The Economics of Ecosystems and Biodiversity (TEEB) as mainstreaming tool

Markus Lehmann, CBD Secretariat

Regional workshop for Africa on Updating NBSAPs

Economics days

Addis Ababa, Ethiopia, 27 February to 1 March 2012

TEEB mandate

Potsdam Initiative – Biological Diversity 2010

"In a global study we will initiate the process of analysing

the global economic benefit of biological diversity,

the costs of the loss of biodiversity and

the failure to take protective measures

versus the costs of effective conservation."

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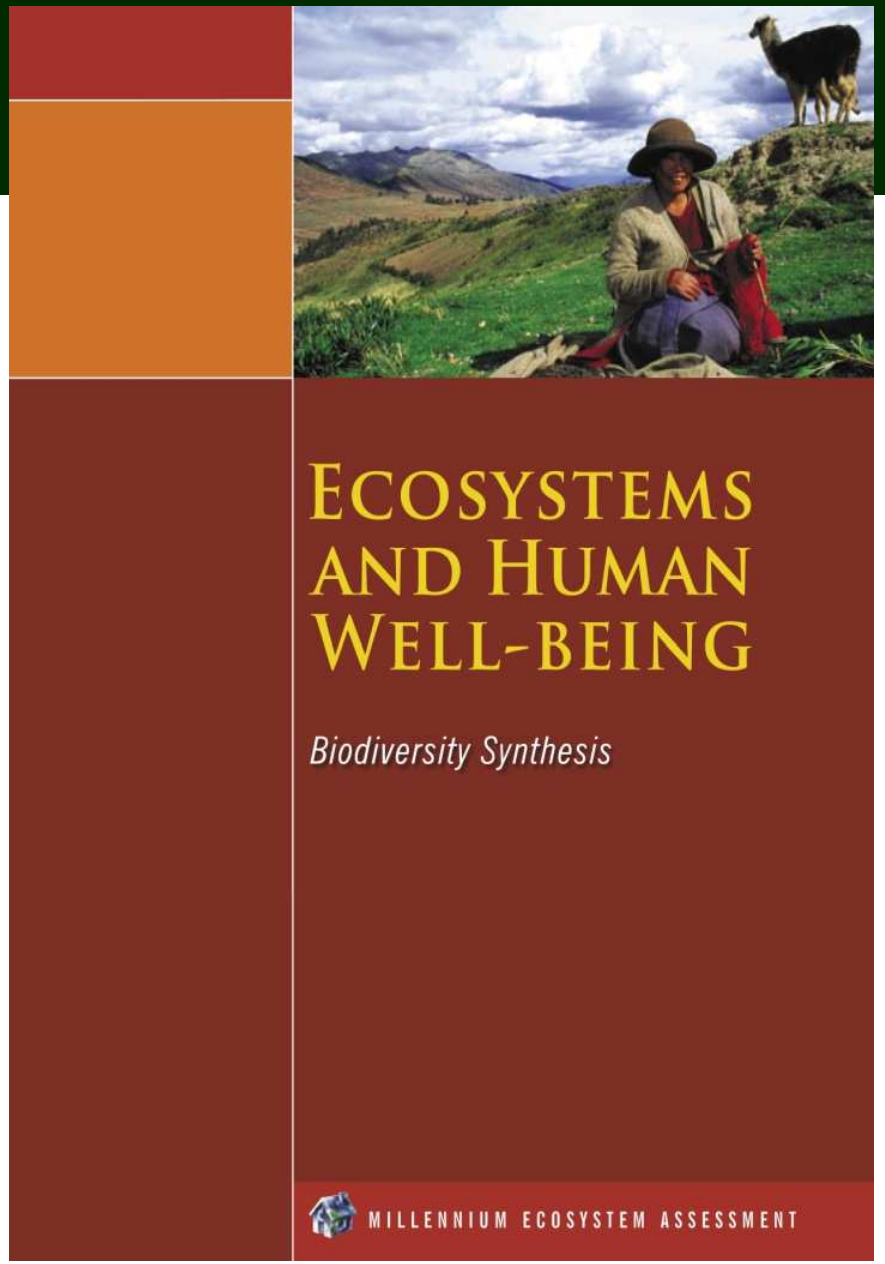
TEEB origins

