Solutions for Sustaining Natural Capital and Ecosystem Services, Kiel, 7th of June, 2010

Bringing the Ecosystem Services Concept into international policy:

Experiences and reflections on The Economics of Ecosystems and Biodiversity (TEEB)

Carsten Neßhöver & Heidi Wittmer
TEEB Scientific Coordination
Overview

1. The genesis and process of TEEB
2. TEEB rationale
3. Some major TEEB results
4. TEEB uptake
The Economics of Ecosystems & Biodiversity

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About TEEB…

• An “Open Architecture” project… over 500 contributors across partner institutions, universities, individuals…

• An international and diverse “Community” of economists, ecologists and practitioners …

• Sharing best practices, tools, methods and experience

• Makers of “Global Public Goods”: the TEEB Report suite

• Some of our key partners….
The Economics of Ecosystems & Biodiversity

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The Goals

• To review the current state of the science and economics of ecosystems and biodiversity, and recommend a valuation framework and methodologies

• To address the needs of the “end-users” of these economics: policy-makers, local administrators, corporations and citizens

• To mainstream the economics of ecosystems and biodiversity
Using valuation of ecosystem services as main approach

Full range of ecosystem services from biodiversity

Qualitative Review

Quantitative Review of Effects

Monetary Value

Knowledge gaps
The “known-unknowns” and “unknown-unknowns”

Type of benefits: health, social, income, wellbeing

Quantitative: e.g. number people benefiting from wood from forests

Monetary: e.g. avoided water purification costs, tourist value
The Economics of Ecosystems & Biodiversity

**TEEB rationale - challenges**

- Clearly communicate the chances but also the trade-offs and problems of valuation and economic approaches
- Explicitly address the ethical dimension of the approach
- Discuss the approach in (very) different contexts
- Make clear that the approach is an add-on argument to other arguments to safeguard biodiversity
TEEB – The report suite

- TEEB D0: Ecological and Economic Foundations (Summer 2010)
- TEEB D1: TEEB for National and International Policy-Makers (published November 2009)
- TEEB D2: TEEB for Local and Regional Policy (September 2010)
- TEEB D3: TEEB for Business (July 2010)
- TEEB D4: TEEB for Citizens (Autumn 2010)
- TEEB summary (Autumn 2010)
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TEEB D1 Main Messages

- Rewarding benefits through payments and markets
- Reforming environmentally harmful subsidies
- Addressing losses through regulation and pricing
- Adding value through protected areas
- Investing in ecological infrastructure
Providing Information

- stimulate policy making by
  - illustrating the economic dimension of ongoing losses
  - showing the equivalence of values (e.g. manufactured vs. natural capital)
  - facilitating advocacy of NGOs for safeguarding biodiversity
  - reforming and enhancing national accounting systems

Example: ‘GDP of the poor‘ and share of GDP

<table>
<thead>
<tr>
<th>Natural-resource dependent sectors and ESS (2005)</th>
<th>Brazil</th>
<th>Indonesia</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original share of GDP (%) – agriculture, forestry, fisheries</td>
<td>6.1%</td>
<td>11.4%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Adjusted share of GDP (%) + non market + ESS</td>
<td>17.1%</td>
<td>14.5%</td>
<td>19.6%</td>
</tr>
<tr>
<td>Share of ESS and non market goods of total income of the poor (%)</td>
<td>89.9%</td>
<td>74.6%</td>
<td>46.6%</td>
</tr>
</tbody>
</table>

Source: TEEB for Policy Makers, Chapter 3
The Economics of Ecosystems & Biodiversity

Making the economic case: The value of protected areas

- Annual global spending on PAs: ~ $ 6 billion
- Annual need for effective PA mgmt: ~ $ 45 billion
- Annual funding gap: ~ $ 39 billion
- Annual benefits from PAs: ~$ 4500-5200 billion
- Return on investment ratio: ~ 1:100

(all: Balmford et al 2002)

