

What is this?

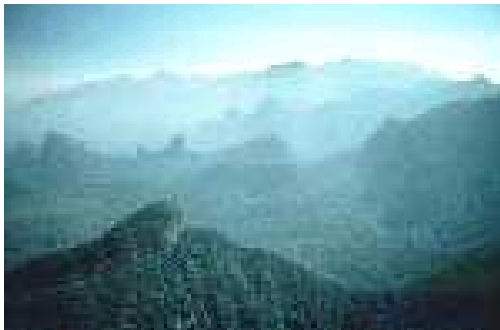


A water purification plant

*A flood control
mechanism*



A food production factory



A god

An air conditioner



Not just bugs&beasts: people

*Not just ecological systems:
ecosystem services*

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

Markus Lehmann, CBD Secretariat

Sub-regional workshop for Caribbean countries – Economics day
St. George's, Grenada, 17 – 21 October 2011



CBD



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.”

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.**”

TEEB origins

- Founded on the (MA) concept of ecosystem services for human well-being, underpinned 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



ECOSYSTEMS AND HUMAN WELL-BEING

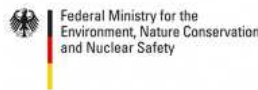
Biodiversity Synthesis



MILLENNIUM ECOSYSTEM ASSESSMENT

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):

