

For my parents

**NETWORKING AND RESOURCE SHARING AMONG
THE LIBRARIES IN BANGLADESH: PRESENT
CONDITION AND FUTURE PROSPECT**

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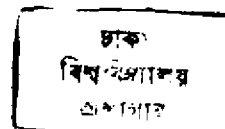
ঢাকা:
বিশ্ববিদ্যালয়
আলুগার

**NETWORKING AND RESOURCE SHARING AMONG
THE LIBRARIES IN BANGLADESH : PRESENT
CONDITION AND FUTURE PROSPECT**

**Thesis submitted to the University of Dhaka for the
Degree of Doctor of Philosophy in Library and
Information Science**

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May 1997

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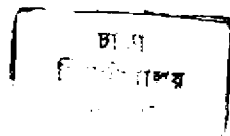
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CERTIFICATE

Certified that the work incorporated in the thesis entitled
**Networking and Resource Sharing among the Libraries in
Bangladesh : Present Condition and Future Prospect** was
carried out by S. M. Mannan under my supervision.

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382353



DECLARATION

The work reported in this thesis is original and has not been submitted by me to any University or institution for the award of any degree or diploma.

Such material as has been obtained from other sources is duly acknowledged in the thesis.

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LIST OF ABBREVIATIONS/ACRONYMS

AACR	—	Anglo American Cataloguing Rules
ADIPA	—	Association of Development Institute of Asia & Pacific
AG	—	Agriculture
AGRICOLA	—	NAL (USA) On-Line Database (Agricultural on-line Access)
AGRIS	—	International Information System for the Agricultural Sciences and Technology
AIC	—	Agricultural Information Centre (Bangladesh)
ALA	—	American Library Association
AMIGOS	—	AMIGOS Bibliographic Council
APDC	—	Asian & the Pacific Development Centre
APINESS	—	Asia Pacific Information Network for Social Sciences
APINMAP	—	Asia & Pacific Information Network on Medical & Aromatic Plants
ARPANET	—	Advanced Research Project Agency Network (USA)
BAB	—	Bangladesh Agricultural Bibliography
BAEC	—	Bangladesh Atomic Energy Commission
BAIN	—	Bangladesh Agricultural Information Network
BALID	—	Bangladesh Association of Librarians, Information Scientists and Documentalists
BALLOTS	—	Bibliographic Automation of Large Library Operations using a Time-sharing System
BANBEIS	—	Bangladesh Bureau of Educational Information and Statistics
BANSDOC	—	Bangladesh National Scientific and Technical Documentation Centre
BANSLINK	—	Bangladesh National Scientific Library & Information Network
BARC	—	Bangladesh Agricultural Research Council
BARD	—	Bangladesh Academy for Rural Development
BARI	—	Bangladesh Agricultural Research Institute
BARIS	—	Bangladesh Agricultural Research Information System
BASLIBNET	—	Bangladesh Academic & Special Library Network
BAU	—	Bangladesh Agricultural University
BBS	—	Bangladesh Bureau of Statistics
BCL	—	British Council Library
BCPS	—	Bangladesh College of Physicians & Surgeons
BCSIR	—	Bangladesh Council of Scientific & Industrial Research
BDSIC	—	Bangladesh Development Support Information & Communication Network
BFRI	—	Bangladesh Forest Research Institute
BICH	—	Bangladesh Institute of Child Health
BIDS	—	Bangladesh Institute of Development Studies
BIDS-LDC	—	Bangladesh Institute of Development Studies Library and Documentation Centre
BISS	—	Bangladesh Institute of International Strategic Study
BINA	—	Bangladesh Institute of Nuclear Agriculture
BIRDEM	—	Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders.
BIT	—	Bangladesh Institute of Technology
BITNET	—	Because It's Time Network (US)
BJRI	—	Bangladesh Jute Research Institute

BLAISE	—	British Library Automated Information Service
BLRDD	—	British Library Research and Development Department
BLRI	—	Bangladesh Livestock Research Institute
BNCU	—	Bangladesh National Commission of UNESCO
BPATC	—	Bangladesh Public Administration Training Centre
BPC	—	Bangladesh Planning Commission
BPI	—	Bangladesh Petroleum Institute
BRAC	—	Bangladesh Rural Advancement Committee
BRDB	—	Bangladesh Rural Development Board
BRRRI	—	Bangladesh Rice Research Institute
BTRI	—	Bangladesh Tea Research Institute
BTB	—	Bangladesh Telephone and Telegraph Board
BUET	—	Bangladesh University of Engineering and Technology
CABI	—	Commonwealth Agricultural Bureau International
CALIBNET	—	Calcutta Library Network
CARIS	—	Current Agricultural Research & Information System
CAS	—	Current Awareness Service
CCOD	—	Current Contents on Diskettes
CD	—	Compact Disk
CD-ROM	—	Compact Disk - Read only Memory
CDL	—	Community Development Library
CDS/ISIS	—	Computerized Documentation System/Integrated Set of Information System.
CFP	—	Central Focal Point
CIRDAP	—	Centre on Integrated Rural Development for Asia and the Pacific
CLASS	—	California Library Authority for Systems and Services
CN	—	Central Node
COM	—	Computer Output Microform
CPL	—	Central Public Library
CRIN	—	Child Right Information Network
CSDC	—	Committee on Studies for Cooperation in Development in South Asia
CSIR	—	Council of Scientific and Industrial Research
CSNET	—	Computer Science Network
CU	—	Chittagong University
DAE	—	Department of Agricultural Extension
DELNET	—	Delhi Library Network
DEVINSA	—	Development Information in South-Asia
DEVSIS	—	Development Science Information System
DIALOG	—	Dialog Information System
DISC	—	Diarrhoeal Information Service Centre
DU	—	Dhaka University
E-MAIL	—	Electronic Mail
ERDOC	—	Economic Relations Division Documentation Centre
EURONET	—	European Network
FAO	—	Food & Agricultural Organization
Fig.	—	Figure
FP	—	Focal Point
FRI	—	Fisheries Research Institute
FRILDOC	—	Fisheries Research Institute Library and Documentation Centre
GSB	—	Geological Survey of Bangladesh
H & P	—	Health & Population
HBRI	—	Housing & Building Research Institute
HDI	—	Human Development Index

HELLIS	—	Health Literature Library & Information Services
ICDDR'B	—	International Centre for Diarrhoeal Disease Research 'Bangladesh
ICLARM	—	International Centre for Living Aquatic Resources Management
ICVD	—	Institute of Cardio-vascular Diseases
IDRC	—	International Development Research Centre
ILL	—	Inter-Library Loan
ILLENET	—	Illinois Library and Information Network
INDONET	—	Integrated Information Management and Distributed Data Processing Network
INFLIBNET	—	Information & Library Network
INIS	—	International Nuclear Information System
INRD	—	Information Network on Rural Development
IPGMR	—	Institute of Post-graduate Medicine and Research
IPSA	—	Institute of Postgraduate Studies in Agriculture
IPSS	—	International Packet Switched Service
IRD	—	Integrated Rural Development
ISDN	—	Integrated Services Digital Network
ISDS	—	International Serials Data Service
ISN	—	Information Services Network
ISO	—	International Standard Organisation
JANET	—	The Joint Academic Network (UK)
JU	—	Jahangirnagar University
KU	—	Khulna University
LAN	—	Local Area Network
LASER	—	London and South Eastern Library Region
LUC	—	London Union Catalogue
MARC	—	Machine Readable Cataloguing
MEDLARS	—	Medical Literature Analysis and Retrieval System
MEDLINE	—	MEDLARS On-line (Medical Literature on-line)
MOA	—	Ministry of Agriculture
MOU	—	Memorandum of Understanding
N	—	Node
NAIS	—	National Agricultural Information System
NALDOC	—	National Agricultural Library & Documentation Centre
NARS	—	National Agricultural Research System
NCLIS	—	US National Commission on Library and Information Science
NELINET	—	New England Library Network
NFP	—	National Focal Point
NGO	—	Non-Government Organisation
NHL-DC	—	National Health Library and Documentation Centre
NICNET	—	National Information Centre Network
NILG	—	National Institute of Local Government
NIO	—	National Institute of Ophthalmology
NIPORT	—	National Institute of Population Research & Training
NIPSOM	—	National Institute of Preventive & Social Medicine
NISSAT	—	National Information System for Science and Technology
NLB	—	National Library of Bangladesh
NLM	—	National Library of Medicine, USA
NSU	—	North-South University
OCLC	—	On-line Computer Library Centre
OSD	—	Officer on Special Duty
PEPS	—	Population Education Programme Service
PGI	—	General Information Programme of UNESCO

Ph.D.	—	Doctor of Philosophy
POPIN	—	Population Information Network
PSDN	—	Packet-Switched Data Network
PSTN	—	Public Switched Telephone Network
R & D	—	Research and Development
RDA	—	Rural Development Academy
RFP	—	Regional Focal Point
RIRC	—	Rural Information Resource Centre
RLG	—	Research Libraries Group
RU	—	Rajshahi University
S & T	—	Science and Technology
SAARC	—	South Asian Association of Regional Cooperation
SAIC	—	SAARC Agricultural Information Centre
Sc. & Tech.	—	Science & Technology
SDI	—	Selective Dissemination of Information
SERLS	—	South Eastern Library System
SFP	—	Sectoral Focal Point
SIRNET	—	Scientific & Industrial Research Network
Soc.Sc.	—	Social Science
SOLINET	—	South-Eastern Library Network
SRTI	—	Sugarcane Research & Training Institute
SSRC	—	Social Science Research Council
SU	—	Shahjalal University of Science and Technology
T & T	—	Telephone & Telegraph
TELENET	—	Telecommunication Network
TV	—	Television
TVE	—	Television Trust for Environment Network
TYMNET	—	Tymshare Inc.(USA) Network
UAP	—	Universal Availability of Publication
UGC	—	University Grants Commission
UK	—	United Kingdom
UN	—	United Nation
UNESCO	—	United Nations Educational, Scientific and Cultural Organisations
UNICEF	—	United Nations International Children's Emergency Fund
UNISIST	—	Intergovernmental Programme for Cooperation in the Field of Science & Technological Information (UNESCO)
Univ.	—	Universities
US	—	United States
USAID	—	United States Agency for International Development
USIS	—	United States Information Service
VISCOUNT	—	View Data and Inter-Library System Communication Network
VRC	—	Video Resource Centre
VSAT	—	Very Small Aperture Terminal
WAN	—	Wide Area Network
WHO	—	World Health Organisation
WLN	—	Western Library Network
WWW	—	World Wide Web

CHAPTER-1

INTRODUCTION

CHAPTER-1

INTRODUCTION

Background

In the present information age, it is simply impossible to keep track with development activities in the absence of a dependable information system in the country. A workable information system is an essential pre-requisite for research and development in every field of study. Scientists and researchers need to know about the information tools and resources available for better utilization of information. Failure to provide accurate and adequate information to the scientists, researchers, planners and administrators may lead to faulty results which will, in turn, hinder national development. The solution lies in identifying the available information resources and ensuring quick dissemination of information to the concerned users through various channels of communication. In this regard libraries and information centres can be considered crucial media, which can play a dynamic role in the universal diffusion and advancement of knowledge and can provide right information to the right user at the right time. Presently Bangladesh lacks a well organised and planned library and information system. However, both the government and private bodies in recent times

have shown an awareness of the importance and need of information system. The existing libraries and information centres in Bangladesh are not properly organized and suffer from different problems such as, acute shortage of funds, inadequate information resources, lack of qualified staff, modern technological facilities and a lack of willingness of the authorities. In such circumstances it is simply impossible for any single library in Bangladesh to meet the information needs of its users. To overcome this stagnant condition of research and development activities, library networking and resource sharing is a must. The major reason of this networking is to share available library resources effectively. The resources can include information, equipment, facilities, qualified staff, time and money. The sharing of resources usually means the sharing of library materials and other information resources irrespective of geographical barriers. The library and information system of Bangladesh is in need of catching up with modern development. Already, many libraries of the country from different fields have started to realize that networking and resource sharing is one of the most effective ways to solve the problem of providing information in time to the users. But many of them are undecided about what models they should adopt, because of a lack of experience, technological facilities or necessary financial allocation, etc. Library and information centres of Bangladesh are now seeking models adaptable to Bangladeshi circumstances.

In the present study an attempt has been made to propose and design a suitable model plan for networking and resource sharing among the libraries and information centres in Bangladesh.

Rationale and objectives of the study

It has been observed that the attitude of the information user in Bangladesh, as in most developing countries has been quite passive. There is practically no demand for current information which would help one keep up to date in the subject concerned. The

majority of our academic community is not a frequent user of information. There is no recognizable pressure from the user end on the libraries and information centres for supplying information. Whatever demand is there for information among the scientific community in Bangladesh is negligible. There is however, a need based demand for information which is generally sought while writing a seminar or conference paper, dissertation or for a research project, etc. Furthermore, as it is quite apparent that the concept of networking and resource sharing in Bangladesh is in its infancy, it becomes imperative to know the reasons of such a neglect towards this revolutionary concept which no nation today can afford to give such casual attention. This is one of the reasons that we are much behind in developing library and information systems in our country. However, with the advent of new technology, the situation does not seem that much discouraging. There is a pressure from technological advancement to change fast to cope with the challenging world. There is no difference of opinion about the importance and priority of resource sharing and networking. Information revolution on the one hand, and inflation of reading materials on the other, leave no other alternative than to avail the information resources not only within the country, but globally. But there are various constraints in implementing any networking plan. In spite of all unfavourable conditions, a start has to be made so that the country does not lag behind. It needs concerted as well as integrated efforts of administrators, politicians and information professionals for planning and implementation of network plans of libraries and information centres, so that resources of one organisation is accessible and available to others who need them. The ultimate aim of networking and resource sharing is to provide the right information expeditiously to the user as and when required.

Keeping all these in mind, the present study has been proposed mainly to develop a model networking plan for resource sharing at national and international levels. More specifically, the study has been designed to ascertain :

- The present scenario of library services in Bangladesh with special reference to Universities and special libraries;
- The strength and the weaknesses of collections of various libraries and their dependence on other libraries;
- The present status of resource sharing, networking and telecommunication in Bangladesh;
- The availability of infrastructural facilities, manpower, finance and other resources required for networking and resource sharing among the libraries in Bangladesh;
- Information seeking behaviour of academic community, scientists, researchers, and administrators; their information needs, degree of dependence on their institutional libraries and those outside;
- Suitability of types of conventional and computer network;
- Lastly, based on the study, developing a suitable national network plan for resource sharing among university libraries and special libraries in Bangladesh.

It is expected that the findings of the study will provide useful guidelines in planning and designing an effective network plan for resource sharing among the university and special libraries of the country.

Scope of the study

The need and importance of networking of libraries for resource sharing in Bangladesh have already been realized and a beginning has already been made by BANSDOC, BIDS, NHLDC, CIRDAP etc. The problems at implementation, however may be

many. To develop any such network or resource sharing plan, a feasibility study is of primary importance. For undertaking a national (and international) networking plan, it is imperative to assess the varied and complex information needs of the nation. Unfortunately, no such survey work of information needs, infrastructural requirements of libraries, availability of resources has been conducted in the country so far.

The present study concentrates on a review of the following issues out of a large number of issues that can be studied in relation to networking and resource sharing, since there are the ones that are the most pertinent to the study :

- available literature on networking and resource sharing;
- status of libraries in Bangladesh;
- status of networking and resource sharing among the libraries in Bangladesh;
- survey of some selected libraries and users in Bangladesh;
- a model plan for networking and resource sharing among the university and special libraries based on the survey results, literature review and other considerations; and
- recommendations for smooth operation of the proposed networking and resource sharing plan.

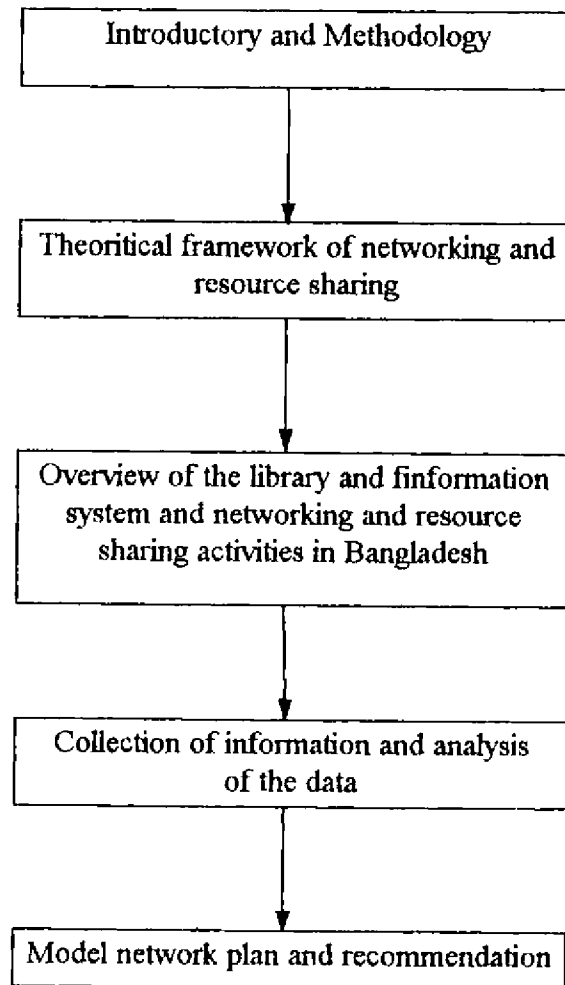
Methodology

The choice of an appropriate research methodology is important for any research study. Authentic research findings need sound scientific methodology. In the present study, the following methodology has been adapted :

I) Study Design

The present study can be visualized as in Figure-1

Figure-1 : Schematic view of the study



II) Literature Review

Existing literatures on the topic were studied and reviewed to examine the status of library and information system and networking and resource sharing activities among the libraries in various countries including Bangladesh. A comprehensive bibliography of the available literature has been compiled, and given at the end of the dissertation.

III) Sample Design

(A) For ensuring representativeness from different types of libraries (academic, special, public and national) and considering the services and usefulness to the users, twenty five libraries of the country were purposefully selected and brought under the investigation at the first stage (sample size).

Figure-2 : Libraries and information centres brought under the survey

	Name	Year of establishment	Location
01	Dhaka University Library	1921	Dhaka
02	Bangladesh University of Engineering and Technology (BUET) Library	1961	Dhaka
03	Jahangirnagar University Library	1970	Savar, Dhaka
04	North-South University Library	1992	Dhaka
05	Chittagong University Library	1966	Chittagong
06	Rajshahi University Library	1953	Rajshahi
07	Shahjalal University of Science & Technology Library	1991	Sylhet
08	Khulna University Library	1991	Khulna
09	Bangladesh Agricultural University Library	1962	Mymensingh
10	Bangladesh Institute of Development Studies Library & Documentation Centre (BIDS-LDC)	1974	Dhaka
11	Community Development Library	1980	Dhaka
12	Centre on Integrated Rural Development for Asia and Pacific (CIRDAP) Library	1979	Dhaka
13	Bangladesh Academy for Rural Development Library	1959	Comilla
14	Bangladesh National Scientific and Technical Documentation Centre Library (BANSDOC)	(1962)1972	Dhaka
15	National Library of Bangladesh	1975	Dhaka
16	National Health Library & Documentation Centre(NHL-DC)	1974	Dhaka
17.	Diarrheal Information Services Centre (DISC)	(1962)1978	Dhaka

(Figure-2 contd.)

Name		Year of establishment	Location
18	Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM) Library	(1956)1975	Dhaka
19	Institute of Post-graduate Medicine and Research (IPGMR)Library	1965	Dhaka
20	Bangladesh Atomic Energy Commission (BAEC) : Library	1964	Dhaka
21	Central Public Library	1953	Dhaka
22	The British Council Library	1952	Dhaka
23	American Cultural Centre Library	1951	Dhaka
24	Agricultural Information Centre AIC	1988	Dhaka
25	Fisheries Research Institute Library and Documentation Centre (FRILDOC)	1987	Mymensingh

(B) At the second stage, one hundred users from various groups like students, teachers, researchers, scientists, administrators and other categories have been interviewed.

IV) Survey

Information was collected using two sets of structured questionnaire of which one was prepared for the survey of the sample libraries and another for the interview of the users. Both the questionnaire were duly pre-tested and finally structured keeping in view the objectives of the study.

Based on the analysis of the general and specific objectives of this study information on ten broad categories of variables for libraries and six broad categories of variables for users were identified.

The variables(s) and indicators emerging out of the questionnaire for libraries and information centres and users are shown in Table-1 and 2 respectively :

Table-1 : Variable(s) and indicators(Lib. & Info. centres)

Type of variable(s)		Indicators
01	Institutional Profile	Names of the library and information centres, address, year of establishment, telephone, fax, telex, E-mail, nature of organization, name and designation of the head, parent body.
02	Collection(s)	Books, journals, thesis, audio-visual materials, patent, standards, others, journals being subscribed—inland and foreign, status of collection, three rich subjects in the collection, status of library catalogue—documents catalogued, yet to be catalogued, cataloguing status of serial holdings, union catalogue.
03	User(s) attendance	Teachers, students—UG, PG, M.Phil. Ph.D.— Scientists, researchers, Government Officials, general and others.
04	Infrastructural facilities	Hardware—computer hardware with configurations, reprographic equipment, audio-visual, others; computer software, status of facilities etc.
05	Information technology and services	Status of computerization—acquisition, cataloguing, circulation, serial control, available computerized databases, databases on CD-ROM.
06	Manpower	Staff structure with qualification, computer manpower, status of available manpower, requirements.
07	Networking and resource sharing	Inter-library services being received and offered—inter-library loan, photocopy service, answer of reference queries, on-line and off-line search, translation, status of inter-lending services, organization for exchanging of information at national and international levels, importance of networking in the prevailing situation, areas for resource sharing, constraints of networking, National Focal Point (NFP) of networking with specific subject(s),
08	Inter-library Loan	Items borrowed, items lent out, photocopies procured, photocopies provided, photocopies obtained from international services, source and expenditure, loan period, response time, readers reaction, postal charges, agreements, transacting problem(s), means for confirmation of the availability of materials.
09	Budget and expenditure	Institutional budget, library and information centre budget, expenditure on books, journals, other materials, establishment.
10	Proposal for networking	Proposal and potentiality, source of expenditure.

Table-2 : variables and indicators (users)

Types of variable(s)		Indicators
01	User Profile	Name, sex, organization
02	Category	Student—P.G. M.Phil. Ph.D.—scientist, researcher, teacher, administrator, others.
03	Specialization	Area of specialization
04	Library use	Frequency of visits to institutional and other libraries, name of the library and information centres, ability of those libraries in meeting information needs, alternatives for not getting the desired information, and status of the services.
05	Databases	User of any national or international databases, name of the data bases with usefulness.
06	Nature of Service / use of services	Borrowing books, inter-library loan, photocopying of book materials, articles, translation, computerized data search, CD-ROM, on-line access, in-house databases and others, suggestion for the improvement of the services.

V) Data Collection

For the purpose of authenticity and reliability of data, the interview method based upon structured questionnaire was preferred over the other applicable methods.

(A) *Library and Information Centres :*

The librarian and information professionals of the selected library and information centres—including academic, special, public and national—were interviewed carefully with the structured questionnaires and necessary data were collected for the purpose of the study. The sample was as follows :

Public Library	03
National Library	02
University Library	09
Special Library	11
Total	25

(B) User(s) :

Based on random sampling, one hundred twenty structured questionnaires were distributed among the different category of library users. This group includes students, teachers, researchers, scientists, administrators and others from various organizations of the country. One hundred questionnaires were received filled up by the users which have been tabulated and analysed. (Both the questionnaires are given in Appendix-1). The sample consists of the following :

Student	15
Teacher	43
Scientists	15
Researcher	21
Administrator	06
Total	100

Sample

The following samples were selected for the study :

- Libraries which have either initiated the networking or have plan to go for networking in near future;
- Libraries which have acquired minimum infrastructure required for networking and also have minimum manpower for the purpose.

The libraries which still are traditional in their functioning and are reluctant to catch up with the new technology have been excluded from the sample.

- Regarding the user(s) in Bangladesh, students, academics, researchers, scientists and a few administrators from various fields who are using the library and information centres either frequently or on an ad-hoc basis for meeting their information needs were selected.

VII) Data processing and analysis

Two sets of questionnaire of this study were duly edited to verify that the data recorded in the questionnaires have been carefully and accurately filled in.

All the questionnaires were duly coded after editing for computer input. The steps followed in the process of data input are:

- entering data on the computer;
- conducting validation checks to ensure that data have been correctly entered on the computer;
- preparation of output tables.

The SPSS statistical package was used to enter, edit and analyse data. Findings of the study have been presented in 44+24 tables and 16 figures by using bivariate and multivariate analysis as per their applicability.

Implementation

The study was implemented in three steps :

- | | |
|-------------------|---|
| Step-I : | Reviewing of all available relevant literatures, preparation of reading list/ bibliography for background study |
| Step-II : | Designing and testing of questionnaires, sample design, data collection, data analysis, presentation; and |
| Step-III : | Development of network plan. |

Organisation of the Text :

The text of the dissertation has been organised as a logical progression in the following five major chapters including preliminaries and appendices.

Chapter one is devoted to the background of the study, objectives, scope and importance, methodology applied to the study, implementation and organization.

Chapter two deals with the theoretical, framework of networking and resource sharing including definitions, objectives, growth, needs and influencing factors, functions, components, barriers, configurations of library cooperation, resource sharing and networking. Major activities of networking and resource sharing in the world are also discussed briefly in this chapter.

Chapter three contains a general overview of the existing library and information system and services of Bangladesh with brief historical background. The present scenario of networking and resource sharing activities among the libraries in Bangladesh are also described briefly in this chapter.

Chapter four covers data processing, analysis, presentation along with finding and discussions.

Chapter five provides a summary of the results of this study and a model plan for networking and resource sharing among the Special and University Libraries in Bangladesh in the light of the findings.

The study concludes with some suggestions, implications and limitations of the study.

CHAPTER-2

RESOURCE SHARING AND INFORMATION NETWORKING-- GENERAL CONSIDERATIONS

CHAPTER-2

Resource Sharing and Information Networking—General Considerations

Library cooperation, resource sharing and networking are used interchangeably as synonymous terms for collaborative efforts of information exchange among libraries. But library cooperation still remains the earliest term dating back to the establishment of the libraries themselves. [There should have been some form of cooperation among the libraries since their inception. This is supported by the availability of *Union Catalogue of Manuscript Libraries* in Germany during the 13th century, which is a basic tool for library cooperation. In the 18th century, German libraries operated an exchange programme for reading materials. The number number of such libraries cooperating among themselves increased to 26 by 1823 which included 8 foreign libraries. Subsequently, a broader term, 'resource sharing', came into use in place of library cooperation. The new term indicates not simply an exchange of reading materials, but it also the sharing of all resources including materials, functions, services, manpower etc. for common benefit and for supplementing each others' resources.

By the beginning of the 20th century, library cooperation was widely recognised and became a common feature in many countries, particularly in USA which enacted its first inter-library lending rules (ILL) in 1870. The history of library cooperation, tells us that cooperation among them has been an intrinsic part of their evolution and growth.

By the late 1930s, libraries began to use Microfilming and photocopying, and reproduction of original documents were made available to different libraries. In the years preceedings this development, a number of union lists were produced on a cooperative basis that allowed access to information about who owned what — and hence fostered wider resource sharing through inter-library loan. For example, the first *Union List of Serials* appeared in 1927 followed by another *Union List of Foreign Government Serial Publications* in 1932, one of American newspapers in 1937, and a union list of international congresses and conferences in 1938. By the end of the Second World War, libraries have established connections with each other through national and regional bibliographic tools, such as the *Union List of Serials and the National Union Catalogue*. The ILL system was still quite slow and inefficient and there was pressure to speed it up. As a result two great efforts were made in late forties regarding library cooperation. There were : (a) the Farmington Plan (initiated in 1948 and died in 1972), and (b) the Midwest Inter-library Centre (established in 1949 by ten major Midwestern University Libraries). By 1965, MILC membership had extended well beyond the Midwest and the United States, so MILC changed its name to the Centre for Research Libraries (CRL). [Woodswarth, 1991:6-8]. However, since then library cooperation has taken a more solid shape throughout the World, particularly in Europe.

