# NISSAT

NEWSLETTER

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**NISSAT Newsletter**, published quarterly, is the official organ of NISSAT, and is aimed at disseminating information concerning programmes, activities and achievements of NISSAT as also of the various centres functioning under it. Additionally, it attempts to project major developments in the field of information science at national and international levels.

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## Go Hand-in-Hand

Professional bodies have an important role to play in developing a subject or a concept. Their activities generally focus on training courses and workshops, seminars, lectures, etc. Some societies produce scholarly journals and newsletters for circulation among members are published by most of them.

All these go well for furtherance of a concept, subject or discipline and sharing of knowledge. The benefits could, however, be significantly increased if the activities are better coordinated though scholars or professionals might view this as a bureaucratic intrusion.

One cannot deny the fact that lately there has been rapid proliferation of professional bodies. Most of these lack even the critical number of enthusiasts and financial resources. As a result, activities get limited to organization of congregations and publications of dubious value.

The scenario in respect of library and information science is no different. There are only a few all-India bodies. Scores of city-based groups have sprung up. It should be realized that professional bodies on LIS could take on more responsibilities, such as provision of custom database search services or SDI services and generating abstracting literature on different subject specialities. Several institutions have sought their assistance to systematise library holdings. These societies are expected to play a key role in library automation programmes especially in the retrospective conversion process. In fact, their involvement could be vital in dealing with peak loads ituations.

The strength of a professional body is drawn from its financial and functional flexibility coupled with its capacity to mobilize its reserve of technical skills like retired persons, students, educated job seekers and housewives whose services normally cannot be utilized through regular institutional mechanisms.

However, it is also to be recognized that even the all-India bodies, have functional strength in restricted geographical areas because of a clustering of members and office bearers and also location of headquarters. Therefore, all-India bodies would need to join hands with local bodies if they want to operate outside the area of convenience. In the process, local bodies also get inducted into the national stream. For larger causes or activities of wider interest, professional bodies should better work together. Events like the one recently held in Calcutta with BLA-ILA-IASLCI should occur more often. NISSAT would like to lend support to such collaborative efforts.

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CONTENTS

# National Centre for Medium Range Weather Forecasting

*R.K. Datta*
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India is an agriculture-based country and its economy predominantly depends on agriculture. Inspite of all the advances in technology, agricultural production is still affected by the weather. If custom tailored weather forecasts could be available to agriculturists in time and suitable measures taken, the available produce could be increased and recurring losses minimised. Reliable weather forecast for a short period of 24 hours ahead with an outlook for the next 48 hours have been available to farmers and others in India for the last few decades. These forecast are based on a blend of forecasters, skill and to some extent guidance from the limited area numerical weather prediction (NWP) models developed in India. A survey, however, shows that short range forecasts are useful for certain applications but for adopting weather-based agricultural practices, the reaction time required for implementing the advisories is larger and forecasts in the medium range i.e. 3 to 10 days in advance are vital. Compared to short range weather forecasting which can be handled by limited area models, the medium range forecasting imposes the use of global circulation models and their integration in time from a given initial state all over the global atmosphere. The problem of weather forecasting in a deterministic manner is a formidable task anywhere in the world, the more so in the tropical monsoon regime. But the task is worth the challenge.

## Motivation for Developing MRWF

The last three decades have witnessed a tremendous development in numerical techniques, better understanding of physical processes and higher computational power. These developments have given a great boost to the numerical weather prediction (NWP) techniques and have brought the extension of weather forecast from short range to the medium range (3-10 days in advance) within the realm of reality. In the early 50's when the numerical weather prediction technique was in the initial stage of development, there were doubts on the possibility of the technique to succeed but dedicated work for the last 3 decades all over the world has led the NWP techniques to be universally accepted. Against this background, when during 1983 there was unusual persistent clouding in the months of April-May over the north-west part of India causing crop diseases in the wheat crop, the then Prime Minister Smt. Indira Gandhi wanted the meteorological community to carefully examine if there were any variations and fluctuations in the climate and find out ways and means to adjust the cropping pattern according to the likely weather conditions. An expert committee under the chairmanship of Prof. Yash Pal was constituted when to examine this problem in its totality. The deliberations of that Committee and the survey done by the members during that period brought out very clearly that wheather based agro-advisories are necessary to improve our agricultural production, and the weather forecasts at the medium range (3-10 days) are vital for making weather based agricultural practices a success. In early eighties, India Meteorological Department had also its own plans to carry out research to develop model to predict weather on medium range, but the deliberations of the expert Committee acted as a catalyst in fast approval by Government of India of this prestigious project on "Establishment of National Centre for Medium Range Weather Forecasting and Development of Agrometeorological Advisory Services". The project was envisaged as an integrated one so that the ultimate fruits of the research on medium range weather forecasting and on-going research in agriculture could all be clubbed together in the form of weather based agro-advisory services so that the advisories are issued in a suitable manner which farming community can implement without any hassles.

## The Problem of Weather Forecasting

As stated earlier, weather forecasting is basically an initial value problem. Various scientific techniques of weather forecasting, which are in use, can be divided into three broad categories namely, (i) Conventional or synoptic methods, (ii) Statistical methods, and (iii) Numerical weather prediction techniques (NWP).

(i) *Conventional or Synoptic Methods of Forecasting*

Synoptic methods consist in a detailed analysis of current weather reports from a large area (a few hundred km on either side of the area of interest). The current weather patterns are mentally associated, with past analogous situations and forecasts are prepared based on the assumption that the current situation will evolve following the past analogous situation. Often the selection of this situation is based on experiences and memory of the human forecaster, but with the advent of computers, the picking up of analogues has become more objective and much faster. Recent studies and general experience show that such methods are good for providing useful forecasts in short range (less than 3 days) only.

(ii) *Statistical Methods*

The statistical methods consist in establishing suitable regressions equations, or in certain cases, more sophisticated statistical relationships between the predictant and the predictors.

Normally, the selection of the predictors is based on possible physical relationship with the predictant Such techniques have been found to be very useful for short-range and long-range forecasting. Although such techniques were also tested for their application in the medium range forecasting, so far success has been very limited. The computer time required for application of these techniques is generally not large.

The statistical techniques have however, become popular with improved output products from with NWP models for predicting specific events. Such techniques are known as Perfect Prog Methods (PPM) and Model Output Statistical (MOS) techniques. As a matter of fact, PPM and MOS have become essential components of NWP system. In these techniques, the predictors selected are the variables got as output from NWP models. The predictants pertain to situation like hail/no hail, fog, minimum temperature, clouding, rainfall etc., i.e , parameters which do not form the normal output products from NWP models.

(iii) *Numerical Weather Prediction*

The NWP technique basically considers that the behaviour of the atmosphere can be represented and governed by physical laws which can be expressed by differential equations together with their boundary conditions. These equations, when expressed as a closed system, are known as atmospheric model. The basic equations which form the atmospheric model are :

a) Equation of horizontal motion; two dimensional Navier-Stoke equation;

b) Continuity equation for dry air;

c) Equation representing conservation of moist air;

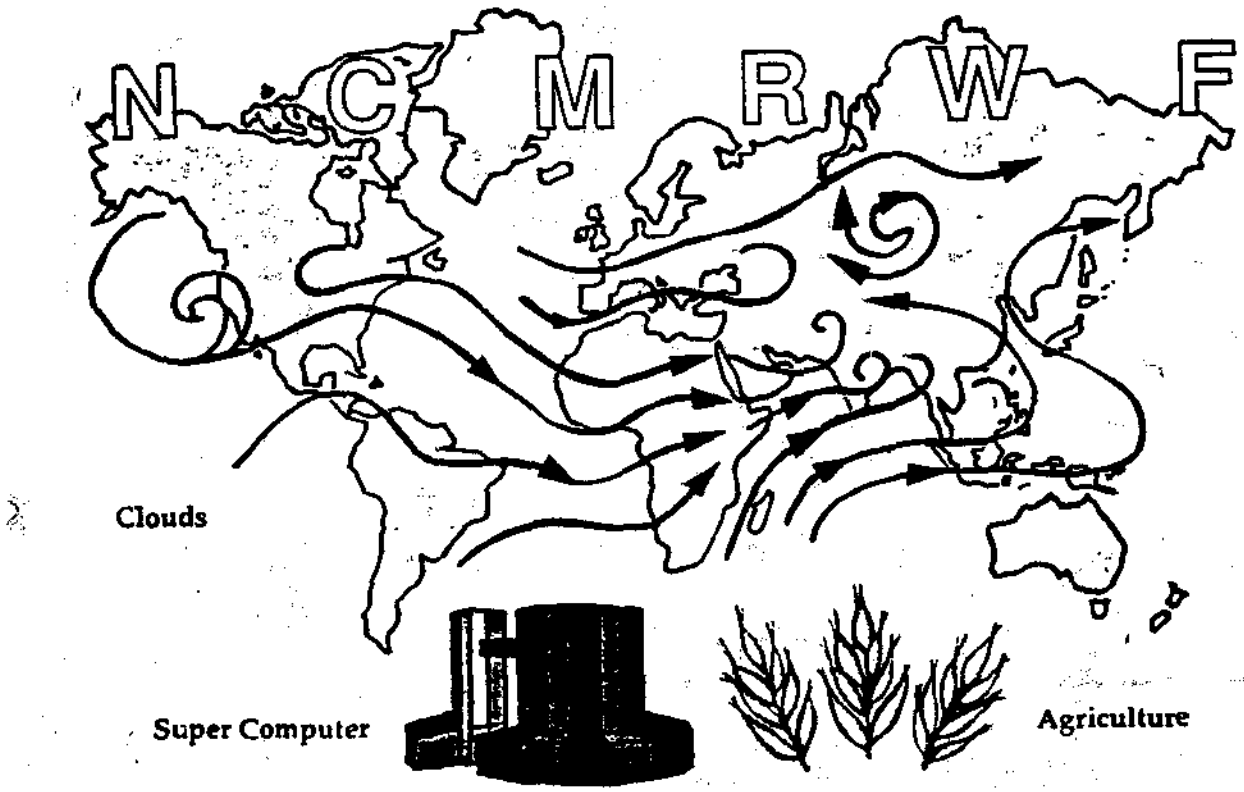
d) Equation representing First Law of Thermodynamics;

e) Equation for surface pressure tendency; and

f) Hydrostatic equation.