- Founded on the (MA) concept of ecosystem services for human well-being, under-pinned by biodiversity
- Focus on underlying economic drivers of ecosystem decline and mainstreaming into economic decisions
- Fill gap in economic evidence provided by the MA
- Inspired by the Stern Review's economic arguments for action on climate change



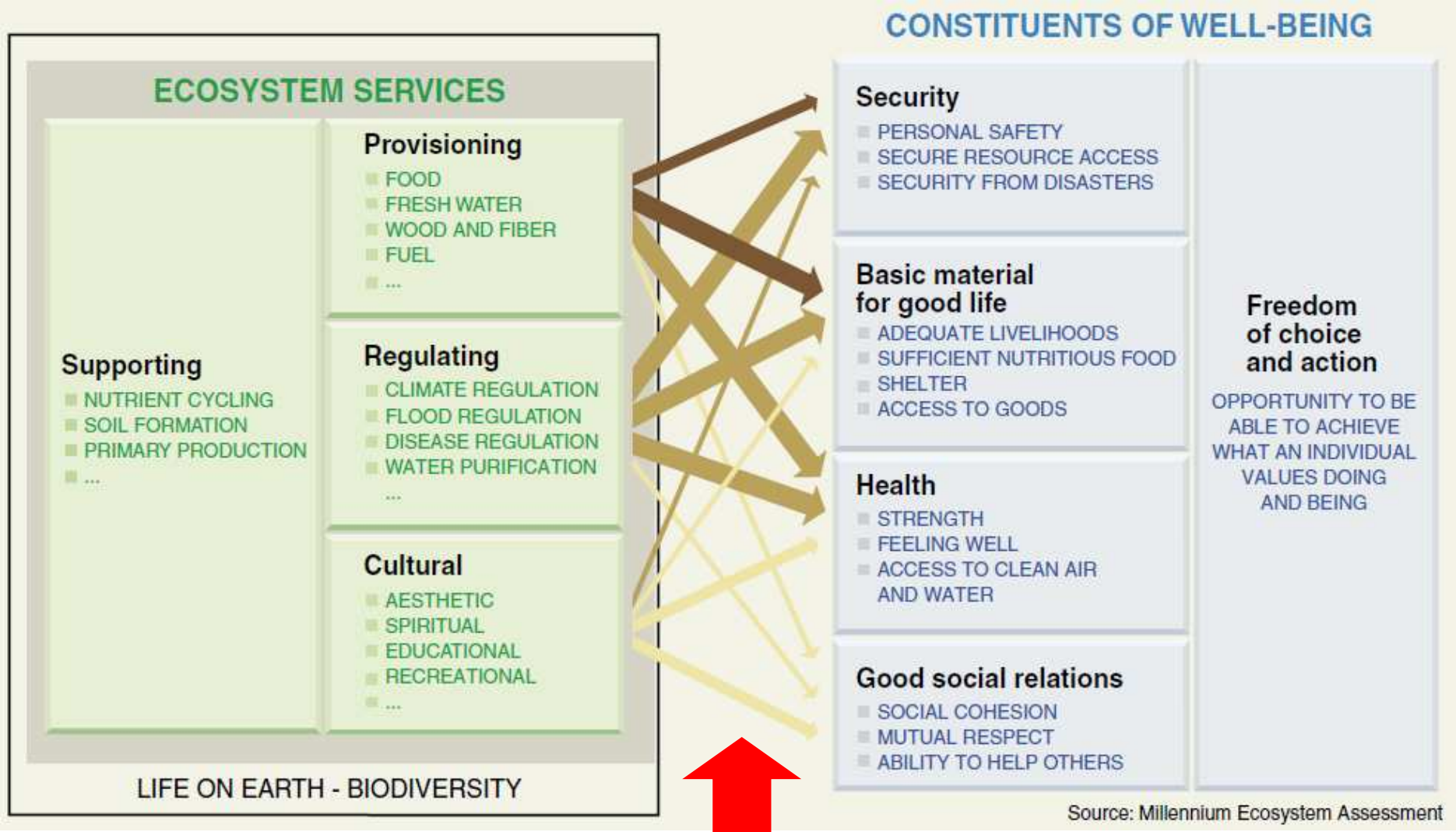
Who is TEEB?

