TEEB approach & how it can help to achieve Aichi targets

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HELMHOLTZ
CENTRE FOR
ENVIRONMENTAL
RESEARCH – UFZ

2nd Quito Dialogue Seminar

Scaling up biodiversity finance
— with a focus on the value of biodiversity for policy choices, mainstreaming and funding

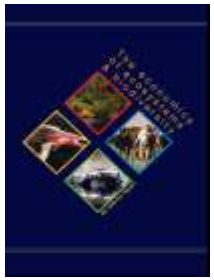
Quito, 9th - 12th of April 2014

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 Main Reports
Nov. 2009 – Oct. 2010
CBD COP-10, Nagoya

Implementation & Facilitation:
TEEB country studies & WAVES local TEEB initiatives,
CBD COP 11, Hyderabad,

TEEB Phase I | TEEB Phase II | TEEB Phase III

TEEB Phase III: Implementation & facilitation

- **TEEB Office** at UNEP + UFZ TEEB scientific coordination
- **Communication and facilitation**
  - Maintaining interest & awareness, TEEB Newsletter
  - Consolidating and increasing the TEEB Network
  - Providing **guidance and training** material
- **TEEB country studies**
  Norway, Sweden, ongoing in India, Brazil, Netherlands, Germany, South Africa, Georgia - others starting
  including: Ecuador, Buthan, Liberia, Tanzania and Philipinnes
- **TEEB sectoral studies**
  for Cities, Water & Wetlands, Oceans, Arctic, Agriculture & food

TEEB's approach to values

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

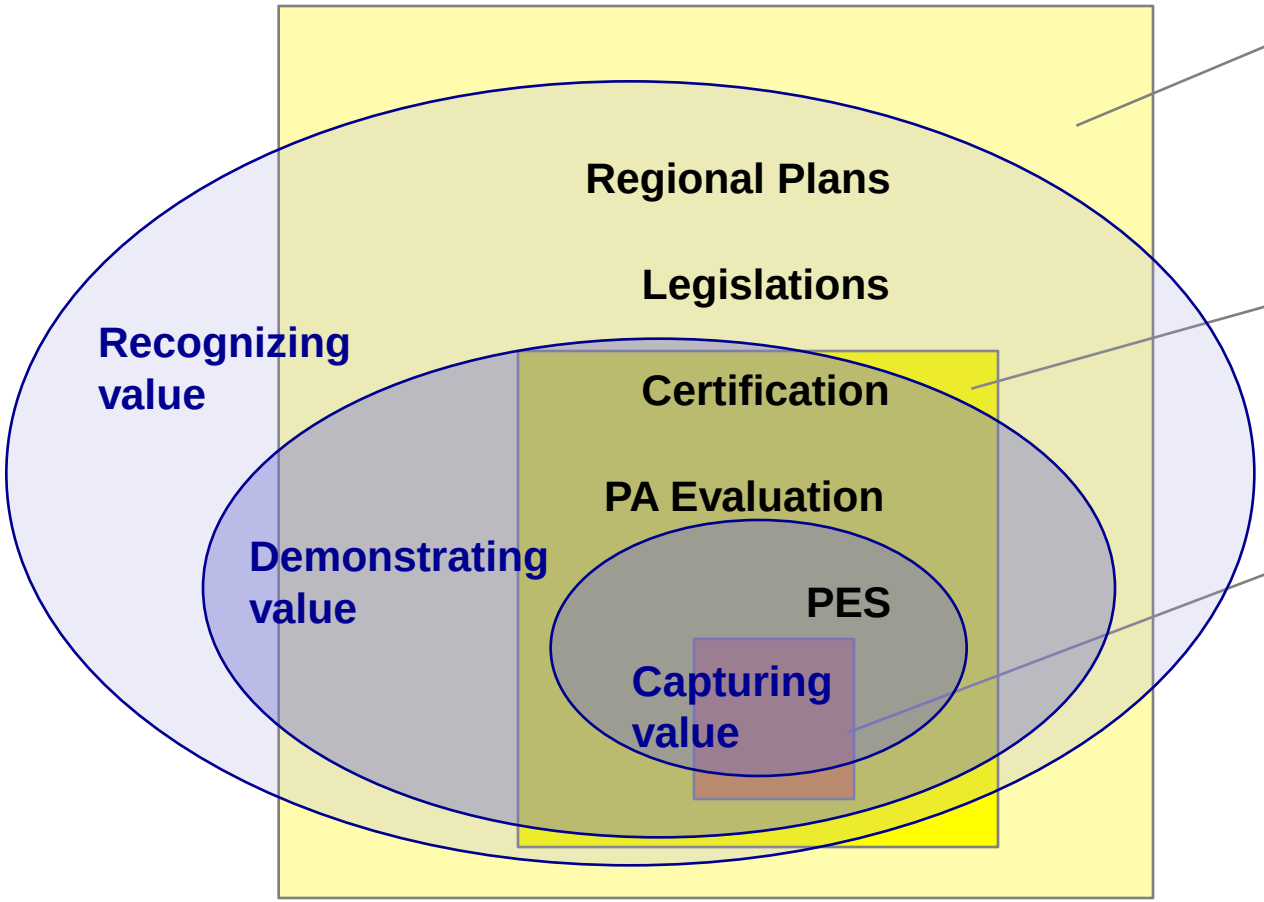
2. **Demonstrating value**: in economic terms, to support decision making