In India, examples of early *Union Catalogues* are found in the field of periodicals. The first and significant one was *Catalogue of Scientific Serial Publication in the Principal Libraries in Calcutta*, compiled by Stanley Kemp in 1918, which was revised by Asiatic Society of Bengal in 1961. A retrospective *Union Catalogues for Library Cooperation* and the list of *Scientific Periodicals in the Bombay Presidency of 1931* compiled by the Royal Institute of Science, Bombay are worth mentioning (Sengupta, 1981:205). The first *Union Catalogue of learned periodicals in Natural Sciences* for India was compiled in 1953 by Dr. S. R. Rangnathan and his colleagues. Regarding the inter-library loan, Dr. S. R. Ranganathan also drafted a set of rules, which were eventually recommended by the Inter-University Board in 1934 (Barua, 1967:145).

Today library cooperation and resource sharing have become most essential for the proper functioning of libraries, and for upholding the ideals which they were supposed to fulfil. No library in the world can be self sufficient in its resources. Every library/information centre big or small has to depend on other libraries to augment its resources to meet the information needs of its clientele. The dependence on one another has been primarily due to the following factors ↴

- proliferation of literature;
- high cost of reading materials;
- interdisciplinary growth of literature; and
- scarcity of library funds.

Library cooperation is "making the maximum amount of literature available to the maximum number of users without a proportional increase in expenditure. The term library cooperation also signifies a planned system of operation whereby the library

resources and functions are shared by a number of libraries to ensure user's access to more documents and services he requires and planned library budget and allocation of funds to provide maximum service in individual libraries at less cost" (Mahapatra, 1983:18).

Definitions

Some of the standard definitions of library cooperation and resource sharing are given below :

Webster's third *New International Dictionary* (1961:501) defines the cooperation as "an association of persons for their common, often economic benefit, association in a venture the profits or benefits of which are shared; collective action for common well being or progress." *Random House Dictionary of English Language* (1967:321) interprets it as "an act of instance of working or acting together for a common purpose of benefits". According to Barua, Pandey and Sharma (1983:27) the term "cooperation implies an operation in which more than two parties voluntarily agree to commonly share the fruits and costs of the operation and in which each member has something useful to contribute to other members."

Thus we find that cooperation is defined as:

- "Working together to the same end", or
- the reciprocally beneficial sharing of resources, developed or pre-existing, by two or more bodies.

Therefore, library cooperation, in simple terms, implies that two or more libraries functions together to accomplish what they cannot do individually and separately. In other words, cooperation among libraries can be defined as working together to benefit

participating libraries. Cooperation among libraries however has not been the result of such interactions only, but is a consequence of the proliferation of literature caused by:

- the spread of printing technology,
- the acceleration of scientific and technological research, specially as a result of the two world wars and of colonization and the emergence of a number of independent nations,
- the desire of these new emerging nations to achieve a sustainable progress within a short time.

All these factors, individually and collectively, have contributed to more and more research in science and technology, biological and human sciences, humanities and social sciences. The proliferation of literature, a contribution of all these factors, has affected the library cooperation more than any other aspect because of the vast quantities of new information being produced and processed daily, which no one individual can hope to claim on his own : therefore the need to depend on a library. (Verma, 1985:2).

Areas of Library Cooperation :

Cooperation among the libraries may be undertaken in various areas or fields. Rao(1962:19) states that this may include : cooperative acquisition, processing, storage, lending, research and bibliographic programmes and exchanges of books.

The *Academic Library Consortium* proposed some potential fields where library cooperation can successfully be practiced. As quoted by Sharma (1986:100–01) these are as follows :

- Selection and processing of reading materials to member libraries
- Acquisition of library material
- Promotion and development of programmes for the wider use of library resources
- Stimulating the improvement of library facilities and services
- Providing through cooperative acquisition by voluntary agreement materials beyond the reach of individual libraries
- Cooperation in the development of library personnel
- Achievement of economy in the use of the resources both human and material, and
- Facilitating the sharing of materials among members of the group

A survey by BLRDD (1985:48-49) identified the following fields of library cooperation :

- Exchange of users (referral)
- Exchange of materials
- Exchange of information for users
- Contribution to union catalogue
- Exchange of information on acquisition
- Exchange of periodical holdings lists
- Exchange of bibliographies, etc.
- Exchange of information on staff
- Exchange of information on staff training
- Exchange of information on services
- Exchange of management information
- Joint acquisition of materials

- Subject specialization
- Cooperative disposal of unwanted items
- Cooperative production of service tools
- Cooperative storage of materials
- Cooperative reader instruction
- Cooperative staff training
- Cooperative building programmes
- Cooperative administrative services
- Cooperative bibliographical services
- Cooperative binding
- Cooperative transport scheme, etc.

Factors influencing cooperation

BLRDD also identified some factors influencing cooperation and those are :

Environmental factors:

which includes—

- demographic changes
- transport patterns
- rapid expansion, and subsequent contraction of higher education
- the increase in leisure time
- prolonged business recession and large-scale unemployment
- financial cut-back and political pressures imposed by Government on local authorities
- the increased complexity of life in its scientific, technical and social aspects.

Organizational factors:

which includes—

- the structure of the library and information services involved
- the size and resources of the library and information services, including staff, funding and physical facilities
- the functions and objectives of the libraries
- their organizational processes.

Technological factors:

which includes—

- all developments in computers, reprographic and communications technology; and

Human factors:

which includes—

- cooperative personality, and a positive attitude for cooperation with others
- psychological rewards

However, the concept of cooperation was further elaborated in all facets of librarianship and certain technological advances gave a boost to its development. In the present information age, when information is an essential commodity for progress and prosperity, the transfer of information for various activities receives the highest priority. Information transfer without any political, geographical and others barriers has to be ensured.

Referring Markuson, Zhang (1990:16) has identified three levels of library cooperative activities :

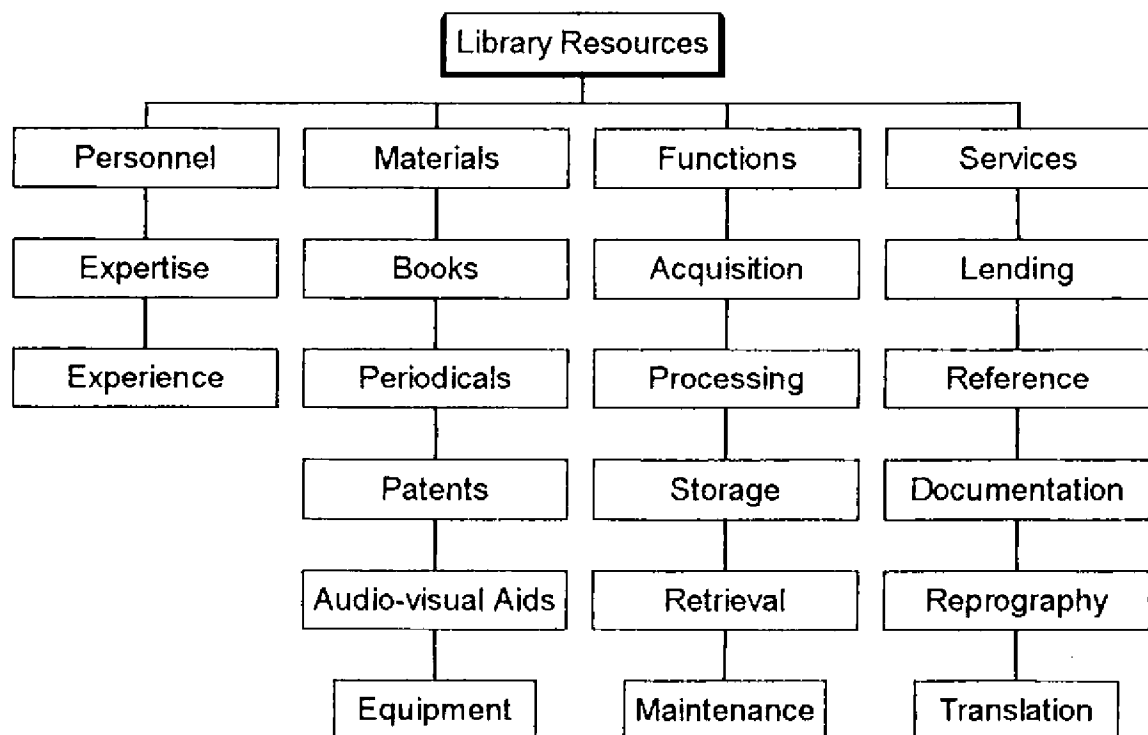
- "— Library Cooperation — any activity between two or more libraries to facilitate, promote, and enhance library operation, use of resources and services to users.
- Library Consortia — a specialised type of cooperative library activity usually restricted to a limited geographical area, number of libraries, type of library or subject interest and having some degree of information of administration and procedures.
- Library Network — a specialised type of library operation for the development of cooperative programmes and services, including the use of computers and telecommunications, and requiring the establishment of a central office and a staff to accomplish network programmes rather than merely coordinate them."

RESOURCE SHARING

According to Kaula (1986:1) resource sharing is not a new concept in the field of libraries. The concept that goes by the term 'library co-operation' has been in use all along among those who had been working in libraries or had anything to do with the development of libraries. The term, however been replaced by a new coinage— 'Resource Sharing'—which sounds more attractive and makes better sense in this age of inflation and budgetary reduction. Thus resource sharing in libraries has become a necessity, and has gained world-wide acceptance.

Before defining resource sharing it is essential to define the term library resources. "The term 'library resources' means any and all of the materials, functions, and services which constitute a modern library system. The term 'materials' means all of the imprinted material which a library handles together with such non-traditional items as microforms, films, and machine-readable databases. The term 'functions' describes

the activities required to purchase, process, store and retrieve the materials. 'Service' means those activities and procedures used to relate the users to the material. The resources of any library must also include the expertise of the professional and non-professional staff. It is this amalgamation of people, processes, ideas, materials and money which form the substance of a library and can be described as its resources" (Fetterman, 1974:1). The library resources are represented in the following tabular form :



"The term 'resource' applies to anything, person material or action to which one turns for assistance in time of need. The word 'sharing' entails apportioning, allotting or contributing something that is owned to benefit others. Resource sharing in its most positive aspect entails reciprocity, implying partnership in which each member has something useful to contribute to others and to which each is willing and is ready to

make available when needed'' (Kaula, 1986:1). In *Encyclopedia of Library and Information Science* Allen Kent (1977:295) has defined and explained the concept of 'Resource Sharing' as a mode of operation where library functions are shared in common by a number of libraries.

The basic functions of a library identified by Kaula (1986:4) are as follows

- acquisition
- processing
- storage, and
- delivery of documents

According to Philip Sewell in *ALA World Encyclopedia of Library and Information Science* (1986:704-5) resource sharing is nothing but a number of activities in which library cooperation is included, but the approaches to resource sharing is different among different kinds of libraries. The earlier term, library cooperation, shows the method of achieving objectives better by working together. The new term, resource sharing, "assumes a range of physical, intellectual and conceptual resources on the one hand, and a body of people on the other, and covers the activities involved in organizing the one into a set of optimum relationships to fulfil the need of the other. This definition particularly emphasizes that resource sharing is not an end in itself, but rather a means to improve the services provided to information users."

Objectives of Networking and Resource Sharing :

The objectives of resource sharing, as seen by Kaula, is to maximize the availability of material and services and to minimize the expenses (Kaula, 1986:4). In other words, the principle behind resource sharing has been the availability of maximum service at the minimum cost or the minimum service at the same cost. The objectives of resource

sharing are to create an environment in which libraries can offer better services and more materials for the same cost. It aims to make the resources of one library available to users of other library and vice-versa.

The main objectives, therefore, are :

- increase availability of resources
- extend the accessibility of resources
- diminish cost, and
- promote full utilization of resources

Quoting Allen Kent, Bhargava (1986:20) stated the objectives of resource sharing networks as the following :

Library user should have access to more materials or services providing level service at less cost, increased service at level cost, or much more service at less cost.

It is noticeable that many possible objectives can be identified for specific networks. These objectives can be achieved without adversely affecting the agendas of the participating libraries, although their methods of operation must be adjusted as required.

Similarly, the objectives can be realised by sharing materials and resources in a mutually beneficial way, from—

- sharing of the burden of purchasing materials;
- sharing of the burden of processing the materials;
- sharing of services; and
- sharing of human expertise.

Quoting Fussler and Simori, Bhargava (1986:23) further identified a number of objectives of resource sharing which are—

- more service for the same cost, or
- the same service for less cost.

To achieve this, as Fussler and Simori contend, the library network has to:

- a) Provide library service to at least as many users via the network as were served by each individual library prior to the network. In other use of a library network should not result in a net loss for the local users.
- b) Meet at least as many requests for library materials through the network as were met by each individual library before the network was in operation. In other words, library service to the communities should not diminish because of the network.
- c) Offer access to a large collection of materials than is available at any one of the network library.
- d) Deliver library materials borrowed through the network within a fixed time in a majority of network loans.
- e) Provide bibliographical access as rapidly as conventional devices do, such as local card catalogues.

The *Academic Library Consortia* proposes the following objectives of resource sharing as quoted by Fetterman (1974:10) :

- "—Assist member libraries in the selection of materials.
- Purchase, catalogue, and process library materials.
- Coordinate cooperative acquisitions, inter library loans, and the reproduction of materials for the member libraries.
- Promote the development of programmes for the expanded use of library resources.
- Stimulate the improvement of library facilities and services.
- Cooperate in the development of library personnel.
- Provide, through cooperative acquisition by voluntary agreement, materials beyond the reach of individual libraries.
- Achieve economies in the use of resources, both human and material.
- Facilitate sharing of materials among members of the group."

Areas of Resource Sharing :

The area and the scope of resource sharing are wide, comprising of mainly people, processes, materials or any other possession of the library. These all are subject to common sharing for mutual benefits. According to Sharma (1992:70-71), some of the areas of cooperation may be enumerated as under :

- shared or cooperative acquisition, storage, technical processing, lending or inter library loan, as well as any other cooperative ventures.

Purdy (1969:54) describes two categories of specific cooperative arrangements :

- "—Methods of sharing resources more generously, more systematically and more expeditiously than they would otherwise be shared, and

—Strengthening the resources to be shared. He also describes the scope of cooperation under eight headings :

- Union catalogue and lists
- Cooperative development of resources
- Sharing resources in terms of use
- Communication
- Centralized processing
- Co-operatively sponsored planning and surveys
- Co-operative storage and
- Co-operative computer centre."

NETWORKING

Networking is a very modern form of information/resource sharing through computers and telecommunications links which transmit information or data from one library to another. According to Smith and Parker, as quoted by Zhang (1990:15), "Networking is more structured type of cooperation in which definite regions or areas or definite organization are connected by electronic or other means to promote inter-library loaning of materials, inservice training's and other sharing of resources." It can be stated that library cooperation and resource sharing have been replaced by the modern term networking with the same connection except technological application for achieving the objectives of resource sharing. Networking has become a very powerful link in the coordination and dissemination of library resources.

Network : A network may be described as "a combination of nodes (places or persons, representing users) and links (lines joining the nodes, representing channels of communication)" [Rangra : 1986:47].

Webster (1979) defines a network as “an interconnection or interrelated chain, group or system” and a system as “a set or arrangement of things so related or connected as to form a unity or organic whole” or “a regular, orderly way of doing something, order, method or regularity.”

The ALA seminar 1977 on network and multitype library cooperation defined library networking as follows : “The cooperative structures, which cross jurisdictional, institutional and often political boundaries to join in a common enterprise, several types of libraries — academic, special and public” (Bhargava, 1986:22).

According to Dhami (1987:323), “Networking has been defined as a "set of inter-related information systems associated with communication facilities which are cooperating through more or less formal agreements and institutional agreements in order to jointly implement information handling operations with a view to pooling their resources and better serving the users. They have to generally follow identical or compatible rules and procedures. In modern practice, many information systems are in fact based upon networks and two terms are often used interchangeably.”

According to Rajashekharan (1987:312) a library network is defined as a “set of inter-related information systems associated with communication facilities which are cooperating through more or less formal agreements and institutional agreements in order to jointly implement information handling operations, with a view to pooling the resources and better serving the users. They generally follow identical or compatible rules and procedures.” Therefore, a library network takes in a formal organization, composed of member libraries that have some shared objective(s) which they realize in part through reliance on computing and telecommunications technologies (Wordsworth, 1991:1-2).

The US National Commission on Library and Information Science (NCLIS) covers a broad range of services, organisation types and modes of communications in its definition of library network as quoted by Zhang (1990:15), "Two or more libraries and/or other organizations engaged in a common pattern of information exchange, through communications, for some function purpose. A network usually consists a formal arrangement whereby materials, information and services provided by a variety of libraries and/or other organizations are made available to all potential users." Briefly, information network generally means more than two libraries/documentation/information centres interrelated by continuing transaction, often in support of a common operation or service. A network shares commits, and connects information, resources, time as well as efforts with others who have similar goals.

CHARACTERISTICS OF LIBRARY NETWORK

Butler has identified the following characteristics of network as quoted by Zhang (1990:16) are:

- "— A dependent system which operates multilaterally "in correct" in response to the common desires of a group of member libraries, as opposed to various shared or cooperative services which are offered unilaterally to libraries of all types by vendors or other libraries;
- A duplex element which enables two-way communication, which separates a network from a publication, or an information services which is one way;

- Digital which excludes various multi-library functions that fulfill other characteristics but do not involve some use of computers, telecommunications or digital manipulation;
- The distribution of information which may take the forms of catalogue cards, printouts, CRT displays, micro-images etc.
- An independent organisation separates from the administrative, political and fiscal bounds of its members."

Swank defines some characteristics of an information network summerized by Zhang (1990:17) which are :

- "— Information resources—collection of documents or data in whatever medium; the data base; the input;
- Readers or users — usually remote from the main source of information;
- Schemes for intellectual organization of documents or data—as directories for use by readers.
- Methods for the delivery of resource to readers or users—the output;
- Formal organization—of cooperating or contracting formations, representing different databases and/or groups of users;
- Bi-directional communication networks—preferably through high-speed, long distance electrical signal transmission with switching capability and computer hook-ups."

It can be concluded that "network is a form of arrangement or an administrative structure that links a group of individuals or organizations who have agreed to work together and/or share resources. It entails the sharing of resources so that the information needs of both actual and potential users of information — from the local to national level—of all network participants are met" (PEPS-UNESCO, 1985:11).

Essential Factors Affecting Networking/Resource Sharing :

The major factors that affect the networking of libraries are :

- availability of computerised databases;
- availability of communication facilities; Computer facility, telephonic, satellite communication, reprographic, fax, E-mail etc.
- standardization of library organizational practice
- availability of financial resources, and
- efficiency in the governance of network.
- basic agreement

BASIC AGREEMENT

In order to achieve the goals in resource sharing some basic agreements among the libraries have to be made. In this regard Kaula (1986:2-3) pointed out the followings :

- "— An agreement has to be reached to share currently owned material, which means access to the holdings of a library among the participating libraries with protocols, limitation and priorities carefully spelled out ;
- There should be agreement on acquisition policies, both to ensure constant development of holdings and to avoid acquiring such materials which are judged jointly to be unproductive ;

- There should be agreement on bibliographic control. This will involve standardization of library techniques and the use of accepted techniques by each cooperating library which will have a consistent means of access to catalogues of others;
- There should be agreement on building up specialized collections in each of the participating libraries. This will involve a decision taken jointly by the heads of the libraries whereby each agree to spend more money on building certain specialized collection and thereby sharing these collections with others ;
- There should be agreement regarding the loan periods and renewals of materials. This will also involve the procedure for earlier return of material if needed, for material lost and the replacement of damaged materials ;
- There should be an agreement on the financial implication involving the loan of material from one library to another. It has to be decided by agreement as to who is going to pay for the borrowed material and to what extent, without an agreement over this issue many a time a library declines to send the materials to another library for the reason that packing and postage charges are involved in such a movement ;
- Agreement has to be reached on retirement of materials to a common storage facility. This becomes necessary in order to leave the shelf space for the current material that is needed by the users in the library ;
- Agreement has also to be made regarding the basic records that have to be maintained in 'Resource Sharing System'. Sharing of materials entails sharing in formal and consistent manner the records without which the system cannot be operated ; and

- There should be agreement regarding the compilation of Union Catalogues. A Union catalogue is different form of a collection of catalogues of different libraries. It is a catalogue based on the holdings of a number of participating libraries within a region or state. The catalogue is used as a location tool to identify the needed material in a library where it is available."

NEED FOR NETWORKING AND RESOURCE SHARING

Zhang (1990:23) observed that the reasons for networking and resource sharing are all due to the recognition of two serious problems those library users and national information need face. One is the recognition that no single library can be completely self-sufficient to meet the demands of the users; the other is the lack of fund either from governmental or from non-governmental source. The latter is more of a problem in the developing countries. As no library can be self-sufficient due to inadequate budgets and rising cost of library materials, equipment, modern technological facilities, manpower etc., there arises a demand for network based resource sharing as an alternative in solving those problems. In order to satisfy the user demand, a number of libraries work to build up a network through organised collection of resources for supplying planned, coordinated services to a large number of users that are inter-connected by communication channels at various places and can provide access to information to anyone who needs it. However, there are more than one factor that are necessary for adopting information networking and resource sharing among libraries. Some of the major factors can be analysed in more detail by the following aspects :

a) Explosion of knowledge : It is almost impossible for a library to be self-sufficient since the horizons of knowledge are ever expanding. Books are increasing in number every single day, as are journals and other sources of recorded knowledge. Simultaneously, it is a significant phenomenon, which is the rapid fragmentation of established disciplines into new subfields, each of which immediately produce a new

monograph and journals literature of its own. This new quantity of recorded information does not substitute but add something to the existing literature. Finally, established definitions of subject boundaries of library collections continue to break down with the growth of interdisciplinary, mission-oriented research while whole new meta-disciplines have emerged. This kind of growth and complexity in the character of knowledge records severely diminishes the capability of any library to provide informations from its own collections required by its users. (Zhang, 1990:24)

b) The Rise of User Demands :

The number of users of libraries aswell as their demands are increasing rapidly. As advances in knowledge are made daily, there have come up whole sagements of readers who demand more and more information. (Sharma, 1992:63). Library users now demand books, journals and other scarce resources, and expect the library staff to be efficient, up to date and punctual. Modern technology adds another demand on the response capacities of libraries. Moreover, "growth and fragmentation of conventional printed knowledge records, rising user expectation, and alternatives to print in storing and transmitting data, all have exerted their influence in altering the character both traditional measures of library effectiveness and traditional philosophical bases of library service. These and other developments in the large social environment have forced a basis change from a 'material-orientation' to a 'user-orientation'. The shift has, in turn, been of fundamental importance in the development of a climate receptive to the growth of newer concepts of pooled collections and library resource sharing as an increasingly attractive to exclusive local ownership of books and journals" (Zhang, 1990:24).

c) Rise of costs in the Collection of Information : "The costs of library services\ have been increasing rapidly in the recent years. The increasing rates of books, periodicals and audio-visual materials hinder libraries from maintaining comprehensive collections. As it is to be expected, almost every library has a certain budget for

acquisitions. Libraries therefore tend to limit their purchases to cover materials which comprise the core collection for the subject concerned, plus others that are in constant demand by local users. Budgetary constraints and the rising costs as well create problems in sustaining regular services, and acquisition activities. Apart from finances, a library's space is also limited. It cannot therefore provide sufficient space for unlimited number of documents and similarly a library cannot employ any number of staff to organize and put use of those unlimited documents. A library which does not adopt some kind of resource sharing will eventually decrease the volume of published information that it can cover and handle within its limited means, resulting in dissatisfaction and frustration of its users. Therefore, fiscal pressure have forced a search for alternatives to local ownership and institutional self-sufficiency." (Zhang, 1990:25)

d) Technological needs :

Along with financial inadequacy, "the development of 'new technology' and its widespread availability in support of networking is a very significant factor in the recent development of resource sharing activities. The technologies, includes computers, micrographics, telecommunications and audio-visual media. In the area of library processing, access to computerised bibliographical files has made the long-time dream of shared cataloguing and union listing a national reality. Furthermore, regional acquisitions, circulation and inter library loan systems, are rapidly becoming feasible in the context of a national system. In subject retrieval, a good number of international on-line systems provide access to bibliographical databases through a variety of public and private agencies" (Zhang, 1990:25).

An analysis of the situation as explained leads us to make the following observation :

- a. Libraries are bound to provide their readers with all the books, materials and information that they demand. This obligation is in keeping with the laws of library science that universalize library use and ensure all readers with books that they need.
- b. Libraries will be hard put to provide all the services to all their readers and procure, preserve and provide books, etc. for their readers.

Therefore, since individual libraries are in no position to satisfy the user demands by themselves, their only alternative is to share resources.

FACTORS UPON WHICH RESOURCE SHARING IS POSSIBLE

Sexena (1982:26), has defined that the success of any resource sharing programmes depends upon the following factors :

- "—An intense desire and will on the part of the administration of cooperating libraries for mutual benefit.
- Adequate reprographical facilities.
- Efficient communication and postal facilities
- Adequate bibliographical control over the resources available in the libraries participating in the network."

Sharma (1992:70) states that, the success of scheme of a resource sharing depends to a large extent on the willingness of the member libraries to actively participate in the programme. He has identified the following for the success of the scheme :

- "—Government's sanction : sanction of the government by enacting library legislation or by framing administrative rules makes a scheme of cooperation more successful.
- System of Libraries : a network of libraries is necessary for sharing of resources at all levels.

- Memorandum of Understanding (MOU) : A code or MOU for sharing the resources is must for successful operation of the scheme. Such a code spells out the role, responsibility, rights, and duties of the participating libraries. It also contains provision as to which material is sharable and which is not and who will bear the cost.
- Bibliographical Tool : preparation and updating of bibliographical tools like Union Catalogues and Union List of holdings is also very much useful in this context."

Sexena (1982:25-26) further describes the desired conditions for the success in Sharing of Resources :

- The concerned authorities should be involved in creating facilities for sharing of resources including inter-library loan facilities and exchange of publications at various levels as well as provision of finance for operating the system.
- Matters relating to loan of materials from Universities and research organizations may be discussed with the concerned authorities.
- Inter-library loan code should be drafted properly to achieve the objectives.
- In order to reduce the work-load in operating inter-library loan, standard loan form should be designed by the participating libraries.
- Microfilming and photocopying facilities of documents should be provided extensively in all big libraries and should be made available at nominal charges.
- Special provisions in all library budgets should be made for expenditure on sharing library resources.
- Government should be approached for providing special reduced rate postal charges facility, for packets of books and periodicals sent by libraries on inter-library loan.
- Union catalogue of holdings of libraries of a locality, region and state should be prepared and maintained. Mechanism of keeping the union catalogues up-to-date should also be worked out.
- Policy of specialization of libraries in certain subjects fields on the lines of Farmington Plan of USA of a particular region will facilitate the sharing of resources in the country.

- A feeling of determination and missionary zeal for satisfying the needs of each and every potential reader of the library is a must for achieving the goal of sharing library resources.

