

Policy Brief

TEEB Processes in European Countries

(TEEB – The Economics of Ecosystems and Biodiversity)

Results and Recommendations from an Expert Workshop

held 11-14 October 2011 at the International Academy for Nature Conservation

Isle of Vilm, Germany

Bettina Hedden-Dunkhorst¹, Leon Braat², Bernd Hansjürgens³, Christoph Schröter-Schlaack³, Burkhard Schweppe-Kraft¹, Florian Carius¹, Kees Hendriks², Cristina Marta-Pedroso⁴, Iva Honigova⁵, Sander Jacobs⁶, Asad Naqvi⁷, Jana Špulerová⁸

¹ Federal Agency for Nature Conservation (BfN), Germany

² Alterra - Wageningen University and Research Centre, The Netherlands

³ Helmholtz Centre for Environmental Research (UFZ), Germany

⁴ Mountain Research Centre (CIMO), ESA – Polytechnic Institute of Bragança, Portugal

⁵ Nature Conservation Agency of the Czech Republic

⁶ University of Antwerp, Belgium

⁷ United Nations Environmental Programme (UNEP), Economics and Trade Branch, TEEB and Green Economy Team

⁸ Slovak Academy of Science, Institute of Landscape Ecology, Slovakia

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Workshop presentations and results can be viewed and downloaded at:

http://www.bfn.de/0610_teeb-processes-europe+M52087573ab0.html

Main Message

Building on the Millennium Ecosystem Assessment and the international TEEB (The Economics of Ecosystems and Biodiversity) initiative, numerous European countries have or get started to implement TEEB-inspired processes to assess, map and value ecosystem services and to stimulate related action to maintain, restore and develop these services. Countries are supported by international organisations, and the European Commission calls upon European Union (EU) member states to assess the economic value of ecosystem services and to promote their integration into accounting and reporting systems at EU and national level.

Based on current experiences, recommendations to support countries' efforts to implement TEEB processes highlight the need to 1) establish an efficient science-policy interface, 2) integrate TEEB processes and their results into policy and implementation at an early stage, and thereby 3) apply and develop adapted market and non-market based instruments as well as appropriate tools for information and data generation, communication, coordination and cooperation.

1 Introduction

TEEB is an international initiative that was started in 2007 and had its final results presented at the 10th Conference of the Parties to the Convention on Biological Diversity (CBD) in October 2010 in Nagoya, Japan. It draws attention to economic benefits of biodiversity and ecosystem services, estimates costs of biodiversity loss and ecosystem degradation, and combines expertise from natural science, economics and policy to guide action that safeguards ecosystem services for future generations.

Inspired by and based on the global Millennium Ecosystem Assessment (MA, 2005) and the TEEB reports (TEEB, 2009, 2010a, b, c and 2011a, b), more and more individual countries are now getting involved in processes to map, assess and value ecosystems and their services at national and local levels. These aim to back up the discussions on conservation and sustainable use of ecosystems and biodiversity with additional economic arguments on the benefits and costs associated to these actions and to integrate them into the relevant decision-making processes. In addition, the studies provide pertinent information for current discourses on greening the economies. The results are communicated to the public in order to raise awareness for the value of ecosystems as "natural capital" and the acceptance of related conservation measures and their associated investment costs.

Efforts of individual countries are supported by supranational entities, such as the European Union (EU), CBD, the United Nations Environment Programme (UNEP), the International Union for Conservation of Nature and by scientific networks as the Sub-Global Assessment Network, TEEB's network, ALTER-Net (A Long-Term Biodiversity, Ecosystem and Research Network) and ESP (Ecosystem Services Partnership). The importance of ecosystems and their services, for instance, is reflected in the European Union biodiversity headline target for 2020 and the new biodiversity strategy to 2020 - published by the EU Commission in May 2011 - with a related target and specific actions.

Against this background, a workshop was held 11-14 October 2011, at the Isle of Vilm, Germany. It brought together scientists and decision makers from nineteen European countries and four multinational organisations to: (1) provide a platform for information exchange and mutual learning on national ecosystem assessments and TEEB processes in different European countries, (2) facilitate the cooperation and coordination among European countries and (3) learn more about supranational initiatives. More specifically, the workshop:

- discussed the motivation, design and implementation of different TEEB processes,
- explored the scope to foster the link between science and policy,
- elaborated on the issue of integrating TEEB processes and their results into policy and implementation, and
- highlighted the need to identify and develop appropriate policy tools and instruments that support the conservation of ecosystem services and biodiversity.

This policy brief summarises and contextualizes the results and recommendations of the workshop. It is addressed to decision-makers in policy, science and society. Recommendations formulated in section four can be used as a check list to operate TEEB processes.

