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Communications concerning the Newsletter may be addressed to Dr. A. Lahiri, Jt. Adviser (NISSAT), Department of Scientific & Industrial Research, Government of India, Technology Bhawan, New Mehrauli Road, New Delhi-110016. Material published in the Newsletter can be reproduced with due acknowledgement to the source.

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Library Automation The Real Crunch

Library automation requires close interaction between computer scientists and library professionals. Computer professionals usually do not have a grasp of the entire gamut of library operations; as library users they have limited exposure to circulation mechanism and tend to confuse library activities as a cross between inventory control and billing systems. On the other hand, librarians are more bothered about acquisition/accounting systems and generally have scant regard for developing the interfaces with users. A few packages in dBASE, COBOL or FORTRAN with fancy entry menus get developed. The system is then demonstrated to the library decision makers with a small number of records. Afterwards, with growth of databases, either the decrease in response time of retrieval or the magnitude of data conversion requirements, act as dampers to enthusiasm of both developers and promoters. Nevertheless, the decision makers do not lose any opportunity to claim that their library is indeed automated.

It is however, necessary to emphasize that all such efforts need not be considered wasteful. These practical exercises provide an exposure to the ground realities. Viewed in that spirit, the recent spurt in library automation ventures should be welcomed.

However, we need to proceed more objectively in our library automation ventures. On the one hand, we have the Unesco supported CDS/ISIS — a package which is available free of cost but its operation is limited to single user environment (though it reportedly works in LAN environment also). On the other hand, Local Library Management packages like LIBSYS, ASLIS, WILISYS, LIBMAN and ARCHIVE are available at cost. Though these may pose problems of portability and customization in a multi-user environment, these developments are to be taken seriously. Some of these already have installations. Perhaps, the NISSAT Software Resource Centre will make an attempt to procure a copy of all indigenously made software. If successful, this would be the one-stop shop for comparative studies of packages against users interest profiles. The point to be noted here is that for software, one need not make a fresh effort for development; there is already a lot to choose from.

One aspect of library automation that warrants serious attention is the problem of retrospective conversion. So far, we have not been able to find a suitable model for conversion of existing library records. The usual approach of keying in all items A to Z, does not work either. The activity may start with current periodicals. In case of monographs, perhaps inputting of the live collections given by the circulation tray plus current cataloguing efforts, would suffice. Even this much may be difficult to accomplish through regular staff. Contractors to handle such peakload situation are not available. Using LCMARC, UKMARC, or OCLC, WLN databases through selective downloading is a distinct possibility to be experimented with.

Thus the problem is not the hardware or software as is usually made out. Retrospective conversion appears a major concern, but what is most needed is evolution, adoption and enforcement of discipline in the work place of library automation.

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Local Area Networks: Requisites for Structure and Applications

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As progress in the automation of libraries continues creating networks of geographically separate libraries becomes more plausible. The use of telecommunications equipment plays a vital role in the Local Area Network (LAN). Telecommunications encompasses the electronic transmission of voice, data and video information from one location to another. Libraries are becoming more interested in linking local library system for resource sharing. A LAN can readily replace much of the paper flow with electronic documents in an office environment. This article gives some basic telecommunication and designing concepts of LANs.

Definitions of LAN

1) A LAN is a facility that provides data communication and video or voice, if desired, within a single building or among a close cluster of buildings.

2) LANs are concerned with interconnection of distributed communities of computer-based data terminal equipment whose physical separation is confined to a single building or localized group of buildings.

3) A LAN is a means of sharing resources among microcomputers and other computer system components. The shared resources may be one or more physical devices or information and logical components.

4) A LAN is a method of linking computers and other devices at very high data transfer rates within a restricted physical area.

The basic LAN consists of a software package and several pieces of hardware, including two or more PCs linked by twisted pair or coaxial cable. The term local refers to the limits imposed by the cable running to each piece of equipment which may range from a few hundred metres to a few kilometres.

Why of LAN

The Primary objective is to provide access to data and to transport data from one mode to another.

LAN linkage in a multi-vendor situation offer advantages like:

- 1) Greatly reduced modem and data line expenses;
- 2) Increased sharing of expensive resources;
- 3) Optimize the use of parts on a host processor.

The following points should be considered while the telecommunications network is being developed:

- 1) How much information will be transmitted?
- 2) How much time will be necessary to access the computer?
- 3) How fast do you want to send data?
- 4) How many terminals will each remote site use?
- 5) Do you plan to service more than one office environment on a circuit?
- 6) Will peripheral equipment be used?
- 7) Can the telecommunications system be made "fault safe"?
- 8) How reliable is the equipment?
- 9) Is it less expensive to buy from a vendor, or from an independent source?
10. Is the system simple, documented and easy to change?

Design Concept of LAN

- a) Circuitry - the physical media used;
- b) Access methods - the approach used to handle access to the LAN by the devices connected to it;
- c) Topology - the physical design of the LAN; and

3

d) **Bandwidth** the measure of the transmission capacity of the LAN.

a) **LAN Circuitry**

The most common circuit types are coaxial cable and twisted pair telephone-type wire systems. As splicing technology improves, fibre optic cable will become more common in the future. Packet switching transmission is used since it provides better use of the network circuits than techniques that transmit an entire message in a continuous string (message switching).

Communication systems in which a series of computers are connected by communication lines and used to move packets from sender to receiver became known as "packet switches". Packet switching technology takes advantage of the fact that data communication users can rarely utilize the entire capacity of a connecting line. A packet switch provides users with dedicated paths only to a computer element within the network called a "node". The user's node is connected to other nodes in the network by a series of trunk lines. These lines are shared among all users who connect to the node directly or connect indirectly to other stations in the network through the node. The ability of nodes to control line-sharing allows data exchange at less expensive rates than can be achieved by circuit switches or leased telephone lines. Any of several "routes" between users can be used to transfer information which also makes packet networks highly reliable.

b) **Access Methods**

LANs must prevent data collisions which could occur when two or more devices want to access and send information on a single channel to transmit data effectively at the same time. Strategies often used to avoid collisions are the Carrier Sense Multiple Access/Collision Detection (CSMA/CD) and token passing.

CSMA/CD

- 4 The CSMA/CD access method is used solely with bus networks, where each node is interconnected via a single common transmission medium (cable). Data transmitted by a node propagates in both directions on the bus to the other network

nodes. The cable is thus said to operate in a multiple access (MA) mode. All data are transmitted by sending data terminal equipment (DTE) first encapsulating the data in a frame with the required destination DTE address at the head of the frame. The frame is then transmitted or broadcast on the cable. Access to a CSMA/CD bus is probabilistic and depends on the network (cable) loading. Also as the bit rate used on the cable is very high, the network loading tends to be low. The probability of a collision occurring is in practice low since the transmission of a frame is initiated only if the cable is inactive.

CSMA/CD bus networks are used extensively in technical and office environments, also known as ETHERNET. It is implemented as a 10 Mbps base-band coaxial cable network.

The integrated tap and transceiver unit includes tap, which makes a non-intrusive physical connection to the coaxial cable, closely coupled to the transceiver itself. The transceiver contains the necessary electronics to :

- send and receive data to and from the cable;
- detect occurrences of collisions on the cable medium;
- provide electrical isolation between the coaxial cable and the cable interface electronics;
- protect the cable from any malfunctions in either transceiver or the attached DTE, referred as jabber control. The jabber control essentially isolates the transmit data path from the cable if certain defined time limits are violated.

The communication controller card contains :

- a) a medium access control (MAC) unit; and
- b) a separate microprocessor, which implements both the network-dependent protocols and also the higher level protocols.

In this way, the complete communication subsystem is normally self-contained on a single printed circuit card that slots into the host system bus and provides a defined set of network services to the host software.

Token Passing Method

By token-passing access methods a device can transmit only when it possesses a logic "token". The token is passed between devices in the network along a predetermined sequence and only the device with the token is allowed to transmit. The sequence of operation is as follows :

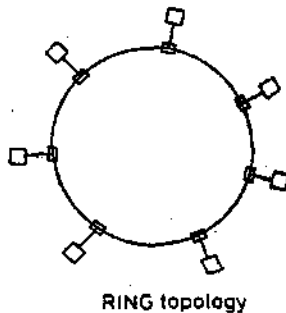
- a logical link is first established, which links all the DTEs connected to the physical medium and a single control token is created;
- the token is passed from DTE to DTE around the logical ring until it is received by a DTE waiting to send a frame(s);
- the waiting DTE then sends the waiting frame(s) using physical medium, after which it passes the control token to the next DTE in the logical ring.

The feature of the token access method is that it is possible to associate a priority with the token, thereby allowing higher priority frames to be transmitted first.

c) Topology

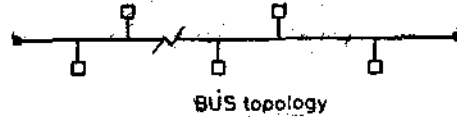
The topology of a LAN usually follows one of the three configurations :

- Star
- Data bus or
- Ring

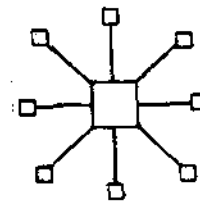


Star Configuration — In a star configuration, all devices are connected to a central point using a single line for each connection. Many star LANs are based on private branch exchange (PBX) telephone

systems. So, they are operationally dependent upon the reliability and loading of the central PBX controller, but they often have a relatively slow transmission capacity - 56 kbps for each twisted pair wire.



Data Bus Configuration — Bus topologies are characterised by the fact that every node has a single bidirectional connection to a shared cable. Each node, therefore, is directly, physically connected to every other over this shared cable. Thus any node transmits directly to every other attached node. Since the data bus cable is usually open-ended, information packets flow outward in both directions from each point of connection.



Ring Network — The ring topology consists of active repeater stations interconnected by the transmission medium to form a closed loop. Each node is connected directly to two others. Packets of data are inserted into the ring by user terminals attached to the repeater stations; these packets traverse the ring with all nodes examining the address space of the packet to select packets addressed to them. The interstation cable may consist of a variety of media. In particular, optical fibres are suitable as transmission is essentially unidirectional and no spurring is required. Ring networks are generally designed so that a node which fails can be easily bypassed.

d) Bandwidth

Under a baseband approach, the entire capacity of the LAN or the data channel is utilized by one user at a given movement. While the speed of transmission is quite fast, typically 2 to 15 megabits per second, the entire capacity of the system is dedicated to one user at a given movement.

