Chapter 6

NEED BASED INFORMATION NETWORK: A MODEL

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Cooperative Acquisition and Collection Development
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Chapter–6

NEED BASED INFORMATION NETWORK: A MODEL

For scientists and scholars to make the most effective use of the Library and information resources, the nature, extent, interrelationship, and location of these resources must be clearly identified. Libraries of 13 engineering research group of laboratories of CSIR do not exist in an information vacuum but are part of a growing information network. The major findings from the evaluation of the Libraries under the present study, envisage the need for cooperation in view of the inadequate and uneven availability of library resources among these libraries. Findings also indicate that there is an interest in library cooperation among these libraries.

Based on the findings, it is also felt that the development of a need-based centralised library information network system among the 13 engineering research group of laboratories of CSIR is essential, in order to permit the libraries to join together to share their library and information resources, and to try to meet their needs and requirements. Accordingly this chapter is devoted to the proposal for the design of a cooperative information network intended for these libraries of CSIR. Its main objective is to devise a reasonable plan to meet the needs and requirements of engineering scientists working in these 13 engineering research group of CSIR Laboratories, and also to consider areas in which library cooperation may be initiated in order to find a solution to the existing to the common problems in library acquisition, cataloguing and other library operations. The problem areas and the need dimensions suggested/identified in the present study are given in the Table 6.1 for greater appreciation of the proposed network.
Table 6.1: Need based information network: Problem areas, Need dimensions and solution measures

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<thead>
<tr>
<th>Problem Areas</th>
<th>Need Dimensions</th>
<th>Solution Measures</th>
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<tbody>
<tr>
<td>A. Cooperative Acquisition and Collection Development</td>
<td>Lack of Cooperative acquisition programme hitherto non-existent. Lack of proper estimate of subject specific and specialised collections. Increasing cost books and journals Curtailment of budgets</td>
<td>Need for collection development policies for availability of documents at one place. Need for supply of information not only in bibliographic form but also in textual form. Need for rationalising the libraries and library resources for greater cost effectiveness. Need for meeting the requirements of interdisciplinary research.</td>
</tr>
<tr>
<td>B. Union Cataloguing of Resources</td>
<td>Lack of union cataloguing of entire resources. Absence of standard formats. Lack of networking mode of access. Absence of policy for union cataloguing. Lack of compatibility in standardisation.</td>
<td>Need for finding out whether a particular document is available in a given library through union cataloguing. Need for creation of specialized bibliographies for use by users that are stationed thousands of miles away and accordingly transfer of information from one region to another. Need for effective control of library resources for retrieval purposes.</td>
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### C. Document Delivery and Inter Library Loan

<table>
<thead>
<tr>
<th>Lack of lending policy/lending code.</th>
<th>Need for delivery of the documents at a cheaper rate and faster speed.</th>
<th>Lending coordination policies.</th>
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<tr>
<td>Lack of Documents delivery through electronic media.</td>
<td>Need for supply of information not only in bibliographic form but also in textual form.</td>
<td>Lending codes.</td>
</tr>
<tr>
<td>Frequent non-functioning of photocopying machines.</td>
<td>Need for promotion of copyright rules transmission of information through electronic media among the participating libraries.</td>
<td>Standardised request forms.</td>
</tr>
<tr>
<td>Reluctance and official bottlenecks toward resource sharing.</td>
<td>Need for providing effective photocopying service.</td>
<td>Provision for adequate photocopying machines for effective document copying and delivery.</td>
</tr>
<tr>
<td>Lack of standard forms and procedures.</td>
<td>Need for providing effective translation service in order to meet the non-English literature.</td>
<td>Instant transmission of information requested.</td>
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### D. Education and Personnel Training

| Lack of appropriate background in comparative and international librarianship. | Need for assigning new roles to libraries and information centres as effective managers of information. | Refresher courses. |
| Lack of management support. | Need for efficient and trained manpower. | Orientation courses. |
| Lack of opportunities to update the knowledge. | Need for new recruitment with better know-how. | Skill building. |
| Ban on recruitment. | | Behaviour management. |
| Lack of interest among aged staff. | | New recruitment. |
E. Online Interaction Facility

