3rd National CD-ROM / Online Users Group Meet

August 9-10, 1994

at

CLRI, Madras

Objective

To provide a forum for users to share experience, ideas & skills on various aspects of CD-ROM & Online technologies.

If you wish to

- participate
- make a presentation
- demonstrate your product

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nissat

Integrated Market Development: Needed Shared Interests, Shared Goals

With the emergence of private enterprise in the recent past, there has been a change in the information market scenario in India. The development has been sporadic though, and the impact is yet to be felt. The future of these ventures is tied up mostly with big banners having interest in other fields; strategy-wise, the trend is welcome because this may reduce the chances of infant mortality. But the question is how the two sets of profit and non-profit organizations, could coexist for harmonious growth.

It is well to recognise that those which start off with self-sustenance or profit motive may ultimately break even. The public or public-supported institutions under financial pressures, attempt to market a cocktail of social welfare with a dash of a half-hearted extra-budgetary resource mobilization. Such initiatives are likely to continue indefinitely in their present state of despair. However the future lies in a solution of the jig-saw puzzle of matching the strengths and weaknesses of the two sets of institutions for an integrated market development.

If this be so, the first task is to identify these strengths and weaknesses. The public institutions under whatever financial crisis they may be, are still resource-rich and have fairly high infrastructural and skill base; what is lacking is the work culture and conducive environment. Whereas, the profit institutions have clear goals, flexibilities in operation that could help in attaining these goals and most importantly, the business sense that does not tolerate ambiguities. However, they do not have adequate access to information sources/resources and inexperience. The two sets of players serve an information user community which is not information-literate, non-demanding and at the same time not much willing to pay for information services.

Under the circumstances, what could be the role of national programmes like the NISSAT? Opening up the information resource base of public institutions should be at the top of the agenda. In this context, the initiatives of the Department of Trade and Industries, UK on tradeable government information, and encouragement of the French Minitel videotex facilities to private parties for database development is very relevant.

What needs to be done is not very clear at this stage. For a programme like NISSAT, the temptation may be to adopt the soft option of providing financial support in the form of grants, loans, etc. That would be easy but trivial. The profit institutions perhaps require initially a forum in which all those concerned with the information market could interact on subjects of mutual interest. The need for such a forum was also voiced during the INFOTEX 93. The inter-agency committee which dealt with the 8th Five Year Plan for NISSAT has given a clear direction to this effect. So, let's get cracking!

— A. Lahiri

NISSAT

NEWSLETTER

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Calcutta Library Network Inaugurated

The Calcutta Library Network (CALIBNET) was inaugurated on 21 December 1993 by Prof. S.K. Sen, Minister-in-Charge for Power, Science & Technology and NES, Government of West Bengal at Jadavpur University Campus. The formal inauguration of the system took place in the Network Services Centre (NSC) of CALIBNET in the same campus.

A large number of invitees, including senior professionals in library/information, computer and communication fields, attended the function.

A Dream Come True

Prof. Sen observed that launching of CALIBNET was a dream come true. Indeed it was so for him. As Vice-Chancellor of Jadavpur University he was amongst those who conceived CALIBNET and closely followed its implementation. In a reminiscent mood he recalled the day in 1986 when a group of scientists, academics and scholars of Calcutta — Dr. A.P. Mitra, the then

Secretary, DSIR and Director General, Scientific & Industrial Research amongst them — envisioned a computer-based library network in Calcutta to introduce a cost-effective and efficient information processing and retrieval system for nurturing advanced learning, research and other scholarly pursuits in this metropolis. Prof. Sen stressed that while resource sharing amongst libraries is the byword of the day — speedy access to information contained in world literature cannot be ignored. With the launching of CALIBNET, a new era of fast and efficient electronic access to information had dawned. He said that CALIBNET could now develop to its expected stature only when the two entities involved, i.e., the operators of the network and the users of its services come together and make a common cause for the network's development. CALIBNET must prove its mettle in efficiently servicing the information needs of its potential clientele, and the clientele must take full advantage of its services and make more and more demands on it to open up new dimensions of growth. Prof. Sen expressed the hope that

Prof. Shankar Sen, Minister of Power, Technology and Environment Inaugurating the CALIBNET System

CALIBNET would not confine its services to only those which could be offered by tapping only the networked libraries, but would widen its range by linking itself with other networks emerging in the country, extending facilities of searching international databases — online or held on CD — ROM — and by providing SDI and other user-specific information services.

Warm Welcome

Dr. A. Lahiri, Joint Adviser, DSIR, (sponsor of CALIBNET) welcomed the distinguished audience and described CALIBNET as a dream project and traced the conceptual and organizational framework of CALIBNET and its implementation mechanism. He briefly talked about the other networks launched or emerging in the country, under NISSAT's initiative, e.g., DELNET, BONET, MALIBNET and PUNENET, which will be interconnected along with CALIBNET to eventually establish a nationally pervading information services base. CALIBNET was a departure from other networks, he said. While DELNET, is run only on E-MAIL supported by courier, CALIBNET is a true library network. It has adopted UNIMARC format after protracted discussions, evaluation of baseline data on libraries to be networked and, more significantly, obtaining views and opinions of international experts on exchange formats. It has developed its own software 'MAITRAYEE' with a modular approach, encompassing total automation of house-keeping and library management functions, user services and networking. The institutions in the current phase, particularly those in Rajabazar and Jadavpur clusters, are interconnected by dedicated telecom lines. Dr. Lahiri also introduced the NISSAT Card concept which essentially is a universal card system. If library usage has to be more pervasive, a mechanism to facilitate borrowing books from a library by a non-member needs to be established. NISSAT Card will serve this objective and will provide back-up support to CALIBNET and other networks. CALIBNET has just germinated with the potential of developing into a full-fledged library network. He exhorted the librarians and intellectuals of Calcutta to work together and develop it.

Prof. S.K. Roy of the Department of Radiophysics and Electronics, Calcutta University, a proponent of CALIBNET and closely associated with it, held that in this electronic age, information storage strategy has to be replaced by information access strategy. Months spent earlier by researchers in gathering information relevant to their work will now be reduced to a few seconds. CALIBNET is a social movement, and the section of the society to whom it is addressed must come forward to nurture it.

A section of the distinguished audience

Dr. K.K. Krishnankutty, Chairman-cum-Managing Director CMC Limited considered it a privilege for his organization to be associated with turn-key implementation of this pioneering and challenging project. He assured that CMC Limited will mobilise all the resources at its command to make CALIBNET operationally impeccable.

Prof. A.K. Deb, Acting Vice-Chancellor of Jadavpur University was sure that the University will immensely benefit from the CALIBNET system and would contribute its mite for its success.

Prof. S.K. Mukherjee, former-Vice Chancellor of Calcutta University, and Chairman of CALIBNET Coordination Committee, who presided over the function, cautioned that the present elation over launching of CALIBNET must not give room to any complacency in enhancing its operational viability. He urged the participating institutions to accord top most priority to creation of local databases in their respective libraries. He commended the work of CALIBNET standardization Committee for laying the technical foundation of CALIBNET and upheld the Commitee's decision to adopt UNIMARC as the format. Being the most pervasive amongst the bibliographic exchange formats, UNIMARC will enhance the scope for eventual exchange of information with libraries and information centres in other nations — Prof. Mukherjee thanked all those who contributed towards the implementation of CALIBNET.

The vote of thanks was proposed by Shri A.C. Mitra, Co-ordinator of CALIBNET.

The speeches and related formalities over **Prof. S.K. Sen** formally inaugurated the CALIBNET system at Network Services Centre of CALIBNET (NSC). From the NSC, Prof Sen accessed over dedicated telecom lines a remote database held on CALIBNET computer terminal in Indian Association for Cultivation of Science, carried out searches on a topic of his choice, and retrieved a file of references. The flawless operations like remote log-on and database access, database search and file transfer between NSC and IACS computer terminals greatly impressed Prof. Sen.

Pragmatic Approach

CALIBNET is being established with a highly pragmatic approach in the present day national context, i.e. introducing a cost-effective modernistic means to provide information support to academic, research and other scholarly pursuits and help official functionaries and decision-makers as well. CALIBNET will stimulate and sustain resource sharing amongst libraries with a view to curtailing import of expensive books and journals thereby, reducing outgo of foreign exchange. Thus, it will serve the dual objectives of nurturing intellectual activities and saving of scarce foreign exchange

Prof. Ashok Mukhopadhyaya (IIM Calcutta) explaining the Network features to Prof. Sen

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as well. As a corollary, CALIBNET will provide efficient and reliable means of interlibrary user services, document copy and transfer facilities and access to national and international databases.

Unique Features

CALIBNET has certain unique features and to achieve them it had to perforce tread an arduous path:

- CALIBNET envisages retro-conversion of existing catalogue records in its participant libraries into machine-readable format and created capabilities of remote log-on and online searches of these local databases and transfer of files and documents across the libraries, all by using its own application software 'MAITRAYEE'.

- CALIBNET has shunned the easier path of importing necessary software off-the-shelf from abroad and instead opted for developing its own software 'MAITRAYEE' Version 1.0. In the process it has attained (a) self-reliance in software development in the field of total library automation and (b) saved considerable foreign exchange.

- CALIBNET libraries in the Rajabazar and Jadavpur clusters — about 20 km apart — are inter-connected through dedicated telecom lines which had to be procured from DOT and Calcutta Telephones.

The National Information System for Science and Technology (NISSAT) of Department of Scientific & Industrial Research (DSIR), GOI, took the initiative in setting up CALIBNET. CMC Limited, Calcutta is implementing the network. A CALIBNET Coordination Committee, under the Chairmanship of Prof. S.K. Mukherjee, former Vice-Chancellor of Calcutta University provides the necessary guidance. The CALIBNET Standardization Committee, under the Chairmanship of Prof. P.K. Mahapatra of Department of Library Science, Calcutta University guides the CMC Limited in development of the CALIBNET application software, christened 'MAITRAYEE', and decides standardization issues.

The objectives of CALIBNET are:

1. To significantly improve resource utilization and service levels to patrons at the individual libraries by providing automation facilities for all house-keeping functions and user services such as:

   — Acquisition and Fund Accounting
   — Serials Control
   — Cataloguing
   — Circulation
   — User Services

2. To operationally enhance resource sharing by providing individual libraries and their access to composite databases of:

   — Union Catalogue
   — Partial STIS databases
   — Current awareness and SDI
   — Subject profiles

3. To provide efficient and reliable means of:

   — Inter-library user services
   — Document copy and transfer facilities
   — Access to national and international STIS databases.

The CALIBNET programme has gone a long way in the development of MAITRAYEE — the software for total library automation and their networking — manpower skills for operational staff, establishment of telecom connectivity, retrospective conversion of bibliographic records, and more significantly in catalyzing the preparedness amongst the participant organizations in this endeavour.

The institutional libraries of Indian Association for the Cultivation of Science, Jadavpur University (Central Library), Indian Institute of Management, Bose Institute, and Institute of Radio-physics & Electronics and Rashbehari Prangan Central Journal Library — both of Calcutta University, have already joined CALIBNET and are poised to offer electronic access to and help sharing their vast bibliographic resources. Retrospective conversion (RETROCON) of their records into machine-readable form is underway. The Asiatic Society has also joined CALIBNET. In addition, INSDOC — the premier national information centre, through its Regional Centre, (Calcutta) has joined CALIBNET with the prospect of accessing its wide array of databases and information services. The Institution of Engineers (India) with its country-wide centres is expected to participate in the CALIBNET venture.

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The implementation of CALIBNET was originally conceived to cover only S & T libraries. Since it is difficult to differentiate between S & T subjects — as many libraries have a mixed collection — and it is not desirable to have a parallel network to cater to non — S & T libraries, the subject demarcation has been dispensed with. CALIBNET now invites any library, irrespective of its subject orientation, to join its fold. The Network envisages connecting around 60 libraries of Calcutta. However, for those libraries which face constraints of funds to acquire hardware and software systems at a higher level, as a prerequisite to joining CALIBNET in its original approach — total automation of libraries and networking — a low-cost E-Mail network approach has now been introduced, so as to benefit a wider clientele of libraries and library users.

Metropolitan Area Network

CALIBNET is a Metropolitan Area Network (MAN). Each institution will hold processed information on local computers, connected with each other through X. 25 packet-switched network. One of them acts as the host — the Network Services Centre (NSC) — and provides global user services.

Within the individual libraries, the functions that will be automated are: acquisition and fund accounting, cataloguing, circulation, serials control, and local user services. Users will be able to locate books and serials through Online Public Access Catalogue (OPAC), Keyword and SDI searches. The built-in 'Thesaurus Module' helps users to locate items even on the basis of allied terms.

The networking services component will enable CALIBNET libraries to query any remote library hooked on to the Network; transfer files and documents across libraries; and exchange messages and replies to queries made by any of the networked libraries through Electronic Mail (E-Mail).