- Study Leader: Pavan Sukhdev
- Advisory Board: 14 scientific & policy leaders (including ES CBD)
- Administration: UNEP
- Scientific coordination: UFZ, Leipzig
- Over **500** individual editors, authors and reviewers
- Financial donors and other institutional partners (partial list):

TEEB products

- Interim Report
  May 2008
- Climate Issues Update
  September 2009
- National & International Policy-Makers November 2009
- Business
  July 2010
- Local & Regional Policy-Makers September 2010
- Ecological & Economic Foundations
  October 2010
- Final Synthesis Report
  October 2010

TEEB approach



TEEB approach

Focus on values of ecosystem services and MA's "promising (economic) responses"

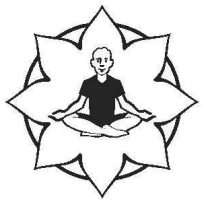
Incorporation of nonmarket values of ecosystems in resource management decisions

Elimination of subsidies that promote excessive use of ecosystem services (and, where possible, transfer these subsidies to payments for non-marketed ecosystem services)

Measures to **reduce aggregate consumption** of unsustainably managed ecosystem services

Greater **use of economic instruments** and market-based approaches in the management of ecosystem services (where enabling conditions exist)

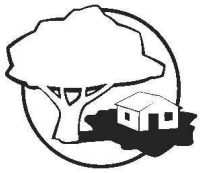
TEEB approach

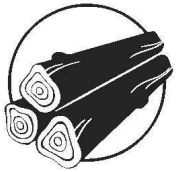



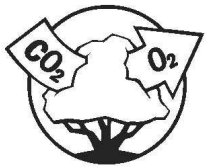

1. **Recognizing value**: a feature of all human societies and communities


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

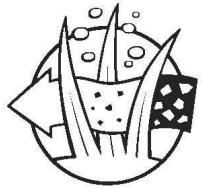

3. **Capturing value**: introduce mechanisms that incorporate the values of ecosystems into decision making



