# Environmental Information System in India

## Harjit Singh*

### Abstract

ENVIS is a decentralised network information system comprising 24 subject specific centres in the Ministry of Environment and Forests, Govt of India. This article outlines the objectives of Environmental Information System (ENVIS). It describes the responsibilities and activities of ENVIS Focal Point and Centres. The author concludes with the futuristic views of ENVIS.

## 1. INTRODUCTION

Information is a resource, which together with physical, economical, technical and human resources is a must for national development. Sustainable development, which has evolved as the goal for human welfare in recent times, is rooted in the availability of right information to the right person at the right place and at the right time. The need for information arises at all levels, from that of senior decision-makers, at the national and international levels to the grass roots and individual levels.

Environmentally sound decisions, which are a must for achieving sustainable development, are not possible in an information vacuum. Environmental information is, therefore, of vital importance. Realising the importance of environmental information, an Environmental Information System (ENVIS) was established by the Ministry of Environment and Forests in 1982 to provide information to decision-makers, policy-planners, scientists, etc., all over the country. Dissemination of information to the users is the most vital component in the whole system for the users' satisfaction.

ENVIS is a decentralised network information system consisting of a Focal Point in the Ministry for co-ordinating the activities of a chain of 24 subject specific centres (known as ENVIS Centres) located in various prestigious institutions/organisations all over the country. The list of existing ENVIS centres alongwith the subjects allotted to them is given in Annexure-I.

## 2. OBJECTIVES

The objectives of ENVIS are classified into two broad categories as follows:

### 2.1 Long-term Objectives

◆ To build up a repository and dissemination centre in Environmental Science and Engineering;

◆ To gear up the modern technologies of information acquisition, processing, storage, retrieval and dissemination of environmental information;

◆ To support and promote research, development and innovation in environment information technology.