The NSC, will create and maintain union catalogues, central authority records, union list of serials and partial databases from external sources. It will provide centralized services such as online search, e.g., of international databases offered by DIALOG services of Lockheed; search of international databases held on compact discs (CD-ROM); and CAS and SDI services. The NSC will also extend consultancy in library computerization, training and HRD, and assistance to nodal libraries on standardization, local automation, and

onetime library services, e.g., bulk data entry, RETROCON, and preservation support. It will, in effect, manage the entire Network system. Additionally, it will be engaged in research and development in library automation, networking and related areas.

CALIBENT features Available through Its software MAITRYEE

Features	Benefits
● Integrated Environment	Both library computerization and networking through the same platform.
● Pluggable feature	Simple upgradation on the core.
● Open system with UNIMARC	ISO 2709 based machine readable acquisition and cataloguing; generic format for communication.
● AACR2 (level 3) access points	Automatic access point generation with browsing; user defined access points.
● Catalogue card generation	Automatic card generation with card formatting (with user defined fonts)
● Multiuser queuing with inbuilt priority	Well defined reservation management.
● Front desk and backed working	OLTP features for front desk operation.
● Keyword and Thesaurus service	Extensive search facilities on Online Public Access Catalogue (OPAC) over network.
● ILL	Inter-library loans between Participant Institutions.
● Network facilities	File transfer, remote login and electronic mail.

CALIBNET looks forward to a bright future with widening of its horizon by offering various options of joining its fold in terms of reduced capital and recurring costs and connectivity modes. It covers a wide gamut of disciplinary interests and looks forward to enlisting a correspondingly wide array of information seekers. It will function as a Registered Society to provide for itself the flexibilities of operation and expansion that a 'Society' structure offers.

— A.C. Mitra
CALIBNET Coordinator

INFOTEX '93
Unfolds the Changing
Information Scene

A four-day international conference was organised in New Delhi during 28 Nov.- Dec. 1993 to study the design, development, production and distribution of databases. The theme of the conference was set in seven different sessions namely, (1) Intellectual base for database production, (2) Production technology for database industry (3) Full text databases, (4) Retrieval Engines (5) Online and CD-ROM (6) Impact of new media and technology on publishing and global dissemination and distribution of information resources (7) Marketing, opportunities in the developing world. The conference was sponsored by SIS and several others. The overall purpose of the conference was to:

1. To focus on the need for creation of databases as an organised activity and to develop it as an industry.

2. To discuss information technology infra-structure required for creation, distribution, access, retrieval, and management of database.

3. To understand local needs and global opportunities and India's capabilities in this estimated US $12 billion (Rs. 36,000 crores) industry. The conference was held in Bangalore at Taj Residency during 28th November — 1st December 1993.

Prof. M.G.K. Menon, a distinguished scientist, science-administrator, inaugurated the conference. Highlighting importance of information and its activisation for socio-economic development, Prof. Menon said that data and database development called for quality inputs. Reliable data and its organisation is needed for quick access to its users. Information is vital. He said the generation of information is faster than the methods of processing it for flow and transmission. To illustrate how the rate of flow (ie. production and transmission) of data is much larger than it can be

Dr N. Seshagiri giving the keynote address

effectively handled and fruitfully used, he gave the example of 15 trillion bytes of data generated in one day a single satellite for NASA. He said access to information is a hallmark of democracy. He also pointed out that the dictational centre of information can cause political changes like what happened recently in Russia ultimately open information will prevail.

Delivering the keynote address, Dr. N. Seshagiri, Special Secretary, Government of India and Director-General, National Informatics Centre, said that there was tremendous scope for Indian information industry in view of the availability of low cost and highly intelligent man power. He also described the proposal of NIC in collaboration with premier S & T organisation in Russia, was capable of producing Databases of world class need and use. He called for sustained efforts from industrialists, entrepreneurs, information professionals and government to support the development of database industry in India. Prof. Donald Kraft, (Louisiana State University, Baton Rouge, Louisiana) delivered the Presidential address (presented by Mr. Michael Neale of Reuters (UK) Ltd., New Delhi). He identified the factors that affected informatics industry, particularly in transferring information to

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appropriate point of use. The utility of CD-ROM as a portable and yet compressed source of information that can reach a vast majority of population was emphasized. He also referred to the trend of producing faster modems and telecommunication lines which provide appropriate means to international databases. But the regulating aspects of legal, economic, political, social and cultural matters are yet to be completely sorted out for public information to flow into various points of access. He also touched upon the search for information. The definition of information needs and translation of those needs to a formal query is still a difficult and not well understood process. The problem lay in determining which database to search and how to approach the training. This is turn has important implications for education in developing countries.

Prof. R.G. Gupta, President SIS, and Dr. I.K. Ravichandra Rao, Conference Director, highlighted the basic issues relating to resources, technology and management employed in database production and distribution. There were about 40 presentations of technical papers from India, UK, USA, Thailand and Canada in seven technical sessions. More than 250 database producers, vendors, and users registered as delegates of the conference and 18 exhibitors set up stalls Prof. N.R. Shetty, Vice-Chancellor of the Bangalore University released the special publication "The Hindu Speaks on IT." He called for right use of informatics for qualitative and quantitative socio-economic development. Shri J. Amaran introduced new developments in IT products and introduced the exhibition. Shri N.M. Malwad, Chief Librarian, Indian Institute of Science, Bangalore proposed a vote of thanks.

On 29 November, 1993 Shri M.S.S. Varadan, (Om Consultants India Pvt., Ltd., Bangalore) opened the exhibition for public. He said that the value of information products cannot be understood unless it was demonstrated. Thus, the exhibition formed one of the best ways of transmitting information and informatic products.

In the seven technical sessions, which consisted presentation from 50 authors, the following points were made.

1. The design, development, production, distribution and marketing of database products should be customised towards basic information needs of searches and seekers of knowledge. Cognitive aspects of users searches, and the modelling searches, interfacing devices and systems to help the user assimilate the information contained in the database are to be studied. The cognitive studies in this context provided the intellectual base needed for the design of database and its use. The new media — electronic, newspapers, hypertext, and CD-ROM technology acted as harbingers of the new era of databases.

2. The database production technology presented a diversity of flexible technology to capture, process, store, transmit, display, access and present information to increasing variety and needs of information users. The new technology of information coming from a variety of sectors, namely computer science, communication systems, user-systems, satellite and telematics device, automation, systems and other cognitive devices emerging from pattern-recognition, provide scope for production of databases in a variety of forms, display, and process of information.

3. The "Retrieval Engines" shared the capabilities to handle the implicit and explicit aspects of searching of databases, providing a multimedia access to information services. It called for a multi-lingual menu based user search engine. This could be completed by integrating several access strategies already in use with hypergraph based search models. Such systems would help overcome the limitations of traditional exact match search and described the "best-match" retrieval technologies. Systems for large complex retrieval engines/searches were also in the offing.

4. Quality and quantity data formed the focus of good database productions. It calls for utmost care, credibility and intellectual reign to collect and present these data. Once filtered such data systems could form to generate value-added database products to help decision making, problem solving situations.

The NISSAT stall won a trophy for displaying the widest range of information products and services

Dr Ashok Souta, Chairman MAIT presenting a trophy to Dr A. Lahiri Jt Adviser, NISSAT

5. Database products result from continuous updating of inputs of information from a variety of sources. It also calls for retrospective conversion and change of formats of data/information held in a variety of forms and formats: Current state-of-art technology can focus on these issues to generate new types of database products to people in different environment.

6. Database production industries, currently in operation, appear to be meeting the needs of developed or advanced countries. But, the information inputs needed for developing or poor countries are not yet formulated. This calls for indigenous development of databases, as well as continuous supply of inputs into international databases from India and other developing countries.

7. Information systems infrastructure is fast developing in India and being made user friendly to meet the needs of Indian end-users as well as persons from abroad. Though emerging at a slow pace, the infrastructure is expected to spread to provide access to information users in different environments. Case studies of systems operation show that there is greater user adaptation to the database products in India.

8. The computing and communication infrastructure for database calls for vast storage of information. Research is under way to reduce the cost of telecommunication without sacrificing the speed and accuracy of transmission. CD-ROM is also increasing its capacity to compress, store and retrieve. Good interfacing devices have been developed. However, in India efforts should be made to make telecom facilities easily accessible and usable for database industry. The database producers, entrepreneurs and marketers should make concerted efforts to persuade governments to promote conducive telecom facility with least cost and value to customers.

9. Development of database professionals should be systematically planned. Educational institutions at all levels should promote skills needed for database production, distribution and use. Formal training courses for database professionals and end-users need to be developed.

In the valedictory session Shri Ashok Suota, Chairman, WIPRO (India) Ltd, said that bold steps must be taken to make India an intelligent user of database technology.

— M.A. Gopinath
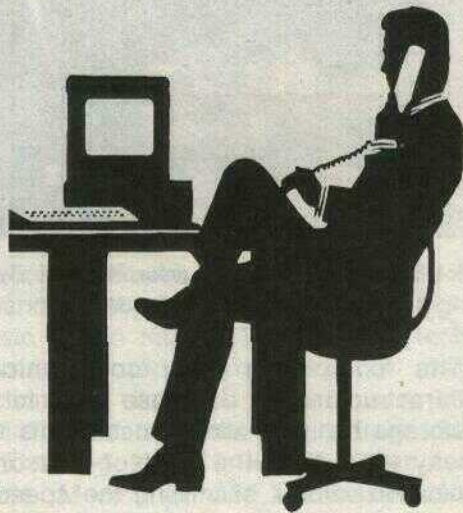
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Bibliometrics, Informetrics & Scientometrics

Last November a brain-storming session on the above area of study was held at NISTADS, New Delhi with the intent of evolving a National Programme of Action. Though the November meet was confined to participants from Delhi, we are aware of the wealth of talent and expertise available in other parts of the country.

These ideas and resources from all over could be pooled together to build an infrastructure which will help promote and advance developments in this area.

We invite our friends to come forward with bright ideas, projects, recommendations, etc. Never mind if they are not complete or finished in all respects. The missing links could be put in place on a second or third scrutiny.

Meanwhile take a look at the following recommendations which emerged from the November 1993 session. They may jog your **think tank** and throw up some bright ideas.

Recommendations

The consensus was that scientometric research should be regarded as a means of understanding the process of the evolution of science, its health, structure and dynamics, rather than merely as an evaluative tool. This is also the practice followed by other countries such as USA (NSF), France, Japan, Australia etc. Solla Price had envisioned scientometrics to become a hard science like econometrics. Scientometrics has followed the trajectory of econometrics in the use of quantitative data, concepts and models and extensive use of mathematical and statistical techniques of modeling and data analysis. Scientometrics provides an understanding of the structure of scientific activity, the disciplines being researched, the organisations involved, the strengths and deficiency in the scientific groups and their communication channels at different levels of aggregation. This information supports decision making process. Just as econometrics has as yet limited instrumental use in taking a particular decision on a specific issue, scientometrics is not to be viewed as a decision making tool. The inclusion of scientometrics data and analysis in the reports of science indicators of USA, France and Japan is an example of such conceptual use of scientometrics study.

In the light of the above, the following programmes were recommended:

1. National Mapping of Science

The available expertise can be pooled together and reoriented towards use of mathematical and statistical models for preparing national reports of the type prepared by NSF or Royal Society under the concepts of "health of science."

Objectives	:	The immediate objective would be to produce an atlas showing the direction of change and structure of research in various disciplines at different levels of aggregation along with international comparison. Simultaneously attempts will be made to examine possible economic sectoral information that may be usefully culled out from the atlas for preparing technology atlas in future.
Methodology	:	Informational parameters of science such as publication, patents, journals etc., will be used along with models of ageing, scatter of information, communication processes and techniques such as co-citation co-word analysis, cluster analysis etc. Possibilities of incorporating non-science information parameters such as manpower, R & D funds etc., contained in the R & D Statistics published by the DST will be explored. This is necessary as the existing state-of the art in scientometrics is not matured enough to handle such non-informational data.

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<table>
<tr><td>**Project Team**</td><td>:</td><td>Team members would be drawn from agencies such as ICMR, ICAR, INSDOC etc., that have identified units for scientometrics work and individual researchers working in this area.</td></tr>
<tr><td>**Timeframe**</td><td>:</td><td>The project would be completed in two-years time. The atlas thus produced would form the basis for deciding the future course of action for the preparation of such reports on a continuing basis.</td></tr>
</table>

2. Training Programmes in Modeling and Statistical Methods

<table>
<tr><td>**Objectives**</td><td>:</td><td>To reorient the existing capabilities in scientometrics and to generate new capabilities in the use of modern statistical and mathematical modeling technique.</td></tr>
<tr><td>**Methodology**</td><td>:</td><td>The Associateship programme of INSDOC would be used to include modern methods of statistical analysis. Students with aptitude for mathematics and statistics may have to be given preference in admission. In addition programme for hands-on-training in the use of relevant statistical and modeling packages would be organised for those already working in scientometrics.</td></tr>
<tr><td>**Project Team**</td><td>:</td><td>Those who have already demonstrated capabilities in modeling and statistical analysis will provide the core faculty. The participants will be selected on the basis of their aptitude and commitment to reorienting their work away from traditional bibliometrics.</td></tr>
</table>

3. Research Programme on Models of Growth of Knowledge

<table>
<tr><td>**Objectives**</td><td>:</td><td>To develop methodologies and models for capturing socio-historical dimension of the growth of scientific knowledge. Models would attempt to elucidate the various stages of development in a field, the structures of scientific communities, validation and closure of scientific problems.</td></tr>
<tr><td>**Methodology**</td><td>:</td><td>The available mathematical model of growth and diffusion of knowledge along with systems dynamic approach will be used with appropriate modifications suited to socio-historical data on Indian science (essentially informational aspects of science).</td></tr>
<tr><td>**Project Team**</td><td>:</td><td>Individuals who have published research papers in this area.</td></tr>
</table>

Scientometrics Study of Indigeneous Systems of Medicine - Exploratory work

While the group recognised the need for acquiring a better understanding of disciplines of knowledge covered by Ayurveda, Siddha and Unani systems, exploratory work is necessary to identify the data sources appropriate for scientometrics study in this area.