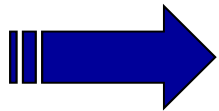


TEEB products



Interim Report

May 2008



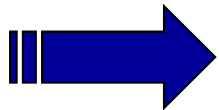
Climate Issues Update

September 2009



National & International Policy-Makers

November 2009



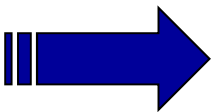
Business

July 2010



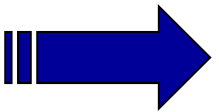
Local & Regional Policy-Makers

September 2010



Ecological & Economic Foundations

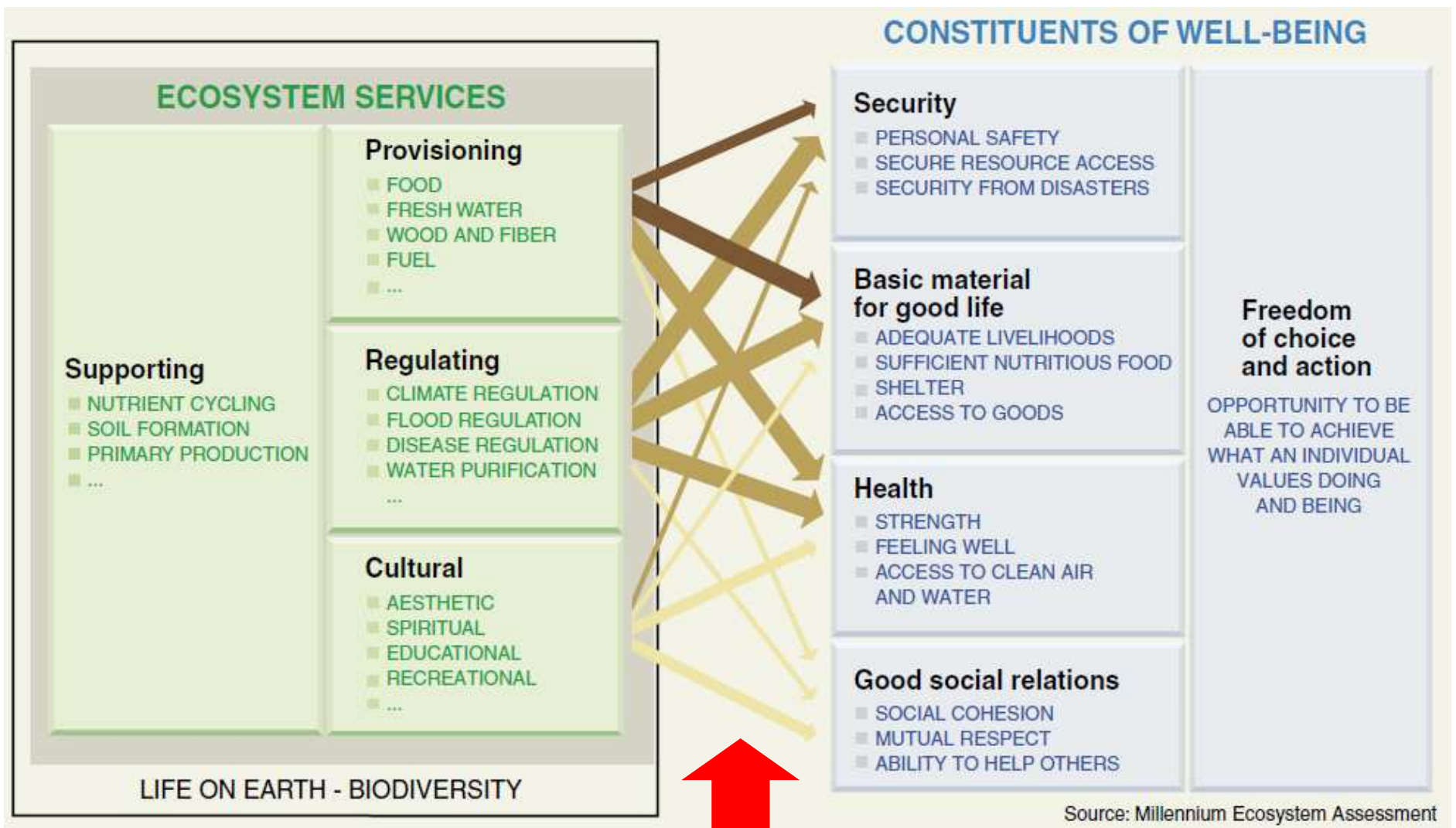
October 2010



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



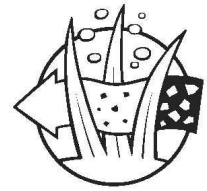
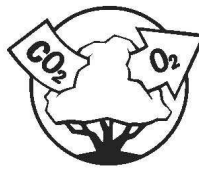
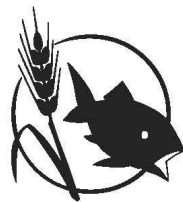
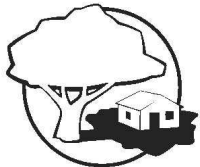
1. Recognizing value: a feature of all human societies and communities