Sharma (1992:79) says that as the inter-library lending (ILL) is one of the important components of resource sharing, so the success of a scheme of ILL depends to large extent on the willingness of the member libraries to actively participate in the scheme. Besides, the following elements need to be considered before implementing such a scheme :

- "—Library System : For successful implementation of an ILL scheme a developed library system and network of libraries are necessary.
- Agreement : There must be a negotiating agreement among the member libraries about the sharing of resources and the responsibility and function of each member library.
- Bibliographic tool : Bibliographic tools for operating ILL scheme involved in (a) preparation, maintenance and updating of union catalogues,(b) directory of participating libraries (c) subject bibliographies, and (d) indexes of articles published in periodicals and similar materials.
- Communication channel for searching and obtaining documents : A proper system of searching and obtaining of documents and proper channel for routing requests should be adopted.
- Loanable and non-loanable materials : An agreement should be made regarding the lending of non-conventional reading materials, such as, microfilms, records, rare documents, loose issue of journals, etc.
- Cost of Payment : An agreement should be made regarding the administrative expenditure of ILL operation. This expenditure includes preparation of catalogues, bibliographies, etc. and correspondence with libraries.
- Model Code : A well drafted code for inter-library loan is necessary for the successful functioning of the scheme."

Classifying Networks :

Reviewing the papers published about previous studies, networks may be classified according to :

- the signals they carry; e.g. digital network.
- their logical structure; e.g. centralised or star network.
- their institutional focus; e.g. academic library network.
- the functions they perform; e.g. inter-library loan network.
- the subjects they treat; e.g. social science information network.
- the equipment they employ; e.g. Computer network.
- the geographic area the encompass; e.g. regional network.

According to Zhang (1990:18), a network may also be described based on one or more the following criteria :

"By type of organizational functions :

Some networks consist primarily of libraries, while others are mainly composed of information data centres. Networks can also consist of a combination of functions, like those of a documentation centre-cum-library; an integrated data, information and library network under the same supreme authority or under different but cooperating authorities; or an independent data centre network and independent library network under the guidance of different governmental offices.

By content or specialized purposes :

For instance, agriculture is such a multi-disciplinary subject that various sub networks can be created for each of these discipline. In addition to an agricultural network in general, sub-networks can also be established to focus on specific subjects and serve specific groups.

By structure or configuration :

Network configuration or organizational hierarchy is an important specification because it affects the communication channels and the flow pattern of messages. Reflecting from the above discussion, the network being modelled, therefore has the following components :

- | | | | |
|-------------|---------------------|-------------------|-------------------------|
| (a) Nodes | (b) Links | (c) Configuration | (d) Institutional focus |
| (e) Subject | (f) Geographic area | (g) Functions." | |

Distinction of Computer Network, Communication Network and Information Network :

As noted earlier, there appears to be considerable overlaps in uses of the term network. The following definition quoted by Zhang (1990:18-19), can help to distinguish among three types, i.e. computer, communication and information etc.

- "—Computer Network : It is an interconnection of assemblies of computer systems, terminals and communication facilities.
- Communication Network : Consists of transmission links, concentrators, switching mechanisms, and non-data processing functional components.
- Information Network : In which more than two participants are engaged in common pattern of information exchange through communication for some functional purpose."

Types of Information Network :

As time passes, the information network is taking a wider shape to cope with the necessity of users. According to Guha (1989:16-17), at present information network can be classified into the following types :

- "—Search Service Network : which provided multiple databases or files for searching.
- Customised Service Networks : which provide bibliographic files to users to search and modify records for local use, obtain a variety of printed and machine readable product showing their localised data.
- Service Centre Networks : can be thought of as an organization rather than an on-line network and does not presently provide automated services directly which is provided through cataloguing or search services vendors with the service centres acting as brokers. In terms of technology the same networks mentioned above can also be described as follows : (i) Centralized Network, (ii) Distributed Networks, and (iii) Communication Networks."

According to Bharagava (1986:22-23), the resource sharing networks can be classified among a number of different dimensions such as functions, performed type of library, subject matter, type of material, means of financial resources, degree of automation as follows :

- "—Equally distributed networks—all participants holding equal (best different) quantities of material to be utilized only by the participants.
- Star Networks—one participant holding substantially all the resources, to be utilized by other participants. Several participants holding substantially equal quantities, at times overlapping, to be utilized by themselves as well as others.
- Hierarchical Networks—unsatisfied needs are passed along to the next greater resource centre.
- Mixed Networks—combination of the above types of networks."

✓ **Network Components** : In the process of developing Library Network, twelve critical components were identified that are essential to orderly, planned development of the objectives stated above. According to Duggan (1972:40), such a network must have the following :

- Organizational structure that provides for fiscal and legal responsibility, planning, and policy formulation. It must require commitment, operational agreement and common purpose.
- Collaborative development of resources, including provision for cooperative acquisition of rare and research material and for strengthening local resources for recurrently used material. The development of multimedia resources is essential.
- Identification of nodes that provide for designation of role specialization as well as for geographic configuration.
- Identification of primary patron groups and provision for assignment of responsibility for library service to all user within the network.
- Identification of levels of service that provide for basic needs of patron groups as well as special needs, and distribution of each service type among the nodes. There must be provision for 'referral' as well as 'relay' and for 'document' as well as 'information' transfer.
- Establishment of a bi-directional communication system that provides "conversational mode" format and is designed to carry the desired message/document load at each level of operation.
- Common standard message codes that provide for understanding among the nodes on the network.
- A central bibliographic record that provides for location of needed items within the network.
- Switching capability that provides for interfacing with other networks and determines the optimum communication path within the network.
- Selective criteria of network function, i.e., guidelines of what is to be placed on the network.
- Evaluation criteria and procedures to provide feedback from users and operators and means for network evaluation and modification to meet specified operational utility.
- Training programmes to provide instruction to users and operators of the system, including instruction in policy and procedures.

The components of the ideal inter-library network discussed above may be considered the conceptual model from which the network of the programme can be constructed. These twelve components are achievable and they are within reach of the capability of all libraries today.

Configuration/Topology of Network

Zhang (1990:19) stated that a network is a collection of nodes connected together by communication links for the sharing of resources.

"Nodes : They are loci of information, input, output, storage, processing, organization, control and use. They may be libraries, information centres, users, publishing houses and abstracting and indexing services.

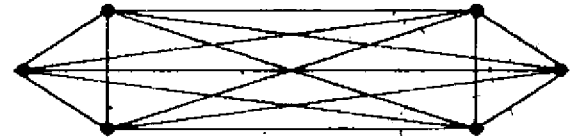
Links : they are channels of communication that bridge all nodes and through which information may pass from node to node.

Network configuration : they are the patterns that result from the connection of nodes and arcs."

However, the network configuration is the organizational hierarchy which shows the links of a network and how each nodes communicates (connected) with another node. According to Duggan (1972:43), a very important design parameter is the network configuration or organizational hierarchy specifying the communication channels and message flow pattern. He also mentioned the following configurations :

(a) Non-directed network :

Figure 1 illustrates symbolically a non-directed network configuration of communication. The non-directed set up is a freely interacting bilateral/multilateral arrangement which does not need a focal point. Each dot represents a node in the network (i.e. a participating library) and each line represents a communication link, it can be seen that each node can communicate directly with every other node, providing a total of fifteen links among the six nodes.

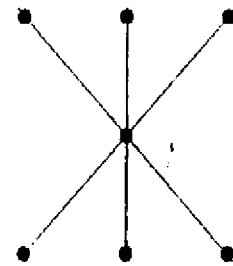


$$C = N\left(\frac{N-1}{2}\right) = 15$$

fig-1

(b) Directed Network :

Figure 2 illustrates a directed network configuration to which the six nodes are inter-connected through a switching centre or focal point and requiring only six channel links.

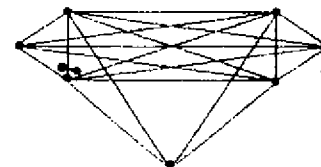


$$C = N - 1 = 6.$$

Fig.2

(c) Non-directed network including specialized centre :

Figure-3 illustrates a non-directed network can interface with a specialized centre with a 21 channels.



$$C = N\left(\frac{N-1}{2}\right) = 21$$

Fig. 3

(d) Directed network including specialized centre:

Figure 4 illustrates that a directed network can interface with a specialized centre via only 7 channels.

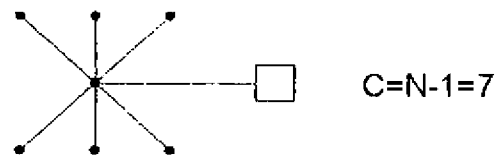
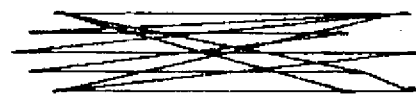


Fig. 4

$$C=N-1=7$$

(e) Interface of two non-directed network :

Figure-5 illustrates the interfacing of a non-directed network of six libraries with another non-directed network of six libraries with 66 communication channels with 12 nodes.



$$C=12\left(\frac{12-1}{2}\right)=66$$

Fig. 5

(f) Interface with two directed networks :

Figure - 6 illustrates two directed networks each of six libraries can interface with only 13 channels."

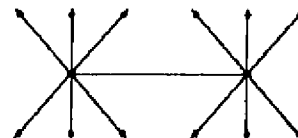


Fig. 6

$$C=13$$

(According to Rouse & Rouse (1980:11-24), "Network structure can be discussed in terms of elements, configurations, and levels. The configuration for a particular network may vary depending on the focus of interest. The elements of a library network consist of nodes or processing centres and areas of possible paths of communication. Four common network configurations applied in both the computer and telecommunications fields as well as the library areas include the star, distributed, ring and hierarchy. The main interest in network structure is the impact of structure on information flows and decision-making flows

a) Star configuration :

It is totally a centralized network where activities or services provided by the network are controlled by the central node.

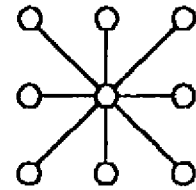


Fig. 1

b) Distributed configuration :

The Distributed network is a completely decentralized network where each node has the alternative communicating channel with every other node in the network.

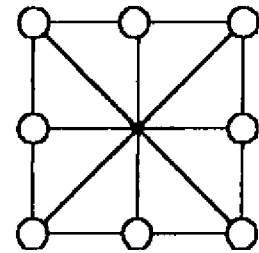


Fig.2

c) Ring configuration :

Like the distributed network in Ring network, there is no central processing node. The distinguish characteristics of the Ring structure relates to the Communication of processing order. Once a request enters the network at a given node 1 and further processing of that request is necessary, the request can only be sent to node $3+1$.

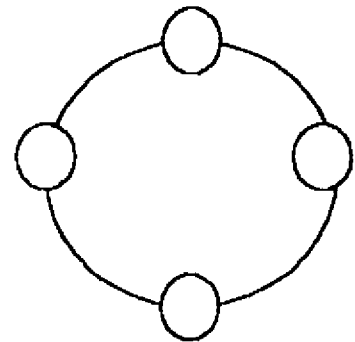
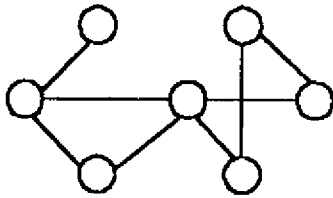


Fig.3

Among the different types, Sharma (1992:230-34) describes some important configuration or topology of network. These are :

"a) Mesh Network :



It consists of a number of nodes linked together in such a way that some times data from one has to pass the third party to reach the destination.

Fig. 1

b) Bus Network :

It consists of a number of nodes linked to a central communication 'Highway' or bus

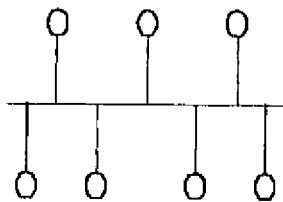


Fig. 2

in such a way that every node has a single bi-directional connection to a shared cable which enables each node to be directly connected to each of the rest of the nodes over this shared cable. Thus any node can directly transmit data to every other attached node. Features, advantages and

disadvantages of Bus network are as under :

- All nodes in the network are connected to a common communication medium.
- The transmitted messages are hear by all nodes and it is for the particular node to recognize the messages intended for it and accept these.
- Failure of a single node does not affect the network because each node is passive and, unlike star and ring topologies, messages are not transmitted or received by intermediary nodes.

c) Fully connected Network :

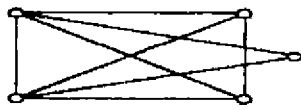


Fig. 3

Fully connected Network consists of a number of nodes directly connected to each other.

d) Multidrop Network :

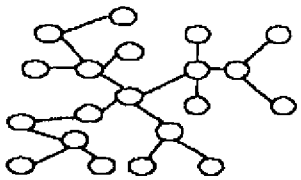


Fig. 4

It has many terminals hanging off links to central node (CN). It is more than one network connected with a Gateway."

However, in a computerised network, data transmission is done through cable, wires, transmission media, satellite etc. The transmission can be in two forms of signals, analogue and/or digital, with the help of modulators (which convert digital computer code into analogue form), demodulator (which converts analogue code into digital form) and Modem (which does the both).

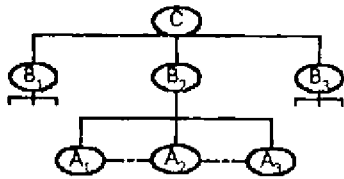
Any type of communication link can be used for computer network, as :

i) Satellite Channel, ii) Microwave Radio Link, iii) Electrical cabling and iv) Fiber optics in which data is transmitted as pulses of light beam etc.

According to Kent (1978:73-74), in theory, three network topologies may be distinguished : Star, hierarchical and distributed. Out of which only hierarchical configuration is discussed below:

The hierarchical network entails members sharing resources locally; passing unsatisfied needs along to the next greater resource centre.

Hierarchical Network Topology



Network members (A_1, A_2, A_3) share resources with most of the needs satisfied before requesting service to the next greater resource centre (B_2); finally the few remaining unsatisfied requests are referred to the “library of last resort” (C) which may be obliged to check other centres (B_1, B_3) to locate required materials.

FUNCTIONS

Network Functions : The “three network topology begin to achieve reality when considered in terms of services which relate to put functions (performed by libraries), output functions (performed by, or for, patrons), and administrative functions of member libraries. Generically these functions are analogous for all types of materials, but may differ in the specific ways in which they are carried out.

Resource Sharing networks may perform all or part of one or more of these functions on behalf of member libraries. The extent, cost and efficiency of network services are influenced by the technology available (e.g. computer, communications), and the extent to which “critical mass” in terms of number of transactions, had been achieved. Also influential is the governance mechanism(s) employed. According to Allen Kent network functions can be analysed into three categories—(a) Type of network; (b) Type of source material; and (c) Operations (functions) performed. Whereas William and Flynn describes these functions into three classes. If these three factors are displayed in three dimensions (figure-I), it is possible to depict a taxonomy in terms of specific operations performed by specific network types for given types of source materials.

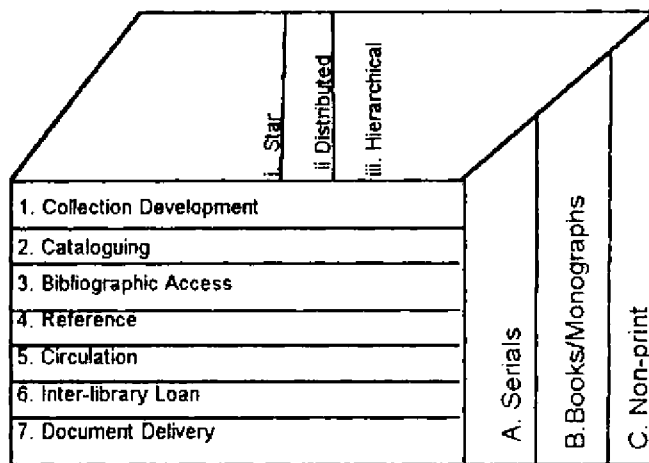


Figure shows types of network, source material and operations performed [three dimensions]" (Kent, 1978:75).

Quoting Williams and Flynn, Zhang (1990:27) says that "networks currently perform an array of functions involving numerous activities, a variety of technological methods, a diversity of human expertise, and a plethora of problems. Generally speaking, network functions fall into three primary classes and those are :

- Serve the patron directly;
- Serve the member libraries directly and the patron indirectly; and
- Support the network structure

The first two general function types might be termed goal-oriented. They attempt to fulfill the primary goal of the network (services to the patron) and its necessary conditions.

The third general type, functions that support network activities, is "means-oriented". It consists of activities that contribute to the accomplishment of the other two primary goals. For example, the function that serve the patron directly would include :

- Inter-library loan, with its reliance on photocopying and delivery of material;
- Inter-system reference, with its reliance on a communication sub-system;

- Inter-system referral, with its reliance on a file or resource and communication system; and
- Continuing education, whether for professionals within the network, or for patrons in general.

Those that serve the library interests directly and patron indirectly would include :

- Co-operative acquisition programmes;
- The technical processing involved in acquisitions;
- Cataloguing and other means of resource identification and location, and item circulation control systems.

And functions that support the network activities might involve :

- The creation and operation of systems that implement the functions mentioned above (system support);
- Evaluation activities, such as the collection of statistics, analysis of performance, and user evaluation studies;
- Staff and user training activities;
- The determination of costs and setting of fees;
- Communication activities such as publication, the holding of meetings etc.

Library functions are interrelated and it is important for library network to consider not only the individual functions, but also the relationships among each of the functions that libraries decide to perform. The 'Pitt' survey of networks revealed that networks perform many functions that might not be obvious at first glance. The functions range from the very common inter-library loan to the less common functions serving as clearing house for materials. In the initial list of functions performed, the following were the most frequently mentioned :

- | | |
|-------------------------|------------------------------|
| a. inter-library loan | l. cataloguing |
| b. reference | m. processing |
| c. delivery | n. storage |
| d. acquisitions | o. literature searching |
| e. union lists | p. collections development |
| f. continuing education | q. abstracting/indexing |
| g. bibliographic access | r. referral |
| h. photocopying | s. consulting |
| i. circulation | t. accounting and management |
| j. communication | u. microfilming. etc." |
| k. publications | |

According to UNESCO (PEPS, UNESCO, 1985:69-79) the major networking and resource sharing functions and activities are identified as under :

Functions :

- Co-operative acquisition
- Assignment of specialization in material acquisition
- Co-oriented subscription
- Exchange of duplicate holding
- Co-operative cataloguing
- Inter-library loan.
- Reciprocal borrowing privileges
- Reference and/or referral service.

Activities :

- Union catalogue of books and periodicals.
- Indexing and abstracting services

- List of new arrivals on accessions/acquisitions list.
- Bibliography development
- Network News letters
- Directories and inventories
- Manuals
- Translation service
- Users interment survey
- Joint research project
- In service personal training
- Workshops and meetings
- Marketing of network services
- Photocopying service etc.

BARRIERS TO NETWORKING AND RESOURCE SHARING

The American Library Association attempted to identify the barriers of networking and resource sharing (at that time inter-library cooperation) by holding a series of ten one-day meetings in 1968 in various parts of the country and invited a variety of people associated with libraries to speak the question of barriers preventing cooperation. According to Fetterman (1974:13-14), the participants identified forty-six major barriers and Orin Nolting has summarized these under the following five headings :

"—Psychological barriers :

- a. fear of loss of local autonomy
- b. clash of personalities
- c. inertia and indifference
- d. unwillingness to experiment, etc.

—Lack of information and experience :

- a. lack of knowledge of the needs of the users
- b. unpredictability of demands on the library by its legitimate users
- c. failure of small libraries to realize the value of resources of larger libraries etc.

—Traditional and historical barriers :

- a. lack of adequate funds
- b. fear of large libraries of being overused and under compensated
- c. inadequacy of libraries to serve their own needs
- d. limitations on access to academic and special libraries
- e. institutional competition between different type of libraries

—Physical and Geographical barriers :

- a. distance between libraries and distance of users from libraries
- b. difference in size of collections
- c. lack of space in public libraries to serve students
- d. delays in satisfying needs and request of users.

—Legal and administrative barriers :

- a. too many government units
- b. lack of communication across jurisdictional lines
- c. lack of bibliographical tools and controls
- d. incompatibility of equipment and procedures and rules between libraries
- e. lack of properly trained staff
- f. lack of appropriate state-enabling legislation
- g. lack of creative administrative leadership etc."

Sridhar (1995:101-2) also pointed out some of the barriers to library cooperation and resource sharing are :

- Local self-sufficiency goals and ownership paradigms
- Competitiveness of institutions and convert move for centralisation
- autonomy of actions desired by libraries
- size and status consciousness of established libraries
- difficulties in arriving at mutually agreeable collecting responsibilities
- urgency of user requirements
- psychological and egoistic barriers from users, librarians and staff

- discouragement from past experiences
- traditional/institutional barriers
- physical and geographical barriers, and
- legal, political and administrative barriers.

Woodworth (1991) also states that there are some long list of negative factors that prevent libraries from participating in cooperative efforts and those are :

- Cost is high for insignificant benefits
- savings and cost reduction are not affected
- cooperation is a marginal activity
- benefits are hard to explain
- satisfaction with local services as they are
- confidential collections or proprietary information
- the network, not its members, controls directions
- small libraries will be overwhelmed
- lack of creative and visionary leadership
- loss of local autonomy
- conflicting policies
- lack of external funding
- local funds needed for local service, and
- group fund-raising competes with local efforts.

However, all of these barriers discussed are not focused in every phase of network development. Besides, as the development of electronic network, some additional barriers have appeared. For instance, there has been a fear of displacement by high technologies from libraries and others.

Inherent Limitations of Resource Sharing :

Resource sharing should consider the users approach and use of information and tolerance in supplying information. One has to understand that the process and success of matching a need with a source of information that is subjected to cost efficiency, have some limitations. However, according to Sridhar (1995:103-4) the probable limitations are :

- Loss of browse ability
- Inevitable delay in supply of information
- Resource sharing through network is not always cost efficient.
- Duplication of resources is inevitable
- Resource abuses
- Non availability of up-to-date access tools
- Local non-availability of an item being Shared
- Difficulties in measurement of use and identification of less used materials
- Lending material shortens its longevity
- Social loafing
- Something for nother syndromes. etc.

Factors reducing the Effectiveness of Resource Sharing Programme among the Libraries :

Misra (1986:12-14) mentioned that the effectiveness of any resource sharing programme of libraries always hampered by many obstacles :

- Conservative attitude and unwillingness of some of the libraries of the participating libraries regarding sharing of resources.
- Certain local restrictions of some libraries in transferring and shifting their materials needed by other libraries.

- Sometimes libraries are unwilling to take the additional burden of inter-library loan and ignore or overlook the request.
- Certain restriction are imposed some times by the authorities on inter-library loan.
- In some of the cases, smaller libraries find it very difficult to comply with the requests due to their limited resources though they have very highly specialized materials available in their collections.
- Lack of adequate fund is another problem which comes in the way of the resource sharing programme.
- Most of the time, in many libraries, there is a shortage of staff to handle inter-library loan requests which are being received under the resource sharing programme.
- Lack of copying facilities such as photocopying, microfilming etc. in participating libraries.
- Distance is another important factor in the inter-library loan in the resource sharing programme and therefore many libraries are reluctant to send the material to the libraries which are located at far away places.
- Lack of proper communication system among the participating libraries.
- Lack of creation of awareness among the libraries to understand the needs and importance of long range benefit of resource sharing.
- Lack of the dynamic leadership to steer the cooperative programmes through all the obstacles, etc.

According to Sharma (1992:73) some library professionals identified that shared processing has following limitations and disadvantages :

- "—It creates unemployment opportunities for classifiers and cataloguers because they will be required at the centralized or selected places only.
- If the centralized library or agency is not a copyright library, it becomes inconvenient to operate the scheme. Because, in case the participating library acquires such a book which is not available with the centralized library, the participating library will either be required to process the book for itself or to send the book or details thereof to the central library. This is time consuming.
- Libraries adopting different forms and type of catalogue and different schemes of classification cannot participate in it."

To overcome the inherent limitations, according to Sridhar (1995:105-7), the following are suggested :

- Accept the limitations
- Use appropriate mode/style of management
- Accept the fact that ILL is still a marginal activity/service
- Not overemphasise cost saving objective
- Resource sharing is communication intensive process but communication and networks are only means.
- Least external interference
- Identify and promote strong and genuine need for resource sharing
- Convert move for centralization should be avoided by both libraries and network managers
- Need for information access budget and flexibility in inter-institutional transfer of budget
- Attitudes should keep in pace with the technology
- Prepare to bear increased work load in retrospective conversion, creation of access tools and document delivery services of larger libraries.
- Buck passing (let someone else do one's work) should be avoided
- Make urgency and end user-need as clear as possible.
- Do not make an empty promise of bibliographic access without physical access.
- Decision regarding automation in the network member libraries.

To establish an effective resource sharing programmes Sridhar (1995:108) has suggested the followings:

- "—Make adequate preparatory study and analysis with clear objectives.
- Good planning, a continuing education programmes for staff and a well conceived organizational structure should be provided.
- Ensure technical compatibility between participating institutions.
- Adequate arrangements for monitoring services and for responding to the feedback information thus received need to be made.
- Ensure good transport, couriers and communication facilities
- Resource sharing cost money does not bring benefit immediately. Benefits are likely to accrue on the medium or long range.
- Involve those who have high needs and significant resources compared to the other libraries in the consortium. This will reduce the distance between need and resources, as well as the problem associated with the need for autonomy of action.
- Those most capable of keeping agreements should be involved so that 'reliance' on other libraries is acceptable both conceptually and actually.
- Representatives of management, libraries and document selection officers should meet together to devoid-up the work/in a manner that allows them to individually continue to collect that which is most critical but collectively broadens the intake of materials.
- Improve the document delivery to an 'acceptable speed'."

Advantages of shared or centralised technical processing in the resource sharing programme :

Advantages : advantages of centralised or shared processing are many and it serves various purposes. Some major advantages can be mentioned as under:

- "—Economy : It is the most economical form of processing. It not only saves money, but manpower and machinery too. Saving in term of money, manpower and machinery can be utilized for other services in the library.

- Elimination of Duplication : It eliminates duplication of processing work in libraries.
- Quality : It ensures qualitative processing at cheaper cost because at selected places expert personnel are engaged for processing of reading materials. They specialize the job of processing and also have fare knowledge of concern subjects.
- Uniformity : It ensures uniformity in inner and physical forms of catalogue etc. in the participating libraries.
- Quantity : Quantity of library materials processed is increased i.e. more materials can be processed in less time.
- Union catalogues : It may be helpful in compilation of union catalogue."

MANAGERIAL ASPECTS

Referring Mathews, Zhang (1990:30) describes that "governance is a set of processing through which an organisation confirms its goals, establishes policy, selects its leaders, and ensures the necessary resources to carry out its purposes. Selection of leaders is likely to be the most important role of governance, while ensuring resources usually involves budgetary decisions and fund raising. Governance might be carried out simply by a board of directors acting in accordance with by-laws. But frequently with committees formed, for example, to handle policy in areas of finance, planning, operations and so on. Presumably each committee is related in an intelligent way to the governing board, the governance process carried forward through the harmonious action of the governance structured as a whole. Governance in the context of library networks is the some of the relationships between participants and their institutions and the network organizations. The purposes of governance are to provide a mechanism for identifying goals and objectives of the network; for the establishment of policies by which the library will operate and for the resolution to conflict. In particular, governance is also the mechanism for overcoming the barriers to networking. In a broader sense, the purpose of governance is to provide a mechanism for overcoming its barriers to any "new" organizations such as a library network."

Quoting Stevens, Zhang (1990:30) further devised library network governance to three categories :

- "—governance of government;
- governance under a quaise-governmental body; and
- governance by the membership under a legal charter and by-laws.

To these categories, Montgomery added three more—

- governance by a for-profit organization
- governance by a not for-profit organization, and
- governance by a network supplier organization.

The governance structure adopted may vary depending on the category selected. Unfortunately, the formulae for choosing among these structures are not yet developed. The principal differences among these categories involve the organizational environment and its relationship with member libraries are expressed by policies and in the incentive for cooperation."