Under a broadband approach, the capacity of the system is divided into segments or channels.

Each channel may be assigned to a different use. So, hundreds of users may use the LAN capacity concurrently for widely different applications. Since the transmission capacity is divided into multiple segments, each carrying a major communications load, the total capacity of the broadband LAN is far greater than that of a baseband LAN.

Choice of PC Lan

Lan options may be exercised using any of the following:

1. EPABX based LAN
2. BY connecting RS 232C Cable.
3. Ethernet LAN

The Ethernet system contains no end-to-end acknowledgement protocol and packet delivery is not guaranteed. Users are expected to provide higher level protocols which check on the correct delivery of packets.

In RS 232C cable LAN, the distance becomes more limited depending upon the length of the cable.

EPABX facility is the best choice since it belongs to the organisation and the facility may be extended at any time whenever LAN is needed, so that any number of users can have access to the facility. Cost will be less compared to other LAN facilities and the speed of access may also be less.

Multuser Terminal

The central file server acts as an agent for receiving and delivering the requests/mail of the users who are remotely logging into the machine. In an UNIX based machine there may be three more users working with the central file server at the same time. Thus, the Databases can be shared and the speed of access is more compared to other LANs.

Central file server and LAN operating system

For LAN central file server will be UNIX based machine and LAN will be operated under uucp protocols in UNIX environment. Central file server will act as a clearing node for other user nodes. User nodes are DOS based machine which works as a terminal of central UNIX based machine.

Applications of Lan

In a special library and information centre, the applications of LANs may be enumerated as follows :

- On-line searching
- Diaries of events
- Electronic Mail
- Viewdata

On-line searching via microcomputer is a common feature and a number of packages are available to automatic loading and downloading of search results. Search results are saved to disk and then further manipulated under wordstar.

Maintenance of an "electronic diary" to large information departments or whole organisations is the most useful application of LANs. Staff can consult the diary online or in its printed form.

E-mail is another application often associated with LANs and the viewdata is restricted to one user and one workstation. Electronic mail or text messaging can be used to send both urgent and routine messages. Messages can be sent to more than one destination and to individuals not on the network by using the gateway connection to other private or public networks. E-mail facilities can reduce the time and expense of interpersonal communication.

Advantages and Disadvantages of LANS

Advantages

1. The primary advantage is data sharing, especially large volumes of dynamic data.
2. LANs have an enormous cost advantage over any other type of facility because they involve only a one-time cost, with little or no recurring cost.
3. Maintenance costs are typically minimal. On going costs are usually limited to the purchase of new connectors if additional equipment is connected to the LAN.
4. Machine to machine communication is much faster than machine to human, since a nonthinking machine can accept data much faster than a human can absorb and interpret it.

5. Since PCs are used, many small libraries will be able to take advantage of the benefits of library automation.
6. Since programs can be down-loaded to a desktop computer, in many instances a library simply adds software for a new application and an additional microcomputer terminal.
7. Improved high density, disk storage is now available for small microprocessors to meet the local storage needs.
8. The ability to share peripherals, such as high-speed or letter quality printers and the facilitation of rapid communication between users via E-Mail.
9. Another advantage of LAN is the potential for expandability.

Disadvantages

1. Lack of applications software is a major issue.
2. A second software issue involves possible violation of copyright law.
3. Problem of software may occur with supplier and dealer support of LANs.
4. Planning for a LAN requires the protection of data which is sensitive to misuse.
5. The second concern is the integrity of the database.
6. A LAN may confine one geographically, however, because cabling costs for a LAN are high.

Conclusion

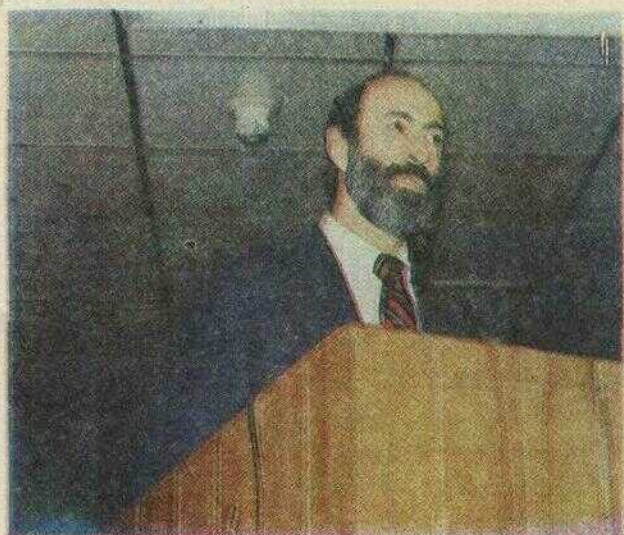
The emergence of LAN technology and the proliferation of LANs over the past few years has led to the realisation, by both manufacturers and users alike, of the need for LAN standards. Standardization benefits manufacturers because they can produce a large quantity of similar components instead of small numbers of different specialized components. Users benefit because they can easily specify a standard LAN. In addition, standard equipment should be available from a number of vendors. The IEEE 802 standards committee is developing standards for various LAN media and access schemes. It is also working on standards for higher level protocols as well as those areas related to internetworking such as addressing, gateways and network management. The LAN facility will help find traditional solution to

communication problems and it may be used extensively for better office and commercial environments.

Bibliography

1. Angier, Jennifer J. and Hoehl, Susan B. Local Area Networks (LAN) in the Special Library. Part 1-a Planning Model. *Online* 1986; Nov. 19-28.
2. Booth, Grayce M. The Design of Complex Information Systems.
3. Bose, Anindya. Integrated Hardware for Information Management. *Bull ASIS* 1986; Oct/Nov. 26-27.
4. Boss, Richard W. Telecommunications for Library Management.
5. Buck, Dayna E and Krois, Jerome W. Telecommunication Considerations in an Automated Library Network : An Introduction. *Lib Hi Tech* (16), 77-80.
6. Copeland, J. M. and Flood, S. Applications of LANs in Special Libraries and Information Services : Research in Progress. *Program* 1985; 19 (1), 72-76.
7. English, P. D, Ed. Data Communications : Local Area Networks. State of the Art Report 11 : 8 ii.
8. Farr, Rick C. The Local Area Network (LAN) and Library Automation. *Lib. J.* 1983; Nov. 15, 2130-32.
9. Halsall, Fred. Data communications, computer networks and OSI. 2nd ed.
10. Hoehl, Susan B. Angier, Jennifer J. Local Area Networks (LAN) in the Special Library. Part 2 - Implementation. *Online* 1986; Nov. 29-36.
11. Van Houweling, Douglas E. The Information Network : Its Structure and Role in Higher Education. *Lib Hi Tech.* (18) 7-17.
12. Lewin, Leonard, ed. Telecommunications : An Interdisciplinary Text. 419-448.
13. Mason, Robert M. Automation and LANs at ALA *Lib J* 1984; Sept. 15, 1736-7.
14. Mason, Robert M. Should You Consider a PC Local Area Network ? *Lib J* 1985; June 15, 42-43.
15. Mel Collier and David Piper. Multi-site Library Networking : Experience of the Polytechnic of Central London. *Program* 1984 ; 18 (2), 147-156.
16. Microcomputer Networking in Libraries (I) & (II). *Vine* 1983; 48, 21-29.

National Workshop on CCF: The Common Communi- cation Format



(Above) Mr Alan Hopkinson and (left) Prof. Peter Simmons,
Resource Persons (Unesco)
(Below) Workshop Faculty and Participants Group



New Delhi was the venue of a two-week national workshop organized by National Information System for Science & Technology (NISSAT) on Common Communication Format (CCF) during 19 Feb.-2 Mar. 1990. Unesco placed at the disposal of NISSAT, valuable services of Prof. Peter Simmons and Mr Alan Hopkinson as Resource Persons.

In India, local database development activities are slowly gaining momentum. Several library and information centers are in the process of acquiring their own computer facilities and are now at different stages of automation. There have also been many computer appraisal programmes, workshops, seminars and brainstorming sessions geared to develop local skills in computerized information handling.

The recent impetus to diverse information activities stems not only from the government policy on electronics, communications networks and information systems, but also from the professional understanding, development of new skills and the motivation to use information technology to the extent possible. We now have several national information centers — on machine tools, leather, chemicals and allied industries, textiles, drugs and pharmaceuticals, bibliometrics, and CD-Rom established with the support of The National Information System for Science & Technology (NISSAT). Similarly, other national information systems like the Bio-technology Information System (BTIS), Environmental Information System (ENVIS), National Informatics Centre-District Information Centres (NIC-DIS), NIC- Indian Council of Medical Research (NIC-ICMR) on Biomedical Information have also come up. At the national level, India has DESIDOC, INSDOC and NASSDOC providing information and document delivery services in defence science, science and technology and the social sciences. The National Library carries out its own functions and services including the production of INB for current Indian publications. The University Grants Commission supports several Indian Universities in providing computer based information services in science and technology, the social sciences and the humanities as well. UGC's National Centre for Science Information at Indian Institute of Science, Bangalore also provides SDI services on INSPEC, RIOSIS, MATHSCIENCE, GEOREF and Chemical Abstracts to the academic and research personnel in universities.

There is also an ever increasing number of CDS/ISIS Mini Micro Version, MINISIS and a variety of exotic and some indigenous software sites. A noticeable interest in developing software for Library Management — DELMS, LIBSYS, ASLIS, WILISYS,

to name a few commercial ventures, is also in evidence. Apart from the myth of self-sufficiency, the ever increasing needs and cost differential for maintaining fairly good local information resources, one now realizes the need for collective sharing. These developments have recently led us to think of INFLIBNET, CALIBNET, DELNET, INDONET, NICNET and so on.

An area of great concern is that of database generation. In the context of sharing resources, especially bibliographic information on network and on physical media, the database activities have been more localised in their utility. There have been islands of knowledge/expertise on MARC and Exchange Formats which need to be brought into the mainstream of INDIMARC. A more recent Indian effort is the formulation of IS 11370:1985 Guide for data elements and record format for computer based bibliographical databases for bibliographic description of different kinds of documents.