The first attempt to integrate this set of equations (atmospheric model) was attempted during the last phase of the first world war by a British scientist named L.F. Richardson. While he was deployed on a duty for carrying the wounded persons from one place to the other in the ambulance car he prepared 3 hours weather forecast for an area covering almost one quarter of the northern hemisphere after 6 months of rigorous manual computations. No doubt, the results of *Richardson's experiments were disastrous but his* work made way for a new discipline. This work remained in archives till a genius physicist and computer technologist Von Neumann in collaboration with a brilliant theoretician Jule Charney and a synoptic meteorologist J. Fjortoft integrated the atmospheric equations using one of the first digital computers ENIAC-I. They showed that through numerical integration using computer, the atmospheric waves could indeed be predicted. This work in the Princeton University in 1950 excited atmospheric scientists all over the world to work on this new discipline.

*Memory requirements* : To solve the equations numerically, it is necessary to discretize the atmosphere in horizontal and vertical planes. As stated earlier two techniques have been used to solve these equations, namely, finite differences and spectral. The latter technique is becoming more popular especially for global models. In either case, there is always transfer to grid domain. The number of grids in the horizontal space corresponding to a resolution of about 100 km comes to be about 51200 (160 × 320) for the global models. This is to be multiplied by the 19 levels in the vertical, the discretization of which is so far always done by finite differences. So to store the various variables at each grid point and to store instructions and intermediate variable values would need over 4 M words of memory and a large auxiliary memory.



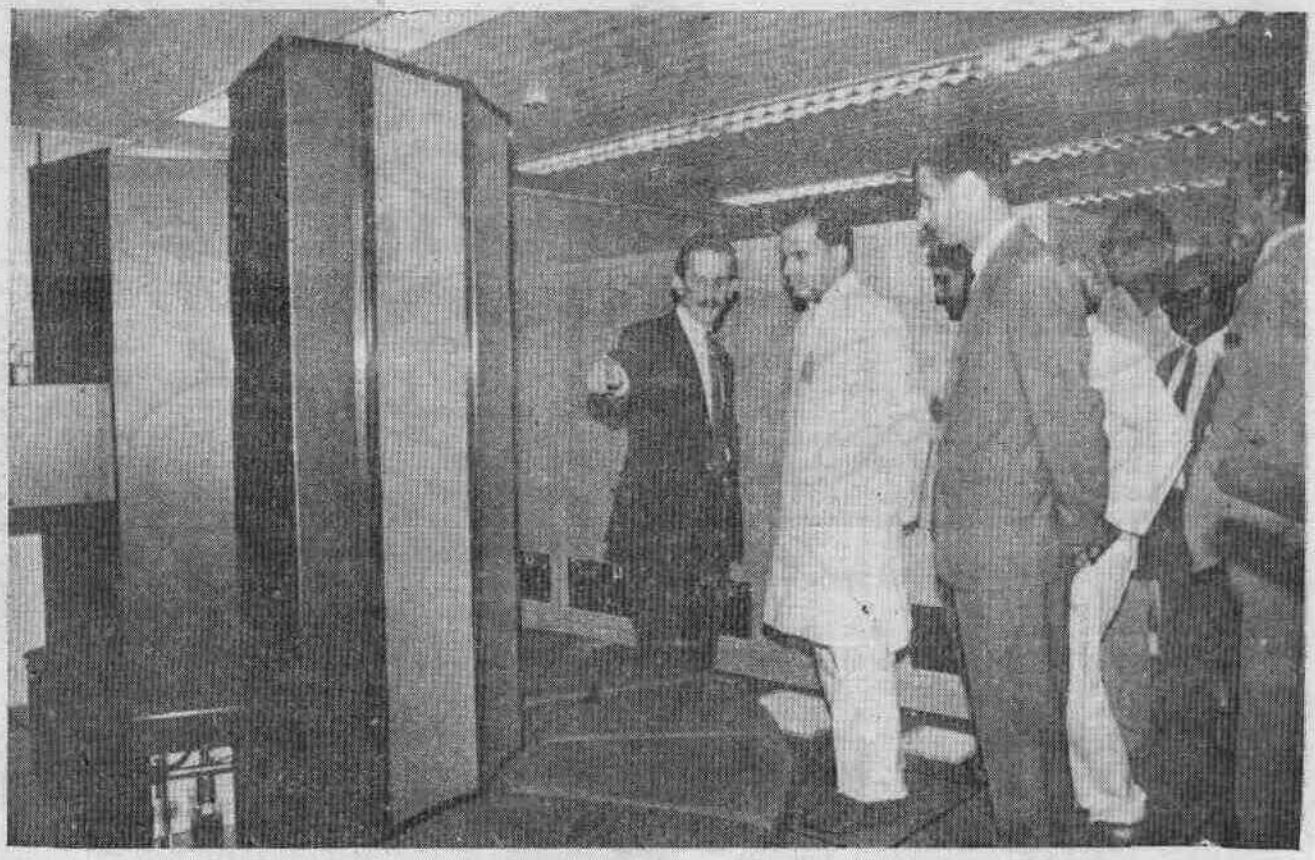

Using the supercomputer, NCMRWF would provide agrometeorological services to the farmers.

*Speed requirements* : The solution of atmospheric equations involves both slow time-scale weather systems as well as fast time-scale gravity wave. If the solution be based on explicit time integration, there is a limit imposed on the order of the time step based on computational stability criteria. The implicit time integration scheme is stable but it requires expensive matrix inversion procedure Normally via media schemes are used which limit the time step to approximately 12 minutes Thus for 10 days forecasts, it would need 1200 time steps and solving all the equation at every grid point, 1200 times would mean about 1013 operations. Considering, the reasonable time to produce a 10 day forecast to be of the order of 4-5 hours, we need the speed of the computer to be of the order of 500 MIPS.

In a tropical region, it is desirable to have better resolution, i.e., less than 100 km for producing useful forecasts. This demands a still more powerful computer system.

**Predictability**

In meteorological parlance, predictability is deifned as the period up to which the forecast variables are well correlated to the realised field and the forecast products have adequate skill for use. There are various methods by which this can be tested. One of the methods is to see if the predicted field and the realised field have a correlation of the order of 0.7 or more. The various parameters which set the limit for predictability are : (i) hydrodynamical instability inherent in non-linear set of governing equations and growth of errors starting from small uncertainty at the initial state; (ii) lack of understanding of physical processes and their inculusion in the atmospheric models and (iii) lack of precise information on initial state because of data gaps. On the basis of theory itself, the deterministic forecast, therefore, can be only finite,—being about 14 days, but the practical limit is further dependent on the simplification and estimation carried out in



Prime Minister Rajiv Gandhi being shown round the Cray X-MP/14 Supercomputer at NCMRWF after dedicating it to the Nation. At extreme right is Dr Vasant Gowariker, Secretary, Dept. of Science and Technology

the model equations, the truncation error due to the finite word length of the computer and the real time errors in the initial state. All these make the practical limit lower than the theoretical limit. Since in the tropical area we have more serious problems, both in the determination of initial state because of lack of data as well as modelling the physical processes, both the theoretical and practical limit of predictability are lower in tropical areas than in the middle latitude. The present state-of-the art is that deterministic forecast have a practical limit of predictability of about 8 days in the middle latitude of the northern hemisphere and less than 3 days in the tropical part of the hemisphere. The present research is dedicated to increase the practical limit of predictability up to a period of 3 to 5 days in tropical areas and more than 10 days in the middle latitude areas.



## National Centre for Medium Range Weather Forecasting (NCMRWF)

The Government of India approved in January 1988 a project on the establishment of a National Centre for Medium Range Weather Forecasting and Development of Agrometeorological Advisory Services on Mission mode. This is a multidisciplinary, multiagency project with DST as the nodal implementing agency. The main objectives of the project are :

— Setting up of major infrastructural facilities like supercomputer, front-end processors and communication network and their on-line linkages with IMD, ICAR and proposed agrometeorological field units.

— Development of global and regional circulation numerical models taking advantage of the

present developmental efforts in the country and abroad for medium range weather forecasting.

- Preparation of medium range weather forecasts (3 to 10 days in advance) on real time basis.
- Development, preparation and dissemination of agrometeorological operation forecasts including advisories for contingency crop practices to the end users.
- Promote and undertake studies on crop-weather relationship and impact of weather and climate on pests and diseases.
- Development of suitable agrometeorological models.

The usual forecast parameters provide average conditions within a range of 100 × 100 km.sq. (depending on the resolution of the model). The agriculturists would, however, like to get information of a very specific nature related to his region. He would not only need weather parameters normally provided by a numerical weather prediction forecasting but more precise information. For example, if he is growing vine crop, or wheat crop in early stage, he would worry more about occurrence of frost rather than the other weather parameters. But in case it is month of April and his wheat crop is ready for harvesting, he needs information wheather there is going to be sunshine in the next couple of days or not, because such an information is vital for him in planning his harvesting schedules. In case it is predicted that there is going to be a dust-storm or rain in the next 4-5 days, the best course for him would be to expedite the harvesting and store the crops in safe places. It is said that in the region like Rajasthan where there are few rainy days, the timely prediction of those days is so vital as to result in literally bountiful crop or no crop. Now this type of weather information, which we hope will be made available to the farming community with the functioning of the National Centre for Medium Range Weather Forecasting, is important but the planners of the Centre feel that this is not enough. What is required is not only the information on weather parameters, both actual and the predicted but translation of such information in terms of agricultural practices. In specific terms, the object is to provide the action plan for a region, district or a smaller area in terms of the operations which the farmer should be advised to carry out in view of the existing and predicted weather conditions. Naturally, it has to be related to the soil, type of crop and stage of the crop. This we term as agrometeorolcgical advisory services.

*Field units* : This agrometeorological advisory service is to be developed through establishment of 127 Agrometeorological Field Units (AMFUs) distributed in the country covering all the agroclimatic zones. For translating the meteorological information into agricultural practices we need the expertise of agricultural scientists—soil scientist, agronomist, plant pathologist, water technologist or horticulture scientist. All this expertise to a large extent is available in the State Agricultural Universities and Centres established as part of State Agricultural Universities through ICAR, namely, National Agricultural Research Project Centre (NARPC). In order to exploit the expertise available in this region it is planned to co-locate AMFUs with SAUs and NARPCs. We expect that in the next five years or so every one in the country, especially farmers will listen to the bulletins giving specific advice based on the present and forecast weather, crop and soil conditions.