According to Woodsworth (1991:49-60) libraries have grown adopt at devising governing two or more libraries agree to engage in an exchange of information for some interdependent purpose, they have to define the mechanisms through which their interdependent activities will be guided or directed. The participants must have procedures and processes for regulating activities, for restraining unwanted activities, and for making decisions. Library networks can operate as unincorporated cooperatives, not for-profit corporations, or as government or quasi-governmental agencies. Most, even union corporate cooperatives, have some written form of agreement such as a legal document of incorporation, a set of bi-laws, or a constitution. Through these means, libraries defines their relationship with one another, define the purpose of the organization and how power is executed to fulfill the goals of the group. OCLC's Network/service Centre Directory also provides skeletal explanations of

network governing structures. However, like other non-profit enterprises, library network governing groups delegate six major areas of responsibility to their directors of trustees :

- Determine the organizations mission and set policies for its operation to establish its general course from year to year.
- Establish fiscal policy and boundaries, including budgets and financial controls.
- Provide adequate resources for the activities of the organization through direct financial contributions and a commitment to fund raising.
- Select, evaluate, and, if necessary, terminate the appointment of the Chief Executive.
- Develop and maintain a communication link to the community.
- Ensure that the provisions of the organizations charter and the law are being followed.

Involvement of libraries in network is largely voluntary. Unless all members pull out, the governing structure will ensure continuing existence of the library network. The search for successful governance models will continue into the ascertainable future. However, until more studies are done on existing and defunct library networks, it will be difficult to establish what kinds of governing structures result in a responsive, entrepreneurial, creative, and/or economically healthy library network.

Computer Networking : On-line Network and Services.

Information is a vast, dynamic and inexhaustible resource that affects all disciplines and all people. According to Seetharaman (1987:271-2), the process of communicating information is rendered difficult due to several inherent problems as under :

- The existence and continuing growth of information due to the so called “information exploitation” and “information overload”.

- The interdisciplinary nature of information;
- Information scatter in numerous sources;
- Geographical, language and other barriers to communication.

In order to overcome these barriers, there exists today a vast array of electronic tools and techniques for accumulating, storing, organizing, retrieving, communicating and interpreting information on a world-wide scale in a volume and at a speed and with an accuracy.

With the application of computers to libraries the concept of library networking has gained wide-popularity.¹ The importance of computer network and telecommunications has grown tremendously, as we have seen on exponential increase in the number of users of all kinds and in the quantity and quality of information which moves around the network. In the first half of 1990s, this growth has reached such a critical mass that networked information systems are now having a radical impact on the communication patterns between groups and user communities.¹

Computer-assisted information networks remove the barriers of space and time which previously limited the communicative abilities of individuals. Modern large-scale national and international information networks are often spoken of as **Information superhighway** stressing both the infrastructure nature of networking at a national economy level, as well as the multiple access and traffic flows which they support at the micro level.

Types : Computerized Network may be of two types :

"a) Local Area Network (LAN) : A local area network is a means of linking together a collection of computer-based devices, within a limited geographical area, on a more or less equal basis.

b) Wide Area Network (WAN) : Wide area network are not geographically limited in scope, and are capable of national and global-level interconnections." (Harries, 1993:28-32).

Telecommunications Networks : "There are three types of telecommunications network presently available for use for computer-based information networking; each of these represents a phase of the developmental efforts to improve services over several decades, using quite different technology and approaches. These are the Public Switched Telephone Network (PSTN), Packet-Switched Public Data Networks (PSDN) and the Integrated Services Digital Network (ISDN)" [Harries, 1993:34].

On-line System and Services :

According to Seetharaman (1987:273-8) the term 'on-line' now embodies many concepts. Literally, it means that the user is in contact with the computer through some direct linkage. In practice it implies very much more and now is accepted as being some kind of individual terminal attached to the computer either by a direct line or over the telephone network.

The key technological components of on-line systems are computers that can operate in time shared mode and teleprocessing with terminal equipment. Additional capabilities that make this an effective alternative are large amount of low-cost random access storage and an extensive and low-cost data communication systems. These requirements are satisfied today and have resulted in rapid development of on-line services. The computers operate with control programmes that :

- interface with many communication lines;
- interpret and execute search formulations and commands interactively with the user;
- format, sequence and transmit the related output records;

- do this for many users simultaneously while keeping detailed accounting records of these activities; and
- operate concurrently with some background jobs, such as file conversion, statistical analysis and new programme development work.

On-line Networks : The term ‘networks’ can be used in different ways. Simply defined, it can refer to any kind of formal cooperative arrangement where people agree to exchange information or resources. many of the library networks in existence today are largely based on exchange arrangements. The kind of networking which is referred to here, however is ‘electronic networking’ that permits sharing and remote use of hardware, software and databases. Computer readable databases now exist in large numbers. It is estimated that more than 600 such data bases containing over 100 million records are available now for on-line search and retrieval through networks.

Uses of On-line Searching : There are many uses or reasons for on-line searching. Some of them mentioned by Seetharaman (1987:273-8)), are:

- retrospective searching
- quick answer
- current awareness
- development of search profile and strategy
- training
- bibliometric studies
- on-line and Off-line printing
- access to occasional interest files etc.

Standardization for Resource Sharing Database : Development of library services depends on interchangeability of inputs and exchange of formats within a single premises as well as with several premises. However, standards movement has been continuous for effective document handling and effecting network resources and networks. According to Gopinath (1995:i-iv), some movements are—

- "a) Policy frame
- b) System management
- c) Funding and costing
- d) Interaction management
- e) Research and development
- f) Library and Information Science component
- g) Optimal strategy
- h) Modalities of implementation, and
- I) ISO standards for information handling"

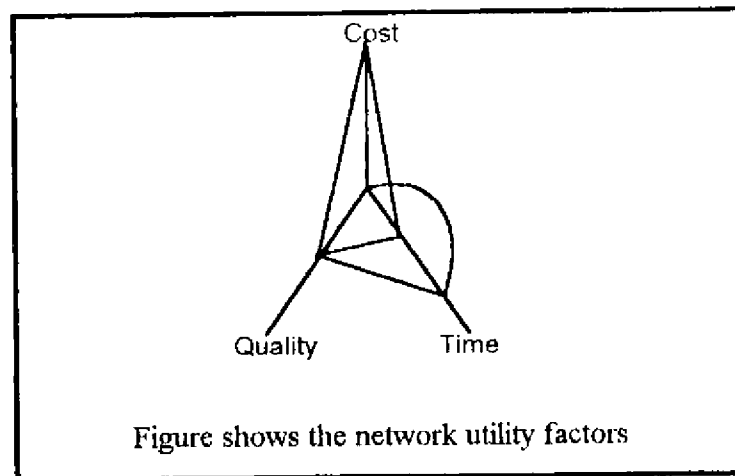
Network performance :

In evaluating the performance of a network there are three key factors to consider.

According to Duggan (1972:45), these are:

- "—turn around time, meaning the time required to complete a transaction of satisfy a request;
- the cost of completing the transaction or satisfying the request, including fixed and variable cost; and
- quality, the all important criterion of how well the job is done, based on patron satisfaction or other standards.

These three factors are interrelated but can be quantitatively identified, as illustrated here that one network might demonstrate average quality, high cost and fast time, whereas another network might demonstrate average quality, low cost and slow time. It is suggested that this technique of interrelating time, cost and quality is useful in evaluating and comparing network performance. Certainly it is necessary to consider all three factors in defining network utility and network operational parameters."



Major (International) Information Networks in the World : Referring Martin, Dhami (1987:324) says that, the evolution of computerised library networks can be traced back to 1901 with the beginning of the Library of Congress card production and distribution service. During the first 50 years of this century formulation of bibliographic control was main point of interest and this laid the basis for the sharing of data among institutions through a network mechanism.

During the 1950s and early 1960s the possibility of using data processing equipment for libraries was ruled out. The design of a format for machine-readable bibliographic records resulted in the acceptance of the machine-readable format internationally. The development of this format for communicating bibliographic information led to the on-line computerised networks today.

Library of Congress began distributing machine readable cataloguing data in 1969. It was at this time that several library networks were set up. There were about 125 academic library networks in 1971. Majority of these were set-up between 1960 and 1965. OCLC is today one of the largest computer-based networks. Today in USA alone there are numerous computerised library networks. Some of the importance ones are OCLC, SOLINET, AMIGOS, WLN, RLG, CLASS, BALLOTS, NELINET. Besides, there are at present many subject-based networks.

The earlier attempt for access to computerised database was made in the mid-sixties by the US National Library of Medicine, with the interaction of the batch processed database on medical science, i.e. MEDLARS. The provision for access to on-line databases on a commercial basis was introduced by LOCKHEED under the name DIALOG and by the System Development Corporation under the name ORBIT. Several other on-line networks in Britain and Canada are : UTLAS, BLAISE, JANET respectively. The National Agricultural Library (NAL) of USA has network components similar to National Library of Medicine. AGRICOLA (Agriculture on-line access) provides access to the information needs of NAL clientele.

Atherton (1977:115) describes, "since 1965 IAEA (International Atomic Energy Agency) in vienna has promoted among the member states (more than ninety) the establishment of an information network (INIS (International Nuclear Information System). AGRIS in the UN agricultural agency. FAO, is another example, developed some what later."

However, a brief discussion on International networks is presented below :

1. On-line Computer Library Centre (OCLC) : In 1966 the Ohio College Association established the Ohio College Library Centre (OCLC) to take advantage of the power computers. In 1967, the group hired Fred Kilgour who had been working on the development of an on-line shared cataloging system for the medical libraries of Yale, Harvard, and Columbia. His leadership at OCLC resulted in development of a bibliographic database and network that turned out, initially to be most valuable as a shared network cataloguing facility. OCLC went on-line in 1971 and under Kilgour's leadership processed to develop a shared cataloguing utility. Initially there were only 54 participants. In 1972 OCLC began serving libraries outside the state, and appropriately changed its name to On-line Computer Library Centre. By the end of the eighties, over 10,000 libraries around the world were contributing to and/or using

OCLC services. Its single most important service is probably building and maintaining the On-line Union Catalogue. By July 1990, the catalogue exceeded 21 million records of books, serials, audio-visual media, maps, archives/manuscripts, sound recordings, scores and computer files (Woodsworth, 1991:11-12).

The six sub-systems of OCLC Computer network include : (a) On-line Union Catalogue and Shared Cataloguing (b) Serials Control (c) Inter-Library Loan, (d) Acquisition, (e) Circulation Control and Remote Catalogue Access and (f) Information Retrieval and Subject Access. The OCLC also promotes the concept of regional networking (Dhami, 1987:328).

2. MEDLARS On-line (MEDLINE) : NLM-USA. MEDLARS (Medical Literature Analysis and Retrieval system) at the National library of Medicine of USA, is perhaps the agreed and the best example of bringing full bibliographic control of medical literature and its retrieval. The first large scale indexing of current medical journal literature had its start in 1879 with the publication of the first volume of first work to use the title "Index Medius". In 1916 the American Medical Association started the publication of a Quartile Cumulative Index to current medical literature which in 1927 merged with Index Medicus to form the Quarterly commutative Index Medicus. In succeeding years, circumstances brought about another change, with the result that two indexes started being produced, i.e. monthly index Medicus, published by National Library of Medicine and annual cumulative Index Medicus, accumulated by the National Library of Medicine and published by the American Medical Association (Verma, 1985:56).

However, as a computer-based medical journal citation index and retrieval tool, MEDLARS is one of the most outstandingly successful example of the application of computer technology for bibliographic control and the development of a successful

network in a particular subject. MEDLARS became operational in 1964. The National Library of Medicine was also able to establish and coordinate a Regional Medical Library Programme (RMLP), now called the National Network of Libraries of Medicine (NNLM). Its purpose is to provide convenient access to health care and biomedical information resources to practitioners, investigators, educators and administrators in the United States (Woodsworth, 1991:86).

The most remarkable demonstration of the computer's capability regarding medical literature searching is called MEDLINE an acronym for MEDLARS On-line. The NLM began providing MEDLINE service in October 1971 (Matin, 1984:135). The NLM's efforts have resulted in one of the best examples available of a single type, tiered, and hierarchical library Network. Services provided by NLM's network include document delivery, reference service, development and maintenance of regional bibliographic locator tools, referral service for basic library training and consultation and on-line access to more than 20 databases available on NLM's MEDLARS such as MEDLINE, AVLINE, SERLINE, and AIDSLINE. In 1985 NLM introduced DOCLINE, an automated inter-library loan request and referral system for rapid routing of inter-library loan requests through the Network. The system was built on the 'tiered' approach to resource sharing, shunting requests and referral through 'cells' of libraries. In 1986, GRATEFUL MED was unveiled and simplified the search process for accessing NLM's MEDLINE and CATLINE databases. However, MEDLARs history depicts the role that national library has played in development databases to support libraries. With its innovative programmes, and its recognition of the importance of sharing information and resources, the National Library of Medicine serves as a model of national level leadership in Library Networking (Woodsworth, 1991:86).

3. Illinois Library and Information Network (ILLENET) : ILLENET was created in 1965 as a public library network in USA and was not organized as a computer based network. It is a multi-layered, multipurpose, multi-type library cooperative. ILLENET is the combined human and material resources of over 2000 public special, academic and school libraries. In ILLENET the human resources are the most important. However, latter on, Illinois responded with OCLC's leadership by establishing the ILLENET bibliographic database service, which serves Illinois libraries by providing several automated library activities through OCLC. Initiated in the mid '70s, the ILLENET Bibliographic Data Base Service serves over two hundred thirty libraries all types. In recent years, a variety of automated system is used in ILLENET including Data Phase, Computer Library Systems Incorporated and Data Research Associates. The electronic system allows ILLENET members to use each other's resources by identifying where the material is located, and indicating if the item is on the shelf and available for loan. Among other services, on-line catalogues, inter-library loan and collection development are a few of the services available through ILLENET(Kaser,1983:7-8).

Within geographically broader countries, highly successful resource sharing networks may grow from a regional base to include many types of public information services within a single area. ILLENET on-line started as the library computer system of the University of Urbana-Champaign in 1978, and has grown to encompass the 18 regional library systems of Illionis state, together with another 36 states and private Universities and colleges and state high schools and community college members. The ILLENET on-line systems also provide gateways to other information services, such as on-line host and the IBM Information Network (Harries, 1993:107-8).

4. Western Library Network (WLN) : "In 1976, the State legislature authorised the Washington State Library to implement its network (WLN) in order to establish electronic channels of communication between member libraries in the state. In 1978

WLN began to provide on-line services to nine libraries including the Washington State Library. By 1988, WLN was serving over 550 libraries, mostly in the western parts of Canada and the United States. Its basic services to members evolved along the same lines as those of other bibliographic networks providing on-line access to a shared bibliographic database for cataloguing, reference, acquisitions and inter-library loans. WLN also developed other products and services including computer output microform (COM), book catalogues, catalogue cards and licensed its software world-wide to institutions wishing to operate networks similar to WLN. The network also introduced a CD-ROM based cataloging, reference and interlibrary loan product called 'Laser Cat' in 1986. Although it has a smaller database than other bibliographic networks, WLN had grown sufficiently by the late 1980s to become self-supporting" (Woodsworth, 1991:15).

5. Research Libraries Group (RLG) : In 1974, an agreement was made between New York Public Library, Universities of Columbia, Harvard and Yale to form the Research Libraries (RLG) and establish their own shared cataloguing operation. They adopted Stanford's BALOTS System to implement this and in 1978 set-up their headquarters at Stanford and renamed the system RLIN (Research Libraries Information Network). By 1981 OCLC had lost 20 of its large research library members to RLG and tensions appeared between the two organizations. Although RLG restricts membership to research libraries, its system, the Research Libraries Information Network, claimed at the end of 1989 to be supporting the cooperative activities of 102 members and providing data access and processing services to over 500 non-member users with a 40 million record database (Woodsworth, 1991:16-17). /

6. South-Eastern Library Network (SOLINET) : The best programme among the regional library networks in the US is being operated by SOLINET, providing not only reference and referral services for all aspects of preservation but workshops,

presentations, and consulting services for both members and non-members in the Southeast (Woodsworth, 1991:116).

7. The Because It's Time Network (BITNET) : BITNET started operation as a cooperative computer network, in the academic research environment to support electronic mail and file transfer. By the end of the eighties, its success was evident from the fact that it connected over 800 bites world-wide, including over 400 US colleges, universities and industrial laboratories. BITNET marged with CSNET (the Computer Science Network) in September 1989 to form the Corporation for Research and Educational Networking (CREN) [Woodsworth,1991:32].

✓**8. INTERNET :** "The INTERNET a wonder of modern information technology, is the colloquial name for a collection of inter-operating networks, that as of August 1989, linked users from over 118,000 computer sites around the world for electronic mail, file transfer, and remote log on to computers. The INTERNET is important to libraries because it enable individuals to log on to remote computers and get access to different networks. Among the services offered through the INTERNET is access to on-line library catalogues and databases mostly free of charge. To date, the INTERNET has been an open data highway that an individual can travel without paying any tolls" (Woodsworth, 1991:32).

"In earlier, the INTERNET was an extensive academic and research-based network linking a very large number of broadly educational, research and related organizations across the United States and world-wide. It has a very large number of users and makes accessible a wide range of information services and resources. Within the United States, the enormous success of the INTERNET over the last five years is moving the network away from its beginnings as a traditional academic orientation towards a new and radical direction as a major national educational and community

resource for economic development. Now the use of the Internet has been further extended globally to all professional and non-professional communities. The INTERNET originally developed as a military network from projects founded by the Advanced Research Project Agency of the US Department of Defense from 1969 onwards, and was known originally as ARPANET. In 1989, ARPANET was finally completely decommissioned from military service and devoted to educational and research purposes. Along with other emerging state and national network elements, this began to become interlinked through a major data communications backbone established by the National Science Foundation between six new Super Computer sites in 1985. However, by November 1992 nearly 8561 foreign, regional, state and local networks constituted the internet, connecting more than 700,000 host computers with an estimated 4 to 5 million users in 44 countries" (Harries, 1993:195-6).

9. DIALOG : "Commercially available information retrieval services have been available since the late sixties and also grew rapidly during the seventies. DIALOG is a remarkable example of how an information broker (introduced by Lockheed) files into the library network picture. DIALOG is a major international information service, providing access to over 200 million records (bibliographic, complete text, directory and numeric) and serving a world-wide clientele. It is a wholly owned subsidiary of Knight-Ridder, Inc. and sees itself as a major library network service. It has a computer facility in Palo Alto, California, its own national and international telecommunications network (DIANET), an electronic mail service (DIALMAIL) and DIALORDER, an on-line order service for the complete text of documents. It provides information retrieval from over 350 on-line databases."(Woodsworth, 1991:19)

10. The Joint Academic Network (JANET) : JANET, the Joint Academic Network, in the United Kingdom (U.K) is an X.25 packet-switched service which provides inter-site access for and on behalf of the UK higher education and research

community. Initially formed to support scientific data processing, JANET has since expanded to encompass a fundamental role as a communications medium for the academic and research communities as a whole, and now includes a broad range of information services and resources. JANET was formed in 1984 through rationalization of the existing academic and research networks which belonged to the science and Engineering Research Council and the Natural Environment Research Council, together with eight regional university-based networks. Among other the basic services of JANET, electronic mail, remote log-in and file transfer have given rise to a wide range of different specialized services and access to information resources which are available to all JANET users. The JANET network gateways and JANET IP services are particularly attractive to JANET users who wish to make use of internet facilities (Harries, 1993:186). From 1993, parts of the JANET network are upgraded to a substantially higher speed and capacity in the Super JANET projects installed by British Talcum with the intention to make use of advanced communication technology to provide research and education within UK with a high speed, high performance broad-band network capable of transmitting voice, data and image together.

11. London and South Eastern Library Region (LASER) : The London and South Eastern Library Region is a non-profit organization for Library Cooperation established in 1986 as a result of an amalgamation between the London Union Catalogue (LUC) and the South-Eastern Library System (SERLS). Its objective are the improvement of library facilities available to the public by the promotion of cooperation between member libraries and other bodies within and outside the area of the region having functions in relation to libraries. Among other services of LASER, its computer and communications system (VISCOUNT) can offer on-line access to its machine readable database for inter-lending and stock purposes, and this on-line facility is now used by almost all LASER area public libraries.

The VISCOUNT (View data and Inter-library System Communication Network) began in August, 1985 with the aim of achieving a coherent interlending and bibliographical network. VISCOUNT is fully operational within LASER itself. In the database, there are some 2.5 million records on the LASER mini-computer system, representing the 70 million volumes held in member libraries. The data base is a Union Catalogue of bibliographic records, all of which are held in a single file available for on-line interrogation (Plaister, 1991:1-3).

12. British Library Automated Information Service (BLAISE) : BLAISE started functioning in 1977 and is one of the world's largest commercial services. It provides facilities for general library house-keeping activities as well as provides automated information retrieval service by using both on-line as well as off-line computer processing techniques. The BLAISE telecommunications network is a means to reduce the cost of on-line searching for users at a distance. The nodes are located in many places, e.g. at Bristol, Birmingham, London, Boston Spa, Edinburgh, Manchester etc. BLAISE is available from Europe and the United States on the packet-switched telecommunication network. The overseas clients can use the international telephone service and can also use the European network, EURONET and the link through the British Post Office's International Packet Switched Service (IPSS) to the United States and other countries. BLAISE database contains a file of documents of the BNB since its inception in 1950 and the LC MARG records since the beginning of the MARC projects in 1968. Other databases are on the records of the Research in British Universities, Polytechnics and Colleges (RBUPC); the Conference Index (CI); Serials Data Service (ISDS); the LC serials, the Catalogue of the Science Reference Library and a number of files on MEDLARS which is available on-line. The BLAISE on-line service was separated and formed two new services — BLAISE-LINE and BLAISE-LINK covering two distinct databases viz. the MARC group of databases (computerising the MARC format bibliographic records for a wide range of printed

and non-book materials) and the MEDLARS group of databases comprising information sources on medicine and allied subject areas (Dhami, 1987:329-30).

13. Other International Information Networks :

- (a) ORBIT : Located at California, SDC renders on-line services to many countries through international telecommunication networks. ORBIT has over 12 million bibliographic citations on-line and comprises access to more than 130 databases covering all fields of science, technology, law, medicine, humanities, etc.
- (b) APINMAP (Asia and Pacific Information Network on Medical and Aromatic Plants) : APINMAP is the new network set up in Bangkok after a decision taken in 1985 after UNESCO study about the medicinal and aromatic plants in the South East Asia region. It has 13 members.
- (c) EURONET : EURONET is a European on-line information service which started operating in 1979 as a telecommunication network. It offers access to a large number of databases and the sharing of resources among the member countries of the European Economic Community. EURONET is interconnected by a large number of European host computers and makes them accessible from any part of the continent.
- (d) TELENET : It is an on-line network operated by Bolt, Baranek and Newman in North America. Lockheed and SDC database can be accessed via TELENET in the European countries.
- (e) TYMNET : It is a network, operated by Tymshare Inc. (USA). It was implemented in 1977 and is at present world's largest data carrying network, in the world.

Both TELENET and TYMNET have more than several nodes in USA and Europe as well as in Asia. Through this nodes the searcher can dial and have on-line access to

principal database and thus save time and expenses as well can receive information of any kind regardless of geographical location (Dhami, 1987:326-27).

14. Information Networks in India : The development of on-line information network in India dates back late 1980s when plans were made for developing national networks. The first attempt towards networking was made by CSIR in 1975 by considering the setting up of CSIR INFONET, which was visualized to be functional at three level of nodes namely the apex node, the regional node and the laboratory node. These nodes were to be connected to each other by existing telex lines which could carry digital data also at lower speed. But so far, the conceptual framework of CSIR network has been put to the practice. The second attempt for setting up a National Information Network was made with the assistance of UNESCO experts who laid the foundation of NISSAT. NISSAT organized on-line remote database search at Bombay in 1976, and at New Delhi and Bangalore in 1981. An experimental project for setting-up an on-line system was implemented at National Aeronautical Laboratory, Bangalore. The facility was installed and commissioned by ESA on June, 1986. The services available from the on-line facility are CAS, on-line ordering of original documents, down-loading, on-line entry and editing of documents, electronic mail, creation of databases locally and library automation creation of private files in ESA main computer etc. (Dhami, 1987:331).

Now we put a glance over some Indian Information networks which are almost at the stage of implementation. Sharma (1992:234-8) describes that :

- ✓(a) CALIBNET : It is an abbreviation for Calcutta Library Network and an on-going project to connect libraries of Calcutta.
- ✓(b) DELNET : It is a computerised networking project for resource sharing among Delhi based libraries. In January, 1988 the India International Centre, New Delhi,

organised a panel discussion on 'sharing of Resources in Delhi Libraries : Network and Technological Challenges. In this meeting it was decided to establish DELNET with the financial support of NISSAT. On the advice of NISSAT the CMC prepared a Feasibility Study Report of DELNET. Many libraries were surveyed and observing their willingness to take part in DELNET, the standardization committee of DELNET prepared a standard for data entry by the participating libraries. In March 1990 the DELNET has started E-mail through which 10 libraries of Delhi are being connected electronically to the network. However, from then, gradually DELNET is taking a shape to achieve its goal.

(c) **INDONET** : A project of the Computer Maintenance Corporation (CMC) of India, was proposed as the first commercial computer network for an intelligent information management and distributed data processing facilitating distributed data. In the first phase it was proposed to set-up a computer network with five nodes, each at Bombay, Calcutta, Delhi, Hyderabad and Madras and in the second phase, it is expected that INDONET will cover upto 35 major cities of India.

(d) **NICNET** : Acronym for 'National Informatics Centre Network' or simply NIC Network. The NIC—conceived in 1973 nucleated in 1975 and set-up in March 1977 by Government of India - has now acquired international repute. The primary objective behind its establishment was to support the government with real and proper information, that could assist the government administration in taking appropriate and timely decisions. NICNET is a satellite based computerised information system to provide data-communication send messages and received replies between the districts, state regional centres, Ministries, Departments etc. at central level and the Central headquarters at NIC, New Delhi. Messages are sent and replies are received on-line. NIC MAIL facility available on NICNET through which about 500 nodes in the country interact with one other.

However, NIC recently launched District Information System (DISNIC) which is a data bank incorporating a number of databases contain statistical information on variety of subjects and geographical area within the country.

(e) SIRNET : Acronym for 'Scientific and Industrial Research Network' is a computer communication network for the CSIR laboratories. At present SIRNET has only one mail mode known as CSIRD, signifying the CSIR mail node in Delhi. It is connected to a large network ERNET (Education and Research Network) set up by Department of Electronics (DOE) of the Government of India, with financial assistance from UNDP.

ERNET in turn is connected to the international network, UUNET (Unix User Network) through which international network like BITNET, CSNET and JANET are accessible. In addition to acting as intra-city node for other CSIR laboratories, CSIRD also acts as a gateway to ERNET and through ERNET to international network.

(f) INFLIBNET : Full form INFLIBNET is Information and Library Network, which is an ambitious project initiated by University Grants Commission of India, aims at building up a computer communication network of libraries and bibliographical information centres in institutions of higher learning such as Universities and other national R & D institutions and organizations.

In 1988, the University Grants Commission constituted a committee on National Network System for university-libraries to suggest measures to network libraries in the country so as to share the literature-resources for their optimum utilization and to avoid duplication in holdings, to the extent possible. The committee, in the meeting, decided on constituting a working group on Information and Library Network (INFLIBNET) to prepare a project report.

However, the working group prepared a project and submitted to the authority for consideration defining INFLIBNET as :

- is a cooperative network and will contribute to pooling, sharing and optimisation of resources, facilities and services of libraries and information centres in the university system as well as in the R & D complexes;
- is a major programme towards modernization of libraries and information centres in the country, with application of computer and communication technologies;
- is a multiple function/service network. It will offer catalogue based services, data base services, document supply services, collection development and communication based services."

Thus INFLIBNET is to be a computer communication Network for linking libraries and information centres in Universities deemed universities, institutions of national importance, UGC information centres, R & D institutions and colleges in the country. Now the implementation of INFLIBNET is under consideration of the Government. India is also participating with a good number of regional and international network in different field.

Networking will be a necessary in future. An overview of the computerized library networks at national and international level reveals that much progresses been made in the European and western countries in the field of networking due to technological advancements. So far as India is concerned efforts were taken to develop computerized library networks in the country.