NISSAT has also initiated work towards a draft proposal for the generation of a guide to the creation of bibliographic records for Monographs using CDS/ISIS software, CCF Content designation and AACR II Cataloguing Rules. However, as familiarity with MARC and CCF increased among the Indian library and information community, need was felt to provide for a wider understanding of Formats, the implications of their use in local database generation, exchange of records, retrospective conversion and networking.

It is against this background that NISSAT organized a National Workshop on Common Communication Format during Feb. 19 - 2 Mar. 1990 in New Delhi. UNESCO was gracious enough to provide for the services of both Prof Peter Simmons and Mr Alan Hopkinson as Resource Persons for the National Workshop.

The major objective of the workshop was to provide the Indian information scientists an opportunity to interact with Prof. Peter Simmons and Mr. Alan Hopkinson, understand the concepts related to Bibliographic Formats and applications of CCF and UNIMARC.

Besides deciding the modalities of organizing the workshop, an organizing committee also suggested a list of invited participants from several organizations — including academics from some Indian Universities, NISSAT Sectoral Centres, CSIR organizations, ICSSR, DESIDOC, INSDOC, ISRO and the like. Prof F.J. Devadason from DRTC/ISI Bangalore contributed his services as an Indian

Resource Person. There were 48 participants from all parts of the country. Mr Hopkinson and Prof Devadason acted as Resource Persons for a five-day workshop providing hands on sessions for CDS/ISIS and MINISIS users implementing CCF or UNIMARC.

The first week was devoted to understanding the concept of bibliographic formats — input as well as exchange formats, and the various local and international implementation. The resource persons shared between them — such topics as Historical Development MARC I to ISO-2709, UNISIST RM, UNIMARC, The Taormina Symposium and CCF. Prof Simmons presented the participants the use of CCF as an exchange and switching format and CCF as a model for Input Format. Mr Hopkinson covered UNIMARC as a Model for National Format and as an exchange format. The Authority Formats in US MARC and UNIMARC, CCF and AACR II, CCF Linking techniques, Implementation Notes etc were also dealt with in greater detail. The Fourth day was devoted to a briefer understanding of the International use and Implementations of CCF — in countries like Columbia, Yugoslavia, Brazil, and China, and CCF in countries like South Africa, Taiwan, Japan, Portugal, and Yugoslavia. The logical relationship between CCF and UNIMARC was also clarified. Prof. Simmons demonstrated the Conversion Programme for UNIMARC to CCF via ISO-2709. A lively question-answer and a sum up session by Prof Simmons and Mr Hopkinson marked the end of the first week on Formats, CCF and UNIMARC. The Resource Persons expressed their satisfaction over the participants' interaction, facilities provided, document support given and the overall organization of the workshop.

Another feature of the workshop was that some of the participants made presentations on their local database activities, implementation of software packages like CDS/ISIS Mini Micro, MINISIS, DELMS (Defence Library Management System), FOSTIS, AGRIS (CFTRI, Mysore and ARIC, New Delhi) during the first week. Mr H.K. Kaul (IIC and DELNET) spoke on implementation of CDS/ISIS, CCF and AACR II

on a pilot scale; Mr Vishwanatham and group dealt with the database activities at JNU on MINISIS, INMAGIC and CDS/ISIS. Mr Krishna Rao (CFTRI, Mysore) and Mr P.C. Bose (ARIC, New Delhi) made brief presentations on their local activities *vis-a-vis* FOSTIS and AGRIS respectively. Prof M.M. Kashyap (Delhi Univ) stressed the need for data element designations based on CCF. Mr R.K. Srivastava (DESIDOC Group) spoke on the features-of DELMS (Defence Library Management System) and implementation of CCF on DELMS.

The second week was handled by Mr Hopkinson and Prof Devadason. The participants — split into two groups, one the CDS/ISIS and the other MINISIS. These groups had not only a quick run through CDS/ISIS and MINISIS features but also the CCF and UNIMARC Implementation as well. The implementation/hands on sessions on MINISIS and CDS/ISIS packages and was handled by Mr Alan Hopkinson and Prof F.J. Devadason. These sessions gave the participants the opportunity to strengthen the theoretical base and appreciate the bibliographic formats, standards, and local implementations better. During the concluding session, Dr A. Lahiri, Director (NISSAT), Prof Krishan Kumar, President ILA and Head, Delhi Univ, Prof C.P. Vashisht, Secretary, Mr M.L. Kachroo, Treasurer of ILA thanked UNESCO, the resource persons and the participants for making the workshop a successful and rewarding event.

A Joint Meeting of CALIBNET, DELNET and INFLIBNET Standardization Committees involved in the choice of bibliographic standards and Formats for respective networks marked the conclusion of the two-week CCF Workshop.

As a follow-up, it is proposed to organize several regional Workshops in India on conversion of bibliographic information from various MARC formats (for instance, US MARC, UK MARC, MALAYMARC, AUSMARC, etc), and the various aspects of retrospective conversion.

B.G. Sunder Singh

Accessing S&T Information: NISSAT Emerges as Key Component

The last few years have witnessed a sea change in the S&T information scenario in the country. Easy and quick access to information through organized information centres integrated into a network is one manifestation of this change.

Promoting and supporting this process is the ubiquitous NISSAT, the apex information coordinating agency under the Department of Scientific and Industrial Research. By establish-

ing sectoral centres in different S&T areas and running a series of programmes for education and training of those responsible for manning the centres, NISSAT has spearheaded the development of endogenous capabilities to meet the fast growing appetite of scientific and technological community for information in diverse areas.

An overview of NISSAT's activities during 1989-90.

The Centres were built around the existing information resources and facilities. They were, however, provided with a wide range of documents, sophisticated equipment and manpower so that they could provide information services on a national scale. They maintain an extensive collection of published and unpublished documents in the form of books, periodicals, research reports, development a trade reports etc., pertaining to the relevant subject area. Regular monthly technical publications from these centres include Current Indian literature, Patents highlights and Industry highlights in respective sectors and also semitechnical and popular ones in the form of digests. Besides, the centres have also brought out *ad hoc* publications like Buyers Guides, Directories of Agents, Research, Foreign Collaborations, etc. The Centres have also developed information management tools like thesaurii.

The sectoral centres have created and are maintaining several databases to cater to different information requirements of their clientele. For example, NICMAP maintains Bibliographical Database, Patent Database, World Machine Tools Statistics, Indian Machine Tool Production Statistics Database & Import/Export Statistics Database; NICDROM has Library & Information Science Abstracts (LISA) database on CD-ROM etc. Services provided by these centres also include document supply, compilation of special bibliographies, publication, patents search, reprography, micrography, translation and industrial enquiry services.

National Citation Index

Bibliometric studies for evaluating research

Table I: NISSAT Sectoral Centres

Sector	Institution
i) Leather Technology (NICLAI)	Central Leather Research Institute, Madras
ii) Food Technology (NICFOS)	Central Food Technological Research Institute, Mysore
iii) Machine Tools (NICMAP)	Central Machine Tools Institute, Bangalore
iv) Drugs and Pharmaceuticals (NICDAP)	Central Drugs Research Institute, Lucknow
v) Textiles and Allied subjects (NICTAS)	Ahmedabad Textile Industry's Research Association, Ahmedabad
vi) Chemicals (INCHEM)	National Chemical Laboratory, Pune
vii) Compact-Disk (NICDROM)	National Aeronautical Laboratory, Bangalore
viii) Bibliometrics (NCB)	Indian National Scientific Documentation Centre, New Delhi

outputs have generated considerable interest in science and technology community in India and the Science Citation Index (SCI) is now widely used for such studies. However as SCI covers only 18 Indian periodicals and cross-citations among Indian literature get totally overlooked, such exercises may lead to under-evaluation of the Indian S&T contributions. In order to supplement the SCI database, preparation of a National Citation Index has been conceived of at the National Centre on Bibliometrics, a project of NISSAT at INSDOC. The NCB, possibly in collaboration with Defence Scientific Information & Documentation Centre (DESIDOC) and Indian Council of Medical Research (ICMR), would now prepare the database initially with a set of about 300 Indian journal titles.

Databases on CD-ROM

In spite of certain inherent limitations like single user environment, non-availability of jukebox type facility and retrievals constrained by throughput of personal computers, databases on CD-ROM have very significant use potential in a developing country like India on the following considerations:

The telecommunication system is far from reliable. This constrains the development of online systems involving huge databases and query retrieval traffic. CD-ROM offers the possibility of installation of databases at user sites obviating the need for communication over long distances.

The CD-ROM databases come with retrieval package.

Use of CD-ROM requires inexpensive hardware such as CD drive. PC as a processor is also within the reach of many information centres.

Besides, the usual advantages of CD-ROM also apply to Indian environment.

The use of the technology is yet to be widespread. One reason could be the lack of appreciation of the power or it might be the hesitation to invest on a technological option which is yet to stabilize in the world market. Further, the drive and database which need to be imported attract payment of exorbitant customs duty. The most important reason would perhaps be that, apart from few databases like MEDLARS and NTIS, those presently available on CD-ROM do not have definite user clientele in the country.

In order to promote utilization of this new technology NISSAT established a CD-ROM Information Centre at the National Aeronautical Laboratory (NAL) Bangalore in 1988. The Centre provides information on hardware and their suppliers, reference tools and databases coming on CD-ROM and technology trends, and guide Indian users. They are also running services on Library & Information Science Abstracts (LISA)

NISSAT had plans to establish more sectoral information centres in addition to the eight already existing. New activities would be in the form of database development rather than information centre development. For this purpose, "Tea agriculture, processing and packaging" has already been identified as a subject for action plan.

Information Analysis and Data Centres

Information analysis centres and data centres have been planned under NISSAT scheme for undertaking the task of acquiring, evaluating, integrating, condensing and analysing factual and numeric information in contrast to sectoral centre which is expected to provide mainly bibliographic support in response to a query.

The first data centre on Crystallography (NIC-RYS) was established at the Madras University. The centre obtains the global information on organic and organometallic compounds, compiled and collated at Cambridge, on magnetic tapes and generates services for the national community of users.

Plans are afoot to add databases on inorganic crystal, powder data, IR and NMR spectroscopy data to the activities of this centre. In this context it may be mentioned that, UGC has now started providing complementary support for this centre.

