

Outreaching of information service by Environmental Information System [ENVIS]: A case study on coastal ecosystems

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Abstract

The Ministry of Environment and Forests, Government of India established 78 Environmental Information System (ENVIS) centres in different nodes such as governmental nodes, Institutional nodes and NGO nodes to provide environmental related information to scientists, policy planners and decision-makers all over India. This article explains the efforts of ENVIS Centres in dissemination of environmental information to various aspects in general and coastal ecosystem in particular based on the user's benefits analysis.

Keywords

Information Dissemination, ENVIS, Coastal Ecosystem, Databases

Introduction

India has a long coastline of 8100 kms with different type of coastal ecosystems along with the east and west coast and has rich flora and fauna. Coastal areas, the place where the waters of the seas meet the land are endowed with a very wide range of coastal ecosystem like mangroves, coral reefs, lagoons, sea grass, salt marsh, estuary etc. (Kathiresan and Bingham, 2001). These ecosystems often referred as the most important and productive ecosystem in the world and support large number of organisms by providing breeding and nursery habitats to them (Kathiresan, 2002; Rajendran and Kathiresan, 1999). Pollution of the coastal waters

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can greatly reduce the production of fish, degradation of coastal nursery grounds and other wetland habits. The storm protection afforded by fringing reefs and mangrove forests can be lost if the corals die or the mangrove removed (Ramachandran, 2006).

Information on these ecosystems is lying scattered and not easily available for access. Information technology has made the communication cheaper, quicker and more efficient (Arora and Kaur, 1992). Realizing the importance of the information technology, the Ministry of Environment and Forests has established an Environmental Information System [ENVIS] centre at the Centre of Advanced Study in Marine Biology to collect available information and find out the data gaps and action to fill the gaps and to provide information to user community through online and offline on coastal ecosystem like Estuaries, Mangroves, Coral Reefs and Lagoons. Similar type of centres also established for other aspects such as Faunal Diversity, Floral Diversity, Pollution etc., (MoEF, 2005-2006). This article explains how the information dissemination being carried out by the ENVIS centres on various aspects in general and coastal ecosystem in particularly.

ENVIS Centres in India

The Ministry of Environment and Forests under Government of India initiated the programme of Environmental Information System Centre in December 1982. It is a decentralized system using the distributed network of databases to ensure integration of national efforts in environmental information.

There are 78 ENVIS centres in India under three different Nodes - Government Node (30), Institutional Node (29) and NGO Node (19). The motto of each centre is to collect, collate, retrieve and disseminate the information on their assigned subject areas (MoEF, 2005-2006). The focus of ENVIS Centres since its inception has been providing environmental information to decision makers, policy planners, scientists, engineers, research workers, students, NGOs and people all over the country (Annadurai et al., 1999).

The ENVIS centres are strengthened through various programmes such as Environmental Management Capacity Building [EMCB-ENVIS] and a global project on Sustainable Development Network Programme [SDNP-ENVIS], in collaboration with UNDP, IDRC, Canada and the Ministry of Environment and Forests was initiated in June 1999. The SDNP-India was primarily involved in designing, launching, maintenance and enhancement of its website (www.sdnpc.in) with financial support of the World Bank (Jaitley et al., 2004). These centres act as a repository of information for in-house use and also functions as resource centre of external users on appropriate technology and environment management.

Objectives of ENVIS Centers

The long-term and short-term objectives of ENVIS are as follows:

Long-term Objectives:

- * To build up repository and dissemination centres in Environmental Sciences.
- * To modernize information acquisition, processing, storage, retrieval and dissemination.
- * To support and promote Research and Development and innovation in environmental information technology and database creation.

Short-term objectives:

- * To provide National Environmental Information relevant to the present needs and capable of meeting future needs.
- * To build storage, retrieval and dissemination capabilities with the

ultimate objective of disseminating information speedily including websites.

- * To promote national and international co-operation for exchange of environment related information.
- * To promote, support and assist education and training programs designed to enhance environmental information processing and utilizing capabilities.

