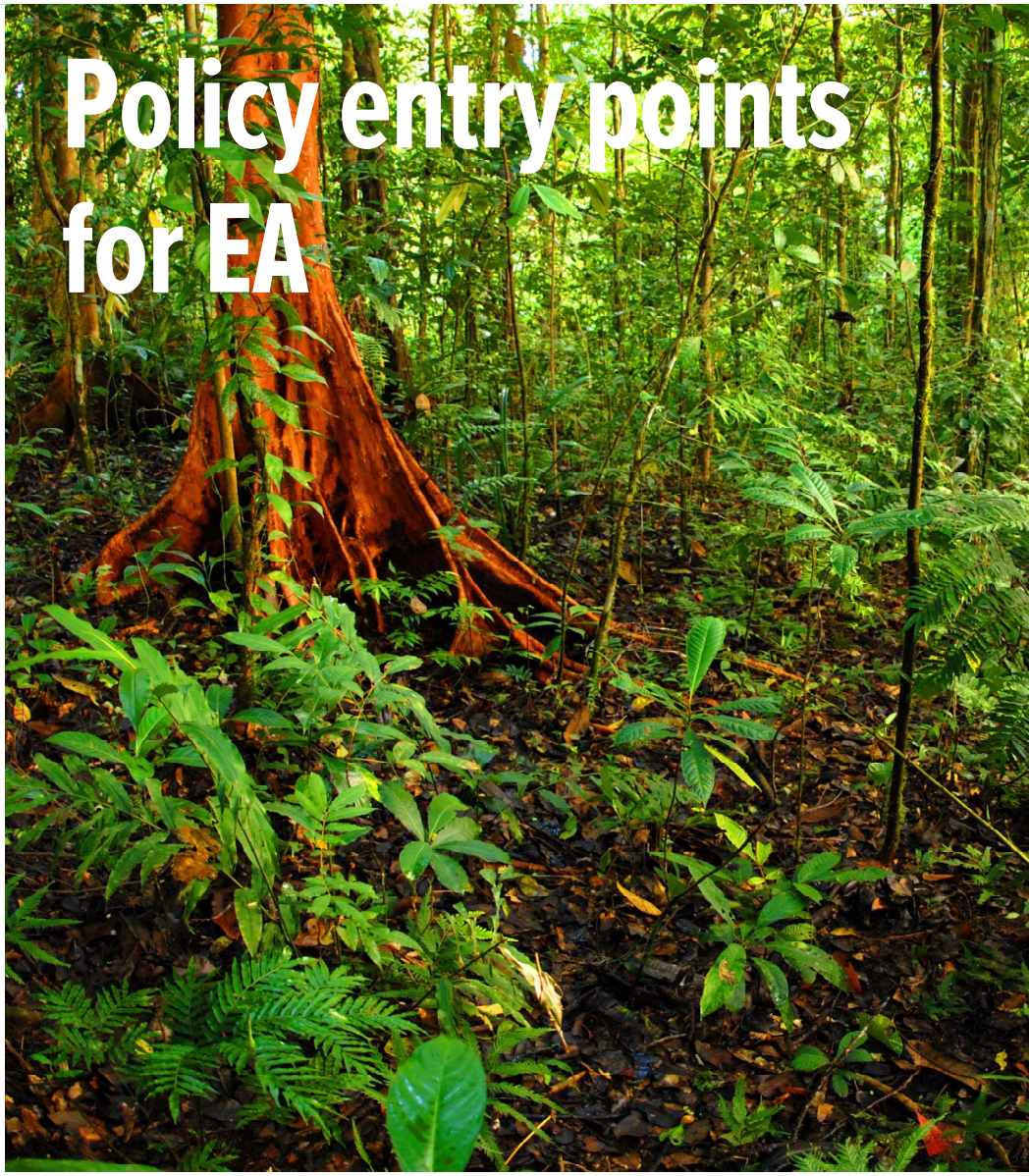
Policy entry points for EA

- **Identification of issues**: Providing objective information on issues
- **Policy response**: Supporting design and assessment of policy options
- **Policy implementation**: Helping to deliver existing policies more efficiently
- **Policy monitoring**: Monitoring and assessment of the effectiveness and impact

