PREFACE

The importance of environment enhanced in India in the aftermath of Stockholm Conference (1972) when steps were taken on environmental protection and conservation at the national level. This led to development of Environment Statistics which, to a large extent, are used to explain the relationship between the economic activities and their impact on the environment. Economic indicator such as GDP is no longer considered to be an adequate measure for sustainable development. The United Nation Statistical Division (UNSD) finalized a set of environmental indicators for international compilation in 1995. After this, the Central Statistical Organisation (CSO) has been bringing out Compendium of Environment Statistics regularly since 1997, to meet the needs of policy makers, planners and the public. The present issue is the ninth in the series which provides data on five core parameters relating to bio-diversity, atmosphere, land/soil, water and human settlements at one place.

The publication has been useful in understanding various aspects of environment and its impact on sustainable development. The CSO also has been endeavouring to improve the coverage, content and presentation of the publication in each issue. Graphics and extracts from environment related legislations have been included in this publication to make it more user friendly.

We express our deep gratitude to all the data source agencies for their active cooperation, contributions and willing support, without which it would not have been possible for the CSO to bring out this publication in its present form. We hope to get the continued support of all the agencies in the future also.

This Compendium has been prepared in the Environment Statistics Division of the CSO under the overall guidance of Shri Mohan Singh, Deputy Director General who deserves my sincere thanks for the keen interest taken in enlarging the coverage of the publication. I compliment Shri R.C.Aggarwal, Director and his team comprising Sarvashri Saurav Chakraborty, Deputy Director and R.K.Panwar, Junior Investigator who put their hard labour in preparing this publication.

Comments and suggestions from the users for further improvement of the publication would be most welcome.

April, 2008

Dr. S.K.Nath
Director General
Central Statistical Organisation
New Delhi

2007
List of Tables

List of charts

Overview

The Compendium has been prepared under the broad Framework for Development of Environment Statistics provided by the United Nations Statistics Division and adopted by the Steering Committee on Environment Statistics set up by CSO during 1996. The five parameters of the framework, namely, biodiversity, atmosphere, land/soil, water, and human settlements have been used in this compendium. There are seven chapters, further divided into various sections, the details of which are given below. An attempt has been made, wherever possible, to elaborate the data in the tables with the help of boxes below the table and suitable graphs and charts for easy comprehension.

The first chapter on Environment and Environment degradation gives a general introduction of the concept of environment; development versus environment degradation; impact of development activities on environment; emissions, discharges and their sources; some major pollutants, their sources and related health hazards.

The second chapter on Development of Environment Statistics in India summarises the activities undertaken by the C.S.O. in Ministry of Statistics and Programme Implementation for the development of environment statistics.

The third chapter on Biodiversity is divided into three sections: Flora; Forests and Fauna. The section on Flora contains some statistics on plant species found in India, species which are rare, vulnerable, endangered and extinct. It also gives some statistics on preservation measure of flora like Biosphere reserves, Botanical gardens and gene banks in India, including information on agro biodiversity. The section on Forests contains statistics on Indian forests. It gives information on percentage of forest area to total geographic area (state-wise), wastelands and external aids received for social forestry.The section on Fauna gives the major bio-geographic habitats in India, estimated number of species, national parks and wildlife sanctuaries, tiger reserves, livestock population in India, fish production and bovine population affected by drought.

The fourth chapter on Atmosphere is divided into five sections: Air and Transport; Energy; Industry, Greenhouse Gases and Noise. The section on Air and Transport gives the composition of the troposphere; ambient air quality standards and state of ambient air quality in some selected cities and towns. Ambient air quality in Delhi has also been given. The section on Energy gives information on installed capacity of utilities; electricity generation and actual power supply position, different fuels used for cooking; coal resources in India as well as its production; and renewable energy resources. The section on Greenhouse Gases gives information on the key greenhouse gases and the effect of global warming. The section on Industries gives information on the number of registered industrial establishments in India and the status of pollution control in 17 categories of industries. The section on Noise gives information on the ambient noise standards; average noise levels in various metropolitan cities and effects of noise pollution on human health.

The fifth chapter on Land and Soil is divided into four sections: Land Uses, Agriculture, Natural disasters and Mining. The section on Land Uses contains nine fold land classification followed in India, and different land use patterns. The section on Agriculture contains information on area under principal crops; performance of crop production; use of agricultural inputs;

consumption of pesticides statewise and their effect on soil. The section on Natural Disasters contains information on frequently occurring natural disasters; recent natural disasters in India; major earthquakes; number of drought-prone districts and damages due to droughts and supercyclonic storm. The section on Mining gives data on number of mines, production of minerals, status of afforestation, mining machinery and consumption of explosives in mining.

The sixth chapter on Water is divided into two sections: Ground Water and Marine Water. The section on Ground Water contains information on rainfall performance during the last 20 years; water flow in streams and ground water resources; water quality criteria and distribution of water monitoring stations. The section on Marine Water contains information on coastline of India; main activities along the coastal zones; industrial and sewage discharges to coastal waters; pollutants and their impacts on marine environment and potential hot spots along the Indian coasts.

The seventh chapter on Human Settlements is divided into three sections: Population and Poverty; Housing, Slums and Basic Facilities; and Waste Management. Human development is adversely affected by the environmental degradation. Safe drinking water and sanitation are closely linked with two of the very important human development indicators viz. infant mortality and life expectancy. Under the section on 'Population and Poverty' information on population size, infant mortality rate, expectation of life at birth and population below the poverty line have been given. The section on Housing, Slums and Basic Facilities contains estimates of population in India, number of households, their size, number of rooms per housing unit, water supply system and toilet installation by rural/urban, homeless population, urbanization trends in India, slum population, housing shortage projected, percentage of population below poverty line, medical facilities under allopathy and Indian System of Medicine & Homeopathy.