The Second National Information centre on Advanced Ceramics (NICAC) was established at the Central Glass and Ceramics Research Institute (CGCRI), Calcutta has been with the following main objectives:

- To prepare and maintain a computerised database on Superconducting Ceramics, High-tech Ceramics, Optical Materials, Ceramic composite etc.
- To establish linkages with data centres on ceramics and related subjects the world over.
- To generate and provide information services on the subject, etc.

Table 2: NISSAT Hard Data Centres

Subject	Location
i) Crystallography (NICRYS)	Madras University
ii) Advanced Ceramics (NICAC)	Central Glass & Ceramics Research Instt., Calcutta
iii) Resource Centre on Software for bibliographic applications	Andhra University Visakhapatnam

National Union Catalogue of Scientific Serials in India (NUCSSI)

In view of the importance of the NUCSSI as an access tool to support various information programmes, NISSAT has incorporated a plan of action for updating and maintenance of NUCSSI database. The NUCSSI data will be converted into a database form so as to make it appropriate for on-line search. Production of secondary databases, namely holdings of libraries in specific regions, institutions, subject area etc. would be made available on floppies for use through PC/AT/XT. It is contemplated to load NUCSSI database on INDONET, NICNET, etc. for online search & retrieval. Efforts are also being made to prepare catalogues on specific type of materials such as cover-to-cover translated periodicals and indexing and abstracting periodicals.

Online and SDI Services

In order to bring the information support services available to the scientists and technologists in India at par with those available to their counterparts in the developed countries NISSAT has taken up the establishment of online search facilities on permanent basis in the country. Five regional access centres (called NACII) have been established (Table 3).

Table 3: NISSAT Access Facilities to International Datacentres

Place	Institution
i) New Delhi	Indian National Scientific Documentation Centre (INSDOC)
ii) Pune	National Chemical Laboratory (NCL)
iii) Bangalore	National Aeronautical Laboratory (NAL)
iv) Madras	Central Leather Research Institute (CLRI)
v) Calcutta	Indian Association for Cultivation of Science (IACS)

The NACID centres operate on PSTN lines, local VSNL pad, and the international gateway facilities created by the VSNL. The hands-on practice and training for the operational staff of these NACIDs was held during Oct. 7-15, 1989 at Bangalore.

The service will be expensive from the users point of view. During the initial stages, a NACID will recover only the database and compute; costs from users: NISSAT would absorb costs of communication and hits. The Centres will also provide SDI services on such databases for which the demand may not be sufficient to justify their installation on Indian Networks.

Besides, NISSAT has taken up COMPENDEX (Engineering Index) database for rendering SDI and retrospective search at CMTI, Bangalore. Another project to start SDI services on management science literature is under consideration.

Library Networking

NISSAT took the initiative for the development of metropolitan networks to ensure better utilisation of S&T information resources through resource sharing, to moderate functional load of information centre management and to take care of communication. CMC Limited, Calcutta has completed the feasibility study for CALIBNET. Divided in two phases; phase-I of the network would include Indian Association for Cultivation of Science (IACS), Central Glass & Ceramics Research Institute (CGCRI), Jadavpur University Central Library (JU), Indian Institute of Chemical Biology (IICB), Institute of Radio Physics & Electronics (IRPE), Journal Library of Calcutta University (at old Saha Institute location), Bose Institute (BI), Indian National Scientific Documentation Centre (INSDOC) Regional Centre Calcutta will act as the Network Services Centre and Regional Computer Centre would host the Union of databases.

On similar lines, the establishment of DELNET has been conceived for about 30 libraries in Delhi. At the instance of NISSAT, CMC Limited has submitted the draft feasibility report for DELNET. NISSAT also organised a computer familiarisation course for the representatives of participant organisations during December 15-28, 1988 and 4-14 Oct., 1989.

Computer Based Bibliographic Information

The objective of modernisation of library and information services is to provide access to the world of knowledge at a reasonable cost and lead time. The

application of computers and communication technologies are means to achieve this objective.

The need for computerisation is felt at all levels and in all activities. The nature of activities which demand use of computers may vary from automation of routine management function in libraries to information retrieval or analysis of global databases. Unfortunately, application of this tool is still not significant in India.

Realising this, NISSAT accorded high priority to all aspects of computer based bibliographic information processing.

NISSAT acquired a proven software package "CDS/ISIS—Micro—version 2.3" from UNESCO. Official distribution rights in India were also obtained for UNESCO.

CDS/ISIS was distributed to selected scientific libraries and information centres with adequate training support. The implementation of CDS/ISIS in these institutions was monitored regularly through exchange of information and user's group meetings. CDS/ISIS installations now number 243 (ver 1.0) and 202 (ver 2.3).

NISSAT has also acquired the VAX version of CDS/ISIS. This package has been tested and distributed to five institutions. A project has been undertaken to develop the Devnagari version of CDS/ISIS. The version would enable to handle materials in local language like Hindi, Gujarati, Marathi etc.

In order to get a feedback on application of the package, a survey and two user's group meetings were organised.

NISSAT has adopted a library (Technology Bhavan) for conducting an experiment on a total automated system with turnkey concept (including data capture and entry, software development, documentation etc.). In his CDS/ISIS micro version is being used with PASCAL for interfacing programs.

NISSAT has also initiated action on the generation of "INDIMARC"—an implementation manual for UNESCO's Common Communication Format. This manual would aid the professionals to create machine readable bibliographic records, and achieve standardisation of MARC records generated or proposed to be generated by several participant organisations in NISSAT's intra-city networks.

Efforts are also underway to install oft-used

international database on Indian networks. One such experiment with Chem Abstracts has been taken up with NIC.

Manpower Development

With a view to improving upon and updating the skills of the information professionals on a continuing basis, NISSAT has regularly been organising short-term courses.

NISSAT provided support to the Documentation Research and Training Centre (DRTC), Bangalore to conduct three 6-week courses per year for 5 years on subjects like: Programming with library applications, Library automation, Computerised Information retrieval, and Computerised vocabulary control design. They conducted two courses during 7 Aug.-15 Sept. 89 and 6 Nov.-15 Dec. 89.

The University of Poona conducts two 2-week courses per year on "Computer Applications to Library and Information Centres". The objective of the course is to give librarians an understanding of the principles of computer systems, the terminology and concepts embodied in the working of these principles; and give the participants practical knowledge of appropriate applications. The course consists of three modules, namely, Basics of Information Processing, Wordstar and dBase III and Specialised packages for library. The third series of these courses were conducted 19-29 Sept. 89 and 17-28 Jan. 90. On special demand a third course was arranged (Feb. 15-25, 1990).

Similarly, INSDOC is scheduled to organize eight 4-week Computer Courses and two bibliometric courses by 1990. They conducted 6 courses during 1989.

Besides these regular arrangements, exclusive courses on CDS/ISIS, information handling, S&T translation, and information technology have been organised in Calcutta, Trivandrum, New Delhi, Vadodara, Nainital, Goa, Bangalore, Portblair and Hyderabad.

Studies, Directories, Etc.

During the VII Plan NISSAT carried out a programme of promoting and supporting basic and applied research in information science. Several of these studies have been completed.

The special publications include:

(i) A report on the feasibility study on Automation

and networking of science and technology libraries at Calcutta.

- (ii) Marketing of Information products and services by libraries and information centres in India.

International Activities

The activities of ASTINFO (The Regional Network for the Exchange of Information and Experiences in Asia and the Pacific) of UNESCO are closely coordinated with those of NISSAT. The NISSAT Advisory Committee also functions as the National Advisory Committee of UNISIST and the National Advisory Group for ASTINFO. The activities under ASTINFO are:

- (a) The regional node as well as the national node of APINMAP have been located at Publications and Information Directorate New Delhi. For preparation of a database on medicinal and aromatic plants, a HP 3000 system has been provided by ASTINFO. To coordinate the flow of inputs from various research laboratories in the country, a national committee has been constituted.
- (b) Under the UNESCO Participation Programme five day course on Advanced CDS/SIS micro version and microvax version was held in Bangalore during 8-12 January 1989. This was attended by 31 libraries and information professionals from Malaysia and India.
- (c) Another UNESCO participation Programme deliberation on machine translation is under preparation.
- (d) A UNESCO Workshop on Marketing of

Information products and services and held in New Delhi (Nov. 22 to Dec. 1, 1990). The objective of the project is also to evolve standard course material on the subject for use by other countries in the region.

- (e) Another UNESCO-assisted National workshop on Common Communication Format was scheduled during 19 Feb.-2 March 1990 in New Delhi.
- (f) Under a UNESCO programme, NISSAT provided a resource person for the conduct of workshop on Management Information System for Science and Technology at Mara Institute of Technology, Petaling Jaya, Malaysia in Sept. 1989.

Newsletter

In cooperation with the Society for Information Science (SIS) NISSAT has taken up the publication of NISSAT Newsletter during this financial year. This collaboration is an expression of the sincerity behind NISSAT's intention to mobilize the technical expertise available with professional bodies for implementation of the programme. The Newsletter covers wide ranging issues relating to information and the development of information networks and centres. Individuals and professional bodies are invited to contribute features and news items on new concepts and services events like seminars and training courses, new products like directories and information on status of information systems — at both national and international levels and trends in their development. All the four issues of this quarterly were published in time in the calendar year 1989. The present circulation is of the order of over 3000 institutions and individuals.

Development of Pharmaceutical Industry — UNIDO Meet Discusses Network for Information Exchange

An interregional Meeting was organized by UNIDO in New Delhi from 19 to 22 March 1990 with the object of providing the participating countries information on the development potential of pharmaceuticals and herbal medicines and promoting the setting up of national and regional networks for the exchange of technical information, training of manpower and enhancement of overall expertise. Fifty-six participants representing 18 countries besides UNIDO, UNESCO, and WHO attended this meeting.

Some of the main topics for discussion were:

- * Industrial drug policy and its contribution to research and development for the development of local pharmaceutical industry — Indian experience.
- * Medicinal plants for therapeutic use — Indian experience.
- * Establishment and development of regional network for exchange of information, experience and training in pharmaceutical industry.
- * Factory-produced herbal medicine — Indian experience.
- * Setting up of national data bases on medicinal plants and scheme to integrate information for regional networks.
- * UNESCO's Activities — Information system with special reference to APINMAP.
- * Technological and economic cooperation in selected areas of the pharmaceutical industry.