Though the present scenerio of library networking and resource sharing activities in Bangladesh are not so extensive as in U.K., U.S.A. and India, the country's library and information centres are trying and planning to build up an information network and resource sharing plan to provide sufficient informations to its potential users. There is an attempt to discuss the existing status of networking and resource sharing among the libraries in Bangladesh in the subsequent chapters.

CHAPTER-3

LIBRARIES OF BANGLADESH WITH SPECIAL REFERENCE TO NETWORKING AND RESOURCE SHARING : AN OVERVIEW

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LIBRARIES OF BANGLADESH WITH SPECIAL REFERENCE TO NETWORKING AND RESOURCE SHARING : AN OVERVIEW

Bangladesh, one of the developing countries of South Asia comprises an area of 1,47,50 sq. km. with a population of about 114 million. It appeared on the world map as an independent and sovereign state on December 16, 1971 following the victory at the war of liberation from March 25 to December 16, 1971. Among the 160 countries of the world for which the Human Development Index (HDI) has been derived Bangladesh ranks 138, (BNCU-Country Report Bangladesh, 1993 : 1) with a literacy rate of 32.4 percent according to the 1991 census.

Administrative structure

The country is divided into six administrative divisions. Each division is further subdivided into districts. At present the country has 64 districts. Each district is further divided in a number of Thanass and currently there are 490 thanas of which 30 are in Metropolitan cities (Statistical yearbook of Bangladesh, 1994–1995 : XXIV).

Education System

Bangladesh inherited an education system by the British administration long before the Wood's Education Dispatch of 1854 (Kabir, 1975 : 31). As an LDC, Bangladesh's economic development effort are highly dependent on foreign aid. The constitution of Bangladesh, adopted on November 4, 1972, makes the state responsible for the provision of free and compulsory education and the eradication of illiteracy. The educational infrastructure of Bangladesh consists of—(a) Pre-primary, (b) Primary, (c) Secondary, (d) Higher-Secondary, (e) Bachelor and (f) Masters level programmes and institutions (BNCU, 1993 : 4).

For imparting both general and technical education, there are 11 Government Universities located at Dhaka, Chittagong, Rajshahi, Sylhet, Jahangirnagar (near Dhaka), Kustia, Khulna and Mymensingh. Bangladesh University of Engineering and Technology (BUET) and four other engineering colleges called Bangladesh Institute of Technology (BIT), 13 Government Medical Colleges, one Institute of Post-Graduate Medicine and Research and one Dental College imparts technical and medical education. Besides, there are a good number of other specialized medical institutions offering Post-Graduate courses. There is one Agriculture University at Mymensingh and three Agriculture Colleges in the country. The Government has established an affiliating University, 'The Bangladesh National University', and gradually this new university is taking over the functions of affiliation from the affiliating general universities. A Government established Open University already started functioning in 1992-93. The Government of Bangladesh has recently passed a private University Act, under which some private universities (both general and technical) have been established and others are proposed (Statistical Yearbook of Bangladesh 1994–1995 : XXVI). The Government has also established a post-graduate institute for agricultural education—the Institute of Post-Graduate Studies in Agriculture (IPSA)—to

strengthen the agricultural education in the country. It has already started awarding M.Phil. and Ph.D. degrees.

A survey conducted by Bangladesh Bureau of Educational Information and Statistics (BANBEIS) in 1995 revealed that there are 221 Government and 398 Non-Government degree colleges, 9 Government and 517 Non-Government intermediate colleges, 5 private medical colleges, 1 institute of textile technology, 1 graphic arts institute, 1 Government and 21 Non-Government homeopathic medical colleges, 1 Government ayurvedic and unani college, 14 Non-Government ayurvedic and unani colleges, 1 Government nursing college, 39 law colleges, 1 college of leather technology, 11 teachers training colleges, 16 Government commercial institute, 12 technical training centres, 20 Government polytechnic institute, 317 Government secondary schools, 9145 Non-Government Secondary schools, 2288 Non-Government junior high schools, 49942 primary schools (all type), 99 technical and engineering institutions including Islamic Institute of Technology (IIT), 43 Non-Government nursing institute, 51 Government vocational training institute, 54 Primary training institute and 5819 madrsa's (imparts religious education) including kamil, dhakhil, alim and fazil level functioning in the country (Bangladesh Educational Statistics 1995–1996 : 1-13).

The establishment of University Grants Commission (UGC) in 1973 was considered a milestone in the field of higher education (UGC—seminar paper, 1995 : 4). The UGC acts as a buffer or a mediator between the Government and the Universities for the development of higher education in the country. But even after 25 years of independence the system of our education is more academic than job-oriented. There is a great need to reconstruct the education system so as to augment the industrial and technical development of the country.

Libraries in Bangladesh :

The communication of ideas is one of the most significant achievements in the history of cultural development of the human race. The library, however, is only one of many means of human communication (Johnson, 1973 : 1-6) and is considered an important centre for disseminating knowledge. The library development in Bangladesh is closely related with the history of library development in Indian sub-continent. "The history of library movement in Indian sub-continent can be traced from the history of ancient Indian libraries furnished by the travel diary of the famous Chinese traveler Fa-Hien, who visited India in 399 AD" (Misra, 1979:9).

The British settled and stayed on for nearly two hundred years in Indian sub-continent, initially, for the interest of trading. But, subsequently, they started to establish academic institution and libraries in a small scale (Kabir, 1987 : 6). The Public Library in Calcutta, established in 1835 through private initiatives, is the pioneer of the modern libraries in India. In 1902 it was named the Imperial Library and it became the National Library of India in 1948 (Haq, 1981 : 171)

According to Ahmad, (1987 : 22-23) "before the mid 1800's most libraries in Bangladesh were privately owned and were available to certain groups. Years of efforts by librarians and other concerned citizens have radically changed this narrow role of libraries and have made the library wide spread and vital service institution.

In a modern society library is characterized as a growing organism (Ranganathan, 1960 : 18). This idea also influenced in the growth of different type of libraries in Bangladesh. There are four major kinds of libraries in Bangladesh from its history : (a) Public Library, (b) Academic Library (c) Special Library and (d) National Library.

Public Library (Early history) :

A public library is not simply a place where books, journals and research materials are stored for public use, it is also a cultural centre whose aim is to enhance human knowledge. This is done through a wide range of activities. A public library has rightly been called “people’s university”. In Bangladesh the public libraries were first established in the middle of the nineteenth century. Khan (1984 : 127) says in this context—“there is no doubt that the idea of establishment of public libraries is essentially western, and the spread of the public library movement in this part of the world is the direct result of the impact of western culture.” The Calcutta Public Library was established in 1836, while all the Non-Government public libraries were established after 1850. An active force behind the establishment of public libraries in Indian sub-continent was the Public Library Act of England of August 14, 1850.

Just one year after the enactment of Public Library Act in U.K. the first public library of the Bangladesh was established at Jessore in 1851 (Alam,1991 : 23). Thereafter, three other public libraries - Woodburn Public Library at Bogra, Barishal Public Library at Barisal and Rangpur Public Library at Rangpur were established in 1854 (Khan,1984 : 128). The movement got further impetus with the establishment of Public Libraries at Rajshahi (1871), Dhaka (1874), Comilla (1885), Pabna (1890),Noakhali (1897), Sylhet (1897), Chittagong (1904), Cox’s Bazaar (1906), Munshiganj (1908), Rangpur (1909), Kishoregonj (1909), Kushtia (1914), Faridpur (1914), Khulna (1914), Dinajpur (1930) and Mymensingh (1930) and these are still somehow functioning (Alam,1991 : 23)

However, the momentum of this enthusiastic start was not sustained. All of these libraries, mentioned above were generally established by one or more philanthropists and supported by public subscriptions and assisted by small financial grants either from the Government or local zaminders. The condition of these libraries was not very

good. Most of these libraries were housed either in rented or loaned quarters. There was no continued and consistent support, either from the Government or local bodies (Khan,1984 : 128). "With the introduction of the Local Government Act in 1885 and its subsequent amendment in 1919, the local Government agencies (like Zilla Board and Municipalities) were entrusted with the responsibility of establishing and managing libraries. Since the task was not mandatory, there was little concern beyond occasional financial support from such bodies" (Alam,1991 : 23). As a result, even a long established library could not flourish, but managed to survive somehow at that time.

Many reasons may be attributed to this slow progress of libraries. The library establishment and organization was not the responsibility of the Government or local council, they were rather voluntary/private enterprises in nature and as such inconsistent in operation. Bangladesh, therefore, had inherited an unorganised library system in its beginning.

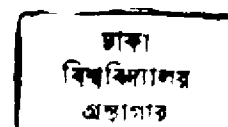
Pakistan Period, 1947-71

After the independence of Pakistan on 14th August,1947 (the eastern wing was called East Pakistan, which is now Bangladesh) found herself without many essentials for her existence and further development. "In the field of libraries she started only with the University Library at Dhaka which was established in 1920. The condition of other libraries at that time was very poor. On the other hand Bangladesh (the then East Pakistan) lost her share of the collections of the Imperial Library at Calcutta. As a result, it took over a decade to establish only one library in Bangladesh after partition. Bangladesh to mention it again at that time (1947-70), as one of the provinces of Pakistan, was dependent on the total national policy which planned development. A six year development plan undertaken in 1951 but abandoned in 1955 to be replaced by the First Five Year Plan 1955-60 was the first attempt in that direction" (Khan,1984 : 129)

The foundation of modern public libraries in Bangladesh, was been laid a century later, with the laying of the foundation stone of the Central Public Library at Dhaka in 1954 (Parker,1979 : 49). During the first plan period (1955-60) of the erstwhile Pakistan, efforts were made to develop the public library system in the country on the basis of the recommendations made by an Australian Library consultant Mr. L. C. Key in 1955 (Mannan,1990 : 114). L.C. Key's recommendations also included the setting up of three Divisional Government Public Libraries at Chittagong, Khulna and Rajshahi in Bangladesh, as the first step towards building up a library network throughout the country. In 1958 the Central Public Library at Dhaka was opened to the public. During the subsequent plan periods the library network was expanded to the divisional level and proposals were made to establish some Government libraries and to improve the sub-divisional libraries as well. The establishment of 100 libraries at Thana headquarters was also proposed in the Third Plan of Pakistan (1965-70). In 1969, the Government set up a committee named East Pakistan Library Development Committee to consider the development of institutional (school, college, etc.) libraries as well. However, whatever efforts were made during that period were stalled by the out break of the war of Bangladesh liberation in 1971 (Mannan,1990:114).

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During the period of 1947 to 1971, about 80 new public libraries were established in addition to 25 libraries established earlier. Moreover, Libraries and Information Centres of the Pakistan Council for National Integration of the Central Ministry of Information in the major districts and the Bureau of National Reconstruction (BNR) of the Provincial Information Department were responsible for circulating mostly Government publications. Till the emergence of Bangladesh, the country had about 175 public libraries and information centres. Most of them (about 100), were Non-Governmental, situated in Dhaka City or in other district headquarters. (Alam,1991:24).



Post Liberation Period : 1972

According to UNESCO manifesto issued in 1949 and revised in 1972 the Public Library is a product of modern democracy and practical demonstration of democracy's faith in universal education as a life long process. "It emphasizes that : a) the public library should be established under the clear mandate of law; (b) it should be maintained wholly from public fund; (c) there should be no direct charge for any of its services; and (d) it should be open for free and equal use by all members of the community, irrespective of age, sex, religion, language, status or level of education" (Rahman, 1993 : 171). After the independence of Bangladesh, a new phase of library movement started with new inspiration to achieve UNESCO's manifesto by a group of educationists and social workers. At that time, the country faced numerous problems which required immediate solution, including reconstruction in every aspect of the national life. In order to systematize the country the Government had to wait a couple of years before launching the first Five Year Plan in 1973. The organization of the library system was also included in the plan layout. In Bangladesh there are two broad categories of public libraries (a) Government Public Libraries and (b) Non-Government Public Libraries. As the Government Public Libraries was under the control of the education department of the then Pakistan, so in 1973, for inclusion in the first five year plan (1973-78) of Bangladesh, a broad based Library Development Committee (divided into a number of sub-committees) was constituted by the Ministry of Education for over-all development of libraries and library services all over the country.

According to Siddique, (1985:12-13) "the Public Library Sub-Committee, possibly due to paucity of funds, could not recommend all the projects which were recommended earlier by a Advisory Committee for inclusion of a scheme in the Fourth Five Year Plan (1970-75). But the committee recommended only the following projects for implementation as the first phase of the plan :

- Development of five Government Public Libraries;
- Development of ten government aided District Public Libraries;
- Establishment of Library Training Institute at Dhaka;
- Establishment of 4 pilot projects for Rural Library Service;
- Rehabilitation of the Central Public Library, Dhaka;
- Construction of a new building for Chittagong Public Library; and
- Establishment of Rajshahi Public Library.”

During this first five year plan period (1973-78) of Bangladesh, a National Education Commission was set up to examine all aspects of educational system of the country including libraries. The Commission proposed (October, 1974) the establishment of nation-wide network of public library services as a “national target”. Recommendations emphasized the public library legislation and the establishment of a Government public library at Rajshahi and the development of existing public libraries at Dhaka, Chittagong and Khulna. It also suggested the expansion of libraries at district, sub-division and thana levels. The report also proposed the establishment of a new office to prepare for the creation of a Library Directorate (Mannan, 1990 : 114). So long the public libraries had been under the Education Directorate, Ministry of Education. Late in 1974, the Education Ministry was bifurcated into (i) Ministry of Education and (ii) Ministry of Sports, Cultural Affairs & Religion. The public libraries also went under the latter Ministry. (Siddique, 1985 : 13). Meanwhile, in 1977, the Central Public Library was shifted from the University Campus to its new premises and was opened to the public in 1978. Then, a two year plan 1978-80 was formulated to continue the efforts to reach the first plan targets. But the important issues in previous plan remain untouched except the creation of a post of Chief Librarian of the Bangladesh Central Public Library and allocation of some grants to new government libraries. In 1978-79, a survey of public libraries was carried out by the Ministry of Sports and Cultural Affairs and the British Council of Bangladesh under the general supervision of Mr. J. Stephen Parker, a UNESCO expert. The survey was evaluated in

March 1979 and recommendations were made and compiled in three volumes under the title “Bangladesh Public Library Survey : Final Report”. This was submitted to the Ministry of Sports and Cultural Affairs in 1981 (Siddique,1985 : 14). This survey covers 176 existing public libraries in Bangladesh and made 31 recommendations for the development of public libraries during the Second Five Year Plan period. Subsequent to the Parker Report, a national seminar on library development in Bangladesh was sponsored by the Government of Bangladesh in collaboration with the British Council. The seminar recommended that high priority be given for the development of library documentation, archives and information services, particularly during the Second Five Year Plan period, and further suggested that this development should be coordinated at the national level for formulating, amongst other things, national standards for library, and library legislation. (Alam,1991 : 24).

Under the Second Five Year Plan period (1980-85) the government took the initiative to complete the remaining works of Central Public Library and also envisaged the completion of Rajshahi Divisional Public Library building, the extension of Khulna Divisional Public Library, development of Thana Public Library-cum-Auditorium and construction of a new building for the Chittagong Divisional Public Library (Rahman,1992 : 23). In this plan training programme for librarians and book for all libraries also included.

The Ministry of Sports and Cultural Affairs took the responsibility of Public Library sector of the country. On the other hand, information centres of Bangladesh Parishad and Bureau of National Reconstruction (BNR) whose responsibilities included providing book lending service to the people ultimately amalgamated with the public library sector. However, in 1983, a Department of Public Libraries was established by absorbing the government public libraries of the country including Bangladesh Central Public Library (Rahman,1993 : 174).

According to the official source of Department of Public Library, upto May, 1996, the department has now in its administrative control some 66 libraries with Bangladesh Central Public Library as its headquarters. This public library network extends in all the district headquarters except two districts - Shariatpur and Narshingdi. Of the 66 government libraries, 11 are housed in their own accommodation, 46 in rented private buildings and the remaining 7 in accommodations allowed by the local district administration. It is to be mentioned here that among these 66 government libraries the following four libraries at divisional headquarters are considered to be the divisional libraries :

- Bangladesh Central Public Library (established in 1954) at Dhaka;
- Chittagong Divisional Public Library (established in 1962, but became operational in its present spacious building since July, 1989) ;
- Khulna Divisional Public Library (established in 1965);
- Rajshahi Divisional Public Library (since June 1983).

Among the remaining 62 government libraries, 4 are branch libraries of which 2 are at Dhaka, 1 at Rajshahi and 1 at Mymensingh, rest 58 libraries in other districts.

During the Third Five Year Plan period (1985-90), the major programmes in the field of library activities in the country were development of Chittagong Divisional Public Library, development of 17 district public libraries, and establishment of 7 new district public libraries. Training programmes for the librarians were also included (Planning Commission, 1985). Actually the Third Five Year Plan intended to materialize the incomplete task of Second Five Year Plan (1980-85). But unfortunately no significant development was visible through the whole period of plan. Within this plan period the

cultural affairs division formed its own Ministry as Ministry of Cultural Affairs with the Government and Non-Government public libraries, National Library and Archives.

During the Fourth Five Year Plan period (1990-95) no major library development projects were included except providing grants to the Non-Government public libraries through National Book Centre of Bangladesh and to arrange a training programme of library personnel from Government and Non-Government Public Libraries of the country. During the fifth Five Year Plan period (1995-2000) the following programmes were taken :

- Development of Public Libraries Second phase, under which government public libraries would be established at remaining two districts (Shariatpur and Narsingdi) and accommodation and other physical facilities would be created for eight other district government Public Libraries. The plan also included introduction of modern technology like computers in these libraries and in Bangladesh Central Public Library (Dhaka) also; and
- Further development of Chittagong Muslim Institute and Chittagong Public Library. The plan included introduction of computers and other facilities in Chittagong divisional library.

A Twenty Years Perspective Plan was also submitted to the government in this period, which includes the (i) development of country-wide public library network upto root level, (ii) enactment of Library Legislation (which is yet to be enacted) and (iii) modernization of Public Library services. Meanwhile a National Book Policy was framed in 1993 which made following recommendations :

- Enactment of Public Library Legislation;
- Expansion of Public Library network upto union level;
- Employment of professionals in the library service;
- Up-grading the service standard of college and university libraries etc.

Accordingly a draft proposal of Library Legislation has been prepared and submitted by the Department of Public Libraries to the Government in 1995. The proposal is still under consideration.

According to the official records (1996) of the Department of Public Libraries, the total manpower strength of the government public libraries throughout the country upto 1996 is 376 of which 46 are professionals, 200 para and semi-professionals and remaining 130 non-professionals.

The total budget for the Department of public libraries were :

<i>Year</i>	<i>In revenue heads (in lakh taka)</i>	<i>In development heads (in lakh taka)</i>
<i>1995-96</i>	<i>382.82</i>	<i>280.00</i>
<i>1996-97</i>	<i>344.00</i>	<i>324.00</i>

It is true that the Non-Government public libraries were the fore-runners of public library service and had immense contribution to the spread of education and knowledge in this country. But the recent trend in most Non-Government public libraries of the country shows the deterioration of the glorious past of the library movement in Bangladesh. Most Non-Government public libraries were started with public contribution and through voluntary donation in cash or kind from the philanthropists or zamindars of those days. But after the abolition of zamindari system, the government has been playing the role of the zaminders. The membership fees and the government grants are so minimal that those libraries cannot afford the salaries of the staff, nor even the book budget or maintenance of the accommodation. As a result, most of them are not functioning well. Observation made on those libraries in the inspection report of the then OSD library, Public Library Survey Report by J. S. Parker, and sample survey by the Department of Public Libraries in 1988 bear the

accuracy of this statement (Rahman,1993 : 172-73). But, this is to be mentioned here that there are few Non-Government public libraries which are supported by donations from individuals, who, by their personal endeavour, created some trusts or funds for meeting the establishment and other costs, including book purchase and maintenance. Among those Jessore Institute Public Library is notable. The book bank and mobile book loan service of the Jessore Public Library deserve special mention.

According to Mannan and Sattar (1994 :158) there are approximately 369 Non-Government libraries more or less operating in the country. Rahman says in this connection "starting from the First Five Year Plan many of these libraries are getting yearly recurring and development grants from the Government. The grant is now distributed directly by the Ministry of Cultural Affairs in collaboration with the National Book Centre, an organization whose charter does not cover the controlling of the Non-Government public libraries of the country. The centre has recently been entrusted also with the task of implementing a development project by the title 'Assistance to the Non-Government Public Libraries at the District and Thana level' with a total outlay of Taka 598.76 lakh. The project started in July 1991 and supposed to have been completed in 1995. The main objective of the project is to supply books, furniture and library equipment primarily to the 430 Non-Government public libraries already enlisted by National Book Centre through a survey" (Rahman,1993 : 176).

In conclusion, it may be mentioned here that in spite of inadequacies, failures and inconsistencies the library system under one integrated order has now taken a more or less specific form. The establishment of the Department of Public Libraries by the Government with its all inadequacies is a proper step in the direction and with this effort, at least a sustainable framework of public library service upto district level has been established. Now it depends on the concerned authorities and the professionals to follow up and make a public library service in the truest sense of the term for the country.

Academic Library :

Academic Libraries are those which are attached to any academic institution. The basic function of the academic library is to aid the institution in carrying out its objectives.

In Bangladesh, Academic Library includes the libraries of the school, madrasa, college, University and other educational institutions.

School

.In Bangladesh there are three types of schools e.g. (a) Primary (b) Junior Secondary & (c) Secondary schools. Regarding primary, according to the BANBEIS (1993 : 1-13) study, there are 49,942 (all types) primary schools in the country but it is a fact that, there is no library in any primary schools and even no attempt has been made to establish a libraries in primary schools in any development programme. At present there are about 317 government, 9145 Non-Government secondary schools and about 2288 Non-Government junior high schools in the country. It is true that library can play an important role to influence the development of the character of the student, but unfortunately, in our country almost all schools do not have any worth mentioning library. In reality, there are only a few 'Zila Schools' have books and some forms of libraries. However, steps have been taken to develop the condition of the bilateral and multilateral school libraries, but no significant result has yet been achieved (Chowdhury, 1993 : 164).

According to Ahmed, (1994:58) the libraries in secondary schools are not functioning well for various reasons. However, a number of steps were taken by appointing full time librarians with qualification of Higher Secondary Certificate and short time library training course for 22 pilot schools. Education Extension Centre donated necessary books to those schools. However, the condition of other secondary school

libraries is very discouraging, because of a lack of accommodation, reading materials, sufficient grants and trained librarians. A few secondary schools were brought under Government Development Programme. They received some grants for purchasing books and also received books from some NGOs. Moreover, a few teachers of those school have been given short time training from Library Association of Bangladesh and Education Extension Centre. But due to shortage of fund and books their training has not been ultimately utilised.

The Commission on National Education observed that 'Library is the heart of the school', but the government paid very little attention to the development of libraries in schools in Bangladesh. Moreover, the Reorganisation Committee formed by the Martial Law Regime abolished the post of Librarian almost in all schools, so that the school libraries are not functioning from that period. (Chowdhury, 1993:164).

Madrasa

In Bangladesh we have another system of education besides the general system known as Madrasa education which imparts religious instruction to the Muslim students. According to BANBEIS (1993 :1-13) there are about 5819 madrasas including Kamil, Dakhil, Alim and Fazil level in the country. At present most madrashas have no library except a small collection of holy books and other religious materials. However, the madrasas are gradually being integrated with the general education system and a good number of such institutions now offer science courses of Secondary and Higher Secondary level in addition to their normal courses. But regarding the library, the condition is almost the same as with the secondary schools. Steps should be taken on a national priority basis to establish a modern library in each school and madrasa of the country to ensure quality education.

College

The history of establishment of colleges in Bangladesh goes back to 1841 when Dhaka College was established. Upto 1943, there were about 32 famous colleges in the country which played a significant role in the development of education in this part of the then undivided Bengal. According to a survey conducted by Bangladesh Bureau of Educational Information and Statistics (BANBEIS) in 1995, there are 230 government colleges and 915 Non-Government general colleges in Bangladesh which consist of Intermediate colleges, Degree colleges, Honors colleges and University colleges. The condition of libraries in almost in all these colleges is unsatisfactory. Another survey shows that the government colleges have a form of library and the Non-Government colleges except a few have no library in practice. They have a library only in record, which is required for the purpose of affiliation of the college (Chowdhury,1993:164).

Chowdhury, (1993:165) says that, “95% of the colleges in the country do not have any separate library building. Library is housed in a damp room with scanty supply of light and air which is unsuitable for user. Most libraries do not have reading room facilities; not have sufficient furniture and equipment’s and books are in short supply. A few colleges have a large collection of books but most of them are out dated, obsolete and dilapidated. Books written in English do not find any readers and no college, irrespective of level and number of students, receives on an average, more than Taka 13,000 per year for the purchase of books from the Government. Of 230 government colleges only 17 have qualified professional librarians in them. Majority of the college libraries are run by either sub-professional or non-professional librarian.” The condition is similar in case of Non-Government college libraries.

There are also libraries with different professional colleges like Medical, Engineering, Agriculture and different training institutes. But except the Engineering and

Agriculture fields, libraries in other institutions are poor in collection, organization and staff position.

University

The history of University Libraries in Bangladesh goes back to the establishment of Dhaka University in 1921. However, the country today has the following Universities and their libraries are functioning in a traditional way almost from the establishment of the universities by the Government :

University of Dhaka (established in 1921)

University of Rajshahi (established in 1953)

Bangladesh University of Engineering & Technology (established in 1961)

Bangladesh Agricultural University (established in 1961)

University of Chittagong (established in 1966)

Jahangirnagar University (established in 1970)

Islamic University (established in 1986)

Shah Jalal University of Science and Technology (established in 1991)

Khulna University (established in 1991)

Bangladesh Open University (established in 1991)

National University (established in 1992).

The country has also about 15 Non-Government Private Universities approved by the University Grants Commission of which only North-South University (established in 1992), Independent University, Bangladesh (established in 1992) have any mentionable libraries. The libraries in other private universities are yet to grow properly.

As compared with public and other academic libraries the condition of university libraries in Bangladesh is satisfactory regarding their collections, manpower and

services. But this does not mean that they are meeting the required standards or participating in the universities' educational and research programmes satisfactory. Among the available resources, the deficiency of high calibre and skilled staff, modernization of the facilities and lack of union catalogue, the university libraries in Bangladesh failed to attract the potential library user into a habitual one.

Special Library

Special libraries are an integral part of the library system of the country and play an important role for national development. Most of them are attached with Scientific organizations, research institutes and Government departments and have professional librarians (Foote,1986:99).

There were few special libraries in the country until 1971. After the emergence of Bangladesh a good number of such libraries were established, but the fact is that no proper census in this regard has yet been taken. Referring Mosharraf and Selim, Ahmad (1985:109) mentioned that different Ministries including attached departments and directorates, autonomous and semi-autonomous bodies, foreign missions, private organisations, news agencies, societies, learned bodies and voluntary organisations in Bangladesh have their libraries only in the record.

However a survey conducted by BANBEIS in 1990 shows that the number of Special libraries stands at 665 (Mannan,1990:115). For social, economic, scientific and technological progress, the development of successful research and services depends on the acceleration of special library system. But it is a matter of fact that among the existing special libraries in the country a few of Agricultural, social science and medical libraries are quite large, better organized and well equipped with modern facilities.

Along with the special libraries in Bangladesh, the following category of libraries plays a vital role towards our national development :

Others (NGOs, Foreign Missions, Islamic Foundation) :

(a) Non-Governmental Organization (NGO) Libraries : In Bangladesh many NGOs have separate section or departments for operating the whole management of their publication and information service. Even some large NGOs have quite satisfactory library services with their own printing and the related publications collected by them.

(b) The Foreign Mission Libraries : like the British Council Library, the American Cultural Centre Library (USIS), Indian Cultural Centre Library etc. have a vital role to educate the different sections of users in the country.

