

Towards a medium-term programme of work for the SEEA-Experimental Ecosystem Accounting (agenda item #8)

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Ninth Meeting of the UN Committee of Experts on
Environmental-Economic Accounting
25-27 June 2014
New York, USA

UNEP Programme of Work 2014-2015

- “Services and benefits derived from ecosystems are integrated with development planning and accounting, particularly in relation to wider landscapes and seascapes and the implementation of biodiversity- and ecosystem-related multilateral environmental initiatives”

EMP/Expected Accomplishment (c)

The Economics of Ecosystems & Biodiversity



ONE NATURE • ONE WORLD • OUR FUTURE
UN Conference on Biological Diversity Bonn 2008

Phase 1



Phase 2



Life in harmony, into the future
いのちの共生を、未来へ
COP10/MOP5

Phase 3

Sectors & biomes

- Water & Wetlands (2013)
- Arctic (2013-2015)
- Agriculture & Food (2014-2017)
- Oceans & Coasts (2014?-)

TEEB Country Studies



XI Conference of Parties
CONVENTION ON BIOLOGICAL DIVERSITY
HYDERABAD INDIA 2012

The Economics of Ecosystems & Biodiversity



THE ECONOMICS
OF ECOSYSTEMS & BIODIVERSITY
NORDIC SYNTHESIS



EKONOMIA
EKOSYSTEMÓW
I BIORÓŻNORODNOŚCI
TEEB POLSKA



THE ECONOMICS
OF ECOSYSTEMS
& BIODIVERSITY
BELGIUM



NATURKAPITAL
DEUTSCHLAND – TEEB DE

EC-funded TEEB National Implementation project: Reflecting the Value of Ecosystems and Biodiversity in Policymaking

- **5 country portfolio:** Bhutan, The Philippines, Tanzania, Liberia, Ecuador





TEEB Bhutan – Hydropower development

- Inform the Sustainable Hydropower Development Policy of 2008, and the Alternative Renewable Energy Policy of 2013
- TEEB would assess changes in ecosystem services provisioning (with a focus on watershed services from forests) under different hydropower diversification scenarios, assuming that each scenario would seek to meet the 2020 energy goals set by the Royal Government of Bhutan.
- Diversification includes large, medium and small hydropower plants
- The study would recommend instruments, including PES, to ensure the regular and reliable flow of water, and to deliver benefits to local communities.









TEEB Philippines – Land Reclamation

Inform land reclamation policy with ecosystem services and biodiversity impacts (3-4 sites)

- Southern Palawan
 - Port development and “Ocean park”
 - Relatively pristine, mangrove forests, indigenous people
 - Risk of deforestation; compounding impacts (mining and oil palm development also occurring)
- Manila Bay
 - High population pressure
 - Lappchea zone (high migratory bird species; coral reef)
 - Risk of sedimentation and nutrient loading



(as of 1 May 2014)	Bhutan	Philippines	Liberia	Tanzania	Ecuador
<p>TEEB (EC-funded) The Economics of Ecosystems and Biodiversity (5 countries)</p> 	X	X	X	X	X
<p>BIOFIN The Biodiversity Finance Initiative (12 countries)</p> 		X			X
<p>WAVES Wealth Accounting and Valuation of Ecosystem Services (8 countries)</p> 		X			
<p>SEEA-EEA Advancing System of Environmental-Economic Accounting (SEEA) - Experimental Ecosystem Accounting (7 pilot countries)</p> 	X				

Information on WAVES projects is from Urvashi Narain, October 2013 "WAVES Global Partnership: Challenges of Implementing NCA". (X) corresponds to planned WAVES country

Linking TEEB, SEEA and WAVES

TEEB encourages engagement in WAVES that was in part catalyzed by TEEB, as well as parallel approaches such as the EU ecosystem capital accounts and other accounts across the SEEA **vs** WAVES.

TEEB country studies and national engagement in WAVES are compatible initiative with significant synergies. The WAVES is likely to be more in-depth in its areas of focus, but TEEB country studies are likely to have an overall wider **scope**.

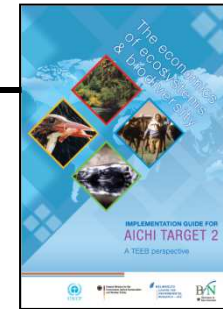
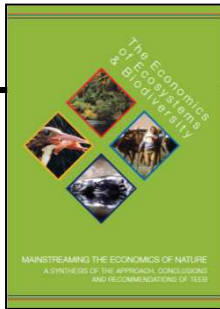
A WAVES project may be informed by a TEEB assessment and a TEEB Country Study could recommend implementing natural capital accounting.