### 2.2 Short-term Objectives

☆ To provide national environmental information service relevant to present needs and capable of development to meet the future needs of the users, originators, processors and disseminators of information;
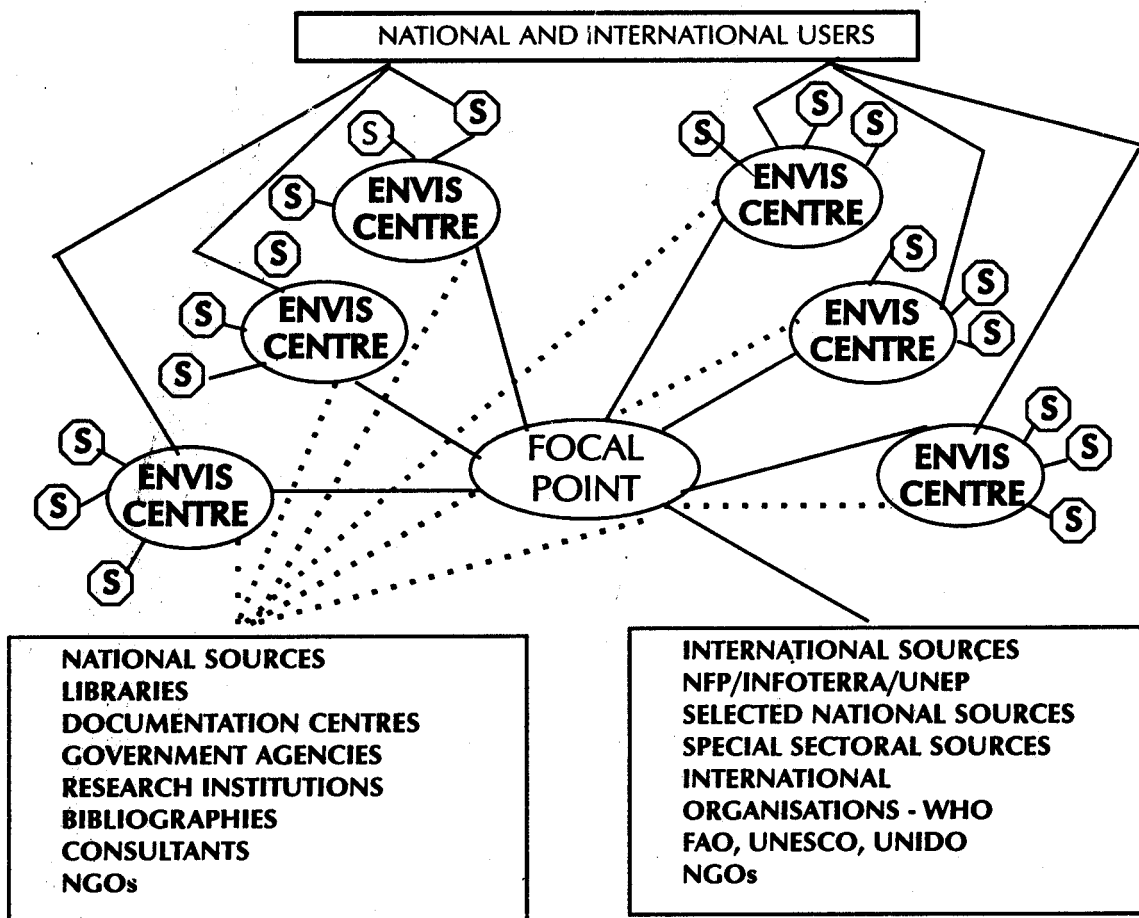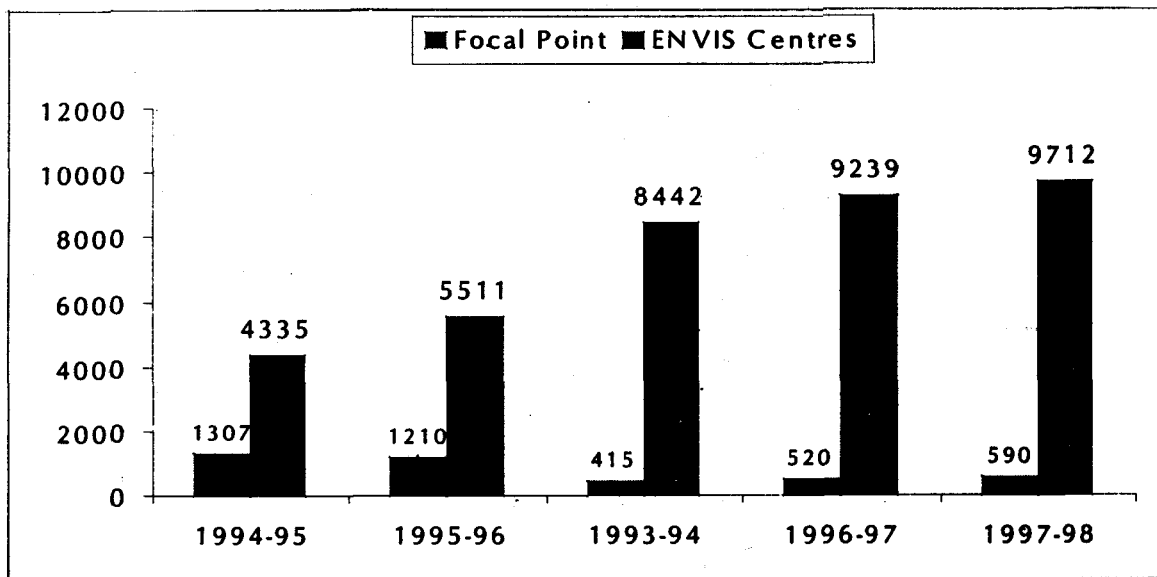
Fig. 1 : ENVIS Operating Links.

The figure contains the following labels:

NATIONAL AND INTERNATIONAL USERS

ENVIS CENTRE (shown multiple times)

FOCAL POINT

| NATIONAL SOURCES | INTERNATIONAL SOURCES |
|---|---|
| LIBRARIES | NFP/INFOTERRA/UNEP |
| DOCUMENTATION CENTRES | SELECTED NATIONAL SOURCES |
| GOVERNMENT AGENCIES | SPECIAL SECTORAL SOURCES |
| RESEARCH INSTITUTIONS | INTERNATIONAL |
| BIBLIOGRAPHIES | ORGANISATIONS - WHO |
| CONSULTANTS | FAO, UNESCO, UNIDO |
| NGOs | NGOs |

☆ To build up storage, retrieval and dissemination capabilities with the ultimate objectives of disseminating information speedily to the users.

☆ To promote national and international co-operation and liaison for exchange of environment related information.