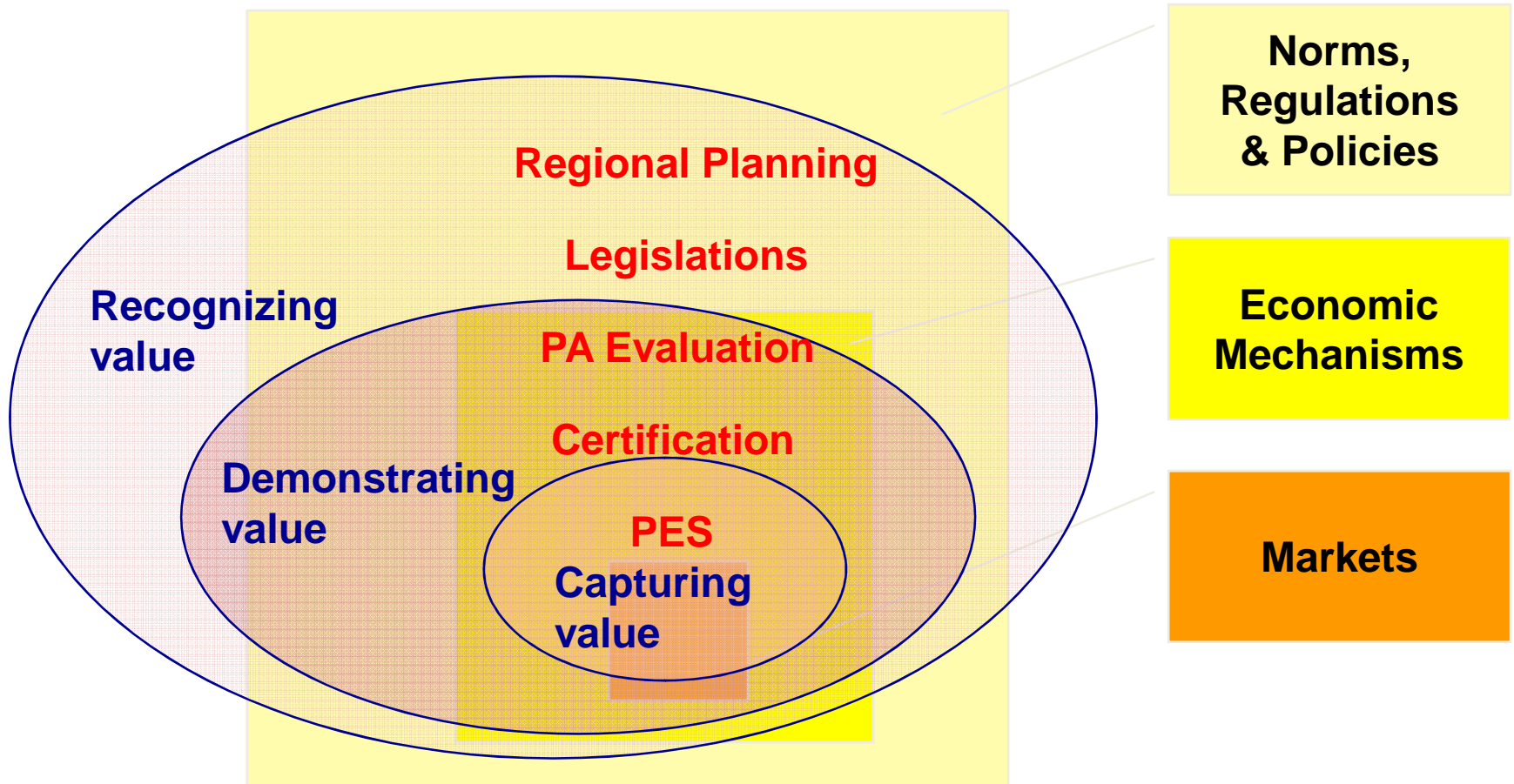
2. Demonstrating value: in economic terms, to support decision making



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, eventually, 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 opportunities
 - Improve decision making when tradeoffs are necessary and useful information is lacking.
 - Provide a basis for policy formation and analysis

