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Strategy for Environmental Economic Accounts in India 2022-2026



Strategy for Environmental-Economic Accounts in India

2022- 2026



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Introduction

1. India's diverse geography and climatic conditions have resulted in a rich variety of ecosystems such as hot and cold deserts, highlands, tropical and temperate forests, grasslands, swamplands, mangroves, coral reefs and plains. India can be demarcated into ten distinct bio-geographic zones, with further variation in agro-climatic areas, extending from the Himalayan peaks in the North, through the arid and semi-arid central region, to tropical rain forests in the South and a lengthy coastline. Being one of the 17 mega-diverse countries, with over 7 per cent of the world's biodiversity, genetic as well as of species and ecosystems, India is ranked ninth in the world in terms of higher plant species richness.

2. India attaches much importance to the environment, as evidenced by the fact that environmental issues are embedded in India's Constitutional guidelines adopted in 1950. The Directive Principles of State Policy, given in the Constitution of India¹, contain provisions that reflect the State's commitment to protect the environment, including forests and wildlife, and which enjoin upon the citizens of India the responsibility to protect and improve the environment.

3. 'Environment' is not a distinct subject for legislative and administrative purposes, and various statutes address the problem of the environment. Having a federal government system, India has a distribution of legislative and other powers between the Union and the States as per the Union, the State and the Concurrent List of Seventh Schedule of the Constitution of India. Parliament has exclusive power to legislate on any matter in the Union List, state legislatures can enact the law on any matter in the State List, and both have competence on matters in the Concurrent list. Regarding the environment, the Union List consists of matters having an inter-territorial environmental impact. The State List has those matters having a local environmental impact (e.g. Land and Water), and the Concurrent List (e.g. Forest and Protection of wild animals and birds) contains matters having both the local and the national bearing.

4. In line with these distributed responsibilities, the different Line Ministries of the Government of India and the State and Local Governments generate statistics on various environmental aspects. The Ministry of Statistics and Programme Implementations (MoSPI) under the Government of India is mandated to serve as the nodal agency for planning and facilitating an integrated development of the statistical system in the country. As per the Allocation of the Business rules, MoSPI has the mandate for development of Environment Statistics, development of the methodology, concepts and preparation of Natural Resource Accounts in India. It lays

down and maintains norms and standards in official statistics, evolving concepts, definitions, classifications and methodologies. It also coordinates statistical activities amongst Ministries /Departments of the Government of India and the State Governments to improve the quality of statistical processes and products and renders the necessary advisories on statistical matters. In respect of statistics on various environmental aspects, to provide easy access to these statistics, MoSPI has been producing Compendium of Environment Statistics², consolidating all the relevant facts and figures about the environment since 1997 based on the United Nations Framework for Development of Environment Statistics (FDES), 1984. These Statistics provide a plethora of information that help in knowing about the various dimensions of the environment. These also facilitate the different line Ministries to assess their schemes/programs and aid in taking mid-course actions, if any.

Environmental Accounting in India-Initial Steps

5. MoSPI constituted a Technical Working Group on Natural Resource Accounting (NRA) in 1997 to guide the transformation of these statistics to environmental accounts, and a study was conducted on NRA in 1999-2000 in one of the provinces of India. The study's findings generated much discussion among the academics and the official system. To develop sector-specific uniform methodologies for natural resource accounting, MoSPI then commissioned a set of State-level studies on land, forests, air, water and sub-soil resources³. But, despite having vast richness of findings, these research studies could not be concretized into a full-fledged account due to their lack of comparability in the methods and definitions used, which limited their aggregations.

6. Another important initiative in respect of environmental accounting was "The Economics of Ecosystems and Biodiversity" (TEEB), a global initiative focussed on "making nature's values visible". The TEEB India Initiative was implemented under the Indo-German Biodiversity Programme. The TEEB India initiative started in 2011 and carried out 12 pilot studies⁴ on the three ecosystems (forests, inland wetlands and coastal and marine ecosystems) to demonstrate practical approaches for applying ecosystem service valuations to improve conservation, planning and policymaking.

