

CHAPTER TWO

DEVELOPMENT OF ENVIRONMENT STATISTICS IN INDIA

2.1 Introduction

Environmental issues, which have been for a long time part of Indian thought and social processes, are reflected in the Constitution of the Republic of India adopted in 1950. The Directive Principles of State policy, an integral and significant element of constitution of India, contain provisions, which reflect the commitment of the State to protect the environment with regard to forests and wildlife and which join upon the citizens of India the special responsibility to protect and improve the environment. The foundation of the present day institutional framework for environmental programmes in India goes back to the 1970s with the establishment of the National Committee of Environmental Planning and Coordination immediately after the historic Stockholm Conference on Environment held in 1972. The Committee was gradually upgraded into a Department of Environment in 1980 and five years later to a full-fledged Ministry of Environment and Forests (MOEF) of the Government of India (GOI). The State Governments also followed this example by establishing their own Departments of Environment to address the rapidly increasing policy initiatives and programmes in the environment and forests sectors.

Ministry of Environment and Forests has engaged itself in the task of managing country's environment by focussing on the development of important administrative tools and techniques, impact assessment, research and collection and dissemination of environmental information. However, environment being a multi-disciplinary subject involving complex subjects like Bio-diversity, Atmosphere, Water, Land and Soil and Human Settlements, it seemed difficult to collect and analyse data on these

parameters and develop interrelationships among them. It, therefore, became necessary to develop an efficient statistical system on environment that could meet the growing demand of data on various aspects of environment by the various governmental agencies, environmentalists and general public.

2.2 Setting up of Environment Statistical Unit in Central Statistical Organisation

Recognising the importance of Environment Statistics as an emerging area, the subject was first discussed in the fifth Conference of Central and State Statistical Organisation (COCSSO) held at New Delhi in 1981. The Conference recommended the need for developing an appropriate environment statistical system in the country. The subject was again discussed in the Sixth and Seventh Conferences of Central and State Statistical Organisation. On the recommendation of the Seventh Conference of Central and State Statistical Organisation held in 1985, a multidisciplinary working group comprising Department of Environment, Central Statistical Organisation (CSO), State Directorates of Economics and Statistics, and other concerned Central and State organisations and research institutions involved in the related subjects, was set up in CSO under the Chairmanship of its Director General in July, 1986. The Working Group in its Report submitted in 1990 suggested a provisional list of variables for Framework for Development of Environment Statistics. The group also suggested a few variables on which data needed to be collected on priority basis.

During the second half of 1996, a Steering Committee on Environment

Statistics under the chairmanship of Director General, Central Statistics Office was constituted. In its first meeting held in January 1997, a draft framework for the development of environment statistics was discussed along with the table formats to be used for preparing the compendium. The data source agencies were identified and it was decided to hold a workshop cum second meeting of the Steering Committee to discuss draft compendium of environment statistics. The workshop cum second meeting was held at Pune in March 1997. As per the recommendations of the second meeting, the said draft compendium was modified and finally got approved in the third meeting of the Steering Committee held in August 1997.

2.3 Compendium of Environment Statistics

The Central Statistics Office brought out thirteenth issues of the publication entitled “Compendium of Environment Statistics” for the years 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2006, 2007, 2008-09, 2010, 2011, 2012, 2013 and 2014 presenting available data relating to environment of the country. The present issue is sixteenth in its series covering the data upto 2015. The issues for the years 2004 & 2005 could not be brought out due to unavoidable circumstances. The tenth issue was a combined issue for 2008 and 2009. Although, the present coverage of information in the compendium may not be exhaustive with respect to entire domain of Environment, it does however provide a glimpse of the present scenario of the environmental degradation, its causes and the reasons for concern. It provides the necessary base to bring out the magnitude of the problem. The compendium consists of seven chapters. The first two chapters give a general introduction to environment, its

degradation through different sources and their impact on human health and the development of environment statistics in India. The remaining five chapters are on Biodiversity, Atmosphere, Land/soil, Water and Human Settlements. Besides, statistical tables depicting environment data, suitable graphs and charts have also been added to make the publication more user friendly.

2.4 National Workshop/Seminars on Environment Statistics

To disseminate information on the development of environment statistics in India and provide a forum for interaction between users and producers, fourteenth National Workshops/ Seminars on Environment Statistics have been organised so far since 1998.

- First one was organized on different aspects of Environment and its impact on land and soil degradation, health including data gaps in different sectors of environment in Goa during 12-13 January, 1998.
- Second, third and fourth workshop was held during 6-7 April, 2000, at Hyderabad, 8-9 February, 2001 at Thiruvananthapuram and 22-23 April, 2003 at Shillong respectively. In the third workshop, it was decided to organise Seminar on sector specific subject.
- Fifth Seminar on Statistical Accounting of Water Resources was organised during 24-25 June, 2005 at Institute for Social and Economic Change (ISEC) Bangalore.
- Sixth Seminar on Statistical Accounting of Land and Forestry Resources was organised during 29-30 April, 2006 at Indian Institute of Forest Management(IIFM), Bhopal.