TEEB approach to valuation

Raise awareness: the case of coral reefs

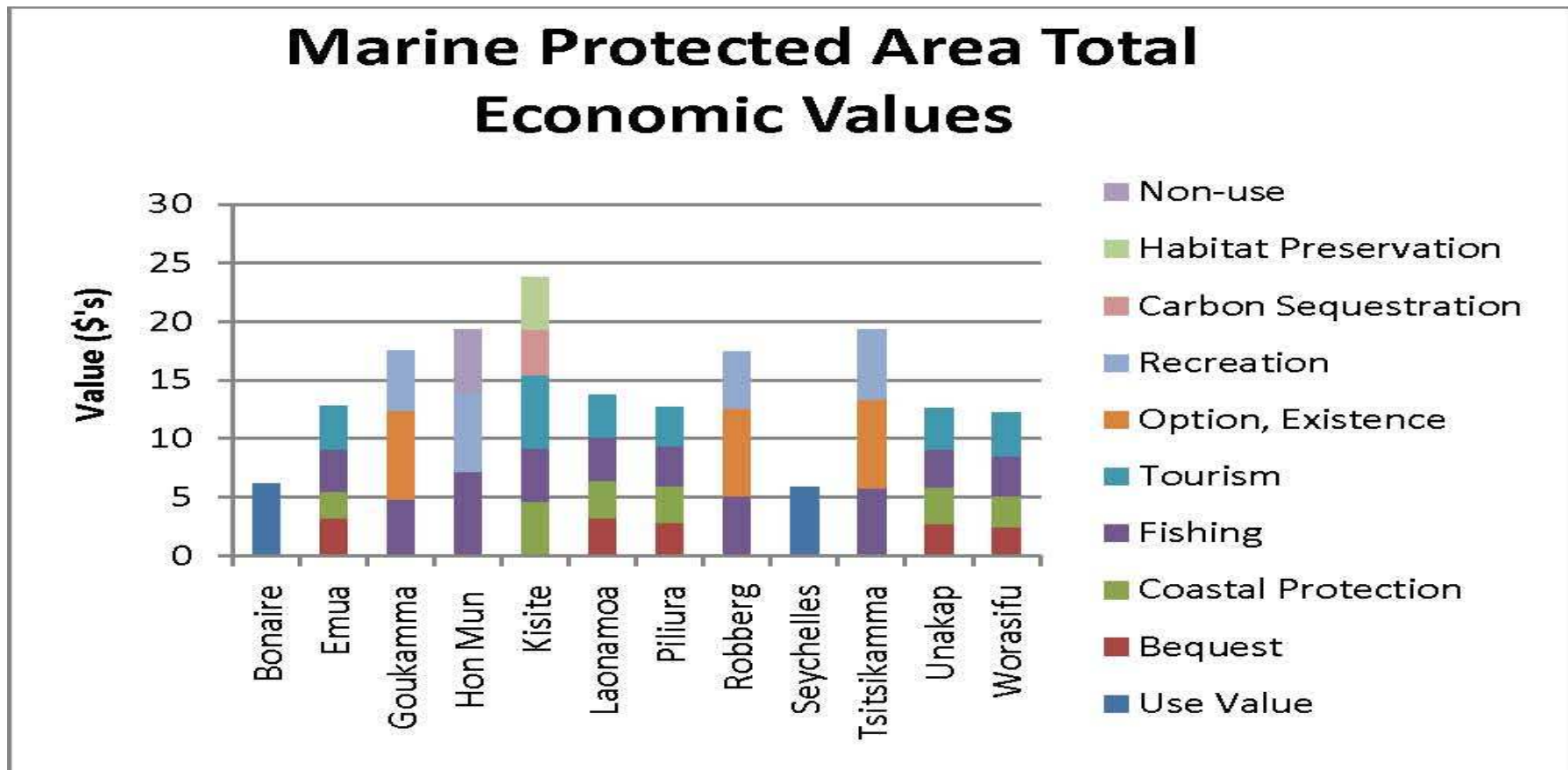
| SUMMARY OF VALUATION RESULTS — MONTEGO BAY CORAL REEF | | | |
|--|-----------------------|-------------|--------------|
| | Benefit NPV (MM\$) | Price* | |
| | | MM\$/% | MM\$/ha |
| Tourism/recreation | 315.00 | 7.33 | 17.18 |
| Artisanal fishery | 1.31 | 0.03 | 0.07 |
| Coastal protection | 65.00 | 1.51 | 3.54 |
| Local non-use | 6.00 | 0.24 | 0.56 |
| Visitor non-use | 13.60 | 0.54 | 1.28 |
| SUBTOTAL | 400.91 | 9.65 | 22.63 |
| Pharmaceutical Bioprospecting (Global) | 70.09 | 0.23 | 0.53 |
| TOTAL (GLOBAL) | 471.00 | 9.88 | 23.16 |
| Pharmaceutical Bioprospecting (Jamaica) | 7.01 | 0.02 | 0.02 |
| TOTAL (JAMAICA) | 407.92 | 9.67 | 22.68 |

* Marginal benefits shown at typical current reef conditions.

Source: CBD TS 28, p.45, Ruitenbeek and Cartier 1999.