7. Some subject-specific studies were also launched by the different Departments/Ministries of Government of India, such as the Department of Science & Technology under its Natural Resources Data Management Systems Programme and the Ministry of Environment, Forest & Climate Change under its various schemes and missions. For instance, a study was awarded to The Energy and Resources Institute (TERI) by the Ministry of Environment, Forest and Climate Change,

Government of India, to conduct a macroeconomic analysis of the costs of land degradation in India. This study, carried out in six States of India i.e. Gujarat, Madhya Pradesh, Uttarakhand, Andhra Pradesh, Uttar Pradesh and Rajasthan, assessed the economics of desertification for India through a macro and micro-economic assessment. The study assessed the scale of land degradation in the country with its associated economic impacts; and the quantum as well as sources of the investment required for undertaking preventive and restorative measures.

8. India has also participated in the Biodiversity Finance Initiative (BIOFIN), which is a UNDP managed global partnership that supports countries to enhance their financial management for biodiversity and ecosystems. The BIOFIN Project in India was led by Ministry of Environment, Forest and Climate Change (MoEFCC) and hosted by the National Biodiversity Authority (NBA), in collaboration with key State Biodiversity Boards, Wildlife Institute of India (WII), National Institute of Public Finance and Policy (NIPFP) and other Institutions. BIOFIN aims to develop a methodology for quantifying the biodiversity finance gap at the national level, improving cost-effectiveness through mainstreaming biodiversity into national development and sectoral planning and developing comprehensive national resource mobilizing strategies. One of the components of the BIOFIN, the Biodiversity Expenditure Review (BER), includes an assessment of detailed data on public, private, and civil society budgets, allocations and expenditures to inform and promote improved biodiversity policies, financing and outcomes.

9. To help the development of environmental-economic accounts, a high-level Expert Group under the Chairmanship of Prof. Sir Partha Dasgupta, Frank Ramsey Professor Emeritus of Economics, University of Cambridge, United Kingdom, was constituted by MoSPI in 2011 with the mandate of developing a framework for Green National Accounts of India and preparing a roadmap to implement the framework. The Expert Group submitted its report titled "Green National Accounts in India-A Framework⁵" in 2013 and recommended compilation of the accounts envisaged in the System of Environmental-Economic Accounting (SEEA).

The Framework

10. The growth of a region is usually assessed with the help of the headline indicators such as GDP and other macro-economic aggregates. It is essential to supplement this information with that on the status of natural capital like the biotic and abiotic resources and the ecosystems to enable decision-making for attaining sustainable development. The benefits derived from the environment range from the raw materials for production, the dependence on environmental conditions for

production, to the benefits derived from being able to enjoy nature. To ensure sustainable use of the natural resources, the interdependency between the environment and the economy is crucial for the policymakers while framing the policy for economic growth.

11. To provide this comprehensive picture, an internationally agreed consistent and coherent framework has been developed by the United Nations (UN) – the System of Environmental-Economic Accounting (SEEA)⁶, which provides a conceptual framework for understanding the linkages between the environment and the economy. The SEEA aims to describe all three forms of interdependence between the economy and the environment – environmental burden, the environmental state and environmental measures. The description of these interdependencies is based on the fact that a national economy uses labour, capital and nature for its growth.

12. The SEEA allows examining a range of issues at the macro level, such as resource efficiency and productivity, through techniques such as decomposition analysis, structural input-output analysis and general equilibrium modelling. SEEA comprises of two main parts:

(A) SEEA-Central Framework (SEEA-CF)⁷: was adopted by the UN Statistical Commission as an international standard for environmental-economic accounting in 2012. The Central Framework considers the "individual environmental assets", such as land, water resources and energy resources, and the flows between these assets between the environment and the economy.

(B) SEEA-Ecosystem Accounting (SEEA-EA)⁸: Adopted by the UN Statistical Commission in March 2021, it is a coherent framework for integrating an assessment of the ecosystems and the flows of ecosystem services with measures of economic and other human activity.

