LIBRARY OF THE CSIR-NATIONAL INSTITUTE OF OCEANOGRAPHY

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1. Library as a Knowledge Centre for external information

1.1 A library with rich oceanographic literature

The library of the CSIR-National Institute of Oceanography (CSIR-NIO) is one of the richest libraries in India in the field of marine sciences. It holds the collection of core oceanography journals right from volume one and has the most needed books in the field on its shelves. The print collection not only limits the books and journals but has maps and charts of the oceans and coastal areas as well as the reports (technical as well as sponsored projects) that is something unique to the conventional libraries. Table 1 describes the size of each collection at a glance as of today.

Table 1 : Collection size

Collections	Numbers
Books & Bound Volumes	32940
Technical Reports (printed)	9746
Maps (Toposheets and Hydrographic Charts)	2342
Other Materials (Reprints, Patents, CD/DVDs etc)	7500 (approx)

1.2 **Tie-up with the cooperating libraries**

For any library, rich or poor in its resources, the collection always has limits. The limits due to financial resources, the limits due to age and size, and of course the limits due to the interdisciplinary nature of research. In such a scenario, the libraries need to depend on the cooperating libraries for satisfying the needs of the users. CSIR-NIO library ties with the 38 other laboratories of CSIR library and knowledge centres for the needs of interdisciplinary nature.

Besides the tie-up with these sister laboratories knowledge centres, the CSIR-NIO library is a member of International Association of Aquatic and Marine Science Libraries and Information Centres (IAMSLIC). The Association was formed in 1975 with an aim to provide a forum to exchange and explore ideas and issues of mutual concern. This is a very strong group consisting of over 300 members from 70 countries. The association uses Z39.50 client–server, application layer communications protocol for searching and retrieving information that permits its members to identify needed documents and request the same from the holding library. The holding libraries normally provide the soft copy of the desired documents within 24 hours of its request to the requesting library. A membership with this organization has helped CSIR-NIO library at large in obtaining the literature that is not available on its shelves for its users.

CSIR-NIO library, with its rich and unique collection on Indian Ocean do receive requests for the documents from other libraries world over and the same are supplied as a part of library cooperation activity under IAMSLIC. Table 2 shows the number of documents requested and the requests fulfilled by the CSIR-NIO.

Table 2: Cross-Institutional cooperation (document delivery)

Year	Articles received by NIO	Requests fulfilled by NIO
2019	14	26
2018	23	19
2017	11	15

1.3 Access to ASFA databse

Oceanographic literature is fortunate to have a database (Aquatic Sciences and Fisheries Abstracts - ASFA) indexing the published literature from all over the world. This is a product of a cooperative international information system with a secretariat at the Food and Agriculture Organization of the United Nations (FAO) and available on a ProQuest commercial platform. By being the national partner, the CSIR-NIO library has access to this database. Until the late-90s, the Internet was non-existent, the access to this database was from quarterly updates received on CDs. A search and retrieval of the information from this database was one of the major activities not only for the users of CSIR-NIO but also for the users interested in other institutions in India. This service was so popular that the number of search requests from outside CSIR-NIO at one time outnumbered the searches carried out for institutional users. Today, the Internet being so common, many other organizations in India have subscription access to the same and its usage at the CSIR-NIO is confined largely to the institutional users.

1.4 Online access to the resources

CSIR-NIO partners with the National Knowledge Resource Consortium (NKRC) to have online access to various full-text databases. NKRC is a network of CSIR and DST institutions in India. The NKRC's origin goes back to the year 2001, when the CSIR set up the Electronic Journals

Consortium to start with providing access to 1200+ journals of ScienceDirect. Today, NKRC facilitates access to 5,000+ e-journals of all major publishers besides access to the patents, standards, citation and bibliographic databases

2. Library as promotional house for internal information

The CSIR-NIO library over a period of time evolved as a very strong organ to promote internal information. The library made its resources catalogue and services available on the Internet in the 90s itself as soon as the website of the institute made its presence. As indicated above, the users outside CSIR-NIO could thereby understand about the availability of needed resources and request for the desired information.

In the year 2000, the database of publications of CSIR-NIO was also made available. The metadata consisting of bibliographic details of published research articles by the scientists of CSIR-NIO with abstracts further triggered the requests for the full-text articles from users outside the organization. Each request so received over the mail, was honoured by scanning the article and sending the soft copy to the requesting researcher. An increased visibility to these also then resulted in an increase in the number of citations to these publications.

2.1 Publications repository

Encouraged with the experience of visibility of the research publications of the scientists and an availability of a robust open source software (DSpace), CSIR-NIO library took a decision to make these available by establishing an institutional repository. Today, the repository contains up-to-date information about the publications of the CSIR-NIO. The network traffic to the repository is depicted in Figure 1.

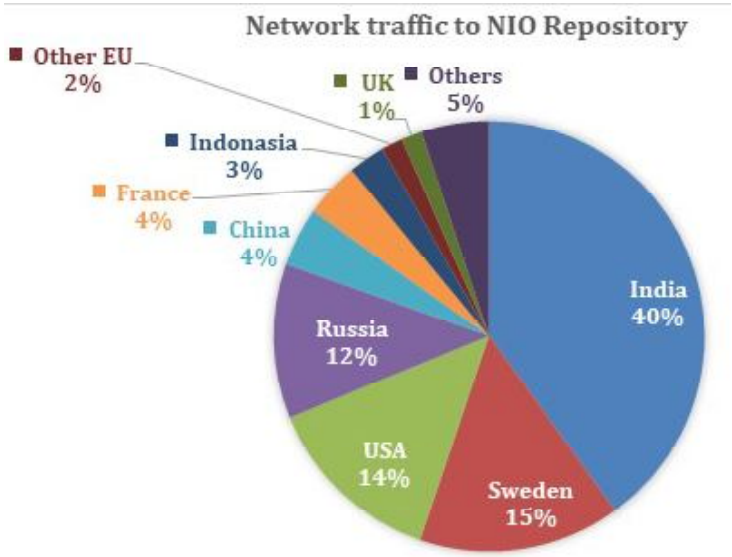


Figure 1: Network Traffic to NIO Repository over the last three years.

Today, the CSIR-NIO publications repository is one of the most successful examples of the repositories in India. Through this repository NIO library ensures the implementation of the CSIR's Open Access Mandate.

2.2 Content management on the institutional website

With the background of success of visibility to the institute publications, post-2006, the institute management decided that the contents of the institute website could also best be managed by the information specialists in the library. It was an interesting experience to the library staff to apply their knowledge to the organization of the website content. The website was then redesigned and the useful information about the institute was added as comprehensively as possible. The home page of the website was populated with new content almost every day. All these efforts resulted in the website to be on the first page of Google search engine. This search engine ranks websites based on the popularity, relevance and links.

Currently, due to the short of staff in the library, the website management has gone back to the Information Technology Division

3. The state-of-the-art library

During the pre-computerization era the library focused its activities on the strengthening of resources. Acquisition of back volumes of the core oceanography journals, core books for oceanographic research, etc., were then the priority. There were hardly any other libraries in India in the field of oceanography for cooperation and collaboration. It was therefore essential to be as far as self-sufficient and extend the resources to other individuals and institutions in India interested in studies pertaining to this multidisciplinary subject. This library is one among those that follow the Indian book classification system (Colon Classification). So it is unique in that respect too. The broad base and flexibility of the Colon Classification helped the library to tune the schema to the local needs and projects. The principles and theory of classification were very largely applied to attain flexibility.

The Current Awareness Service ('*Aquatitles*' - bibliographic alerts on the articles identified from the latest issues of the journals received in the library) then provided was one of the very popular and well referred services. In the '80s this was also backed up with the Bibliographies and the State-of-the-art report services on a given subject area within oceanography. These services reached a peak of their popularity as proved by the demand for the copies and citations to the bibliographies in the research literature! The library staff was even paid token appreciation money for compilation of the bibliographies and encouraged to publish such compilations on the topics during conferences organized by the institute. However, all these services went into the glorious past with computerization.

3.1 Computerization since 80s

The institute management provided a desk-top microcomputer system in the mid-80s. The system was quite primitive in nature (8 bit), had no chance

of running robust DBMS software and had compatibility issues. It was considered as a 'word processor' rather than a computer. However, using this system, the library staff used their knowledge and developed an in-house application for acquisition and a bibliographic database management using the then available dBASE software. Soon after this, a visit of an Unesco expert to the institute library paved the way to supply of IBM Personal computer, subscription to the ASFA on CD-ROM and a training on CDS/ISIS. Since then the library never looked back and continued its progress not only at institute level but National and International level.

The library staff developed in-house software for all its housekeeping operations - Acquisition, Serials control, OPAC, Circulation on availability of Pascal programming interface to the CDS/ISIS. While the books catalogue was ready by late 80s, this was one of the libraries with computerized housekeeping operations that gave up traditional accession register and card catalogue in early 90s. On the availability of www-ISIS (a web interface for the CDS/ISIS database), the library soon shifted it's housekeeping activities, catalogue (turning to OPAC) and database of CSIR-NIO publications on the web. The housekeeping, the databases on the web using www-ISIS interface were operational until mid-2013 when the library moved to Koha - library management software. In parallel to this computerization activity, the institutional repository was also active and in place.

3.2 **Use of bibliometric/scientometric techniques for decision making**

The shortage of funds for acquisition of literature, the devaluation of local currency, the commercial publisher's greediness had thrown the library at number of times in the turmoil and collection (especially journals subscriptions) management. Space management was also an issue once upon a time, just before the availability of full-text databases. The library staff from time to time conducted studies using bibliometric/scientometric techniques and provided right solutions to the management as well as users.

Such studies resolved pressures from institute management as well as user groups and helped library staff to confirm the use of library science in daily practice.

3.3 **Compact shelving**

As indicated above, space management was an issue once upon a time. A scientometric study on the use of collection helped in deciding half-life of the literature in oceanography and moving older collections to the compact shelving thereby accommodating the collection within the available floor space. This is one of the few libraries that use compact shelving for archival collection.

3.4 **Grant-in-aid Projects**

NICMAS: In the early 90s, on confirming that the CSIR-NIO library has been successfully extending its services to the users outside the organization, the Department of Scientific and Industrial Research (DSIR), Govt. of India recognized this library as the National Information Centre for Marine Sciences (NICMAS) under its NISSAT programme. This was the first project the library earned with a mandate to provide services. Under this programme, the library also developed a database on the Indian Ocean literature and strengthened its published resources collection on this geographic area.

MANDATE **:** A novel experiment was carried out on the development of a biodiversity information system for Indian mangroves (MANDATE). The source information was obtained from published literature as compiled as a part of a database developed under the NICMAS project. This information system helped in identifying biodiversity of flora and fauna in the Indian mangrove ecosystems, their economic importance, management practices, etc., based on the data extracted from research literature on mangroves. This project was then funded by the Ministry of Environment and Forests, Govt. of India.

***Natural Hazards portal* :** The library was tasked to develop a portal on the 'natural hazards' within a week of the Tsunami hitting Indian coastline in 2006 as a one stop shop information source. Library accepted this challenge and rose to the occasion. This was also then funded by DSIR.

4. International participation

4.1 ASFA

On receiving the ASFA database on the CD-ROM, a systematic study was carried out in 1990 to bring the attention of the authorities towards the gaps in this database pertaining to Indian literature. The ASFA, though a cooperative International information system, had then participation from select developed countries. The authorities had doubts on the capabilities of the partnering with the nations from the developing world. However, the above study paved the way of receiving an invitation to be the partners of ASFA. When CSIR-NIO joined this group, China was the only developing country ahead of India, joined just a year before. This participation helped India in general and CSIR-NIO in particular to give visibility to the Indian literature.

CSIR-NIO has been an active partner. It provided inputs in defining the input format to the ASFA database in the 1990s with its strength on the use of CDS/ISIS. It also earned an international project on retro-conversion of print ASFA journal records to digital form for inclusion in the database. The library still enjoys this long lasting partnership by its active participation. Currently, CSIR-NIO library continues to actively provide expertise by being on the working groups such as input software migration to a new platform and Vocabulary control tools migration to SKOS (Simple Knowledge Organization System) based semantic platform.

4.2 GE-MIM :

The library had an opportunity to actively participate in the activities of another UN organization - Intergovernmental Oceanographic Commission

(IOC) of Unesco. The Group of Experts in Marine Information Management (GE-MIM) of IOC was for a considerable time chaired by the CSIR-NIO library staff. Expert participation and organization of training programmes for the oceanographic institutes from African countries, development of databases of experts in marine sciences, etc., were among the few activities that were carried out during the participation.

The library staff benefited with these international exposures that were very systematically used then for professional development and bringing a prominent place for the CSIR-NIO library on the world map.

5. Library for management decisions

The scientometric expertise at the library was very often used by the CSIR-NIO management to make decisions on the productivity of the scientists in the past when this was at the institute level (today, these decisions are taken at the CSIR level) and used in their assessment promotions. Development of databases at the back-end, a software that fetches the contents automatically from these databases for scientists to make their annual performance report and quantitative evaluation of their activities were among the few where library staff participation was sought. Apart from this library plays important roles in the scholarly publication workflow of the institute by facilitating software enabled plagiarism checking, linguistic error rectifications of publications etc. Library also provides consultancy on the authenticity of the scholarly journals.

With all these activities CSIR-NIO library not only performed as a traditional library where document lending is understood as a core activity but acted as a Knowledge Centre in true spirit.

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