Global Workshop on Forest Accounting

Forest accounts implementation

Washington DC May 11-13 2014
Forests are an important component of wealth

- The source of income and wellbeing is wealth, broadly defined to include: manufactured, natural and intangible capital.
- Change in GDP tells us if growth is occurring, **changes in wealth tell us if growth is sustainable**
- Economic development is a process of building wealth and managing this portfolio of assets

### Wealth of Low Income Countries

<table>
<thead>
<tr>
<th></th>
<th>2008 US$</th>
<th>Per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Wealth</td>
<td>7,670</td>
<td></td>
</tr>
<tr>
<td>Produced Capital</td>
<td>1,117</td>
<td></td>
</tr>
<tr>
<td>Natural Capital</td>
<td>2,403</td>
<td></td>
</tr>
<tr>
<td>Intangible Capital</td>
<td>4,290</td>
<td></td>
</tr>
<tr>
<td>Net Foreign Assets</td>
<td>-141</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ calculations based on World Bank data.
Beyond GDP: Forests in the national accounts

Key information about forest assets is missing or invisible in the System of National Accounts (SNA)

**STOCKS**

– Depletion of natural forests is not captured

**FLOWS**

– Many non-market services are attributed to other sectors (tourism)
– ... or some are not represented (carbon storage)
What are the general uses of forest accounting?

**Scorekeeping**

Better indicators for *monitoring sustainable development*: Wealth and Adjusted Net Savings

**Management**

Better tools for *managing natural capital to promote growth and poverty reduction*:
- Weighing tradeoffs of land use
- Prioritizing investments in forest resources management, protected areas
What is the policy relevance?

- What is the real contribution of forests to the economy?
- What are the linkages between forest and other sectors?
- Is economic growth causing degradation of the resource and could limit future growth?

Problem definition

- What are the tradeoffs?
- Who are the stakeholders?
- What are the priorities?
- Local aspects to be considered?

Policy assessment

- Is the policy contributing to sustainability?
- What is the impact of non-forest policies?

The policy cycle

- How to better allocate financial resources?
- What is the distribution of benefits?

Policy implementation

- Why are the linkages between forest and other sectors?
How to do forest accounts?

The revised SEEA consists of three parts: the Central Framework, which was adopted by the UN Statistical Commission as the first international standard for environmental-economic accounting; Experimental Ecosystem Accounting and Applications and Extensions of the SEEA. Subsystems of the SEEA framework elaborate on specific resources or sectors, including: Energy, Water, Fisheries, Land and Ecosystems, and Agriculture. These 'sub-systems' are fully consistent with the over-arching SEEA, but provide further details on specific topics and try to build bridges between the accounting community and the community of experts in each specific subject area.

A multi-year process of revision to the System of Environmental-Economic Accounting was initiated by the United Nations Statistical Commission. The revised SEEA consists of three parts: the Central Framework, which was adopted by the UN Statistical Commission as the first international standard for environmental-economic accounting; Experimental Ecosystem Accounting and Applications and Extensions of the SEEA. Ecosystems of the SEEA framework.
### Who does forest accounting?

<table>
<thead>
<tr>
<th>Countries</th>
<th>Most common `Flow' accounts</th>
<th>Most common `stock' accounts</th>
</tr>
</thead>
</table>
| 27 EU countries, Australia, Canada, New Zealand, Norway | •Energy  
•Water  
•Air and water pollution | •Minerals & energy resources,  
•Forest timber |
| Colombia, Korea, Mexico, South Africa              | •Energy  
•Water  
•Pollution | •Minerals and energy  
•Forest timber |
| Countries initiating environmental accounting, or renewing earlier pilot programs: Botswana, Brazil, Costa Rica, Guatemala, Kenya, Madagascar, Mauritius, the Philippines, Qatar, Vietnam | | |
How to implement forest accounts?

The “art” of accounting... Is it possible? Could we have a “recipe” to go from A to Z in a linear process?

- Entry points. Whises vs realities
- Prioritizing policy priorities, defining key policy questions

- Defining Policy priorities
- Technical capacity
- Data gaps

- Leadership
- Data sharing
- Responsibilities
- Multi-stakeholders, defining policy priorities and interests
What to expect from WAVES?

• Support to implementation programs
• Training material and guidelines
• Workshops
• Community of practice
• PTEC – Work on methodologies for forest ecosystem services.
Day 2 – Establish indicators
The “art” of forest accounting...