TEEB approach to valuation

Raise awareness: the case of MPAs



Source: CBD TS 28, p.45, Ruitenbeek and Cartier 1999.

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

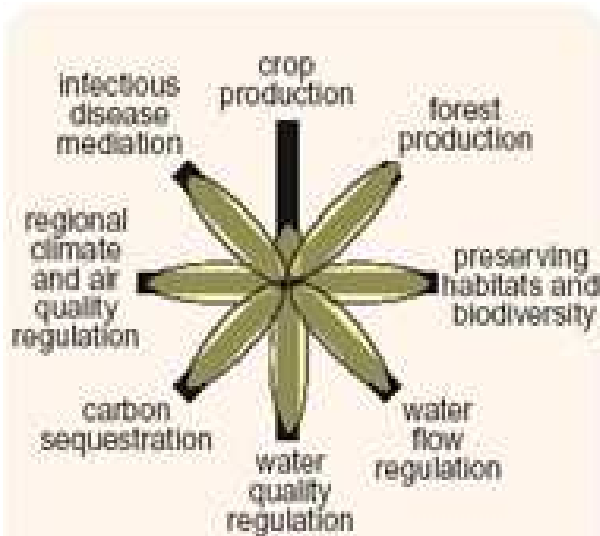


Sources: Emerton 2003; Emerton et al. 1999

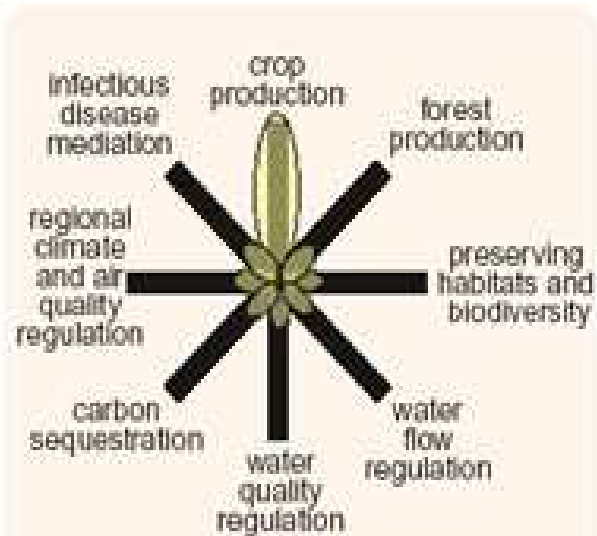
Source: CBD TS 28, p.45, Ruitenbeek and Cartier 1999.

TEEB approach to valuation

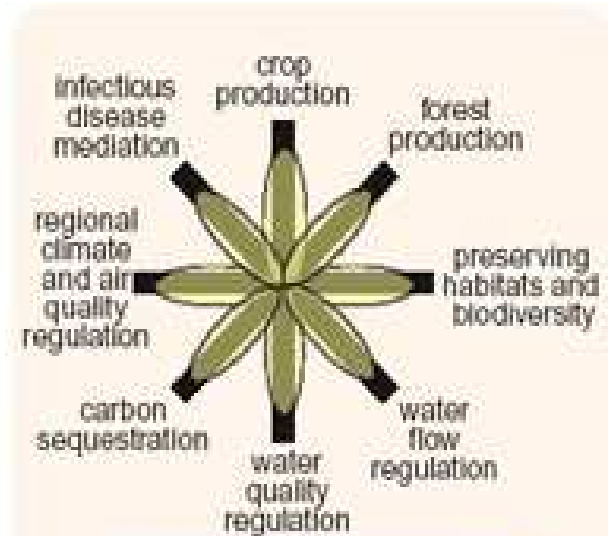
Better management of a portfolio of ecosystem services...