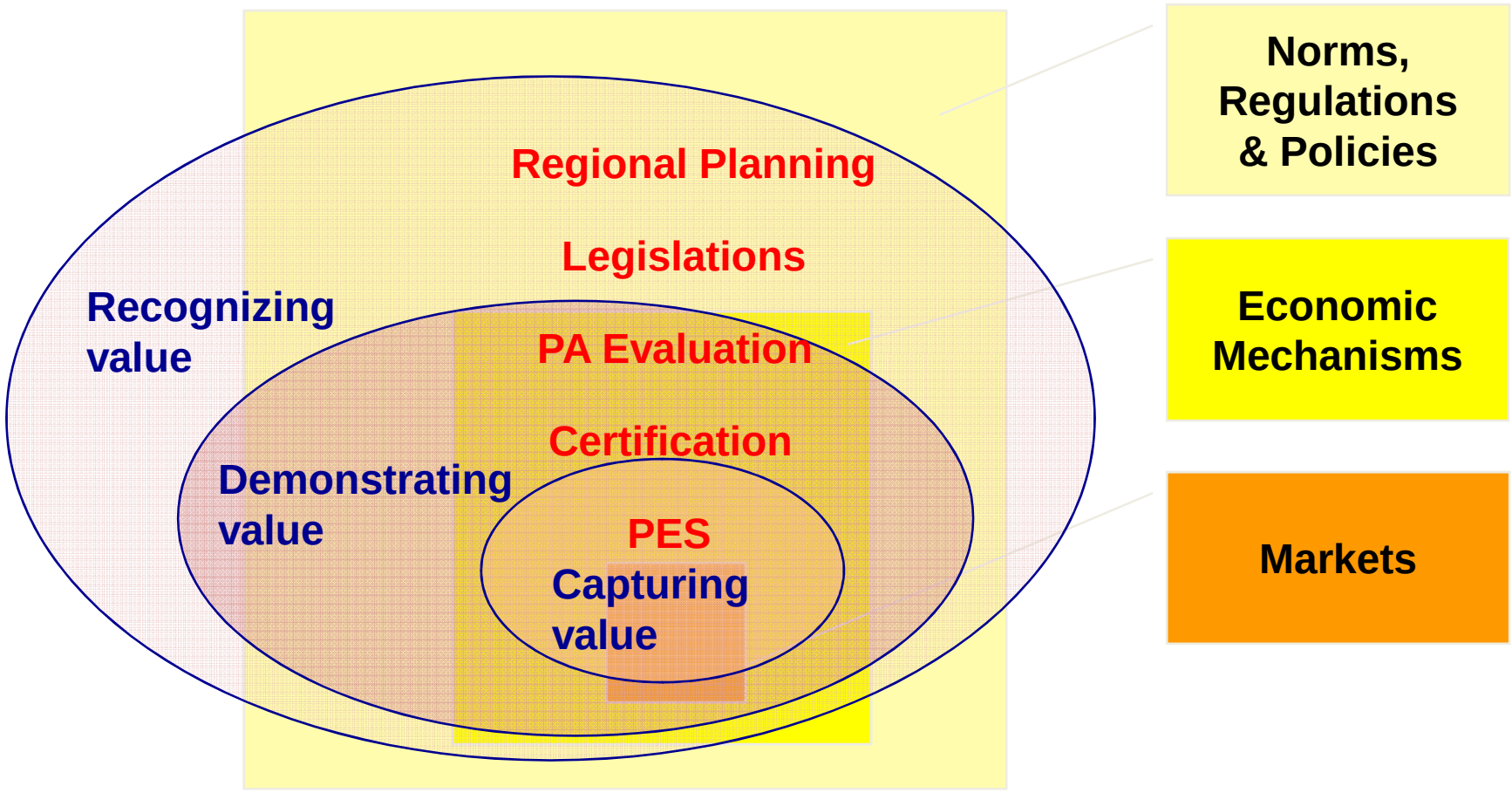







TEEB approach



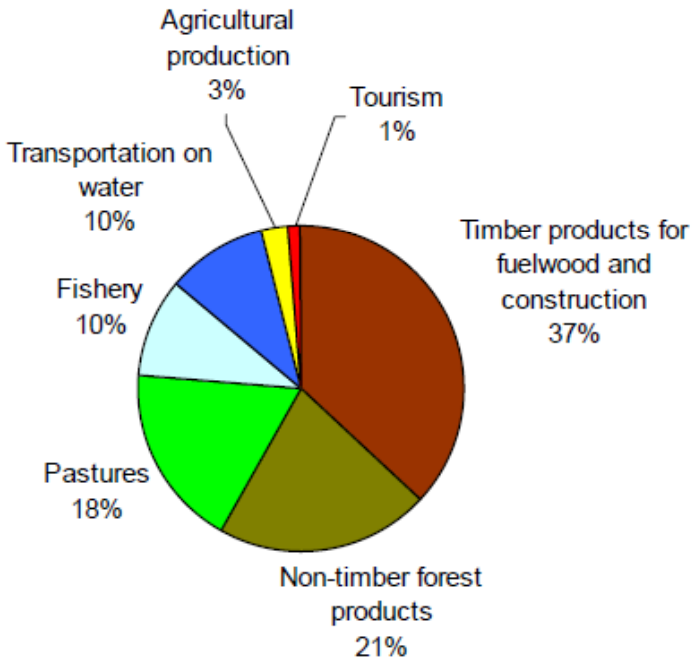
TEEB approach to valuation

Economic valuation a means to…

- recognise, demonstrate and, possibly, capture value.
- raise awareness of the role of ecosystems in human well being.
- help us to measure better so that we can manage better.
  - Identify ‘true’ costs of business as usual
  - Identify potential opportunties
  - Improve decision making when tradeoffs are necessary and useful information is lacking.
  - Provide a basis for policy formation and analysis

TEEB approach to valuation

Example: Valuation of wetlands in Sourou valley, Burkina Faso



Graph 1: Ecosystem services in the Sourou valley in Burkina Faso that were valued by (Somda et al., 2010). Preliminary estimates value the sum of these ecosystem services to be at the minimum 15 million Euros (US$ 21.2 million) for a population of 62,224 people (Somda et al., 2010).