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

Valuation of Ecosystem services

Methods:	Suitable for ecosystem services…
Monetary terms (e.g. WTP-studies, cost-benefit analysis)	**… we have good knowledge of, are ethically uncontroversial, e g. goods such as timber, water cleansing and recreational values.**
Quantitative terms (mapping, status, statistics, multi-criteria analysis)	**… can be measured but are difficult to translate to monetary value, e g. multifunctionality in wetlands or forests, number of people relying on service, % of vulnerable groups.**
Qualitative terms (stakeholder dialogue, SWOT-analysis, scenario, multicriteria analysis)	**… are difficult to measure & difficult to translate to monetary value e g. insurance values and irreversible effects. Better knowledge base is needed.**

Valuations, Operating Spaces, Responses…



Norms, Regulations & Policies

Economic Mechanisms

Markets

 **Ch.5**

 **Ch.4**

 **Ch.3**

 **Ch.3**

How TEEB can support the Aichi Targets

WHAT IS TARGET 2?

By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

WHAT IS TARGET 3?

By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.

WHAT IS TARGET 11?

By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

TEEB recommendations:

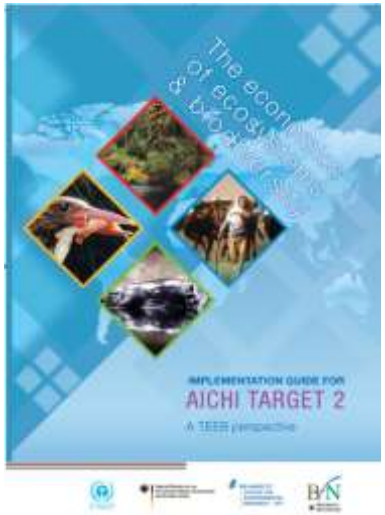
- Make nature‘s values visible.
- Measuring better to manage better.

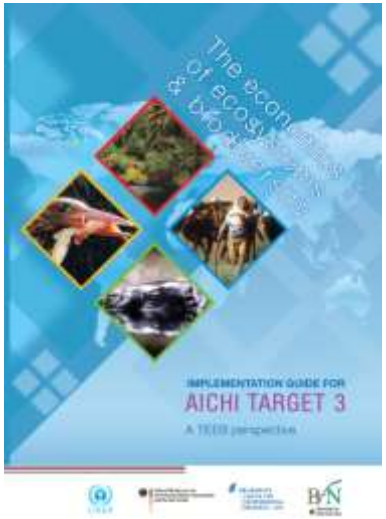
- Invest in natural capital to reduce poverty: food, livelihoods, water, fuel, GDP of the poor.
- Changing the incentives.