<table>
<thead>
<tr>
<th>Lack of online interaction facility among the libraries.</th>
<th>Need for finding out whether a particular document is available in a given library through union cataloguing.</th>
<th>Network support with satellite communication.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of infrastructural facilities.</td>
<td>Need for delivery of the documents at a cheaper rate and faster speed.</td>
<td>Telecommunication facility.</td>
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<tr>
<td>Unutilisation of available infrastructure.</td>
<td>Need for motivating these libraries to participate for greater benefit.</td>
<td>CD Networking.</td>
</tr>
<tr>
<td>Unutilisation of resources by the users.</td>
<td>Need for providing a ready and powerful stimulus for automation and modernization in library services.</td>
<td>Internet facility.</td>
</tr>
<tr>
<td>Disinterestedness towards utilisation of online connectivity.</td>
<td>Need for creation of specialized bibliographies for use by users that are stationed thousands of miles away and accordingly transfer of information from one region to another.</td>
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<td></td>
<td>Need for more user friendly ways of accessing information.</td>
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<td></td>
<td>Need for combating existing barriers on cooperative Information network.</td>
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6.1 The Proposed Network: Structure and levels

A network is an interconnected or interrelated chain, group, or system attempting to achieve some specified common and mutually beneficial objectives. The network proposed for Engineering research group of Libraries of CSIR as shown in Fig. 6.1
Fig - 6.1: Need-Based Information Network Model for Library and Information Services Under CSIR

Decentralized Process

GOVT. OF INDIA, DSIR, Min. S&T

CENTRAL ORGANIZATIONAL NETWORK THROUGH CSIR

Field Support Through Board of Directors

Co-ordination Wing

Users Feedback

Levels of Network

Labs of CSIR

Other Engineering Labs/Institutions

Universities

Companies and Associations

NETWORK CO-OPERATION AND POLICY FUNCTIONS

Co-operative acquisition & Collection Development

Union cataloguing

Document delivery & Inter Library Loan

Education and personnel Training

On Line Interaction

- Collection development policy
- Estimate of subject strength & specialization
- Current periodicals
- Online updating

- Policy statement
- Financial support
- Delivery system

- Lending co-ordination policy
- Lending code
- Standardized request forms
- Photocopying & Document delivery

- Network support
- Data downloading
- Email
- CD Networking
- Facsimile transmission
- Satellite communication

- Refresher courses
- Orientation courses
- Skill building
- Behaviour Management

Centralized Monitoring
should be set up as a means of increasing cooperation among all the member libraries, providing more extensive library facilities for those engaged in research, coordinating library programmes for mutual benefit, and expanding library service to the research and scholarly communities of the member libraries. The engineering network shall be considered a part of the national information infrastructure. Thus, the proposed network structure for these libraries of engineering research group of laboratories of CSIR would be both centralized and decentralized. Each library would function as a Zonal Operating Centre. Each library would function as a nodal point and would interact with its constituents and also with other engineering libraries, which are nodal points in their respective zones.

As libraries become a part of centralized Co-operative Information Network with decentralized services, they share a responsibility to contribute to the efforts of other libraries to achieve the same goal. This role is realized through motivation, development, building collaborative relationships, extending technical expertise, and fostering innovation. It is especially important that Co-operative Information Network both shares their knowledge and skill in technical areas with other libraries and encourages innovation by sponsoring and supporting the introduction of new and improved methods, products, procedures, and/or technologies for the benefit of other libraries.

The proposed engineering research group of library network should be established under CSIR, Department of Scientific & Industrial Research, Ministry of Science & Technology. All the Heads of Libraries of these libraries of CSIR will represent this Library Network as Board of Directors to advice, review and implement the network policy. A coordinator may be appointed to serve as the chief administrative and planning officer for inter library cooperative programmes. The Board of Directors may also consist of one each from NISSAT, INSDOC, DSIR, Institution of Engineers India, UGC, Engineering research group of Libraries of CSIR, IIT’s and REC’s. One of the Director of the Engineering research group of laboratories of CSIR may be elected as Chairman of the Board. The Board of Directors may select the coordinator and who should be responsible to the Board
for all its activities. The Network coordinator is to serve as a secretary of the Board. A Network Coordinator should perform the following duties:

- To implement specific programmes under the direction of the Board.
- To develop and present recommendations to the Board for additional cooperative programmes and modifications.
- To maintain adequate communications with the members of the network.
- To represent the network to the professional community.
- To collect, compile and present statistical information and to prepare annual budgets, annual reports.