2 The International Policy Context

Faced with the multiple negative consequences of biodiversity loss and ecosystem degradation, it is imperative for sustaining human well-being to provide a scientific and comprehensive economic basis to reassess trade-offs in decision making related to land conversion and ecosystem management. When the “true” values of ecosystem services to society are included, traditional trade-offs, based on the mainstream economic efficiency criterion may be revealed as inappropriate or at least as too narrow in scope (see also TEEB, 2008, 2010c). The international TEEB study has demonstrated the economic significance of biodiversity and ecosystem services and the need to integrate their social and economic values in national accounts, as well as in all public and private decisions affecting natural resources with long term consequences for society. Drawing on expertise and case-studies from around the world, TEEB showed that the cost of sustaining biodiversity and ecosystem services is often lower than the cost of failing to take action (Braat and Ten Brink, 2008). At the global level, TEEB is now supported by the UNEP TEEB secretariat located in Geneva.

Building on TEEB recommendations and the Aichi targets of the CBD, the EU 2020 Biodiversity Strategy “*Our life insurance, our natural capital*”, adopted in May 2011, foresees that Member States, with the assistance of the European Commission, “will map and assess the state of ecosystems and their services in their national territory by 2014, assess the economic value of such services, and promote the integration of these values into accounting and reporting systems at EU and national level by 2020” (Target 2, Action 5 of the Strategy).

The notion behind this action is that decisions at all governmental levels will depend on more comprehensive information about ecosystems and their services and in particular about services at risk of being lost. They need to better understand the economic costs associated with losing ecosystem services; who is impacted by these losses; and where and when costs

are incurred. Countries can save money, time and efforts by cooperating to develop and integrate robust valuation procedures within their broader decision support systems (TEEB, 2011). The European Commission will engage the Joint Research Centre (JRC) and the European Environment Agency (EEA) to support the Member States in these endeavours.

3 European National Ecosystem Assessments and TEEB Processes

Following the publication of the Millennium Ecosystem Assessment (MA) in 2005, there has been a growing interest in the role of ecosystem assessments and a range of projects have been initiated across Europe to implement some steps towards full MA-type ecosystem assessment. Most recently, the **United Kingdom** published a comprehensive National Ecosystem Assessment, which comprises an analysis of the benefits and values of the country's ecosystems. From 2003 to 2009, **Portugal** has carried out an assessment of the condition and recent trends of ecosystem services in the country, also analysing policy responses and scenarios. As a follow up, Portugal just launched a national TEEB process and concluded a TEEB for business case study. **Spain** has launched a national Millennium Ecosystem Assessment (EME) on the impact of changes in aquatic and terrestrial ecosystems on human well-being, as well as possible response options, and a local assessment. In **France**, two studies have described the ecosystems present on the national territory and defined a methodological framework to qualify and quantify ecological functions, while further research will start in 2012 on environmental accounting and economic valuation. In **Switzerland** a set of (mostly physical) indicators for the assessment of ecosystem services has been developed. The **Czech Republic** carried out a pilot assessment of grasslands, while in **Slovakia** an assessment of agricultural landscapes is going on.

Subsequent to the international MA (2001-2005) and TEEB (2007-2011) processes, several countries are currently embarking on national TEEB-inspired assessments. These include Brazil, India and China, and in Europe: the Netherlands, Germany and Norway. **The Netherlands** has started work for a national TEEB study, with regional and city and overseas cases, trade flow impacts on ecosystem services abroad, business dependencies on ecosystem services and the processing of new national policy cases in 2012. In **Germany** an overview on the concept of natural capital's services with examples from Germany as well as a series of TEEB thematic reports on biodiversity and climate, rural areas, green infrastructure in cities and innovative instruments will be carried out (2012-2015). At a European regional level, TEEB Nordic, an assessment of the state and economics of key ecosystem services in **Scandinavian countries**, was initiated in May 2011. This includes a scoping assessment of the socio-economic significance of biodiversity and ecosystem services and their integration into decision-making processes (IEEP 2011). Also in other countries plans to do an assessment at national level (e.g. **Norway, Luxembourg**) or for parts of their territory emerged. In the Flanders region of **Belgium**, explorative assessments have been performed and a first web-based online valuation tool has been developed. In Belgium (as a whole) a joint venture of universities and government institutes launched a project (called BEES), aiming at identifying and stimulating research on ecosystem services. In **Austria** there are initiatives to do an assessment of individual ecosystems, including forests, peatlands, grasslands, rivers, lakes,

glaciers and caves. (For references to country study reports or websites refer to the above mentioned workshop website.)

In summary, while early initiatives followed the MA approach, recent studies seem to be TEEB-inspired and try to put more emphasis on economic valuations and assessing potential policy responses. This includes intensive stakeholder processes with comprehensive communication strategies and target group oriented or thematic outputs. Projects or studies differ substantially in scope and design depending on who initiated them (e.g. science or policy) and what the purpose is.

4 Recommendations for the Implementation of TEEB Processes

Workshop discussions revealed that, despite different approaches and scales of operation for TEEB studies across European countries, their main objectives are similar. These are to demonstrate the significance of ecosystems and their services to human well being and sustainable development, by describing their values and identifying obstacles and drivers of loss. By showing trade-offs of different land use options, policy and management alternatives are proposed. Policy implementation will require the mainstreaming of ecosystem service values into the economic models of related sectors.