natural ecosystem



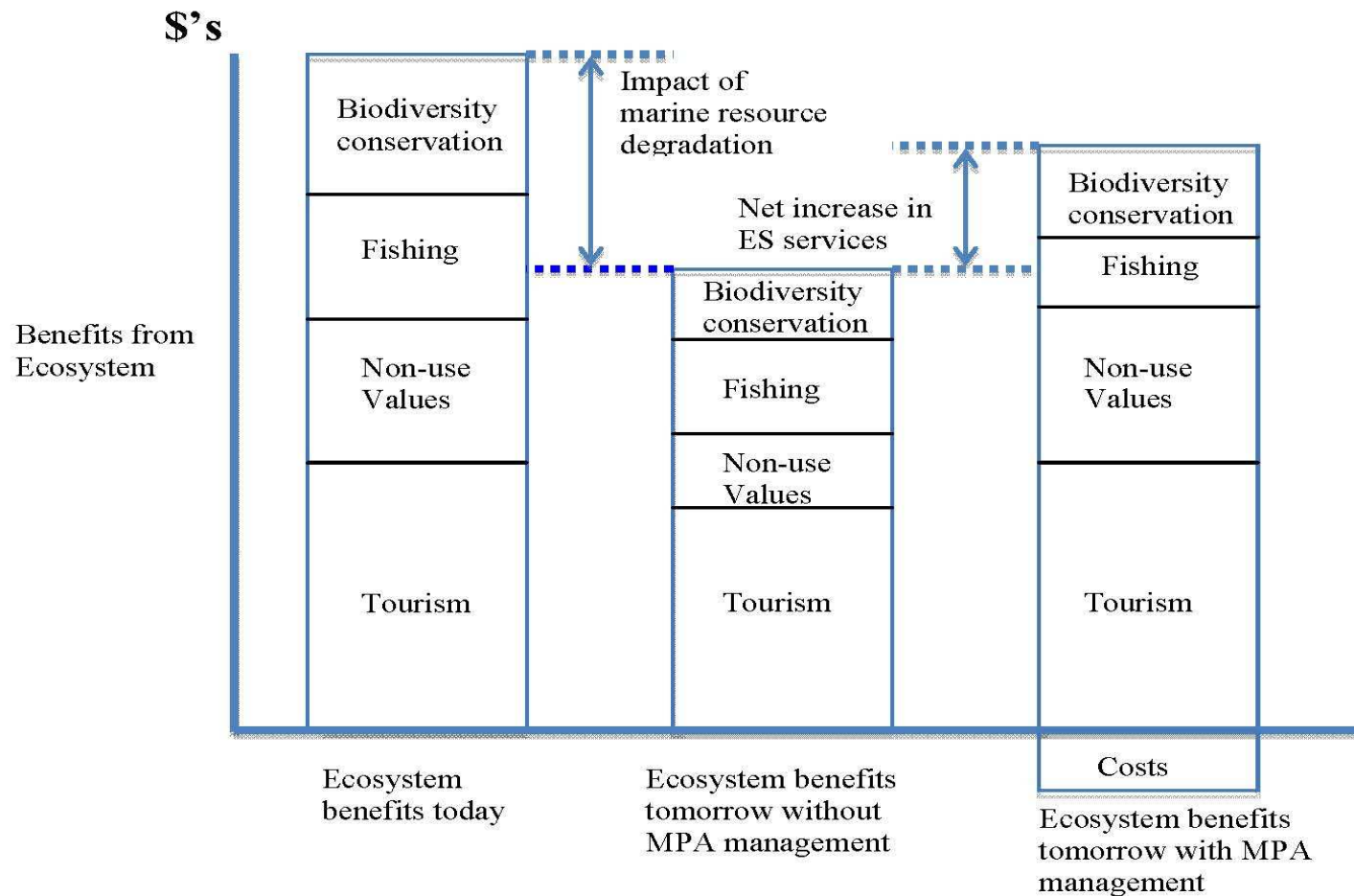
intensive cropland



cropland with restored ecosystem services

TEEB approach to valuation

...requires analyzing tradeoffs under different scenarios...