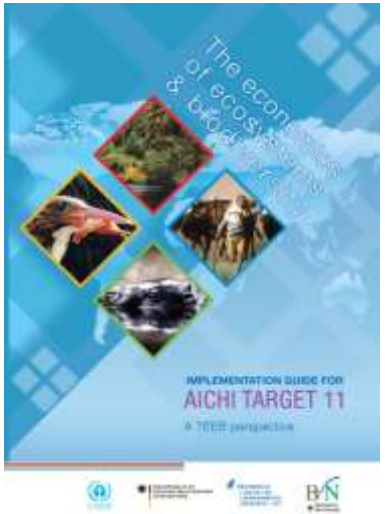
- Protected areas offer social & economic benefits
- Mainstream the economics of nature

Implementation Guides are available online:

- http://www.teebweb.org/InformationMaterial/CBDAichiBiodiversityTargets/tabid/106622/Default.aspx







UNEP

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

HELMHOLTZ CENTRE FOR ENVIRONMENTAL RESEARCH – UFZ

BfN Federal Agency for Nature Conservation

Example Target 3

Important questions to address for national implementation

The relevant chapters of the TEEB reports.

Selected information and illustrations.

Related TEEB cases.

Links to other sources

5. Who are the stakeholders that may be affected?

How can they be involved and their needs addressed? What are the trade-offs to consider? Are there stakeholders who could also act as champions for the removal, phase out, or reform of harmful incentives?

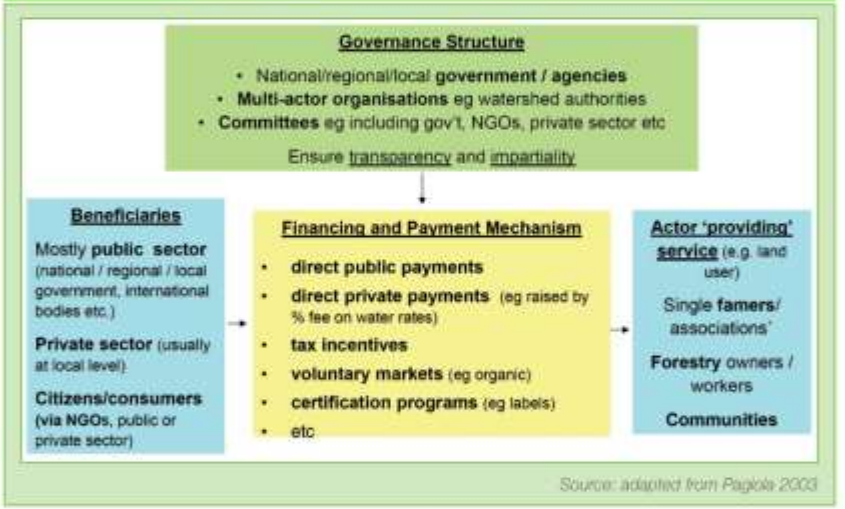
The following chapter and specific aspects from the TEEB reports are important:

POL Ch. 5 : Rewarding benefits through payments and markets (p. 177)

LCL Ch. 11 : Making your natural capital work for local development (p. 281, Ch. 10 p. 173 in report)

- Figure 5.4 (see below) depicts PES stakeholders and their interactions (POL Ch. 5.1 , p. 186):

Figure 5.4: PES stakeholders and their interactions



Source: adapted from Pagiola 2003

- LCL Ch. 11.3 (p. 289) highlights the importance of stakeholder participation for local development and provides advice and examples for designing participatory processes and dealing with conflicts.

The following case study is relevant here:

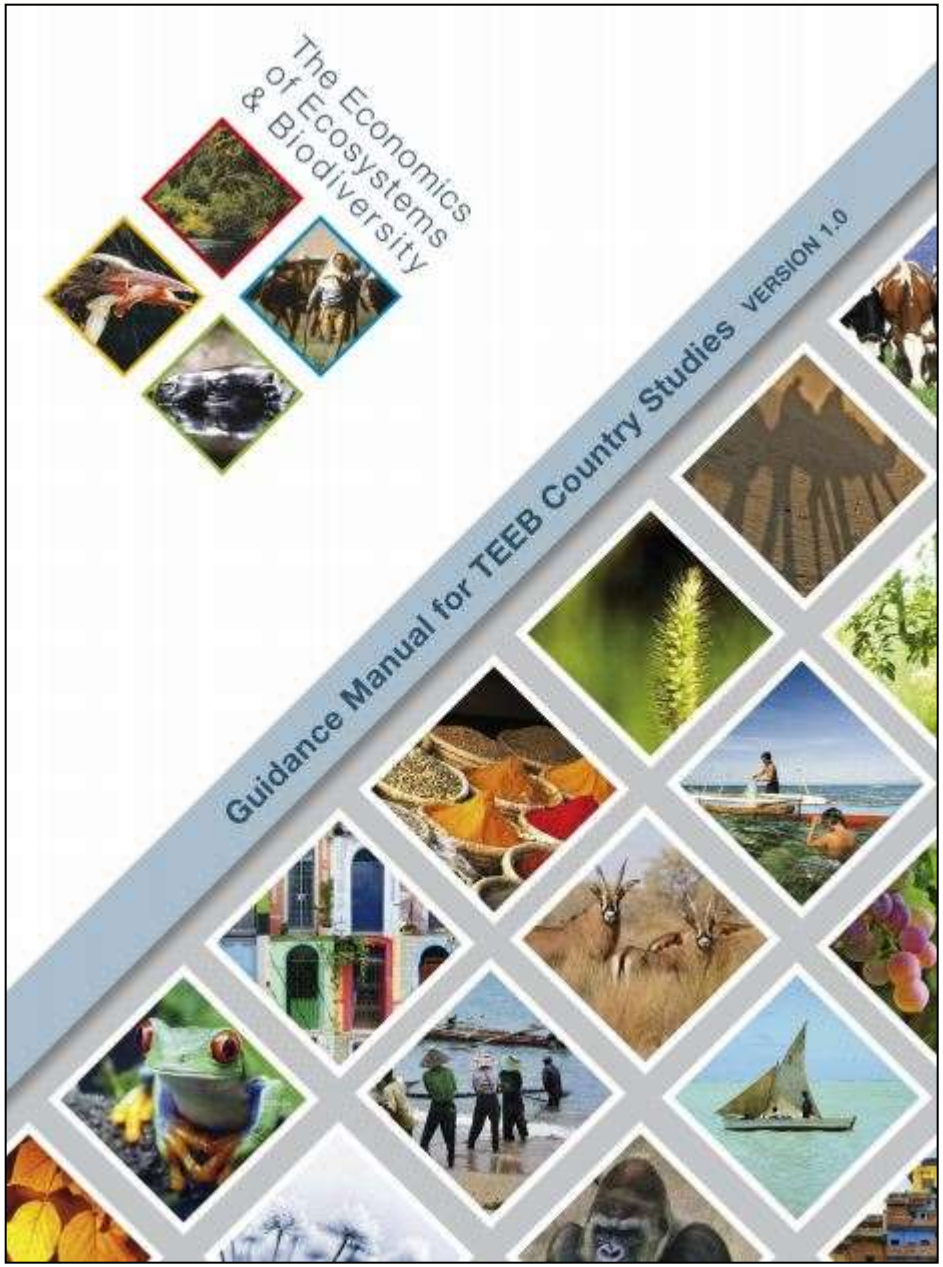
- In a TEEB case from the Kala Oya river basin in Sri Lanka, water supply from the river was mostly used for paddy crop cultivation leading to a degradation of wetlands with adverse consequences for the livelihoods of local communities. By valuing the ecosystem services provided by the traditional irrigation system, a participatory study provided decision-makers with information on costs and benefits of regulating water supply (Förster 2010 b).

How TEEB can help achieve Aichi targets

- Target 1: **people are aware of the values of biodiversity** & steps they can take to conserve & use it sustainably.
- Target 4: Governments, business & stakeholders at all levels **sustainable production & consumption** and the impacts of **use of natural resources** within safe ecological limits
- Target 14: **Essential ecosystem services**
- Target 17**: National Biodiversity Strategies and Action Plans**
- Target 20: **Financial resources**

Working for water:
Triple win: jobs, water, biodiversity conservation

- „window of opportunity“ – some budget left
- Combating invasive species, increases water provisioning
- Cheaper than technical measures
- Creates jobs
- Protects endemic biodiversity
- Now operating at natonal level
- further programmes



1. Explains TEEB & shows how TEEB can be embedded into the policy landscape and help reach political goals,

2. Provides a stepwise approach of assessing ecosystem services & options for their explicit inclusion in policy,

3. Highlights the need for organizing a social process & provides guidance on this.

Available at: teebweb.org

It is all about balance:

- Broad participation and dialogue – impact on the ground
- Credibility – relevance – legitimacy
- Economic arguments complementing not replacing other arguments
- Each country situation is different – Teeb Country Studies need to be tailored.