(c) The Islamic Foundation of Bangladesh, has a library network upto the district level with a central library at Dhaka. Most of their collections consist of religious and related publications. The Islamic Foundation also sponsors 'Mosque Library' with the hope that since there are numerous mosques in the urban and rural areas, these will contribute significantly to the eradication of illiteracy from the country.

Except these, most of our special libraries are of traditional type. In this time of information explosion, these special libraries should change their services through technical processing of information and providing information products and services by indexing, abstracting, current awareness, SDI, cooperative information and retrospective search services. They should also try to establish linkage with the International Information Systems in their related field of research to serve the concerned users for national development.

National Libraries :

A national library is a centre of the national culture and civilization, since it is a central focal point of a national's own culture which earned in the past.

According to Ahmed, (1985:37–38) the history of National Library in Bangladesh is related with the recommendations of the conference held in Manila under the auspices of the UNESCO on the Development of National Libraries in the Asia and Pacific countries in 1964. The recommendation was for immediate establishment of a National Library in each member country where it does not exist. In pursuance of that recommendation, in late sixties, the erstwhile Government of Pakistan decided to set up its National Library in Islamabad with three subsidiaries in the name of Central Libraries for three important cities of the country — Dhaka, Karachi and Lahore for the procurement of indigenous publications under the coverage of Copyright Ordinance, 1962. In 1968, the Central Library at Dhaka came into being and started receiving publications under section “Delivery of Books & Newspapers” of the Copyright Ordinance.

In 1972 the Directorate of Archives and Libraries established the Bangladesh National Library and the National Archives. However, from August, 1975, it became the nucleus of the National Library of Bangladesh. The Copyright Ordinance of 1974 mandated that the National Library will receive copies of all books published in Bangladesh including journals and news papers. Since 1973, the library publishes the Annual Bangladesh National Bibliography both in English and Bengali (Foote, 1986:98).

In its inception, the National Library and the National Archives was housed in a rented premises, but since November 1985, it was shifted to its own building at Sher-e-Bangla Nagar, Dhaka and subsequently, has become the member of International Federation of Library Association (IFLA). From 1973, the National Library of Bangladesh compiling bibliographies and articles index of Daily Bengali and English newspapers published in the country, but still it is irregular. A Directory of Public

Libraries in Bangladesh also compiled by them. Gradually, three other National Libraries were established to meet three sectoral demands of the country and they are—

- National Health Library and Documentation Centre in 1974;
- National Agricultural Library and Documentation Centre in 1980; and
- National Science Library in 1981.

But unfortunately, at the initial stage, two of the three libraries e.g. (a) National Agricultural Library and Documentation Centre and (b) National Science Library lost their identity.

National Health Library and Documentation Centre : In 1974, the Government of Bangladesh with the help of the Asia Foundation established the National health Library and Documentation Centre at Dhaka. The aim of this Library is to cope with the increasing rate of publication on health science and medical literature and to fulfill the demand of the health scientists and medical professionals of the country. "However, the National Health Library (NHL) has maintained to a reasonable extent a well balanced collection of books, journals, current subscriptions and audio-visual teaching and research materials in the field. It also acts as a depository library of bio-medical literature published in the country and compile national bibliography of these literature. It also serve as the apex body for bio-medical information network within the country for sharing resources and further linked the country with the Health literature, Library and Information Service (HELLIS) network organized by the WHO for South-East Asia Region" (Ahmed,1994:84–85).

National Agricultural Library and Documentation Centre : To set up an efficient agricultural library system in the country, the Bangladesh Agricultural

Research Council (BARC), established in 1973, as an autonomous body, created the National Agricultural Library and Documentation Centre (NALDOC) in 1980, to support the information requirement of scientists and researchers, working in the field. The National Agriculture Library and Documentation Centre lost its status in June, 1987, when it was made a division of BARC and renamed Agricultural Information Centre (AIC).

National Science Library : The history of the National Science Library (NSL) is almost the same as the National Health Library and National Agricultural Library. The National Science Library(NSL) was established in 1981, under the Science and Technology Division of the Ministry of Education. The aim of this effort is to provide the required information to the scientists and technologists of the country. After the establishment of National Science Library, its management was handed over to the Bangladesh National Scientific and Technical Documentation Centre (BANSDOC). However, in 1987, the National Science Library was merged with BANSDOC, as per provision of the National Science and Technology Policy of Bangladesh (LAB,1993:24).

Library Education and the Professional Associations

In 1952, formal library education in the country was introduced, when Late Mr. Fazle Elahi, the then Librarian of the Dhaka University, instituted the first three month certificate course in librarianship at Dhaka University Library. The programme was, however, abandoned after only one session (Siddique,1965:256). According to Ahmed (1993:37-38), apart from the higher training facilities under the Technical Assistance Programme of the Colombo Plan in 1953-54, four 3-month subject-wise training were conducted between 1955 and 1959. The training-course was sponsored by Fulbright Programme under the supervision of Late Mr. M. S. Khan, the then Librarian of the Dhaka University Library. Till October, 1958, no training facilities were available in

the country. After that, the then East Pakistan Library Association, now the Library Association of Bangladesh (LAB), initiated a regular 6-month certificate course in librarianship. Practically, it was the predecessor of regular library education in the country.

A great breakthrough in the field of library education occurred when the post-graduate Diploma course in Library Science was introduced on a trial basis by Dhaka University in 1959. A one year Master's degree course in Library Science was introduced in 1962. However, the landmark year in regard to library education in Bangladesh was 1964-65 when the Department of Library Science was instituted under the Faculty of Arts at Dhaka University. From the session 1975-76, Dhaka University started an M.A. preliminary course in Library Science and thereby a two year Masters degree programme in the subject was introduced (Mannan,1990:117). The department also introduced M. Phil. in 1976 and Ph.D. programme in 1979. During the session 1987-88, the postgraduate Diploma course was abolished and a three-year Honors course at undergraduate level leading to Bachelor of Arts in Library and Information Science was introduced. It is to be mentioned that in keeping with the demand of the day the department has changed its name to the Department of Library and Information Science and necessary changes have been made in the courses too. Besides Dhaka University, Rajshahi University started a one year post-graduate diploma course in Library and Information Science in 1991 and followed by a B.S.S. Honors course in 1993. The University planned a Masters degree course to begin in 1997.

The Library Association of Bangladesh (LAB) sponsors the Library Training Institute in Dhaka which offers Library and Information Science courses and training programmes and supports continuing education opportunities for librarians through seminars and symposia's. The institute sponsors a six-month certificate course in

library science; a 12-month post-graduate diploma course in Library and Information Science since its inception; and a basic Librarianship course for armed forces personnel and other special courses since 1989-90. The association also established the Library Training Institute in Khulna, Rajshahi, Chittagong, Mymensingh and Tangail. The association also publishes the twice yearly journal *The Eastern Librarian* and obtained its affiliation with IFLA and COMLA. Along with LAB, for professional interest, there are at least eight associations in the country, most of them are local and of special interests. Recently (in 1986) a complete professional association — ‘Bangladesh Association of Librarians, Information Scientists and Documentalists (BALID) have emerged, with a professional promise to contribute the library profession in the country. However, BALID is also engaged in arranging professional training, seminars and publishing its news letter *Informatics* at a regular interval.

However, the present scenario of Libraries in Bangladesh is not that hopeless. They are operating more or less under a chain of network, but the essential characteristics of library service have not developed that much from the point of view of the number of libraries, skilled manpower, systematic operation, modern technological facilities, utility orientation of the system etc.; and even from the point of view of the estimated potential users population (EPUP). The library system in the country still presents a poor picture and is rather passing through a traditional stage. As the profession is now attracting people from different social backgrounds and good academic qualifications, it is expected that over the years, this predominantly young group of professionals will be able to organize the entire library system of Bangladesh.

A GENERAL OVERVIEW OF LIBRARY CO-OPERATION, NETWORKING AND RESOURCE SHARING ACTIVITIES IN BANGLADESH

Library co-operation :

The history of Library co-operation, in Bangladesh is very recent, and it is true that upto 1996 library cooperation among the libraries in the country has been rather informal and tenuous. However, some paperworks have been done in this regard during last few decades. In 1955, Mr. L. C. Key was appointed as a library consultant to make an assessment of the library scenerio of Pakistan. Observing the library system, Mr. Key pointed out that there had been no cooperation among the libraries in the country. The librarians of the country tried to come out with some concrete proposals on library cooperation to the then government through a kinds of seminars and symposia. UNESCO and IFLA had also did some valuable work to support these efforts.

The then East Pakistan Library Association, now Library Association of Bangladesh (LAB) and the British Council organized a seminar on Inter-Library Cooperation in March 1967. Mr. F.G.B. Hutchings, a Senior Librarian and President of the British Library Association attended the seminar and gave a lecture on library cooperation. The seminar papers includes (a) Inter-library cooperation in public libraries, (b) Inter-library cooperation in academic and research libraries and (c) Inter-library cooperation—a national plan by eminent librarians and academics of the country. Understanding the necessity of library cooperation Mr. M. S. Khan, the then Librarian of Dhaka University had aptly suggested that the system of cooperative acquisition in Pakistan on the basis of subject specialization and inter-library loan should be built-up among university libraries. He suggested that through this cooperation the unnecessary and costly duplication could be avoided and the range of titles may increase to provide

wider subject coverage in the area. However, no steps had been taken by the then government to establish a Inter-Library Cooperation as per these suggestions.

After the liberation in 1971, it was found that there had been no cooperation among the libraries. There was only semi-inter-library cooperation (as there was no official agreement among the organisations on inter-library cooperation, therefore, it may be called semi-inter-library cooperation in an informal way) among the university libraries, Bangladesh Atomic Energy Commission Library and some Agricultural libraries. For example, the users of Dhaka University Library could use the library of Bangladesh University of Engineering and Technology (BUET) and the Library of Bangladesh Atomic Energy Commission (BAEC). In turn, the users of BUET and BAEC library could use the library of Dhaka University. This sharing and cooperation was indeed due to personal initiatives by the Librarians of those institutions. At that time, the scenario of Medical and Agricultural libraries were almost same.

Such personal and inter-organizational cooperation was found almost in each and every higher educational and research institutes in the country. According to Akhter (1993:5), an informal inter-library loan system was operational in the country in scattered ways even before 1971. The system was formalized through the initiatives of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR'B) Library and the National Health Library and Documentation Centre (NHLDC). In 1976, these two organisations signed an agreement to promote library cooperation through inter-library loan system. Thereafter, BIDS(1977), BIRDEM (1978), and USAID Dhaka (1992), joined this programme by signing inter-library loan arrangements. In addition to this effort, NHLDC and ICDDR'B informally agreed to cooperate with each other to avoid duplication in journal subscriptions. BIDS also joined the process. This arrangement has been operating for the last one decade.

Regarding inter-library cooperation, the role of National Library was found to be frustrating. According to Karim (1987:57), “the National Library of Bangladesh has an exchange programme with the different institutions. At present it is in receipt of publications from ILO, the World Bank, UNESCO Regional Offices, the Library of Congress, the British Library and some of the other countries of the world and except these there is no other inter-library cooperation in Bangladesh.” However, in 1990, the University Grants Commission (UGC) took an initiative to prepare the union catalogue for the Universities of Bangladesh, in collaboration with the Asia Foundation, which ultimately could not be materialized. (Dewan, 1993:5). Therefore, it is to be mentioned here that the inter-library cooperation in Bangladesh, although started a few decade back, still exists in theory only.

Networking and Resource Sharing

In Bangladesh, the establishment of a library network and resource sharing system is presently under way. There exists an informal kind of cooperation and resource sharing among a few libraries and information centres.

Now, we shall discuss the efforts that have been taken during the last few years for the development of information networks in Bangladesh.

Currently there have been a couple of networks (mostly non-formalized) existing in the country. A short description of those network are given below :

Science and Technology Information Network

The government of Bangladesh admits the importance of proper utilization of scientific and technological knowledge for the socio-economic development of the country. To eradicate poverty and to expedite socio-economic progress, technological development

is a must and for the success of scientific research and development, technological information is an essential pre-requisite. To achieve real objectives scientists and researchers always require up-to-date scientific and technological information.

To provide necessary information to the scientists, in the field of Science and Technology (S&T), more than 50 specialized libraries and documentation centres exist in the country. These are attached to different universities, R & D organizations, industrial corporations, institute of technologies and various agricultural and medical colleges (Rahman,1993:180).

National Science and Technology Policy : In 1986, the Government of Bangladesh announced the National Science and Technology policy, considering scientific and technological information is a pre-requisite for strengthening scientific and technological ability of the country. "The policy proposed a three tier national S & T information system with the Bangladesh National Scientific and Technical Documentation Centre (BANSDOC) as the apex body (1st tier), 4 sectoral libraries and documentation centres at the 2nd tier (the sectors being physical sciences, Agricultural Sciences, Medical and Biological Sciences and Engineering & Technology), and all the Scientific institutional libraries and documentation centres at the 3rd tier. Having independent modern facilities for storage, documentation, copying, microfilm, microfiche, etc. the 4 sectoral and all the institutional libraries and documentation centres would be linked to the BANSDOC (1st tier)" (Rahman,1993:180–81). The BANSDOC, will have centralized storage and processing facilities, physical facility for on-line computer connections and documentation, network with various national, regional and international documentation centres. But in absence of National Science and Technology Information Policy the progress towards the implementation of this provision of the National Science and Technology Policy is going slow. Though, there is an increasing

demand for such a policy under which different organizations can work together efficiently and effectively to server the user involving in acquiring, processing, analysing, storing and disseminating scientific and technological information (Rahman,1993:180–81).

National Science and Technology Information Policy (NASTIP) : In 1987, BANSDOC took initiative in formulating a National Science and Technology Information Policy in cooperation with a number of similar organizations and Library Association of Bangladesh. With this end in view the Government of Bangladesh constituted a 14 member National Committee of Science and Technology Information (NCSTI). the terms of reference of the Committee was, among other, to prepare a draft National Science and Technology Information Policy (NASTIP). The policy was drafted with the aims—

- "to ensure a suitable and appropriate environment for the collection, processing, storage and dissemination of information;
- to ensure coordination, inter-changeability and appropriate linkage between different libraries and information centres and free flow or exchange of literature and information among them.
- to ensure availability of sufficient fund for the development and promotion of libraries and information centres; and
- to ensure creation of a crops of highly skilled manpower." (Rahman,1993:181).

The National Committee for Science and Technology Information (NCSTI), will supervise the implementation of the objectives and programmes of the NASTIP and will enjoy administrative authority and financial support from the government while BANSDOC will serve as the secretariat of the committee. In 1989, The draft policy was submitted to the government, but due to various reasons, the policy till now failed to received the approval. Even though, the policy has not been formally approved as

yet, BANSDOC is serving as the National Focal Point in Bangladesh of all regional and international information centres and publishing a number of databases, as provided in the draft S & T policy (Rahman,1993:183).

As the focal point of national S&T information system, the BANSDOC, along with its regular services has also publishing a number of national documents and these are—(a) Science and Technology Information News Letter, (b) Bangladesh Science and Technology Abstracts, (c) Report on Survey of R & D activities in Bangladesh, (d) Current R & D projects of Bangladesh, (e) Directory of Scientists and Technologist of Bangladesh, and (f) National Catalogue of Scientific and Technological periodicals of Bangladesh.

Cooperation Programmes of BANSDOC : BANSDOC has cooperative programmes with a number of international organization, viz., Indian National Scientific Documentation Centre (INSDOC), Pakistan Scientific and Technical Information Centre (PASTIC), British Library Document Supply Centre (BLDSC), National Library of Australia, Russian Academy of Sciences, SAARC Documentation Centre (SDC) India, European Patent Office, International Federation of Library Association (IFLA), Federation of International Documentation (FID), European Community (EC), and UNESCO/ASTINFO, APCTT/ESCAP/UNDP etc. also (Rahman,1993:183).

Automation and Networking of S & T Libraries in Bangladesh (1994-97) : In the age of information explosion, there has been a growing problem of collection, processing, storage and dissemination of such huge information. Due to duplication of investment in library holdings, the cost of providing service to the users becomes higher. Resource sharing and networking is the ultimate solution of the problem. Exchanging and sharing of widespread information resources between the countries of

the world has been made easy by the computer and telecommunication technology. For this purpose, it is essential to take immediate steps for automation and networking of the S & T libraries in the country for effective and expeditious service to the researchers. Therefore, BANSDOC, the central organization of the S & T information system in the country. undertaken a project entitled “Automation and networking of Science and Technology Libraries in Bangladesh (1994-97)” at a cost of Tk.186.00 lakhs. The ADP has included this project for 1994-95 and will be implemented in three phases——

First phase (1994-95) : The following libraries and documentation centres at Dhaka will be automated in this phase:

- BANSDOC (as the central host)
- D. U. Library
- BUET Library
- BCSIR Library
- BAEC Library
- Agricultural Information Centre (AIC)
- IPGMR Library
- National Health Library and Documentation Centre (NHLDC)

Second phase (1994-96) :, The following libraries outside Dhaka city will be automated in this phase:

- Rajshahi University Library
- Chittagong University Library
- Jahangirnagar University Library

- Bangladesh Agriculture University Library
- Khulna University Library
- Shahjalal University of Science & Technology Library.

Third phase (1996-97) : In this phase all the above automated libraries and documentation centres will be brought under an on-line computer networking system with BANSDOC where it will act as the Network Service Centre (NSC) and then will be connected to INTERNET (Rahman,1995:8-12). This is to be mentioned here that the first phase of the project has already implemented.

Agricultural Information Network

The progress of Bangladesh mainly depends on the development of agriculture and allied disciplines. Development of this sector depends on the dissemination of scientific and technical information to the concerned user in proper time. The following institutions, organizations and departments are now engaged in research, education and extension in the field of agriculture : the Ministry of Agriculture (MOA), Bangladesh Agricultural Research Council (BARC), Bangladesh Agricultural Research Institute (BARI), Bangladesh Rice Research Institute (BRRI), Bangladesh Livestock Research Institute (BLRI), Bangladesh Forest Research Institute (BFRI), Bangladesh Tea Research Institute (BTRI), Bangladesh Institute of Nuclear Agriculture (BINA), Fisheries Research Institute (FRI), Soil Resources Development Institute (SRDI), Sugarcane Research and Training Institute (SRTI), Bangladesh Agriculture University (BAU), Institute of Postgraduate Studies in Agriculture (IPSA), three Agriculture Colleges, Department of Agricultural Extension (DAE), Bangladesh Academy for Rural Development (BARD), Rural Development Academy (RDA) and some other allied institutions and potential Non-Government Organisations(NGOs) [Nur,1993:25-26].

The modernization of agriculture depends on research and effective extension activities and all of these components depends on effective information systems. In consideration of this view, the government of Bangladesh approved a project proposal (1980-1985) to establish a National Agricultural Library and Documentation Centre (NALDOC) to be responsible for implementing and coordinating agricultural information activities in the country. But due to non-availability of funds, the BARC could not implement the project. In 1984, government approved a revised three-year project proposal, which received the financial support from both the government and the International Development Research Centre (IDRC), Canada. Moreover, NALDOC carried out various activities for strengthening information exchange within the country, and organise training seminars, and workshops for the information specialists of the National Agricultural Research System (NARS). At the end of the project period, the NHLDOC was merged with the BARC (AIC,1992:15). In early 1982, an attempt was made to establish Bangladesh Agricultural Information Network (BAIN). But BAIN could not be materialized due to the lack of resources, though the libraries and documentation centres of 14 research institutes expressed their interest to form such a network. The NALDOC organized a workshop In 1985, participated by scientists and information specialists from different national agricultural research institutes, to expedite the formation of BAIN. But BAIN gradually became inactive due to paucity of funds, though BAIN activities were supported by NALDOC. Primarily, through the BANSDOC, since 1976, Bangladesh was participating with AGRIS (a database containing agricultural research publications). But the present AIC took the responsibility for regular contributions to CARIS database (FAO developed international listing of current agricultural research projects) and for AGRIS input from 1980 (AIC,1992:16-29). Recognizing the importance of information as integral part of the R & D process, the BARC as the focal point of the National Agricultural Research System (NARS) established an Agricultural Information Centre (AIC) in 1988 which is now consisted of library, documentation, reprography and publication

sections. However the AIC is authorised to serve as the Focal Point of National Agricultural Information System (NAIS). The AIC also took initiative to establish a National Agriculture Information System (NAIS) in collaboration with the information components of the organizations engaged in agricultural research and development (Nur,1993:26-27).

The main objectives of AIC read as follows :

- "—act as National Agricultural Information Centre ;
- act as the custodian of nationally produced agricultural literature;
- establish an agricultural information network in the country by organizing a National Agricultural Information System (NAIS);
- set-up information linkages among national, regional and international agricultural organizations and institutions to serve as a depository for regional and international agricultural literature;
- monitor and evaluate implementation of information services;
- identify pertinent conventional and non-conventional agricultural literature and preserve them in hard copies, micro forms, audio-visual media and in computer data-bases;
- collect and create computerized databases on national, regional and international agricultural information;
- publish valuable conventional and non-conventional agricultural literature to support education research and extension works;
- develop modern audio-visual and reprographic systems in agriculture;
- participate in national, regional and international information systems, such as, NAIS, SAIC, AGRIS, CARIS, CABI, AGRICOLA, AIBA, FADINAP and such others.
- establish gift and exchange relation with national, regional and international information centres;
- exchange ideas through participation in national, regional and international seminars and conferences;

- train agricultural information personnel in modern library services, computerization, information technology, technical writing and editing, audio-visual media production and other similar activities." (Nur,1993:27)

However, main objectives of AIC is to collect and compiles national information on agriculture and allied disciplines and to publish them annually, in the name of 'Bangladesh Agriculture Bibliography (BAB)'. The information containing in BAB is indispensable for agricultural research in Bangladesh.

Like other libraries, the services of AIC are not conventional. It has an active documentation section, reprography section and publication section with a full fledged library. Including modern library facilities, the AIC provides documentation services to its users through computerized databases. The major areas of documentation activities are :

- "—document delivery service
- computer search literature
- creation of in house database
- incorporating national, regional and world databases, like AGRIS, CABI, AGRICOLA, CARIS etc.
- compilation of Bangladesh Agricultural Bibliography
- compilation of special bibliographies
- SDI services etc." (Nur,1993:25–33)

In Bangladesh, the AIC documentation centre acts as the national centre for AGRIS and CARIS, which already developed a database of ongoing agricultural research, entitled "Bangladesh Agricultural Research Information System" (BARIS). The latest version of CD-ROM database has already been installed in the documentation centre, where reprography section provides modern reprography services. The publication section is responsible for necessary publication in the field.

Role of NAIS : The primary role of NAIS will be—

- "to serve the information needs of agricultural researchers and to make available appropriate information for use by agricultural extension specialists in Bangladesh.
- NAIS will act as the coordinating body in the collection, processing and dissemination of pertinent agricultural information;
- NAIS will work to introduce uniform systems in support of the NARS agricultural information flow activities;
- NAIS will establish and maintain linkages with regional and international information systems, services and databases in support of agricultural research in Bangladesh.
- NAIS will upgrade the professional skills of information specialists in the NARS." (AIC,1992:16)

Goals of NAIS : NAIS will primarily maintain a national cooperative communication network and an information collection and exchange for advancement of agricultural research and development.

Functions and Activities of NAIS

AIC will act as the national focal point for NAIS Network. In this regard the AIC will be involved in the following services:

- "AIC will act as the central point for the compilation of the master NAIS database.
- containing information on the holdings of all NAIS libraries;
- stimulate NARS research projects;
- listing of agricultural scientists and technicians;
- provide centralized search and referral services for all the NAIS members;
- establish and maintain linkage with regional and international agricultural information databases;
- produce, publish and distributes microfiches, bibliographies, NAIS news letters and publications, audio-visual materials etc." (AIC,1992:22)

NAIS Network : Perspective—For improvement of data base, the NAIS will establish linkage with the government agencies and NGOs engaged in the rural development, while primary linkage will be with the NARS institute. AIC will establish such linkage, which will ensure the NAIS access to all information generating in the field of rural development and agriculture. At the beginning, all the NARS members may not be able to participate fully in the development activities of the NAIS, but within a period of 2-3 years, the active participation of all members in the process is expected.

Regional and International : To establish and maintain linkage initiated by AIC with regional and international information systems is an important function of the NAIS. This will ensure the dissemination of agricultural information generating world-wide. Moreover, the expertise of the NAIS information specialists will be updated by interactive contact with information specialists working in regional and international information system.

Computer Centre(s) : For the development of data base, by sharing common hardware and software facilities, linkages between NAIS and NARS computer centres should be established for a free flow of information (AIC,1992:29–30).

In 1988 the SAARC Agricultural Information Centre (SAIC) was established in AIC building. It collects agricultural information from SAARC countries and supports the AIC activities. The AIC library shares agricultural publications of the SAARC countries subscribed by SAIC. SAIC has decided to procure all agricultural periodicals of the SAARC countries, which will help in improving research capabilities of the agricultural scientists of Bangladesh (Nur,1993:25). The SAIC has already decided and the necessary funds has been allocated for the instalation of INTERNET from 1997.

Social Science Information Network

Recently, the Government of Bangladesh and other social development organisations stressed the importance of socio-economic research, because the information gathered from the research in social sciences can play an important role in the socio-economic development. Now a days, socio-economic information and literature being published by a number of government and non-government organisation, nationally and internationally. But due to lack of bibliographical control, unscientific collection and dissemination of information and inadequate facilities for networking and resource sharing, this informations remain unknown and unused in the country (Khan,1993:135).

To solve this problem, a group of scholars from Bangladesh and some other Asian Countries in collaboration with Association of Development Institute of Asia and Pacific (ADIPA), met in Colombo during 1-4 September 1978 to formulate proposals for possible studies on cooperation for development in South Asia. The participating members in their first meeting agreed to form a committee to be known as the ‘Committee on Studies for Cooperation in Development in South Asia’ (CSCD) and selected the Marga Institute of Colombo as the Secretariat of the CSCD. Therefore, the CSCD directed the Marga Institute to prepare a project proposal for documentation and information network for South-Asia within the framework of the CSCD which would enable the participating members of the CSCD to establish a regional network, compatible with other existing regional network like the AGRIS, INIS, POPINS etc. under UNESCO/UNSIST/PGI programme for sharing development science information. The International Development Research Centre (IDRC) was the first organization who took initiative for global Development Science Information System (DEVSIS) in 1974, and since then they keep on supporting national, regional and international attempts for the development of documentation and information systems and services in developed and developing countries. The Marga Institute as the

Secretariat of the CSCD proposed to IDRC for supporting its newly establish 'Development Information Network in South Asia (DEVINSA) among the CSCD member countries under the aegis of the CSCD in 1980. After a long negotiations the DEVINSA was approved by the IDRC in June 1986 with Marga as the coordinator and among other South Asian countries 'Bangladesh Institute of Development Studies' (BIDS) is the National Focal Point of DEVINSA in Bangladesh (Hossain,1990:6,7,63).

Subjects included in the DEVINSA programme are "(1) resources : human and natural, (2) population, (3) manpower (4) employment and unemployment, (5) food; food production, food security (6) application of science and technology in socio-economic development, (7) energy (8) industries : (a) iron and steel, (b) fertilizers (c) cement (d) drugs and pharmaceuticals, (e) textile (f) industries of participating countries; (9) monetary and financial cooperation (10) trade, (11) transport (12) communication and mass-media (13) socio-economic condition (14) culture and cultural values (15) political relations (16) rural development (17) tourism (18) education (19) women and development (20) public health and family planning (21) environment and population (22) children (23) urban development (24) planning and administration and (25) co-operation : international, regional and sub-regional. The DEVINSA programme offer : a) monthly bibliography, b) annual bibliography with abstracts, c) specialized bibliographies in response to specific requests from focal points and d) document delivery service on request basis through focal points" (Hossain, Khan, Haque,1992:31-32).