Castaneda. 2017



Policy living principles for EA

- **Comprehensive**
  - 1.Inclusive
  - 2.Collaborative
  - 3.Holistic
- **Purposeful**
  - 4.Decision-centred
  - 5.Demand-led
- **Trustworthy**
  - 6.Transparent and open
  - 7.Credible
  - Mainstreamed
  - 8.Enduring
  - 9.Continuously improving
  - 10. Embedded

Castaneda. 2017


An illustrative example:
Mapping the benefits with
Environmental Benefit Index

Environmental Benefit Index (EBI)

- EA: Allows identification of ecosystem providing critical services while tracking changes of their contribution to the economy
- EBI: Measurement of the relative benefits that ecosystem provide to people from a given area
- EBI leverages EA information, aggregates the benefit and represents it into a map

Summary of EA indicators

Key indicator	Measured benefit	Account type
Remaining forest types	Places with the highest forest coverage provide most benefits	Extent
Intactness	Least fragmented or least change in configuration of forest cover provides most benefits	Condition
Biodiversity composition	Most unique places of biodiversity composition and highest loss in the past provide most benefits	Condition & Biodiversity
Threatened species	Globally important sites for threatened species provide most benefits	Biodiversity
Water balance	Places of highest water yield/potential provide most benefits	Ecosystem Services supply and use
Water stress at current rate of water use	Places of highest water dependence with least water yield provide most benefits	Ecosystem Services supply and use
Carbon stock	Places with the highest carbon density values provide most benefits	Ecosystem Services supply and use
Location of sites for ecotourism	Presence of sites used for ecotourism provides most benefits	Ecosystem Services supply and use

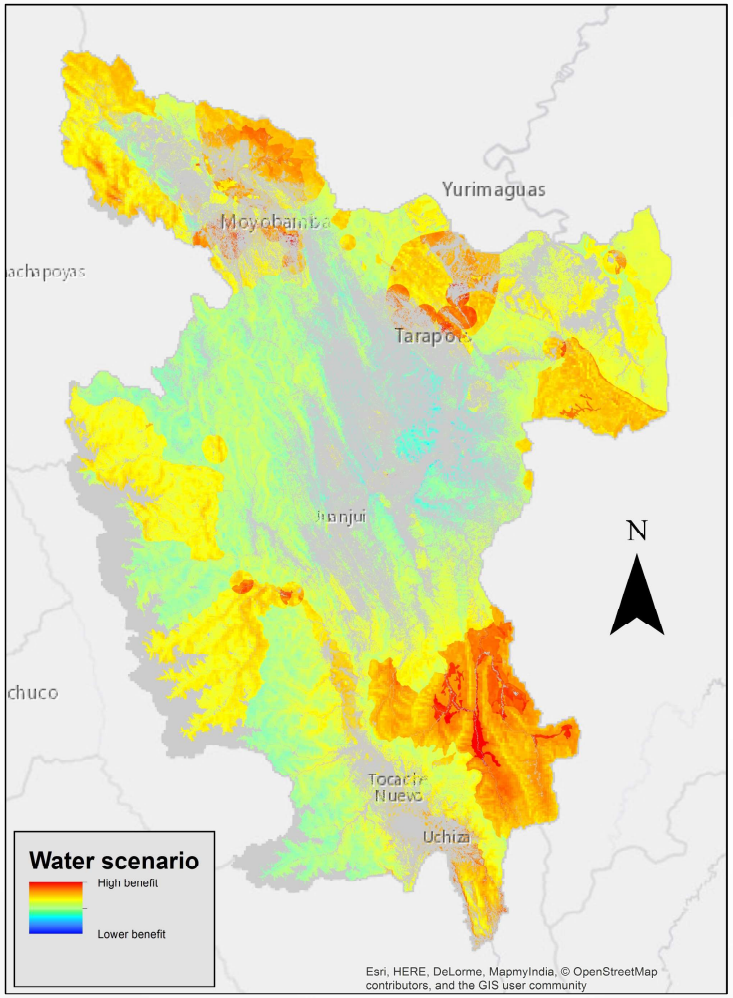
EBI: Multi-Criterion Evaluation (MCE)