Thank you!

For further information: **www.teebweb.org,**
www.teeb4me.com

Scientific coordination: teeb@ufz.de

Some funders and important contributors:

Establishment of a MPA: Tubbataha Reefs, Philippines

Increasing awareness that ecosystem services are at risk (“2”)

- Habitat for a multitude of species
- Provides Sulu Sea with fish larvae
- Appealing destination for divers

Source: Tongson E. (WWF 2007)

Protection enacted at national level (“5”)

- Declaration of MPA 1988 via presidential proclamation imposed no-take policy
- typical conservation-development divide – implementation and enforcement difficult

Commitment of stakeholders to no-take policy (Workshop 1999) (1)

- Fishers not convinced that no-take policy increases catch

Sources: Tongson 2007, Samonte-Tan et al. 2008, Dygico 2006

Establishment of a MPA: Tubbataha Reefs, Philippines

Define information needs (3)

- Empirical evidence on the benefits of the MPA
- Value of MPA (Willingness-to-pay survey among divers)

Improvement of management (5,6)

- User fee system based on WTP survey
- Involve locals in management
- Sharing scheme regulating distribution of fees

Assess changes in availability and distribution of ecosystem services (4)

- Higher fish biomass compared to other offshore reefs
- Fish biomass in nearby reefs doubled since 2000 and perceived fish catches increased between 1999 – 2004 from 10 to 15-20 kg/day
- Survey finds a significant increase in living standard from 2000 to 2004
- Coral cover stabilized at 40% from 1999-2003 before reaching 50% in 2004

Sources: Tongson 2007, Samonte-Tan et al. 2008, Dygico 2006

Conclusions – Messages from 19 TEEB Country Study Initiatives

1. TEEB is more than economic valuation:
   - Economics is about the relationship between humans and ecosystem services, choices, public goods, trade-offs
   - Complementary argument

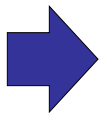
2. TEEB is an instrument rather than a goal:
   - it can help address policy and management concerns

3. TEEB is not (just) a study but a process:
   - „Valuation as conversation“ Kai Chan Univ British Colombia
   - Dialogue in society to decide the kind of life we want to live: Globally, nationally, regionally, locally

Recommendations:

Make Nature's values visible…

- **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.1,3**

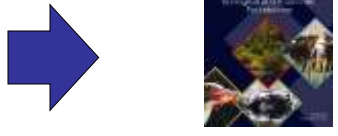
 **Ch.2,3**

Recommendations:
Accounting for risk and uncertainty…

Ecosystem services can help recognize values, but do not explain how ecosystems function.

*Economic valuation **is less useful** in situations characterized by : non marginal changes, radical uncertainty, or ignorance about tipping points.“*

