Green accounting as a measure of sustainability: international experiences and challenges

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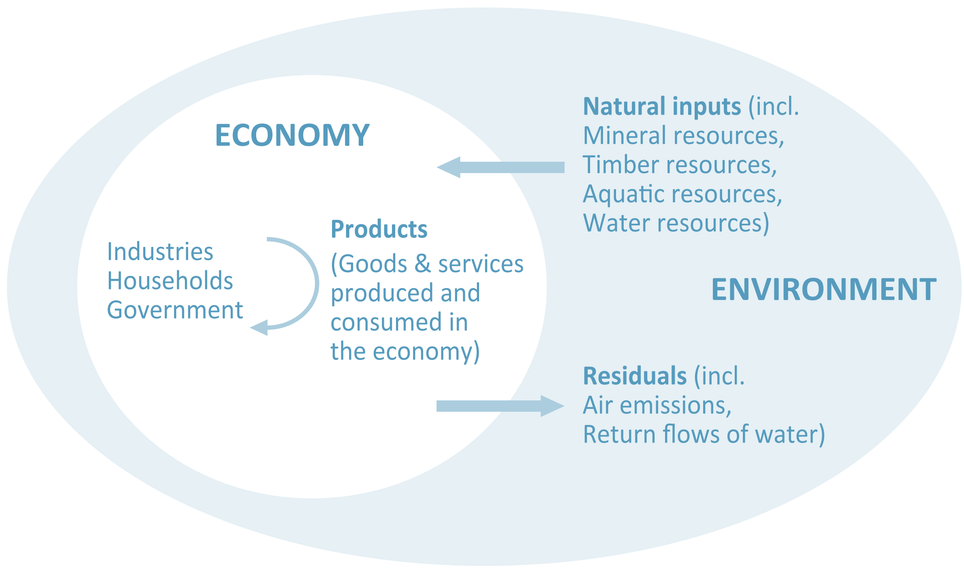
Background

The system of national accounts (SNA) largely ignores the productive value of natural resources and the 'sink' functions of the environment and hence does not adequately measure the impact of human economic activities on the natural environment. Thus, over the last two decades, the search for alternative measures ('beyond GDP') has increasingly attracted the attention of national governments and international agencies. Since the release of the 1987 report of the Brundtland Commission and the 1992 UN 'Earth Summit' recommendations (contained in *Agenda 21 – Programme of Action for Sustainable Development*), dozens of handbooks, manuals, accounting frameworks, concepts and classifications have been developed and many national governments have attempted to incorporate environmental accounts into their national accounting systems.

A simplified economy-environment interaction



Results

- Until the release of SEEA2012 Central Framework, there has not been a common standard approach to Environmental accounting;
- Lack of common international definitions and classifications of environmental goods and services is one of the major problems in Env. accounting;
- Monetary valuation of environmental services is among the major challenges in Env. accounting;
- No countries have developed fully integrated environmental-economic accounts i.e., most attempts to date were either for a specific environmental asset or economic sector or satellite accounts as a supplement to the main economic accounts;
- Applied Env. accounting works so far focus on physical materials and energy flow accounts; non-material 'ecosystem services' accounting have not been fully developed; and
- Adoption of the SEEA2012 Central Framework as an international statistical standard is a significant step forward for integrated environmental-economic accounting.

'Beyond GDP' – examples of global responses

- The Millennium Ecosystem Assessment (MEA)
- System of Environmental-Economic Accounting (SEEA)
- The Economics of Ecosystems and Biodiversity (TEEB)- http://www.cbd.int/incentives/teeb/
- The Wealth Accounting and Valuation of Ecosystem Services (WAVES) initiative- http://www.wavespartnership.org/waves/
- The UK National Ecosystem Assessment (UKNEA)
- The European Environment Agency's (EEA) on-going work on 'experimental ecosystem accounts'
- President Sarkozy's 'Stiglitz Commission' Report
- SEEA-water- http://unstats.un.org/unsd/envaccounting/seeaw/
- SEEA-energy - http://unstats.un.org/unsd/envaccounting/seeae/
- NAMEA (Netherlands) - extends existing national accounts with accounts in physical flows
- UNEP, 2011, Towards a Green Economy: www.unep.org/greeneconomy

Dev't of Env-Econ.

- **1987** –Brundtland Commission Report - *"Our Common Future"*
- **1992** - Release of *Agenda 21- Programme of Action for Sustainable Development* - Recommendations of UN "Earth Summit"
- **1993** Handbook of National Accounting: Integrated Environ. & Econ. Acct. (SEEA 1993)
- **1994** – London Group on Environ. Acct.(to provide forum for practitioners)
- **1995** – Nairobi Group established (a group of experts)
- **2003** – Handbook of National Accounting: Integrated Environ. & Econ. Acct. (SEEA 2003)
- **2007** – SEEA2003 Revision process
- **2012** – SEEA2012 Central Framework (international statistical standard)

Env. Acct: developed countries (examples)

Country	Key Features/ Particular focus of Env. acct
Norway	Physical accounts on energy resources and air pollution (pioneer in Env. Acct since 1970s)
France	Natural patrimony accounts – Physical accounting (provide data to monitor the state and changes in the natural environment).
The Netherlands	Material flow accounts (NAMEA)– Air emissions, water emissions, waste, energy, water and environmental expenditure accounts.
Australia	Stock & flow accounts for energy & emissions, fisheries, minerals, and water; monetary values for land, mineral, forest stock accounts
Canada	Natural resource stock accounts, material and energy flow accounts and environmental protection expenditures accounts.
Germany	Material and energy flow accounts, fully compatible with Germany's system of national accounts and are based on the SEEA framework.
UK	Atmospheric emissions, energy consumption, oil & gas reserves, and trade in basic materials, environmental taxation and spending on environmental protection.

Env. Acct: developing countries (examples)

Country	Major features/particular focus of Env. Acct
Botswana	Water and mineral accounts, using SEEA whenever possible; both stock and flow accounts for water; preliminary work on monetary valuation of mineral stocks.
Colombia	Physical and monetary asset accounts for oil, gas and coal, mineral resources and forest resources.
Costa Rica	Developed accounts for forestry, soil erosion, and fisheries. Costa Rica is one of the WAVES partnership countries
The Philippines	Resource stock accounts for forests, minerals, fisheries, and soil, and costs of preventing air and water pollution
Namibia	Environmental accounts for natural assets such as water, fisheries, minerals, and livestock since the 1990s.

Conclusions

Many developed and an increasing number of developing countries have adopted some components of environmental accounting in order to supplement their national accounting systems and continue to refine their accounts. As of 2007, at least 72 countries had developed components of environmental accounts or planned to do so in the near future. However, no country has yet developed a full set of accounts as outlined in the SEEA.