13. The SEEA-CF and the SEEA-EA, together with other associated guidance material on applying the framework to specific thematic areas, form the basis for building linkages of the environment with the economy and providing necessary input to policy.

14. Since the compilation of SEEA-compliant accounts, as recommended by the Expert Group, entails rich datasets across multiple domains, especially for the compilation in monetary terms and final integration with national accounts, an Inter-Ministerial Group (IMG) was constituted by MoSPI in 2016 to facilitate the assessment of datasets for the compilation of these accounts and to make recommendations for the line of action. The Ministries of Environment, Forests and Climate Change; Water

Resources, River Development & Ganga Rejuvenation; Agriculture and Farmers Welfare; Mines; Coal; Petroleum and Natural Gas; New & Renewable Energy; Power as well as Department of Land Resources, Comptroller & Auditor General of India and the National Remote Sensing Centre are represented in this Group and provide the impetus for the compilation of these accounts.

15. India has a long history of research on environmental aspects across different ecosystems, ranging from theoretical concepts to practical application, both inside and outside the official domain. The studies covered a full range of issues – from the application of economic principles and tools to environmental management in India for policies related to pollution control, modelling, resources management and biodiversity conservation and from quantifying the resourcefulness of India to highlighting the economic consequences of the loss of biological diversity and the associated decline in ecosystem services. Though rich in information, these research studies could not culminate in a full-fledged national account due to a lack of comparability in the methods and definitions used in these studies, which limited their aggregation.

Current accounting initiatives

16. Realising the need to adopt a common framework for international acceptability, MoSPI initiated compilation of environmental accounts in the SEEA framework in 2018, and these accounts were released in the publication titled "EnviStats-India". All subjects covered in the publications are thoroughly discussed in the Inter-Ministerial Group (IMG) which comprises of stakeholders from various Ministries to seek their comments and guidance; before the documents are released in the public domain.

17. The EnviStats India Series consists of two issues produced on an annual basis. Vol. I⁹ deals with the various dimensions of the Statistics related to the environment and aligns with the UN Framework for the Development of Environment Statistics (FDES) 2013¹⁰. FDES helps to provide indicators on the state of the environment, our dependence on it, our impact on the environment, the impact of the state of environment on human life and how we protect and manage it. The latest publication of 2021 provides information on 222 indicators of the FDES 2013.

18. EnviStats India Vol. II^{11,12} presents environmental accounts following the SEEA framework, giving a systematic glimpse of the State of the Environment in India regarding various assets and ecosystems. MoSPI has released the following accounts in the different issues of this publication to date:

Type of account	Topics covered (Year of publication given in parentheses)
Ecosystem extent	<p>Change matrix of Land Use – Land Cover (LULC) from 2005-06 to 2011-12 and 2011-12 to 2015-16 (2018, 2020)</p> <p>Asset Account for Land Use-Land Cover (LULC), 2005-06, 2011-12 and 2015-16 (2018, 2020)</p> <p>Accounts related to the Land Degradation, 2005-06 and 2015-16 (2020)</p> <p>Wetland Extent Account, 2006-07 (2020)</p>
Ecosystem condition	<p>Soil nutrient indices (2019, 2021)</p> <p>Water quality accounts (2019, 2021)</p> <p>Forest condition account (2020)</p> <p>Cropland condition account (2020)</p>
Ecosystem services	<p>Crop provisioning services (monetary) (2019, 2021)</p> <p>Timber provisioning services (monetary) (2020)</p> <p>Non-Timber Forest Products (NTFP) provisioning services (monetary) (2020)</p> <p>Carbon retention services provided by forests (physical and monetary) (2020)</p> <p>Nature-based tourism (monetary) (2019)</p> <p>Soil erosion prevention services provided by croplands (physical) (2020)</p>
Thematic Accounts	<p>Biodiversity -</p> <p>The extent of protected areas (2020)</p> <p>State-wise floral and faunal species accounts (2020)</p> <p>Species Richness of IUCN Red List species (2020, 2021)</p>
Individual environmental asset accounts (SEEA CF)	<p>Forests – Growing Stocks of Timber and Carbon (2018, 2020)</p> <p>Water (2018)</p>