We shall appreciate if your response could reach us by **25 May, 1994.**

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1993-1994:
Another Milestone
Year For NISSAT

The increasing role of science and technology in the economic and social development of the country has generated a pressing demand for *faster technology transfer to the industries.* Apart from access to information generated within the country, it is also necessary to draw from the externally generated information to support internal efforts on research and development. Information *centres that have come up to serve the needs of* different industries and R & D units, need to be coordinated and organised into an integrated system to avoid haphazard growth and duplication of activities and in conformity with national and international standards.

The National Information System for Science & Technology (NISSAT) programme envisages promotion and support to the development of a compatible set of information systems on science and technology and interlinking these into a *network. The approach adopted is to bring the* existing centres, systems and services to a higher level of operation so that the interests of the national community of information users could be

NISSAT's Thrust in VIII Plan

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│  Library Networks   │        │  Consultative Commitee  │
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        ┌─────────────────────────────────────┐
        │        Resource Sharing             │
        └─────────────────────────────────────┘

┌─────────────────┐              ┌─────────────────────┐
│     ULCSS       │              │    NISSAT CARD      │
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NISSAT's Thrust in VIII Plan

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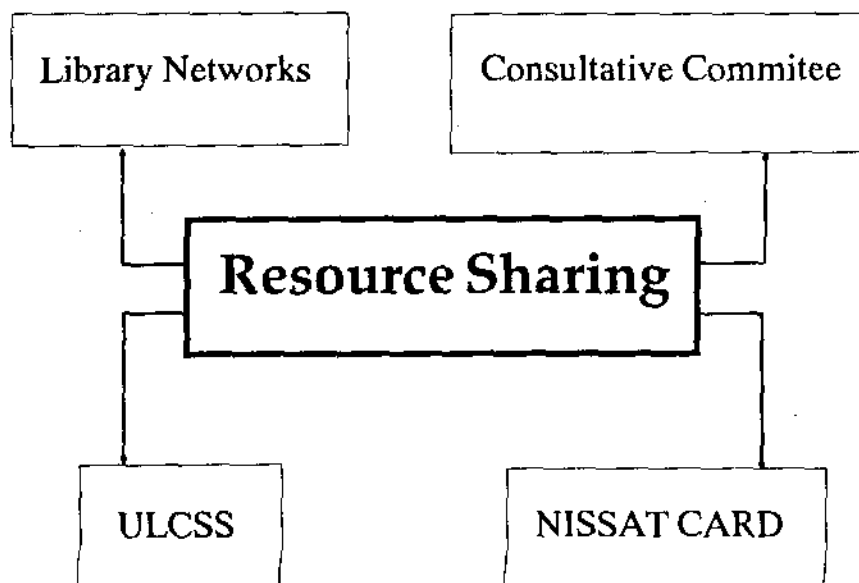
better served. For the purpose, the programme also contemplates experimentation with and introduction of modern information handling tools and techniques and the development of endogenous capabilities.

1. Objectives

NISSAT functions with the following objectives.

— Provision of national information services to meet the needs of users, generators, processors and disseminators of information.

— Optimum utilisation of existing information services and systems and the development of new ones.

— Promotion of national and international cooperation and liaison for exchange of information.

— Provision of encouragement for the development of facilities for education and training in information science and technology.

— Promotion of application of information technologies, and in research & development, innovation in information science & technology and communication to enhance both the efficiency of information services and quality of the information provided by these services.

2. Information Centres

An information centre is the major instrument for information resources development and dissemination. It provides bibliographic as well as factual and numeric information on a product, discipline or mission. Following information centres were established with the object of creating information awareness and meeting information needs of academicians, scientists, technologists, enterpreneurs, management executives and decision makers. (*Table-1*).

Table - 1
Information Centres

No.	Subject Area (Acronym)	Host Institution
1.	Leather Technology (NICLAI)	Central Leather Research Institute, Madras
2.	Food Technology (NICFOS)	Central Food Technological Research Institute, Mysore
3.	Machine Tools & Production Engineering (NICMAP)	Central Manufacturing Technology Institute, Bangalore
4.	Drugs and Pharmaceuticals (NICDAP)	Central Drug Research Institute, Lucknow
5.	Textiles & Allied Subjects (NICTAS)	Ahmedabad Textile Industry's Research Association, Ahmedabad
6.	Chemicals & Allied Industries (NICHEM)	National Chemical Laboratory, Pune
7.	Advanced Ceramics (NICAC)	Central Glass and Ceramics Research Institute, Calcutta
8.	Bibliometrics (NCB)	Indian National Scientific Documentation Centre, New Delhi
9.	Crystallography (NICRYS)	University of Madras, Madras
10.	CD-ROM (NICDROM)	National Aerospace Laboratory, Bangalore

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2.1.1 Sectoral Information Centres

Sectoral Information Centre (first seven in Table-1) were built around the existing information resources and facilities. They maintain extensive collections of published and unpublished documents in the form of books, periodicals, research reports, development and trade reports etc., in the relevant subject areas. Apart from providing documents and preparing bibliographies on request, they also offer SDI, CAS, reprographic, micrographic, industrial and technical enquiry, translation and other services. They conduct training programmes for their staff; organise workshops and seminars to create awareness of modern tools and techniques; and also participate in exhibitions to publicise their products and services. In respective cities, they function as focal points for resource sharing.

Regular monthly publications from these centres include *Current Awareness, Industry Highlights, Current Highlights, Patent Awareness, Current Indian Titles* in respective sectors and also semi-technical and popular ones in the form of digests. The centres have also developed information management tools like thesaurii, data collection and input procedures and so on.

Sectoral information centres maintain several databases to cater to the information requirements of their clientele. For example, NICDAP maintains databases on *Natural Products, Folklore database,* Letters of Intent & Industrial Database, Research Projects database, Union Catalogue of periodicals in Lucknow city etc., NICLAI maintains database on Leather Science Abstracts (LESA), Periodical Holdings (PERHOL), *Leather Thesaurus* (LETHAS), Leather Catalogue (LEACAT) etc.; NICFOS maintains Food Science & Technology Abstracts (FSTA), Indian Food Technology Abstracts (IFTA), Food Patents; NICMAP maintains databases like *Metal Working Abstracts,* Patents, *World Machine Tool Production Statistics & Import/Export Statistics;* NICTAS maintains *World Textile Abstracts* and NICHEM publishes Monthly *Indian Chemical Patents.*

2.1.2 Information Analysis Centres & Datacentres

In contrast to sectoral information centre which provide mainly bibliographic support, NISSAT has established Information Analysis and Data centres (NICRYS, NCB, NICDROM) for undertaking the task of acquiring, evaluating, integrating, consolidating and analysing factual and numeric information.

The National Information Centre for Crystallography (NICRYS) is the first hard data centre established at the University of Madras, Madras in 1981. NICRYS receives the Cambridge Crystallographic data on organic & organo-metallic compounds on magnetic tape. Presently, the University Grants Commission (UGC) provides complementary support to NICRYS activities.

The National Centre for Bibliometrics (NCB), established at INSDOC, New Delhi in 1988, has been creating S & T citation database on Indian contributions appearing in Indian periodicals.

The NICDROM centre at NAL, Bangalore established in 1988, supplies information on CD-ROM hardware, software and their suppliers, reference tools and databases available on CD-ROM and also provide information from NTIS.

3. Online and SDI Services

To bring the information support services to the scientists and technologists in India at par with those available to their counterparts in the developed countries, NISSAT has established five NISSAT Access Centres to International Database Services-NACIDS (*Table-2*).

Table - 2

NISSAT Access Centres to International Database Services (NACIDS)

S. No.	Place	Host Institution
1.	Bangalore	National Aerospace Laboratory
2.	Calcutta	Indian Association for Cultivation of Science
3.	Madras	Central Leather Research Institute
4.	New Delhi	Indian National Scientific Documentation Centre
5.	Pune	National Chemical Laboratory

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The NACIDS use PSTN telephone lines upto the local PAD of Videsh Sanchar Nigam Limited (VSNL) and there onwards, the international carriers via the Gateway Packet Switching Services (GPSS) at Bombay. Online access by Telex is a stand by. NACIDS have trained intermediaries to assist or conduct online searches. The centres are gaining popularity considering that there is an increasing number of users and full search costs are recovered from them.

Selective Dissemination of Information (SDI) is provided regularly to users on the bars of their information profile. Such services are offered by NICMAP/CMTI, Bangalore using the COMPENDEX database and by NICDROM/NAL, Bangalore using NTIS, Discovery Preview and Janes All the Worlds Aircrafts databases, IACS, Calcutta & NPL, New Delhi using INSPEC (Physics) database, NICHEM/NCL using CHEMBANK database, NICDAP/CDRI using Drug Information Source database, CALIBNET, Calcutta using BNB and BOOKFIND databases. Other CD-ROM databases like ADONIS, BNB, BOOKFIND, ISSN Compact, World Research Database are available at NISSAT HQ.

In order to assess the present situation, promote the technology in the country and facilitate exchange of notes, NISSAT has organised the *Second National Meet of CD-ROM/ONLINE Users and Service Providers,* during July 15-16, 1993 in Technology Bhawan, New Delhi.

4. Library Networking

NISSAT has taken the initiative for the development of metropolitan library 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 motivational factors to a large extent by better means of communication.

The implementation of Calcutta Library Network (CALIBNET) has been taken up in two phases. In CALIBNET Phase-I, the Network

Services Centre at the Regional Computer Centre (RCC), Calcutta and 7 participating library/information centres are being networked. Meanwhile, in collaboration with the RCC and Regional INSDOC, Calcutta. NISSAT has taken up man-power development activities as well. CALIBNET was formally inaugurated on September 22, 1993.

MAITRAYEE, the CALIBNET Library Automation and Networking Software, has been developed and demonstrated to the library and information professionals in the country. NISSAT signed an MOU with CMC Ltd. for future development of MAITRAYEE. Activities related to database creation and retrospective conversion are being carried out at IACS and other participating institutions. CALIBNET is now a registered society.

On similar lines, the Delhi Library Network (DELNET) aims at connecting over 30 libraries in Delhi. So far, 38 library/information centres have been connected through Electronic mail. As in the case of CALIBNET, DELNET too is now a registered society. NISSAT regularly organises computer courses for the operational level professional from the participating institutions.

NISSAT has initiated the development of Bombay Library Network (BONET). BONET was formally inaugurated on November 6, 1992. The feasibility study for Madras Library Network (MALIBNET) has been completed. Similar metropolitan networks are contemplated for Ahmedabad (ADINET), Hyderabad (HYLIBNET), Pune (PUNENET) and Bangalore in the immediate future.

NISSAT has established E-Mail facilities through ERNET to the various NISSAT information centres dispersed in the country. This connectivity greatly enhances the resource sharing capabilities among these centres and also the provision of user services more efficiently. The ERNET group of the Department of Electronics, Government of India has provided the overall knowhow in these venture.

5. Computer Based Bibliographic Information Processing

The demand for use of computers varies from automation of routine management functions in' libraries to information retrieval or analysis of global databases. NISSAT gives high priority to

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all aspects of computer based bibliographic information processing.

NISSAT acquired proven software packages like CDS/ISIS Mini-Micro version, SUPERDOC and IDAMS (Statistical package) from UNESCO. On behalf of UNESCO-PGI, Paris, NISSAT has the official rights for the distribution of these packages in India.

At present, CDS/ISIS ver. 3.0 is distributed to *libraries, information centres and non-profit* institutions along with adequate training support. There are 981 installations in India (*as on December 31, 1993*). The implementation of CDS/ISIS in these institutions is monitored regularly through exchange of information, user's group meetings and periodic surveys. NISSAT has also acquired the CDS/ISIS VAX version, tested and distributed to 14 user institutions. The Statewise & yearwise distribution of Micro-ISIS is given in Figs. 1 & 2 respectively.