During a special session devoted to information exchange and experiences on medicinal plants, a presentation of UNESCO's role in the development of scientific and technical information system with special reference to Asian and Pacific Information Network (APINMAP) was made by Mr. John B. Rose, Programme Specialist, UNESCO, Paris. He noted that the success story of APINMAP should serve as a model for further development of international cooperation in this area. A detailed presentation on APINMAP describing its objectives, functions,

structure and organization and its information services and products was made by Ms. A.H. Rillo, APINMAP Network Coordinator based at AIBA, Los Banos, Laguna, Philippines. The presentation was followed by a computer demonstration of a prototype of APINMAP factual database. Presently, the various components of the database are: plant names, ethnomedical uses, chemical constituents, biological activities and geographical distribution.

During this session, Mr. Y.R. Chadha, UNIDO Consultant and Publishing Director, B.I. Churchill Livingstone, New Delhi, made a presentation on infrastructural requirements for setting up a database on medicinal plants. Regional networking of national databases using APINMAP as a model was highlighted.

A number of conclusions and recommendations relating to pharmaceutical industry emerged following the discussions. A recommendation relating to information exchange and database management on medicinal plants stated that UNIDO in collaboration with UNESCO and WHO should assist developing countries in the establishment of national information databases on the pharmaceutical industry including plant-derived medicines and that subregional and regional data networks be established to collectively aid the developing countries. As far as medicinal plant pharmaceuticals are concerned, at the national level the information system should collect, manage, and disseminate information on medicinal and aromatic plants and plant-derived preparations taking account of the needs of all potential user communities including those involved in research and development, training, decision making, production and make such information and their experience available to other member states facing similar problems.

The Indian participants concerned more with aromatic and medicinal plants and network for information exchange included Mr. Y.R. Chadha, Mr. H.C. Jain (Technical Information Services Division, MAPIS, CSIR, New Delhi), Dr. Nitya Nand, Dr. B.N. Dhawan and Dr. S.S. Iyer (CDRI, Lucknow).

H.C. Jain
Ram D. Taneja

PGI Activities Commended: Clearinghouse, Databases, Training Highlights of Future Programmes

At the twenty-fifth session of the Unesco General Conference (Paris 17 Oct.-16 Nov. 1989), activities of the General Information Programme during 1988 and 1989 received wide commendation and support, both in regard to structure as well as content. Delegates emphasized the need to continue and strengthen activities related to standardization, national information policies and training. The importance of international cooperation in the field of technology as underlined. There was also need for setting up international and regional specialized networks within Unesco's field of competence, in particular in science and technology, besides creation of databases for decision makers.

The project to set up a Unesco clearinghouse was well received by the delegates. During 1990-91 priority is to be given to the preparation of a feasibility study on the clearinghouse and on online access to Unesco databases.

The usefulness of CDS/ISIS software as a tool for the establishment of modern information systems was recognized by most delegates. It was felt that

the number of training programmes to promote its utilization in member states should be increased. In order to further interconnection of information systems, it was resolved to update CCF and reinforce efforts to build compatible national formats; to encourage the development of international standards for the description of archives. It was necessary to contribute to the systematic application of standards, mainly through the preparation and dissemination of teaching modules and the organization of training workshop and further to elaborate and implement a coherent plan for studies and guidelines covering libraries, information and archival services.

With regard to information services and networks in science and technology, the conference decided to organize training seminars on handling scientific and technological data and to organize a pilot information service for decision making and development planning.

In order to consolidate regional and international networks in science and technology, it was resolved to organize technical consultation meetings for three regional/subregional co-ordinating mechanisms (ASTINFO, CARSTIN, INFOLAC) to promote their development and strengthen national capabilities and to support four pilot projects aimed at developing higher levels of information processing.

To promote library cooperation and the flow of scientific literature to developing countries, it was resolved to support the establishment/strengthening of document delivery systems and the creation of a database on book donation programmes.

Technical Communication: NISSAT-SIS Training Programme — Jodhpur 28-31 August 1990

The next training programme in Technical Communication in the series being conducted by Society for Information Science with the support of NISSAT (DSIR) will be held at the Central Arid Zone Research Institute, Jodhpur (Rajasthan) during August 28-31, 1990.

In the light of the very encouraging response to the earlier programmes and the feedback received from participants in industry and R&D establishments, the Course Content for the forthcoming programme has been enlarged to include topics such as handling the media, writing press handouts, creation of data bases, and consolidation of S&T information. Other topics of interest to scientists, technologists and engineers are in the realm of primary and secondary communication, linguistics, printing and production, oral presentation, etc.

Participation would be on first-come first-served basis because of limited seats available.

Course fee is Rs 600 for Members of SIS and Rs 750 for Non-Members. For details please write immediately to Shri S. Nagarajan, President or Shri P.C. Bose, Secretary, Society for Information Science, PID Building, Hillside Road, New Delhi 110012.

ASTINFO-NLA-NISSAT Document Delivery Pilot Project

The problems of acquisition of hardcopy of documents are well known. Nationally, institutions like INSDOC, and NISSAT Sectoral Centres, and internationally, organizations like BLDSC provide documents on request. Recently Unesco in collaboration with the National Library of Australia, has undertaken a Pilot Project on Document Delivery. The national coordinating unit for India is NISSAT.

Through this ASTINFO-NLA-NISSAT pilot project, you can get a document for two Australian dollars irrespective of the size of document. Any of the following institutions may be contacted to obtain further details and to avail of the above services:

- | | |
|--|--|
| a) Shri P.C. Shah
Scientist-in-Charge, NICTAS
ATIRA
Ahmedabad-380 015 | g) Shri J.P. Singh
DESIDOC
Delhi-110 054 |
| b) Dr. B.G. Kemshetti
Head, NICMAP
CMTI
Bangalore-560 022 | h) Shri Chhotey Lal
Head, Library Services
IARI
New Delhi-110 012 |
| c) Shri B. Basak
Librarian, IACS
Calcutta-700 032 | i) Head Document Supply
INSDOC
New Delhi-110 067 |
| d) Librarian
IICT
Hyderabad-500 007 | j) Dr. K.G. Tyagi
Director
NASSDOC, ICSSR
New Delhi-110 001 |
| e) Dr. S.S. Iyer
Scientist-in-Charge, NICDAP
CDRI
Lucknow-226 001 | k) Shri R.S. Singh
Scientist-in-Charge
NICHEM
Pune-411 008 |
| f) Shri M.N. Seetharaman
IIT
Madras-600 036 | l) Shri J.C. Binwal
Librarian & Professor
NEHU
Shillong-793 014 |

Technology for Mass Applications: Theme for ICCC 90

The Tenth International Conference on Computer Communication (ICCC) will be held in New Delhi during Nov. 4-8, 1990. To be inaugurated by the President of India, the Conference theme is 'Technology for Mass Applications'. The organizers' aim is to carry the benefits of information technology to the people at large.

The Conference is being hosted by the Department of Electronics and the Department of Telecommunications, Govt. of India.

The topics to be discussed will include computer communication for manufacturing, E-mail networks, Fibre optic LANS, ISDN and Social applications of computer communications. Concurrently with the conference will be held an exhibition showing the state-of-the-art developments in the area of computer and communications from the world over.

The registration for the conference is Rs 6000 till 30 Sept. and Rs 6750 thereafter.

Further details from the Organizing Secretary Ms Saroj Chowla, ICCC 90 Sectt, CMC Ltd., A-5 Ring Road, South Extension Part I, New Delhi 110049.

NISSAT Supported Manpower Development Programmes Calendar of Events

Subject/Dates	Programme Title	Venue	Organizer
A A C R II			
Aug 1990	Workshop on Anglo-American Cataloguing Rules II	IIC, Delhi	(DELNET)
** 1990	— do —	Calcutta	(BLA)
**	— do (series of courses) —	—	(ILA)
Abstracting & Indexing			
**	Workshop on Abstracting & Indexing (series of courses)	**	(IASLIC)
Application of Computers in Library & Information activities			
25 Jun–29 Jun 1990	Workshop on Application of Computers . . .	Jodhpur	(ILA)
2 Jul–6 Jul 1990	— do —	Kurukshetra	(ILA)
9 Jul–13 Jul 1990	— do —	Nasik	(ILA)
9 Jul–13 Jul 1990	Information Systems & CDS/ISIS [spl course for ILO Staff]	NISSAT, N. Delhi	(NISSAT)
16 Jul–20 Jul 1990	Workshop on Application of Computers . . .	** Visakhapatnam	(ILA)
20 Aug–14 Sep 1990	Computer Applications in Libraries and use of CDS/ISIS [Intro level]	Univ Pune, Poona	Univ Pune
Aug 1990	Workshop on Application of Computers . . .	Rewa	(ILA)
**	— do —	Tiruchirapally	(ILA)
**	— do —	Jaipur/Tirupati	(ILA)
**	Workshop on CDS/ISIS (4 courses)	[Any 4 from Imphal, Guwahati, Agartala, Berhampur, Cuttack, Rourkela, Ranchi, Jamshedpur, Mangalore, Calicut, Nagpur, Delhi]	(ILA)
Oct 1990	Seminar on Computerization in Government Library & Information Centres	Shimla	(AGLIS)
Jan–Feb 1991	Advanced course on CDS/ISIS	INSDOC, Delhi	(INSDOC)
Jan 14–18, 1991	Use of Computer for non/professional Staff in Libraries	Pondicherry	(AGLIS)
Jan 1991	2nd Course on Computer Applications . . . [Intro. level]	Univ Pune, Poona	Univ Pune
**	Computer Applications in Library & Information Science	Calcutta	(BLA)
Feb–Mar 1991	Short term course on Computer Applications in Library & Inf. Centres	DRTC, Bangalore	(DRTC)

**To be announced.

Bibliometrics

22 Oct-27 Oct 1990 Course on Bibliometrics INSDOC, N. Delhi (INSDOC)

Career Prospects in Government and Information Centres

2-3 Jul 1990 Seminar on Career Prospects in Government Libraries & Information Centres Delhi (AGLIS, ILA and IASLIC)

CDS/ISIS

18-29 Jun 1990 Workshop on CDS/ISIS (Advanced) IIS, Madras (IIS)
Jul-Aug 1990 — do — DRTC, Bangalore (DRTC)
9 Jul-3 Aug 1990 — do — INSDOC, N. Delhi (INSDOC)
20 Aug-14 Sep 1990 CDS/ISIS for beginners INSDOC, N. Delhi (INSDOC)
Oct 1990 Course on CDS/ISIS Shimla (AGLIS)

Common Communication Format

** Workshop on Common Communication Format (series of courses) ** (ILA)

Computer Communication , LAN, etc.

