

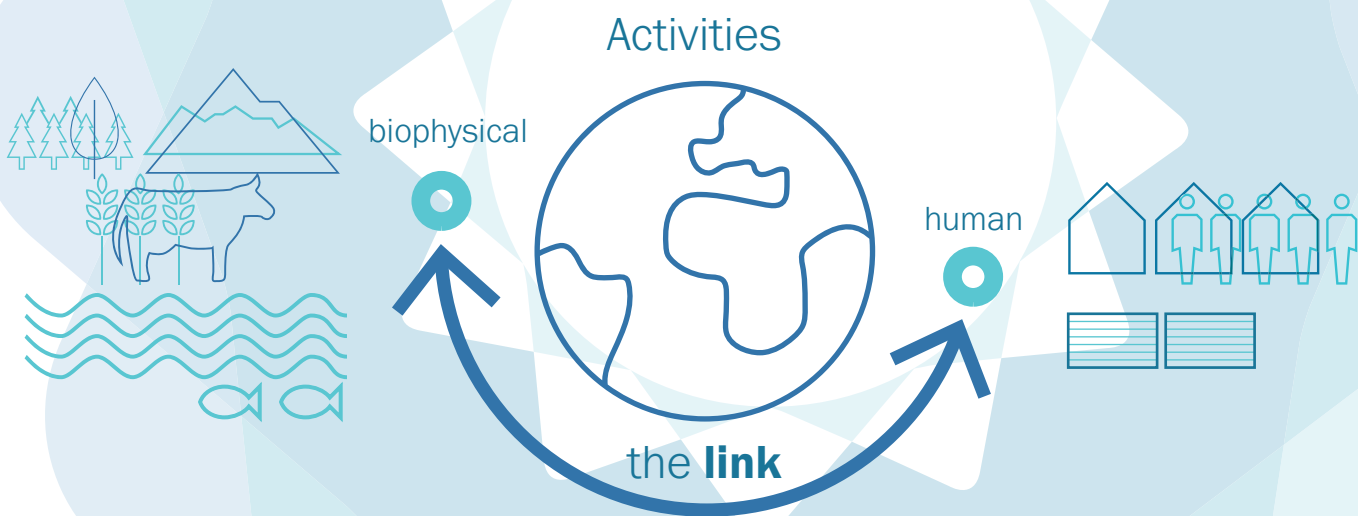


United Nations



System of  
Environmental  
Economic  
Accounting

# Natural Capital Accounting and Valuation of **Ecosystem Services**



**Brazil, China, India, Mexico and South Africa are developing Natural Capital Accounts to advance understanding of the many ways economic well-being depends on biodiversity and ecosystems.**



## The project

The “Natural Capital Accounting and Valuation of Ecosystem Services” (NCAVES) project is funded by the European Union. It is jointly by the United Nations Statistics Division (UNSD) and the United Nations Environment Programme (UN Environment) in collaboration with the Secretariat of the Convention on Biological Diversity.

The goal of this pathbreaking project is to advance the theory and practice of ecosystem accounting, informing policy and generating valuable experience for the development of accounts across the globe. Five countries – Brazil, China, India, Mexico, and South Africa – are strategic partners in the creation of pilot ecosystem accounts applying the System of Environmental Economic Accounts - Experimental Ecosystem Accounting (SEEA EEA) framework.



various images of ecosystem distress...

## Natural Capital Accounting

Healthy ecosystems supply essential services that humans depend upon in their daily lives, such as clean air and water, productive soils, pollination, carbon sequestration and flood control. But the contribution of our “natural capital” has too often been taken for granted when making important economic decisions. The resulting overexploitation, habitat destruction, and pollution of our natural world has created profound damage to our biosphere.

Continuing down this path could lead to a tipping point resulting in a catastrophic reduction in the ability of ecosystems to provide the services critical to human wellbeing. Tragically, it is often the poorest and most vulnerable populations that are most directly dependent upon the benefits of biodiversity and healthy ecosystems for their daily needs.

We can no longer afford to ignore our dependence on a thriving environment rich in life. We must change the way we measure development so that nature and its benefits appear on the ledger.

Natural capital accounting (NCA) provides the essential information needed for this change. Physical and monetary measures of the stocks and flows of natural capital and the extent to which ecosystems contribute to economic activity and provide essential services to society enable decisionmakers to more effectively chart the path to a sustainable future.