When such bulletins are issued regularly, and adequate accuracy is reached, our farmers would begin using them for planning agricultural operations. Though not much educated the farmers are very capable of adapting to new procedures Better forecasts and their proper utilisation would minimise the losses caused by the vagaries of weather Over and a bove, increased production due to better farming practices would result. This is our dream and scientists are working to achieve this as fast as possible, but it must be realised the task is formidable as the forecasting in medium-range is full of challenges anywhere in the world the more so in the tropical area of monsoon regime. Our country has certain characteristic features from meteorological point of view which do not exist anywhere else in the world. Some of these are :

(i) area lies in the tropics,

(ii) the steepest mountains lie in the north,

(iii) oceans are all around (therefore lack of conventional meteorolcgical data),

(iv) two monsoon seasons, and

(v) two seasons of cyclones and last but not the least these meteorological conditions of the region are significantly different from other parts of the world. Therefore direct sharing of knowledge especially with the developed part of the world, namely, Europe and north America is limited.

Development of weather forecasting models in the Indian context, therefore, presents a very special challenge due to the uniqueness of our area and monsoon phenomena. The infrastructural facilities have now been built up The supercomputer system was dedicated to the nation for use by NCMRWF by the Prime Minister on 25 March 1989. The configuration of the system is depicted in Fig. 1. Core scientists have been recruited, and training has started. The scientific work has started to develop the models Our scientists are using our own experience and expertise and are also getting whatever possible feedback is available from other scientists in the world. It is hoped that operationally viable mathematical models for specific use in the Indian context will be developed in about 5 years from now and weather based agro-advisories will become a reality.

*A modified version of this article is also being published in The Hindu Survey of Indian Agriculture 1989.*

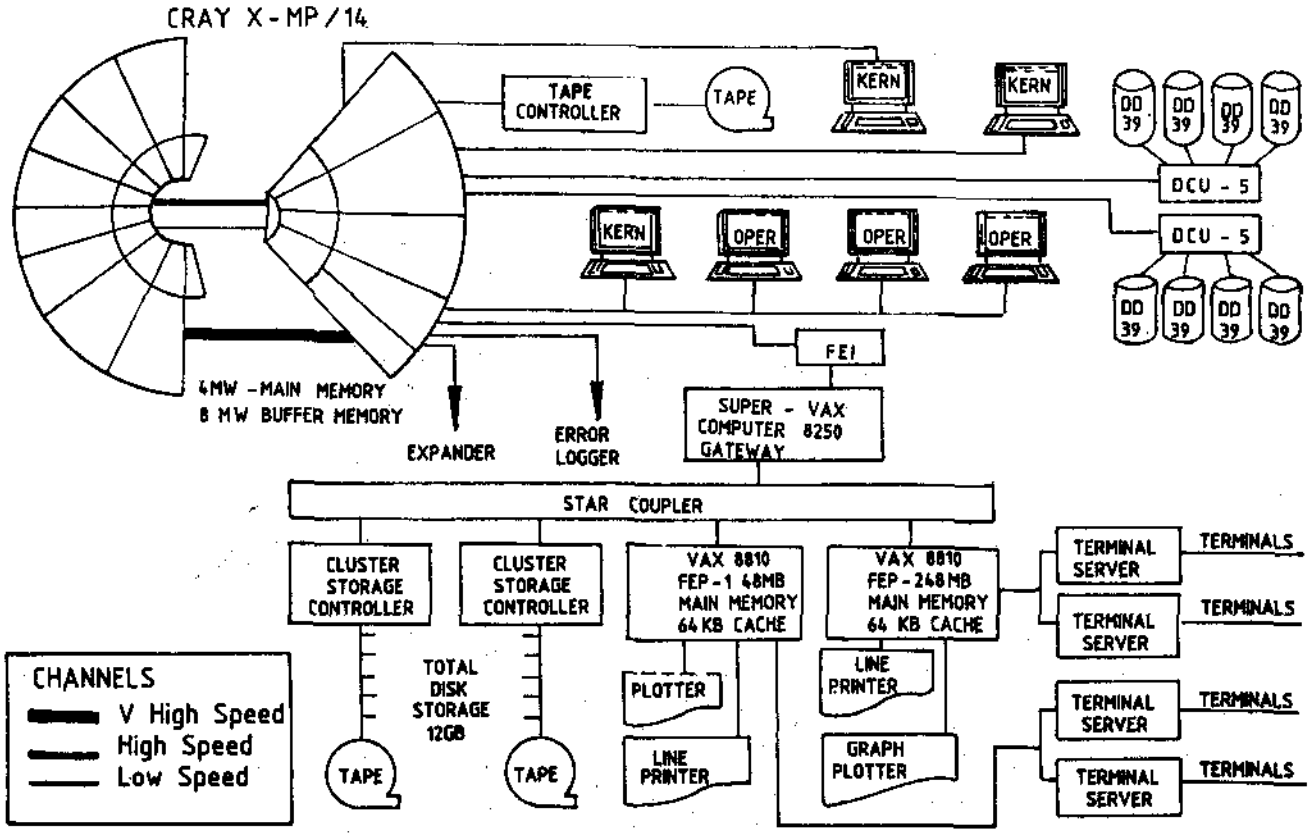



Fig. 1 Computer System for NCMRWF

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Interdependence certainly heightens the fragility of the world industrial economy. A shock in one part of the globe is readily transmitted to all other parts. It used to be said that when the United States sneezed, Europe, caught a cold. Today there are more who can sneeze and many more who can be infected—UNIDO Director General Domingo Siazon.

★ ★ ★



Nothing can be more important than the development of techniques for training people of all ages so that they can make the best use of their talents to earn a profitable and satisfying living and be able to enjoy a rich and varied life—Duke of Edinburgh at the Human Resource Development Symposium, London.

# LIBSYS : An Integrated Library Management Software Package

LIBSYS is a comprehensive library software package. It is a fully integrated multi-user system designed to run on super-micro/mini computers (including PC's) under UNIX/XENIX/VMS environment. A subset of LIBSYS is also available for micros under MS-DOS. LIBSYS is easy to operate and the library staff can begin to use it quickly without any pre-requisite programming/computer skills. It ensures high productivity because of minimal data entry requirements, maximum possible integration of functions and powerful search and query facilities. LIBSYS supports almost all activities relating to acquisition, cataloguing, circulation and serials.

Each sub-system of LIBSYS described below gives the 'Menu' followed by some details of its main processes.

## 1. Acquisition

The Acquisition sub-system deals with ordering monitoring of receipts and invoice control. It also supports budget expenditure analysis.

ACQUISITION MENU

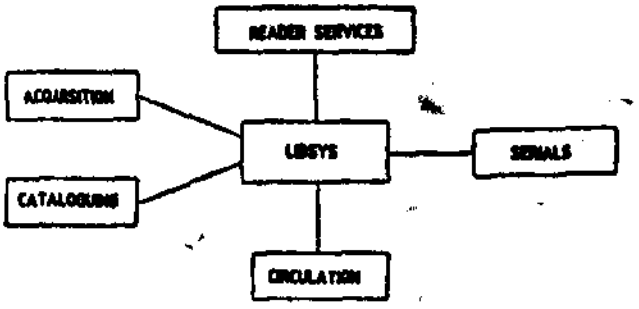
1. Initiate title
2. Approval process
3. Update title details
4. Place order
5. Receiving
6. Accessioning
7. Payment requisition
8. Order follow-up
9. Amend/cancel order
10. Renew standing order
11. Enquiries
12. Reports
13. Record keeping
14. System setup

Select [ ]

*Initiate Title for Ordering :* The acquisition process is initiated by entering the details of a title which may either be received 'on approval' from vendor or those requested by the user. Besides other details about a title such as unit price, number of copies, vendor etc., the bibliographic details are provided by :

a) Entering details of an entirely new title.

or




LIBSYS and Sub-systems

b) Selecting a title which already exists in the database to order additional copies.

or

c) Copying the details of an existing title and modifying it to order another edition of the same title.

Thus for ordering additional copies or another edition of an existing title, the system precludes duplication of data entry. While entering details of new titles, the system checks for duplication and reports if the title already exists in the database.

*Approval Process :* The approval process involves printing approval form by selecting specific titles and subsequently updating the status of each title as 'approved' or 'rejected'.

*Placing Order :* An order can be placed for books received 'on approval' from a vendor and for other approved titles, there is facility to prepare a firm order. The system provides flexibility in forming orders by including approved titles by publisher, vendor, specific title, etc.

There is provision for specifying payment details for pre-paid orders and for delivery instructions. Placing an order results in printing an order from for direct mailing.

*Receiving :* There is simple procedure to record details of items received against firm order and also those received gratis, exchange, and deposit. The items so received and those 'on approval' items ordered, are kept in an 'in-process' file for subsequent accessioning at the time of invoice processing.

*Invoice Processing* : This involves specifying the corresponding order and accessioning the items received against the invoice. While accessioning the item, its details, such as unit price, discount, exchange rate, etc. can be amended. The accession number (consisting of an alphabet and a serial no.), may either be system generated or user defined as per the setup for the installation. The system allows for more than one invoice for an order and keeps up-to-date status of each order with respect to items ordered, received, accessioned, etc.

*Payments Requisition* : When invoice amount matches with the gross total cost of each item accessioned against it after taking into account *miscellaneous charges and discounts, the invoice* can be processed for payment. Payment requisition involves printing requisition form for getting sanctions and payment from the accounts section. The payment details can subsequently be posted against the corresponding vendor/invoice.

*Order Follow-up* : Besides generating routine overdue notices, the system provides for online follow-up action for a title on order or for an entire order.

*On-line Queries* : The acquisition related enquiries include:

— Titles in the process of acquisition.

— Pending orders, overdue orders and for a specific order, details of titles ordered, titles received, pending titles, its invoices.

— List of invoices with library and invoices with the accounts section and for a specific invoice, details of items accessioned against it and payment details, if any.