** Training Courses at Introductory level Computer Communications, LAN and Networking [series of courses] ** (AGLIS)

Consolidation of Information

** Information Analysis & Consolidation Delhi (IASLIC)
Bombay (IASLIC)
** Workshop on Information Consolidation Calcutta (BLA)

Expert Systems

Jan/Feb 1991 Seminar on the use of Expert Systems in Studies in S & T Delhi (SMAC)

Information Technology

Feb 1991 Course on Information Technology [2 weeks] INSDOC, N. Delhi (INSDOC)

Machine Translation

17-22 Sep 1990 Regional Workshop on machine Translation NISTADS, N. Delhi (NISSAT)

**To be announced.

**Marketing of Library and
Information Products & Services**

11-15 Mar 1991	Marketing of Library & Information Products & Services	Nagpur	(AGLIS)
**	Workshop on Marketing of Information Products & Services [series of workshops]		(BLA, IASLIC and AGLIS)

Micrographics

July 1990	Seminar on Legality and Copyright of Microforms	**	(MCI)
Nov 1990	National Seminar on Micrographics for National Development	**	(MCI)
Jan/Feb 1991	Regional Seminar on Micrographics	** Bhopal	(MCI)

Retrospective Conversion

23-27 July 1990	Training Course on Conversion of Library Records into Computer Readable Format	** Delhi	(AGLIS)
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Technical Communication

28-31 Aug 1990	Training Course on Technical Communication	Jodhpur	(SIS)
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Contact Addresses

AGLIS	The Secretary AGLIS Care DESIDOC Metcalfe House Delhi 110 054	BLA	The Bengal Library Association P 134 CIT Scheme 52 Calcutta 700 014
IASLIC	Indian Association of Special Libraries & Inf Centres P 291 CIT Scheme No. 6 M Kankurgachi Calcutta 700 054	ILA	Indian Library Association A 40-41 Flat No. 201 Ansal Building Dr Mukherjee Nagar Delhi 110 009
IIS	Prof S. Parthasarathy Hony Director Instt Information Science 25 Peyalwar Koil Street Madras 600 005	MCI	Micrographic Congress India Care Nehru Memorial Library Teen Murti House New Delhi 110 011
INSDOC	Shri B.K. Sen INSDOC 14 Sansanwal Marg Spl Institutional Area Satsang Vihar Marg New Delhi 110 067	NISSAT	The Joint Adviser NISSAT Dept Scientific & Ind Research Technology Bhavan New Mehrauli Road New Delhi 110 016

**To be announced.

Pune	Prof S. C. Mahajan Deptt Library & Inf Science Jaykar Library Univ Pune Pune - 411 007	DRTC	Prof G. Bhattacharya DRTC/ISI 8th Mile, Mysore Road Bangalore 560 059
SMAC	Dr A. Ghosal, Soc Management Science and Applied Cybernetics CSIR Complex NPL Campus New Delhi 110 012	SIS	The Secretary Society for Information Science C/o PID Bldg., Hillside Road New Delhi 110 012

UNIDO Reference Guide for Developing Countries

This new UNIDO publication presents in a systematic way the factors that developing countries should consider when deciding to introduce industrial automation technologies in the production processes, mainly in the capital goods industries.

With the advent of the new technology associated with CAD/CAM, the performances of the small and medium engineering industries in many developing countries have been remarkably enhanced since early 1980s. In developing countries, small- and medium-scale enterprises have become aware of their technological deficiencies in turning out competitive products with respect to product design, cost and delivery dates.

The UNIDO publication presents three main topics, covering:

- The technological aspects of CAD/CAM with a description of the most advanced computer-aided design (CAD) and computer-aided manufacturing (CAM) technologies, explaining hardware, software and systems including work stations, displays plotters, computers, data bases and networks;
- Evaluation of available CAD/CAM systems through a detailed and clear explanation of how to compare systems and suppliers, the ramifications of purchasing turnkey systems, how to determine CAD/CAM needs and how to prepare a financial justification;
- Management approach for implementation of CAD/CAM systems, with indications of the changes at organizational level, and applications in solid modelling, group technology, computer-aided process planning, artificial intelligence, and personal computers applications of CAD/CAM for the small metal-working industry. The study finally presents a future outlook of CAD/CAM in the years to come.

This publication will be of interest to production engineers, managers and policy makers, and government officials involved in capital goods production.

Copies of *Planning and Programming the Introduction of CAD/CAM Systems* are available at a cost of \$US25. These can be ordered by writing to: the Chief, Documents Unit, UNIDO, P.O. BOX 300, A-1400 Vienna, Austria.

News and Events

CDS/ISIS Workshop

An advanced users/experts meeting cum workshop on CDS/ISIS, was organised under the auspices of UNESCO/NISSAT/NICMAP/CMTI Bangalore from 8 to 12 Jan. 1990. This is the first workshop of its kind organised in India. The 28 participants were users of CDS/ISIS including 2 from Malaysia. The objective of the workshop/meeting was to provide a forum for discussions with Mr. G. Del Bigio, Chief, Division of Software Development & Applications, UNESCO, Paris with emphasis on the special features of the new version, 2.3 and to provide solutions to the technical problems met by the users.

In his inaugural address, Mr. Murching, Director, CMTI emphasised the importance of information as a vital input to industries. He suggested the participants to share their experiences & exchange views in using the CDS/ISIS software package and make use of the expertise of Mr. G. Del Bigio.

In his keynote address, Mr. Del Bigio reviewed the development of CDS/ISIS package over the years, gave a brief resumé of training programs conducted all over the world and emphasised that CDS/ISIS is more than just a bibliographic information tool & indicated that the ISIS user population at present is about 5000.

Natural Resources Data Management System

NRDMS, a multi-disciplinary and multi-agency project of the DST developed a computer based decision-support system capable of storing and analysing spatial (geo-referenced) data on natural resources in conjunction with other relevant collateral data to facilitate development and management of natural resources at micro-level (district and below). Modelling capabilities, inbuilt into the system generated alternative planning scenarios. Launched in 1982, NRDMS was recognised as an S&T Mission Mode project during the VII Five Year Plan.

During the current phase of the project (1989-90), pilot scale data base centres were set up in 10 selected districts located in different geo-environments to gain an in-depth understanding of the availability of data, data flow structures and requirements of data for planning in a variety of settings. With the help of local authorities, a few application projects were identified to determine the efficacy of the approach in tackling real-life problems of decision making, such as soil salinity, water logging, ground water budgeting, land evaluation, land slides, drought mitigation and rural development.

Development of decision support modules for scenario building, facility location, strategies for appropriate development and allocation/distribution of resources are in progress. Software packages for optimal allocation and monitoring of resources in some of the important sectors covered under the Minimum Needs Programme e.g. rural water supply, health and education facilities and planning of road networks have been completed. These modules were

tested in the field by the district authorities. Notable progress was made in the development of an indigenous GIS (Geographic Information System) package. Modules for digitization, error check, overlay, print and display were tested. Simultaneously, the various image processing functions for data encoding, enhancement and classification were programmed. GIS was interfaced with the image processing modules to develop an integrated package for resource management.

NRDMS is founded on the principles of spatial data management and multi-disciplinary database forms its core. The spatial features of NRDMS which make it distinct from the other information systems are:

- it accepts data from different sources including remote sensing (satellite/aerial) products;
- it is capable of integrating spatial, sectoral and target group planning; and
- it is oriented towards capturing the specificity of the areas to help resolve area-specific problems.

NRDMS helps in —

- inter-relating different data sets,
- easy upgradation of data,
- minimising redundancy in data collections,
- improving data consistency, and
- efficient retrieval of data in the desired format i.e. tabular, reports, thematic maps, etc.

NRDMS was implemented with the help of a number of operational, R&D and academic institutions. The involvement of academia has helped in continually updating the methodology. The use and application of microwave remote sensing was recently inducted into the project. Synthetic Aperture Radar data secured over Nicobar Islands is being used to supplement the conventional database.

Training-cum-demonstration form an important part of NRDMS activities. Linkages were established with NICNET, NNRMS, Technology Missions and user Ministries to optimise the use of available resources and to provide a sound utility bias to the project.

NICRYS/CSD-ON-INDONET

This innovative scheme, being implemented on the CMC network, was demonstrated at the XXI National Seminar on Crystallography at Bhabha Atomic Research Centre Bombay, at the National Codata Conference — 1990 at University of Poona, Pune and at the National Symposium on Biophysics, Saha Institute of Nuclear Physics, Calcutta. A total of about 150 researchers attended the demonstrations.

Response to this scheme is slowly picking up, with interest being evinced by about 15 institutions throughout the country. They will soon be informed about procedures, modalities, etc. Others who wish to get hooked on to NICRYS/CSD-ON-INDONET should contact NICRYS office or the nearest CMC Office.

Information Technology and Libraries — U.G.C. National Seminar

A two-day national seminar on information technology & libraries was organized by the Department of Library & Information Science, Punjabi University, Patiala, during February, 1990. The Seminar was inaugurated by Prof. H.K. Man Mohan Singh, Vice-Chancellor, Punjabi University, Patiala. Speaking on the occasion, he said that information technologies with an infinitely superior potential to share and retrieve information and capability to transmit it instantly to near and remote areas have started what in professional idiom has come to be known as the Third Wave, following the first brought in by script and the second by printing.

Information technologies are providing new opportunities to libraries to expand their services and improve reader's access to literature. Libraries should redesign their internal systems to ensure better access to their collection within the library and without.

Shri S.C. Biswas (Director, Central Secretariat Library, New Delhi) said that information technologies — electronic and communication technologies have not been developed keeping libraries in mind. However, these have been adopted for libraries. The arrival of modern telephones, global television computers, satellite communication, fax machines have shown that no government would be able to totally control the flow of information and news to the outside world. He was of the strong opinion that there should be training courses for the faculty in view of the new Information technology.