6.1.1 Different Levels of Proposed Network

The proposed Engineering research group of library network of CSIR should function in such a way that all these 13 Engineering research group of Libraries of CSIR would act as zonal operating centers. These centres will be supported and encouraged by CSIR for overall development in connection with resource sharing. These operating centres would interact each other for the further cooperation. Two to three years after the implementation of the proposed network plan, CSIR system shall take appropriate feedback from the member libraries and other allied library systems to review and evaluate the administrative and technological progress made based upon this plan and to decide upon the appropriate steps needed to continue to extend nationwide library technology planning in respect of other allied institutions. At the Second Level, they will be linked with other engineering and technological libraries such as IIT’s, IISc, REC’s. Subsequently at the Third Level, they will be linked with other Engineering libraries attached to various Universities in India. At the Fourth Level, the network will be linked with engineering companies and associations in India.
One workstation should also be set up with an officer in charge at each library of the engineering research group of laboratories of CSIR. These work station officers should work under the control and direction of the coordinator. The advisory council should be established to advice and assist the Board of Directors. The members of the council might include the directors of CSIR's, Directors of IIT's, Directors of INSDOC and NISSLAT and Secretary, DSIR, and Principles of REC's. In order to create a viable framework for the activities of the network, it is proposed that a written agreement or by-laws should be drafted and signed by the participating libraries. A written agreement simply may list the activities while by-laws may contain more detail, stating the purpose of the network and enumerating the roles and functions of the officers and rules for membership. Various working committees on Cooperative services should be established and made responsible for planning and presenting proposals for cooperative action in the specific functional areas. It is proposed that the working committee should be organized in the following need based areas:

i. Cooperative acquisition and collection development.

ii. Cooperative Union cataloguing.

iii. Document Delivery and Inter library loan service.

iv. Education / Personnel Training.

v. Online Interaction

It is expected that the proposed organizational structure will be an efficient mechanism to lead, control and coordinate the activities and implement programmes among the participating libraries.

6.2 Objectives and Areas of Co-operation of the Proposed Network

Research library resources systems should encourage and assist member libraries to develop electronic links to resources, which together create a library's information gateway. Information Gateway is a computer that enables data to be sent between
incompatible systems and networks by adapting protocols and conventions of one system/network to those of another. In a library setting, an information gateway enables access via computer workstation:

a) to electronic information resources within the library either online or on CD-ROM, and/or

b) to resources outside the library via the Internet or another network.

Information gateways may often be accessible as menu choices in an online catalog. Catalogs and other electronic links should reflect the diverse needs of libraries and users and should be accessible from remote locations via the Internet. The research library resources systems should play a leadership role, on behalf of libraries and diverse scientists and library users, in negotiating and developing agreements for licenses to access databases. The proposed network should encourage, through appropriate funding, collaborative ventures among libraries, regardless of geography or subject specialization, for the purchase of licenses to databases. All licenses should include authorization for remote access. Further, the proposed network should establish definitions and guidelines for reporting data about the use of electronic resources owned, or made available, by libraries. Such definitions and guidelines should be consistent with those being developed nationally. In order to achieve this objectives the engineering research group of library network of CSIR should undertake the following services.

a. To increase resources of a network through cooperative acquisition programmes.
b. To set up a Centralized Union cataloguing unit for decentralised service.
c. To promote inter library loan and photocopying service.
d. To design appropriate staff development programme.
e. To promote online interaction.
On the basis of the said objectives, a blueprint of the proposed need based information network model is presented below for a schematic overview of the issue in question, details of which are as follows:

6.3 Cooperative acquisition and Collection Development

Cooperative acquisition means acquisition of library materials jointly. Through cooperative acquisition the member libraries can avoid duplication and can also have access to a wide range of materials to all its users. The cooperative acquisition function will also enable the member libraries to save money and manpower. It is found that in the acquisition sections of these libraries, a large amount of manpower is being wasted in procuring similar type of documents, independently and separately. It is also proved that the value of cooperative acquisition is recognized and is highly desired by the librarians of these libraries. Hence, it is proposed that each library should plan and practice cooperative acquisition in order to avoid undesirable duplication of material. The working committee set up on cooperative acquisition service should develop a set of guidelines for joint selection, evaluation, ordering and processing of library resources on a cooperative basis.

The first priority for cooperative acquisition function is to make a policy statement for various activities of purchasing and building collections. Such policy statement could serve as guidance for the network. Under the policy of cooperative acquisition, a scheme of combined acquisition should be adopted by participating libraries with the objective in view that all the participating libraries shall have access to all the material that is acquired under the scheme.