19. The compilation of environmental accounts in India was accelerated by the Project on "Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES)"¹³, funded by the European Union (EU) and implemented as a collaborative project by United Nations Statistics Division (UNSD), United Nations Environment Programme (UNEP), Secretariat of Convention on Biological Diversity (CBD) and national partners. In India, the NCAVES project was implemented by MoSPI¹⁴ in close collaboration with the Ministry of Environment, Forest and Climate Change, National Remote Sensing Centre and several other concerned agencies of the Government of India.

20. Under the NCAVES Project, a pilot study had been undertaken by the Indian Institute of Science, Bengaluru in the State of Karnataka. In this study, a suite of ecosystem accounts was developed, including ecosystem extent, a range of condition indicators and an extensive set of ecosystem services. These accounts have the potential to be applied in subsequent scenario analysis, assessing land use, conservation and afforestation policies.

21. A landscape assessment was also undertaken under the Project to review existing ecosystem accounting initiatives and literature in India. Further, an India - Environmental Valuation Look-up (India-EVL) Tool¹⁵ was developed to ensure easy access to the existing research on the valuation of ecosystem services in India that emerged from the assessment. The tool provides an assessment of the quality and applicability, especially in the context of value transfer, for a set of valuation studies conducted in different contexts and settings in India after the year 2000. The database structure and lookup format (user tool) with accompanying guidance will assist users to understand and compare findings across studies and to know the contexts in which benefits transfer could be applicable. The tool will also be a helpful input to the development of national ecosystem service accounts in India. The tool has a provision for adding more studies as and when these are received.

22. Apart from MoSPI, the Supreme Audit Institution of India, the Office of Comptroller and Auditor General of India has also started work on compiling information on the receipts and expenditure on exploitation of natural resources and related activities¹⁶. This will ensure that the SEEA accounts are aligned with the Government Budget Statements and the SNA, wherever applicable.

23. MoEFCC has also undertaken "Economic valuation of coastal ecosystems and coastal waters up to 12 nautical miles" under its SICOM/ICZM (II Phase) project¹⁷. Under this project, it is proposed to compile accounts of extent, condition, physical

services and monetary benefits for the coastal ecologically sensitive areas (ESAs) and certain Coastal Regulation Zone (CRZ) areas of India using the SEEA-EA framework. In this regard, MoSPI would be providing advisory, technical inputs on methodology of assessment, reporting mechanisms and to oversee the sub-project activity of NCSCM, SICOM, and MoEF&CC.

24. There is an increasing recognition of the importance of including environment in corporate reporting. In India, the philosophy of responsible business was first embedded in the National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business (NVGs)¹⁸ released in 2011 and later incorporated in the Companies Act, 2013 as the National Guidelines for Responsible Business Conduct¹⁹ (NGRBC) in 2019. These guidelines envisage a company's broader responsibilities beyond its shareholders to its stakeholders – employees, community, and notably, the environment. The top 1000 companies, identified by market capitalisation, **are mandated**²⁰ to file Business Responsibility and Sustainability Reports (BRSR)²¹ based on the guidelines with other listed entities also encouraged to include the business responsibility reports and initiatives taken by these entities from an environmental perspective, in the format as specified by the Board from time to time. The format for this integrated reporting requires them to disclose their dependence on various forms of capital, including natural capital. The prescribed format of the BRSR requires the companies to, inter-alia, report on energy and water consumption and management of waste, waste-water and air emissions.

25. In line with these guidelines, several corporate sector entities in India are already compiling voluntary and/or statutory sustainability reports^{22,23,24} for integrating environmental information alongside financial information. These have enabled organizations to identify, measure and value their direct and indirect impacts and dependencies on natural capital.

