

Information System on Marine Ecology

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Abstract

Increasing exploitation of marine resources coupled with increasing level of pollutants and endless pressure of human population is posing a threat to marine habitat. United Nations has also emphasised on the protection and sustainable development of marine and coastal areas at the national, sub-regional and global levels. In this situation, information systems are assuming an ever increasing importance in the development. The authors describe the sources and services provided by the ENVIS Centre at the Centre of Advanced Study in Marine Biology.

1. INTRODUCTION

About 71% of the earth's surface is covered with the sea water which harbours rich and diversified biota. Ever increasing exploitation of marine resources, exponentially increasing levels of various pollutants and endless pressure of human population have posed threat to the diversified marine life forms. As a result, sensitive coastal habitats such as mangroves, estuaries, coral reefs, lagoons and biotic communities have been rapidly destroyed or degraded world-wide. Hence the United Nations Conference on Environment and Development held at Rio de Janeiro in June 1992 emphasised the protection and sustainable development of marine and coastal areas at the national, sub-regional and global levels. Various case studies on the survey of coastal areas around the world also lend evidence to the theory that coastal erosion is increasing and its impact on coastal environment is serious. Major cause for such near helpless situation is non-availability of desired information, therefore information systems are assuming an ever increasing importance in the development.

Advances in marine science and technology depend upon the effective flow of information and data from the collectors/various types of users. The available data on marine life are scattered and hence prevent access to desired information, at times. Hence sustainable exploitation of these living resources needs proper, adequate, up-to-date and constant flow of information on various aspects of marine environment. The main constraint in sustainable coastal environmental management is the lack of an organised information system that would help provide basic spatial and non spatial information for various organisations in their planning and decision-making. In order to satisfy the information needs of researchers, planners, environmentalists and common people, efficient on-line and off-line ways of retrieval and dissemination of data with the aid of computer technology have become imperative. This will help resource managers and decision-makers to make rational judgements and plan to allocate the existing natural resources for optimum socio-economic utilisation and conservation. Hence proper collation of data in speedy retrieval form

becomes necessary so as to avoid existing information vacuum.

Considering these facts, the Ministry of Environment and Forests, Government of India, established the Environmental Information System (ENVIS) Centres across the subcontinent to serve as communication bridges to reach out to the masses. ENVIS is a decentralised system using the distributed network of data bases to ensure integration of national efforts in environmental information, collection, storage, retrieval and dissemination. It acts as a repository of information for in-house use and also functions as a resource centre for appropriate technology and environment management for the external users.

2. ENVIS OPERATING LINK

The ENVIS network with a centrally located Ministry as its Focal Point, presently consists of 24 centres on diverse areas of environmental research such as pollution control, toxic substances, environmentally sound and appropriate technologies, coastal and offshore ecology, energy and environment and biodegradation of wastes, etc. These centres have been set up in specialised and reputed institutions in the country with a view to provide environmental information service to: satisfy present/future needs of the users, disseminate information speedily to the users; to promote national and international co-operation and liaison for exchange of environmental related information; and to promote, support and assist educational and personnel training programmes.

3. ENVIS CENTRE AT CENTRE OF ADVANCED STUDY IN MARINE BIOLOGY

The ENVIS centre at the Centre of Advanced Study in Marine Biology, Annamalai University is a pioneer marine biological research institute in the country and is one among the 24 centres. This centre has been assigned to collect and disseminate information concerned with the marine environment especially the mangroves, estuaries, coral reefs and lagoons. The centre has built-up a reasonably good

information base by collecting publications, reports, reprints, bibliographic abstracts and databases since its inception from 1992. The information base is being continuously strengthened through regular collection, collation and storage of scientific and technical information on coastal environmental areas. Further, the centre has responded to various requests for information on diverse areas related to coastal wetlands from different user groups.

The centre is responding to about 1000 queries annually and has procured many records to provide substantive information to the user community. The centre is receiving queries from various research institutes, universities, colleges, governmental and non-governmental organisations mostly on ecology of mangroves, coral reefs and conservation and management of coastal wetland ecosystem. The centre has subscribed several national and international journals and owns books and publications in the field specified. Additionally the centre has prepared status reports data bases and bibliography on its subject interest. All these materials are maintained well in the library to disseminate the details to researchers and interested people in the field of their specialisation.

4. SERVICES

Among the available databases with an international coverage, the best suited for marine living resources is ASFA (Aquatic Science and Fisheries Abstract). Hence ASFA CD-ROM disc is regularly purchased to update the information in the field of aquatic science and fisheries research. Information search and retrieval from this database is an art and one requires some knowledge about query formulation, data elements and search methodologies. Each bibliographic record in the ASFA CD-ROM consists of many data elements. Each word in a record is indexed which facilitates very fast searching of the relevant information. Searches on database can be made through authors, titles, subjects, keywords and serial numbers. Hard copies of abstracts are also available. Reef Base and Fish Base—the global databases on the resources of coral reefs

and fishes respectively are also available in CD-ROMs with this Centre. The centre is also publishing a biannual newsletter, *Seshaiyana* (ISSN:0971-8656).

The centre is well equipped with infrastructure facilities such as computers, scanners, laser printers and photo copiers for photo/hard copying and downloading the collected information. It is also heading to enter into information highway by Internet links. The centre has been servicing since 1992 with motto "Collect, Collate, and Disseminate". The centre is engaged in several information services:

- Query/answer service
- Abstracting service

- Press clipping service
- Publication of annual report
- Development of databases
- Liaison with other information systems.

Its library has flock of books including newsletters, conference papers, policy documents, supplementary publications, etc., which can be freely used by students, fisheries specialists, researchers and others.

This information nucleus, really a sought after resource for the marine environmentalists, is taking every effort in getting the right information in the right form so as to disseminate to the right persons at the right time, in the right place to take right decisions.

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