6.3.1 Collection Development Policy

A written collection development policy is to be formulated for the need based library and information system as a tool, which should enable the librarians of these libraries
a) to work with greater consistency towards achieving a larger target collections by using limited funds more wisely and
b) To inform users, authorities, and others as to the scope and nature of existing collections and the plans for continuing development of resources.

The policy should define the library's goal and objectives, identify the short term and long term needs of community it serves, assess the degree of strength and weakness of its existing resources, and determine the depth and scope of its acquisition policy. In order to do this it is proposed that the working committee of cooperative acquisition should consider the following points:

- Knowing the users and their needs, actual and projected.
- Careful analysis of the existing collection and determining its strength and weakness.
- Considering the rates of inflation in the cost of books and other materials.
- Considering the items, which may be, deemed part of a core collection that must be replaced continually.
- Considering the advantages and disadvantages of procurement of print and nonprint documents in relation to each other.
- Considering factors of space, rate of deterioration of materials, optimum size of the collection and its elements.

6.3.2 Subject Strengths and Specialisations

It is impossible to do everything at once to bring libraries and users together. Consideration should be directed toward determination of the feasibility of providing the services which users need most. This will be a complex process because the needs of each individual and each group of user differ from that of other individuals and groups. In order to accommodate this variable, it is proposed to establish cooperative divisions of special subject fields in each laboratory according to their own strength.
The following points may be noted in the process.

* Agreement is essential between the zonal operating centres to concentrate acquisitions along specific lines, and broad subject fields as pre-requisite to subject specialization;
* Guidelines for adoption of subject specialization should be prepared, to serve as a foundation for future.
* Zonal operating centres should agree to prepare regularly subject lists of their available resources and new acquisitions for distribution to the other libraries and for their own patrons;
* It may prove to be more logical to centralize such collections in the zonal operating centres of each zone, to be shared by all of its member libraries;
* Some zonal wide depository collection should be established to contain specialized holdings beyond the ordinary needs of the participating libraries;
* Further investigation should be undertaken from time to time, in attempt to find subject strengths, and weaknesses in each library collection.

6.3.3 Acquisition of current periodicals

Cooperative acquisition of periodicals is an immediate solution to the threatening problem caused by the increase of the subscription rates of current periodicals. A number of prevailing factors such as increasing production cost, growing size of periodicals, and fluctuating exchange rate are responsible for price increase of periodicals. The engineering and technological libraries being dependent on foreign periodicals are financially overburdened, as the annual price hike in the periodical subscription rate. The following solution is suggested to overcome the problem.

Each engineering science library of CSIR should identify the current periodicals of common need and should jointly subscribe only those periodicals as minimum as possible at each zonal operating centres, thereby avoiding multiple expenditure for the one of the same periodicals by each individual library.
6.4 Centralized Processing Service

Centralized cataloguing means the production of processed catalogue cards by a single agency for wider group of libraries. Many countries have adopted centralized cataloguing. It is found from the findings of the survey that a majority of CSIR libraries have common classification and cataloguing practices.

Therefore it is proposed that centralized processing should be carried out at each zonal operating centres, which would solve the pressing problems of duplication.

6.4.1 Formulation of policy statement

Policy statement for the centralized processing for these libraries must jointly establish a centralized system of classification and cataloguing. Such policy statement would serve a guidance and scheme of action and would give a clear conception of steps involved in the cooperative processing. A written centralized cataloguing policy statement is a tool, which should enable the librarians: i) To work with greater consistency toward defined objectives, ii) The plan should eliminate much duplication of work and tends to ensure consistency of end products and iii) The plan should encourage greater use of standardized, coordinated rules and practices and maintain a sustained policy in classification and subject headings. In order to do this the working committee on centralized processing while formulating a policy statement should consider the following points.

- There should be an agreement among the participating libraries to have common cataloguing practices following the same cataloguing code in its rules of bibliographical description, format etc.
- The central cataloguing of new material, with automatic inclusion in union location records, local catalogues, etc.
Transportation of processed materials from processing centres to its members.

Consolidation of expensive cataloguing tools at centralized processing centres.

Consolidation of able cataloguers.

Standardized rules and procedures.

Greater ease in maintaining cataloguing policy.

6.4.2 Financial support for centralized services

Budgeting for centralized services is essential. There should be an adequate distribution of the financial burden between the participating libraries, and if the cooperative plan is to succeed this problem of distribution of financial burden must be solved to the satisfaction of all participating libraries. More funds should be made available to the zonal operating centres and service fees may be charged from the member libraries for the service rendered by the zonal operating centres.