26. In addition, there are examples of illustrative studies by industry associations^{25,26} that aim to emphasise the need for environmental conservation and restoration to ensure sustained growth of the corporate sector. For instance, under the India Business and Biodiversity Initiative (IBBI) launched by CII-ITC Centre of Excellence for Sustainable Development case studies have been undertaken in mining, cement, housing, resorts, automobiles and agriculture to demonstrate the importance of biodiversity mainstreaming across their value chain. IBBI has also developed a Natural Capital Valuation tool based on the Natural Capital Protocol to measure and monetize natural capital externalities, and a Natural Capital Index is under

development. These initiatives are intended to mainstream the considerations of the environment into corporate accounting and business decision-making more generally.

27. The multilateral organizations, on their part, are also emphasizing the need to account for the environment for addressing the concerns of sustainability. The TEEBAgriFood initiative of the UNEP seeks to provide a comprehensive economic evaluation of the "eco-agri-food systems" complex and help identify the positive and negative externalities affecting the economic environment and the data gaps in the identification of dependency on natural, human and social capital. The initiative aims to protect biodiversity and contribute to a more sustainable agriculture and food sector in seven partner countries (Brazil, China, India, Indonesia, Malaysia, Mexico and Thailand). During 2019-2022, the project in India will focus on organic agriculture and agro-forestry in Uttarakhand and Uttar Pradesh and will draw on natural capital accounts to assess the impact of agricultural-environmental policies on ecosystems, natural capital and the provision and value of ecosystem services.

Implication in the policy framing

28. In India, there is a growing interest at the policy level about the felt need to conserve natural resources and also to meet development goals as they can no longer be achieved without the due considerations of environment. These policies, in turn, require adequate and quality data, that are made available with a pre-defined time frame. Environmental accounts are a powerful multipurpose information framework suitable for assessing sustainable development and many other policy areas in the environmental sector. The SEEA framework being the foundation for the compilation of Environmental Accounts, facilitates the generation of a wide range of indicators and statistics. The SEEA compliant accounts have the advantage of systematically presenting comparable information, using standard definitions based on a sound conceptual framework, and hence, provide a platform for producing a range of reports and analyses that are very beneficial from a policy perspective.

29. Regular production of accounts can provide standardised information for tracking and reporting progress towards sustainable development, including goals and targets set out in policies, frameworks and plans at international, continental, national, provincial or local levels. By integrating the environmental and economic aspects, as also the diverse thematic environmental aspects, the accounts can pave the way for evidence-based policy designs by:

- i. enabling analysis of the impact of economic policies on the environment and vice versa;
- ii. providing a quantitative basis for policy design;

- iii. identifying the socio-economic drivers, pressures, impacts and responses affecting the environment;
- iv. supporting greater precision in the development of environmental regulations and resource management strategies; and
- v. providing indicators that express the relationships between the environment and the economy.

30. Adding another dimension to the policy framing are the Multilateral Environmental Agreements (MEAs), which play a critical role in the overall framework of environmental laws and conventions. Complementing national legislation and bilateral or regional agreements, multilateral environmental agreements form the overarching international legal basis for global efforts to address particular environmental issues. India is party to many of the Environmental Conventions and Agreements. An important aspect of the endorsement of these MEAs is their reporting and monitoring. Each MEA involves indicators addressing various aspects of it. The SEEA framework is designed to support mainstreaming the environment into economic and development planning. In this regard, there are multiple entry points for biodiversity and ecosystem services to support reporting for the MEAs. The following table gives some of the SEEA accounts which are of relevance to the various MEAs.

S.No.	MEA/International Obligations	SEEA accounts
1	Sustainable Development Goals (SDG)	<ul style="list-style-type: none"> • Land cover/Land use accounts • Ecosystem service supply and use accounts • SEEA-Water, Waste Accounts • Material Flow account • Environment Expenditure accounts • Ecosystem condition account • Biodiversity accounts • SEEA-EA Extent accounts
2	United Nations Convention to Combat Desertification (UNCCD)	<ul style="list-style-type: none"> • Land cover or land use accounts • Ecosystem condition accounts • Carbon accounts
3	United Nations Framework Convention on Climate Change (UNFCCC)	<ul style="list-style-type: none"> • Land cover or land use accounts • Carbon accounting • Residual Flow Accounts • SEEA-Water