— List by vendors; giving titles received 'on approval', pending titles against firm orders, orders placed, invoices received.

— Budget analysis of titles in the acquisition process and expenditure.

— Order details by Accession No.

— New arrivals.

*Reports* : Various reports generated by the acquisition system include:

a) Approval request form

b) Order form

c) Overdue/Follow-up notice

d) Budget and expenditure analysis

e) Payment requisition report

f) Payment cheques delivery notices

g) List of titles on order

h) Accession register

i) Bill register

j) List of recent arrivals etc.

## 2. Cataloguing

This sub-system makes available various catalogues/indexes online for instant reference. It has a powerful data entry facility which also provides option to accept data in standard machine readable formats (MARC) such as LC MARC, OCLC, etc.

CATALOGUING MENU

1. Titles in-process
2. Cataloguing
3. Remove title record
4. Update holdings
5. Author catalogue
6. Title catalogue
7. Classified/subject catalogue
8. KWIC/KWOC index
9. Holdings summary
10. Catalogue cards
11. Keyword based searches (Boolean)
12. SDI current awareness/bibliographies

Select [ ]

*Maintaining Titles In-process* : The records of books accessioned in acquisition sub-system and not yet catalogued are maintained in the 'in-process file' which can be viewed on the screen or printed. As soon as a book is catalogued, i.e. when the class no., access entries, holding information, are entered, the record is removed from the in-process file automatically.

*Catalogue Production* : The bibliographic *information entered in acquisition system is* automatically available here and doesn't have to be entered again. The bibliographic data can be updated and cataloguing details entered in the well designed screens. Individual fields have no size limit. Optionally, the information may also be entered in free format mode with powerful editing facilities.

The bibliographic records can also be created directly in this sub-system. Thus the titles received gratis, on exchange, or deposit need not go through the normal acquisition process and these can be accessioned directly here. On option, bibliographic data can be accepted in standard MARC format, thereby making the bibliographic *data exchange possible.*

*Holdings Updates* : There is facility to specify copies for reference or for circulation. The holdings can subsequently be updated either by addition of new copies or by transferring copies from reference to circulation and *vice-versa*, or by deaccessioning/withdrawing any copy of a title.

*Catalogues/Indexes* : The following catalogues/ indexes are available online:

a) Author catalogue

b) Title catalogue

c) Subject/classified catalogue

d) KWIC/KWOC index

These catalogues can be positioned anywhere and there is facility to browse through these by using page/line up/down scroll options. There is facility to select a title, to see its catalogue card and also the status of all its copies.

The above mentioned catalogues/indexes can also be printed and there is a provision of generating consolidated catalogues/indexes and their cumulative supplements as required.

*Holdings Summary* : This sub-system maintains holdings summary status which gives a breakdown of the entire collection by count of both titles and volumes over user defined range of call numbers. Such a summary, which is normally not possible in manual system, would give a good idea about the strength or weakness of certain subject areas in the library collection and will be of great value in collection development.

*Catalogue Cards* : If desired, this sub-system can also print 3 x 5 catalogue cards to enable maintenance of existing card catalogues for public use.

*Special Services* : There are facilities to generate special bibliographies, thesaurus construction, current awareness services, selective, dissemination of information (SDI) and import/export of bibliographic database in standard exchange formats, meeting specific requirements of a library. The SDI facility matches borrowers subject interests profile with the collection to make possible personalised current awareness services. The thesaurus construction capabilities are being extended to include synonyms and broader/ narrower terms relationship.

### 3. Circulation

This sub-system maintains a) up-to-date membership records and b) the latest status of collection meant for circulation. It performs all the functions related to circulation providing suitable checks at every stage. It takes care of infrequent, but routine functions such as bindery record management, display of recent additions, and so on.

CIRCULATION MENU

1. Membership records
2. Collection records
3. Issue
4. Return
5. Renewal
6. Reservations
7. Recalling
8. Enquiries
9. Reports
10. System setup

Select [ ]

*Membership Records* : Membership record-keeping is one of the basic functions of the circulation system. It provides for enrolment of personal and institutional borrowers. The functions of membership record keeping are:

a) Registration of a member;

b) Membership renewal;

c) Cancellation;

d) Maintaining status of membership cards that are lost, found, duplicated, delinquent, etc.; and

e) Modification of membership details.

*Collection Records* : The records of lending collection are automatically created for circulation by cataloguing sub-system. Not only does the circulation sub-system indicate the status of a book as 'on-shelf' or 'in circulation', but it also maintains the record of books 'on display', 'held in reserve', 'sent to bindery', 'reported missing', 'lost', 'damaged', 'deaccesssioned' or withdrawn'.

*Front Desk Operations* : All the major functions of circulation of such as issue, return, renewal, reserving, and inter-library loans are handled efficiently with least possible data entry and providing suitable traps.

*Overdue Follow-up and Recalls* : Besides routine follow-up on overdue material by issuance of overdue notices, the system has additional facility to recall material before due date and printing such notices online.

*Inter-Library Loans* : This makes it easy to keep record of both inward and outward loans of material to other libraries and institutions.

*Stock Verification* : Besides generating the list of collection on shelf and also list of items which are currently issued, for stock verification purposes, there is a simple procedure to record the material present on shelf and then getting the list of unaccountable material.

*On-line Queries* : There are comprehensive enquiry facilities based on both borrowers and collections. Circulation statistics can be generated yearly/monthly/hourly both by subject and membership category.

*Reports* : The system has the capability to provide the following reports:

a) Overdue, collect, and recall notices

b) List of 'no responses'

c) List of highly reserved titles

d) List of non-circulating material

e) Issues to a borrower

f) Stock verification list

g) Delinquency records

h) Statistics on number of issues by specific title/borrower

i) Statistics by subject/borrower category

j) Bindery order notice

*Flexible Operations* : Most of the circulation related operations are parametrically driven with no preset schemes. Some of the parameters include:

— Option for use of bar codes for capturing material or/and borrower identifiers;

— Registration period based on membership category;

— Issue period depending upon membership category/material type/even specific title;

— Maximum number of issues based on membership category; and

— Due date given after taking into account user, defined working days pattern and holidays calendar.

*Transactions Log* : Record of all circulation related transactions which can either be viewed on screen or printed, is maintained.

**4. Serials**

This sub-system is an independent system which provides control of periodical subscription and subsequent monitoring of the scheduled arrival of individual issues. It maintains record of budget sanctioned for serials under different categories, amount encumbered and expanded, thus providing complete budgetary control. This sub-system also handles serials which may be received gratis or in exchange.

SERIALS MENU

1. New subscription
2. Subscription renewal
3. Subscription extension
4. Invoice processing
5. Receiving issues
6. Claims monitoring
7. Bindery management
8. Back issues
9. Serial master record updates
10. Records keeping
11. Enquiries
12. Reports
13. System setup

Select [ ]

*New Subscription* : New subscription of a serial is initiated in this system by entering its basic details, such as title, publisher, country, annual subscription, etc. System checks for duplicate titles and reports if the same title already exists. The titles initiated for new subscription passes through the approval process by printing approval form. After approval status is recorded, the new serials are available for ordering. The ordering involves specifying a vendor and selecting approved serial(s) for the order. The order forms are automatically printed for direct mailing. For new subscriptions, the system monitors their status as 'specimen copy requested', 'sent for approval', 'approved', 'ordered', 'billed', 'paid for' and 'first issue received'.

*Subscription Renewal* : The subscription renewal procedure is basically the same as for new subscriptions involving approval process and ordering. It commences with the printing of renewal request form in which titles to be renewed are listed alphabetically. Such a list could either be printed budget headwise or a consolidated list is generated. This list is used for getting approval on the renewal of specific serials. Separate orders are printed for subscription renewal and new subscriptions.

*Subscription Extension* : The subscription extension as a result of missing/untraced issues is specified in terms of period extended upto, number of issues involved and the last volume/issue number.

*Invoice Processing* : The invoice processing involves specifying the corresponding order and titles billed in it. For a billed title, its details, such as subscription, period, volumes, discount, exchange rate, etc. can be changed. The system allows for more than one invoice for an order and keeps up-to-date status of each order with respect to titles ordered and billed against it. The system accepts supplementary invoices for any title subsequently.

*Receiving Issues* : Receiving issues is one of the most important functions of the system which uses a well-designed screen requiring entry of minimum possible data. It involves recording of volume issue number/period whichever is applicable for the serial. There is separate facility for receiving the regular issues, various indexes, special issues and additional issues respectively. This function automatically updates the serial holdings and has provision to record damaged/ soiled issues for subsequent replacement.

*Claims Monitoring* : Claims monitoring involves generating reminder notices to vendors/publishers for 'not received', overdue damaged and soiled issues of the serials. Reminders are generated based on the regular periodicity of the serial taking into account the feedback received from the vendor/publisher about the delayed issues. out of print, out of stock, already mailed, etc. There is provision for entering the schedules of irregular issues, which is taken into account while generating reminders. As many number of reminders can be generated as required. Further, there is facility to print reminder/follow-up notice online for a specific issue number of a serial.

*Bindery Management* : The system indicates when a volume is completed, whether it is to be bound, and keeps track of volumes sent to bindery. On receipt of bound volumes, collection records may be updated.

*Back Issues Recording* : Availability of back issues maintained by the library can be recorded as well as altered/updated.

*On-line Queries* : Serials related enquiries include:

- New serials, renewed serials, current serials and subscribed serials giving their latest status.
- By vendor; giving current serials, status of orders placed with the vendor and list of invoices received with their current status.
- Budget headwise list of serials and expenditure analysis.
- Searches on titles keyword based searches (Boolean), KWIC/KWOC index and classified index.
- Titles in bindery.
- Recent arrivals.

*Reports* : Various reports generated by the serials sub-system include:

- Approval request form
- New subscription order
- Subscription renewal order
- Notices for 'not received,' 'overdue,' 'soiled/ damaged' issues
- Missing issues list
- List of duplicate issues
- List of completed volumes
- Bindery notice
- Accession register (for bound collection)
- Current arrival
- Various classified and specialised indexes/lists of serials as per requirement

## 5. Reader Services

Users in a library can search the bibliographic database and find specific information online which would not normally be possible from traditional catalogues. The search facility also tells the availability of each item for circulation, including current status of individual copies of a title.