The Bangladesh Institute of Development Studies (BIDS) is the National Focal Point of DEVINSA is pursuing research activities on development problems and engaged in collecting and disseminating information in the field of development studies (Akhter,1993:9). To set up a National Information Correspondents Network in Social

Sciences in Bangladesh and to participate with national, regional and international networks the BIDS provides necessary supports to its Library and Documentation Centre (BIDS-LDC) (Khan,1993:136). Thereafter, in 1993 the BIDS-LDC started computerization of Library Services phase-wise on basis of users priority. The BIDS-LDC has also been developing a bibliographic data base which may be called as National Bibliography on Social Sciences in Bangladesh (Khan,1993:137)..

The BIDS-LDC, National Focal Point of DEVINSA will perform the activities, such as—"(a) identifies and collects documents on socio-economic development generated in Bangladesh, (b) reports these items to the Marga Institute in diskettes, (c) provides services to the national networks (users) from the bibliographies produced by the Marga Institute, (d) makes available the computer produced current bibliographies to national users community (e) sends requests to the Marga Institute for bibliographic services, (f) obtains from other national focal points copies of documents reported to the Marga Institute and (g) provides, on request copies of documents to other participating focal points. Among other activities of BIDS-LDC, the national correspondents network is important one and the main aims of this network are to (a) collect, store and disseminate published and unpublished literature on socio-economic fields generated in Bangladesh; (b) share information among the participant countries of CSCD through bibliographic control; (c) exchange information (d) provide document-delivery service; (e) disseminate current information and (f) undertake and/or arrange training programmes and other necessary services" (Hossain, Khan, Haque,1992:32).

From the beginning of DEVINSA Network the BIDS-LDC has reported 2,789 records in the regional database, while about 150 requests regarding information were received from users, and was able to provide them in time. The third phase of this programme started in November, 1992, after completion of the first and second phases. In 1990,

because of the availability of required infrastructural facilities BIDS-LDC has been selected as the National Focal Point of the Asian Human Resource Development Planning Network under International Labour Organisation—Asian Regional Team for Employment Programme (ILO-ARTEP), New Delhi. Prior to that in 1987, the IDS-LDC has also been selected as the Development Information Clearing House and Referral Service under Kuala Lumpur based Asian and the Pacific Development Centre (APDC). The BIDS-LDC contributes data on and about Bangladesh to the regional databases and their outputs are : (a) Human Resource Development Planning in Bangladesh : A Select Annotated Bibliography (1991) by ILO-ARTP; (b) Register of Development Expertise in Asia and the Pacific (1987) - by APDC and (c) Register of Development Research Projects in Asia and the Pacific (1989) by APDC (Khan, 1993:138).

National Information Correspondents Network in Social Science in

Bangladesh : It is mentioned earlier that realising the necessity to set-up a national information network, under the active participation of BIS-LDC in 1987, a National Correspondents Information Network in Social Science in Bangladesh has established. For this purpose, the BIDS Library Committee constituted a ten member advisory body inclusive of reputed librarians, documentalists, and information scientists from various organizations in the field. On the recommendation of the advisory body, the coordinator of the network, BDS-LDC, started networking activities from October 1987 and the objectives were to—

- "—identify, collect and store published as well as unpublished materials on social and economic development of Bangladesh since 1971;
- facilitate the sharing of information among the participating institutions of the network through the exchange and lending of information, document-delivery, and dissemination of information ;
- support the Development Information network for South Asia (DEVINSA) and other information programmes, if necessary ;

- provide Current Awareness Services through the distribution of DEVINSA monthly bibliography, accession list, and library bulletin to different institutions in Bangladesh;
- compile a union catalogue of periodicals, different kind of directories, and national bibliographies in the field of socio-economic development ;
- prepare and supply specialized bibliographies and to supply documents and other reference services on demand from the user community ;
- convene meetings of correspondents from time to time ;
- organize workshops, seminars, and short training courses relating to library, documentation and information services as and when occasion arises." (Khan,1993:139–40).

The BIDS-LDC took initiative to select correspondents from the important organisations of the country for proper operation and formalization of the network and providing them with due incentives and guidance. Limitation of funds confind them to select only ten correspondents at the beginning. The selected correspondents started working in Dhaka City and their duties and responsibilities were to—

- "—collect information regularly on the output of literature both published and unpublished relating to development issues from their specific locations ;
- send documents to the BIDS-LDC when available;
- answer query and fill up questionnaire as and when requested for preparing different types of information packages ;
- fill up and send worksheets to the BIDS-LDC regarding documents for which the original or photocopy cannot be spared but available for reading only;
- intimate the BIDS-LDC the date and place of holding of seminars, conferences, workshops, etc. on development science ;
- attend meetings, seminars, conferences, workshops and short training courses periodically convened/organized by the BIDS-LDC; and
- help in the preparation of union catalogue, national bibliography, and directory in the field of social sciences." (Khan, 1993:139–40).

However, a significant achievement has been made regarding the networking and resource sharing in the field of social science in Bangladesh due to an important coordinating role played by the BIDS-LDC in time.

Information Network on Rural Development

The Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP) is a regional, inter-governmental, autonomous institution, established in July, 1979, located in Bangladesh by the countries of Asia and the Pacific region. The main activities of CIRDAP is to act as a servicing institution for its member countries for promotion of integrated rural development (IRD) through research, training and information dissemination.

Among the CIRDAP's organizational structure, the Documentation and Information Division is the most important one which performed as a supporting unit and enables the CIRDAP to promote the rural development and poverty alleviating in rural areas for the Asia Pacific region. Under this division, CIRDAP has build up a comprehensive modern library with a new multidimensional approach for every user relating to rural development and poverty alleviation. Presently the library has a very good collection of documents and in addition it subscribes a good number of journals for purposes of documentation and database generation. It holds also non-book materials, like microfilms and microfiches.

The formation of a network of libraries and information centres on IRD in Bangladesh is a preliminary activity aimed at establishing a regional information network on IRD covering the CIRDAP member countries. However, the CIRDAP initiated an Information Network on Rural Development (INRD) in 1992 with the participation of 24 libraries working in the area of rural development. INRD is a loosely structured network of libraries, with CIRDAP assuming the role of facilitator. The objectives of INRD as identified by the members are as follows :

- "—promote the use and exchange of information on rural development and poverty alleviation by sharing resources ;
- improve the capability of the network members to collect, process and disseminate information ;
- assist network members to adopt and use new information technology ; and
- assist in developing the skills of the network members and other information personnel." (INRD Bulletin,1992:3).

INRD has a working committee consisting of seven members, with the provision for the periodical rotation of member libraries, to plan and implement the network activities. CIRDAP functions as the coordinator of the INRD activities. The working committee of INRD meets every quarter with the aim to review the activities and to prepare future plan. In the first year, the activities were—

- "—exchanging information on literature generated by the parent organization, with special emphasis on non-conventional literature;
 - preparing a periodicals holdings list of the network members;
 - disseminating information on organizational activities, such as seminars, workshops, on going research;
 - upgrading professional skills through training; and
 - providing inter-library lending and reference facilities."
- (Wanasundera,1993:93).

However, INRD has been working for the last one year and two issues of a bulletin have been published within this period. A format for reporting data has prepared and using CDS/ISIS, the related data entered in bibliographic data base of CIRDAP. These are made available on diskette and even in hard copies to members. So far eleven libraries have participated in the process.

Organization & membership of INRD : Though CIRDAP is acting as the coordinator of the INRD activities, there is a provision for periodic rotation of

members, to make the INRD decision-making process participatory. INRD membership comprises with libraries working in the field of rural development and poverty alleviation, including government, national and international non-government organizations.

INRD activities : The INRD activities includes among others are—

- "inter-library lending and reference facilities to the member libraries;
- identifying, processing and disseminating non-conventional literature from and to participating organizations;
- promote the development of computerized databases using CDS/ISIS library software by arranging training programmes." (Wanasundera, 1993:93–96).

Initially, INRD received positive response and which indicates the willingness of the members to cooperate each other. Till today, the INRD has been working with internal resources, provided by the members. But from 1995 the activities of INRD became dormant, due to various reasons.

Besides INRD, in the field of rural development, Bangladesh Academy for Rural Development (BARD), Comilla in its seminar on "Rural Development Strategies in Bangladesh and Role of BARD" held in 1992 recommends that BARD should come forward to play a lead role for establishing a "National Development Support Information and Communication Network" by linking up all relevant institutes like Rural Development Academy (RDA), Rural Development Training Institute (RDTI), Bangladesh Rural Development Board (BRDB), National Institute of Local Government (NILG), Bangladesh Institute of Development Studies (BIDS), Agricultural Information Centre (AIC) and other relevant national, regional and international organizations (BARD, 1992:32–30)

Accordingly the BARD has already organized and conducted a consultative committee meeting to formulate the outlines of “Bangladesh Development Support Information and Communication (BDSIC) Network” BARD as the Focal Point of the network. It is suggested that the BDSIC network will consist of following sister organizations like RDA, BRDB, RDTI and LGRD,C during first phase. The libraries/documentation centres of BIDS, AIC and NILG etc. would join the network in the second phase. And regional/international linkage with CIRDAP, SAIC and CABI (Commonwealth Agricultural Bureau International) etc. would be established during the third phase. The proposed system also intends to meet the development support information/communication needs of NGO and INGO’s through the co-operative information network. The ultimate configuration of the network will be both vertical and horizontal. The third phase of the network will be extended one (Ahmad,1992:40). The proposed BDSIC network is now on implementation stage.

Health Science Information Network

Indeed an extensive health infrastructure has been developing for providing health care services at all levels in Bangladesh. To achieve the goal *Health for All* and for effective health care services, it is important to establish an efficient and effective information system to the health professionals working in the field. In Bangladesh, there are about 65 health sciences libraries, but due to lack of adequate financial, administrative and professional support, they are not functioning well. To overcome this problem, in 1974, the National Medical Library, renamed as National health Library and Documentation Centre (NHLDC) was established at Dhaka by the Government of Bangladesh with the help of Asia Foundation.

The explosion of health science literature both nationally and internationally and the deteriorating condition of the existing health science libraries in the country, led to the

establishment of the national network of health science information system in 1975 with the NHLDC as the apex body. The aims and objectives of the network are to—

- "—provide necessary central library services;
 - give leadership within the national health information system; and
 - participate in the planning and development of a national network to make the sharing of information resources and services more effective and efficient."
- (Hoque,1993:190–91).

Since then, NHLDC has been functioning as the focal point of the network. The second tier of the network includes 29 libraries which have qualified librarians and required collection of books and journals to function as resource libraries. The libraries do not have professional manpower and proper collection form the third tier (22 libraries). There are about 474 institution in the country without having any libraries, but the scientists of these institution also require information to keep themselves up-to-date. Considering the prevailing situation, these institutions were included in the forth (basic) tier of the network (Ahmed,1991:2).

Participation with HELLIS Network : In 1979, the Health Literature, Library and Information Services (HELLIS) network in South-East Asian Region of World Health Organization established in New Delhi to develop the health science libraries of the region, including Bangladesh by the year 2000. The objectives of the HELLIS network are to—

- "—make better use of the resources available within the country
 - make better use of the available resources in other countries of the region; and
 - make better use of the available resources in other regions."
- (Haque,1993:191).

Although Bangladesh has been participating in the HELLIS network since 1979, official recognition was received only in 1981. At that time, the Government of Bangladesh recognized the National Health Library and Documentation Centre (NHLDC) as the National Focal Point (NFP) of the HELLIS.

Nationally the Network of HELLIS consists of three tiers :

- Top-tier : NHLDC the National Focal Point (NFP) of HELLIS;
- Mid tier : The medical libraries which have good collections with professional librarians. To improve the health information services to the local users, these mid tier libraries identify the requirements and take necessary steps.
- Basic tier : The libraries in this tier have insufficient collections or without any collection, unable to provide services to the users. The information users from the basic tier institutions are entertained by the NFP, through the mid tier libraries.

Activities and Functions of HELLIS Network : The activities and functions of the HELLIS national network include :

- "—Indexing of the locally published current health science literature;
- Preparation of a union list of periodical holdings of the participating libraries in the network;
- Offering manual and computerized literature search services;
- Assessment of minimum requirements of the participating libraries to render effective information services, assessment of users needs, and provision of services;
- Inter-lending resources;
- Providing photographic and reprographic services;
- Preparation of directories of health science libraries, health scientists, completed and on going research;
- Identification of standard books and periodicals for use by the health science libraries;
- Co-operative acquisition and central processing of library materials and distribution to the participating libraries in the network;
- Publication of bulletins, newsletters and acquisition lists;
- Offering of continuing education programmes to the librarians and information users, i.e. training of librarians for developing their technical skills by updating knowledge and training of library users to have knowledge about the activities of the network." (Hoque,1993:191–93)

The HELLIS network also provides such services as, "if the National Focal Point does not have the required items, it refers the request to the other NFP in the region. In this case, NFP from India i.e. National Medical Library, New Delhi being the richest medical library in the region playing a vital role in supplying requested materials from its collection. If the resource libraries of the regional network fail to provide with the literature requested, the request is routed to the extra-regional resource centre i.e. National Library of Medicine, USA and the British Library Document supply centre." (Hoque,1993:191-93).

In medical field of the country, the NHL-DC has also been operating a resource sharing programme with the medical colleges and ICDDR'B., For avoiding duplication, the NHLDC plays an important role by subscribing of bio-medical periodicals with the ICDDR'B and medical colleges in the country. The National Library of Medicine Classification Scheme and AACR are used in processing of library materials of those libraries. The NHL-DC has established a relationship with major health science libraries of the country to facilitate inter-library loan of journals., The NHL-DC has compiled a union list of serials based on the holdings of the participating health science libraries with the financial assistance of WHO/SEARO. An author and subject index to biomedical literature published within the country from 1972 to 1986 has also been compiled by NHLDC entitled *Bangladesh Index Biomedicus*. The NHL-DC also supplies the accession list of new arrivals to the health science libraries. WHO/SEARO has extended its financial support for providing photocopies of content pages of the current biomedical journals subscribed by the NHL-DC regularly to medical college libraries of the country for their potential users.

Other networking and resource sharing activities in the country

Rural Information Resource Centre (RIRC) : The Community Development Library (CDL) is a national Non-Governmental organization established in 1980 at Dhaka by a number of NGO and R & D workers to generate and disseminate information, motivate and educate the people for socio-economic development issues, like education, agriculture, environmental issues, human rights, health care, women in development, child care, sanitation etc.

Currently several hundred NGOs are working in rural Bangladesh. The main objectives of almost all the NGOs are social awareness and economic upliftment of the poor and under-privileged communities. But due to non-availability and the lack of proper information system and services the NGOs spend a substantial part of their time in search of resource materials/information which could be better spent on carrying out programme activities.

Thus the objective of CDL is to extend information services to NGO workers, R & D activists, policy makers and planners and community people working in other spheres of social activities. Among the six divisions the division of the Rural Information Resource Centre (RIRC) of the CDL has been operating a network of 2 divisional libraries, 15 centres and 12 sub-centres in different parts of Bangladesh in order to meet the information needs of the NGO worker and the community people with CDL is the Focal Point. The RIRC information network will fill up the information gap among the NGO workers and government officials working in remote areas of the country.

Among the objectives of the programmes, the main are :

"—To collect reading material on alternative development from various sources and to disseminate the same among the NGO staff members;

- To assess the information needs of NGO's in participatory development activities;
- To establish information network among the NGOs working in rural areas on alternative development paradigm;
- To develop Community Library/Information centre for collection, preservation and dissemination of information which would help provide community users with techniques to meet their information needs;
- To make RIRC a focal point by tapping local resources and mobilizing support of local NGOs." (RIRC,1996:1-13)

Perspective of the network :

- "—Development information network will be established in each centre and sub-centre of RIRC to provide information service in better way;
- CDL will strengthen its current relation with other information sources both in home and abroad and will also establish relation with new information sources, existing information services and networks;
- The existing activities of CDL will help to strengthen the network of information system and services on an informal basis." (RIRC,1996:1-13).

The CDL as the Focal Point of RIRC is also offering good library and documentation services to its users by using almost all modern technologies like computer, E-mail, Fax, video, tape etc. applicable to libraries through its Central Library Documentation and Information Centre(CELDIC) at Dhaka. The CDL also has been maintaining a fullfleged Audio-visual units, computerized databases, professional personnel development programme etc. along with its other activities.

Child Right Information Network (CRIN) : In November 1992 Defense for Children International, with support of Radda Barnen and UNICEF, convened an international meeting in Geneva on NGO Information System on child rights. The meeting brought out together national and international organizations working on child-rights issues and involved in collecting, producing or disseminating child rights information. This meeting stimulated the idea of formulating a Child Right

Information Network (CRIN) on an international level. A group of organization began to meet informally to develop this idea and investigate ways of strengthening information exchange to serve the needs of the organizations working to make a reality of children rights.

This informal group is known as the Facilitating Group and includes representatives from different international organizations in the related fields. The potential aims of a Child Rights Information Network :

- "—to support and promote the implementation of the convention on the Rights of the Child at national and international levels.
- to contribute to satisfying the varied information needs of child rights organizations working at the grassroots, national and international levels, and
- to support child-rights organization in their endeavors to develop effective information systems and methods of information exchange, using both computerized and traditional networking tools.

Over the past years, the Facilitating Group has initiated various activities which should make a valuable contribution to the establishment of a network. This activities includes :

- a survey of organization working on child-rights issues to determine their information handling capacities. Data gathered has been used to develop on organizational directory and database.
- the development of a glossary of children's right terminology relevant to the convention, contributing to a common understanding and analysis of the convention, and
- the development of a full text database for children's rights information based on the requirements of the committee on the rights of the child and the UN centre for Human Rights." (CRIN,1995:1-2)

The Facilitating Group initiated a six month research phase to investigate different options and models for information networking, based on the information needs of potential users. The Group also appointed a Coordinator to complete the research and

organize the ensuing Paris meeting where a wider group of organization will participate and will consider the structure, membership, functioning and services of a Child Rights Information Network (CRIN, 1995:1-2).

The Community Development Library (CDL) has become the National Focal Point (NFP) of Child Rights Information Network in Bangladesh and already started sending Bangladeshi input on child-right to CRIN from 1996 (CDL Records : 1996) in its coordinating office at Save the Children (UK), 17 Grove Lane, London SES 8RD.

Television Trust for Environment (TVE) Network : TVE is a non-profit making organization devoted to producing and disseminating television programmes on environment, development, health and human right issues. To date over 30,000 programmes have been dispatched from the London headquarters to broadcasters, schools, NGOs and Community Centres - free of charge to users in the so-called low and middle income countries.

Since 1994 TVE has began to streamline its distribution service through a new network of partner organizations or Video Resource Centres (VRC) - in countries where demand for education and information dissemination through video.

CDL (Community Development Library) maintains a very good video library with a collection of 377 documentaries and 125 feature films. The category of the collection are on environment, health, politics, disaster, children, women etc.

TVE has selected CDL as its video Resource Centre (VRC) following the report of Robert McGowan of TVE after his visit CDL and some other agencies in Bangladesh. An agreement has been made between TVE and CDL in May 1996. The main agenda

of this agreement is to make CDL as the Focal Point of TVE in Bangladesh. However, CDL has started functioning with TVE to achieve the following objectives :

- Strengthening VRC
- publication of video catalogue, and
- language versioning on CDL production and TV programmes(TVE:1996:1-10)

South South Exchange : Information has become one of the main component of development projects. For a long period, the countries of the South had to depend on the countries of the North for information due to lack of communication among the countries of the South.

To solve this problem Community Development Library (CDL) is trying to develop an effective exchange programme with southern countries called “South South Exchange”.

A consultative committee meeting was held in Bangalore, India during 20-21 March 1996 to prepare a work plan for the South South Exchange. The meeting resolved CDL as the Regional Focal Point (RFP) of South South Exchange. SWISS INTERCHURCH AID ZURICH SWITZERLAND (HEKS), has supported this programme with the following objectives :

- "develop south south solidarity;
- share development experiences of people initiative and development institutes;
- exchange ideas of various social issues,
- disseminate case studies of successful projects which could be replicated;
- ensure free flow of information; and
- exchange technical know how." (Rashid, 1996:12).

The project personnel of CDL have visited different project areas of India to see, understand, and review the projects under this network. It is hoped that the information exchange programme will be started in near future.

Internet in Bangladesh : A very few organizations of Bangladesh is now connected with Internet. Recently some private organizations have been started offering on-line full Internet services in Bangladesh from June 1996, on commercial basis. Thus Bangladesh has entered into Information Super Highway first time ever its history. The detailed regarding internet will be discussed in the subsequent chapter.

The concept of library co-operation in Bangladesh is linked up with the external initiatives taken by regional and international cooperation for the development of databases and information networks. Agricultural Information System (AGRIS), Health Literature, Library and Information Service (HELLIS), Development Science Information System (DEVSIIS), Asia-Pacific Information Network for Social Sciences (APINESS) and Development Information Network for South Asia (DEVINSA) are the examples of those information networks and databases. To accommodate the global information in agriculture and allied subjects FAO initiated AGRIS, while for the purpose of bibliographic control on health sciences HELLIS was created by WHO. An international information system in the field of economic and social development—DEVSIIS created by IDRC and IDRC also created DEVINSA for the development of information networking in South Asia (Wanasundera, 1993:90–91).

In spite of the fact that, till today, information is not considered an important factor for the development activities, but by participating in these networks, Bangladesh is benefitted in different ways. It is also true that due to lack of adequate financial support, physical facilities and skilled manpower libraries attached to different organisations are not functioning well. It reflects the absence of organised library and

information system in the country and resulting which the slow progress of networking and resource sharing activities. Further, the lack of clear conception, commitment towards resource sharing and delay in implementation of policies are the reasons for the slow progress of information network in the country.¹ However, in the present days of information revolution, it is clearly understood that information networking and resource sharing can provide a systematic approach towards cooperation among the libraries and information centres. Therefore, for the development of organised library and information system in the country, different libraries are trying to set up networking and resource sharing activities in a proper way.

In conclusion, this is to be mentioned here that the professionals working in the libraries and information centres of NHL-DC, ICDDR'B, BIDS, CDL, AIC, CIRDAP etc. are the pioneer of networking and resource sharing activities presently visible in Bangladesh.

CHAPTER-4

FINDINGS OF THE SURVEY

CHAPTER-4

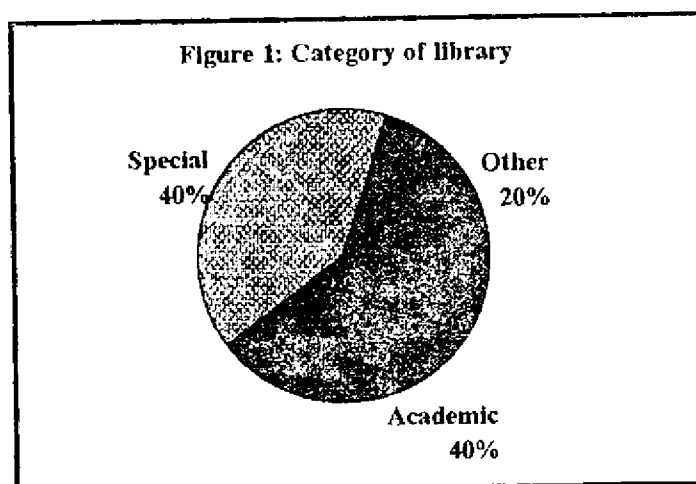
Findings of the Survey

This Chapter is an attempt to evaluate the existing situations in the libraries, performance of the library professionals and needs and expectations of the users regarding information and library services in Bangladesh. A total of twenty-five libraries from different fields of specialisation and a hundred users from different categories were surveyed.

The overall findings of the survey are presented below.

1. Nature of Libraries

The 25 surveyed libraries are broadly categorised into three groups: academic, special and other libraries. According to the above categorisation, 40 per cent academic, 40 per cent special and 20 per cent other libraries have been surveyed for the study (Figure 1). It is noted that these percentages of libraries will not be representative for the country as a whole, but these are the major libraries and main focal points of the educationists and researchers in the country.



The surveyed libraries have been included from the various disciplines according to the nature of activities/services. They have also been categorised by the nature and types of institutions. The following categories could be drawn up from the surveyed libraries:

- General, Medical, Engineering and Agricultural Educational Institution's Libraries (Academic Libraries);
- Specialised Health & Population, Social Science & Rural Development and Agricultural Institution's Libraries (Special Libraries);
- Government National & Public, Non-Governmental and Foreign Mission Libraries (Other Libraries).

The Table 1 presents all libraries by types according to the above discussion.

Table 1: Distribution of libraries by type

Name of Library	Type of Library		
	Academic	Special	Other
Central Public Library			✓
The British Council Library			✓
USIS Library			✓
National Library of Bangladesh			✓
Community Development Library		✓	
Dhaka University Library	✓		
Jahangirnagar University Library	✓		
Bangladesh Univ. of Eng. & Technology	✓		
Rajshahi University Library	✓		
Chittagong University Library	✓		
Shahjalal University Library	✓		
Bangladesh Agricultural University Library	✓		
Khulna University Library	✓		
North South University Library	✓		
IPGMR Library	✓		
BIRDEM Library		✓	
National Health Lib. & Doc. Centre			✓
ICDDR'B Library		✓	
AIC Library		✓	
BANSDOC Library		✓	
BIDS Library & Doc. Centre		✓	
CIRDAP Library		✓	
BAEC Library		✓	
BARD Library		✓	
FRI Library & Doc. Centre		✓	
Total	10	10	5

2. Functional status of the libraries

2.1. Collection of books, periodicals and other items :

It is observed that all libraries collect books and journals irrespective of their types. Among the libraries, about 64 per cent have collected thesis of post-graduation studies. Almost 32 per cent libraries have owned more than hundred thousand books and periodicals. The Dhaka University library possessed the highest number of books followed by the National Library of Bangladesh and the Rajshahi University Library. The highest number of journals are owned by the library of Dhaka University followed

by the libraries of Rajshahi University and Bangladesh Agricultural University. The BIDS and BARC library have a rich concentration of audio-visual materials.(Table 2).

Table 2: Distribution of libraries according to their collection of books and other materials

Name of Library	Number of collection in 1987			
	Books	Journals	Thesis	Others
Central Public Library	119275	10000	0	60
The British Council Library	18000	15000	0	2800
USIS Library	6500	85	0	200
National Library of Bangladesh	250000	5000	200	0
Community Development Library	20000	300	400	1000
Dhaka University Library	550000	69000	2000	500
Jahangirnagar University Library	70000	7000	800	50
Bangladesh Univ. of Eng. & Technology	110150	10706	886	0
Rajshahi University Library	233814	34592	0	0
Chittagong University Library	165209	14361	500	0
Shahjalal University Library	10300	288	0	0
Bangladesh Agricultural University Library	128908	33448	2736	0
Khulna University Library	16000	600	35	0
North South University Library	7328	63	0	40
IPGMR Library	22000	300	1200	0
BIRDEM Library	5000	126	58	1200
National Health Lib. & Doc. Centre	15000	10500	0	50
ICDDR'B Library	10000	18000	40	100
AIC Library	13000	1650	50	0
BANSDOC Library	14705	2303	0	20
BIDS Library & Doc. Centre	100000	20000	200	25000
CIRDAP Library	16466	325	0	0
BAEC Library	13000	15000	500	20000
BARD Library	55000	3600	30	0
FRI Library & Doc. Centre	2500	31	3	2
Total	1972155	272278	9638	51022

Among the academic libraries, 70 per cent possess more than 20 thousand books. On the other hand, 80 per cent of the special libraries and 60 per cent of other libraries have less than 20 thousand books (*Table 3*). A similar pattern is seen for the number of journals and theses among the libraries that were surveyed. The academic libraries are very poor in their collection of audio-visual materials. Unfortunately about 70 per cent of the academic libraries have not been provided with the above facilities.