6.4.3 Delivery of processed documents

Delay in getting processed books delivered to the libraries can ruin a cooperative system. This problem cannot be overcome unless a good delivery system is the priority feature of the centralized system. For books on order and cataloguing, processing information on their status must be readily available at all times to all librarians in the system. Rapid transportation of the final products must be mandatory, regardless of the distance involved.

6.5 Document Delivery and Inter Library Loan Service

The activity of inter library loan includes borrowing and lending books and other materials between libraries, providing photocopies of periodical articles, books etc, and permitting faculty and students from one library to use the library of another. The survey results reveals that the inter library loan activity in these libraries is poor, even though this
activity was recognized as a device serving as a supplementary to resource sharing. The survey also finds that the reason for the unsuccessfulness of this act, CSIR is lack of clear guidelines or lack of any cooperative agreement for inters library loan system.

The effectiveness of inter library loan depends on two main factors, namely

a. A clear inter library loan code

b. Bibliographic tools such as union catalogues of library materials.

To provide efficient interlibrary loan service and reduce the heavy personnel costs involved with this process, libraries and library systems should regularly examine interlibrary loan policies and delivery mechanisms in light of expanded availability of electronic information. The network system should be informed about the interlibrary loan (ILL) protocol, to understand the benefits it can provide; should purchase ILL protocol compliant software as it becomes available and resources permit; and should allow, as feasible, for user-initiated electronic ILL requests.

A protocol approved by the International Organization for Standardization, which permits system-to-system exchange of interlibrary loan messages. The protocol allows library users or personnel, working with the command language of the local (or library system's) automated system, to transmit borrowing and lending messages among other protocol compliant interlibrary loan/document delivery systems, regardless of vendor platform. The protocol is usually based upon client/server technology. Client/Server Technology is an architecture in which the client (e.g., a workstation) is the requesting machine and the server (e.g., a mini computer) is the supplying machine. The client and server are connected with one another via a local area network (LAN) or wide area network (WAN). The client contains the user interface and may perform some or all of the application processing while the server stores information and responds to queries from the client.
6.5.1 The proposed inter library loan system's code

All the 13 participating engineering research group of libraries using this service are expected to have their own materials available for loan to other members as long as this does not conflict with the needs of their own clienteles. Each library will assume responsibility for borrowed material subscribing to borrowing privileges established by the inter library loan code. The inter library loan code is very important because it would be made; the types of materials to be included and excluded; the charge, if any, the clientele to be served; decisions about responsibility for late returns and loss of books; and related matters.

The following pre-requisites and bare necessities are to be contemplated by the established working committee on inter library loan service while formulating a inter library loan code.

- A uniform code of practice be framed among these engineering research group of libraries and should be agreed to by the librarians for effective inter library loan activity and it should be adopted faithfully.
- A zonal lending centre be set up at each zonal operating centre to facilitate and maintain inter library loan, and it should also be responsible for the compilation and updating of national union catalogue of periodicals and also for other materials.
- Postal and telecommunication authorities may be approached for concessional rates for inter library loan purposes.
- A union catalogue of periodicals and other library materials of all the libraries be compiled to make inter library lending service more efficient and quick.
- Some telecommunication media who would help saving time of the borrowers and the libraries alike links all these libraries.
- Installation more photocopying machines at each library.
6.5.2 Increase in photocopy service

Photocopying is essential element in any inter library loan system, especially when the library for whatever reason is not able to lend out the original document. The survey indicates that these libraries have been serving their users through a limited use of photocopies, because only big libraries have photocopying machines. There should be an increase of photocopying machines at each zonal operating and sectoral operating centres and also at other resourceful libraries for effective inter library loan service. In order to compensate for what is not available in the libraries of CSIR's laboratories, a national Level Document Supply Center has been functioning at the Indian National Scientific Documentation Center (INSDOC), New Delhi, which is also, one of the CSIR establishments.

6.5.3 Inter Library Lending Center

An inter library lending centre should be established at each zonal operating centre and in all resourceful member libraries with an adequate staff, sufficient infrastructure, with ample photocopying machines and with liberal budget to maintain, administer and supervise the inter library activity.