☆ To promote, support and assist education and personnel training programmes designed and to enhance environmental information processing and utilisation capabilities

☆ To promote exchange of information amongst the developing countries.

## 3. RESPONSIBILITIES

The broad responsibilities of the Focal Point are as follows:

⊕ Overall co-ordination of ENVIS Network.

⊕ Identification of ENVIS Centres in specified areas, their location in selected institutes/ organisations and their linkage with the Focal Point.

⊕ Framing guidelines and uniform designing procedure for ENVIS Centres.

⊕ Collection, storage, retrieval and dissemination of information on areas in which ENVIS Centres have not been established and some general areas of environment like environmental research,

**Fig. 2. Number of queries responded by ENVIS Network during the last five years.**

environmental policy and management, environmental legislation, environmental impact assessment, etc.

⊕ Responding to users queries directly or through the ENVIS Centres.

⊕ Establishment of a data bank containing data on some selected parameters, and computerisation in important application areas of environment.

⊕ Identification of data gaps and knowledge gaps in specified subject areas and action to fill these gaps.

⊕ Liaison with relevant International Information System and other National Information System.

⊕ Information analysis and development of environmental statistics.

⊕ Preparation of quarterly Abstracting Journal *Paryavaran Abstracts.*

⊕ Organising training and seminars.

⊕ Monitoring and reviewing of ENVIS.

⊕ Assisting the Scientific Advisory Committee of ENVIS with inputs · and rendering other secretarial help.

⊕ Co-ordinating the publication of the Ministry's Annual Report.

The responsibilities of the ENVIS Centres are given below:

❑ Building up a good collection of books, reports and journals in the particular subject area of environment.

❑ Establishment of linkages with all information sources in the particular subject of environment.

❑ Responding to users' queries.

❑ Establishment of a data bank on some selected parameters relating to the subject area.

❑ Co-ordination with the Focal Point for supplying relevant, adequate and timely information to the users.

❑ Helping the Focal Point in gradually building up an inventory of information material available at the centres.

❑ Identification of gaps in the specified subject area and action to fill these gaps.

❑ Bringing out newsletter/publications in their subject area for wide dissemination.

## 4. ACTIVITIES

Since its inception, the ENVIS Network has built up reasonably a good information base in the form of publications, reports, bibliographies, abstracts databases as well as on statistics relevant to environment, etc. Various services provided by ENVIS are:
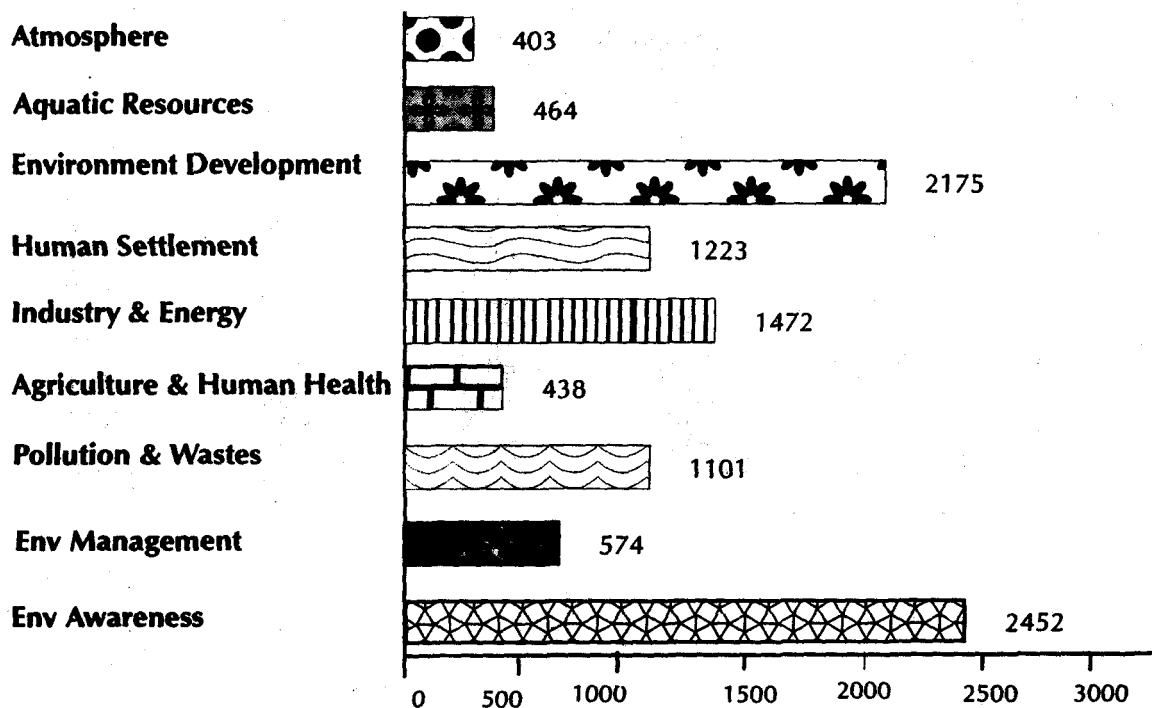
| | |
|---|---|
| Atmosphere | 403 |
| Aquatic Resources | 464 |
| Environment Development | 2175 |
| Human Settlement | 1223 |
| Industry & Energy | 1472 |
| Agriculture & Human Health | 438 |
| Pollution & Wastes | 1101 |
| Env Management | 574 |
| Env Awareness | 2452 |