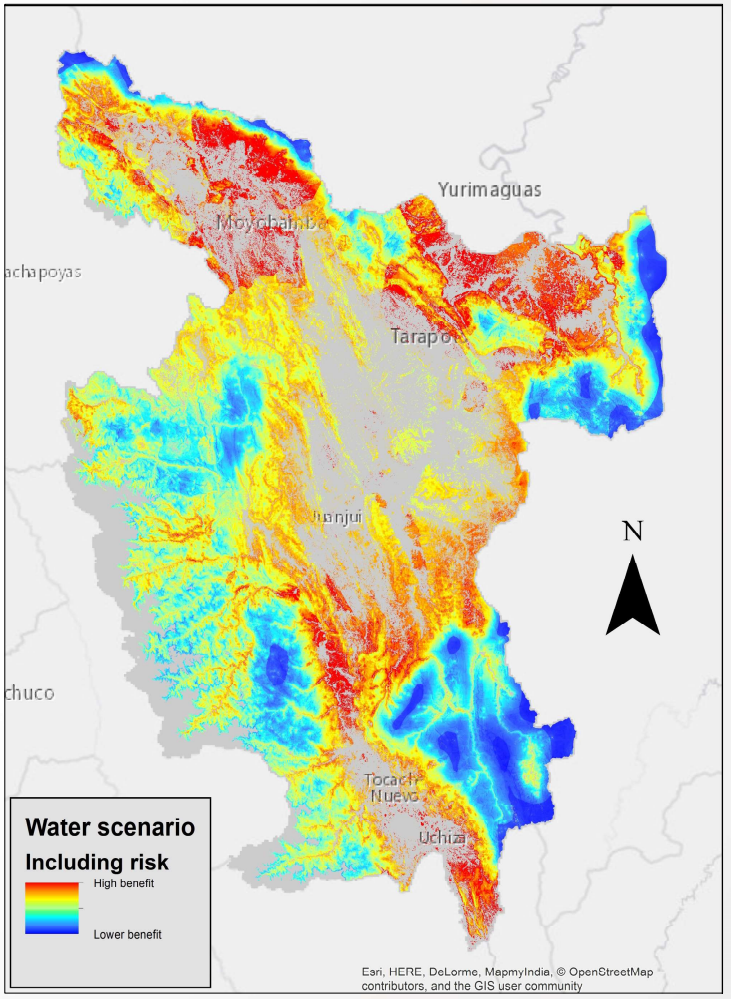
- A method for combining the ecosystem benefit indicators
- All indicators are scaled to the same range, weighted, and summed to create scenarios
- These scenarios are examples: Not all indicators need to be included and others could be added

Indicators	General scenario	Biodiversity driven scenario	Water driven scenario	Carbon driven scenario
Remaining forest	0.5	0.5	0.25	0.25
Intactness	0.5	0.75	0.25	0.25
Biodiversity	1	1	0.25	0.25
Threatened species	0.75	1	0.25	0.25
Water stress at current rate of water use	1	0.25	1	0.25
Water balance	0.75	0.25	0.7	0.25
Carbon stock	1	0.25	0.25	1
Ecotourism	1	0.25	0.25	0.25

EBI: Water driven scenario

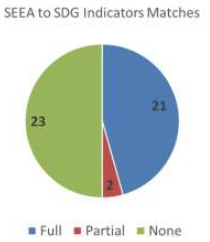
- In the water scenario upland watersheds are highlighted
- Combine with risk the highest value areas are located in the forest/non-forest interface

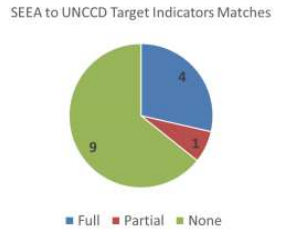





What could be some of the policy applications of ecosystem accounts?
MONITORING
REPORTING
SPATIAL PLANNING
PRIORITY SETTING
INCENTIVE MECHANISMS
RESOURCE MANAGEMENT
ENVIRONMENTAL EXPENDITURE
OFFSETTING AND IMPACT

Linkages between Global Indicators, SDGs and SEEA





- **Full**: A conceptual alignment based on the structure of the SEEA framework.
    - SDG 6: Clean Water and Sanitation
    - SDG 8: Decent Work and Economic Growth
    - SDG 11. Sustainable Cities and Communities
    - SDG 14: Life Below Water
    - SDG 15: Life on Land (e.g., 15.1.1 - Forest area as a proportion of total land area)

- **Partial**: Possible but i. other means already in place; ii. approaches deal with missing data gaps; iii. additional information from non-SEEA sources required.