## Ecosystem Accounting

The SEEA EEA and its accompanying Technical Recommendations form an integrated statistical framework for organizing biophysical data, measuring ecosystem services, tracking changes in ecosystem assets and linking this information to economic and other human activity.

One of the distinguishing features of the SEEA EEA is that it is spatially explicit, with the accounts being derived from underlying maps. An intergovernmental process is underway to revise the SEEA-EEA into an agreed international statistical standard. This process is scheduled to be completed by 2021.



**Ecosystem extent account:** This account serves as a common starting point for ecosystem accounting. It organizes information on the extent of different ecosystem types (e.g. forests, wetlands, agricultural areas, marine areas) within defined geographic boundaries in terms of spatial area.



**Ecosystem condition account:** This account measures the overall quality of an ecosystem asset and captures, in a set of key indicators, the state or functioning of the ecosystem in relation to both its naturalness and its potential to supply ecosystem services.



**Ecosystem services accounts:** This account shows the supply of ecosystem services (by ecosystem types) as well as their corresponding users and beneficiaries, classified by economic sector. The ecosystem services accounts can be compiled in physical and/or monetary units.



**Monetary asset account:** This account records the monetary value of all ecosystem assets within an ecosystem accounting area, and how these values change over time due to ecosystem degradation or enhancement.



**Thematic accounts:** : Covering land, water, carbon and biodiversity, these accounts provide additional details relevant for policy making and analysis.



**Brazil** is piloting ecosystem accounts in the Rio Grande river basin assessing the impacts of the changing agricultural frontier on hydrological and soil related ecosystem services. At the national level, forest and biodiversity accounts are piloted. The project will develop a roadmap for natural capital accounting building on a policy mapping and data sources assessment

**China** China is piloting ecosystem extent, condition and services accounts in Guangxi and Guizhou provinces in the context of constructing an ecological civilization, aligning earlier efforts with the SEEA EEA methodology and focusing on forest, grassland, freshwater, farmland, urban and marine ecosystem. The accounts will be used to underpin regional eco-compensation standards in China.

**India** is assessing a number of ecosystem services at the national level, In addition, it is experimenting with extent and condition accounts for selected ecosystems, looking at developing a water quality index, water

quality accounts as also testing of soil accounts. There are plans to test a comprehensive set of ecosystem accounts at the sub-national level.

**Mexico** has compiled comprehensive ecosystem extent accounts integrating information on land tenure and protected area status. It is modelling a range of ecosystem services at the national level. A variety of approaches for developing condition accounts are being explored. The project has established an inter-agency coordination mechanism for mainstreaming natural capital accounts.

**South Africa** is developing a range of accounts at the national level, including ecosystem extent accounts, species accounts, protected area accounts and urban accounts. For KwaZulu-Natal province, a whole suite of ecosystems services will be modelled and valued. Mainstreaming is taking place through development of a comprehensive National Strategy on Natural Capital Accounting.

# Natural Capital Accounting And Valuation Of Ecosystem Services

An innovative five-country project mainstreaming ecosystems and biodiversity into policy

## Ecosystem Accounts

### *Generating information*

Develop accounts at the national and subnational levels in both physical and monetary terms,

## Methodology

### *Advancing the field*

Inform the revision of the SEEA EEA and guidelines that will contribute to national and global implementation of natural capital accounting.

## Business Accounting

### *Linking with the private sector*

Further the alignment between SEEA and corporate sustainability reporting.

## Capacity Building

### *Strengthening the community*

Enlarge the community of practitioners on natural capital accounting by e-Learnings and training workshops.

## Indicators

### *Providing actionable insights*

Create and test of a set of indicators in the context of the post 2020 Biodiversity Agenda and other international initiatives.

## Communication

### *Spreading the word*

Increase awareness of natural capital accounting both in project countries and beyond.

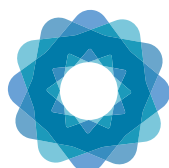
## Scenario Analysis

### *Envisioning the future*

Influence the implementation of environmental policies based on information from the developed accounts.



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The System of Environmental-Economic Accounting (SEEA) is an international statistical standard that uses a systems approach to bring together economic and environmental information to measure the contribution of the environment to the economy and the impact of the economy on the environment. Environmental accounts (or natural capital accounts) are an extension to the System of National Accounts (SNA) and facilitate the development of indicators and analysis on the economy-environment nexus.

Comments and questions are welcome.

Please contact us at: United Nations Statistics Division (UNSD), Environmental Economic Accounts Section, New York, USA

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