0    500    1000    1500    2000    2500    3000

**Fig. 3: Subjective statistics of queries responded by ENVIS during 1997-98.**

## 4.1 Query Answer Service

The ENVIS Network as a whole responds to various requests for information on diverse areas related to environment from national and international user groups. All such queries are responded to by supplying substantive information in the form of bibliographies, photocopies of reprints/reports, etc.

## 4.2 Referral Services

In cases where ENVIS Network is unable to provide substantive information, ENVIS Focal Point provides referral services to its users.

## 4.3 Abstracting Service

The Focal Point regularly brings out a quarterly abstracting journal *Paryavaran Abstracts* about information on environmental research in Indian context. More than 300 national and international environment related journals are scanned for compilation of relevant abstracts for inclusion in this publication. The Journal has a circulation of about 3,000 copies.
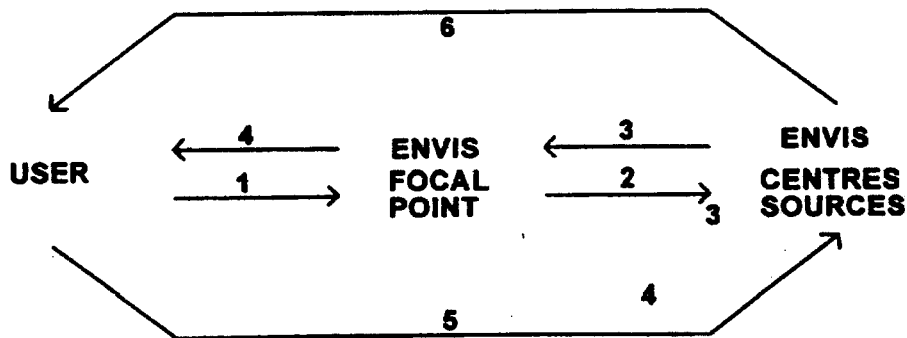
The computerised database of *Paryavaran Abstracts* has been developed for quick retrieval and dissemination of relevant information.

## 5. ENVIS AS INFOTERRA NATIONAL FOCAL POINT

Based on the functions of the ENVIS, it has been designated as a National Focal Point (NFP) and a Regional Service Centre (RSC) of INFOTERRA of UNEP for the South Asia sub-region, a global environmental information network which stimulate and support exchange of information within and between the nations. Almost all member-countries of United Nations are partners of this network.

The following are the responsibilities of the ENVIS as a National Focal Point and Regional Service Centre of INFOTERRA Network:

❑ Compiling and maintaining a national inventory of sources of environmental information.

**Fig. 4: The ENVIS Referrel Procedure.**

☐ Evaluating the information supply capability of each source and registering the appropriate ones in INFOTERRA.

☐ Providing INFOTERRA services to national users.

☐ Assisting and monitoring the flow of environmental information and from their community of sources and users.

☐ Actively publishing INFOTERRA and its services.

☐ Establishing and maintaining communications at all levels in the INFOTERRA Network.

☐ Actively participating in the development, evaluation and improvement of INFOTERRA.