TEEB approach to valuation

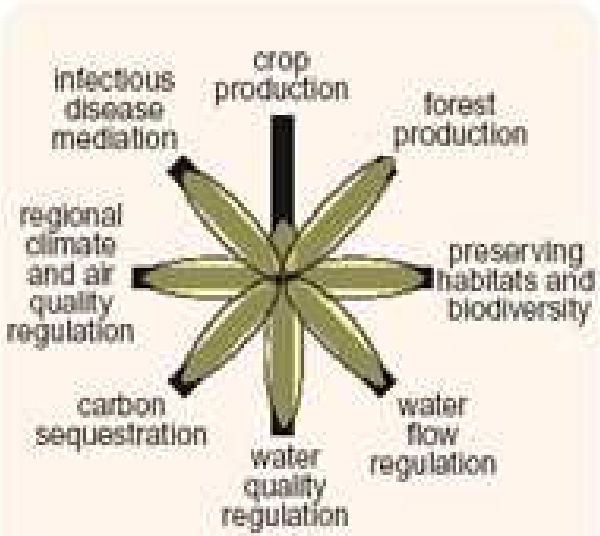
The role of ecological infrastructure: Kampala wetland

- Nakivubo swamp provides natural water treatment & supports small-scale income generation (reed harvesting, brick making, and fish farming)
- Natural water treatment services are valued at US$ 1-1.75 million per year
- If the swamp is converted then additional investment in a sewage treatment plant would be required with running costs of over US$ 2 million / year

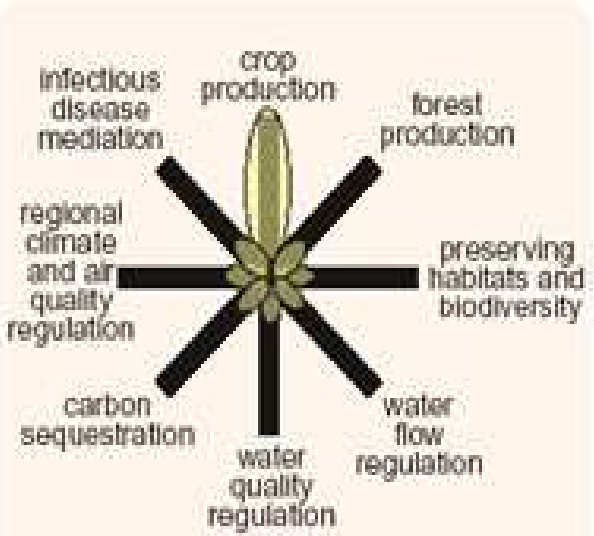
Sources: Emerton 2003; Emerton et al. 1999

TEEB approach to valuation

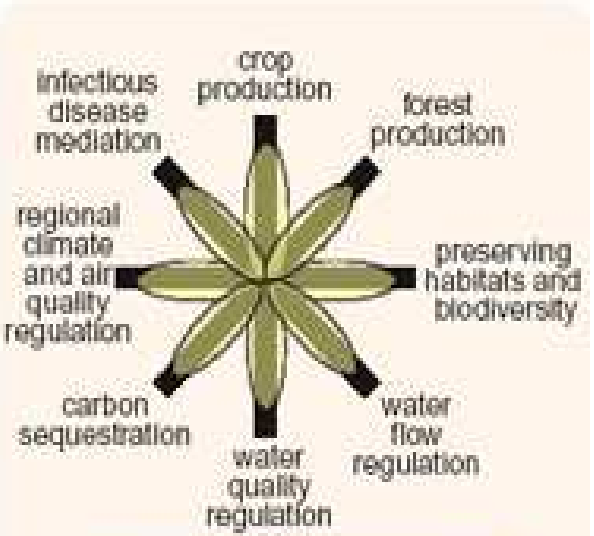
Better management of a portfolio of ecosystem services…