S.No.	MEA/International Obligations	SEEA accounts
4	Convention on Biological Diversity (CBD)- Aichi Targets	<ul style="list-style-type: none"> • Biodiversity accounts • Carbon accounts • SEEA-Water • Ecosystem extent and condition accounts • Material Flow accounts • Urban ecosystem accounting
5	Ramsar Convention	<ul style="list-style-type: none"> • Ecosystem extent and condition accounts • SEEA- Waste
6	Convention on International Trade in Endangered Species (CITES)	<ul style="list-style-type: none"> • Biodiversity accounts
7	Reducing Emissions from Deforestation and Forest Degradation (REDD+)	<ul style="list-style-type: none"> • Carbon accounts • Ecosystem extent account • Forest asset account
8	United Nations Forum on Forests (UNFF)	<ul style="list-style-type: none"> • Ecosystem condition accounts • Forest asset accounts • Carbon accounts • SEEA-Water • Accounts of the Protected Areas
9	Waste related MEAs (Rotterdam Convention, Stockholm Convention, Basel Convention, Minamata Convention)	<ul style="list-style-type: none"> • Residual Flow Accounts
10	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)	<ul style="list-style-type: none"> • Biodiversity accounts • Ecosystem service supply accounts • Residual Flow Accounts for fertiliser applications and CO2 emissions
11	International Union for Conservation of Nature (IUCN)	<ul style="list-style-type: none"> • Biodiversity accounts with focus on threatened species

Road Map for Future Action

31. In the background of the context provided in the previous sections, the following strategic areas of work are identified for the next five years in respect of environment accounting in India.

- i. Continue improving the quality – including timeliness- of the current Indian environmental accounts;
- ii. Better communicate the relevance and content of environmental accounts and address user needs; and
- iii. Enhance the scope of environmental accounts with emerging areas.

32. An indicative list of activities to be undertaken under each of these work-streams is given in the following paragraphs.

Strategic Area A: Quality Improvements

33. Efforts would be made to continue improving the quality of the environmental accounting through the following activities:

- Production of a longer time series to help identify trends and allow data analysis, with improved timeliness of results;
- Increased collaboration with other agencies and institutions – like data sources, line Ministries, nodal agencies identified for various MEAs, academia and research organisations - to leverage on the complementary know-how e.g. about assessment frameworks and modelling;
- Standardisation of concepts, definitions and models in sync with the international frameworks and classifications and compilation of spatially harmonised maps and accounts in line with these standards;
- Gradual strengthening and standardisation of the database at the national and sub-national level so that they are at par with the SEEA standards.
- Development of action plan for regular remote sensing-based monitoring of land cover with proper validation of the techniques, like the methods used for generation of information, spatial resolution, digital/visual analysis and time interval; and
- Adoption of a system of quality assurance for the disseminated statistics.

Strategic Area B: Communication and outreach

34. Environmental accounts can be linked to scheme budgets and several policy interventions, including those designed for performance monitoring. It is imperative to communicate the relevance and content of environmental accounts to inspire better recognition of the value of nature and its ecosystem services in policymaking. The

following activities would be undertaken to demonstrate the relevance and usefulness of environmental accounting across government and other users:

- Maintain communication and dialogue with key users, in particular with policymakers, but also with media and stakeholders - to listen to their needs and priorities, explain the accounts, develop policy-relevant indicators and support them with data analysis;
- Present the accounts as an integrated information system, rather than as a series of separate topical datasets in publications or databases;
- Develop clear and accessible dissemination products, including guidance on the reliability and robustness of the estimates, wherever applicable;
- Enhance communication through a variety of dissemination tools adapted to the different types of users: websites with text and data, brochures, analytical reports, maps, explanatory notes and handbooks, press releases, press conferences, Data User Seminars/Webinars; and
- Showcase, through short briefing notes, the possible linkages of accounts with on-going activities/schemes/initiatives/policies of the Government; for instance, linkage of Integrated Coastal Zone Management with ocean accounts or 'Energy accounts' with the emission inventory presented in India's Biennial Update Report (BUR) to the UNFCCC.