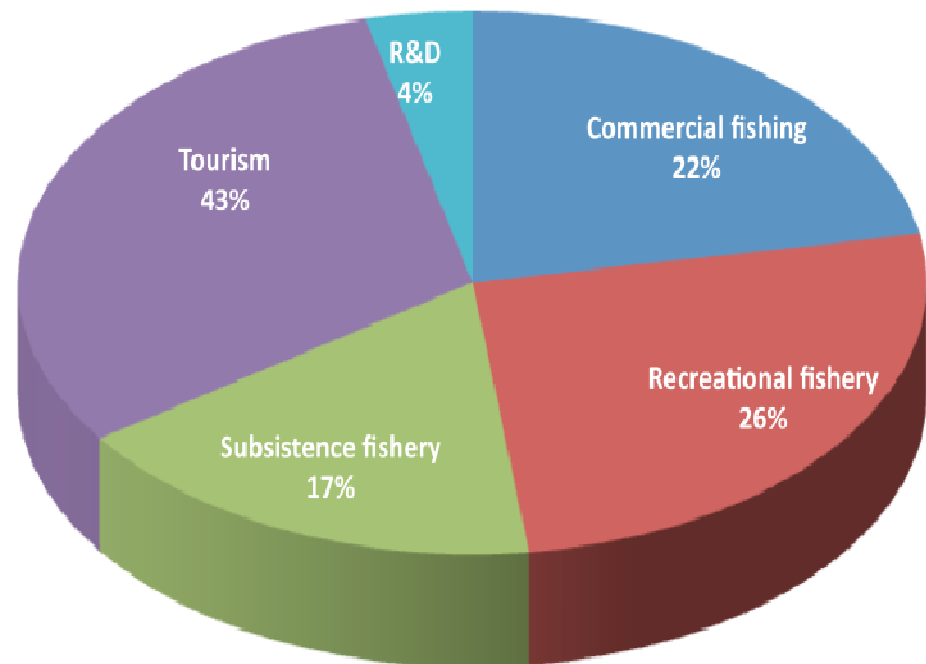


TEEB approach to valuation

...while also looking at the distribution of benefits among stakeholders: example from New Caledonia



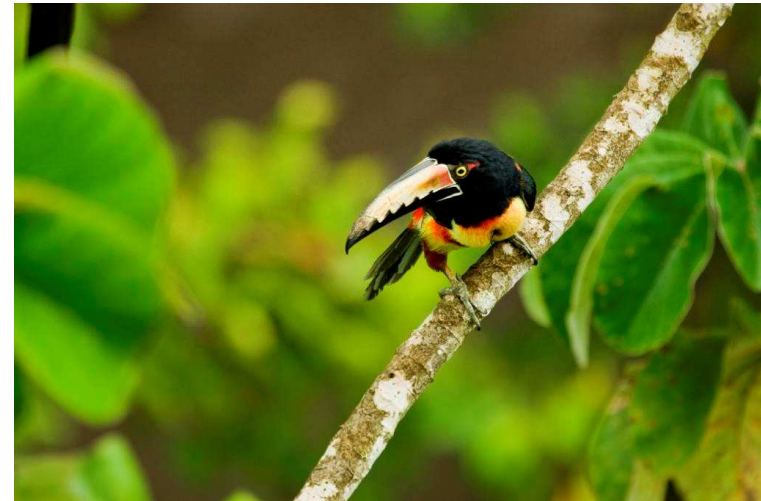
Financial value of coral reef ecosystem services - Use values
2008 : 9,000- 12,000 MFcfp (78-103 M€, 100-137 M usd)