In collaboration with Defence Scientific Information and Document Centre (DESIDOC), New Delhi, NISSAT has helped the development *of a software for Library Automation on CDS/ISIS* (now called SANJAY). The package is capable of
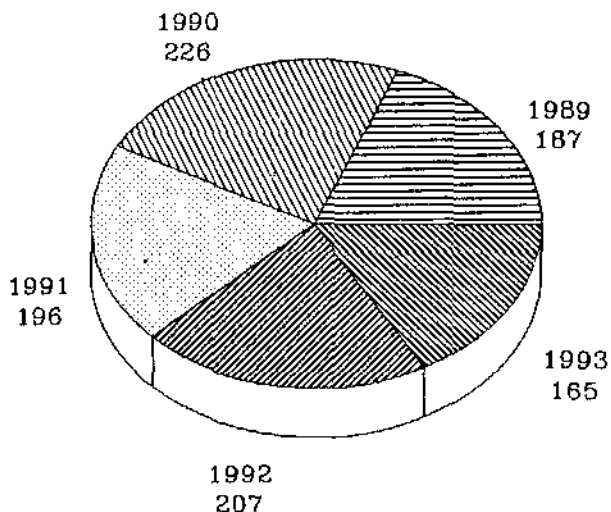
Fig. 2 Distribution of Micro-ISIS—yearwise

inter-linking two or more databases for a single application, handling numerical calculations and of carrying out several other library house-keeping activities. As a model application, SANJAY is implemented in the DST Library, Technology Bhawan, New Delhi. A generalised version of SANJAY (Version 2.0) for application in a library with a medium size document collection and user clientele is now under alpha and beta testing.

Fig. 1 Distribution of Micro-ISIS—Statewise

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TRISHNA, another CDS/ISIS based package has been developed in collaboration with National Institute of Science, Technology and Development Studies (NISTADS), New Delhi. TRISHNA supports 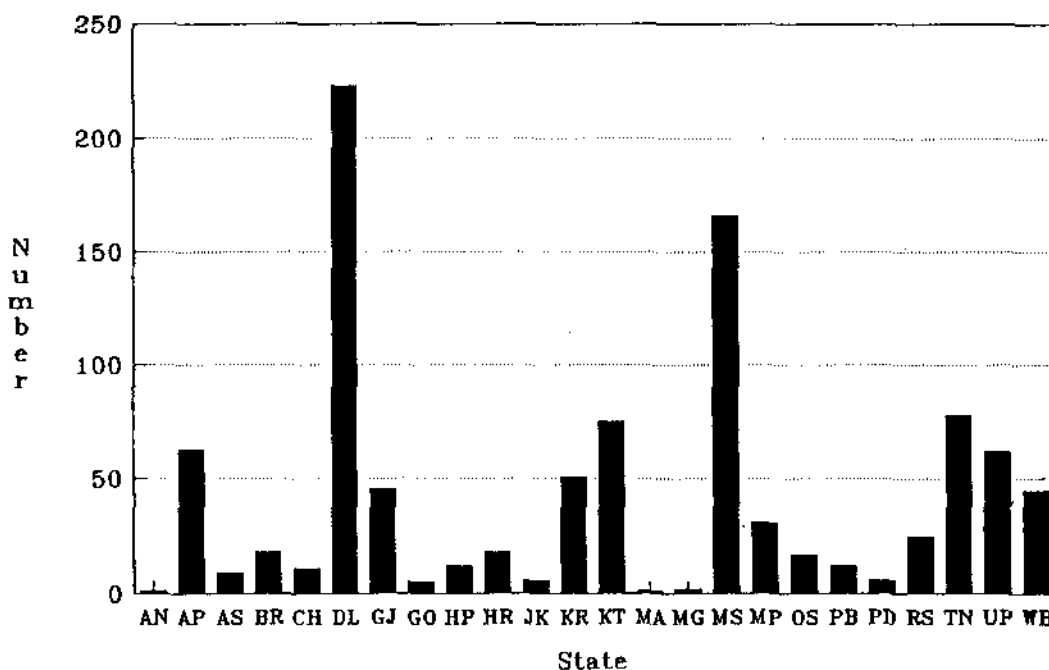database in Devnagri and several other Indian scripts using a GIST CARD. This package was distributed to ASTINFO member countries like Nepal & Bangladesh during 9th. ASTINFO Consultative Committee Meet, New Delhi, 1993.

The 5th National Meet of CDS/ISIS Users is scheduled for February 10-13, 1993 at National Academy of Agricultural Research Management (NAARM), Hyderabad, to assess the status of the package in the country, to provide technical solutions to the problems faced by the users and to facilitate the exchange of experiences.

6. Rationalisation of Periodical Acquisitions through Local Consultative Committees

The cost of S & T periodicals is increasing at a rate of 15-20%. As the library budgets in most institutions tend to remain static, the net result would be a reduction in acquisition of journal titles. On the other hand, our scientists and technologists are delving into newer areas. Their activities naturally would demand acquisition of periodicals in those newer areas.

The aim of the consultative committees being promoted in 16 cities, is to get the librarians in a city together and to discuss their acquisitions especially renewal of subscriptions for periodicals, and explore resource sharing possibilities. Such an exchange of notes is expected to lead to a rationalised acquisition effort and considerable savings to the group of cooperating libraries.

Such mechanisms are already operational in Ahmedabad (NICTAS/ATIRA), Bangalore (NICMAP)/CMTI), Bombay (IIT), Calcutta (NICAC/CGCRI), Delhi (DELNET), Lucknow (NICDAP/CDRI), Mysore (NICFOS/CFTRI), Nagpur (NEERI), Pune (NICHEM/NCL) and Trivandrum (KLA). Efforts are underway to set up these mechanisms in Bhopal, Chandigarh, Cochin, Hyderabad, Kanpur and Visakhapatnam.

As a part of CCRP, NISSAT intends to promote and support development of *Union List of* *Current Scientific Serials* in major cities. These Union Lists will serve as a valuable resource for scientists, researchers, academicians and library professionals

— to provide information on the availability of serials in the selected cities,

— to identify the gaps in the acquisition of serials, and

— to help in the rationalisation of acquisition of serials by encouraging resource sharing.

7. NISSAT Card

It is extremely difficult for an end user to access or use resources located outside the library of her/his own institution. An information/literature search therefore gets restricted to the resources available within the institution and the user would need to depend entirely on external courtesy. The concept of NISSAT CARD is meant to develop a Universal Library Card System that would facilitate utilisation of external library resources with due safeguards for protection of the interests of cooperating libraries. A feasibility study on this concept is being completed.

8. Document Supply Service

ASTINFO/UNESCO has set up a regional document supply service for its member states. Under this scheme, the National Library of Australia would service overseas document requests at a cost of $ 2 irrespective of the number of pages. The service is open only to ASTINFO member countries.

To handle Indian requests for the services, NISSAT-as the ASTINFO national coordinating unit in India, has identified a set of institutions on considerations of logistics. These participant institutions are as indicated in *Table - 3*.

The service is priced on cost-recovery basis. For furture requirements of request forms, user libraries would approach NICTAS/ATIRA, Ahmedabad, which now serves as an outlet for all NISSAT products and services.

Table - 3

Institutions Handling ASTINFO Document Supply Service

Sl. No.	Place	Institution/Association
1.	Ahmedabad	NICTAS/ATIRA
2.	Bangalore	NICMAP/CMTI
3.	Calcutta	NICAC/CGCRI
4.	Delhi	DESIDOC IARI NISSAT
5.	Hyderabad	IICT
6.	Lucknow	NICDAP/CDRI
7.	Madras	NICLAI/CLRI
8.	Pune	NICHEM/NCL
9.	Shillong	NEHU

9. Manpower Development

NISSAT has been organising short term courses with a view to improving upon and updating the skills of the information professionals on a continuing basis. It may be observed that NISSAT has developed facilities for the conduct of regular series of courses at INSDOC, New Delhi; DRTC, Bangalore; RCC, Calcutta and University of Poona, Pune. NISSAT also promotes and supports studies, preparation of directories, databases, basic and applied research in information science.

10. Promotion of NISSAT Activities, Products & Services

In order to reduce dependence on government investments for the development of scientific & technical information infrastructure in the country, NISSAT products and services are to be marketed aggressively. In this regard several measures have been taken for market promotion. For example, operative level personnel from the various NISSAT information centres have been given orientation courses on information marketing. The NISSAT supported centres are being encouraged to generate revenue and to plough back this revenue for infrastructural development. As an incentive,

NISSAT provides a matching grant for the revenue earned.

In collaboration with the Science Communication Unit of CSIR, a video presentation on NISSAT and its activities has been produced. A Compendium of activities of NISSAT Centres and brochures highlighting various aspects of NISSAT have been brought out.

10.1 Exhibitions

NISSAT participated in the *Demonstration of the Potentials of Databases* hosted on different networks, developed and being operated by various organisations in the country, from a centralised **'Technology Platform'** established at Pragati Maidan, New Delhi, during the 10th Indian Engineering Trade Fair (IETF) during February 14-21, 1993. Over 200 visitors visited the stall, daily.

NISSAT participated in the *International Conferences and Exhibition on Database Production and Distribution: Resources, Technology and Management,* **INFOTEX'93** held at The Taj Residency, Bangalore during November 28 - December 1, 1993. INFOTEX'93, attempted to focus on the role that countries like India in the developing world can play in the global alliance of information industry and the profession. It also offered a common platform for joint ventures both at academic and the industry level. Over 100 visitors visited the stall every day. In the exhibition, NISSAT was awarded a Trophy for the widest range of information products & services.

11. International Activities

The activities of ASTINFO/UNESCO (Regional Network for the Exchange of Information and Experiences in Asia and the Pacific/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 carried out under ASTINFO are given below:

a. NISSAT has successfully organised the 9th ASTINFO Consultative Committee Meeting and the Regional Seminar on Design & Development of Library Networks at Hotel Raj Hans, Suraj Kund, New Delhi

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during September 25-October 1, 1993, which was attended by 24 overseas delegates representing ASTINFO member countries and 20 local participants.

b. With the support of UNESCO, NISSAT has successfully organized a National Experts Meet on Design and Development of Factual Databases using CCF (F), The Common Communication Format, Ed. 3 during April 19-30, 1993.

On follow up of the recommendations, the Draft Guidelines to implement CCF (B) in India has been published for wider circulation, use and comments. This would form the basis of exchange of bibliographic information in S & T in India.

c. NISSAT is coordinating the ASTINFO document supply service promoted and supported by UNESCO, ASTINFO and National Library of Australia.

d. The NISSAT Secretariat has been given a contract to prepare standard course materials and teaching aids on the following topics:

— CCF: the Common Communication Format.

— CDS/ISIS, and

— Management Information System (MIS)

These were completed and the ASTINFO member countries were presented with these kits during 9th ASTINFO Consultative Committee Meet, New Delhi.

Similarly NISSAT Secretariat has another contract to develop teaching aids and course materials for introducing modern computer communication concepts to librarians and information scientists.

12. NISSAT Newsletter

In cooperation with the Society for Information Science (SIS) NISSAT has been publishing its quarterly NISSAT Newsletter. This effort is an expression of the sincerity behind NISSAT's intention to mobilize the technical expertise available with professional bodies. The Newsletter covers wide ranging issues relating to information and the development of information services networks and centres. Individuals and professional bodies are invited to contribute features and news items on new concepts and services, seminars and training courses, new products, status of information systems both national & international and trends in their development. With a present circulation list of 5000 institutions and individuals, NISSAT Newsletter enjoys user appreciation and high professional esteem in India.

ABOUT INTERNET

The Internet is a loose amalgam of thousands of computer networks reaching millions of people all over the world. Its original purpose was to provide researchers with access to expensive hardware resources like super computers, graphics, workstations, computer centres, or online information like the wealth of databases, documents, softwares, archives, pictures and sounds.

The Internet has become not only a key part of the research and development community, but also for political activists, farmers and librarians, Journalists, scientists, Biologists and more.

The Internet is a worldwide web of interconneted university, business, military, and science networks and it is a network of networks. The Internet is made up of little Local Area Networks (LANs) city-wide Metropolitan Area Networks (MAN's), and huge Wide Area Networks (WANs) connecting computers for organizations all over the world. These networks are hooked together with everything from regular dialup phone lines to high-speed dedicated leased lines, satellites. The network web extends all over the world.
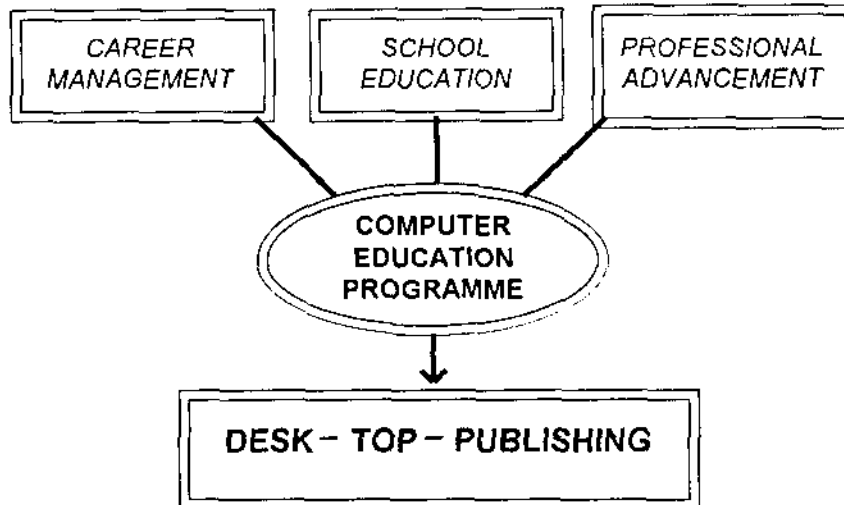
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NISSAT Announces the Release of

MICRO CDS/ISIS VERSION 3.07

New Features

ISISPRT - Print Services

- A newprint options allows you to produce ASCII files with no carriage returns other than the ones inserted through the new line command of your format.