Prof. P.B. Mangla (Vice-President, IFLA) in his presidential address observed that fifty two percent of the professionals in USA are engaged in information work. Teachers have an important role to play in the development of manpower for the library. They should have a curiosity of the new information technologies like computers, micrographics and Communication technologies.

Twenty two papers were presented at four technical sessions: Information Technology and University Libraries; Information Technology and Library and Information Science Education; Information Technology: Problems & Prospects and Information Technology, information centres and information tools. The sessions were chaired by Prof. T. Viswanathan (Director, INSDOC, New Delhi), Prof. Hussain Khan (Aligarh Muslim University, Aligarh), Prof. R.G. Prashar (Sagar University, Sagar) and Shri P.N. Sharma (TCRDC, Patiala). The Reporters for the Seminar were: Sarvashri M.P. Satija, Kuldip Chand, S.B. Ghosh, Arup Roy Choudhri, H.R. Katyal & Prof. H.R. Chopra.

Technology Information System

TIFACLINe is a nationally networked computerised and interactive technology information system aimed at providing information in several technology areas in a standard format and software. It is envisaged as a multi-user system, and as a source of value-added information for Indian technology.

Mechanisms for creation of TIFACLINe databases have presently been instituted at the following organisations:

Department of Electronics
Technology Development and Information Company of India

Materials Research Society of India at Defence Metallurgical Research Laboratory
Confederation of Engineering Industries
Centre for Development of Telematics
National Aeronautical Laboratory
Tata Energy Research Institute
Steel Authority of India
Bureau of Indian Standards
Central Food Technological Research Institute
National Informatics Centre.

During 1989-90, preparation of data bases for coal, sugar, etc., and related technologies was under progress. The Data Production Package (Software) for data producers, being worked-on by a software house, was nearly completed along with the User Manual. Detailed specifications for the main TIFACLINe Software for the host machines are now being drawn up for implementation.

More than 3,000 questionnaires were sent to directors and heads of government, public and private sector institutions to initiate the first phase of the TIFACLINe in-house database-Expertsbase. A preliminary database for EXPERT-BASE is now ready and is in the process of refinement.

A full-fledged marketing study was instituted to gauge the marked reactions to a service like TIFACLINe. This database will also eventually be made available online through TIFACLINe.

At present, a Pilot Project is under implementation. This phase of TIFACLINe is intended to be available for a demonstration in 1990, with a few hosts in Bangalore and Delhi connected through a section of the TIFACLINe system.

Hardware has been installed with data producers at the R&D Centre for Iron & Steel (SAIL), Ranchi, Tata Energy Research Institute, Bhabha Atomic Research Centre, Defence Metallurgical Research Laboratory and at the Bureau of Indian Standards (Manak Sandarbhika). Data was collected and arranged. TERI prepared its own classification system and created about a hundred records.

National Management Information System

The NMIS Scheme which was launched during the Seventh Five Year Plan became operational during 1988. An Advisory Committee set up under the Chairmanship of Secretary, DST, with members drawn from various S&T Departments/Agencies provided the overall guidance. Major achievements during the year 1989-90 are:

Computerised Database — Steps were initiated to create a database of Parliament Questions and Answers concerning DST, International Agreements in S&T Cooperation etc. A database on existing computerised S&T Information Systems was in progress. The NMIS created computerised database for —

- Nearly 4000 R&D projects and 400 sophisticated equipment funded by various S&T Departments/Agencies.
- Technologies from India, with about 3000 records.
- 1950 publications of all the Scientific Departments/Agencies.

Manpower Development and Interaction with State S&T Councils — Manpower development through hands on

training in databases and supporting software was taken up both within and outside DST. Workshops on MIS-literacy and end-user computing were held in association with the State Committee on Science and Technology, Trivandrum and the Institute of Applied Manpower Research, New Delhi. Two more such Workshops were also planned in Bhopal and Jaipur. A user awareness seminar on online access to international databases in Geosciences and related areas was held in Bangalore in July 1989. About 220 persons were trained directly through the above mechanism.

Dissemination of Information — Ten different types of publications/information products were brought out by NMIS during the year. Notable among them were — Directory of Equipment funded through DST Schemes; a Guide Book on MIS-literacy and End-user computing; reprint of R&D Funding Schemes of Central Government Departments/Agencies with supplementary information; MIS alerts as short and crisp visuals reflecting the trends in R&D Funding (Extramural); Technologies from India etc. The computer based databases were loaded on the systems of various S&T Departments/Agencies, State Councils on S&T; etc.

Standardisation of Formats — For the first time a common input format for R&D projects and a Front Sheet for publications of S&T Departments were brought out and accepted by all the S&T Departments/Agencies.

The NMIS continued to support TIPS, a project aided by UNDP as a pilot in creating a network for the exchange of technological information having commercial viability.

NMIS provided support to several activities related to MIS development, such as, the International Conference on Databases and Networks held in New Delhi in early 1989.

INTIB Link-up with Commercial Databases

The Industrial and Technological Information Bank of UNIDO (INTIB) has widened the services offered to members of its world network through agreements for access to two important commercial data bases.

This means that regional and national Focal Points will now be able to draw on the information resources of the Food Science and Technology Abstracts (FSTA) and the METADEX data bases. INTIB will receive the data bases on magnetic tape and transfer them to floppy disks, using ISIS software, to run on personal computers. In both cases, the owners have agreed to provide monthly updates of the data bases, free of charge, for a two-year trial period.

FSTA is the machine-readable version of the journal of the same title, published by the International Food Information Service in Frankfurt, Federal Republic of Germany, and Reading, United Kingdom. It contains abstracts on all fields of food science and technology, such as microbiology, toxicology and hygiene, economics and statistics, packaging, beverages and various categories of foodstuffs.

More than 1,800 periodicals are regularly scanned, as well as books, conference proceedings, reports, dissertations, standards, legislation and patents. Over 350,000 items are available in FSTA, and 1,700 references are added with each monthly update. The language of the data base is English, but it includes translations of publications in over 40 languages.

The Frankfurt Service was set up in 1968 by four organizations of international repute — CAB International in the United Kingdom, GID in the Federal Republic of Germany, IFT in the United States of America and PUDOC in the Netherlands.

The METADEX data base is the machine-readable equivalent of Metals Abstracts, which began in 1966, and is published by Materials Information. METADEX covers the alloys, intermetallic compounds and metallurgical systems of ferrous and non-ferrous metals, focusing on materials, properties, processes and products.

By early 1989, METADEX contained 845,000 records; 4,000 are added each month. Some 1,900 periodicals in English and other languages, as well as conference proceedings, reports, books and patents are scanned by Materials Information to feed METADEX and other data bases.

MEDLINE — CDS/ISIS

Since January 1990, INSERM (Institut national de la sante' et de la recherche medicale) offers a Questel Plus-CDS/ISIS interface for the use of SDI MEDLINE-diskettes under the mini-micro CDS/ISIS software package.

MEDLINE, the major biomedical database with its five million references to journal articles published worldwide from 1971 onwards, is produced by the National Library of Medicine (Bethesda, USA) with INSERM's participation for French data.

In June 1987, MEDLINE was loaded on the Télésystèmes Questel host in Valbonne (France), under the Questel Plus software. French keywords were added to the original English ones thus making MEDLINE an entirely bilingual database accessible with a bilingual software.

INSERM offers SDI MEDLINE-diskettes for those who wish to create in-house databases using MEDLINE references, without tiresome manual data entry and problems linked to downloading (necessary hardware and host connection, possible interference, good knowledge of user-host dialogue).

These SDI products are selections, provided on micro-computer diskettes, of bibliographic references with abstracts extracted on the basis of user-defined themes, from the 1,400 new references entered into the database every fifteen days. Annual subscription includes 24 bi-monthly updates.

Up to now, mini-micro CDS/ISIS users could not take advantage of the SDI MEDLINE-diskettes service. IMA (information medicale automatisée), INSERM's Documentation Centre, now offers this possibility.

A MEDLINE interface program, developed using CDS/ISIS integrated programming options and available free-of-charge (on a diskette), automatically carries out the following operations:

- converting MEDLINE data in ASCII format into the ISO-2709 format recognized by mini-micro CDS/ISIS;
- setting-up of a CDS/ISIS database structure accepting MEDLINE references after conversion, including selection of information to be indexed, indexing parameters and definition of MEDLINE's specific display formats.

The MEDLINE-CDS/ISIS interface program hence allows the import of references supplied on diskettes and their indexing.

Title, author, source and keyword fields may be searched.

Among available display formats the full MEDLINE format is the default for the CDS/ISIS-based in-house MEDLINE subset.

ChIN: International Chemical Information Network

An International Chemical Information Network (ChIN) will be created in 1990, with the assistance of Unesco/PGI and in co-operation with UNIDO.

ChIN is planned as an international non-profit association of cooperating institutions and individuals, committed to international cooperation and assistance in development, whose main aim will be to launch and carry out activities to promote chemical information as an efficient means for national and international cooperation and development in the chemical sciences.

The preparatory phase which started in 1988 at the initiative of Unesco/PGI has led up to the formulation of a planned schedule of activities in 1990 for launching ChIN, together with a brochure on the proposed objectives, programme, organization and working procedures of the network. These documents have been sent to prospective members inviting them to submit their critical evaluation and suggestions for amendments as well as to join the network as full member.

The brochure is being widely circulated to promote interest in ChIN which is open to all institutions and individuals dealing with chemical information. It may be requested from the Interim ChIN Secretariat: *International Centre for Chemical Studies, Vegova 4, P.O. 1811, 61001 Ljubljana, Yugoslavia.*

Now APINMAP Has 13 Members

Two new member countries have recently adhered to the Asia Pacific Information Network for Medicinal and Aromatic Plants (APINMAP): Indonesia and Malaysia. This brings the total number of members to 13, the other countries having joined the network since its inception are: Australia, People's Republic of China, India, Republic of Korea, Nepal, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Thailand and the Socialist Republic of Vietnam.

The Top Ten Programs

The top 10 programs, which represent nearly 70 percent of U.S. government's PC software purchases, form a list with few surprises. According to a ranking of programs compiled by GTSI, in December 1989, Word Perfect was the top seller, Lotus' 1-2-3, at number two, was the top spreadsheet, and dBase III and dBase IV the main data base management programs, at number three and number six, respectively. Harvard Graphics, a graphics program from Software Publishing Inc., was the fourth top-selling program.