natural ecosystem



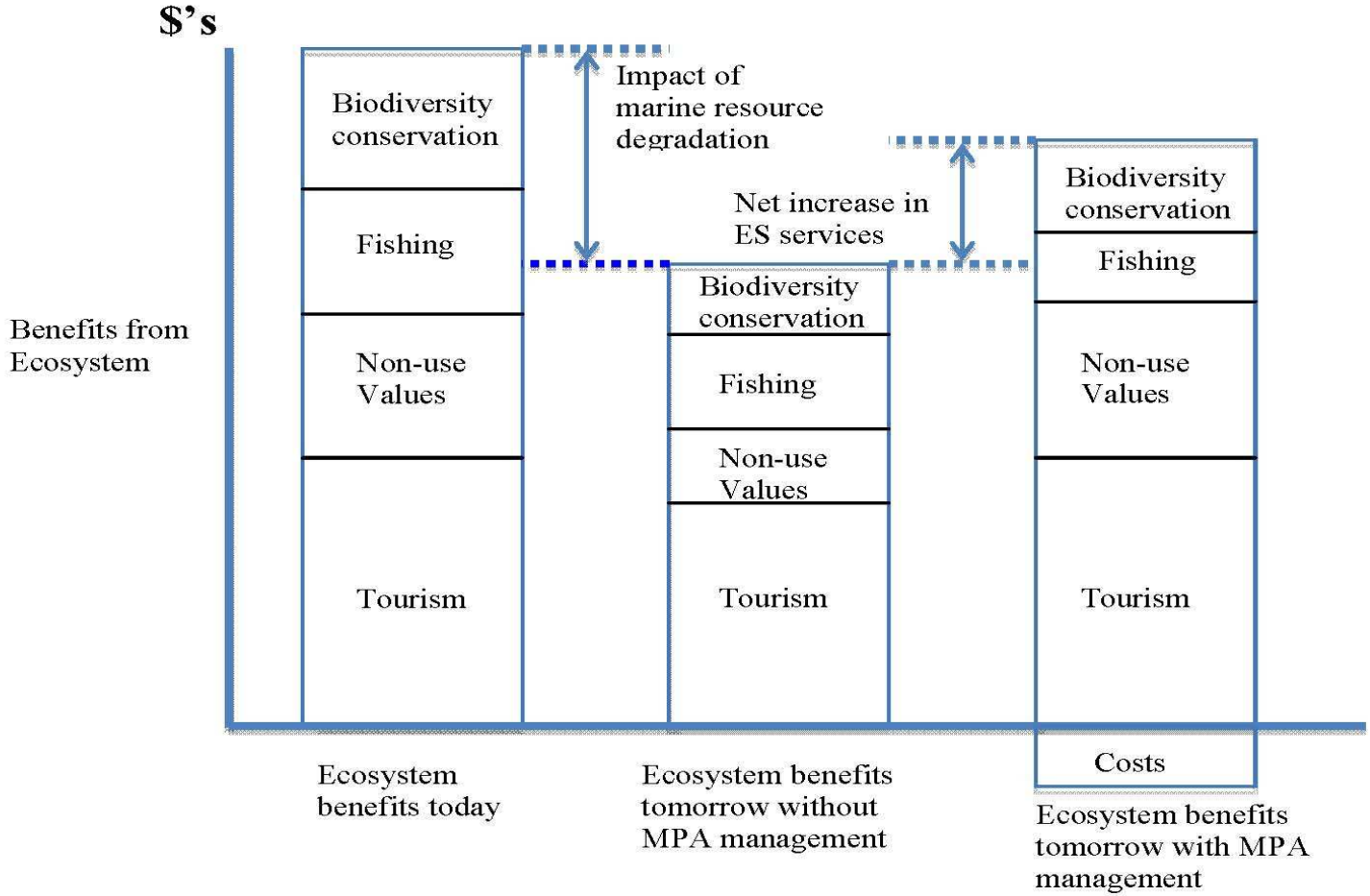
intensive cropland



cropland with restored ecosystem services

TEEB approach to valuation

…requires analyzing tradeoffs under different scenarios…



TEEB approach to valuation

…while also looking at the distribution of benefits among stakeholders: example from Cameroon