Major Services of ENVIS

With a view to cater to policy makers, academicians, researchers and the general public throughout the country, the following services have been provided by the ENVIS centres.

- * Abstracting services
- * Query Response service.
- * Information on different subject areas of Environment for researchers, policy makers, academia etc.
- * Identifies data gaps and knowledge gaps in specified subject area and action to fill these gaps.
- * Liaise with relevant International Information System and other national information system.
- * Databases on different subject areas of environment.
- * Web-based networking support.

Monitoring & Evaluation

Technical Committees, comprising of experts from different subject areas were constituted by the Ministry on the recommendations of the ENVIS Advisory Committee to help establish the content of the ENVIS-website and bench mark the databases. Committee members were also to look into the modalities, monitoring and evaluation system and performance of the ENVIS (Jaitly et al., 2004).

ENVIS Centre on Coastal Ecosystem

Storage of Information

Information is a key to the growth of knowledge and dissemination of information is crucial for scientific enterprise. It is imperative for scientists to keep abreast of what is

happening around the world as well as keep others informed of what they are doing.

Advances in marine science and technology depend on the effective flow of information and data from the collectors to various types of users. The available data on marine life are lying scattered. Access to desired information is also difficult at times. The sustainable exploitation of coastal and marine living resources needs proper, adequate, up-to-date and constant flow of information. In order to satisfy information needs of researchers, planners, environmentalists and common people, efficient online and offline ways of retrieval and dissemination of data with the aid of computer technology become imperative. Collation of such data in speedy retrieval becomes necessary so as to avoid existing information vacuum (Kannan and Kannan, 1999).

In this regard, the information base in the centre is being continuously strengthened through regular collections, collation and storage of scientific and technical information on coastal environment and related areas by visiting various institutions in India and cataloguing the information according to

subjects and get available in both online and offline.

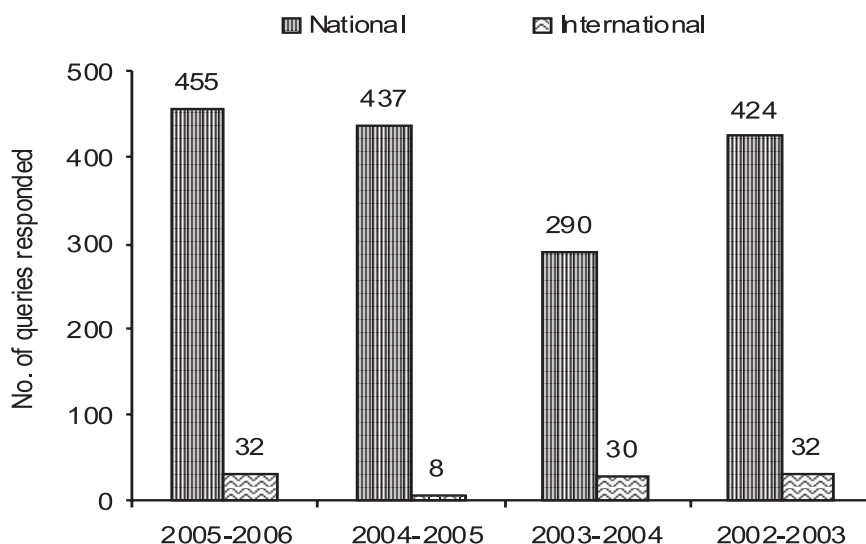
Data collection for the present work

The data collection has been made year wise in relation to type of services such as query response, reprint supply, publications and news paper clippings from the annual report and publications of the ENVIS centre at Centre of Advanced Study in Marine Biology, Annamalai University.

Results and Discussion

The Centre has engaged information services such as news clippings, publication of annual report, state-of-the-art reports, special publications, development of data bases on the assigned subjects and liaison with other information centres since its inception from 1992. Further, the Centre has responded to various requests for information on diverse areas related to coastal wetlands from different user groups. The centre is receiving queries from various user communities such as research institutes, universities, colleges, governmental and non-governmental organizations and managers of coastal wetland ecosystems (Fig.1).

Fig. 1 Number of queries responded to National and International users



In general, number of queries responded is consistent around 450 per year, 38 per month and one in a day. If the requested query is not relevant to subject of the centre, the same has been forwarded to concerned ENVIS centre to provide requested information. The user community can get all types of information pertaining to coastal and aquatic ecosystem through e-mail without visiting the centre.

In order to fulfill the user's requirement, the centre has also subscribing a CD- ROM based ASFA [Aquatic Science and Fisheries Abstract] and ABAFR [Aquatic Biology, Aquaculture and Fisheries Research] databases regularly. These databases are the best suited for aquatic living

resources with an international coverage for effective dissemination of scientific information and up-dated developments in the coastal ecosystem such as Estuaries, Mangroves, Coral Reefs and Lagoons. This facility is available only few institutes in India. Through these databases, users can access the abstracts of scientific information related to any aquatic ecosystem through keyword search. The Centre has also providing information through other databases such as Reef base, Fish base, GLOMIS (a global data bases on the resources of coral reefs, Fishes and Mangroves respectively). The information provided with both hard and soft copy for the past four years are given in Table-1.

Table 1: Information provided through Hard & Soft copies

Year	No. of Abstract supplied to users	
	Hard copy	Soft copy
2005-2006	4057	75937
2004-2005	4027	122781
2003-2004	2883	93242
2002-2003	4723	90331

A bi-annual newsletter "Seshaiyana", brought out by the Centre, carries interesting articles about marine ecosystems, recent scientific news and forthcoming meetings and conferences. So far, this centre has brought out 14 volumes and 28 issues of newsletter and 4 volumes of special newsletters. The centre has also produced 12 volumes of news clippings on coastal ecosystems which appeared in various

dailies/magazines etc. for online and offline access. These information are helpful to the young researchers those who are working in the coastal ecosystem.

The publications of the ENVIS Centre are available in the website (<http://aucasmbenvvis.nic.in>) for free online access. Number of users visited the website is given in Table 2.

Table 2: Number of web browsers for the past four years

Year	Website Browsers	Fold of increase
2005-2006	7344	3.4
2004-2005	5205	2.3
2003-2004	3112	1.4
2002-2003	2190	---

It is interesting to note that the users increased by 1.4, 2.3 and 3.4 times every year in 2003-2004, 2004-2005 and 2005-2006 as compared to 2002-2003. This response indicates the quality of service being rendered by the centre. The feedback received from the users also proved the importance of the ENVIS centres for easy access of information.

Conclusion

Most of the developing countries do not have infrastructure for effective communication and technology to provide knowledge sharing and dissemination throughout the world. In India, many universities and colleges do not have such infrastructure facilities even today and most scientists, scholars and student communities have no access to the latest scientific information. As a result, the performance of scientific community can be affected (www.smallbusinessbible.org).

Due to the higher subscription prices for national and international journals the libraries in India have been forced to reduce the number of journals and secondary sources of service have gone to electronic form. Many of the information available online are not accessed by all the scientific community. It is allowed only for the subscribed people by using username and password. The marine related centres in India are also reduced the number of journals subscribed every year due to the increasing rates of subscription and because of that they are looking for CD-ROM based searchable databases for the effective dissemination of information by using the latest technology. It is also not possible to purchase the databases for it own due to heavy charges. Hence, the Ministry of Environment and Forests supports financially to purchase CD-ROM based databases to each centres for effective information dissemination in the relevant fields assigned to them. This type of information service is essential as for as India concern and it has been strengthened regularly

with more information as provided by Environmental Protection Agency (EPA) and European Environmental Agency (EEA).

From the study, the ENVIS centre at Centre of Advanced Study in Marine Biology has a great potential of supply much more information to cater the growing needs of those who are involved in aquatic and coastal ecosystem research in the world.

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