Capturing value: biodiversity business

Adding BES to existing business

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

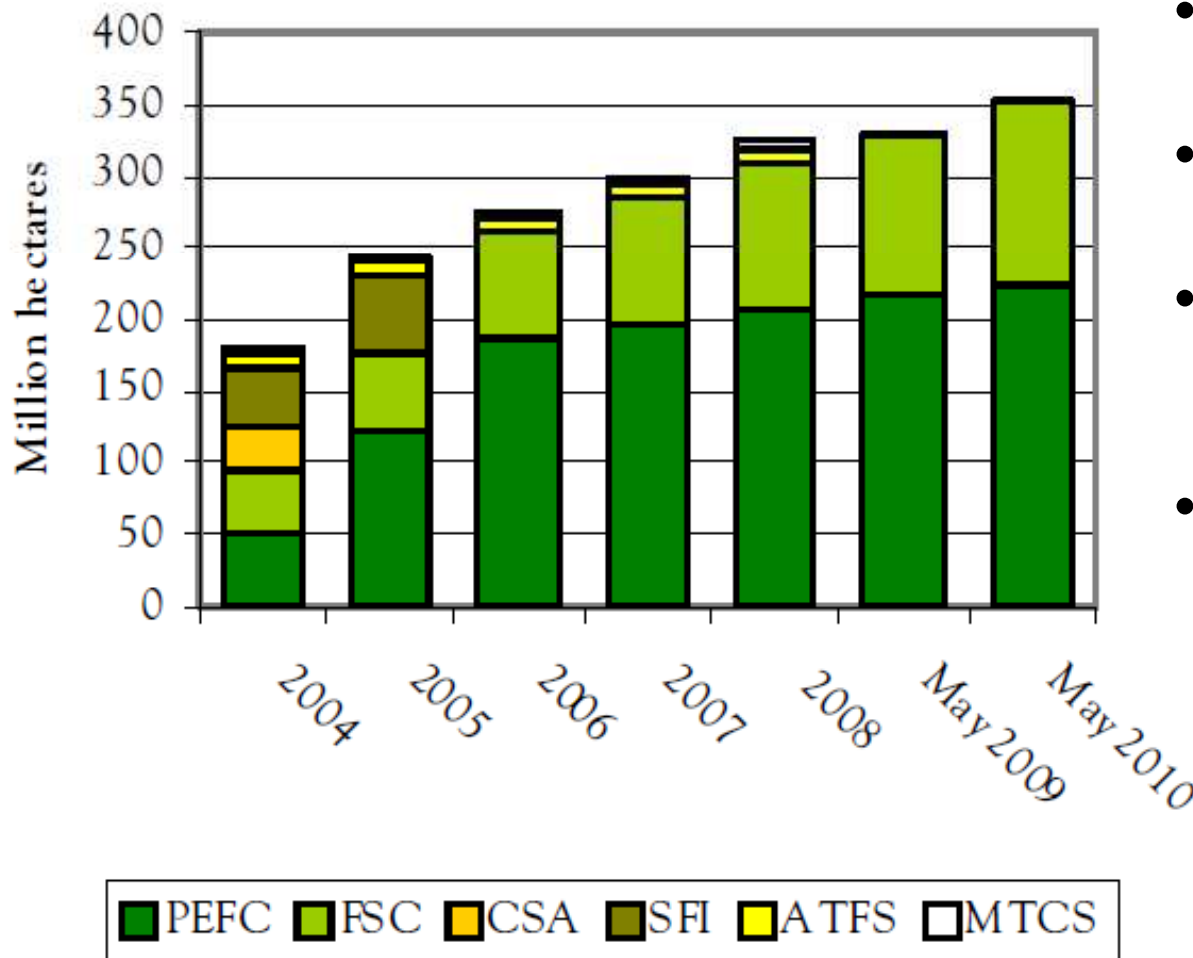


New markets for BES

- 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

What next for TEEB?

- Capacity building/enhancement (CBD, etc)
- “Country” & “Regional” analysis (Brazil, India, Germany...)
- Green National Accounts (WAVES; World Bank & partners)
- Business & biodiversity (indicators, valuation, reporting, etc)
- Filling ecological & valuation knowledge gaps
- Communicating the issue to society at large

More information

www.teeb4me.com

www.teebweb.org

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