Forest Good or Service (in discounted US$/ha or *in US$/ha/yr*)	**General**	**Estimates in Cameroon**
Timber	200 - 4,400	560
Fuelwood	*40*	61
NTFPs	*0 - 100*	41 - 70
Genetic resources	*0 - 3,000*	7
Recreation	*2 - 470*	19
Watershed benefits	*15 - 850*	54 - 270
Climate benefits	360 - 2,200	842 - 2,265
Option values	*2 -12*	3
Non-use values	*4,400*	19 - 32

Although timber remains an important economic resource, it can be seen that certain ecological functions provided by the forest also make non-negligible contributions to human well-being and should be given more consideration in forest policies.

Capturing value: biodiversity business

Adding BES to existing business

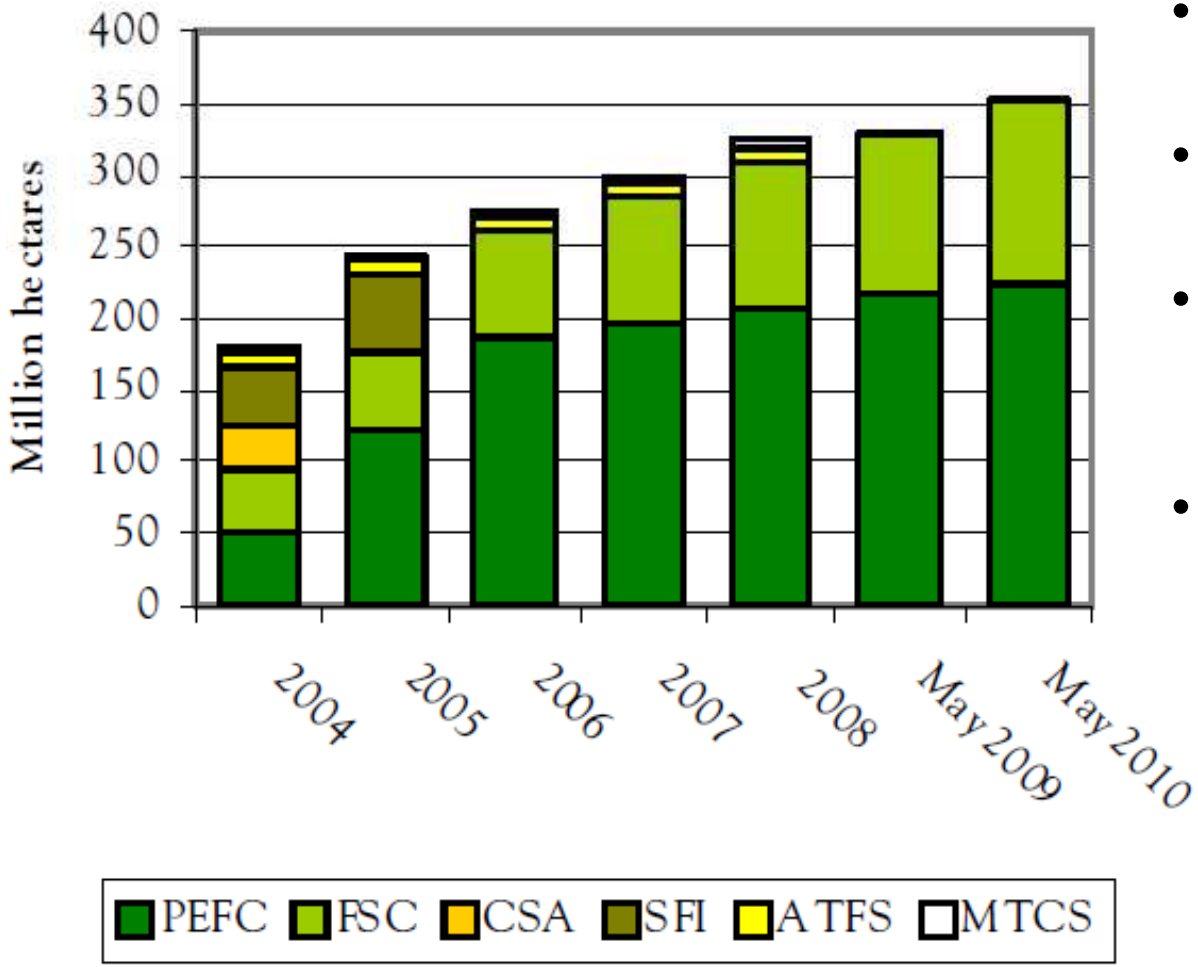
- Agriculture
- Biodiversity mgmt services
- Cosmetics
- Extractive industries
- Finance
- Fisheries
- **Forestry**
- Garments
- Handicrafts
- Pharmaceuticals
- Retail
- Tourism