All four are practically standards in federal offices, although Word Perfect does get some competition from Word

Star (number five) and Ashton-Tate's word-processing entry, MultiMate II (number nine).

What's hot besides the top sellers? Try project management software, desktop publishing, forms management and "personal information managers," or PIME.

ASTINET — Arab Scientific and Technical Information Network

Representatives from national and regional scientific and academic institutions met in Bloudan, Syria, from 9 to 16 September 1989 to discuss the establishment of ASTINET, a sectorial network to be created within the framework of ARISNET (Arab Regional Information System Network), including Arab academic and scientific institutions.

After having taken note of the state-of-the-art report made by a group of experts, the participants agreed to the launching of ASTINET which will be composed of three sub-networks, namely: MAGHREBNET, MECHREKNET and GULFNET.

A provisional Steering Committee was set up to promote ASTINET, and a General Assembly is planned for the end of 1990.

Further information from: SC/IIP, Unesco, Paris.

Science and Technology Policy Asian Network

The Centre for Technology and Social Change, based in Wollongong, Australia, has started the new Science and Technology Policy Asian Network (STEPAN) to link science planners in the region.

STEPAN has been established under the auspices of Unesco to support a more effective application of science and technology to planned development throughout Asia. It will operate through national focal points designated by governments and will integrate senior government policy makers and researchers.

Present member countries of STEPAN include Australia, Bangladesh, People's Republic of China, India, Indonesia, Republic of Korea, Malaysia, Maldives, Nepal, New Zealand, Pakistan, Philippines, Sri Lanka, and Vietnam.

Three programme areas have been identified for immediate action: development of human resources, development of targeted information and indicator systems, development of more effective management of R&D and linkage between R&D and the productive sector.

Software Packages for Structural Analysis, Design and Drafting

The Structural Engineering Research Centre (SERC), Madras, has been developing computer software for structural analysis, design, and optimization for the last several years. As part of this work, it has developed special purpose application-oriented programs for structures and structural elements such as frames, grids, shells, columns, beams, and slabs. Written in user-friendly interactive mode, these programs enable the designers to solve their design problems using even small computers which are now available with many design offices and consultants in the country. The

demand for these programs has been quite encouraging.

SERC, Madras, has brought out a booklet which lists all the salient features of these 13 programs, including terms for licensing.

The booklet (pp. 26) can be had from the Director, SERC, Madras 600113.

Coordinating Unit Created for Unesco Clearinghouse

The Unesco General Conference has allocated a sum of about one million dollars for the creation of a Clearinghouse within the Unesco Secretariat. This transverse programme for 1990-1991 biennium is divided into three sub-programmes:

- Strengthening the clearinghouse function
- Strengthening the Organization's library and archives services
- Development and dissemination of software (CDS/ISIS and IDAMS).

The revised budget for the first sub-programme amounts to US\$ 265,500. The second and third sub-programmes represent a continuation of ongoing activities.

A Clearinghouse Coordination Unit was therefore created in January 1990 and is headed by Ms Denise Pélissier, formerly of CNRS.

The main objectives of the Coordinating Unit will be:

- Preparation of a directory of available databases within Unesco
- Harmonization of the information-handling procedures used within Unesco
- Conducting a feasibility study for the establishment of a Clearinghouse at Unesco.

A directory of Unesco database will be published at the end of 1990. It will specify for each database the kind of information it contains, its geographic coverage, size, time-span of coverage and updating frequency. Unesco's databases are being developed by the various programme sectors (Education, Science, Social Science, Culture and Communication) as well as by central services such as the Library and the Statistical Office. There are now approximately 30 databases -- mainly bibliographic, referral and numerical. These database were mainly set up to produce printed publications (bibliographic bulletins, directories, etc.) but are gradually being made available in other ways.

In parallel, the harmonization of the information-handling procedures has begun. Special attention will be paid to the numerous referral databases which use different data formats. Plans exist for introducing a common format, possibly based on an extension of the CCF. Better dissemination and use of information contained in Unesco's databases will be studied in the light of the availability of new technologies (e.g. optical media and online access).

The feasibility study on the establishment of the Unesco Clearinghouse will consist of a survey of the various categories of users in Member States and their needs for services, a proposal for the organization structure of the Clearinghouse including human and financial resources, and a ten-year development plan.

The study will be discussed and decided upon by the General Conference at its twenty-sixth session in autumn 1991.

Macintosh-based Document Storage and Retrieval System

Micro Dynamics has introduced an Apple Macintosh-based document imaging system that can archive almost any type of electronic or hardcopy documents -- whether text, graphics, or image -- as well as application or data files on high capacity optical disks. The Micro Dynamics MARS (TM) Series 1000, 3000, and 5000 are the archive systems capable of automatically searching for and retrieving documents by word or phrase. The entire series uses Macintosh computers as workstations and file servers, WORM optical disk storage, a document scanner, and either Apple Talk or Ethernet networking. The 1000 series can accommodate up to 10 users; the 3000 series up to 20 users; and the 5000 series up to 100 users.

Bibliographic Information Development : UK Seminar

A three-week course for professional library and information services personnel from developing countries is being launched on 28 August 1990 by Institute of Development Studies at the University of Sussex.

The course is intended to help strengthen library/bibliographic information science in developing countries and to assist in improving services and systems in relation to user needs. It is aimed at giving practical training on information systems for libraries based primarily on mini-micro CDS/ISIS with demonstrations of other systems for comparative purposes.

Sessions will be organized around the following topics: information problems and solutions, information processing use of mini-micro CDS/ISIS, information dissemination, use of computer based systems and library management.

Participants should be proficient in English.

All IDS study seminars and study courses are residential and single accommodation only is provided.

Further information on IDS courses is available from: *the Chairman, Teaching Area Institute of Development Studies at the University of Sussex, Falmer, Brighton BN1 9RE, U.K.*

CD-ROM Products Offered

CD-ROM products and services like inhouse development system for preparation of data to distribution on CD-ROM discs and premastering to mastering of data are now offered by ABI Books Private Ltd, New Delhi. Besides consultancy for a turn-key set up and implementation of CD-ROM based information retrieval system are also available. Some CD-ROM data bases are also supplied.

Inquiries may be addressed to CD Division, ABI Books Pvt. Ltd., B-6 Skipper Corner, 88 Nehru Place, New Delhi 110019.

Bibliographic Database of CECRI Papers

The Library and Information Sciences Division of the Central Electrochemical Research Institute, Karaikudi has

brought out a compilation entitled "CECRI Research Output: A bibliographic database of papers 1953-89". The compendium/database contains references to about 2800 original and review papers published by the scientific staff of the Institute.

The subject matter is arranged under 9 divisions, namely, (a) batteries and Fuel Cells (b) Corrosion Science and Engineering (c) Electrochemicals (d) Electrometallurgy (e) Electrochemical Materials Science (f) Electrodecs, Electrobiology and Pollution Control (g) Industrial Metal Finishing (h) Electrochemical Instrumentation and (i) General. Under each division, the entries are arranged yearwise and under each year, alphabetically by authors. Author, source and year indexes are also provided at the end as various access points. An analysis part of these references is also appended.

The database has been created using dBase III plus and necessary search software has been developed and used for getting the output in the desired format. Analysis part is taken using Lotus 1-2-3.

Further information can be had from the Director, Central Electrochemical Research Institute, Karaikudi-623 006

CFTRI Technology Update Service

CFTRI has just launched a package of escort services under the above title to guide entrepreneurs involved in the development of food processing industry in the country. The package comprises preparation of technology profile reports, agro-resource studies reports on export markets for specific products, preparation of special reports based on literature survey, international price statistics, conceptual reports for new ventures and diversification, specific technology assessment report, project evaluation for financial institutions, preparation of state-of-art reports, CFTRI publications, etc.

In addition to these services, analytical quality testing services, renting out pilot plant facilities and use of highly sophisticated equipment, not available elsewhere, and special training programmes are being arranged in all the areas of food science and technology on priority basis at affordable rates. Small scale industries are offered special concessions and facilities.

Interested parties are invited to register with the Institute and obtain further details from the Chairman, Technology Application Division, CFTRI, Mysore-570 013.

Conference on Management of Data

Data management techniques have acquired increasing significance in the wake of unprecedented advances made in this field in recent years. The COMAD series of conferences are organised to discuss the emerging trends and to impart further fillip to developments in design strategies, evaluation criteria and maintenance of computer-based information systems. These conferences serve as a forum for interaction between R&D personnel, data-base

administrators and end users and facilitate solutions to diverse real life problems of data management. In this sense, the COMAD conferences are inter-disciplinary in nature and provide a meeting ground for professionals in this field.

Covering a wide range of issues, the conferences place special emphasis on original work connected with evolving techniques in databases as well as requirements formulation and systems evaluation of information systems.

This call is for papers reporting original work and technical innovation for inclusion in the proceedings of COMAD 90. All papers shall be refereed and selected papers shall be published in the conference proceedings. Papers are invited on the following topics:

- Centralized and distributed database management
- Semantic models
- Knowledge base management
- Deductive databases
- Low-quality information: handling inexact, incomplete and uncertain information
- Object-oriented databases
- Information systems methodologies for whole life cycle
- Evaluation of information systems
- Specialized databases like image and geographical databases
- CASE tools for computer assisted data design

Papers in triplicate neatly typed in English should be sent to Shri Naveen Prakash, Department of Computer Science & Engineering, Indian Institute of Technology, Kanpur-208016.

The last date for receipt of papers is July 15, 1990 and for revised camera ready copies, Sept. 30, 1990.

Doctorate for DESIDOC Director

For his thesis on 'Design of an online bibliographic information network for a multi-unit R&D organization', Shri S.S. Murthy, Director, Defence Scientific Information & Documentation Centre, Delhi, has been awarded PhD degree by the Gulbarga University, Gulbarga.



The thesis examines the different types of networks — their topology, functions and services, advantages and disadvantages, viability in different situations, and so on. The design considerations of networks are covered and a model of an online bibliographic information network is presented along with its implementation aspects. Trends in online networks—both national and international—are presented.