6.5.4 Standardized Request Forms

Standard procedures and request forms must be designed and be followed by all the engineering and technological libraries for loan requests to save the inter library loan staff time and to prevent delay or denial of request due to lack of sufficient details. Time is wasted both in requesting and supplying libraries if standardization is not followed and a variety of forms used. The forms designed should facilitate procedures as well as raise standards as far as necessary information about the required material is concerned.
6.6 Union catalogue service

The exchange of bibliographic data or information can occur in a number of ways, one of which is participation in a union catalogue. Historically, union catalogues have progressed from manual card and paper files to on-line shared databases to catalogue records electronically linked via Internet. Union catalogues form one of the main building blocks of resource sharing or shared services such as interlibrary loan, cooperative cataloguing, cooperative preservation, and cooperative collection development activities. Libraries and library systems to participate in union catalogues must use standards.

The concept of the catalog has expanded from being a record of the books and journals held by a library to also being a means of access to information resources through links in catalog records. Through these links, known as hyperlinks, users may gain access to electronic databases, World Wide Web sites, digitized collections, all types of media, and even objects. Clearly, though, the catalog, as a bibliographic database of the library's records and holdings, is the core of online network of library services. All the member libraries shall provide access to their bibliographic records and holdings for users from both inside and outside the library. In this way, libraries will increase access to their records and holdings locally as well as within their systems/regions and the State. Since it is important for a local catalog to be complete, records and holdings of both retrospective and current materials should be included. The inclusion of all records and holdings in catalogs is also necessary to maximize the benefits of resource sharing for library users in under CSIR system. Libraries that are just getting started with retrospective conversion should develop plans to complete this process in a timely fashion.

It is impossible to carry out any effective cooperative programme without having through information about the holdings of the participating libraries, therefore, it is very essential for engineering and technological libraries to have information regarding the holdings of
all libraries included in the joint venture, through the union catalogue. The cataloguing of library materials is a very time-consuming and arduous process. With the cataloguing service being centralized, staffs at member libraries are relieved of these tasks. Centralized cataloguing eliminates duplication of effort and puts new books and materials on shelves sooner. It is proposed that at its mature stage of the implementation of the model, each member library of the engineering library network should first compile their own list of holdings under the leadership of their respective zonal operating centres.

A substantial progress has already been made in this area. In January 1988 INSDOC succeeded in releasing a 4 volumes National Union Catalogue of Scientific serials in India (NUCSSI). NUCSSI contains data revised upto 1983 and incorporates data included in all the previous 18 volumes of catalogues/regional union catalogues brought out during 1965 to 1982. INSDOC has also succeeded in bringing out NUCSSI in CD-ROM format, which is being updated every year. CSIR Madras has also published a Union Catalogue of serial holdings available in all CSIR libraries and IISc library. There is a need to update this union catalogue and it should cover the holdings of all the engineering and technological libraries in India. The zonal operating centres should take the advantage of these union catalogues and also cooperate in updating these union catalogues.

6.7 Personnel Training Service

The achievement of the objective that every library under CSIR system becomes a center of technology information for its community of users is important to the overall success of the proposed co-operative information network. However, sophisticated networks and electronic resources are of no value unless people know how to use them. Training is required in order to use, and benefit fully from, services provided by electronic doorway libraries. For many years library personnel and users could peruse the card catalog and find books and information. But with the introduction of technology and the Internet, access to library information is undergoing dramatic changes. These changes, while improving and expanding access to information, alter the procedures that library personnel and users
traditionally have followed to find resources. Libraries need to provide the training required for people to work in and use electronically sophisticated libraries.

Training will vary depending upon the needs of the individual library. Factors that will influence needs are the library's mission, diversity of its users, and size of staff and collection(s). Although there is no definitive training program that will meet the needs of all libraries, certain elements should be part of every library's training plan. At a minimum, these include training goals, identification of trainees, descriptions of training, and costs. Training programs should include a variety of approaches, ranging from written handouts with introductory information to computer-based, interactive programs. Libraries and library systems should regularly assess library personnel and user training needs. Assessments of training needs should take into account library personnel and users who are from diverse cultures, use different learning styles, and/or are visually or physically challenged.

Before training for users, libraries need to ensure that their own personnel have knowledge of new technologies. Technology and Training for Libraries in Transition (1996), a report of the New York Library Association to the New York State Education Department provides considerable information about the training of library personnel under changing scenario. The report groups the skills required by library personnel into two categories: 1) computer literacy, and 2) telecommunications and navigational knowledge. It goes on to describe the skills needed for librarians to carry out the various roles they play, i.e., information specialist, educator, new-technology specialist, manager, and consultant; and it discusses the ways of providing training for library personnel under the following categories: formal education and training programs, self-education, apprenticeships, on-the-job orientation training, Refresher courses, and continuing education.