Where there are limits to national resources, countries may wish to engage in these initiative sequentially, starting with whatever is more appropriate for the policy interest and data availability



See also annex of Guidance Manual for TEEB Country Studies (2013)

TEEB & Natural Capital Accounting



<p>TEEB Synthesis report (2010)</p>	<p>Natural Capital Accounting and Water Quality: Commitments, Benefits, Needs and Progress (2013)</p>	<p>Implementation Guide for Aichi Target 2: A TEEB Perspective (2012)</p>
<ul style="list-style-type: none"> • “Measuring better to manage better” – one of the 11 recommendations. • Natural resources are economic assets, whether or not they enter the marketplace. However, conventional measures of national economic performance and wealth, such as GDP and Standard National Accounts, fail to reflect <i>natural capital</i> stocks or flows of ecosystem services, contributing to the economic invisibility of nature. • The present system of national accounts should be rapidly upgraded to include the value of changes in natural capital stocks and ecosystem services. 	<ul style="list-style-type: none"> • The briefing note (1) outlines existing guidance on natural capital and water quality accounting; (2) identifies on-going challenges facing the development of accounting; and (3) encourages debate and commitment to help find answers to the challenges. • It builds on recommendations on natural capital accounting as noted in the TEEB for Water and Wetlands report (2013) as well as in The Economics of Ecosystems and Biodiversity in National and International Policy Making (2011). 	<p>Guides provide practical support for national governments, regional policy-makers, and other groups in making use of the findings of TEEB to support efforts to achieve the Aichi targets (2,3 and 11) by 2020.</p>

Explicit reference to TEEB in revised NBSAPs

BE	Biodiversity 2020, Update of Belgium's National Strategy	2013
CH	Swiss Biodiversity Strategy	2012
CO	Política Nacional para la Gestion de la Biodiversidad y sus Servicios Ecosistemicos (PNGIBSE)	2012
ES	Plan estratégico del patrimonio natural y de la biodiversidad 2011-2017	2011
EU	Our life insurance, our natural capital: an EU biodiversity strategy to 2020	2011
FI	Saving Nature for People. National action plan for the conservation and sustainable use of biodiversity in Finland 2013-2020.	2012
FR	National Biodiversity Strategy 2011-2020	2011
IE	Actions for biodiversity 2011-2016. Ireland's national biodiversity plan	2011
MT	Malta's national biodiversity strategy and action plan 2012-2020	2012
UK	Biodiversity 2020: A strategy for England's wildlife and ecosystem services	2011

Revised NBSAPs & NCA

BE	2013	Update of the NBS focuses on the following issues: (...) Phasing out perverse incentives and using guidelines on the integration of the values of biodiversity and ecosystem services in development strategies, planning processes and reporting systems included. Developing an approach to include these values in national accounting
CH	2012	Strategic Goal 6: “By 2020, ecosystem services are recorded quantitatively. This enables their consideration in the measurement of welfare as complementary indicators to gross domestic product and in regulatory impact assessments”.
CM	2012	TARGET 14: By 2020 the development and implementation of a comprehensive program for the valuation of biodiversity should have been realised and payments for ecosystem services and goods imputed into the national budget for use in promoting sustainable biological and genetic resources programmes. (...) Criterion 14-1. A study on Economic Valuation of Biodiversity and Payment of Ecosystem Services (PES) and Development of Tools for their integration in the national accounting system is realized.
EU	2011	<i>Our life insurance, our natural capital: an EU biodiversity strategy to 2020</i> (Outcome 5, under Target 2) reads: “Member States, with the assistance of the 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”.

Advancing SEEA-Experimental Ecosystem Accounting project (2014)

- **Global strategy** for the testing of the SEEA-Experimental Ecosystem Accounting at the national level
- **Guidance** document and **training** material for the testing of the SEEA-Experimental Ecosystem Accounting
- Support **pilot countries**:
 - assessment of policy priorities, data situation and tools used for ecosystem accounting
 - provide a national programme of work on how to advance the testing of the SEEA-Experimental Ecosystem Accounting, including by using non-conventional data sources;
 - identify relevant national stakeholders beyond statistical offices (e.g. in academia, research institutions, NGOs, etc.).