- **Apply safe minimum standard or precautionary principles**



Ch. 2,5

Ch.7

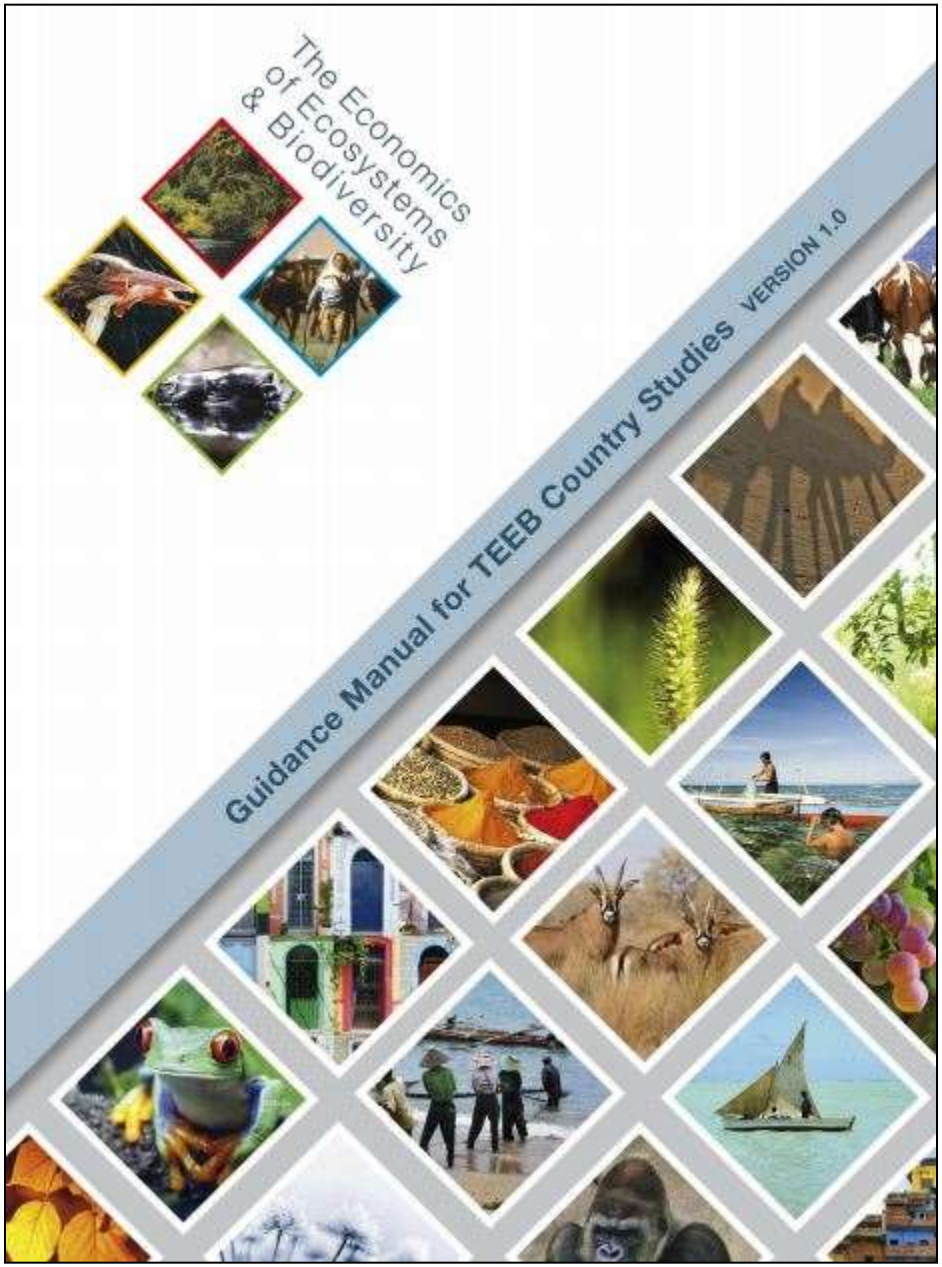
Ch. 6

Assessing ecosystem services in a poverty sensitive way

Berghöfer forthcoming

- **What ecosystem services** are in the area? E.g. wild foods, raw materials, non-timber forest products? regulating services? seasonal changes?
- Which ecosystem aspects (sometimes: in which spot) are of critical importance to **system stability**?
- Which sub-groups **benefit** to what extent from different ecosystem services?
- What are the levels of **dependency** of different sub-groups on different services? Accessibility of substitutes to poorer households?
- Who holds **what rights** to which services? How are rights being **recognised**?
- What **conflicts** over rights or over actual availability and use of services are manifest or imminent?
- Under which **regime** (private, common property or public) can the service best be provided in the specific setting?
- What options for **regime adaptation** or fine-tuning are at close reach?

The Economics of Ecosystems & Biodiversity



Authors:
Heidi Wittmer, Hugo van Zyl, Claire Brown, Julian Rode, Ece Ozdemiroglu, Nick Bertrand, Patrick ten Brink, Andrew Seidl, Marianne Kettunen, Leonardo Mazza, Florian Manns, Jasmin Hundorf, Isabel Renner, Strahil Christov, Pavan Sukhdev

Launched at the
Ecology and Economy for a Sustainable Society
7th TRONDHEIM CONFERENCE ON BIODIVERSITY
Norway, May 27th – 31st , 2013

Available at: teebweb.org/.....