- You may now produce print files in Microsoft Rich Text Format (RTF), which may later be printed using a word processor accepting RTF (such as Microsoft Word or Word for Windows).

- An optional translate table, ISISLP.TAB, may now be provided to customize the character codes for printing.

CDS/ISIS Pascal

- The CDS/ISIS Pascal function DEFKEY will now release the memory allocated to a previous definition of a key being redefined. This allows multiple re-definitions of a given key without saturating the key definition buffer.

- The CDS/ISIS Pascal SEARCH function was modified to return a negative set number if the search expression contains a syntax error, rather then promoting the user to correct the error.

- The following new functions have been added to the CDS/ISIS Pascal library :
  Function RECUPDIF (MFN:real):real;
  Function UNDO (MFN:real):real;

Existing Users of version 3.0 may exchange at free of cost.

New Users and existing users having version 2.32 and/or lower are required to pay Rs. 1500/- towards Software, Manual & License.

For A/F and Other details, contact :

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SIS '94

Perspectives of Multi-Media Information Services in India: this was the theme of the 13th Annual Convention and Conference of the Society for Information Science held in New Delhi during 27-29 January 1994.

In response to the complex information requirements of the present day world, information technology has come out with a host of new media options. Technologically this requires different kinds of handling and operators. The present Convention brought into focus recent advances in multi-media applications, state-of-the art on multi-media systems and services and the future scenario.

About 50 information scientists, technologists, professionals and information managers attended.

A Book Exhibition was organized in which several publishing houses and govt. and semi-govt. organizations participated.
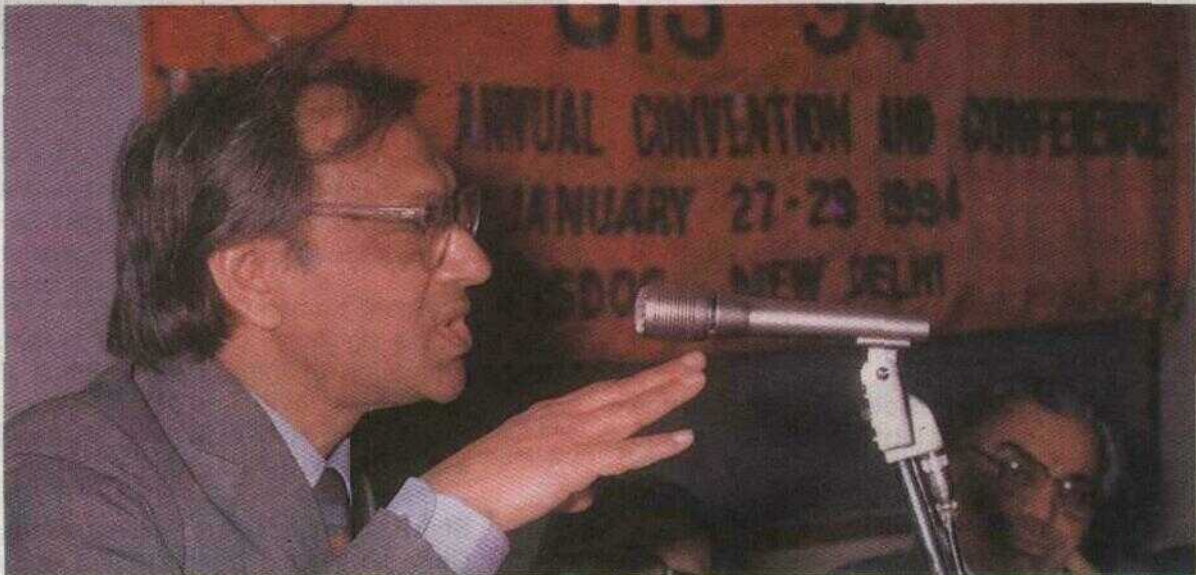
Dr Ashok Jain delivering the keynote address

A section of the audience

Inauguration

The inaugural session started off with *Saraswati Vandana* by Mrs T. Pandalai.

Dr Ashok Jain, Director NISTADS delivering the Keynote address emphasized that the multi-media concept exists among many of our professionals and artisans though there is need to put this on a sound footing backed by latest technologically advanced tools. He expected that multi-media information services would become globally available by the turn of the century but it was not clear as to which products would stabilise and capture the market and became a world standard.

Welcome Address

Earlier, Prof. T. Viswanathan, Director INSDOC and Chairman Organizing Committee while welcoming the participants stressed the importance of multi-media in the present day context. He said that multi-media implied not only the different media but also different forms of information on the same media. The Convention proposed to discuss both.

Prof. R.G. Gupta, President SIS briefed the gathering about the Society and its aims and objects with which it was set up in 1975. Today the Society was firmly committed to provide a congenial environment for interaction among scientists, technologists and management specialists relevant to information services.

Prof. Gupta read out a message from Dr S.K. Joshi, Director General CSIR wishing all success to the Convention and its deliberations.

Dr N.R. Rajagopal, Head HRD Group CSIR and Chairman Programme Committee introduced the programme details, the content of technical sessions, vendor presentation and the Valedictory Session. He expressed the hope that interesting discussions would take place and significant recommendations would emerge from the deliberations.

Honorary Fellowships

The SIS Prestigious Fellowship Awards were then presented by Dr Ashok Jain to the following:
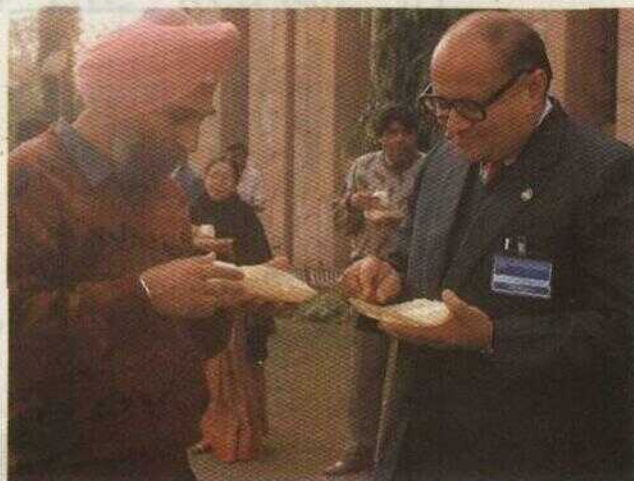
Dr Sushil Kumar Director CIMAP who received the Hony Fellowship Award of SIS in converation with Dr Gian Singh, Northern Regional Representative of SIS

1. Dr Sushil Kumar, Director CIMAP, Lucknow for his significant contributions towards the promotion of information science at the grassroots level and for his innovative approach to communicating information to scientists and researchers.

2. Shri P.C. Shah, Head National Information Centre for Textile and Allied subjects, ATIRA, Ahmedabad was awarded the Hony. Fellowship for his contributions for creating a database on textile information at ATIRA and bringing out abstracting services for textile industries.

The awards carry a citation, medallion and a golden plaque.

Raizada Memorial Award

This award for 1992-93 was given to Dr Shailendra Kumar, Asst. Professor, Faculty of Library Science, IGNOU for his eminent contributions to dissemination of S&T information and for training personnel in computer applications in library and information activities. The Young Scientists' Award carries a certificate of merit and a medallion.

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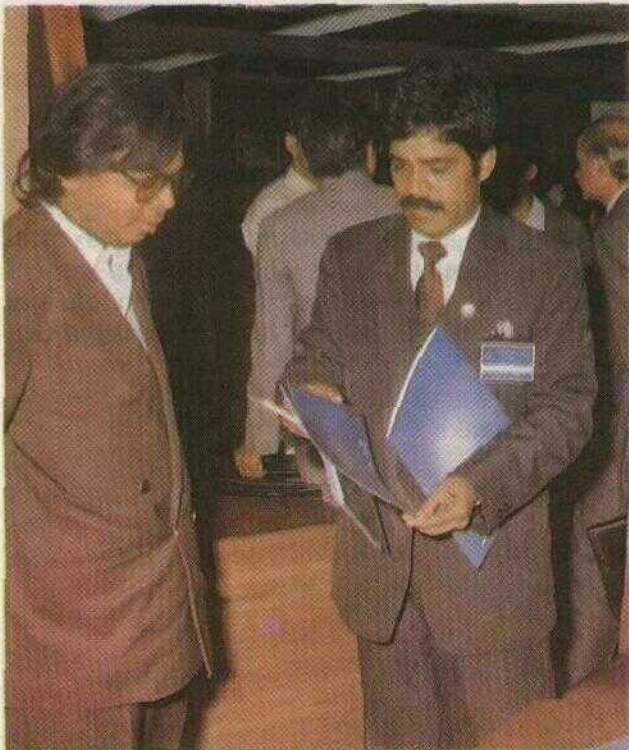
Shri Vimal Kumar Varun explains the NISSAT activities to Dr Shailendra Kumar who received the 1994 Young Scientists' Award of SIS

Shri P.C. Shah receives the SIS Hony Fellowship Award from Dr Ashok Jain

In his introductory remarks Shri I.R. Kumar *Vice-President* SIS stressed that information science and technology was going to be the most sought after input for any vendor and entrepreneur in the *21st century*.

Dr. S. Mallick, Secretary, SIS proposed a hearty vote of thanks to the Chief Guest, the Chairman, the Speaker and the participants. He commended the efforts of all those who had worked on the stage as well as behind the scenes to organize the Conference and make it a resounding success.

The SIS General Body met on 27 January to review and discuss Society programmes and activities.

Technical Sessions

The following four Technical Sessions were held:

1) Multi-media Applications — *Chairman*, Prof. K.K. Biswas, Dept of Computer Science and Engineering, IIT, New Delhi.

2) Multi-media Services — *Chairman*, Prof. R. Satyanarayana, IGNOU, Delhi.

3) Multi-media Systems — *Chairman*, Prof. J.S. Yadav, Director Indian Institute of Mass Communication, Delhi.

4) Multi-media Network — *Chairman*, Dr N. Vijayditya, National Informatics Centre, New Delhi.

The technical discussions were followed by Vendors' presentations.

Invited Lecture

Dr R. Ramakrishnan Director DOE spoke on technological developments for use in multi-media services.

Pre-Conference Tutorial

A *Pre-conference Tutorial* on Multi-media in the Ninetees was organized on 25 January 1994. Lectures and demonstrations covered multi-media

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services, products and networks, microforms, video discs, video tapes and other electronic media. The objective of the tutorial was to help the participants gain better insight into multi-media technologies. Mrs C.M. Anand (INSDOC) organized the Programme.

Panel Discussion

The Panel Discussion was organized on 29 January with the following Panelists taking part:

1) Prof T. Viswanathan

2) Dr N.R. Rajagopal

3) Prof R.G. Gupta

4) Shri I.R. Kumar

5) Dr S. Mallick

6) Prof. R. Satyanarayana

The Principal Information Officer and Press Adviser to the Prime Minister Shri S. Narendra chaired the discussion.

While emphasizing the importance of multi-media applications for day-to-day business, Shri Narendra stressed the need for formulating a National Information Policy. This would be a step in the advancement of free information flow. SIS, as a professional body should come forward and take up the task, Shri Narendra urged.

Valedictory Session

Shri Jagdish Mukhi, the Hon'ble Finance Minister of the State of Delhi presided over the concluding session. In his address, Shri Mukhi observed that he was fully aware of the importance of the information commodity and his Govt would be keen to interact with professional societies like SIS for establishing modern systems relating to information collection, dissemination and use. Information management was bound to play a crucial role for economic development. There was also a need to popularise multi-media services and make them accessible to the common man. The Minister congratulated SIS for taking up issues most relevant to present-day needs. He assured all possible assistance to SIS in funding its development projects including the one relating to finding suitable premises to house the society.

Book Release

The Minister released a book entitled *Information Management for Rural Development.* The book edited by P.C. Bose & H.C. Jain brings together essays dealing with development of information services and working out strategies for exploiting the available resources to the maximum benefit of rural masses. It is based on papers presented at the 12th Annual Convention and Conference of SIS held at IICT, Hyderabad last year.

Vote of Thanks

The valedictory session ended with a vote of thanks by Dr S. Mallick, Secretary SIS to the Hon'ble Minister Shri Mukhi and to all others who contributed to its deliberations.

Recommendations

The following recommendations emerged from the discussions at the four technical sessions held during the convention.

(1) In view of its complexity and time bound nature, information management is bound to play a major role in different sections of the society, especially, agriculture, rural development, education, transportation, energy, environment and health. Hence, there is a need for a national policy on the use of multi-media and its availability at an affordable cost. For this a national level symposium may be organised to discuss the need for an Information Policy for the country.