- A brainstorming Workshop on Development of National Disaster Statistical System in India was organised by CSO in collaboration with National Institute of Disaster Management (NIDM) on 27th April, 2007 at NASC, Complex PUSA, New Delhi.
- A Dissemination Seminar to discuss the finding and other methodological issues in respect of the completed Natural Resource Accounting studies was organised at Shimla during 17-18 December, 2007.
- CSO in collaboration with Institute for Climate Change (ISEC) had organised another two day's National Seminar on 'Climate Change: Data Requirement and Availability' during 16-17 April, 2009 at ISEC, Bangalore.
- The two day Workshop for the DESs held at New Delhi on 21-22 July 2010 discussed 'Disaster Management Statistics'. Another Workshop conducted on 21-22 August 2010 at New Delhi in collaboration with M/o Environment and Forests and WWF to explore the possibilities of environment data flow between CSO and Envis Centres.
- A national seminar on 'Environmental Pollution: Data Availability and Gaps' was conducted at Institute of Development Studies (IDS), Jaipur during 24-25 March, 2011.
- A three day Workshop on 'Disaster Management Statistics' was jointly organised with National Institute of Disaster Management (NIDM) New Delhi during 21-23 September, 2011 at National Academy of Statistical Administration (NASA), Greater Noida by inviting participants from

DESs, State Disaster Management Commissionerats, and the Central Ministries.

- A two day workshop on Climate Change Statistics was organised in February 2012 at Hyderabad.
- In September 2012 a two days workshop on revision of FDES was organised in Hyderabad.

All the workshops were attended by academicians, data users, and data producing agencies. The technical sessions focussed on different aspects of the environment such as environment statistics, population and human health, status of databases on different types of pollution, status of data bases on human settlements and impacts on other aspects of the environment; status of data base on land and soil and degradation; and natural resource accounting. Proceedings of the National Workshops/Seminars are brought out regularly.

2.5 Environmental-Economic Accounting

Environmental-Economic Accounting describes the interaction between the economy and the environment, and the stocks and changes in stocks of environmental assets. While System of National Accounts (SNA) provides a comprehensive accounting framework for analyzing and evaluating the performance of an economy, a growing recognition that contemporary national accounts has limitations in the sense that these accounts do not take into consideration all aspects of economic evaluation e.g.: human capital, environment. Often, economic policies designed to promote growth have been implemented without considering their full environmental consequences, presumably on the assumption that these consequences would either take care of themselves or

could be dealt with separately. There is evidence to suggest that such policies may actually result in a net decrease in human well-being. Globally, environmental degradation is manifesting itself through the loss of fertile soils, desertification, decreasing forest cover, reduction of fresh water availability, and an extreme loss of bio-diversity. These are serious consequences, and it has become clear today that economic development must be environmentally sustainable. Contemporary national accounts systems do not adequately account for the costs arising out of the use of environmental and natural resources. The pursuit of growth can be at the cost of degradation of environment.

As a possible solution to the limitations of national income accounting, integrated environmental and economic accounting has emerged as a new concept. The main objectives of this concept are segregation and elaboration of all environmental and economic accounts with assessment of environmental costs and benefits, and accounting for the maintenance of tangible wealth.

Evolution of Environmental-Economic Accounting in India

As a first global initiative to account the Environmental costs, UNSD published the Handbook of National Accounting-Integrated Environmental and Economic Accounting in 1993 as an Interim version. In 2012 UN Statistical Commission has accepted System of Environmental Economic Accounts(SEEA) Central Framework as an International statistical standard.

The SEEA is a multipurpose system and is relevant in a number of ways for policy development and evaluation as well

as decision-making. First, the summary information (provided in the form of aggregates and indicators) can be applied to issues and areas of the environment that are the focus of decision makers. Second, the detailed information, which covers some of the key drivers of change in the environment, can be used to provide a richer understanding of the policy issues. Third, data contained in the SEEA can be used in models and scenarios designed to assess the national and international economic and environmental effects of different policy scenarios within a country, between countries and at a global level. While the SEEA Central Framework is a system conceived as an integrated, internally consistent series of accounts, its design is such that it can be implemented equally well in part or as a whole. Depending upon the specific environmental issues faced, a country may choose to implement only a selection of the accounts included in the SEEA Central Framework. Even if a country desires eventually to implement the full system, it may decide to focus its initial efforts on those accounts that are most relevant to current issues.

Expert Group chaired by Sir Partha Dasgupta

An Expert Group under the Chairmanship of Professor Sir Partha Dasgupta, was set up in 2011 to develop a framework of green national accounts and prepare a roadmap for India to implement the framework. The Expert Group submitted its Report in March, 2013. The report is available in the MOSPI website: mospi.gov.in.