The guidance manual for TEEB country studies:

1. What is TEEB and how does it integrate into the Policy Landscape?

2. How to select the scope and objectives of the TCS and how to set up the process?

3. Main study phase: Six Steps

4. How to use the findings and recommendations of the TCS?

Chapter 3: Main Study Phase

STEP 1: Refine the objectives of a TCS by specifying and agreeing on the key policy issues with stakeholders

STEP 2: Identify the most relevant ecosystem services

STEP 3: Define information needs and select appropriate methods

STEP 4: Assess and value ecosystem services

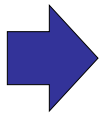
STEP 5: Identify and outline the pros and cons of policy options, including distributional impacts

STEP 6: Review, refine and report: Produce an answer to each of the questions

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**
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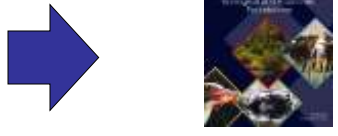


Ch. 2,5

Ch.7

Ch. 6

TEEB Recommendations

- Measuring better to manage better: from indicators to national accounts,
- Changing the incentives: payments, taxes, charges, subsidy reform, markets
- Protected areas: biodiversity riches that can also offer value for money, recreation and cultural identity, tourism.
- Natural capital & poverty reduction: investment for synergies –livelihoods, food, water, fuel, GDP of the poor.
- Financial disclosure & net positive impact: disclose all major externalities and reflect all environmental liabilities and changes in natural assets – apply principles of 'no net loss' or 'net positive impact'
- Invest in ecological infrastructure: climate change (mitigation/adaptation), air pollution & health et al
- Mainstream the economics of nature: across sectors, across policies, seek synergies across disciplines.

Slide by Patrick ten BrinK,

Institute for European Environmental Policy

Valuation: how does it work in political reality?

- **Starting point:** Hope big numbers will speak for themselves and change people‘s perception and consequently their decisions.
- Most frequent use of valuation studies is for „awareness raising“
- In policy debate they can create attention

Current use of Ecosystem service valuation (ESV) in policy?

- ESV mainly used for informative purposes (2% of peer reviewed papers sampled for a systematic review).

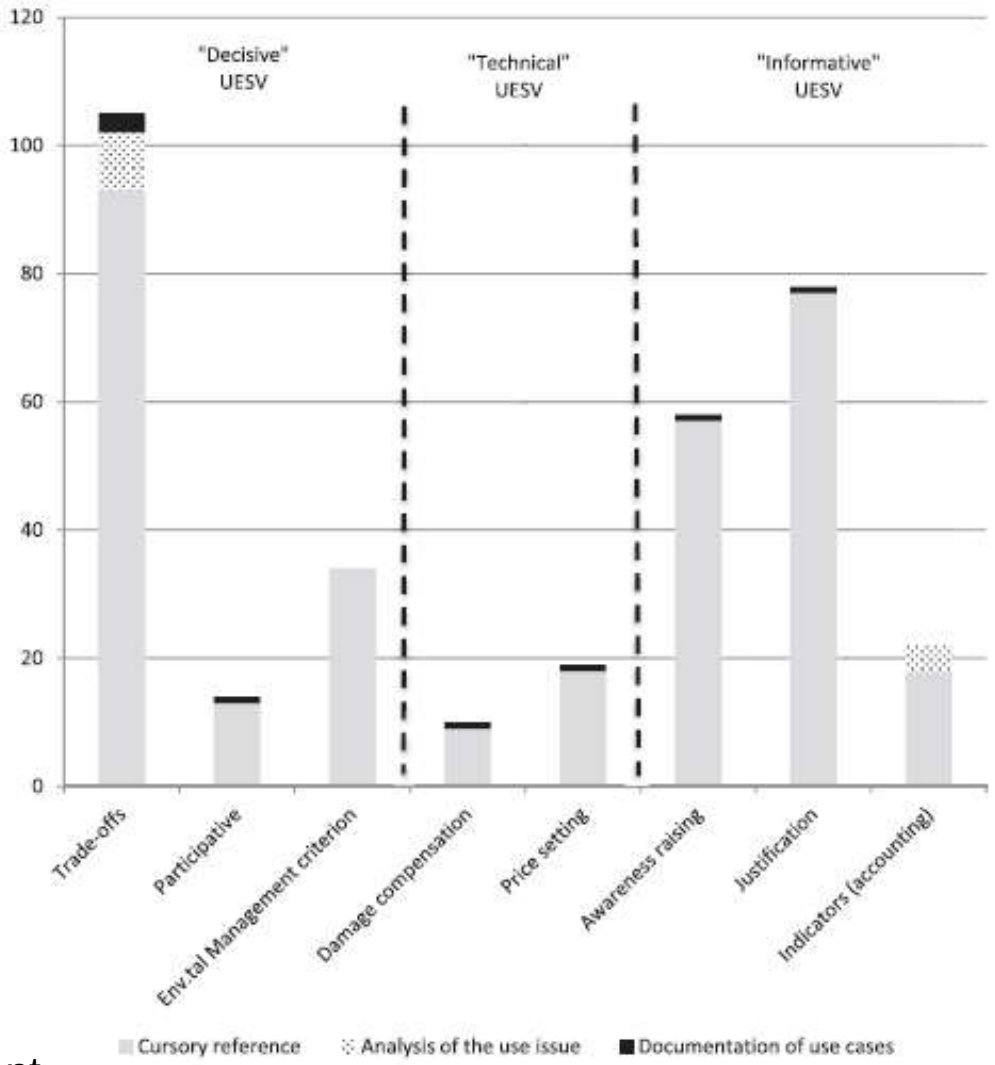
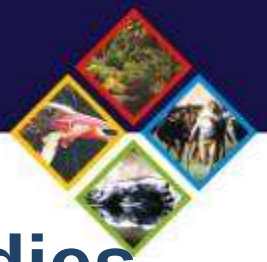