2) To keep pace with the world developments and fast changing technologies, there is a need to involve NGOs, private sectors and other voluntary organisations in a coordinated way.

3) In order to optimize the use of multi-media in information management there is a need to bring all the allied organisations connected with informatics under one umbrella and consider holding of an Indian Information Congress.

4) For users of multi-media in education and training, standards need to be evolved with respect to hardware platform and software systems. The experiences of Water and Land Management Institute (WAMI), Aurangabad and Manage, Hyderabad and other similar organisations would be relevant for this purpose.

5) There is a need to popularise the use of multi-media services and make them easily accessible to and utilisable by the common man. This can be done on the basis of multi-language and multiscript approaches befitting different kinds of environment and depending on the target population.

Time for National Anthem: Prof. Jagdish Mukhi, the Hon'ble Finance Minister of Delhi is third from left.

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RESEARCH & DEVELOPMENT STATISTICS
1992 - 93

The Department of Science & Technology is the nodal agency in India for collection and compilation of data on resources deployed to Research and Development (R&D) and related Scientific and Technological (S&T) activites in the country. With a view to assessing the resources (both financial and human) deployed for science and technology in general and R&D in particular, the National Science & Technology Management Information System (NSTMIS) division has been conducting biennial surveys for the last two decades.

The 1992-93 survey covers more than 3,000 research institutions/laboratories of major scientific agencies, central ministries/departments, state departments/research stations and in-house R&D units of public, private and non-commercial scientific and industrial research organisations (SIRO), registered with Department of Scientific and Industrial Research. Based on the survey conducted during the year 1992-93, a national level comprehensive report entitled "Research & Development Statistics, 1992-93" has been published. This report gives information and analyses on the financial and human resources deployed on research and development activities in different forms and variety. Apart from this, the publication gives information and analyses on stock, enrolment, outturn of scientific personnel, higher education institutions, expenditure on education, extramural research projects, patents and financial allocation for S&T in 7th plan and 8th plan, S&T plan outlays under socio-economic ministries/departments, selected statistical indicators for India collected from secodary sources. In order to get a good appreciation of R&D intensity across the countries, data for selected countries on stock of scientists, engineers and technicians, R&D expenditure per capita, R&D expenditure as percentage of GNP, etc. are analysed and reported .

Major highlights of the survey for the year 1992-93 were as follows:

The total national research and development expenditure was Rs.5141.64 crores in 1992-93 which works out to be 0.83% of the Gross National product. Sectorwise percentage share of national expenditure for 1992-93 was Central Government institutions 64.3%, State Governments 9.3%, Public Sector Industries 11.4% and Private Sector Industries 15%. It may be seen from this that the major share of R&D expenditure was met from government sources including public sector industrial inhouse R&D units (85%) and rest was met from private industry (15%). Industrial sector comprising of both public and private sector invested 26.4% on R&D while institutional sector investment accounted for the rest 73.6%. Twelve major scientific agencies - DAE,DOS,CSIR,ICAR, DRDO,DBT,DOE,DNES,DOD,DST, ICMR,MOEn accounted for 54.2% of national R&D expenditure. Plan allocation for S&T increased from Rs.142 crores in fourth plan to Rs.9180 crores in eighth plan. The share of S&T plan outlay in the total public sector plan outlay was 2.1% for the eighth plan. As on 1st April, 1992, 2,93,348 persennel were employed in R&D establishments out of which 95,486 were directly engaged in R&D activities. There were 8490 females directly engaged in R&D activities which worked out to 8.9% of total personnel engaged primarily in R&D activities. India has only 3.76% scientists, engineers and technicians (SET) per thousand population as compared to 112.77 in Japan. Only 0.22% SET per thousand population were employed in R&D activities in India as compared to 6.01 in Japan. Patents sealed in the year 1991-92 was 1676 and out of this 551 were sealed by Indian citizens. This is a mere 32.9% of the total patents sealed in India.

GROWTH OF NATIONAL R&D EXPENDITURE
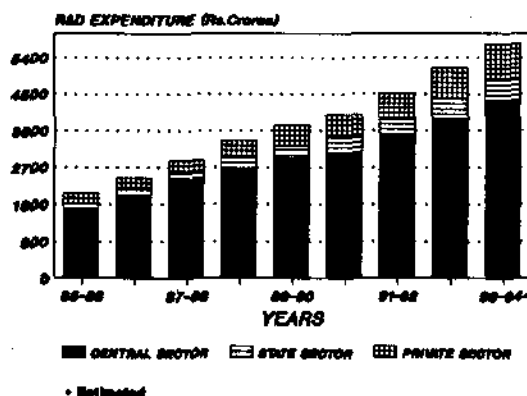
Gujarat Vidyapith Library
An Automation Profile

The Gujarat Vidyapith was founded by Mahatma Gandhi, its lifelong Chancellor, in the year 1920. It was started as a Rashtriya Vidyapith, (National Institute of University Education) and was established in the wake of the non-cooperation movement. Sardar Vallabhbhai Patel was its Vice-Chancellor from 1935 and became its Chancellor after Gandhiji's death. Thereafter Dr. Rajendra Prasad remained the Chancellor until the end of his life. This position is now held by Shri Morarji Desai.

Considering the national and international importance of the value-oriented educational experiments of the Gujarat Vidyapith, the Government of India declared it as deemed university in 1963 under section 3 of the University Grants Commission Act, 1956.

The chief concern of the vidyapith is to conduct experiments in research and the training & extension in various fields of education with a view to further developing application of Gandhian thought & ways in all aspects of education.

Existing Some important working Areas of the Vidyapith currently are:

Adult Education, Social Work, Tribal Studies & Social Anthropology, Rural Management & Bio-gas technology, Education. Naturopathi, Gandhian Studies & Peace Research, Agricultural Extension, Buddhist Studies & Jain Studies, History Culture & Archives, Modern Indian Languages, Rural Economics, Information Science (includes Library and Computer Science)

Gujarat Vidyapith Library

To support the educational activities of the Gujarat Vidyapith, the library provides facilities for

Traditional Approach to Modern Technology Applications: Professionals at work in Gujarat Vidyapith Library

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higher education and research work to students, teachers & researchers and interested members of the public.

Book Collection

Its collection of books and reference books vovers most of the subjects on humanities and social sciences.

With books in abundance on Humanities and Social Sciences, this library maintains the best possible collections of reference books mainly in three languages, namely English, Gujarati & Hindi. Besides the collection includes books in other languages such as Sanskrit, Parakrit, Ardha-magdhi, Marathi, Bengali, Persian, Urdu, Arabic etc.

In order to promote the use of research material the collection is arranged subjectwise and language-wise. The reference books, back volumes of journals, current periodicals have been brought together and shelved in a compact subject division. By this arrangement the students & researchers will find the required material at a time at one place. The total number of books & Journals in the library are 4.18 lakhs & 798 respectively.

Sections of the Library

1) Gandhian Studies Hall, 2) Periodicals Section, 3) Copyright Section, 4) Non-book Materials, 5) Manuscripts Collection, 6), *Gram Seva Kendra* Libraries, 7) Information Services including Reference Services, 8) Publications, 9) Extension Services, 10) Academic Activities.

Computerisation of the Library

From the beginning till 1987 the Library work & services were handled manually. After installation of Mini-Computer system in the library in 1987 the computerisation of library data and house keeping operations of the library were taken up. The profile or computerisation of the library and its activities is given below.

32　　*Hardware*: Originally NELCO FORCE/20, a super Mini System was installed with 4 terminal having 160 MB disk capacity and 40 MB cartridge tape drive. Disk capacity was upgraded to 540 MB and additional 4 terminals were connected and

further 8 terminals connectivity was added where PCs are hooked up. A 600 LPM printer with 96 character belt and DMP with 180 cps printer are connected.

Software: Major portion of software is developed in-house, NELCO gave piece of software alongwith hardware. Software is developed in UNIFY RDMS and C interface. Currently acquisition module, circulation module, cataloguing module, PMS module, Bibliography service module and online search module are functional. For this more than 15,000 of C lines code is written and 26 SQL, 70 RPTS and 108 Screens forms the package.

Library Automation Status: 3,60,000 volumes catalogue information is converted in machine readable form and all housekeeping activities and bibliographical as well as online search services are functional since more than 2 years.

Machine Readable Database Conversion Project

A project was designed and about 20 persons were working daily to convert catalogue information in machine readable form. Six persons used to enter data, four persons used to check the check-list of daily entered data. Two operators were employed for correction and processing. Two coordinators from computer centre and two coordinators from library supervised the overall activity.

Highlights

(1) All the bibliographies are prepared on computer and manual system has been discontinued.

(2) Catalogue cards for English books are printed as per AACR-II rules.

(3) Terminal is placed at circulation counter through which circulation transactions are entered in online fashion. Various daily and periodical circulation analysis are generated from computerised system and manual reporting is discontinued.

(4) PMS is completely online. Daily receipts are entered to enable generation of missing issue report. Subscription renewal report and various status reports are prepared on computerised system only.

(5) a user terminal is placed in the library for online search is available by title, author and class no. at this station.

(6) Two terminals, one in Social Science faculty building and one in Education faculty building are placed. These are connected to main system to facilitate online inquiry to students and faculty.

Training

(1) Training was given to Library professional staff and supporting staff separately. Each group is trained to perform their task on computer and respective data-entry is done by concerned library staff members.

(2) Special training was given to Faculty Members to carry out their research work.

(3) BLISC and MLISC students are trained every year to carry out the online inquiry. One compulsory paper on "Computer Application to Library Activities" is introduced since 89 with necessary hands on.

(4) A special hand-out is prepared by computer centre to be given to each member so that they can follow set of instruction to execute the search. Instructions are printed in both Gujarati & English.

(5) UGC Refresher Courses are conducted and special thrust is given on computerisation of library work & services.

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News and Events

New Governing Council for TIFAC

The Governing Council of the Technology Information, Forecasting and Assessment Council (TIFAC) has been reconstituted under the Chairmanship of Dr. APJ Abdul Kalam, presently Scientific Adviser to Raksha Mantri and Secretary to the Government of India, Department of Defence Research & Development, New Delhi, for a period of three years w.e.f. September 1993.

The Governing Council will direct the TIFAC — An autonomous organisation set up in 1988, under the aegis of the Department of Science & Technology, (Government of India) to meet the following objectives.

(a) Undertake technology assessment & forecasting studies in key areas of national economy,

(b) Technology watch on global trends and formulation of preferred options for India,

(c) Establish a nationally accessible technology information system, and

(d) Promotion of Key technologies.

The Governing Council comprises 43 members who are experts and specialists from the Academic, R&D and Corporate sectors besides the senior officials of the Government.

PGI Activities

The main activities of the General Information Programme (PGI), which now forms an integral part of Major Programme Area IV (*Communication, Information and Informatics* in the *Service of Humanity*) have been concentrated into two sub-programmes, as recommended by the Intergovernmental Council for PGI which concluded in Paris recently.

The major thrusts of **sub-programme 1** are to assist Member States in adopting information policies, increasing access to information promoting standards and software, improving the training of information specialists and fostering regional co-operation through the development of information services, systems and networks.

For **sub-programme 2**, emphasis has been placed on the safeguarding of endangered library and archives collections through the Memory of the World Programme, the improvement of library services and access to scientific literature, the upgrading of archival institution, and the setting-up of the Bibliotheca Alexandrina.

In her allocation before Commission IV which discussed the PGI programme, the Chairperson of the Intergovernmental

Council for PGI qualified the Programme as both traditional for perserving its major components, and innovative by proposing such a challenging project as the Memory of the World.

Thirty-five delegates and three observers from non-governmental organizations took part on the ensuing debate. Many delegates commended the concentration of the programme and supported the direction and missions of the PGI Long-Term Strategic Orientations.

Several Delegates stressed the importance of activities aimed at the improvement of the management of information resources at the national and regional levels. The effectiveness of ASTINFO as a regional Co-ordinating mechanism for the development of national information infrastructures and services in Asia and the Pacific was pointed out. INFOLAC was also mentioned by one delegate as being equally deserving of PGI support.

The development and improvement of international standards was also stressed and special support given to the International Serials Data System (ISDS). Many delegates spoke of the Micro CDS/ISIS and IDAMS software packages as representing unique tools for the development of information networks.

NAL Workshop on CD-ROM Technology

A three-day "Workshop on CD-ROM Technology" was organised by NICD ROM, ICAST, NAL, Bangalore in collaboration with NISSAT/DSIR, New Delhi, during 16-18th November 1993 at NAL. About 35 delegates from all over the country participated in this programme. During his inaugural address, **Dr. K.N. Raju**, Director, NAL gave a brief account of the development in this important area of information technology and stressed the need for publishing indigenous CD-ROM databases. Prof. M.A. Gopinath (DRTC) gave a key note address on "Compressing Information for Global Transfer". He mentioned that volume of information itself being a barrier, there is a need for compressing the information through language, mathematical symbols etc. and providing them to the end users in shortest possible time, without distortion and at a low cost. **Dr. B.R. Somashekar,** (Structural Sciences Division, NAL) presided over the function. Earlier **Mr. I.R.N. Goudar** (ICAST, NAL) while welcoming the delegates gave a introduction to the course contents, lectures and demonstrations, etc.