*On-line Catalogues* : Following catalogues are available on-line:

- Title Catalogue
- Author Catalogue
- Subject Catalogue
- Classified Catalogue
- KWIC/KWOC Indexes

*Boolean Searches* : The Boolean searches can be made on keywords from any of the bibliographic data. The use of the logical connectors 'OR', 'AND', and 'AND NOT' is allowed. The search is facilitated by using:

- Truncation
- Use of parentheses
- Proximity connectors

There is option to conduct searches on specific bibliographic fields or on all the fields. The search results can either be viewed on screen or printed or down loaded on diskette.

*Specialised Services* : Other services include SDI facility, current awareness, list of recent arrivals, online thesaurus, specific bibliographies, import export of bibliographic data in standard exchange formats, etc.

## 6. Operating Environment

*Hardware/Operating System* : LIBSYS, developed in 'C' language, is currently available on the following range of computer systems and it can be modified to run on any other industry standard micro/mini/main-frame system.

- PC/XT or AT under MS-DOS
- PC/AT under XENIX
- 386 based PC/AT under UNIX/XENIX
- Motorola 68000 based minis under UNIX
- Microvax II under VMS

*Database Software* : LIBSYS supports its own index generation procedures. Therefore it does not require purchasing of any database software. However, if required, LIBSYS can be modified to operate on any preferred database such as ORACLE, MINISIS, UNIFY, etc.

*Software Upgradation* : LIBSYS is being enhanced to support CD-ROM, networking (LAN and Remote) and multi-lingual use These upgrades would be available to all the existing installations of LIBSYS.

*Software Features* : LIBSYS is highly user-friendly having features such as:

- Integrated functions
- Interactive and screen oriented
- Menu driven
- Multi-user capabilities
- *Minimum possible data entry*
- Powerful data editing facility
- Easily installed (doesn't require any progamming/trained skill)
- User defined security at sub-system and function level
- Database recovery procedure
- 'Help' facility at field level

## 7. Installation Support

*Info-Tek* is committed to provide complete support on LIBSYS which include:

- Customisation to satisfy any specific requirements of user
- Conversion of existing database on any computer system to LIBSYS database structure
- Capturing of bibliographic data from the existing catalogue cards
- Providing hands-on training to staff for the use of the package
- Installation support as per requirement
- Supplying user's manual having easy-to-run tutorials
- Software enhancements as per user requirements which may include networking, multilingual capabilities, etc.
- Commitment to carry out further R & D work and thus making available software updates

## 8. Installations Base

LIBSYS is fully operational at Department of Electronics (DOE)/National Informatics Centre (NIC) library at New Delhi on 386 based PC/AT system under XENIX environment with more than 25,000 documents and 1,000 borrowers records online. Other LIBSYS users include National Institute of Public Cooperation and Child Development (NIPCCD) at New Delhi, Centre for Development of Advanced Computing (C-DAC) at Pune, etc.

The price of LIBSYS ranges from Rs. 40,000/- onwards depending upon hardware and operating system on which it is required to be installed.

# Mini/Micro CDS/ISIS Corner

**The problems and solutions presented here have been reproduced from *ASTINFO Newsletter* (Vol. 4, No. 2, 1989. Readers will no doubt be interested in the questions raised about the software features and its applications in information management.**

**Question :**

I have an existing database (Database name : MEMO) that serves one application. Now, another application calls for the same FDT, worksheets, etc. as the existing ones, except for some very minor changes. Instead of defining a new database from scratch, I tried to copy the old database files to their new counterparts using the DOS COPY command (e.g. COPY MEMO.* CIRC.* where CIRC is the new database name) and re-initialized the new database In the EXDBU Menu (Data Base Definition Utilities) of ISISDEF, I can gain access to and modify the FDT. However, when I try opening the worksheets, FST and display format, the system gives me the following error message :

xxxxxx.xxx File already assigned to another database.

Also, when I try to list the database parameter files of the new database, CDS/ISIS gives me a list of files bearing the original file names (i.e., MEMO and not CIRC).

**Answer :**

Each database consists of a number of distinct files. One category of these files are the MANDATORY files which must always be present and should never be deleted. These are normally established when the database is defined by means of the ISISDEF program. These mandatory database files are your :

| | |
|---|---|
| xxxxxx.FDT | Field Definition Table |
| xxxxxx.FST | Field Select Table for Inverted File |
| pxxxxx.FMT | Default data entry worksheet (where p is the page number). Note that the database name is truncated to 5 characters if necessary |
| xxxxxx.PFT | Default display format |
| xxxxxx.MST | Master file |
| xxxxxx.XRF | Crossreference file |

and some others (Refer to the CDS/ISIS Reference Manual, Section IX. The CDS/ISIS File System for more information), where xxxxxx is the 1-6 character database name you provide when you create your database and which CDS/ISIS automatically assigns as the default name of all mandatory files, with only the file extension (.FDT, .FST, etc.) distinguishing them from one another.

When ISISDEF establishes your FDT, it creates an ASCII file (xxxxxx.FDT), the first 3 lines of which contain the names of your default worksheets, FST, and display format. For example, suppose your database (Database name : MEMO) has 2 fields: NAME (Field tag=10, Length=100, Type=X) and ADDRESS (Field tag=20, Length=150, Type=X). The file MEMO.FDT will contain these information:

```
W : MEMO
F : MEMO
S : MEMO
***
NAME                    10 100 00
ADDRESS                 20 150 00
```

When you generated copies of the mandatory files using the DOS COPY command (even though you copied them all correctly), the first 3 lines of the new FDT (CIRC.FDT) still contain the old default file names (they are not changed automatically). This is the reason why you got the error message and why ISISDEF showed the old names when you asked it to display the parameter files.

Therefore, to solve this problem, edit the CIRC.FDT file using any word processor and change the file names in the first 3 lines to CIRC, which is the new database name.

* * * * *

**Question :**

I have 90 records in my database and the master file uses up approximately 164K of disk space. For some reasons, I needed to add an extra field (field length=1 character). After modifying the 90 records, the master file now occupies about 321K of disk space, which is twice its original size. And I only added one field which is one character long for each record.

I then performed master file re-organization (in ISISXCH) hoping to recover disk space but there was no change in the size of the Master file (i e., it still occupies 321K of disk space).

**Answer :**

Each time you update a record, CDS/ISIS does not store back the record in its original position. This is true even if in fact you have not made any changes to the record, unless you used the C (Cancel without update) or T (Exit without update) options in the message area. Whenever a record is updated the Master file is extended to contain the new version of the record. However, when you re-organize your master file (which is equivalent to successively performing backup and restore operations), CDS/ISIS recompacts it by reclaiming spaces which were lost consequently to updates. It does not, however, free the unused disk space on your master file. You will notice, then, that you may have entered quite a number of new records already but the master file does not increase in size. This is because CDS/ISIS is trying to fill up all unused spaces that it has recovered from the previous Master file reorganization. Only when these spaces are all used up will the Master file expand.

**Question :**

A researcher is requesting for a subset of our database, i.e. only those records that satisfy his area of interest (e.g. Plant Breeding). How can I export only the relevant records?

**Answer :**

Exporting the search results is not a straightforward process. These are the steps involved :

1. Using option P of the ISIS main menu. save the results of your search formulation. CDS/ISIS will ask you for a save file name.
2. Using the ISISPRT program, answer the prompts in the Print Worksheet as appropriate, and make sure that you fill in the 'Save file name' prompt with the save file name you have provided in Step 1. Moreover, you should answer Y (for Yes) to the 'Sort ?' prompt. (Note that if a hardcopy is not needed you may direct the output to a disk file.)
3. You will then be requested to complete the sort specification worksheet. Here you may want to sort your data in a particular order, hence you should specify the appropriate sort key parameters. However, if no particular sorting is required, you have to provide at least one sort key just the same because this is the only way you can generate a hit file. In this case, you may just sort the records by their MFN, i.e.

   Length of first sort key *1*
   FST for first sort key *10 MFN*

   or,

   Length of first sort key *1*
   FST for first sort key *<RETURN>* (Note that when you do this, CDS/ISIS will ask you again to specify the FST, in which case you may hit the *<RETURN>* key again.
4. The hit file generated in Step 3 can now be used in ISISXCH. At the ISISXCH worksheet, answer 'Y' (for Yes) to the 'Selection through Hit file ?" prompt. CDS/ISIS will then selectively export only the records listed in the hit file.

## Second Asian Forum for Standardization in 'IT'

The second Asian Forum for Standardization in IT (AFSIT) held in Tokyo last March was attended by representatives from Asian countries which presented briefs on standardization activity in the area of IT in their respective countries.

India was represented at the Forum by Dr K.K. Krishnan Kutty, Director, Department of Electronics (DOE), who attended the meet on behalf of BIS and presented a paper 'Adjustment between international and domestic standards in the field of IT'. He examined in this paper the need for adjustment between international and domestic IT standards, especially in developing countries like India; the policy issues involved; the problems; the options; and solutions. Three specific proposals were made in this regard :

a) A 'Cocperative Group' should be formed with several sub-groups of specialists/experts from all member countries who could actively participate with a unified approach in standardization activities at the international level representing the Asian Forum as well as member countries;

b) Conformity Testing Centres are needed for implementing IT standards and testing the products for conformity to these standards. In view of the limited resources available and lack of expertise in this field, the possibility of establishing a joint 'Asian Test Platform for Information Technology Standards' should be examined; and

c) Significant efforts are required in the field of research and development in IT, especially for solutions of problems which are unique to the region. Here again, due to limitations of resources in the member countries and to avoid duplication of effort, an 'Asian Information Technology Development Council' should be set up to identify the technologies for development and financing of the projects.

The Forum accepted all the three proposals in principle.

# Coverage and Distribution of Secondary Sources and Primary Serials in Library and Information Science*

The National Union Catalogue of Scientific Serials in India (NUCSSI) database has been analyzed to study the availability and distribution of library and information science primary serials and the two most important secondary sources, namely, the Library Literature (LL) and the Library and Information Science Abstracts (LISA). The serials covered in the LL and LISA, 1987 volumes, have been compared with the serials intake of the National Science Library (NSL) of INSDOC, 35 university libraries where library and information science courses are available, and other libraries in different regions.