- Annual subsidies for conventional agriculture:

(OECD countries, Myers 2001) ~ $ 360 billion

Providing Information
Setting Incentives

- by using ‘economic instruments’
  - setting up payments for environmental services (PES)
  - introducing taxes, fees and charges
    - e.g. entrance fees for National Parks
    - water charges
  - assessing damage and defining penalties and compensation

- by reforming environmental harmful subsidies
  - e.g., disclose the negative impact of subsidizing fishing fleets
Regulating Use

- by setting standards and liability rules
  - regulation of emissions (e.g. air pollution) and products (e.g. fertilizers etc.)
  - spatial planning
  - offsets and compensation
- by implementing a protected area network
- by direct public investment in ecological infrastructure
  - protecting ecosystems (e.g. river catchment – water provision; corals and mangroves – coastal protection)
  - restoration of degraded ecosystems
Restoration costs of ecosystems

EEBD D1, Chap.9
Blignaut et al.
The Economics of Ecosystems & Biodiversity

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Uptake of TEEB (1): Media

**DER SPIEGEL**
**DER PREIS DES ÜBER LEbens**
Ecosystem destruction costing hundreds of billions a year

**Independent.co.uk**
Loss of biodiversity threatens livelihoods of world's poorest

**TIMES ONLINE**
This stock collapse is petty when compared to the nature crunch
The financial crisis at least affords us an opportunity to now rethink our catastrophic ecological trajectory

**REUTERS**
U.N. experts warn of economic cost of species loss

**Nature loss 'dwarfs bank crisis'**
By Richard Black
Environment correspondent, BBC News website,
Barcelona

**The Economic Times India, 30.05.2008**
Nature loss could halve living standards for the world’s poor
LONDON: An environmental review, headed by an Indian, has concluded that damage to forests, rivers, marine life and other aspects of nature could halve living standards for the world's poor.
Economic report into biodiversity crisis reveals price of consuming the planet
Species losses around the world could really cost us the Earth with food shortages, floods and expensive clean up costs

• UN biodiversity report calls for global action to prevent destruction of nature

Juliette Jowit
guardian.co.uk, Friday 21 May 2010 20.00 BST
Article history
Uptake of TEEB (2): Public discussion

Reactions to the article in The Guardian, 22nd of May, 2010

• Over a thousand tweets, facebook links, & comments on the article

Most frequently discussed topics

1) Why can't preventing global warming and preserving biodiversity go hand in hand?

2) Can we preserve biodiversity and still see development?

3) Can we preserve biodiversity with current levels of population and predicted increased levels of population in the future?

4) Is the free-market/Capitalistic system to blame?

5) There is no future in reducing the whole planet to goods and services and then putting a price on it.

6) Restocking wild fish populations/ MPA debate

7) If only everyone would be vegetarian...
Uptake of TEEB (3):
Interest in TEEB report for Business (D3)

1. Business impacts & dependence on biodiversity and ecosystems
2. Measuring, valuing & reporting on biodiversity in business
3. Reducing biodiversity risks in business
4. Increasing biodiversity business opportunities
5. Business, biodiversity and sustainable development

Launch: 13th of July, 2010
# Uptake of TEEB (3):
Global Agenda Councils of the WEF

