

The Economics of Ecosystems & Biodiversity



20th of October, 2010
CBD COP10, Nagoya

The Economics of Ecosystems & Biodiversity

Mainstreaming the Economics of Nature

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& Special Adviser & Head - Green Economy Initiative

UNEP



Federal Ministry for the
Environment, Nature Conservation
and Nuclear Safety



Rijksoverheid



NORWEGIAN MINISTRY
OF FOREIGN AFFAIRS



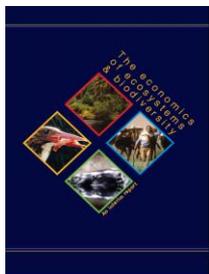


TEEB's genesis ...

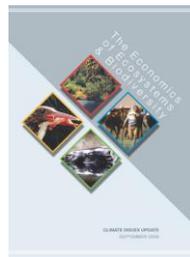

G8 2007
Environment Ministers Meeting
Potsdam, 15-17 March 2007

“Potsdam Initiative – Biological Diversity 2010”

.....the economic significance of the global loss of biological diversity....



**TEEB Interim Report
CBD COP-9, Bonn, May 2008**



**TEEB Climate Issues Update
Strömstad September 2009.**



**TEEB Main Reports
Nov. 2009 – Oct. 2010**





TEEB's main reports



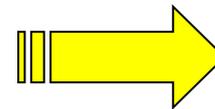
Science & Economics
Foundations



Policy Evaluation
for National Policy-
Makers



Evaluation & Decision
Support for Local and
Regional Policy



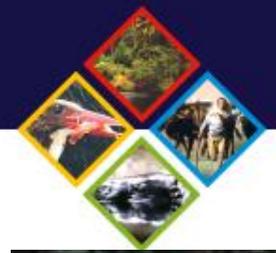
Business Risks
& Opportunities



Synthesis

TEEB's mission is to make Nature economically visible