Fourteen lectures on various aspects of CD-ROM Technology were delivered by seven guest speakers and four experts from ICAST. The topics discussed included: CD-ROM Technology — an Introduction; Establishing a CD-ROM System with Special Reference to Hardware and Software Issues; CD-ROM World Scenario and Indian Experience; Sources of Literature on CD-ROM Technology; Library Applications;

Managerial Issues and Concerns; Retrieval Engines; Standards; CD-Publishing; CD-Networking; Specialised Databases; Tips for Database Searching; Multimedia in Perspective; CD-ROM vs On-line and Microforms. Ample demonstrations and hands on experience were arranged for the benefit of participants.

Apart from making available papers of lectures delivered during the Workshop, a few relevant articles published in

Shri I.R.N. Goudar explaining the capabilities of CD-ROM databases

international journals, a list of CD-ROM agencies and suppliers in India and technical terms of CD-ROM Technology were made available in the form of a bound volume, which is expected to be a good reference tool. The highlight of the Workshop was Multimedia demonstration combining text, graphics, motion sequences and audio by Sri. P.G. Nambiar, Managing Director of Namtech Institute of Multimedia and Computing, Bangalore.

Technical Communication: SIS Training Course

The Society for Information Science (SIS) in collaboration with NISSAT (Dept of Scientific & Industrial Research) organized a four-day training course in Technical Communication at the National Physical Laboratory, New Delhi during 19-22 January 1994. This was the seventh course in the series organized by SIS.

Dr Ashok Jain, Director NISTADS, New Delhi inaugurated the course which was attended by 21 participants from 14 scientific and technical institutions. They comprised information scientists, technical writers and editors and communication specialists.

* The Course Faculty was drawn from several illustrious national institutions specialising in the field so as to pass on the benefit of their rich and mature experience to the younger generation. The course was coordinated by Shri R.N. Sharma, Retd. Senior Editor, PID (OSIR). The organizational aspects were taken care of by S/Shri P.K. Varma (BHEL) and R. Kundra.

The Course Content was generally the same as in earlier years.

At the conclusion of the course, certificates were given away to the participants by the Society President Dr R.G. Gupta.

Directory of DST Approved R&D Projects During Seventh Five Year Plan (1985-90)

The National Science and Technology Management Information System (NSTMIs) scheme of the Department of Science and Technology (DST) has the mandate to collect, compile, analyse and disseminate information on Extramural (sponsored) Research and Development projects funded by

The President SIS (third form l.) is all set to give away certificates to the participants. Seated at left are Dr S. Mallick and Shri R.N. Sharma

different agencies. Such management information is valuable to policy makers, planners, managers of R&D funding and scientific community.

NSTMIS is maintaining a database of Extramural R&D projects funded by major central Science and Technology (S&T) Departments/ Agencies from 1985-86 onwards. The list of projects approved by various S&T agencies during the years 1990-91 and 1991-92 has already been published in the form of directories which have been found very useful by the scientific community. It should be mentioned that only minimum details as provided by the funding agencies were available in these directories. To get detailed information about the projects as desired by various interest groups, the best source would be the Principal Investigators (PIs) handling these projects. In order to provide such comprehensive information about projects, it has been decided to survey PIs agency-wise.

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The present directory is based on the mailcard survey through questionnaire of PIs of DST approved R&D projects during the Seventh Five Year Plan (1985-90). The projects are arranged in the directory by broad subject areas. Within each subject area, projects are arranged year-wise and then scheme-wise. For each project, all the relevant information such as project title, details of PI, project output etc, as received are suitably documented. For easy reference, a number of indices are also provided. The directory provides a brief analysis on pattern of funding, R&D projects by types of institutions/by broad subject areas, research publications emanated from these projects, the journals where these paper published, the profile of Principal Investigators of these projects such as highest qualification, prestigious awards/ honours received by them and various positions held by them etc.

It is hoped that this directory will serve as a useful source of information for scientists, technologist, planners and policy makers. Users are welcome to send in their comments on the directory.

The directory and all related survey work has been done by a team comprising Ms. Namita Gupta, Shri D. George and Shri S.K. Choudhary under the overall guidance of Dr. (Mrs.) A.R. Rajeswari.

R&D Projects Approved for Funding by Govt. Agencies during 1992-93 — A Directory

The Department of Science and Technology (DST) has been collating information on extramural research and development (R&D) projects funded by various Central Government Departments/Agencies. Thanks to this effort, the Department has been bringing out annually a directory of extramural research and development projects funded during the year.

The present directory, third in the series, contains information on 1,420 R&D projects approved for funding by 17 Central Government Departments/Agencies during the year 1992-93. Based on suggestions received from various users we have incorporated more analysis on the pattern of funding under the head 'Brief Analysis'. The listing of projects is arranged as per major subject areas of science and technology. For reference, indices on principal investigator and institute are appended. The address of the funding agencies is given at Annexure 1 and institute-wise number of projects and its approved cost are given at Annexure-2.

Since the listing is based on input received from the responding agencies, it is presumed that the information furnished by them is complete. It is hoped this directory will serve as a useful source of information for scientists, technologists, funding agencies, implementing institutions, planners and policy makers.

36   The Directory and all related survey work, has been done by a team comprising of Shri D. George, Ms. Namita Gupta and Shri S.K. Choudhary under the overall guidance of Dr. (Mrs.) A.R. Rajeswari. The data entry and other support services have been rendered in-house.

Medical Database to SCT Through Satellite Link

The Sree Chitra Tirunal Institute for Medical Sciences and Technology Library, Thiruvananthapuram in collaboration with National Informatics Centre (NIC) has opened the facilities to be provided for medical professionals in Kerala on MEDLARS, (MEDICAL LITERATURE ANALYSIS AND RETRIEVAL SYSTEM) comprising 28 databases—the most extensively used biomedical information system in the world.

MEDLARS is created by National Library of Medicine (NLM) of National Institute of Health, Bethesda, USA. The system provides information on literature published and unpublished in all areas of medicine including dentistry, nursing, cancer, AIDS, toxicoloty, population, and health planning & administration.

In India this service is being provided by National Informatics Centre (NIC) which has been designated as the Indian Medlars nationwide satellite computer communication network, NICNET throughout the country in all districts, in state capitals HQs of NIC and 21 leading research institutions engaged in Biological and Biomedical research institutions. NICNET also provides linkages to international networks using which IMC has been directly linked to the National Library of Medicine and can access all the MEDLARS databases.

In Kerala Sree Chitra Tirunal Institute for Medical Sciences and Technology Library is connected to NICNET through the VSAT Micro Earth Station installed in the premises of Library Computer centre. Services offered by SCT in this network will be

1. Biomedical information from all MEDLARS Databases.

2. Interactive access to MEDLINE database.

3. Online Catalogue of Biomedical journals containing journal holdings of 150 Indian Libraries.

4. Training of users.

The doctors and scientists of SCT and other medical Institutes in Kerala can access the database doing online search in their related areas. In addition to that the Biomedical Technology Wing of the Institute at Poojapura, is connected to this facility through a dial up modem which links both SCTIMST Hospital Complex and BMT Wing.

A menu driven bibliographic retrieval software, BRS/ SEARCH, is used to search this database. Apart from the above, the electronic mail service of NICNET (NICMAIL), can also be used for communication between different Institutions and other related centres in the country. Through this facility all doctors in the Medical Institutes and Private Hospitals will be benefitted by the advance of recent information technology.

Dr. M.S. Valiathan who inaugurated the facility in October 1993 described it as a Stepping Stone for the library and information services of the Institute.

3-D Coordinate Measurement System

A 3-D measurement system used in automobile engineering, CordiMATE been devised by Pragati Computers Ltd., Pondicherry.

It consists of an IBM PC Campatible, an interface module for communicating with the 3-D system and a comprehensive software package to carryout various types of measurements.

The hardware interface between Pragati's system and the 3D machine is of a special nature. It receives as inputs, six signals which pinpoint the exact location of the 3D coordinate probe to an accuracy of 2 microns. These six signals are fed to a counter/timer which keeps track of the current probe location. At any given moment the exact location of the 3D probe can be determined by reading this counter. The hardware interface also services the hand held terminal which is part of the Cordinate 3D measuring system. Commands can be sent to the interface module from the hand terminal. Similarly processed data from the interface module is sent back to the hand terminal. Communication between the hand terminal and Pragati's system is through a serial interface. This ensures minimum cable requirements for the interfacing.

A specialised software forms the heart of the computerised interface to cordimet 3D system. The software is primarily responsible for calculating vectors like angle of inclination of plane, the elliptical factor of a circle, determining the thickness of a sheet of metal or workpiece etc. The software can be instructed to use any input value as the origin. Therefore it is not necessary that a fixed physical point be used as the origin. Similarly any plane can be taken as the origin and the angle of inclination calculated accordingly.

Marketing of Information Services and Products — IASLIC Workshop

The Indian Association of Special Libraries & Information Centres (IASLIC) organized a two-week workship on the above topic in Calcutta during 28 Feb-11 March 1994. The workshop was sponsored under the NISSAT Programme of DSIR in Collaboration with the British Deputy High Commission British Council Division, Calcutta.

The Programme covered the following:

- Marketing — an essential tool for Information Resource Management
- Marketing Programme & Components
- Marketing Research
- Marketing Mix
- Pricing of Library & Information Services
- Application of Marketing in Academic/Special and Public Library System

- Marketing Audit
- Marketing of National level Services & Products
- Marketing & Information Industry

The proceedings of the programme and a report on the discussions will be reported in the next issue of NISSAT Newsletter.

Catalogues of CD-ROM Publications

Microinfo Ltd UK, has released its new 92-page catalogue covering over 500 professional level CD-ROM titles and databases from almost 100 international publishing sources now represented by the Company. The subject categories covered include agriculture and food, desk top publishing, library science, psychology and sociology. It also includes a subject index of subjects now available on CD-ROM. The catalogue also incorporates Unix-based products and CD-ROM hardware (drives and workstations) from Hitachi Philips and Toshiba. There is also a section on special diskette products.

The second CD-ROM catalogue is available from FOS-CD of UK. Like the Microinfo Catalogue, this Catalogue is also divided into subjects such as the arts, humanities, languages and leisure. There are sections on video for Windows and Photo-CD, multimedia products, hardware, software, CD-ROM accessories and a product index. — Information Management & Technology 1993, 26(4)

Network for Sustainable Development Expands Its Scope

UNDP is contributing $ 1.5 million to expand its Sustainable Development Network (SDN), an information system which links sources and users of information an sustainable development in government, research, academic, media, non-governmental, grassroots and entrepreneurial organizations. The SDN assists countries in gaining access to information and sound technologies that will enable them to care for their environment while improving economic growth for present and future generations. The SDN now operates in six countries and one sub-region.

The additional funds will be used to introduce new SDNs. Greater emphasis will be placed on the Africa region. The network will also give priority to countries assisted by CAPACITY 21, a UNDP initiative to support developing countries in preparing and managing their own sustainable development plans.

The SDN began in 1989 to promote the UN Conference on Environment and Development, known as the Earth Summit, held in Rio de Janeiro. In June 1992, SDN deliberations relied extensively on the use of computer-mediated communications. UNDP's aim was to demonstrate to the Earth Summit how SDNs could contribute to exchanging information on sustainable development. Just before the Earth Summit, UNDP allocated $ 1.4 million for a 14-month pilot phase to refine and test the SDN concept. Twelve pilot projects were developed. The new funds are expected to bring a total of 20 SDNs into operation by the end of 1994.

UNDP will continue to provide conceptual and administrative support to SDN sites around the world. In addition it will provide computer equipment, software, information packages and management tools, along with training workshops and technical assistance.

COPSAT Service

A joint venture of INFLIBNET Programme, Ahmedabad and National Centre for Science Information, Indian Institute of Science Bangalore, the COPSAT Service provides contents of periodicals (with abstracts, if available) of articles for specified number of journals of your interest out of the list of about 3000 top ranking journals in the areas of life sciences, physical sciences, chemical sciences, earth sciences, engineering, technology and applied sciences. Sixty percent of articles contain abstracts.

The service started last year is available both on paper (print and floppy diskette. Incentive provided for service on diskette to promote the applications of computers in libraries. On floppy diskette service is available in two forms:

ASCII form: This data can be read using wordstar or any text processing software and can print the data.

ISO 2709 format: Using CDS/ISIS library can creats their own database in COPSAT output.

Subscription Rate

The annual subscription rate is Rs. 3500/- per annum for 12 issues, each issue covering:

a. One set of 25 Journals on paper (printed form)

b. One set of 40 Journals of floppy diskette in ASCII form

c. One set of 40 Journals on floppy in ISO 2709 format

For further details contact Shri O.P. Arora INFLIBNET Programme, Opp. Gujarat University Guest House, P.B. No. 4116, Navrangpura, Ahmedabad-380 009.