- **Policy priorities**
  - Entry points. Whishes vs realities
  - Prioritizing policy priorities, defining key policy questions

- **Technical aspects**
  - Defining Policy priorities
  - Technical capacity
  - Data gaps

- **Institutional arrangements**
  - Leadership
  - Data sharing
  - Responsibilities
  - Multi-stakeholders, defining policy priorities and interests

WAVES
Forest and forest related accounts

Forest accounts

- Timber
  - Asset
  - Flows (SUT)

- Other goods and services
  - Non timber forest products
  - Carbon storage

Forest related accounts

- Land
- Energy
- Water
- Pollution
An example of the links

Consumption of renewable energy, EU-28, 2011

- Biomass, including waste biomass: 68.0%
- Other biomass and waste: 20.2%
- Wood and wood waste: 47.8%
- Hydro power: 15.8%
- Wind power: 9.1%
- Geothermal energy: 3.7%
- Solar energy: 3.6%

Source: Eurostat (online data codes: nrg_1071a and nrg_1072a)
Questions to indicators/measures

• What is the total economic contribution of forests and what are the benefits from sustainable management?
  – Total value of forests including non-market forest goods and services
    • Measure of the value of forests’ contribution to GDP
  – Value of forest services to non-forestry sectors
    • Measure of the economic importance of forest services to agriculture, electricity, fisheries, water supply, etc.
  – Value of forest goods and services used by local communities
    • Measure of dependence of forests and opportunities for management
Value to other non forest sectors

### Production of forest goods and services in Swaziland by ecological zone, 1999
(million emlangeni)

<table>
<thead>
<tr>
<th></th>
<th>Cultivated forests (mainly highveld)</th>
<th>Natural forests and woodlands</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>High-veld</td>
<td>Middle-veld</td>
</tr>
<tr>
<td>1. Commercial timber</td>
<td>40.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Forest products for own-use, mainly non-market</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timber</td>
<td></td>
<td>56.9</td>
<td>44.3</td>
</tr>
<tr>
<td>Edible plants</td>
<td></td>
<td>0.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Medicines</td>
<td></td>
<td>0.1</td>
<td>0.4</td>
</tr>
<tr>
<td>Thatch, weaving grass</td>
<td></td>
<td>3.1</td>
<td>3.0</td>
</tr>
<tr>
<td>Livestock grazing</td>
<td></td>
<td>1.5</td>
<td>1.6</td>
</tr>
<tr>
<td>Sub-total</td>
<td></td>
<td>62.0</td>
<td>49.6</td>
</tr>
<tr>
<td>3. International tourism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Carbon storage</td>
<td>91.3</td>
<td>Carbon values for natural forests and woodlands not distributed by ecological region</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Total: 310.4

GDP, 1999: 8,410.0

Forest values omitted from GDP:
- Forest products for own use (except livestock)\(^*\): 165.8
- Carbon storage: 99.2
- Sub-total: 264.0

\(^*\)Assumes virtually the entire production value of non-market forest goods is value-added (labour cost), so the production value and contribution to GDP are the same. (See discussion in Chapter 2).

Note: The currency of Swaziland, the emlangeni, is equivalent to the South African rand and was worth 0.154 euros in 1999.

Source: Adapted from Hassan, Mbuli and Dlamini, 2002, p.40, Table 11, and author’s calculations.
Value of forest goods and services in Sweden  
(Million Euros)

<table>
<thead>
<tr>
<th></th>
<th>1993</th>
<th>1995</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timber harvest</td>
<td>2080</td>
<td>2540</td>
<td>2370</td>
</tr>
<tr>
<td>Non-timber goods</td>
<td>273</td>
<td>233</td>
<td>225</td>
</tr>
<tr>
<td>Forest services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreation*</td>
<td>2370</td>
<td>2370</td>
<td>2370</td>
</tr>
<tr>
<td>Protection from noise</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Carbon storage</td>
<td>1050</td>
<td>630</td>
<td>810</td>
</tr>
<tr>
<td>Subtotal</td>
<td>3440</td>
<td>3020</td>
<td>3200</td>
</tr>
<tr>
<td>Total output of forests</td>
<td>5793</td>
<td>5793</td>
<td>5795</td>
</tr>
</tbody>
</table>

Based on FAO, 2004
Day 2 – Policies (Making the links)
What is the total contribution of forests and what are the benefits from sustainable development?

- Total value of forests including non-market forest goods and services
- Value of forest services to non-forestry sectors
- Value of forest goods and services used by local communities

**The policy cycle**

- **Problem definition**
- **Policy assessment**
- **Policy implement.**
- **Policy analysis and formulation**

- Additional budget
- Economic instruments
- Poverty reduction
What is the total contribution of forests and what are the benefits from sustainable development?

• Measure of the value of forests’ contribution to GDP
  – Showing a higher value for forest contribution to GDP may increase the forestry sector’s ability to request a larger share of national budget for forest management and investment.
What is the total contribution of forests and what are the benefits from sustainable development?

• Economic importance to other sectors
  – Design of economic instruments to promote sustainable forest use:
    • Hydroelectricity tariffs
    • Tourism fees
    • Negotiate international finance
  – Build multi-sectoral alliances on the basis of mutual benefits
  – Identify institutional weaknesses, who benefits but is not paying
What is the total contribution of forests and what are the benefits from sustainable development?

• Share of forest goods in rural livelihoods provides measure of dependence on forests of local communities.
  – Useful for design and implementation of Poverty reduction strategies.
Using the set of indicators you developed in Exercise 2

- Chose the best indicators to support the policy ensuring they are relevant for your decision makers
- Explain how your indicators will help inform the policy decisions you have selected.
- What is your story?
- What do you think the policy responses are likely to be?