In order to support the achievement of TEEB study objectives, workshop participants elaborated on three sets of questions related to 1) the link between science and policy, 2) the integration of TEEB processes into policy and implementation and 3) tools and instruments for maintaining ecosystem services. This section provides a summary of recommendations related to each of these issues.

4.1 Bridging the Gap between Science and Policy

A discrepancy between science and policy can turn scientific results redundant for policy choices. For policy decisions related to ecosystems, a lack of consideration of both socio-economic and natural scientific information could have particularly harmful effects to both ecosystems and human well-being. To build an effective science-policy interface, the following recommendations were made:

- In order to address the time lag between research and implementation, consider **TEEB as an ongoing process** that requires adaptive management (involving structured, iterative decision-making).
- **Link scientists and decision-makers** from various disciplines and sectors in an appropriate body, to define goals, monitor and evaluate initial results, develop or adapt approaches and redefine objectives.
- Outline the **scope of potential policy interventions** (policy makers) and develop **scenarios** for related outcomes **on the basis of scientific information** (scientists), thereby clearly stipulate the assumptions underlying research findings.
- For better understanding 1) clarify scientific methodological approaches used to generate relevant information, 2) base outcomes on tangible indicators and agreed stan-

- Link the TEEB process to established scientific **projects and networks** to mobilise knowledge and, where appropriate, to other emerging environmental and sustainable development issues (e.g. climate change).

4.2 Integrating TEEB Processes into Policy and Implementation

Where TEEB processes are initiated by policy (with Target 2 and Action 5 of the EU Biodiversity Strategy this might apply to most EU member states), TEEB studies focus on providing policy decision support that ultimately aims to initiate and implement action to maintain or restore ecosystem services. Hence, in order to integrate TEEB processes into policy and implementation, it is recommended to:

- Develop a **conceptual framework** for a TEEB study that considers policy and implementation.
- Identify tangible entry points for TEEB into **related sectors**, (these sectors include financial and land use planning, agriculture, forestry, water supply, tourism, transport, infrastructure, health, education, etc.) and involve them in a **multiple stakeholder process**, with the aim to raise awareness, foster acceptance and create ownership for maintaining ecosystems and sustaining the provision of their services. Link TEEB outcomes and recommendations to strategic policy objectives (e.g. employment, energy security) and relevant laws, regulations and accounting systems and demonstrate how ecosystem services can support the achievement of national and international policy goals.
- Develop a **stepwise approach** that 1) considers what ecosystems and biodiversity means for your country; 2) assesses driving forces of biodiversity loss and ecosystem degradation; and 3) evaluates current policies and identifies potential improvements (see also TEEB, 2009).
- **Engage with your stakeholders** continuously and try to expand your stakeholder basis horizontally and vertically, including governmental, civil society, and private organisations, and engage the media.
- Set up appropriate **expert, steering and/or governance bodies** (if necessary user groups, client groups, etc.) to guide and manage the process and carefully choose suitable facilitators.
- In order to integrate results into policy and implementation, consider to:
 - publish **interim reports** to generate awareness at an early stage;
 - develop **toolboxes** for decision-making;
 - implement (test) results in **pilot projects**;
 - ensure continuity of the process and facilitate implementation through **capacity building**.

4.3 Tools and Instruments throughout and beyond TEEB processes

TEEB processes can be supported substantially by applying existing and developing new tools and instruments that operate at various scales and points in time throughout and beyond the process. These include:

- **International cooperation and coordination** that - in the context of international conventions and other initiatives (CBD, Ramsar Convention, Millennium Development Goals, Green Economy, Sub-Global Assessment Network, etc.) - allow to further develop and utilize knowledge, concepts, funding mechanisms and political commitment to enhance national TEEB processes. International cooperation and coordination facilitates mutual learning and provides guidance and access to information and data. More practically, by sharing manuals, maps, fact sheets, brochures or website templates, national TEEB processes could become more effective.
- **Supporting tools to generate information and data** in the form of a TEEB database that links to existing data bases like EEA-accounts, JRC maps, the TEEB-Secretariat, etc. Ecosystem assessments and valuation of their services could also be related to Environmental Impact Assessments (EIA) and Strategic Environmental Assessments (SEA), thus providing a basis for modelling land use and ecosystem change. Furthermore, for the exchange of information, as a mechanism for peer review and building a “community of practice”, an internet based “Wiki-TEEB” would be useful.
- **Instruments for communication and stakeholder involvement** are important to mainstream ecosystems and their services. Innovative, target-specific communication and participation techniques should be adapted and applied. Case studies, the use of “ambassadors” for communication and linking TEEB to important political issues on the agenda, are just three of a number of promising communication means.
- **Market and non-market based instruments** should be considered more for implementing TEEB results and recommendations. They include informative instruments, direct regulation, payments for ecosystem service, subsidies, environmental taxes, public procurement, certification, etc. (see inter alia TEEB, 2011; Ring & Schröter-Schlaack, 2011). For instrument choice and design, suitable criteria related to: policy addressees, urgency of action, resource characteristics, stability of political institutions or support, guiding principles (e.g. polluter pays principle), or instrument design are available for application.

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