VANTAGE (Valuation and Accounting of Natural Capital for Green Economy)

- Held a workshop in South East Asia on Valuing and Accounting for the Environment in the Asia Region (8-10 October 2013/Bangkok, Thailand)
- Held a meeting in Africa in December 2013 (International Conference on Valuation and Accounting of Natural Capital for Green Economy in Africa / 3-4 December 2013/Nairobi, Kenya)
- Held a meeting in South East Asia in May 2014 (Policy Dialogue on 'Mainstreaming Natural Capital into Development Decisions: Bringing Environment into Center Stage' / 29-30 May 2014/Ha Noi, Viet Nam)
- Secured funding to support national scale accounting works

UNEP Ecosystem Services Economics Unit (2)

- Project for Ecosystem Services
 - Introduce Exploratory Ecosystem Services Accounting into the Trinidad & Tobago National Accounts (Carbon, Water, and Biodiversity Accounts)
 - Awareness raising and capacity building in Viet Nam on the role and importance of natural capital accounting
- Mainstreaming ecosystem services into Kazakhstan and Morocco's sectoral and macroeconomic policies and programmes
 - Pilot studies in both countries on valuation and accounting of ecosystem services
- Valuation studies on the role of forest ecosystems in national economies
 - Zambia, Republic of Congo, Panama, Tanzania, and Nepal

UNEP Ecosystem Services Economics Unit (3)

- Capacity Building
 - A Training Workshop within BIOECON Conference: Economics of Biodiversity and Ecosystem Services: Building Biodiversity and Ecosystem Services into National Policy', from 20-21 September, 2014 at King's College, Cambridge, UK.
- Manuals and Guidelines
 - Guidance Manual on Valuation and Accounting of Ecosystem Services for Small Island Developing States (SIDS)
 - Guidance Manual on Value Transfer Methods for Ecosystem Services
 - Integrating Ecosystem Services in Strategic Environmental Assessment: A guide for practitioners
 - Ecosystem Services and the Macroeconomy: A Review of Linkages & Evaluation of Analytical Tools

Incorporating the value of Forest-Related Ecosystem services Into National Accounts (Dec 2011- Dec 2015)

- The limited understanding of the economic values of ecosystem services and their contributions to national economies is one of the leading factors contributing to the unsustainable use of natural assets;
- The project which initially covers three countries Kenya, Gabon and Morocco aims at improving the understanding of both the economic costs of the loss of natural resources and ecosystem degradation as well as the economic benefit linked to the sustainable use and protection of these assets and related services;
- The objective is to demonstrate how key economic sectors are dependent on ecosystem services such as forests and forest-related ecosystem services; the contribution of these particular services to the real economy through development of so-called hybrid physical and monetary resource accounts in order to better capture, track and analyze inter-sectoral transactions and product flows to final demands, both domestic and foreign

Forest-Related Ecosystem services Into National Accounts

(2)

Kenya

- The work in Kenya is now completed and the country is now fitted with a fully function forest account. Discussions are now on-going with national bureau of statistics which will host the account and the relevant line ministries on the frequency of reporting and monitoring which will appear in Kenya's statistical abstract and economic outlook 2015;
- Lessons learnt from Kenya reveals that much more remains to be done especially with regard to incorporating ecosystem services into macroeconomic policy issues including employment, fiscal policies, GDP, balance of payment, foreign exchange and foreign currency reserves;
- Similar to the Kenya's work the Environmental Economic Accounts and Ecosystem Accounts will serve as the main analytical framework;

Forest-Related Ecosystem services Into National Accounts

(3)

Gabon and Morocco

- Work in Gabon and Morocco will endeavor to augment the SEEA with dynamic models that link computable general equilibrium models with general ecosystem equilibrium models (GEEM);
- Some of the challenges that we will face and will yet try to capture are: (1) to ensure that economic prices are endogenous; (2) that ecosystems feed back into the economy while; (3) showing that the economy directly affects the ecosystems and finally; (4) Ensure that savings (i.e. addition to the capital stocks) are captured and considered as endogenous to the models;
- Have a model which can forecast growth rates and explain how the structure of a particular economy will evolve over time (so-called sectoral composition of GDP). This is helpful in regards to explaining how a policy affects different agents/stakeholders whether it is the agriculture, industry, tourism sectors etc.