ENVIS maintains close liaison with various national information systems like national Information System of Science & Technology (NISSAT), Biotechnology Information System (BTIS) and several other similar networks for exchange of environmental information as well as to avoid duplication of efforts in the concerned fields. ENVIS also makes use of large number of computerised databases developed by scientific institutions all over the country. In order to search the various databases both nationally and internationally, ENVIS has created a website which could be browsed at http ://www.nic.in/envfor/envis.

## 6. ENVIS AS AN IMPLEMENTING AGENCY FOR SDNP

ENVIS Focal Point in the Ministry has been identified as an implementing agency for UNDP's Sustainable Development Networking Programme (SDNP). The SDNP has been initiated with financial support from United Nations Development Programme (UNDP) and International Development Research Centre (IDRC), Canada for a period of three years.

The goal of the programme is to promote the process of sustainable development through organised accessibility to and exchange of information among all concerned parties viz. academic and research institutions, NGOs, government bodies and business establishments. To achieve this goal, the following objectives have been set:

(a) Establish and operate a distributed clearinghouse: to answer and channel queries related to sustainable development.

(b) Organise an SDNP Association: this Association will be open to individuals and institutions concerned with exchange of information on sustainable development.

The programme is in its initial phase of implementation. The SDNP Secretariat has been set up in the Ministry and the work for operationalising SDNP is going on. During its initial phase of implementation, the SDNP plans to undertake the following activities:

☐ Recruitment of staff for the secretariat

☐ Set up SDNP home page on world wide web and develop SDNP web site around subject areas related with sustainable development

☐ Maintain directory of information providers

☐ Develop and maintain databases for providing easy access to information on sustainable development

☐ Host e-mail discussion groups on specific subject areas.

In addition to these, necessary systems such as inventory of information providers; dissemination of information (both manual and automated); collection, storage and retrieval of information in useable format; record of queries, etc., will also be evolved.

The ENVIS in the Ministry has been identified as host of SDNP. The ENVIS Focal Point in the Ministry networks with twenty-four ENVIS centres located in various parts of the country. These centres have been collecting, analysing and disseminating information on their specialised subject areas related with environment.

Both ENVIS and SDNP share a common goal of dissemination of information on a number of subject areas. The ENVIS was originally envisaged as an information system in Environmental Sciences and Engineering, while SDNP encompasses a broader range of subject area as sustainable human development. In the initial creation phase, the SDNP will rely heavily on the ENVIS network being co-ordinated by the ENVIS focal point in the Ministry. Both ENVIS and SDNP have started working together and the ENVIS Focal Point is providing all the required support to the SDNP for operationalising the Programme in the country.

The SDNP aims to identify nodes on various subject areas and help them disseminate information to users through print and electronic media. Some of these nodes will be identified from existing ENVIS centres. Information collection, analysis and dissemination already being done by the ENVIS centres will prove to be quite useful in carrying the work further. The SDNP will help these selected nodes develop their web site, host their web site on SDNP web server, help them develop (electronic) databases and mount them on the web for easy searching, provide necessary training to selected personnel for developing and updating web pages and uploading them on their respective web sites. Information Technology (IT) has a greater role

to play in this networking programme. The SDNP web site will become a starting point for any user searching information on sustainable development.

The various divisions of ENVIS as envisaged earlier for the ENVIS focal point are no longer in existence or they have been either merged with other divisions of the Ministry or not at all operational at this point of time.

It is important to note that both ENVIS and SDNP have to work together to avoid any duplication of efforts and set up a common goal which can be met by joint efforts of the ENVIS Focal Point in the Ministry and the SDNP Secretariat.

# 7. FUTURISTIC VIEW OF ENVIS

All ENVIS centres set up under the ENVIS scheme could be browsed at the URL *http://www.nic.in/envfor/envis* for accessing existing information in the subject area concerned. In order to provide an online information, almost all the ENVIS Centres are being networked with the Focal Point and vice-versa. It is also proposed that a wide area network (WAN) would be installed at ENVIS not only to link with Internet but also to liaison with various other international databases in the field of environment and its associated areas for easy and quick accession to the desired information. It is also proposed to develop CDs for easy exchange of information to its several network partners and to other national information systems. In order to familiarise with the modern information technologies it is also proposed to promote, support and assist educational and professional training programmes under the scheme to enhance environmental information processing and utilisation capabilities and to promote exchange of information amongst developing countries during the Ninth Plan period. Besides, all ENVIS network partners would be substantially supported not only to develop its homepage but also to set up a website of their own for easy and quick accession of relevant information by all concerned.