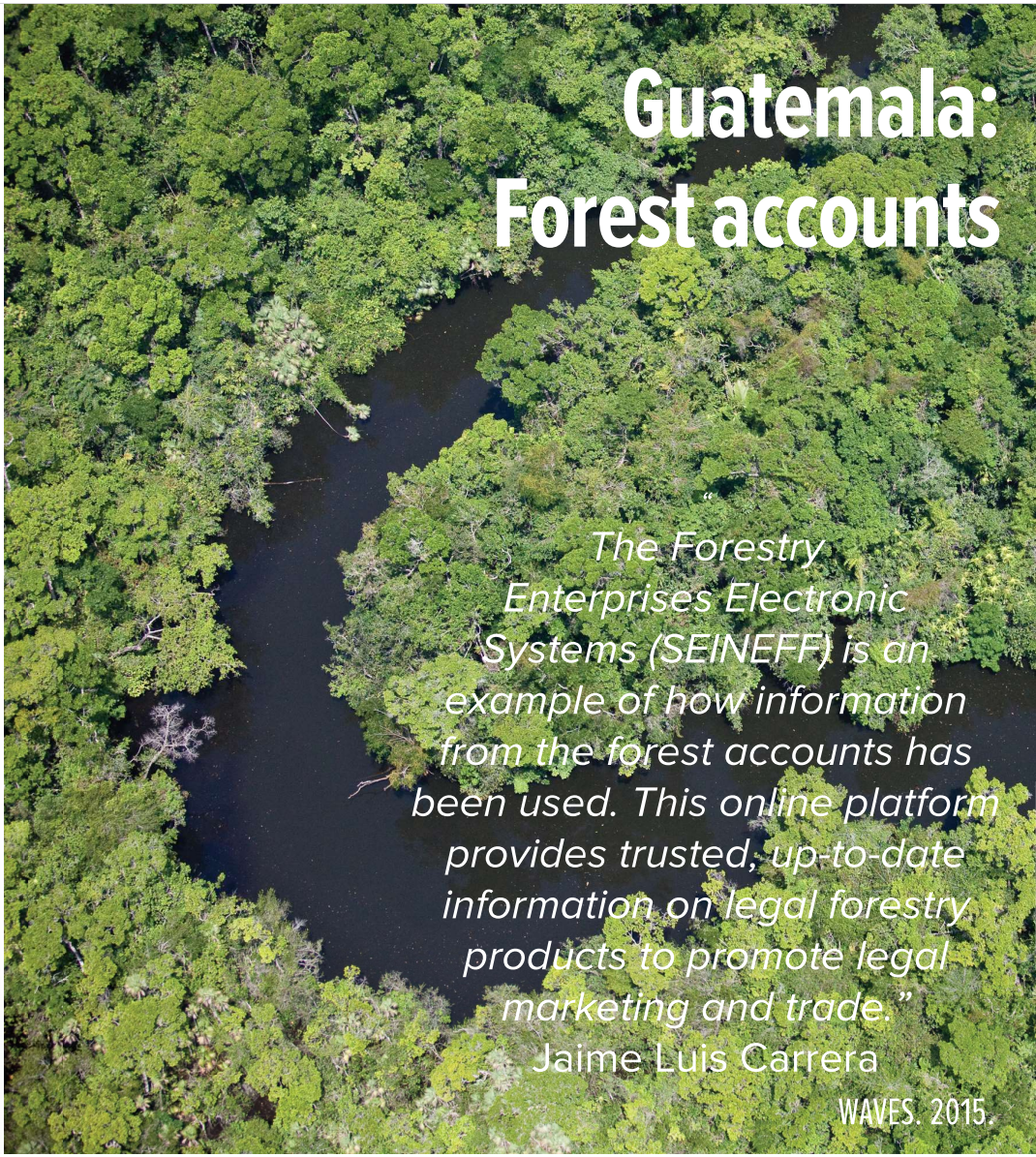
- **None**: Identified accounts were not considered relevant

UNEP WCMC, UN SEEA and EU. 2019

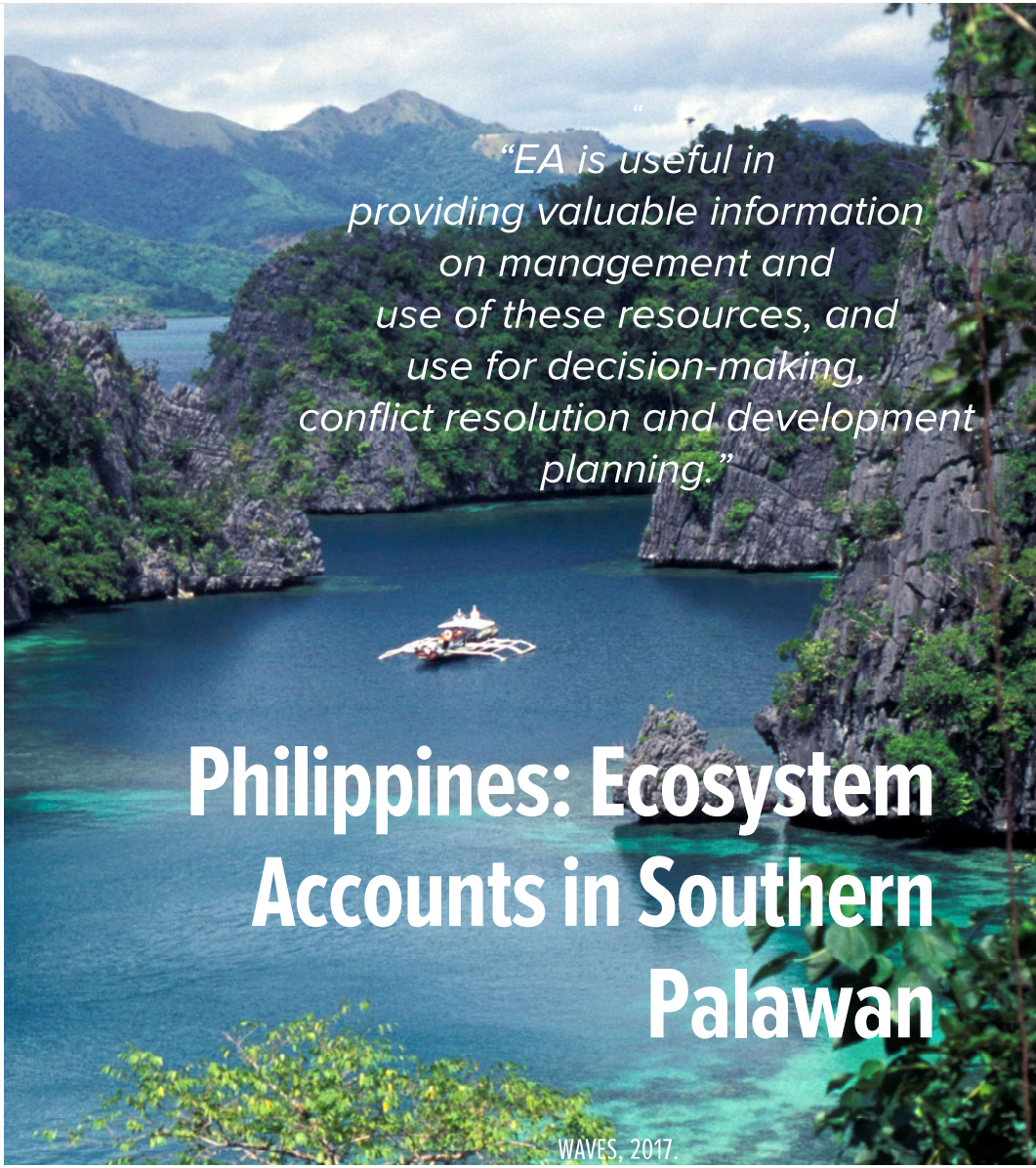
The evidence: Guatemala, Philippines and South Africa

- Outcomes: National planning
  - Control of illegal logging
  - Production and efficient use of fuelwood
  - Restoration of forest landscapes,
  - National Forest Policy