LL covered 205 titles, out of which 86 titles (41.95%) are available in the NSL. The position of the other libraries in different regions was found to be as given in Table 1.

**Table 1 Availability of LL Titles in Different Libraries**

| | University Libraries | | | Other Libraries | |
|---|---|---|---|---|---|
| | No. of Universities | No. of titles available | Percentage | No. of titles available | Percentage |
| North | 5 | 35(63) | 17.07 | 48(187) | 23.41 |
| West | 9 | 28(67) | 13.65 | 26(86) | 12.68 |
| South | 12 | 32(143) | 15.60 | 46(188) | 22.43 |
| Central | 3 | 9(11) | 4.39 | 3(3) | 1.46 |
| East | 5 | 24(36) | 11.70 | 50(137) | 24.39 |
| North-East | 1 | — | — | 1(1) | 0.48 |

*Note :* Figures in parentheses indicate number of copies available in the region.

LISA covered 437 titles, out of which NSL has 134 titles (30.66%). The availability of these titles in the libraries of different regions is shown in Table 2.

**Table 2 Availability of LISA Titles in Different Libraries**

| | University Libraries | | | Other Libraries | |
|---|---|---|---|---|---|
| | No. of Universities | No. of titles available | Percentage | No. of titles available | Percentage |
| North | 5 | 47(87) | 10.75 | 76(331) | 17.39 |
| West | 9 | 40(98) | 9.15 | 48(165) | 10.98 |
| South | 12 | 46(196) | 10 52 | 69(315) | 15.78 |
| Central | 3 | 14(21) | 3.20 | 6(8) | 1.37 |
| East | 5 | 33(55) | 7.55 | 71(243) | 16.24 |
| North-East | 1 | — | — | 3(4) | 0.68 |

*Note :* Figures in parenthesis indicate number of copies available.

* NUCSSI Analytical Study Series, No. 2, 1989.

Titles which are indexed/abstracted in both LL and LISA are likely to be the core journals in the field. There are 148 such titles, of which NSL is getting 75 titles or 50.67%. The availability of these core journals is shown in Table 3.

**Table 3 Availability of Core Journals**

| | University Libraries | | | Other Libraries | |
|---|---|---|---|---|---|
| | No. of Universities | No. of titles available | Percentage | No. of titles available | Percentage |
| North | 5 | 33(60) | 22.29 | 42(179) | 28.37 |
| West | 9 | 26(64) | 17.56 | 25(85) | 16.89 |
| South | 12 | 29(132) | 19.59 | 43(183) | 29.05 |
| Central | 3 | 8(13) | 5.40 | 3(33) | 1.47 |
| East | 5 | 22(34) | 14.86 | 43(127) | 29.05 |
| North-East | — | — | — | 1(1) | 0.67 |

*Note :* Figures in parenthesis indicate number of copies available.

It is evident that NSL has the best coverage of the LL and LISA titles compared to many of the universities which are running library and information science courses. NSL should try to make its collection more comprehensive by trying to get at least the remaining core journals.

The availability and distribution of LL and LISA as access tools is also important. The NSL is getting both of them. The position in respect of other universities is shown in Table 4.

**Table 4 Distribution of LL and LISA**

| | Total No. of Universities | LL | | LISA | |
|---|---|---|---|---|---|
| | | University Libraries | Other Libraries | University Libraries | Other Libraries |
| North | 12 | 2 | — | 3 | 6 |
| West | 13 | 2 | — | 4 | 5 |
| South | 14 | 4 | 2 | 7 | 5 |
| Central | 5 | x | — | 1 | — |
| East | 5 | 1 | 1 | 2 | 11 |
| North-East | 1 | x | — | x | x |

# Coverage and Distribution of Abstracting and Indexing Serials in India*

Based on the NUCSSI (National Union Catalogue of Scientific Serials in India) database, a limited study has been made to find out the pattern of distribution of some important abstracting/indexing serials in the country. The serials chosen covered broad fields of agriculture, medicine, engineering, physical and biological sciences. They included, Agrindex (AGR), Bibliography of Agriculture (BOA), Chemical Abstracts (CA), Current Contents (CC, 4 series), Engineering-Index (EI), Index Medicus (IM), Science Abstracts-Physics Abstracts (PA) and Electrical & Electronics Abstracts (EEA), and Biological Abstracts (BA).

Some of the findings even of this limited study are indeed revealing. Table 1 shows the total number of copies received and their distribution in different regions.

The Central and North-East regions appear to have the poorest collection but they have also the least number of research institutions and universities. Considering the number of institutions, it seems the Eastern region has the poorest collection. This region is made up of West Bengal, Bihar and Orissa. Within this region, the majority of the available sets are located in West Bengal. For example, out of the 18 sets of CA, 16 are located in West Bengal, 2 in Bihar, and Orissa has none. Within West Bengal as many as 12 sets are available in Calcutta.

It would also be evident from Table 1, that some of the costliest secondary periodicals have also the largest number of multiple subscriptions. Thus, CA comes at the top with 107 subscriptions, and BA has 96 subscriptions.

**Table 1 Distribution and Total Number of Copies Received**

| TITLE | REGIONS | | | | | | |
|---|---|---|---|---|---|---|---|
| | North | West | South | East | Central | North-East | Total |
| AGR | 8 | 3 | 6 | 3 | 0 | 1 | 21 |
| BOA | 4 | 2 | 4 | 1 | 0 | 0 | 11 |
| CA | 25 | 30 | 29 | 18 | 3 | 2 | 107 |
| CC : Agric, Biol., Env. Sci. | 15 | 9 | 21 | 5 | 0 | 1 | 51 |
| : Engng, Tech, Appl. Sci. | 13 | 16 | 19 | 3 | 0 | 0 | 41 |
| : Life Science | 20 | 25 | 23 | 12 | 1 | 2 | 83 |
| : Phys, Chem, Earth Science | 16 | 7 | 21 | 5 | 0 | 1 | 50 |
| EI | 16 | 6 | 12 | 8 | 1 | 0 | 43 |
| IM | 22 | 16 | 8 | 10 | 0 | 0 | 56 |
| PA | 14 | 17 | 22 | 13 | 3 | 0 | 69 |
| EEA | 16 | 12 | 19 | 6 | 0 | 1 | 54 |
| BA | 26 | 20 | 27 | 18 | 3 | 2 | 96 |
| Total | 195 | 153 | 211 | 102 | 11 | 10 | 682 |
| No. of Institutions in the Region | 171 | 169 | 279 | 191 | 16 | 10 | 836 |

* NUCSSI Analytical Study Series, No. 1, 1989.

The study has also provided a complete list of the availability of the secondary serials at the city/town level of each state in the regions Table 2 shows distribution of these serials in major cities having 5 or more sets.

The total subscription of the 9 serials, as given in Table 1, in multiple copies comes to a staggering $20,50,535 per year, of which CA alone accounts for $11,55,600.

Evidently, the findings call for some positive action in networking and resource sharing.

**Table 2 Distribution among Major Cities**

| CITY | TITLES | | | | | |
|---|---|---|---|---|---|---|
| | CA | BA | PA | EEA | EI | IM |
| Delhi | 9 | 7 | — | 6 | 5 | 12 |
| Bombay | 12 | — | 8 | 5 | — | 6 |
| Madras | 6 | — | 5 | — | — | — |
| Hyderabad | 5 | 5 | — | 5 | — | — |
| Calcutta | 12 | 7 | 8 | — | — | 8 |

## Software Turnover Set at Rs. 3500 crore by 1995

A domestic turnover of Rs. 2000 crore and an export target of Rs. 1500 crore by 1995 may seem over ambitious for the Indian software industry, considering the present turnover of just about Rs. 250 crore. But the National Association of Software and Services Companies (NASSCOM) which met in New Delhi in July 1989 considers it well within reach.

The meeting provided a useful over view of the problems and of the industry, dealing as it did, with diverse matters, such as piracy, policies and procedures, infrastructure, finance, and manpower and training. The main thrust, however, was on software exports.

According to NASSCOM's perspective plan as enunciated by the Association President, Shri Prem Shivdasani, the industry's turnover will be of the order of Rs. 3500 crore including Rs. 1500 crore exports.

However, Dr N. Seshagiri, Director General NIC expressed a growing uncertainty on this score. The industry could not achieve the earlier target of Rs. 300 crore for next year and it appeared difficult to achieve Rs. 1,500 crore target set for 1995 also,' Do not underestimate Super 301 and GATT," he cautioned. Software exports posed a direct potential threat to jobs in the US service sector which is the fastest growing sector in the American economy. "Exports to US will become increasingly difficult. India should seriously explore other markets".

Prof. Sam Pitroda, Chairman of the Telecommunications Commission, referred to the attitude problems about software. What he wanted to see was not a plethora of software companies. He was concerned about the lack of enough software managers to handle 'over 100-man year projects. We need to think of major big international alliances,' he said.

# News and Events

### Training Course in IDAMS

With the object of assisting member states in the rationalisation of management of various sectors of their activity UNESCO has developed a comprehensive data management and statistical analysis software caleed IDAMS. This linked with other UNESCO software for the textual data management and retrieval (CDS/ISIS) will equip the users with integrated software allowing for an unified processing.

IDAMS is derived from the software package OSIRIS III. 2 developed in the early seventies by the Institute for Social Research of the University of Michigan, USA. It has now been enriched, modified and updated by the UNESCO secretariat.

There are two versions of IDAMS : IDAMS-MF and IDAMS-PC. The hardware requirements are:

| IDAMS-MF | IDAMS-PC |
|---|---|
| CPU IBM 360/370/30xx/43xx or equivalent | IBM-PC XT or AT or equivalent with 512 KB RAM memory |
| Fixed or 150K (overlaid version) virtual 300 K (Unoverlaid version) memory | one 360 K diskette one 20 MB hard disk Monochrome or colour monitor with a printer |
| Disk 12M bytes workspace | MS-DOS or PC-DOS ver 2.10 or higher. |
| Operating IBM-OS or System equivalent | |

Smt. S. Ravindran of NISSAT attended the training seminar organised by UNESCO during 28 May-2 June 1989 in Paris. The package is being acquired by NISSAT. For further information on the package, please contact Director (NISSAT), Technology Bhavan, New Mehrauli Road, New Delhi-110016.

