Policy Uses of Natural Capital Accounting

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Kampala, Uganda Dec 2013
The WAVES Global Partnership

Wealth Accounting and Valuation of Ecosystem Services
**Promoting Sustainable Development**

**Goal:** Promote Sustainable Development by *mainstreaming natural capital in development planning and national economic accounts*

**Major Components of the WAVES Roadmap:**

1. Directly support **policy-led implementation of NCA** in a critical mass of countries: Botswana, Colombia, Costa Rica, Guatemala, Indonesia, Madagascar, Philippines, Rwanda (Ghana, Morocco, Vietnam + 10 others to follow in the next 2 years) —roughly USD 1.5m per country

2. Help develop internationally agreed **methodology for valuation** of ecosystem services and gather **evidence for policy applications**
Implementing NCA in WAVES countries

**Botswana:**
- water,
- minerals & energy,
- land & tourism,
- macroeconomic indicators of sustainability

**Madagascar:**
- minerals,
- forests & protected areas, tourism,
- watershed accounts, mangroves,
- Macroeconomic indicators of sustainability

**Philippines:**
- minerals,
- macro indicators of sustainability
- mangroves,
- pilot land/ecosystem accounts for 2 sites

**Colombia:**
- watershed ecosystem accounts for water, forests in 3 pilot watersheds,

**Costa Rica:**
- water and forests accounts,
  Payment for Environmental Services
Policy uses of Natural Capital Accounting
Why do Natural Capital Accounting?

Better macro-economic indicators for monitoring sustainable development: Is GDP growth sustainable or are we just “living off our natural capital”?

Sectoral indicators: water and energy efficiency—improving over time?

Tool for managing natural capital to promote growth and poverty reduction

• Weighing trade-offs for water, land use among competing users
• Prioritizing investments in resource management, land use and protected areas
• Planning for the future
Govts. Implementing Natural Capital Accounting

<table>
<thead>
<tr>
<th>Countries</th>
<th>Most common `Flow' accounts</th>
<th>Most common `stock' accounts</th>
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| 27 EU countries, Australia, Canada, New Zealand, Norway | • Energy  
• Water  
• Air and water pollution | • Minerals & energy resources,  
• Forest timber |
| Brazil, Colombia, Guatemala, Korea, Mexico, South Africa | • Energy  
• Water  
• Pollution | • Minerals and energy  
• Forest timber |

**Countries initiating environmental accounting, or renewing earlier pilot programs:** Botswana, Costa Rica, Ghana, India, Madagascar, Mauritius, Morocco, the Philippines, Qatar, Rwanda, Vietnam
Where has Natural Capital Accounting been most useful?

1. Macro-economic and sectoral indicators for monitoring sustainable development
2. Stocks of minerals & energy: fiscal rules to manage revenues for long term growth
3. Water accounting: managing a scarce resource for economic growth
4. Energy and air pollution: cleaner, more efficient economy
1. Indicators of sustainable development

...Is GDP growth sustainable or are we just “living off our (natural)
The Wealth of Indonesia

<table>
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<tr>
<th>US$ per capita (2008)</th>
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<tbody>
<tr>
<td>Total Wealth</td>
</tr>
<tr>
<td>Produced Capital</td>
</tr>
<tr>
<td>Natural Capital</td>
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<td>Intangible Capital</td>
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* Source: World Bank, 2010

- Based on internationally available data.
- Currently working on improving this estimate with country data
2. Resource-rich economies

Managing rents from minerals and energy
Development Challenge for Resource-Rich Economies

Transform non-renewable resources into other forms of capital by:

• Recovery of rent by government through appropriate taxes, royalties
  Indicator: % of resource rent obtained by government

• Manage rents for long term growth—
  • Investment to compensate for depletion
  • Stabilization fund
  Indicators: Fiscal rules; Comprehensive wealth or Adjusted Net Savings
Example: Botswana’s mineral rents and long term growth

1. Govt. recovers mineral revenues/rent

2. Fiscal rule-revenues are invested

3. Investment of mineral revenues build wealth and income
   (index of real, per capita growth in wealth, GDP)
3. Accounting to manage a scarce resource
Water management in Mexico using water accounts

**Mexico City basin** — planning for future water demand (water accounts + economic model)

**Campeche region**: green growth program—increasing efficiency of water use

- Modeling economic impact of changes in tariffs
- Identifying less water-intensive sectors for growth
- Payment for environmental services (managing forest land in watershed for water flows and quality)
Forest accounts in Guatemala

• Limits of the forest-industry oriented model: we need more than plantations to tackle the deforestation problem
• Forest accounts showed forestry sector (5 %), illegal logging (65 %) and other unrecorded uses (30 %)
Guatemala:
What was new in the forest policy debate?

• New orientations of forest policy in Guatemala
  – Importance of ecosystem services – even though we did not directly estimate it!
• What is the contribution of ecosystem services?
  – Soil conservation
  – Biodiversity conservation
  – Natural disaster control
  – Micro climate regulation
  – Basin management and water
• SEEA offers a common platform for policy debates
  – Economic – Environment relationship
• Next step in research: contribution of forest ecosystem services to the whole economy
4. Energy and air pollution accounting

for cleaner, more efficient production
Decoupling economic growth from pollution

the Netherlands, 1990-2010
Germany – modeling to inform green growth policies

• An existing econometric model in Germany has been extended using data from the environmental accounts to create the Panta Rhei model that considers environment-economy interactions

• In recent years, the model has been used for studies of
  – renewable energy with a focus on the labour market
  – energy efficiency
  – green information technology ICT
  – material efficiency
  – energy scenarios for the German energy future
The Australian Bureau of Statistics released a report in 2012 highlighting actual and potential policy applications of their environmental accounts in the following areas:

- mitigating climate change
- adapting to climate change
- Sustainability
- green growth
- managing the Great Barrier Reef
- managing agricultural river basins
- solid waste management
Impact of carbon tax on households in Australia

Estimated impact of AU$23/ton C on households by
• Income quintile
• Size of household
• Children/no children

Offset by tax cuts and benefits to low, moderate income households
Thank you!

www.wavespartnership.org
How WAVES Core Implementing countries got started

**Preparation**

1. Institutions
2. Feasibility study
3. Work plan

**4. Implementation**

- Commitment from key agencies
- Establish institutional structure

Identification of:
- Critical natural resource policy issues in country
- Key entry points for policy making
- Relevant components of environmental accounts
- Assessment of data availability and technical capacity

- Which components will be built and in what order?
- Identify and fill data gaps
- How will technical capacity be strengthened?
WAVES Implementation and Funding

WAVES Partners

- **Core Implementing Country Partners**: receiving substantial technical support from WAVES multi-donor Trust Fund (5 countries so far)
- **10 Contributing Donor Partners**: UK, Japan, Norway, France, the Netherlands, Germany, EC, Denmark, Switzerland, (Ausaid in-kind for technical support from ABS)
- **Participating Partners**: Developed & developing countries with other sources of funding, UN & international organizations, NGOs, private sector, academics and others

Governance

- WAVES Secretariat and management in World Bank HQ
- Global Steering Committee: UNEP, UNDP, UNCEEA, donors, WAVES-supported partner countries
- Country work managed by National Steering Committees