<table>
<thead>
<tr>
<th>Values Frame</th>
<th>Global Risks</th>
<th>Welfare (E+S)</th>
<th>Security</th>
<th>Institutions</th>
<th>Sustainability</th>
<th>Business</th>
<th>Regions</th>
<th>Advisory</th>
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<tr>
<td>Gender</td>
<td>Nutrition</td>
<td>Philanthropy</td>
<td>Cooperation</td>
<td>Government</td>
<td>Ecosystem/Biodiv Loss</td>
<td>Mining</td>
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<td>Next Gen Health</td>
<td>Chronic Diseases</td>
<td>Int Monetary System</td>
<td>Conflict Resolution</td>
<td>Institutional Governance</td>
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<td>Construction</td>
<td>Middle East</td>
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<td>Values</td>
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<td>LT Investing</td>
<td>Internet</td>
<td>Legal System</td>
<td>Healthcare</td>
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<td>E. U.</td>
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<td>Systemic Fin Risk</td>
<td>Fragile States</td>
<td>Decision-making</td>
<td>Population</td>
<td>Urban Mngmt</td>
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<td>Strategic Foresight</td>
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<td>Water</td>
<td>Investment</td>
<td>Terrorism</td>
<td>Design</td>
<td>Transport</td>
<td>Marketing</td>
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<td>Journalism</td>
<td>Energy</td>
<td>Trade</td>
<td>Human Rights</td>
<td>Intellectual Property</td>
<td>Ageing Society</td>
<td>Entertainment</td>
<td>China</td>
<td>Economic Developm’t</td>
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<td>Faith</td>
<td>Illicit Trade</td>
<td>Corruption</td>
<td>Assistance</td>
<td>Measuring Progress</td>
<td>Climate Change</td>
<td>Skills Gaps</td>
<td>Japan</td>
<td>New Multi-nationals</td>
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Global Business of Biodiversity

This year sees the creation of The First Global Business of Biodiversity Symposium - the largest and most exciting biodiversity conference-exhibition to take place anywhere in the world to date.

Its scale and content makes this the most important meeting place for Government, Business and NGOs operating across all industrial sectors. It is the only place to be for informed dialogue and debate in the run up to COP10 - Nagoya.

www.businessofbiodiversity.co.uk
Uptake of TEEB (3): Business

• Major business and biodiversity initiatives:

• Other initiatives:
  – World Business Council for Sustainable Development
  – UNEP Financial Initiative
  – Business and Biodiversity Offset Programme (BBOP)
  – …
Commissioner Potocnik (May 2010): „We need to be able to fully factor biodiversity into the policymaking cycle and put it on a par with other economic considerations in order to develop a path towards smart, sustainable and inclusive growth in the EU by 2020.“

Armenia's Environment Minister (Bali 2010): "We have found that moral and emotional arguments for stopping biodiversity loss are not enough - we need economic arguments.... Today's Environment is Tomorrow's Economy."
Uptake in Policy

New CBD strategic plan currently designed to foster mainstreaming and indirect drivers

Source: Global Biodiversity Outlook 3 (2010)
Uptake of TEEB ideas: Policy

Inclusion in CBD strategic plan

• Use of economic values to link biodiversity targets with social targets / MDGs

• Mainstream biodiversity into other policy areas by using economic information and approaches
  – Link with Climate Change mitigation and adaptation measures [PES - REDD]
  – Include targets and indicators that make the „greening“ of business sectors explicit
Uptake of TEEB ideas: Policy

Current draft of CBD strategic plan includes:

(e) Building on the results of the TEEB study and other processes, to cooperate with relevant organizations such as UNEP, World Bank, OECD, with the aim of:
   (i) further developing the economic aspects related to ecosystem services and biodiversity;
   (ii) developing implementation tools for the integration of the economic case for biodiversity and ecosystem services; and (iii) facilitating implementation and capacity-building for such tools

(f) Through capacity-building workshops, to support countries in making use of the findings of the TEEB study and in integrating the values of biodiversity into relevant national and local policies, programmes and planning processes.
Conclusions: The future role of science in the discussion

- Getting the framework and the metrics of ecosystem services more consistent
- Improving and mainstreaming methods of valuation
- Support applied projects and capacity building across the globe

Support integration in policy frameworks (CBD, National strategies etc.)

Ensure strong economic and social component in the work of the forthcoming IPBES
“Economics is mere weaponry, its targets are ethical choices.”

Pavan Sukhdev
Thank You!

• Further information and report download: www.teebweb.org

• Contact Scientific Coordination: teeb@ufz.de

• Major contributors:

• Major funders: