

# The Computerization Facilities of Technical Literature : A Case Study of NIH Roorkee

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## Abstract

Various library transactions mainly, (1) Processing - Management System, (2) Extent of databases activities for bibliographic/Nonbibliographic information storage and (3) Retrieval and various other services are provided by using different softwares in different ways. NISSAT and similar other organisations are making concerted efforts at national level in stimulating interest in the development of standard codes for practice in the domain of information technology and its applications in information work. The CD-ROM technology has given new dimensions to information storage and retrieval process. Many databases are now available in compact disk editions. A survey for softwares being used by various organizations in and around Roorkee has been made for comparing their relative performances and selecting the best one available as per need in an Indian Library dealing with mostly technical publications. Finally the software CDS/ISIS has been used for computerization of technical literature in the library of National Institute of Hydrology.

## Introduction

Technical literature does not exist in isolation. The diversification and expansion of research and business activities have led to the information explosion, which in turn has increased the significance of information as an essential input in many activities. So, now-a-days libraries in India are increasingly using computers and related technology to improve the efficiency and effectiveness of their information services. This in turn has stimulated interest in networking, sharing of information and exchange of database records among libraries. Some agencies are using CD-ROM technology(1).

Research and development in science and technology is taking place in such a speed that various bibliographical information systems are finding it increasingly difficult to keep track of the literature produced to disseminate the results of such research and development efforts. Only in the field of Science and Technology about 60,000 journals (2) are being published all over the world. Such an exponential growth in literature in the twentieth century is supplemented by the change in the nature of its use. Users now need pin-pointed information on a specific field at a quickest possible time (3).

The automation has been started in 1940s with the semi mechanical machine as "card punching machine". Then till 1980s it occupies the new dimensions and since then it is rapidly increasing day by day. Now there are many national and international softwares floated by various agencies

all over India. The various agencies are trying to establish the standard softwares which may be used for networking. The networking of various libraries is possible if the data elements of the databases are same. Consequently efforts are being made by all concern to increase cooperation, coordination and promotion of compatibility among systems and services across institutional, regional, national and international border.

### **Objectives of Mechanization**

Lancaster (4) has summarised the main objectives of mechanization as to :

1. improve productivity
2. reduce staff
3. improve control
4. reduce error
5. improve speed
6. increase range and depth of service
7. facilitate cooperation
8. reduce unit cost of operation

Besides these, automation helps in avoiding duplication of work of different places. The users even can get the information about any publication of any particular field sitting at a location away from the library. The library processing can also be computerised. Finally the networking with other libraries at national and international level is the main objective of these attempts (5,6).

### **SELECTION OF THE SOFTWARE**

#### **1. By Expert system and its Related Factors**

The available information and the expert knowledge, are considered as major resources of an organisation which has to be managed and utilised effectively. The most developed and widespread decision oriented information system are the decision support systems, which extend the ability of the computer system to support human decisions making process by providing decision models. This has resulted in an intensive effort of the software industry to develop a wide range of decision modelling software, which are now being extensively used by organisations for forecasting, growth analysis trend, project planning etc. The decision of expert system after considering all available softwares and its related factors was to use CDS/ISIS to meet library requirements at National Institute of Hydrology.

#### **2. By reviewing the Systems at nearby Institutes**

A study of softwares being used by the various organizations in and around Roorkee has been made for comparing their relative performance and selecting the one as per the need in N.I.H. library. Table 1 shows the list of softwares used by different organisations in this region.

**Table - 1**  
**Software used by Different Organisations for Non-numerical Data Processing**

S. No.	Name of the Organisation	Software used
1.	Wadia Institute of Himalayan Geology, Dehradun	CDS/ISIS
2.	Indian Institute of Remote Sensing , Dehradun	CDS/ISIS
3.	Wild Life Institute of India, Dehradun	LYBSYS
4.	Indian Institute of Petroleum, Dehradun	CDS/ISIS
5.	Oil and Natural Gas Commission, Dehradun	ONGC's own package partilly using CDS/ISIS
6.	Central Building Research Institute, Roorkee	CDS/ISIS
7.	University of Roorkee	Using Daabazses on CD-ROM
8.	Central Water Commission, Delhi	CDS/ISIS
9.	Bharat Heavy Electricals Ltd., Hardwar	Partially CDS/ISIS
10.	UNESCO, New Delhi	CDS/ISIS
11.	Tata Energy Research Institute, New Delhi	CDS/ISIS
12.	India Today, New Delhi	CDS/ISIS
13.	Indian Institute of Technology, New Delhi	CDS/ISIS

After having a look on the list given in Table - 1 and with the recommendations of the expert system, the software CDS/ISIS developed by UNESCO and distributed by NISSAT (7) has been selected for use at N.I.H. library's computerisation.

The main reasons of opting this software are as follows :

1. Suited to library's requirements
2. Regular training facilities available at a nearby location
3. Available on nominal charges
4. Favourable options expressed by professional colleagues
5. Regular updating
6. Satisfactory performance in other organisations
7. Performs almost all library operations

8. Convincing demonstration at some conference, etc.
9. User friendly
10. Networking possibilities
11. Convenient for database creation
12. Easily adaptable for local needs

### **Need for Standardization**

The databases in each software have a number of anomalies in their creation and use. Despite a number of limitations, the databases play a vital role in development of our country by fulfilling information needs of users at local as well as national level. If the records have the same "Format" and "Structure" then records on a similar subject by different organizations can be exchanged/merged from databases. Standardized format of a database is not only useful for identification of original documents but also helpful for users to "judge" the immediate relevance of document from its bibliographic description. The different national and international agencies have developed various formats (8 to 15). The merging/exchange of records among databases developed by different institutions on specific subjects may bring forth the emergence of comprehensive and useful databases in India. These data bases, then, may provide useful services to the users at national level. Due to this reason the standardization is very much needed to develop a national and international communication format.

### **Database Development for the Library's Resources of NIH**

The National Institute of Hydrology has a specialized library in hydrology and water resources. About 16,000 publications comprising scientific books, journals, technical reports, Indian and foreign standards, atlases, maps and microfiches. According to the needs of the users 10 databases have been initially developed by matching the scientific areas of research. These databases are listed in Table - 2. The idea behind that for development of 10 different databases instead of one single database was to facilitate the scientists and research workers for the availability of the database of their own interest on their own PCs. The idea proved successful and these different databases have been transferred in various scientific divisions. For entering the documents in the databases each document needed disciplinewise pre-classification.

A single database "BOOK" has also been prepared by combining all the above databases. This database has all the publications in each discipline existing in N.I.H's library. This database is very useful from the point of view of those users who do not have access to any other disciplinewise data base.

**Table - 2**

#### **The list of Databases with their Codes**

<b>DATABASES</b>	<b>CODE(S)</b>
1. Flood studies + Lake Hydrology	FLOOD
2. Surface Water Hydrology + Drainage and Irrigation	SWH

3. Ground Water Hydrology	GWH
4. Water Resources Systems	WRS
5. Nuclear Hydrology	NUCHYD
6. Mountain and Snow Hydrology	MOUNT
7. Environmental Hydrology + Climatology + Development Hydrology	ENVHYD
8. Remote Sensing	REMOTS
9. Computer Science + Mathematics	COMPT
10. Water Quality	WATQUA

### Conclusions

Library is inseparable part of any institution now-a-days. Information and their dissemination are the backbone in modern day development activity. A library in an institution cannot function effectively if it exists in isolation without any interaction and information exchange from other libraries. If the data elements of all databases are created by using standardized exchange format, the merging/exchanging of records among databases is possible. This database could be available for publications in one library or the publications of other libraries could be merged through networking. Keeping in view of advantages and disadvantages of CDS/ISIS, the N.I.H. has decided to adopt this package. In this software, the data entries of any database can easily be transferred to any other software if the "structure" and "format" are same. The software is user friendly and is flexible enough to be linked with any other suitable programme having same format. Also CDS/ISIS allows the users to build and manage structured non-numerical databases, it does more than just text processing.

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