- Implementation of a system for timber licensing and them tracking of shipments

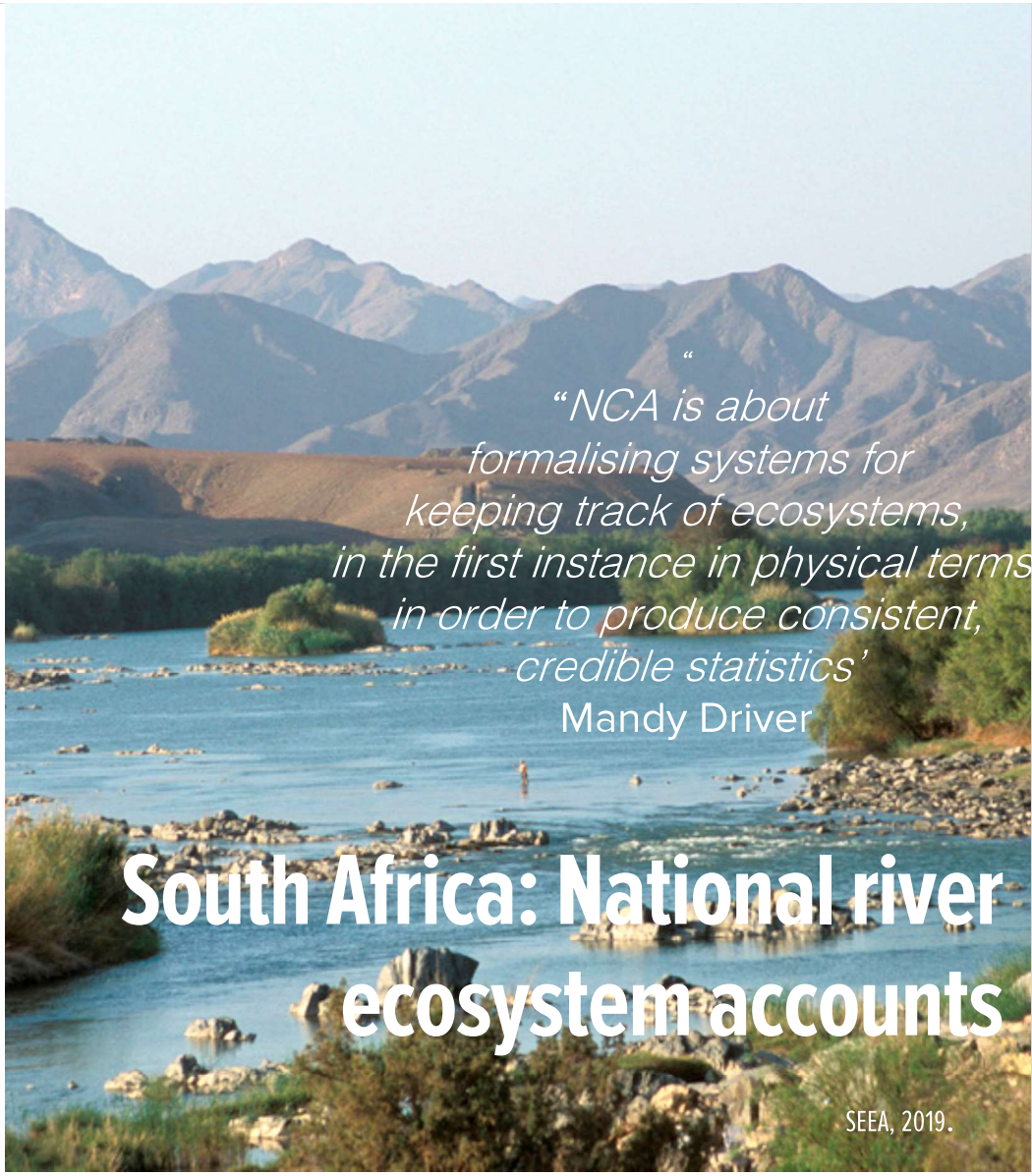


- Outcomes: Provincial-level planning
  - Inputs for land and resource use planning (trade-offs associated with declined ecosystems)
  - Safeguard remaining forests (e.g., water supply, carbon sinks)
  - Consider efforts for increased protection of coastal ecosystems (coastal protection and food source)



Outcomes: National and municipal-level planning

- Spatial planning: Synergies and trade-off can inform national and municipal land use planning
- Water security: Improved management of strategic water sources areas
- Investment in ecosystem restoration: priority ecosystems for intervention and assessment of RoR
- PA expansion: Assess the protection level of ecosystems




The way forward

Overcoming obstacles

- Ensuring demand-driven vs. supply-oriented accounts
- Enhancing awareness on the existence and potential uses of accounts
- Need for assessment of added value of NCA with respect to statistics
- Considering ex-ante vs. ex-post uses of the accounts

Recuero et al. 2018


‘Deeper understanding of the political processes is … important if economists want to take the challenge of environmental governance seriously and to invest in finding ways to embed novel environmental valuation systems in political decision making.’
Akerman and Peitola. 2012

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