### NACID Centre at NICHEM

Facilities have been created to access commercially available computerized databases in interactive mode through telex and dial-up Data service (PSTN) at NCL, Pune. The Department of Scientific and Industrial Research, has provided financial support in creating these facilities, through NISSAT project. Dr L.K. Doraiswamy, Director, NCL, inaugurated this centre on 25th May 1989.

Dr S. Sivaram, Chairman, Library, Committee of NCL, in his welcome address explained the aims and objectives of the centre. He described the importance of computerized handling of information and data, which will play a very vital role in the R&D efforts in our country.

Dr L.K. Doraiswamy, Director, NCL, inaugurates NISSAT Access Centre at Pune

Dr L.K. Doraiswamy, Director, NCL, in his keynote address elaborated the needs of providing exhaustive and complete information on desired areas of science. The present era is witnessing information explosion and researchers are facing problems in having complete information in their areas of persuits. The computerized information services covering the whole range of scientific subjects are urgently needed. He hoped that the NACID centre will provide faster access to information. It will assist in formulating and selecting research projects by providing the required data and information comprehensively and quickly. The centre will go a long way in bridging the gap in the supply of proper, up-to-date information at the right moment to the scientists. He felt that the scientists of NCL should derive full benefit from this centre.

Shri R.S. Singh, Area Coordinator, NACID, proposed a vote of thanks.

A seminar on online searching was also organised as a part of this function. About 30 scientists drawn from various divisions of NCL participated in this seminar. Shri N.V. Sathyanarayana, Director, Informatics (India) Pvt. Ltd., Bangalore, gave a talk on online searching. Online searching of DIALOG databases through telex and PSTN modes were demonstrated to the participants.

*Inauguration : Shri K. Khandaswamy, Counsellor Education, Andaman and Nicobar Administration*

**Port Blair Training Course on Computer Applications in Library Services**

At the initiative and with the support of NISSAT and with local support of the Directorate of Education, Union Territories of the Andaman and Nicobar Islands, the above training course was conducted by AGLIS at the State Library, Port Blair during 17-28 April 1989. The Defence Scientific Information and Documentation Centre (DESIDOC), Delhi provided the faculty for the course. The course was inaugurated by Shri K. Khandaswamy, Councillor, Education and welcome address was given by Shri H.D. Birdi, Secretary, Education, Andaman and Nicobar Administration.

Since it was the first training course on computer applications in library and information services in the Andaman and Nicobar Islands, it was designed to provide basic knowledge of computers, their applications in libraries and common commands to operate computers. In addition, the course participants were trained on the popular software packages of dBase III plus and CDS/ISIS for their library jobs. Half of the periods were devoted to theory and the other half to the practicals. Every participant was given an opportunity to create a bibliographic database using dBase III p'us and the CDS/ISIS software packages.

There were 22 participants in the course. Out of them, 15 were from Andaman and Nicobar Administration, 3 from the Central Govt. departments located at Port Blair and 4 from other organisations. Six members of the faculty were provided by DESIDOC and one by NISSAT.

Shri Beant Singh, Assistant Director of Education, Andaman and Nicobar Administration, delivered the valedictory address. Shri Z.V. Sidduqe, Director, Information and Publicity presided over the function. Speaking on the occasion, he said that the use of computers in library was another milestone in the process of educational development in the Islands. Shri S.N. Mehta, Secretary, AGLIS, proposed a vote of thanks.

**Abstracts of Current Literature in Toxicology**

A quarterly abstracting service under the above title is being launched by Industrial Toxicology Research Centre, Lucknow. The service will cover toxicity aspects of metals, pesticides, biotoxins, food additives, dyes, adulterants, gases and chemical etc. Special emphasis will be given on environmental impact assessment and management, biotechnology, pollution of water, air and soil. Dermal, neurobehavioural and reproductive toxicology, phytotoxicity and other important expects of industrial and environmental health also will be covered. Abstracts of all the research papers of ITRC from 1987 onwards will also be included. Abstracts will be taken from about 250 core Journals received in ITRC and CDRI Libraries. Each issue will contain about 200 Abstracts.

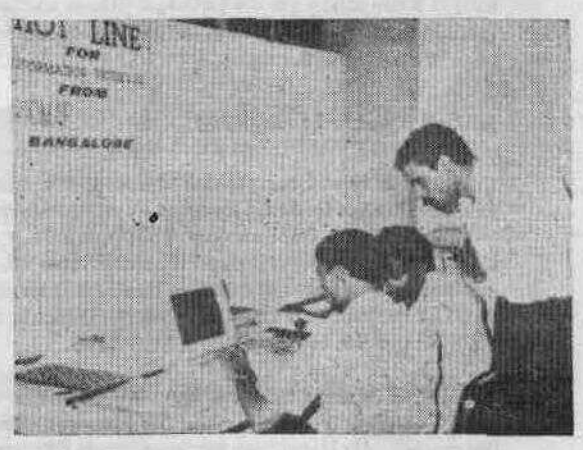
Subscription charges per annum are as follows : For individuals, teaching institution and Government laboratories Rs. 250/-; for commercial institutions and others Rs 400.

For further information please contact Scientist Incharge, Toxicology Data Unit, ITRC, PO Box 80, Lucknow 226001.

**NICMAP Hotline at Indian Machine Tool Exhibition**

The seventh Indian Machine Tool Exhibition (IMTEX) held last February in Bombay attracted over 850 participants and had on display about 1500 machines besides accessories, cutting tools and instruments. The exhibition was inaugurated by Prime Minister Shri Rajiv Gandhi. The PM said he was impressed by the quality of machines exhibited and congratulated the manufacturers on their achievement.

The CMTI stall at the exhibition demonstrated, among other things, a hotline for information retrieval from NICMAP. The hotline connects the NICMAP databases on VAX-11/785 computer at CMTI, Bangalore to a PC in the IMTEX stall in Bombay. The visitors showed keen interest in the unique demonstration of online information retrieval.



NICMAP Online Information Retrieval demonstrated at IMTEX-89

### Literature on Bulletproof and Camouflage Fabrics

The National Information Centre for Textile and Allied Subjects (NICTAS) has completed a literature search on the above subject. This bibliography covers literature published from January 1979 to May 1989. Diverse sources of material were searched for compiling this bibliography to make it as exhaustive as possible. A computer printout of this bibliography is available at Rs. 425 per copy, including postage and packing charges. Advance payment by D.D. may please be sent in favour of 'ATIRA', Ahmedabad.

Photocopies of full articles/patents which are listed in this bibliography can be made available within a couple of days, if available in ATIRA library; otherwise within a month from the date of order. Documents available at ATIRA are marked with an asterisk (*) in the bibliography.

English translations of non-English articles/patents, etc., can also be arranged.

NICTAS would be happy to carry out literature search on any textile subject. Requests may be addressed to Project Coordinator, NICTAS, Third Floor, ATIRA, P.O. Polytechnic, Ahmedabad-380015.

### THEMAPS

THEMAPS is a PC-based software system developed by Systems Research Institute, Pune. The system is designed to :

a) create and manage geographic features and their associated statistical data in a digital database,

b) do various spatial and statistical operations on both the geographic and the associated statistical data, and

c) present data or the results of analyses on easy-to-read maps in a variety of ways.

With THEMAPS one can present area-related data such as population density, soil type, or land-use pattern; network related data such as traffic flow, speed, or movement of goods; point related data such as settlement size, service availability, etc.

For further information, please contact Manager (TD), Systems Research Institute, 17-A, Gultekdi, Pune-411037.

### Training Programme on CDS/ISIS for PME Scientists and Library Officers

A training course in CDS/ISIS for PME Scientists was organized at CDRI Lucknow last December. The course was inaugurated by Dr D.S. Bhakuni. (Scientist in Director's Grade, CDRI) and presided by Mr R.N. Bhargava, Joint Advisor (P&C), CSIR. PME Scientists from CBRI, Roorkee, CDRI, Lucknow, CIMAP, Lucknow, ITRC, Lucknow, NBRI, Lucknow and SERC, Ghaziabad participated.

Another training programme for Library Scientists was inaugurated by Prof. B.N. Dhawan, Director, CDRI. Dr Upendra Kumar, Chief Consultant, UPTRON delivered the keynote address. Library officers from CBRI, Roorkee, CDRI, CIMAP, ITRC, NBRI, Lucknow, RRL, Jammu, SERC, Ghaziabad participated in the training programme starting

Dr Upendra Kumar, Chief Consultant, UPTRON delivered the Keynote Address

from 12th till 17th December 1988. Mr. R.K. Srivastava, a feedback from the participants indicated that the course is quite useful and informative. All of them felt that the duration of the course may be increased to two weeks.

CDS/ISIS is a generalized information storage and retrieval package designed specifically for computerised management of structured non-numerical databases. One of the major advantages offered by the generalized design of the system is that the same set of computer programmes is able to manipulate an unlimited number of databases each one containing different data elements. CDS/ISIS consists of three user programmes and three system programmes. All programmes are fully interactive and multi-lingual.

NISSAT (DSIR) is the national distributor of CDS/ISIS package developed by UNESCO. NISSAT has transferred more than 190 copies of the software package to non-commercial institutions.

CDS/ISIS is good for textual information processing and runs on IBM PC/PCXT/PCAT systems with MSDOS. The package is being used extensively in library environment and for non-numeric database development.

### Machine Tool and Production Engineering Thesaurus 1989

This is an updated and revised version of the Thesaurus, which NICMAP had published in the year 1984. Keywords pertaining to emerging technologies have been added.

The coverage includes the following : metal cutting, metal forming, machine, tools, tools and tooling, metal finishing, metrology, tribology, foundry, welding, plastics and allied fields.

This Thesaurus serves as a ready reference tool in the field of machine tools and production engineering for industries, researchers, practising engineers, technical institutions, information centres, libraries, students of

engineering and others for indexing or arranging their collected information as well as in formulating technical enquiries to various data banks.

### Directory of Agents for Imported Machine Tools and Allied Equipment

The Directory just published by Central Machine Tool Institute, Bangalore is a revised version of the earlier publication. It is meant to serve as a ready reference for identifying the Indian agent for foreign manufacturers of machine tools and allied products. An alphabetical list of products, agents and their principals has been provided.