Strategic Area C: Improved Coverage of Accounts

35. India has the second-largest population globally and 32% of its total population, or about 380 million people, live in cities (Census 2011). With the increased population and density, there is considerable pressure on natural resources. The Government of India has taken several policy measures to move away from unsustainable levels of resource use and decouple economic growth from environmental degradation. India has supported the calls for urgent action made through the Climate Accord, CBD commitments and the SDG framework to address these concerns and has gone a step further in making commitments far exceeding the expectations. With research now endorsing the challenges to the planetary boundaries, resource efficiency, circular economy and blue/green economy perspectives are some strategies proposed to address several of these inter-related complex issues.

36. NSO India, in line with its commitment to provide the right 'data for development', has initiated the compilation of the environmental accounts; yet the scope ahead is enormous. Some of the potential areas for work in the next five years, identified in line with the national priorities, are listed below:

- (i) Material flow Accounts (MFA)- The general purpose of MFA is to describe the physical interaction of the national economy with the natural environment and the rest of the world economy in terms of flows of materials. For the compilation of these Accounts, as a preliminary step NSO, India is trying to find out the data availability with the concerned agencies which can be used for the compilation of the MFA. As regards technical and methodological support, NSO India is looking forward to the support from International agencies.
- (ii) Ocean Accounts- Coastal Regions and Oceans play a significant role in the India's Economy with their contribution extending to multiple industries viz. Fishing, Mining, Tourism, Transport and Tidal Energy Sectors. NSO, India has recently joined the Global Ocean Accounts Partnership (GOAP) and is exploring the feasibility of quantifying the contribution of the ocean ecosystem services. The partnership would help in accessing the best practices of other member countries that can help in building necessary mechanisms for an improved statistical monitoring of the conditions of the oceans and the sustainability of the services provided by them.
- (iii) Energy Accounts- NSO, India is already compiling Energy Statistics and Energy Balances in accordance with International Recommendations for Energy Statistics (IRES). NSO, India is working for the compilation of SEEA-Energy tables and Accounts which is an extension to the existing body of official energy statistics. Additionally, support from International agencies has also been sought for capacity building and technical guidance.
- (iv) Thematic accounts for Biodiversity and urban areas: India is one of the 17 mega- diverse countries in the world. NSO, India regularly compiles statistics on the Species Richness of Red List Species using Spatial Datasets sourced from the International Union for conservation of Nature (IUCN). Efforts are being made to further expand the scope which will help in framing indicators that can be used for the post 2020 biodiversity monitoring framework. In addition, efforts would also be made in identifying the relevant indicators along with data sources for compilation of accounts for urban area.
- (v) Expanded coverage of the already released ecosystem accounts of extent, condition and flows of ecosystem services.
- (vi) Expanded coverage of environmental assets like land and minerals in collaboration with the Office of the Comptroller and the Auditor General of India.

37. The activities mentioned above would need to be supplemented by an equal measure of capacity building. Given the multi-faceted nature of the accounts, there is a requirement of well-developed expertise on SEEA in the country, not just in the National Statistical Office, but across the different organisations/Ministries/Departments of the Government of India. Development of

capacity would necessitate exposure to international best practices, domain-specific training, and workshops for trainers' training. There also exists a need to impart training at the Sub-National levels, which would, inter-alia, help address some of the state-specific policy questions that would otherwise be unseen.

Strategy Document – A Guidance Tool

38. This Strategy document is envisaged to be a guidance tool that is self-evolving in nature. It will provide the much-needed impetus for moving towards the targeted goal of an improved set of environmental accounts. The strategy also sets a goal for betterment in terms of quality, coverage and standards. Through the deliverables specified in the strategy, the timely monitoring of the system is expected to be achieved. Overall, the strategy document provides a direction for the development of environmental accounting in India during the period 2022-2026.

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