The Economics of Ecosystems & Biodiversity



TEEB Advisory Board



Achim Steiner



Joan-Martinez Alier



Edward Barbier



Jacqueline McGlade



Giles Atkinson



Lord Stern



Jochen Flasbarth



Julia Marton-Lefevre



Peter H. May



Karl-Goran Maler



Herman Mulder



Walter Reid



Ahmed Djoghlaif



Yolanda Kakabadse



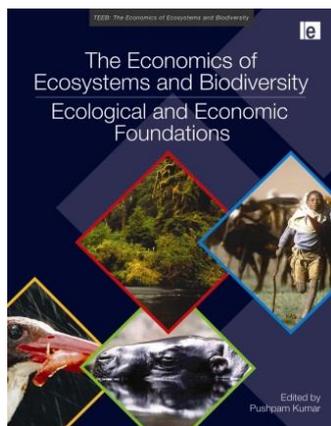
Ladislav Miko

The Economics of Ecosystems & Biodiversity

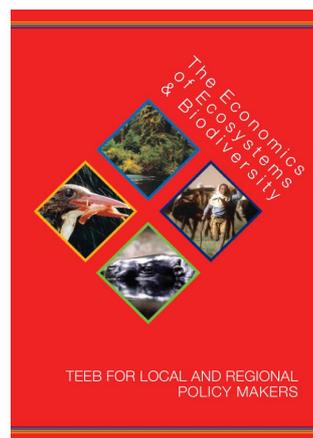


The TEEB Community

Coordinating Editors of TEEB main reports



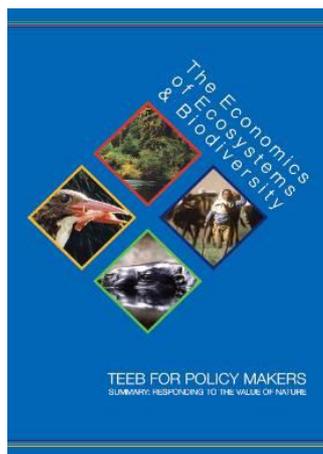
Pushpam Kumar



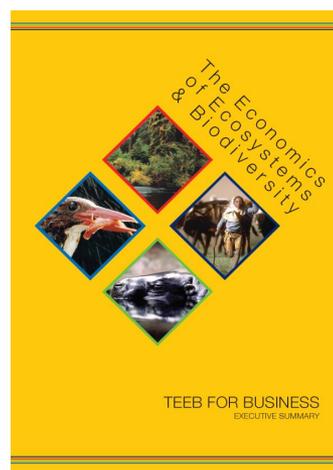
**HariPriya
Gundimeda**



**Heidi
Wittmer**



Patrick ten Brink



Joshua Bishop





The TEEB Community...

- UNEP for hosting TEEB



- TEEB Scientific Coordination Team at UFZ



- 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
 - and making TEEB a “Global Public Good”



TEEB's approach

1. Recognizing value: a feature of all human societies and communities

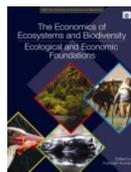
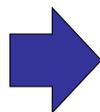
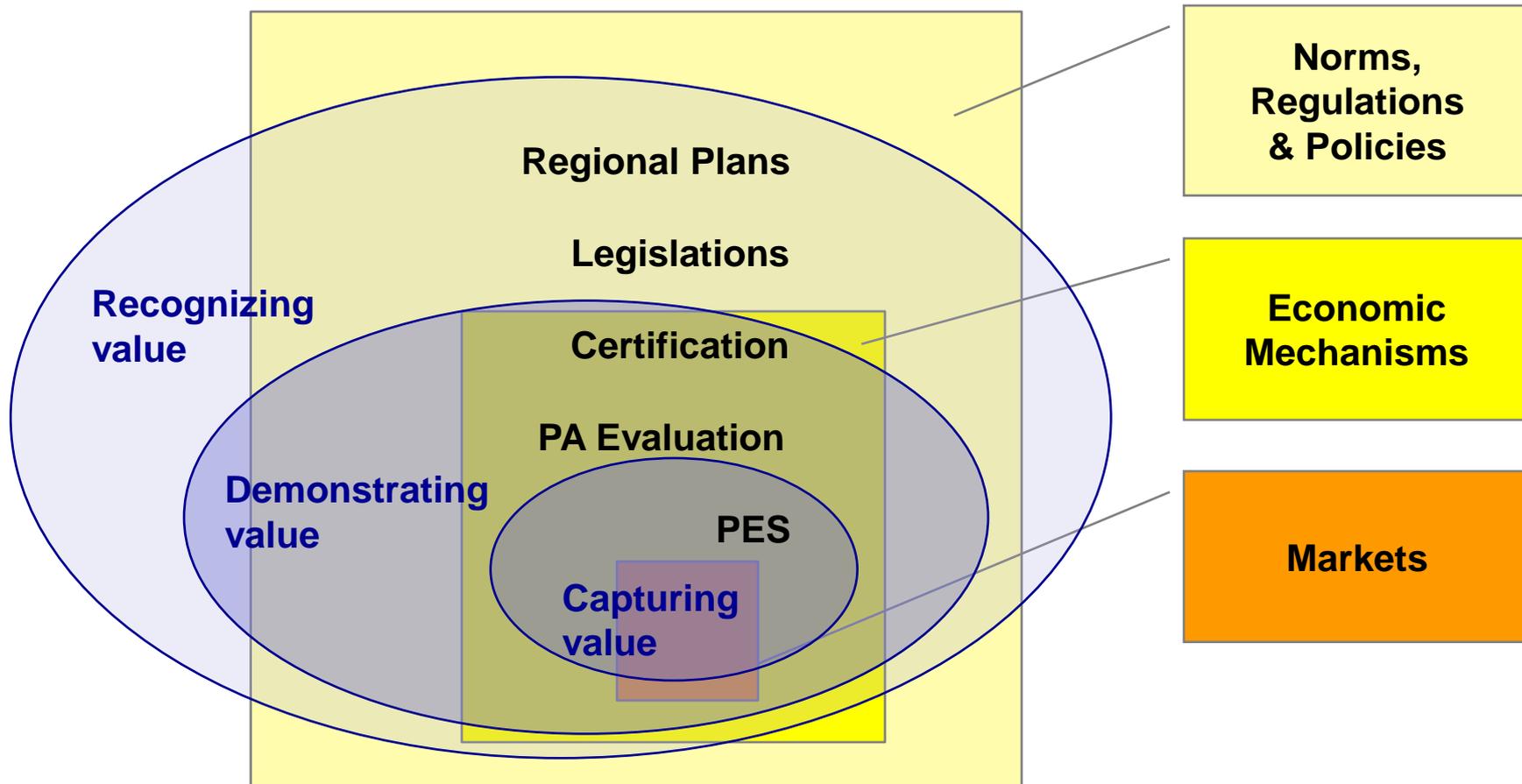
2. Demonstrating value: in economic terms, to support decision making