New markets for BES

- Bio-carbon & REDD-plus
- Water quality trading
- Biodiversity banking

Capturing value: biodiversity business

Example: Forest certification



- 355 million hectares (9% of world's forests)
- 26% of global supply of industrial roundwood
- 84% of certified forests are in North America and Western Europe
- 2 schemes dominate: FSC, PEFC

Source: UNECE/FAO Forest Products Annual Market Review 2009-2010

Capturing value: biodiversity business

…certification and labelling are no panacea...

- Certification initiatives need to be carefully designed to address local socio-economic and ecological concerns
- For instance, a recent TEEB study on certified shade-grown coffee in Ethiopia shows that existing certification schemes do not reflect agro-forestry realities, and that perverse impacts may result from certification

Protection of biodiversity through coffee certification? The case of forest coffee in Bench Maji and Kaffa Zone, Ethiopia

Authors: Till Stellmacher, Ulrike Grote and Jörg Volkmann

Short title: Certification for forest coffee, Ethiopia

Key Message: Certification initiatives need to be carefully designed to address local socio-economic and ecological concerns. Suitability of certification standards, information exchange and independent monitoring are essential to avoid detrimental ecological effects.

Suggested citation: TEEBcase by T. Stellmacher, U. Grote and J. Volkmann (2010) Certification for forest coffee, Ethiopia available at: TEEBweb.org

The problem: Poverty and loss of wild coffee forests

Ethiopia is the origin of worldwide Arabica coffee. The coffee forest ecosystem presents a biodiversity hotspot of worldwide importance. Ethiopia is the 6th largest coffee producing country in the world. An estimated 30% of Ethiopia's coffee production originates from forest coffee cultivation systems, contributing about 10 to 20% of the country's total export earnings.[1] Forest coffee has the advantage that it originates from an organic and shaded production area – a quality increasingly important for coffee drinkers worldwide. The montane rainforests in Southern Ethiopia are the only place in the world where coffee still grows wild in its natural habitat. For this reason, these areas require protection.

Despite the value and demand for coffee, Ethiopian forest coffee producers live in extreme poverty. Their livelihood traditionally depends on low-yielding subsistence agriculture and the sale of forest coffee for income. However, coffee prices are low and highly fluctuating. Simultaneously, Ethiopian coffee forests are experiencing deforestation at annual rates of up to 9%. This is mainly due to the gradual expansion of smallholder agriculture and over-utilization of forest products. There is a trend of extensive wild coffee collection moving towards semi-forest plantation coffee production. From a coffee producer's viewpoint, the transformation of primary forests into coffee plantations makes economic sense because coffee generates immediate cash income while other forest services do not.

The approach: Certifying forest coffee to provide incentives for sustainable production

The certification of coffee started in Ethiopia in the late 1990s with the certification of agricultural producer cooperatives by Addis Ababa based branches of European certification agencies. The first forest coffee producing cooperative was certified in 2002. A total number of 12 forest coffee cooperatives in remote areas [illegible] certified according to Fairtrade, Organic [illegible]

What next for TEEB?

Capacity building/enhancement: initiatives by GIZ, s/CBD, UNEP: workshops, training manuals, e-learning tools,…

National/regional analyses (national TEEB studies in Brazil, India, Germany, Scandinavia, Georgia,…)

Green National Accounts (WAVES; World Bank & partners)

Filling ecological & valuation knowledge gaps using the TEEB network: development of a help desk by ufz

www.teebweb.org

www.cbd.int/incentives/case-studies.shtml

More information

www.teeb4me.com

www.teebweb.org

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