* **Shri Harjit Singh** is Senior Advisor, Ministry of Forests & Environment, Paryavaran Bhawan, New Delhi.

# ENVIS Centres

| Institution | Subject Area |
|---|---|
| 1. Central Pollution Control Board, Parivesh Bhawan, CBD-cum-office Complex, East Arjun Nagar, Delhi - 110092 | Control of pollution (water & air) |
| 2. Industrial Toxicological Research Centre (ITRC) Mahatma Gandhi Road, Lucknow - 226001 | Toxic chemicals |
| 3. Society for Development Alternatives, B-32, Institutional Area, Tara Crescent, New Mehrauli Road, New Delhi- 110016 | Environmentally sound and appropriate technologies |
| 4. Centre for Environment Studies, College of Engineering, Anna University, Madras - 600025 | Biogradation of wastes and environmental impact assessment |
| 5. Tata Energy Research Institute (TERI) Darbari Seth Block Habitat Place, Lodi Road, New Delhi - 110003 | Renewable energy and environment |
| 6. Centre for Ecological Sciences Indian Institute of Science, Bangalore- 560012 | Western Ghats and biological diversity |
| 7. World Wide Fund for Nature, 172-B, Lodi Estate, Max Mueller Marg, New Delhi - 110 003 | Non-governmental organisations, media and Parliament matters related to environment |
| 8. Environmental Planning and Coordination Organisation, ' Kachner' Paryavaran Parisar, E-5 Sector, Arera Colony, Bhopal-462016 | Environmental management related to the State of Madhya Pradesh |
| 9. National Institute of Occupational Health (NIOH), Meghani Nagar, Ahmedabad - 380016 | Occupational health |
| 10. Central Arid Zone Research Institute (CAZRI), Jodhpur- 342002 | Desertification |
| 11. Centre for Advanced Studies in Marine Biology, Annamalai University, Parangipettai - 608502 | Mangroves, estuaries, coral reefs and lagoons |
| 12. Centre for Environment Education, Nehru Foundation for Development, Taltej Tekra, Ahmedabad- 380054 | Environmental education |
| 13. Zoological Survey of India, M- Block, New Alipore, Calcutta- 700053 | Faunal biodiversity |
| 14. Centre of Mining Environment, Indian Schools of Mines, Dhanbad- 826 004 | Environmental problems of mining |

| | | |
|---|---|---|
| 15. | National Environmental Engineering Research Institute ( NEERI), Nehru Marg, Nagpur- 440020 | Solid wastes including hazardous wastes |
| 16. | G.B.Pant Institute of Himalayan Environment & Development, Kosi - Katarmal - 263643 U.P. | Himalayan ecology |
| 17. | School of Planning and Architecture, Indraprastha Estate, New Delhi- 11 0002 | Human settlements |
| 18. | School of Environmental Sciences, Jawaharlal Nehru University, New Delhi- 110016 | Biogeochemistry & environmental law |
| 19. | Botanical Survey of India, P-8, Brabourne Road, Calcutta - 700 001 | Floral biodiversity |
| 20. | Environmental Protection Training and Research Institute, 2nd Floor, Maitrivanam, Huda Complex, S R Nagar, Hyderabad- 500038 | Eastern Ghats |
| 21. | Bombay Natural History Society (BNHS), Hornbill House, Dr. Salim Ali Chowk, Shaheed Bhagat Singh Road, Mumbai - 400023 | Avian ecology including Inland wetlands |
| 22. | Forest Research Institute New Forest- Post Dehradun (UP) | Forestry |
| 23. | Wildlife Institute of India, P.O. Box No. 18, Chandrabani, Dehradun - 248006 | Wildlife including protected area management |
| 24. | Indian Environmental Society U-112, Vidatha House, Vikas Marg, Shakarpur, Delhi - 110 092 | Panchayati Raj and environment |
| 25. | Centre for Media Studies, 9/1 Institutional Area (Opp JNU), New Delhi - 110 067 | Communications & electronic media |