LibSys—Training Programme on Library Automation

A Training Programme on Operations Using the Library Automation Package LibSys was organized for the benefit of the staff of National Aerospace Laboratories, Information Centre for Aerospace Science and Technology (ICAST) during 13-17 December 1993. The programme was conducted by Shri S.K. Dey of LibSys Corporation, Delhi with the technical support of Shri D. Venkatarajan and Ms K Latha of the ISS Section. Shri I.R.N. Goudar, Head, ICAST expects to make this system fully operational very soon.

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LibSys, which is a fully integrated multi-user and menudriven package with powerful search and query facilities, runs on ICASTs UNIX platform. It supports almost all activities of library and information services including acquisition, cataloguing, circulation, serials control and articles alert. Users can, for example, find out if a book, report, etc. of their interest is available at ICAST through author, title, keyword, etc, searches. Once the LibSys platform is fully operational, the NAL library will be in a position to issue books on-line with the option for reservation, reminders, etc. More than 18,000 records of books and reports acquired since 1987 have already been ported to the LibSys platform. Very soon terminals (including a user terminal) will be made available at various sections of the library and also at Belur sublibrary. Later, attempts will be made to extend this facility to other buildings on the Belur and Kodihalli campuses.

Library and Society: Punjabi University Seminar

A two-day seminar was organised by the Department of Library and Information Science, Punjabi University, Patiala on the theme, "Library and Society" during 18-19 February, 1994.

In his **keynote address** Professor M.L. Sharma, Retired Professor of Sociology, Haryana Agricultural University, Hissar appreciated the organizers'choice of such an important theme and conducting the seminar in *Punjabi*. He said that today, besides preservation of our cultural heritage, the libraries have an important role, namely disseminate correct and uptodate information promptly.

Prof. Sharma said that an educational system derives its strength from its library system and services. The Govt. must pass legislation to establish and develop public libraries for the state of Punjab. He underlined the need for cultivation of reading habits among different groups of society and suggested that people must know their social history. Libraries play an important role in making the library heritage available to the new generation. He impressed upon the participants to discuss the relation and role of book-trade and libraries in their mutual coexistence and development.

Dr. L.S. Sidhu Dean Academic Affairs in his **presidential address** said that University libraries should be organized scientifically, so that readers don't face any difficulty in getting the required books and other sources of information. He emphasised that teachers should make more use of library resources and services in their teaching and research programmes. Dr. Sidhu further said that the new technology must be integrated into our libraries to retrieve and use library and information sources available commercially as well as from other libraries and information centres. He underlined the need for making use of new storage devices and computer networks.

Dr. R.G. Prasher, Professor & Head, Department of Library and Information Science (Dr. Hari Singh, Gour Vishwa Vidyalaya, Sagar (MP), who was the chief guest, raised the following issues for discussion in the seminar:

1. Role of Society in the establishment, growth and development of libraries.

2. Role of libraries in the improvement of our society.

3. Role of government in the development of libraries.

4. Role of Librarians as well as Library and information scientists in interpretting the philosophy and services of libraries to the people to meet their social, occupational, educational and recreational information needs.

5. The role of other professionals, i.e. doctors, engineers, architects, etc. in making use of library and information services for the amelioration of society and giving feedback about the library and information resources and services. He reiterated the role of book-trade in shaping the present and the future course of libraries and information Centres.

A book exhibition was also inaugurated by Prof. Prasher. About 60 delegates from Punjab, Haryana, Chandigarh and M.P. participated in the Seminar which was directed by Shri S.P. Narang, Head of the Department of Library & Information Science, Punjabi University, Patiala.

The following Technical Sessions were organized: 1) Social context of libraries; 2) Library movement in India and abroad; 3) Types of libraries and the library profession and 4) Library legislation and Government.

The Valedictory Session, which was chaired by Dr R.G. Prashar, was marked by comprehensive discussions at which a number of recommendations and resolutions were passed.

Databank on Pest Management

The world's first comprehensive databank on integrated management of pests of cabbage, which at the touch of a computer key throws light on insects that devour the crop in various countries and lists tips to eliminate them, has been developed by the Indian Institute of Horticultural Research (IIHR).

Compiled in computer diskettes, the Cabbage pest expert version 1.0 programme describes the international pest scenario, the biology of scores of insects that damage cabbage the worldover, the application of alternative hosts, predators and biocontrol measures.

A special feature on utilisation of Indian mustard as the trap crop has been incorporated in the system which would prove a treasure-house of information for farmers, scientists working on pests, and workers in extension wings across the globe, says IIHR Director, Mr R.M. Pandey. The programme, which could be used on a simple personal computer, would soon be released for researchers and farmers in the country.

Dr. Pandey said scientists at IIHR had also developed similar computer guides for cultivation and utilisation of grapes and mushroom. The Grape expert system 1.0 was only the second such system developed for cultivation of grape in the world and the first for any agricultural crop in the country. The user-friendly, menu-driven software provides tips for farmers of all grape-growing areas of India on propagation, cultivation,

plant protection, packaging and product utilisation. This system would be updated to keep pace with the advances in grape cultivation.

On the Indian mushroom expert system I.O. he said the programme provided answers on day-to-day problems of mushroom cultivation for beginners and expert opinion to experienced growers on production and processing of paddy straw, oyster and white varieties of mushroom. Dr. Pandey said one interesting feature of the mush-room expert system was inclusion of more than 80 recipes on mushroom delicacies.

He said his institute proposed to develop similar software systems on tomatoes, onions and banana. Besides educating the farmer on modern techniques of cultivation, these software systems could help reduce the pesticide residue on crops as farmers often pumped more toxic chemicals than necessary to combat pests.

On the future plans of IIHR, he said a national informatic centre for all horticultural crops was proposed. The data stored in this centre could be accessed through computers located in different parts of the country. This centre would later be linked to information centres across the world for know how on cultivation and preservation of the crops.

Foreign Language Translation Software

Globalink Inc., USA, offers foreign language translation software, intended for sentence by sentence computer assisted translation with result given in the grammatical structure of the target language. Up to 90% accurate, the general dictionary of over 20,000 words offers translation speeds of over 20,000 words per hour with a 386 PC. The user is able to add words or change words in the dictionary. Tow lines of products are available: One is called Power Translator the other GTS-Professional. The professional version allows for the use of subject-specific dictionaries made by the user or can be purchased form Globalink Inc. Products available are: Spanish/to/from-English, French-to/ from-English, German-to /from English and Russian-to/form English. Price range from $299 to $998. Special requirements: PC or compatible, DOS 3.1 or higher: 640 kB RAM, 20 MB hard disk.

For further information write to:
Globalink, Inc, 9302
Highway, 12th Floor
Fairfax, VA 22031, U.S.A.

National Database on Environment

Scientists in New Delhi are preparing a national database on preparing a national database on the Indian Environment to help speed up decision-making and remedical action on pollution and other environmental issues.

The ambitious Environmental Database and mapping through Geographic Information System (GIS) project is being conducted by the National Institute of Science, Technology and Development Studies (NISTADS).

A computer centre in NISTADS will continuously receive data on air and water pollution and other environment related parameters from several hundreds of monitoring stations run by the Pollution Control Boards.

The vast pool of information will be integrated with images sent by the Indian Remote Sensing (IRS) satellite, maps and socio-economic data generated from the ground. Dr. Subhan Khan, project director at NISTADS said.

Complicated tables and graphs will now be replaced by easy-to-understand computer maps.

Under this project, several key environment-related parameters like air and water quality, soil and groundwater features, and forest cover will be fed into computers at NISTADS.

Special software developed at the NISTADs will be used to integrate data collected from various sources such as remote sensing satellites and the pollution monitoring stations, said Khan.

The database could be used to identify sources of pollution, determine the impact of a specific polluter in a given situation, and help policy-planners and administrators take quick decisions, he said.

Dr. Khan said major users of the database would be the Department of Environment itself, the pollution control boards and research and academic institutions involved in environmental studies.

The NISTADS has now launched training programmes to help other researchers learn to use the GIS environment database. The first training programme began in September.

Indian Science Information In Electronic Form

The Indian Science Abstracts (ISA) information is now available as a database which can be searched by a software package specially designed by INSDOC using different key words. The special software designed by INSDOC permits the database to be loaded under MS-DOS personal computer without having to invest on database packages. The database, however, can be made available under CDS/ISIS, dbase IV and ORACLE database management systems for those users who would like to develop their own retrieval programmes.

Value-added Technology Information Service (VATIS)

Value Added Technology Information Service (VATIS) is new mechanism being evolved by APCTT to disseminate information on new ideas, technologies, products, processes and machinery and trade and technology policies among specific Target Groups in the countries of the Asian and Pacific region.

Each VATIS update will focus on a specific area of importance to the region and is intended to be specially tailored to meet the needs of the target group. The target group will consist of policy makers, intermediaries in the sector concerned. While it will start with a sector covering a reasonable scan of topics, it will keep in view the specific interest of the target group, and will endeavour to gather and highlight those which cater to their special needs. This may, therefore, not remain static but will continue to change in focus depending on the changing perceptions and needs of the target group. At present APCTT is planning to bring out a series of bimonthly VATIS Updates covering Biotechnology, Food Processing, Non-Conventional Energy and Waste Management.

Award for NISSAT Exhibit

At the exhibition of information products and services held as part of INFOTEX'93 in Bangalore during Nov-Dec. 1993, the NISSAT, DSIR display was highly commended and became the recepient of a merit award for displaying the widest range of information products and services.

A.C. Mitra Retires

Shri A.C. Mitra, Scientist-in-Charge INSDOC Regional Centre (1988-93) and Coordinator of CALIBNET retired on 30 September 1993 after 33 years experience as an information scientist in various capacities. He continues to be closely associated with CALIBNET as its Coordinator and Member-Secretary of its various Committees, playing a key role in the implementation of the first library network in the country.

A.C. Mitra

Erratum

NISSAT Newsletter No. 3, 1993, Page 31 item entitled COPSAT: INFLIBNET last para for An annual Subscription of Rs 3300 read Rs 3500 ....

"Science is built up of facts as a house is built up of stones; but an accumulation of facts is no more a science than a heap of stones in house."
— Henri Poincare

Ours is the age of substitutes: instead of language, we have jargan; instead of principles, slogans; and instead of genuine ideas, bright ideas.
— Eric Benley

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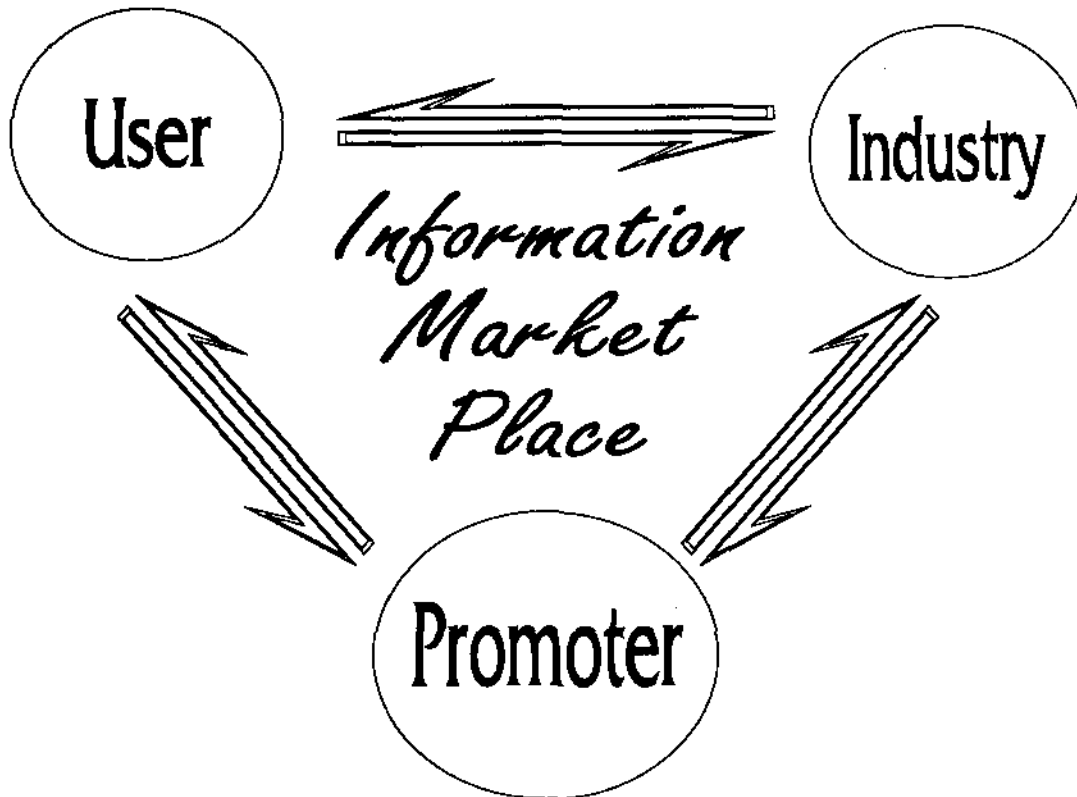
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