3. Capturing value: introduce mechanisms that incorporate the values of ecosystems into decision making





Valuations, Operating Spaces, Responses...



Ch.5



Ch.4



Ch.3



Ch.3

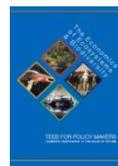
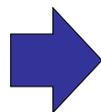


Recommendations:

Make Nature's values visible...

The destruction of nature has now reached levels where serious social and economic costs are being felt – and will be felt at accelerating pace under “business as usual”

- **Assess and Communicate the role of biodiversity and ecosystem services in the economy**
- **Ensure public disclosure of, and accountability for, impacts on nature**



Ch.1,3,4



Ch.1



Ch.2,3



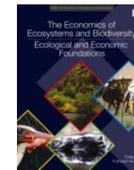
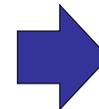
Recommendations:

Measuring better to manage better

Natural resources are economic assets, whether or not they enter the marketplace

Conventional measures of national economic performance (eg : GDP Growth) fail to reflect these stocks and their benefits flows.

- **Rapidly upgrade the System of National Accounts (SNA) to include changes in natural capital stocks and ecosystem service flows (CBD Strategic Plan – Target 2 ... in [..])**
- **URGENT : physical accounts for forest stocks / carbon storage need to be in place (e.g. for orderly development of REDD+)**



Ch.3



Ch.3,5

The Economics of Ecosystems & Biodiversity



Recommendations:

Natural capital and poverty reduction

Ecosystem services dependency

Indonesia

99 million

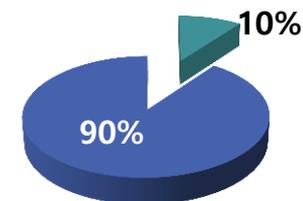
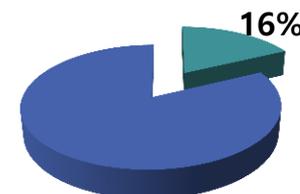
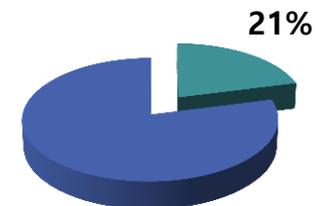
India

352 million

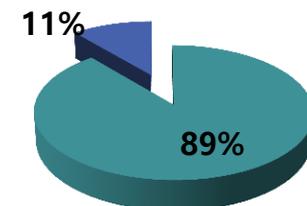
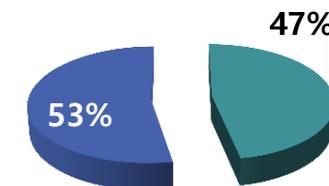
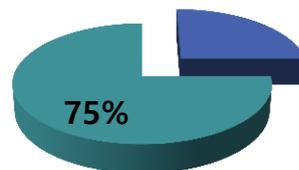
Brazil