Fig. 1. Typology of UESV and treatment in the literature.

Laurans et al 2013 J. of Env. Management

End of my part of the presentation.



TEEB Guidance Manual for Country Studies

Focus: Guidance for countries which would like to do a TEEB-Country-Study (TCS).

Target audience: Person(s) in charge of conducting a TCS

Format:

- Guidance to address the practical problems of doing a TCS.
- Problems, experience, obstacles and pitfalls from on-going projects being compiled and integrated at all stages of the guidance manual.

Timeline:

First draft available in May on the TEEB-webpage.
A final version will be printed 2015.

Specific challenges of TEEB Country Studies

- Show the „added value“ of a TEEB-approach – of an economic perspective
  - Gap analysis, feasibility study…
  - The Economics vs. The Politics of Ecosystems & Biodiversity
- Balance credibility – relevance – legitimacy
  - Governance structure, open architecture, involving other ministries
- Translate results into arguments for policy debates
  - Beyond the „converted“
  - Impact on the ground

TEEB is not….

- It is not a research project
- no new methods developed

What TEEB has aimed for…

- Synthesis of existing knowledge and experience on economics of ecosystems & biodiversity
- Open architecture – more than 500 contributors
- Prepared for different users in public politics and business
- Active and worldwide dissemination
- Awareness raising and mainstreaming

Ecology and Economy for a Sustainable Society

"Management objectives are a matter of societal choice"

"How people claim, use, and value natural resources"

Braulio de Souza Dias

Step 4: cont

Aesthetic and sense-of-place related values

- Evidence shows that natural spaces play an important role in improving health and well-being in cities.
- Natural assets help to attract skilled entrepreneurs and others that drive economic development. Cape Town's brand is now strongly linked to its natural assets.
- Natural assets are a key driver of the film and advertising industry and are valued between R133 million and R398 million per annum based on industry expenditure ascribable to natural asset locations.
- Cape Town boasts some of the most sought after property largely because of its natural assets. At a site specific scale, rehabilitation and restoration projects have created significant values.

Step 5: Integrate valuation into wider business case to appraise policy options

Ratio between these investments and the expected increase in gross geographical product approx. 1.2 – 2 times higher than other investments by the city.

Unit Reference Value (URV), or the expenditure that is required to generate one Rand's worth of benefits. 16 cent as compared to 2-5 Rand for water infrastructure.

Step 6 (included in Step 2).