Forest-Related Ecosystem services Into National Accounts (4)

- The model examines and incorporates to some extent issues such as terms of trade effects as well as international capital flows which have a booster effect on economic growth process;
- It is also hoped that the models develop for both Gabon and Morocco will have the explanatory power as to how ecosystem dynamics can affect the performance and structure of an economy overtime as some sectors and resources such as labor (skilled and unskilled) are closely linked to a particular ecosystem;
- The model will be implemented together with the EEAs, as a prototype ecosystem services / macro-economy model

Mobilizing data to underpin the development of NCA

- working with 13 African countries to understand the demand in-country for natural capital accounting.
- working with countries to understand how ecosystem accounting utilise available biodiversity data and how to access that data.



INFORMATION & DATA MANAGEMENT
to underpin natural capital assessments
& ecosystem resilience

Midrand, South Africa
27-29 May 2014

BACKGROUND INFORMATION DOCUMENT AND AGENDA

THE MEETING

'You can't manage for improvement if you don't measure to see what is getting better and what isn't.'

The meeting is being convened by the United Nations Environment Program's Regional Office for Africa with the aim of improving access to the national data, statistics and indicators needed for managing 'natural capital' and building more resilient ecosystems. The meeting will explore the extent to which relevant data reaches appropriate decision makers and is thus taken account of. It offers opportunities for exploring how relevant information on 'natural capital' is generated, analysed and shared, with a view to explore ways of simplifying the process.

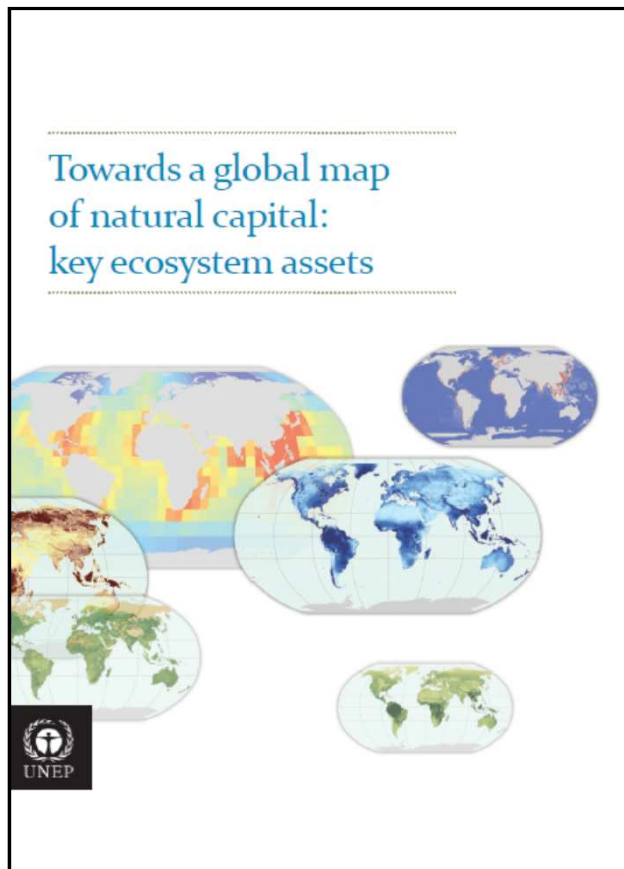
UNEP and RESILIM recognise that the surest way to make and execute better (smarter and real time) decisions is to fully leverage available data and information. There is much wisdom in Deming and Drucker's assertion that 'You can't manage what you don't measure.' But

Information and data management to underpin natural capital assessments and ecosystem resilience | Pretoria, 27-29 May

1

Pilot work on a global map of ecosystem assets



- attempt to give an overview of the global distribution of ecosystem assets
- draws on the SEEA-Experimental Ecosystem Accounting approach, as well as the work by many other researchers
- The composite map of ecosystem assets is produced by combining a number of existing global spatial datasets to produce a map for both terrestrial and marine realms. The individual datasets represent fresh water resources, soil quality for plant growth, terrestrial carbon, terrestrial and marine biodiversity, and marine fish stocks
- Mapping ecosystem assets at a global level has inherent biases.
- This is an initial study which demonstrates that it is possible to map ecosystem assets at the global scale. There are some obvious gaps in our mapping, for example in ecosystem functions such as coastal protection and cultural/aesthetic values. These and other ecosystem assets should be included in future mapping of global ecosystem assets

unep.org/ecosystemmanagement

unep.org/unea

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