20 million

Ecosystem services as a % of classical GDP



Ecosystem services as a % of "GDP of the Poor"



 **Ecosystem services**



Recommendations:

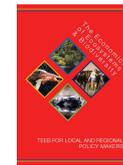
Natural capital and poverty reduction

In many developing countries, poor households rely heavily on natural capital for their survival and livelihoods, and are highly vulnerable to losses of ecosystem services

- **Fully integrate into policy our dependence on ecosystem services , especially their role as a lifeline for poor households.**
- **Target development interventions & evaluate the social impacts of policies that affect the environment.**



Ch.2,3,9



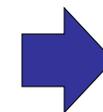
Ch.1,5,10



Recommendations: Financial Disclosure and “Net Positive impact”

Corporate financial reporting standards & purchasing policies do not generally require attention to environmental externalities

- **Disclose all major externalities in the annual reports and accounts of business and other organizations**
- **Reflect all environmental liabilities and changes in natural assets of the Corporation in its statutory accounts**
- **Principles of ‘No Net Loss’ or ‘Net Positive Impact’ (avoidance, mitigation, restoration, compensation, etc) should be integrated into normal business practice**





Recommendations:

Changing economic incentives

- 'polluter pays' and 'full-cost-recovery' principles to guide incentives.
- full disclosure of subsidies, measure and report them annually, and phase them out (CBD Strategic Plan - Target 3).

Recommendations:

Conservation is Good Investment...

- Effective, equitably managed PA's, especially in the high seas
- Ecosystem valuation to justify PA's & inform conservation investment



Ch.2,6,7,8



Ch.7,9

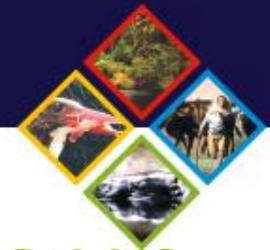


Recommendations:

Conservation is Good Investment...

- Global spending on PAs p.a.: ~ \$6.5-10 billion
 - Need for PAs (15% land, 30% sea) p.a.: ~ \$45 billion
 - Need for Natura 2000 p.a.: ~ \$6.5 billion
 - Benefits from effective PAs p.a. : ~\$ 4-5 trillion
-
- International NGO funding: ~ >\$1 billion
p.a.
 - International gov funding (30-50% to PAs): ~\$4-5 billion p.a.
 - Market-based income to PAs ~ \$1-2 billion p.a.
 - Percentage of total ODA: ~ 2.8%





Recommendations : CCS ... Nature's Way

Ecological infrastructure and climate change



- Tropical forests store a fourth of all terrestrial carbon
 - 547 gigatonnes (Gt) out 2,052 Gt (Trumper et al. 2009)
- Tropical forest capture
 - up to 4.8 Gt CO₂ annually (Lewis & White 2009)
(total emissions p.a. ~32Gt)
- Stopping deforestation holds an excellent cost-benefit ratio
 - Halving deforestation generates net benefits of about \$ 3.7 trillion (NPV) including only the avoided damage costs of climate change (Eliasch Review 2008)

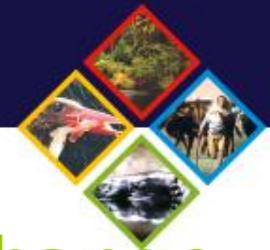
Recommendations:

Ecological infrastructure and climate change

Example: ECUADOR'S Conservation Proposal
(Yasuni Preserved, ITT Oil stays in ground)



Yasuni National Park –
“the most biodiverse
wilderness on Earth”



Recommendations:

Ecological infrastructure and climate change

Example : Nature-based climate change mitigation, Germany

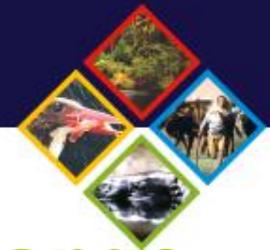
- drainage of 930,000 ha peatlands for agriculture caused emissions of 20 Mio. t of CO₂-eq. per year, @ social cost 1.4 billion €
- **Peatland restoration:** low cost , biodiversity friendly mitigation

Mecklenburg-Vorpommern:

- Pilot project 2000-2008
- Restoration of 30,000 ha
- Reduced emissions up to 300,000 tCO₂-e
- **cost of 8 to 12 € / t CO₂ (& if extensive grazing / reed production/ alder forest then costs down to 0 to 4 €)**



Restored peatland in Trebeltal 2007
Foto: D. Zak, <http://www.fv-berlin.de>



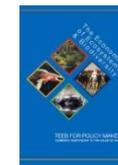
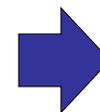
Recommendations:

Ecological infrastructure and climate change

Investing in ecological infrastructure makes economic sense when the full range of benefits is taken into account

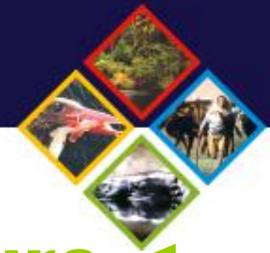
It is usually cheaper to avoid degradation than to pay for restoration, but both are relevant in the context of climate change

- **Ecosystem conservation and restoration should be evaluated & pursued in support of climate change mitigation and adaptation.**
- **Within the UNFCCC process, REDD+ should be accelerated for implementation : pilot projects & capacity building in developing countries.**



Ch.5,9





Recommendations:

> **Mainstreaming the Economics of Nature** <

A whole range of opportunities is out there!

➤ **Cancun UNFCCC COP**

- Climate change mitigation policy needs to reflect wider costs and benefits for biodiversity (Coral reef emergency / REDD).
- Climate change adaptation finance needs to consider the compelling economics of using ecosystem restoration.

➤ **Rio+20**

- Formally recognise the links between biodiversity, climate change, development, water and food security

➤ ***Many opportunities on the local, national and business level!***





Main Assets Built by TEEB

**TEEB Reports
& Databases**

**Constant review
and updates**

**TEEB
Approach**

**Collaborative
stewardship**

**TEEB
Community**

**Vibrant &
expanding**

**TEEB
Brand**

**Evolving, dynamic,
jointly owned**



Main Demands Made of TEEB

- TEEB Capacity Building for Developing Countries
- “Country” and “Regional” TEEB Analysis
- Green National Accounts (Project w/ WB, UNEP & Others)
- Estimating Business Sector Externalities
- Identifying & closing Ecology & Valuation Knowledge Gaps
- Communicating the Issue to Society at Large



TEEB - MOFILM contest

- MOFILM “crowd sources” videos for global brands (Unilever, Walmart, Coke, Pepsi, etc. etc.) and a few social causes, helping aspiring filmmakers showcase their talent
- MOFILM chose TEEB as their 2010 social cause thanks to a pitch by TEEB’s Indian partner 
- Remarkable results Over **1,000** Downloads...and **55** Film entries !
- **Top 25 TEEB films** will be made available for “social media” outreach , school education, CBD,





Want to know more?

Sessions on economics of ecosystem services and biodiversity, climate change and land management

Monday, 25th October, Room 211A, Building 2

- 10:00 am **TEEB4me: Communicating the Value of Nature**
- 11:30 am **TEEB: The Scientific Approach**
- 1:15 pm **TEEB for Local Policy**
- 3:00 pm **TEEB for Business**
- 4:30 pm **TEEB for National Policy**

- 7:30 pm **Evening reception**

The Economics of Ecosystems & Biodiversity



Thank You !

www.teebweb.org

www.teeb4me.com