Competencies for personnel in libraries include among other things: use of the Internet, online search strategies, familiarity with computer hardware and software, and fundamentals of use of a computer. These competencies also include knowledge of
infrastructure, ability to install software and to configure and maintain computers and networks, advanced knowledge of searching and evaluating electronic resources, train-the-trainer skills, and experience in creating and publishing information. Continual training to stay abreast of these is essential for appropriate personnel. Libraries and library systems should ensure that appropriate library personnel receive computer, Internet, and other technology training and that they have access to equipment for these purposes.

Once library personnel have been trained, electronic libraries should also provide training for users. Training for users is not a new service for academic and research libraries. Their missions have traditionally included education and instruction programs for faculty and scholars. Libraries should provide Internet and technology training for users, including hands-on training. Training for users should meet the diverse needs of the populations served by libraries. Training for users needs to be on going, and it should also be coordinated with the development and availability of new content. To stay up-to-date with the fast-paced changes in technology and information services, training should proceed along a continuum that addresses the needs of the novice information-seeker as well as the sophisticated user, and the economically, physically, visually, and/or developmentally challenged as well as the affluent user. As is the case with the training of library personnel, training of users should focus on how to obtain needed information and resources, including use of the Internet.

Providing professional education and training for library staff with emphasis on cooperation and collaboration will tend to increase efficiency and effectiveness of the engineering and technology library network. Taking part in meetings of professional library organizations regular staff meetings, introduction of innovation through professional associations. and well designed and well run workshops as well as staff bulletins and newsletters may be useful and lead to better knowledge for maintaining good communication between engineering and technological librarians and library staff. The result could, vastly improved library service for the clientele.
As examined about the need for personnel training, it is proved that the value of personnel training is felt very essential and is highly desirable as indicated by the librarians. The established working committee on personnel training should formulate a well-defined formula for the staff training for the benefit of a total network for engineering and technological libraries.

6.8 The Online Network System

The success of any cooperative network system depends on effective communication system. Mail, telephone, telegraphs, teleprint, telex, facsimile transmission, satellite and computer technology are various means for transmission. Generally it is pointed out that mail service is too slow, telegraph is too expensive, telephone message can be misinterpreted and must be supplemented by written records, teletype/telex information transmits information rapidly and eliminates possible errors. Facsimile transmissions the rapid transmission of printed pages from one points to another using electronic devices. Computer to computer communication via modern connections has the greatest impact on inter lending.

Until some time ago lack of efficient communication facilities was the major obstacle for the effective cooperative networking among the libraries. However, recent developments in communication technology and the application of computers to the Indian library administration, have made it easier to extend cooperative actions among the libraries. Advances in computer and telecommunication technologies have opened up new vistas for speedy transmission of information across time and space. New methods of and non-bibliographic data bases in almost every of communication networks, are being given a trial for subsequent implementation on modern techniques.

Every library shall provide access via the Internet both to its own information resources in a local online catalog and/or union or virtual catalog and to the vast array of information resources available elsewhere on the Internet. Internet is an international network of
networks connected by TCP/IP protocols. The Internet may be used for remote login, electronic mail, news, file transfer, and other services. Use of the Internet has increased dramatically in recent years due to the widespread availability of graphical user interfaces (GUIs) and the World Wide Web (WWW).

In view of the rapidly changing face of the Indian telecommunication industry in respect of the existing telephone, telegraphs and telex services as well as the introduction of digital technology in switching and transmission systems among these libraries should undertake to evolve a computerized networking system that would be connected through satellite links, microwave links etc., on the similar lines of INDONET, NICNET, INFLIBNET, CALIBNET, MALIBNET, DELNET, BONET, MYLIBNET, PUNET, HYLIBNET and other existing and proposed library and information networks in the country etc. The CSIR should play a leadership role to help coordinate digitization efforts among libraries and between libraries and other institutions in order to:

i) Ensure broad access to digitized records;

ii) Encourage development of standards for digitization projects;

iii) Avoid duplication of effort;

iv) Serve as a means for archiving information; and

v) Assure ongoing accessibility by migrating digital files and upgrading equipment.