Recent Developments

Subsequent to the International Workshop held in New Delhi, the report of

Expert Group on Green National Accounts in India and the recommendations from Workshop were discussed in the National Statistical Commission. Taking inputs from the report of the Expert Group and also SEEA-Central Framework, the Central Statistics Office (CSO) has identified a list of indicators/statistics for compilation of asset accounts for the selected sectors. Framework for compilation of asset Accounts for selected sectors also were prepared based on SEEA Central Framework. The list of identified indicators and statistics has been shared with the concerned Union Ministries and other data source agencies for making an assessment of data availability and also to look into various related aspects with a view to make the requisite data available to Central Statistical Office.

Interaction with Ministries of Water Resources, Petroleum & Natural Gas, Agriculture, Environment and Forests was held on 24th Sep.2014. Ministries have informed about present state of availability of data and agreed to provide available data. Regular interaction with Union Ministries and other data source agencies is planned. The list of indicators and statistics has also been shared with international statistical community in the meeting of the London Group on Environmental Accounting held in New Delhi during 15-17 October 2014.

London Group Meeting on Environmental Economic Accounting

The 20th meeting of London Group on Environmental Accounting was held in New Delhi during 15-17 October 2014. The meeting was attended by about 40 international delegates and experts. The Indian participants included the senior officers of Central Statistics Office (CSO)

and from various Ministries of Government of India.

The three day meeting had detailed deliberations on implementation of SEEA Central Framework, current initiatives related to harmonizing and integrating national and environmental accounts, development of indicators in the context of Post 2015 Development agenda, current developments in Ecosystem Accounting and provide input in the guidelines on the SEEA Experimental Ecosystem Accounting that are currently being developed and discuss how countries and international agencies can work together more effectively to build capacity.

Inter-Ministerial Group on Environmental Economic Accounting

An Inter-Ministerial Group (IMG) on Environmental Economic Accounting was constituted under the chairmanship of DG, CSO on 28.1.2015. The first meeting of the IMG was held on 4.3.2015.

In the IMG meeting Ministries were requested to provide their assessment based on the following criteria.

- i. Data available through the official statistical system may only be considered.
- ii. The account needs to be generated on annual basis (Financial Year). However, certain accounts also could be generated (based on the data availability with lesser frequency than a year).
- iii. Ministries are required to compile the accounts in the SEEA-CF format and send it to CSO as per the specific periodicity.
- iv. Monetary valuation of environmental assets will be required for integrating it into national accounts system.

- v. Data is required for preparation of Asset Accounts, Physical Supply and Use Tables (PSUT) and Monetary Supply and Use Tables (MSUT) for each sector.
- vi. For certain sectors like Agriculture, Energy, Waste and Emissions, SEEA framework is under development.

From the discussion in the meeting and inputs / feedback received from the Ministries, the following facts emerged.

- (i) All Ministries/Organisations have welcomed and supported the efforts of CSO for compilation of the Environmental Economic Accounts and agreed that such accounts will help in assessing the environmental degradation and depletion of environmental assets and its integration with National Accounts Statistics.
- (ii) The existing data collection systems in the Ministries are to be oriented to meet the data requirements for SEEA-CF. Data requirements are huge and they are required on regular basis for compilation of Environmental accounts. The present data system is not in a position to support this requirement and therefore, it needs a massive re-orientation in terms of efforts for collection, compilation and dissemination.
- (iii) There is a need to formulate a well coordinated National Statistical effort around the overall objective of modernizing statistics and strengthening national statistical systems in order to respond more effectively and efficiently to the new requirements, such as Environmental Economic Accounting.
- (iv) While Ministries will make efforts to explore the possibility of compiling the accounts and eventually develop action plan to fill up the data gaps, it would be difficult to draw a time

frame for all the accounts under SEEA-CF keeping in view of the existing data gaps.

- (v) In general, the Group, while highlighting the importance of the Environmental Economic Accounting, suggested to take a pragmatic approach towards this new area, where international standards are just recently developed, to guide the collection/compilation of the relevant statistics for an initial period of time until the system is standardized in the country. This would allow for testing and developing the statistical standards for the accounting. In this regard, the Group noted the importance of metadata to provide necessary explanation on the methodologies used for the data collection for the benefit of users to bring transparency of the data collection methods.
- (vi) It was also pointed out that the SEEA is yet to be developed in certain sectors like Agriculture, Forestry, Emissions, Waste, Energy, etc. Hence the compilation of complete Environmental Economic Accounts as envisaged in the UN Statistical Commission's SEEA-CF is not feasible in short term.
- (vii) Issue of Statistical Capacity Development in this new area is to be addressed by CSO.

Based on the discussion, it was agreed that

- (i) Ministries and related organisations will continue their efforts to develop the Environmental - Economic Accounting Tables pertaining to their respective sectors. Ministries may develop a phase wise programme wherein accounts for sectors/components for which regular data are now available may be

attempted now and compilation of trial asset accounts may be explored. A suitable institutional mechanism to fill up the data gaps in other sectors/components would be developed by the concerned Ministries in due course.

- (ii) CSO may devise appropriate training programme for officers of various concerned Ministries involved in the compilation of the accounts.