Nearly 1550 products have been listed covering about 260 Indian agents and 939 principals. Printed in A4 size (150 pages), the directory is priced at Rs. 250.

### Directory of US Companies

United Nations managers who are looking for "inside information" on potential consulting companies based in the USA may be interested in Ward's business directory of U.S. private and public companies 1989. Over 90 per cent of the approximately 90,000 businesses listed in the directory are private companies which do not reveal their financial status to the public, and the publishers, Gale Research Inc., claim that information on each company has been individually verified.

Entries include : company name, address, chief executive officer, sales volume, number of employees, and other details. The three volumes which make up the Directory are available as a set for USD 845. For further details, please contact: Gale Research Inc., Book Tower, Dept. 77748. Detroit, MI 48277-0748.

### General Information Service Terminal

The National Informatics Centre, Southern Region, Hyderabad has been assigned the task of developing the General Information Service Terminal (GIST) on the all India satellite-based computer network (NICNET).

GIST (General Information Service Terminal), is a Public Service System providing the latest information of general nature to any member of the public, inc'uding tourists, students, researchers, government officials etc.

GIST will be built over NICNET and therefore be available, at a very nominal cost, on terminals of NICNET all over the country not only in all government offices but also in public service booths to be located in important public places as railway stations, airports, hotels etc. GIST service through a tele,hone call also is proposed.

The Retrieval of information will be Keyword based, menu driven and user friendly.

NIC (Southern Regicn), A Block, G.O. Complex, Tank Bund Road, Hyderabad solicits the cooperation of all concerned in providing technology and other information relevant to the common man for the development of GIST.

### U.S. Recognition for NIIT

The National Institute of Information Technology (NIIT) has won recognition from the American Council on Education (ACE), the university and college accreditation body in the United States of America. Students of NIIT will now be able to seek credits for comp uter courses passed by them from NIIT centres in the country while applying for admission in the 1600 universities and colleges affiliated to ACE. The NIIT courses were granted recognition by ACE after a team of evaluators gave approval to the courses.

### Mother Tongue Language System

Digitron Electronics has recently joined the multilingual DTP market by introducing its Mother Tongue Language System (MTLS). The system encompasses a hardware modification in which a specially developed PCB is used with software drivers to give bilingual capability. As a result a user can use all his software bilingually in English and the mother tongue as soon as the extra card is added. The card is based on the industry standard Hercules graphics card, on which resides Digitron's patented circuitry compatible with all IBM PCXTs and ATs. At present the company is only offering this facility between English and Marathi.

### Influence of Optical Disc Media on Distribution, Packaging and Storage of Information

A Research Report prepared for the European Association of Information Services (EUSIDIC) by The Information Partnership in association with CIMTECH, the UK National Centre for Information Media and Technology, looks at the influence of optical disc media, in particular Compact Disc, Read-Only Memory (CD-ROM) and Write Once, Read Many (WORM) discs, on the distribution, packaging and storage of information.

The two-year EUSIDIC project, of which this is the final report, was started at a time when the key optical disc medium appeared to be CD-ROM, but as the project progressed it became evident that, while read-only discs would have a major influence on the way in which information would be packaged and distributed, they would have little impact on storage and archive applications. In the second half of the project, therefore, considerable effort was devoted to an investigation of the potential of WORM discs.

Further details are available from : EUSIDIC, 9a High Street, Calne, Wilts., UK SN 11 OBS,

### FID Optical Products Survey

A survey of the use of optical information products in libraries and information centres in Western Europe is being carried out by the International Federation for Information and Documentation (FID). The survey, which covers the Nordic countries and the European Economic Community, is aimed at obtaining both qualitative and quantitative data on the use of CD-ROM and other optical information products.

Approximately 10,000 libraries and information centres will be surveyed in the European phase of the project. A second phase is being planned to collect data from other parts of the world, particularly developing countries. Furthermore, the questionnaire developed for the project is being used in a parallel effort in the USA, so that comparative data will be available. The study is also expected to provide information on the degree of market penetration of optical information products, definitive information on the types of user, products used and levels of use, information on user expectations, and indications for future developments in optical products.

The project, from which a final report will be published after completion, is being funded partly by; the Commission of the European Communities, Directorate General XIII Telecommunications, Information Industries and Innovation; FID and the Nordic Council for Scientific Information and Research Libraries (NORDINFO), with support from the International Federation of Library Associations and Institutions (IFLA).

### CD-ROM Project from PAHO

To disseminate basic information in regard to health and related matters, the Pan American Health Organization (PAHO) has produced a Compact Disc, Read-Only Memory (CD-ROM) containing a number of health-related databases produced by United Nations system and other organizations.

The disc is the second produced as part of a pilot project started in 1987. It contains two major databases produced by PAHO centres; the Latin American Data Base on Health (LILACS), generated by Latin American Health Sciences Information Center (BIREME), and the REPIDISCA database, created by the Pan American Center for Sanitary Engineering and Environment. LILACS includes conventional and non-conventional documents on the subject of health, produced in the region. It is accompanied by the DECS thesaurus developed by BIREME, which contains over 12,000 descriptors on biomedicine and public health.

The REPIDISCA database covers documents (once again, both conventional and non-conventional) on sanitary engineering and environment, produced by the co-operating centres of the Latin American and Caribbean region. The 2,000 term REPIDISCA Thesaurus is also on the disc. Other databases included on the disc are: the Development Information System, produced by the United States Agency for International Development (AID); the Legislative Index for Latin America and the Caribbean, produced by PAHO's Health Policy Development Programme and the SOFT database, the initial result of a collection stated by PAHO with the BIREME network in order to create an index of available software in health and related areas.

For further information on the PAHO pilot project, contact: Mr. C. Brito, Information Co-ordination-DIC, PAHO, 525 23rd Street NW, Washington, DC 20037, USA.

### National Conference on CAD/CAM

The PSG College of Technology, Coimbatore is conducting a National Conference on CAD/CAM during 22-24 Sept. 1989.

Papers are invited on design automation, computer integrated manufacture, artificial intelligence and expert systems and robotics. Papers dealing with the state-of-the art implementation of CAM/CAD technology are also welcome.

Registration fees for participation in the Conference are as follows : *Industries* Rs. 800; *Educational and R & D Institutions* Rs. 500; students Rs. 250. Correspondence may be addressed to the Convener, National Conference on CAD/CAM, PSG College of Technology, Coimbatore 641004.

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**Editor's Note : NISSAT Newsletter** is always interested in receiving newsitems for publication from R & D institutions, professional societies and publishers in the area of information science and technology, science communication, computer hardware and software, and NISSAT sectoral centres.

Communications may be addressed to Dr. A. Lahiri, Director (NISSAT), Department of Scientific and Industrial Research, Technology Bhawan, New Mehrauli Road, New Delhi-110016.

# INVENTORY OF INDIAN DATABASES

NISSAT is presently preparing an inventory of Indian databases/indexing and abstracting services. You could help us in this endeavour by providing the following information :

Your Institutional Title
and Address

Type of Institution

Name of Database
or
Title of the publication

Reference
Referral
Numeric/(statistical)
Factual

Subject Area

Producer/Publisher
Name & Address

Physical form :
Print
Machine readable

Condition of Access/Supply
☐ Restricted Fee-based ☐
☐ Public Free ☐

Content : Subject :
Coverage :
Scope :
Language :

Date of Origin

Updating Frequency

**Standards followed**

Input format : Bibliographic
Software used : Standards :

Any other information :

Please include a sample printout.

Kindly send the information in the above format at the earliest to enable us to prepare the Inventory. Communications may be addressed to Director, NISSAT (DSIR), Technology Bhawan, New Mehrauli Road, New Delhi-110016.

# Calendar of Events : September - December 1989

| | | |
|---|---|---|
| September | 5 - 13 | Computer Applications & CDS/ISIS Course. AGLIS (at Baroda) (3) |
| | 18 - 20 | SIS Trg Programme on Technical Communication, Coimbatore. Society for Information Science, PID Bldg. Hillside Road, New Delhi. (Venue : Sugarcane Breeding Institute, Coimbatore, 641007 (1) |
| October | 16 - 21 | Management training for librarians and administrators of information centres. 1st course. IPE, Hyderabad. (2) |
| | 18 - 25 | CDS/ISIS Ver 2.3 Course. AGLIS, New Delhi, (at Nainital) (3) |
| | 23 - 26 | Management training ... 2nd Course. (2) |
| November | 6 - 11 | Management training ... 3rd Course. (2) |
| | 13 - 18 | Management training ... 4th Course. (2) |
| | 16 - 21 | Computer applications & CDS/ISIS course. AGLIS, New Delhi (training at GOA). (3) |
| | 22 - 24 | Management of Government Libraries and information centres. Seminar. AGLIS, New Delhi (3) |
| | 6 - 1 Dec | 6th INSDOC Course on Computer applications (5) |
| | 6 - 15 Dec | 8th DRTC Course on Computer applications (4) |
| | 27 - 1 Dec | CDS/ISIS PASCAL/Ver 2.3. AGLIS (at N. Delhi) (3) |
| December | | 6th INSDOC Course (contd) |
| | 4 - 15 | CDS/ISIS PASCAL/Ver 2.3 AGLIS, New Delhi (contd) (3) |
| | 18 - 12 Jan | 7th INSDOC Course on Computer applications (5) |
| | | 8th DRTC course on Computer application continues (4) |
| | 20 - 28 | CDS/ISIS Ver 2.3 AGLIS, New Delhi (at Agartala) (3) |

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For details : 1. Society for Information Science, PID Bldg Hillside Road, New Delhi-110012 (Secretary Shri P.C. Bose)

2. Shri N.K. Gopalakrishnan, Course Coordinator, Institute of Public Enterprise, O.U. Campus, Hyderabad 500 007.
3. Shri S.M. Mehta, Secretary, AGLIS Care : DESIDOC, Metcalfe House, Delhi 110 054
4 Prof Ganesh Bhattacharya, DRTC/ISI, 8 Mile Mysore Road, R.V. College Post, Bangalore 560 059
5 Shri B.K. Sen, INSDOC, 14 Sansanwal Marg, Spl. Inst Area, Satsang Vihar, New Delhi-110 067