

Environment Economic Accounting – An Introduction

It is an undeniable fact that the natural resources form the backbone of our economy and only targeting economic development without environmental considerations can cause serious environmental degradations impairing the quality of life of present and future generations. Therefore, for a developing country like India it is important to maintain the economic growth rate while clinging on to the parameters of sustainability especially given the fact that the cross-linkages between the resource use, climate change, land degradation and biodiversity loss has been scientifically well established. Accordingly, NSO India is driving the initiative on environmental accounting in collaboration with key stakeholders. **Environment Economic Accounting** provides information about the extraction of natural resources, their use within the economy, natural resource stock levels, the changes in those stocks during a specific period and economic activity related to the environment. The need of Environment Economic Accounting arises because of the following reasons: -

- The conventional GDP doesn't measure environmental sustainability
- Human activities contributing to economic growth and development are fast depleting natural resources
- No accountability of damage done to natural resources
- Need to incorporate environment sustainability measures in national accounting

The National Statistical Office (NSO) under the Ministry of Statistics and Programme Implementation (MoSPI) is mandated with the "Development of Environment Statistics and Development of methodology, concepts and preparation of National Resource Accounts for India". In accordance with this mandate, the Ministry constituted an Expert Group in 2011 under the chairmanship of Prof. Sir Partha Dasgupta, Frank Ramsey Professor Emeritus of Economics, University of Cambridge, U.K for advising on an implementation plan for compiling "Green National Accounts in India". The Expert Group submitted its report in 2013 and recommended compilation of the accounts following the SEEA Framework in a phased manner, i.e. starting with the asset accounts followed by the physical and the monetary flows. The System of Environmental-Economic Accounting (SEEA) is an agreed international statistical standard for describing the interaction between the economy and the environment, as well as the stocks and changes in stocks of environmental assets. The SEEA uses a structure and classifications consistent with the System of National Accounts (SNA) to facilitate the development of indicators and analysis of the economy-environment nexus.

In this direction the first work came in a form of a project i.e. 'Natural Capital Accounting and Valuation of Ecosystem services (NCAVES)' launched by the United Nations Statistics Division (UNSD), the United Nations Environment Programme (UNEP) and the Secretariat of the Convention of Biological Diversity (CBD) in 2017. This European Union (EU) funded project, through its partnership instrument, aimed to assist the five participating countries namely Brazil, China, India, Mexico and South

Africa, in advancing the knowledge agenda on environmental-economic accounting in particular ecosystem accounting. NSO, MoSPI implemented the NCAVES project in close collaboration with the Ministry of Environment, Forest and Climate Change (MoEF&CC), the National Remote Sensing Centre (NRSC), the Soil and Land Use Survey of India (SLUSI) and the Indian Institute of Science (IISc)- Centre for Ecological Sciences. Under the NCAVES Project, the NSO, India undertook several activities towards compilation of the Environment Accounts.

Parallel to this project, as per recommendations of the Sir Partha Dasgupta Committee Report, the **first layers of the Environment Accounts** (i.e., asset accounts) were released in the year 2018, in the publication **EnviStats India 2018 – Supplement on Environment Accounts**, detailing the physical asset accounts of land cover, minerals, water and forests, at the state and national levels. Since then, the Ministry has continuously strived to enhance the scope and coverage of environmental accounts, including those of extent and condition accounts. Further, in order to translate the physical values using an economic yardstick, the Ministry evaluated some ecosystem services, such as Crop Provisioning Services, Timber and Non-timber Forest Products Provisioning Services, Fish Provisioning Services, Carbon Retention Services provided by Forests and Nature-based Tourism services in monetary terms. These accounts, along with the extent and the condition accounts, **present a systematic glimpse of the State of Environment in India in respect of various environmental assets and ecosystems**. Several accounts that have been released in the form of the annual publication “EnviStats India: Environment Accounts” after due consultations in the Inter-Ministerial Group (IMG) are presented in the Table below:

Type of account	Topics covered (Year of publication given in parentheses)
Ecosystem extent	Change matrix of Land Use–Land Cover (LULC) from 2005-06 to 2011-12 and 2011-12 to 2015-16 (2018, 2020) Asset Account for Land Use–Land Cover (LULC), 2005-06, 2011-12 and 2015-16 (2018, 2020) Accounts related to the Land Degradation, 2005-06 and 2015-16 (2020) Wetland Extent Account, 2006-07 (2020), 2016-17 (2020, 2022)
Ecosystem condition	Soil nutrient indices (2019, 2021, 2024) Water quality accounts (2019, 2021) Forest condition accounts (2020) Cropland condition accounts (2020) Wetland Condition Accounts (2020)
Ecosystem services	Crop provisioning services (monetary) (2019, 2021) Timber provisioning services (monetary) (2020, 2022) Non-Timber Forest Products (NTFP) provisioning services (monetary) (2020, 2022) Fish Provisioning services (monetary) (2022, 2023)

Type of account	Topics covered (Year of publication given in parentheses)
	Carbon retention services provided by forests (physical and monetary) (2020, 2022) Nature-based tourism (monetary) (2019) Soil erosion prevention services provided by croplands/ Forests (physical) (2020, 2023)
Thematic Accounts	Biodiversity (2020, 2021, 2022, 2024) State-wise floral and faunal species accounts (2020) Species Richness of IUCN Red List species (2020, 2021, 2022, 2024) Ocean Ecosystem Accounts (2024)
Individual environmental asset accounts (SEEA CF)	Forests – Growing Stocks of Timber and Carbon (2018, 2020, 2022) Water (2018) Minerals (2018) Energy Accounts (2022, 2024) Solid Waste Accounts (2022, 2023) Material Flow Accounts (2022, 2023)