Table 3: Percentage distribution of libraries by type of organisation and their collections

Collection criteria	Type of organisation/library							
	Academic		Special		Others		Total	
	Number	%	Number	%	Number	%	Number	%
Number of books:								
<=10000	1	10	3	30	1	20	5	20
10001-20000	2	20	5	50	2	40	9	36
20001-100000	2	20	2	20	-	-	4	16
>100000	5	50	-	-	2	40	7	28
Total	10	100	10	100	5	100	25	100
Number of journals:								
<=1000	4	40	4	40	1	20	9	36
1001-10000	1	10	3	30	2	40	6	24
10001-20000	2	20	3	30	2	40	7	28
>20000	3	30	-	-	-	-	3	12
Total	10	100	10	100	5	100	25	100
Number of theses:								
0 (none)	3	30	2	20	4	80	9	36
1-100	1	10	5	50	-	-	6	24
101-500	1	10	3	30	1	20	5	20
501-1000	2	20	-	-	-	-	2	8
>1000	3	30	-	-	-	-	3	12
Total	10	100	10	100	5	100	25	100
Number of others:								
0 (none)	7	70	3	30	1	20	11	44
1-100	2	20	3	30	2	40	7	28
101-500	1	10	-	-	1	20	2	8
501-1000	-	-	1	10	-	-	1	4
>1000	-	-	3	30	1	20	4	16
Total	10	100	10	100	5	100	25	100

Collection of books, periodicals and other materials of a library is usually made for the rich standard of the institution. It is also a regular source of upgrading knowledge and information both for the users and institution itself. Various strategies could be taken for this measure such as direct purchase, through subscription and exchange and other functional issues such as cataloguing and documentations etc.

2.2. Status of subscription for collecting journals

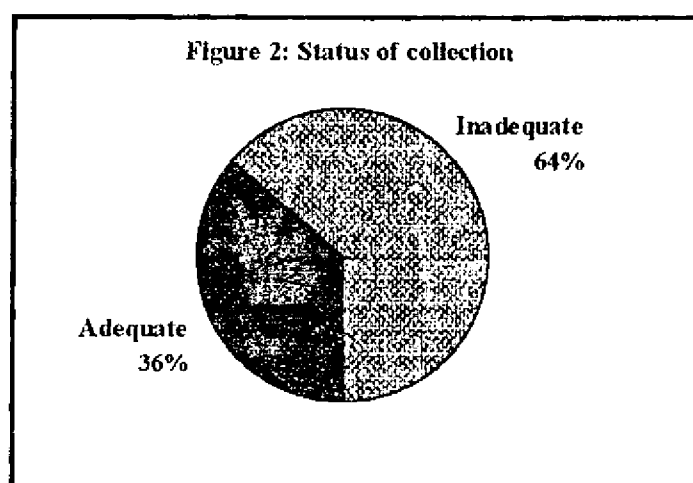
All the academic libraries subscribed to inland and foreign journals. Whereas, 20 per cent of special libraries and 40 per cent of other libraries did not subscribe journals (Table 4). The academic and special libraries are very poor subscribers of inland journals compared to foreign journals subscriptions. A similar pattern is also seen in case of other libraries regarding the subscription of inland and foreign journals.

Table 4: Percentage distribution of libraries by number of journals subscribed for collection

Number of journals subscribed for collection	Type of organisation/library						Total	
	Academic		Special		Others			
	Number	%	Number	%	Number	%	Number	%
Number of inland journals subscribed:								
0 (none)	-	-	2	20	2	40	4	16
1-20	5	50	5	50	-	-	10	40
21-50	2	20	3	30	2	40	7	28
51-100	2	20	-	-	1	20	3	12
>100	1	10	-	-	-	-	1	4
Total	10	100	10	100	5	100	25	100
Number of foreign journals subscribed:								
0 (none)	-	-	1	10	-	-	1	4
1-20	2	20	2	20	2	40	6	24
21-50	1	10	2	20	-	-	3	12
51-100	1	10	4	40	2	40	7	28
>100	6	60	1	10	1	20	8	32
Total	10	100	10	100	5	100	25	100

2.3. Status of collection

A question was asked to the librarians regarding the status of collection in regard to the demand of books and preodicals of the users and by nature of organisation. In response, only 36 percent of the respondents felt that the status of collection is almost adequate (Figure 2). The situation indicated that though the readers/users are available, almost two-third libraries are not able to satisfy the users.



It can be inferred from the remarks that the libraries status regarding collection of materials is very poor and they need some effective strategies for future improvement. *Table 5* gives more details by libraries according to their status of collection. Most of the academic libraries maintained that their collection is either inadequate or poor. It is to be noted here that the academic libraries are the main focal point in serving the many needs of most of the regular users of library service in Bangladesh, since specialized libraries concentrate only on the subjects relevant to their purpose. A few exceptions also exist in case of foreign assisted libraries such as the British Council library and USIS library. But their users are highly selective, so that they are not always able to cooperate with the academic libraries.

Table 5: Distribution of libraries by status of collection

Name of Library	Status of collection		
	Adequate	Inadequate	Poor
Central Public Library		✓	
The British Council Library	✓		
USIS Library		✓	
National Library of Bangladesh		✓	
Community Development Library	✓		
Dhaka University Library		✓	
Jahangirnagar University Library	✓		
Bangladesh Univ. of Eng. & Technology	✓		
Rajshahi University Library		✓	
Chittagong University Library		✓	
Shahjalal University Library			✓
Bangladesh Agricultural University Library		✓	
Khulna University Library		✓	
North South University Library		✓	
IPGMR Library		✓	
BIRDEM Library	✓		
National Health Lib. & Doc. Centre			✓
ICDDR'B Library	✓		
AIC Library	✓		
BANSDOC Library		✓	
BIDS Library & Doc. Centre		✓	
CIRDAP Library		✓	
BAEC Library	✓		
BARD Library	✓		
FRI Library & Doc. Centre		✓	
Total	9	14	2

Table 6 shows the major subjects collected so far by the number of libraries. The highest percentage (28%) of libraries indicated that the subject 'Economics' is very rich in their collection followed by the 'science' subjects. The table listed 18 subjects which are rich in collection by different libraries. Out of which, 5 subjects namely, environment, liberation movement, statistics, geography and population/nutrition belong to the individual libraries.

Table 6 : Documents of major subjects collected by the libraries

No.	Major subject collected	# of Library	% of total library (N=25)
01	Rural Development	5	20.0
02	Economics	7	28.0
03	History	5	20.0
04	Social Science	6	24.0
05	Literature	5	20.0
06	Foreign Relation	2	08.0
07	Environment	1	04.0
08	Liberation Movement	1	04.0
09	Engineering & Technology	4	16.0
10	Statistics	1	04.0
11	Geography	1	04.0
12	Computer Science	3	12.0
13	Business Administration/Management	3	12.0
14	Medical Science	3	12.0
15	Agricultural Science	4	16.0
16	Basic Science	6	24.0
17	Biological Science	3	12.0
18	Population/Nutrition	1	04.0

[Source : Field data]

2.4. Status of cataloguing as documentation

All the libraries catalogued their documents. But 64 percent libraries have not yet catalogued completely and it accounts for over 6 percent of total collection. According to the progress of cataloguing, the North South University shows a poor performance (70% left over) followed by National Health Library and Documentation Centre (53%) and Khulna University Library (38%). Although the National Library of Bangladesh need to catalogue only 20% more it is, nevertheless a big volume consisting of 51,000 documents left over (Table 7). Considering collection of

documents and cataloguing, the performance of Dhaka University library is satisfactory compared to others.

Table 7: Distribution of libraries by status of cataloguing their documents

Name of Library	Status of cataloguing the documents		
	Documents Catalogued	Not catalogued	Percent to be catalogued
Central Public Library	119275	0	0
The British Council Library	18000	0	0
USIS Library	6500	0	0
National Library of Bangladesh	200000	51000	20.3
Community Development Library	20000	0	0
Dhaka University Library	540000	10000	1.8
Jahangirnagar University Library	65000	5000	7.1
Bangladesh Univ. of Eng. & Technology	100166	9444	8.6
Rajshahi University Library	233814	0	0
Chittagong University Library	160209	5000	3.0
Shahjalal University Library	10300	0	0
Bangladesh Agricultural University Library	127908	1000	0.8
Khulna University Library	10000	6000	37.5
North South University Library	4000	9328	70.0
IPGMR Library	22000	1000	4.3
BIRDEM Library	5000	0	0
National Health Lib. & Doc. Centre	7000	8000	53.3
ICDDR'B Library	28000	0	0
AIC Library	12500	500	3.8
BANSDOC Library	12000	2700	18.4
BIDS Library & Doc. Centre	92000	8000	8.0
CIRDAP Library	12000	4466	27.1
BAEC Library	13000	0	0
BARD Library	54000	1000	1.8
FRI Library & Doc. Centre	2360	140	5.6
Total	1875032	122578	6.1

The status of cataloguing of serial holding and union cataloguing is shown in *Table 8*. Sixty per cent of the surveyed libraries have completed the cataloguing of serial

holdings, whereas, only 16 percent have some union catalogue. The small proportion of union cataloguing indicate the low level interaction among the libraries and individualism of the libraries in Bangladesh. It is a highly unhealthy indicator of resource sharing among the library systems in Bangladesh.

Table 8: Distribution of libraries by cataloguing status

Name of Library	Cataloguing Status		Union Cataloguing with other libraries	
	Yes	No	Yes	No
Central Public Library	✓			✓
The British Council Library		✓		✓
USIS Library		✓		✓
National Library of Bangladesh		✓		✓
Community Development Library	✓			✓
Dhaka University Library	✓			✓
Jahangirnagar University Library	✓			✓
Bangladesh Univ. of Eng. & Technology	✓			✓
Rajshahi University Library	✓			✓
Chittagong University Library	✓			✓
Shahjalal University Library		✓		✓
Bangladesh Agricultural University		✓	✓	
Khulna University Library		✓		✓
North South University Library		✓		✓
IPGMR Library	✓			✓
BIRDEM Library	✓			✓
National Health Lib. & Doc. Centre	✓		✓	
ICDDR'B Library	✓			✓
AIC Library	✓		✓	
BANSDOC Library		✓	✓	
BIDS Library & Doc. Centre	✓			✓
CIRDAP Library		✓		✓
BAEC Library	✓			✓
BARD Library	✓			✓
FRI Library & Doc. Centre		✓		✓
Total	15	10	4	21

2.5. Collection by user effectiveness

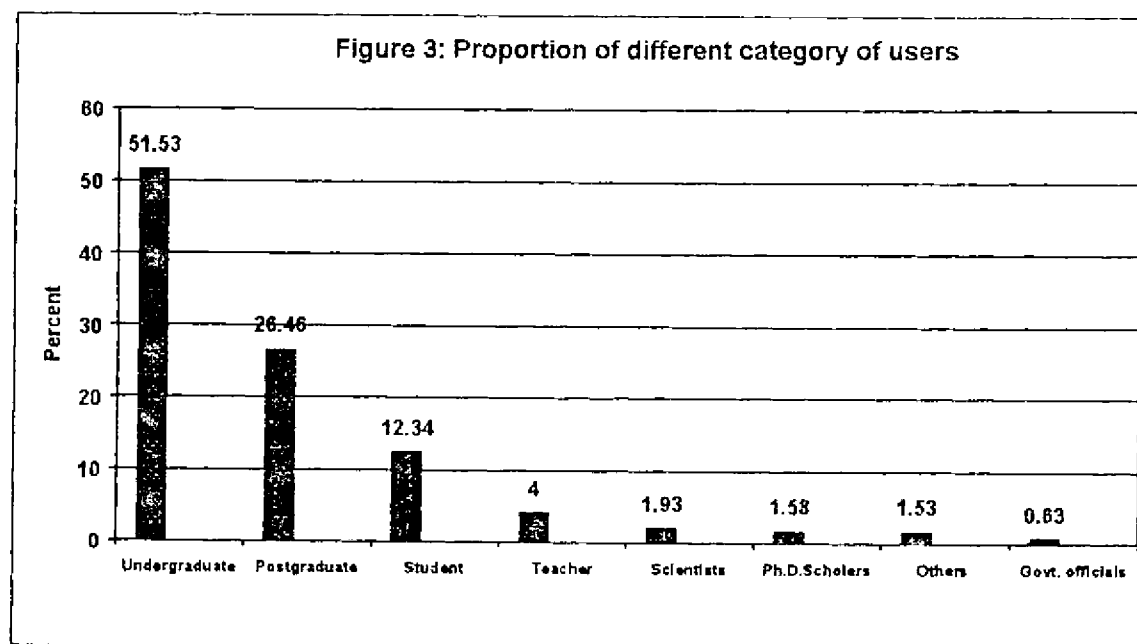
The country has almost 6 million user turnover that followed and used the collection of books and periodicals of 25 libraries. On an average 237 thousand user turnover exists per library in a year. Among all users, over 38 percent belong to the Dhaka University Library and over 21 per cent belong to the central public library. The remaining 40 per cent users are using 80 percent of collected books and periodicals from 23 (92%) libraries. The lowest number of collection is found in the FRI library and documentation centre and the highest number in the Dhaka University Library. Besides, the lowest number of users visited the CIRDAP library and the highest number used Dhaka University Library.

Table 9: Availability of books and preodicals for the user turnover in 1995-96

Name of Library	Number of users and availability of books and preodicals per user in a year		
	Number of users	# of books & preodical	Per user's books & preodicals
Central Public Library	1269215	129275	0.10
The British Council Library	313000	33000	0.11
USIS Library	21910	6585	0.30
National Library of Bangladesh	18780	255000	13.58
Community Development Library	59470	20300	0.34
Dhaka University Library	2281770	619000	0.27
Jahangirnagar University Library	93900	77000	0.82
Bangladesh Univ. of Eng. & Technology	117375	120856	1.03
Rajshahi University Library	500800	268406	0.54
Chittagong University Library	343361	179570	0.52
Shahjalal University Library	46950	10588	0.23
Bangladesh Agricultural University	104229	162356	1.56
Khulna University Library	60722	16600	0.27
North South University Library	328650	7391	0.02
IPGMR Library	172150	22300	0.13
BIRDEM Library	34430	5126	0.15
National Health Lib. & Doc. Centre	6260	25500	4.07
ICDDR'B Library	46950	28000	0.60
AIC Library	6260	14650	2.34
BANSDOC Library	14085	17008	1.21
BIDS Library & Doc. Centre	31300	120000	3.83
CIRDAP Library	3130	16791	5.36
BAEC Library	9390	28000	2.98
BARD Library	23475	58600	2.50
FRI Library & Doc. Centre	15650	2531	0.16
Average for per library	236928	89777	0.38

The per user highest number of collection (14) has been performed by the National Library of Bangladesh though the Dhaka University Library possessed the highest number of books and preodicals; and the lowest performance (7) prevailed at the North South University Library (*Table 9*). For the user effectiveness it is clear from the table that very few libraries have collected adequate books and periodicals. The overall collection per user showed about 2 books and periodicals so far.

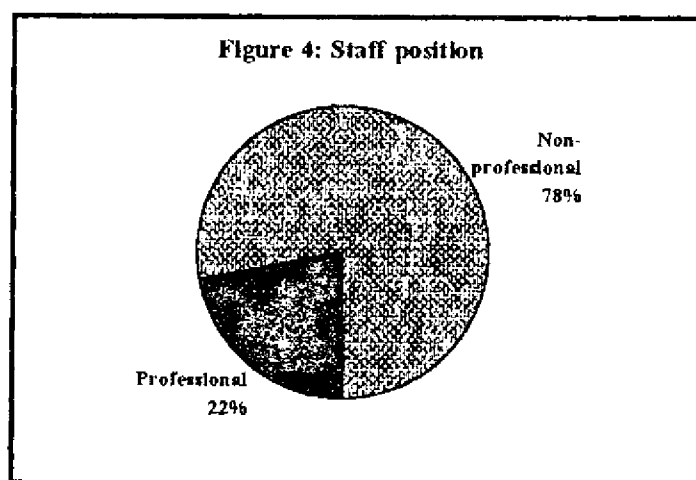
Figure 3 shows the proportion of different categories of users who used the libraries collections. The highest proportion of users are of the undergraduate level followed by post graduate and student categories. Other 5 categories show only about 10 percent of total users, namely teachers, Ph.D. scholars, scientists, government officials and others from different segments of the population.



Source : Information based on Annex Table 1.

3. Human Resources :

In the modern era, a library should employ various types of skilled manpower. Therefore, the library needs different types of skilled manpower for performing various tasks regularly. The collected information shows that about 79 per cent of total manpower is non-professional (Figure 4).



It may be mentioned that the non-professional human resource means that which does not have basic training and education about the library system. At the time of survey, only USIS library did not have any non-professional library worker, while the other 96 per cent of library had more or less a number of non-professionals (*Table 10*). The data also indicated that on an average one professional worked with about four non-professionals in a library (1:4).

Table 10: Distribution of libraries by number of personnel and ratio of professional staff

Name of library	Number of personnel and their ratio			
	Professional	Non-professional	Total position	Ratio of professional
Central Public Library	12	25	37	1:2
The British Council Library	3	12	15	1:4
USIS Library	2	0	2	-
National Library of Bangladesh	6	13	19	1:2
Community Development Library	4	6	10	2:3
Dhaka University Library	26	200	226	1:8
Jahangirnagar University Library	9	45	54	1:5
Bangladesh Univ. of Eng. & Technology	9	33	42	1:4
Rajshahi University Library	20	83	103	1:4
Chittagong University Library	15	87	102	1:6
Shahjalal University Library	4	13	17	1:3
Bangladesh Agricultural University Library	29	55	84	1:2
Khulna University Library	2	8	10	1:4
North South University Library	3	5	8	3:5
IPGMR Library	5	10	15	1:2
BIRDEM Library	5	9	14	1:2
National Health Lib. & Doc. Centre	5	29	34	1:6
ICDDR'B Library	5	4	9	1:1
AIC Library	2	3	5	2:3
BANSDOC Library	3	11	14	1:4
BIDS Library & Doc. Centre	7	10	17	1:2
CIRDAP Library	3	2	5	1:1
BAEC Library	2	9	11	1:4
BARD Library	2	12	14	1:6
FRI Library & Doc. Centre	2	3	5	1:1
Total	185	687	872	1:4

Only the Dhaka University Library has the highest ratio of non-professionals (1:8) compared to special and other libraries. The AIC library, CIRDAP library and FRI library employed very small number of non-professionals. It, therefore, may be suggested that almost all the libraries need professional manpower for the standardised library systems in Bangladesh.

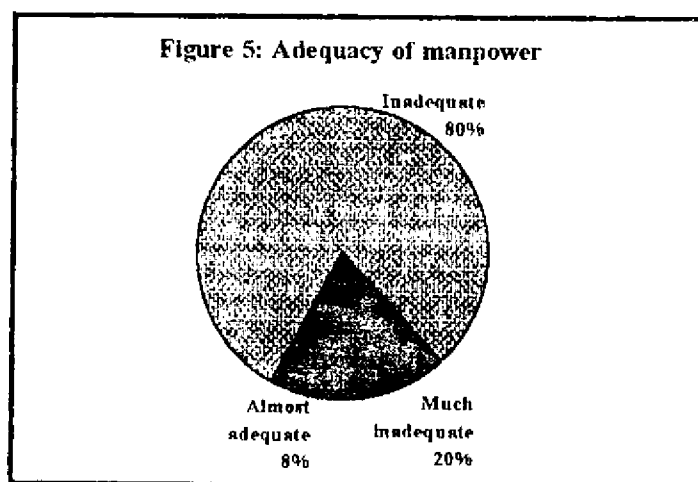
Among the libraries only 2 (8%)—namely the British Council library and Khulna University library—said that they have almost adequate manpower (*Table 11*). From the table, it is clear that both of them have 1:4 professional and non-professional staff. The question therefore automatically arises if the libraries themselves felt that the manpower is inadequate, how could they serve their users well. The capability of a library should be substantiated by skilled manpower, otherwise all the functions of a library must weaken.

Table 11: Distribution of libraries by their adequacy of manpower

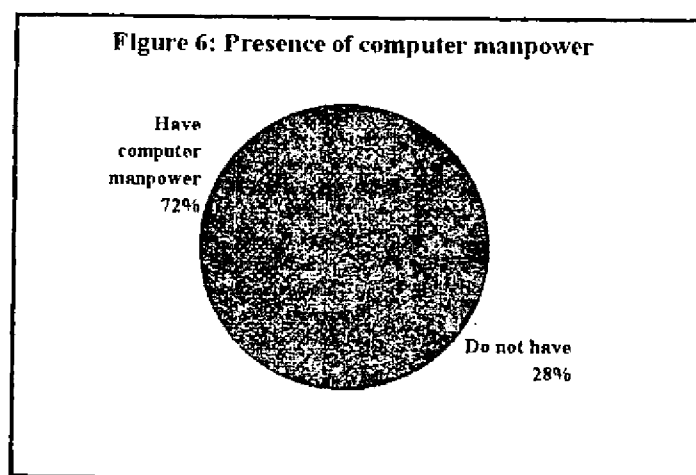
Name of library	Adequacy of manpower		
	Almost adequate	Inadequate	Much manpower
Central Public Library		✓	
The British Council Library	✓		
USIS Library			✓
National Library of Bangladesh		✓	
Community Development Library		✓	
Dhaka University Library		✓	
Jahangirnagar University Library		✓	
Bangladesh Univ. of Eng. & Technology		✓	
Rajshahi University Library		✓	
Chittagong University Library		✓	
Shahjalal University Library		✓	
Bangladesh Agricultural University			✓
Khulna University Library	✓		
North South University Library		✓	
IPGMR Library		✓	
BIRDEM Library		✓	
National Health Lib. & Doc. Centre		✓	
ICDDR'B Library		✓	
AIC Library			✓
BANSDOC Library		✓	
BIDS Library & Doc. Centre		✓	
CIRDAP Library		✓	
BAEC Library		✓	
BARD Library		✓	
FRI Library & Doc. Centre		✓	
Total	2	20	3

The overall adequacy of manpower is not appreciable, as reflected in Figure 5. Moreover, 12 per cent of the libraries have faced much inadequacy of manpower. They

need immediate appointment of information specialists and system librarians, computer operators and library professionals (Annex Table 2). Otherwise, it would not be possible to initiate computerization/networking among the libraries. Surprisingly, out of 3, one library mentioned that the concerned authority is less attentive in this regard (Annex Table 3).



There are three libraries i.e. IPGMR library, BAEC library and FRI library who have computer but do not have computer manpower. Figure 6 shows the proportion of libraries having computer manpower. For details by library see Annex table 4.



About 94 percent of the computer manpower did not have a degree in the particular field but have training to run the routine function. Only the central public library, Dhaka University Library and BANSDOC library have high professionals of computer manpower (Table 12). But it is still a low performing section in the library compared to the overall activities of the library. For example, Dhaka University Library contained the highest number of books whereas it has only 2 computers and 3 computer personnel. The library also said that the overall manpower is inadequate. Table 12 indicates that the highest number of computer professionals are employed in the BANSDOC library followed by the British Council Library. The lowest number of similar position is shown in the Central Public Library, National Health Library and Documentation Centre and BAEC Library.

Table 12: Distribution of libraries by their number of trained personnel

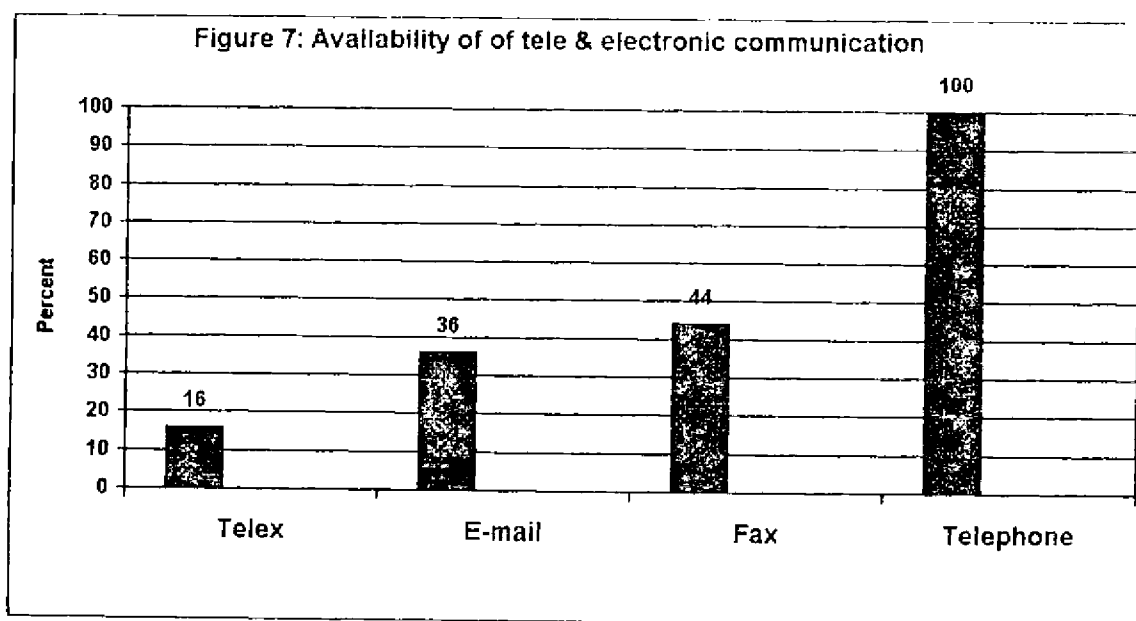
Name of library	Number of trained personnel		
	# of Persons received only training	Number of Persons got degree	Total trained personnel
Central Public Library	0	1	1
The British Council Library	7	0	7
USIS Library	2	0	2
National Library of Bangladesh	0	0	0
Community Development Library	4	0	4
Dhaka University Library	2	1	3
Jahangirnagar University Library	4	0	4
Bangladesh Univ. of Eng. & Technology	4	0	4
Rajshahi University Library	0	0	0
Chittagong University Library	0	0	0
Shahjalal University Library	2	0	2
Bangladesh Agricultural University Library	2	0	2
Khulna University Library	0	0	0
North South University Library	5	0	5
IPGMR Library	0	0	0
BIRDEM Library	3	0	3
National Health Lib. & Doc. Centre	1	0	1
ICDDR'B Library	5	0	5
AIC Library	2	0	2
BANSDOC Library	6	2	8
BIDS Library & Doc. Centre	5	0	5
CIRDAP Library	3	0	3
BAEC Library	1	0	1
BARD Library	0	0	0
FRI Library & Doc. Centre	0	0	0
Total	58	4	62

4. Availability of facilities :

The study did not cover the physical facilities like the infrastructural development of the library. The section limits itself to the availability of tele and electronic communication, hardware and software facilities, and reprographic and audio-visual materials.

4.1. Availability of tele and electronic communication

There are various information transfer technologies in the world. The people and the institutions of Bangladesh are going very slow pace in entering the use of technology for networking and communication. There exist a knowledge gap among the people and institutions of Bangladesh about the role of information power in the world. Libraries in Bangladesh are not out of that situation. The world's fast moving information technology as well as media communication have yet not touched adequately the country. The survey result indicated that out of 25 libraries, only 16 per cent are using telex, 36 per cent are using E-mail, and 44 per cent are using Fax. All the libraries are also using telephone for communication (Figure 7).



Among all the libraries, Jahangirnagar University, Khulna University, BIRDEM and FRI libraries have been using only FAX. About 44 per cent libraries are using only telephone while Community Development Library, ICDDR'B library and BANSDOC library are using all types of communication media (*Table 13*). It is thus observed that most of the academic libraries are very poor in the use of tele and electronic media.

Table 13: Communication facilities available among the libraries

Name of Library	Fax	Telex	E-mail	Telephone
Central Public Library				✓
The British Council Library	✓	✓		✓
USIS Library				✓
National Library of Bangladesh				✓
Community Development Library	✓	✓	✓	✓
Dhaka University Library			✓	✓
Jahangirnagar University Library	✓			✓
Bangladesh Univ. of Eng. & Technology	✓		✓	✓
Rajshahi University Library	✓		✓	✓
Chittagong University Library				✓
Shahjalal University Library				✓
Bangladesh Agricultural University Library				✓

Contd. Table 13

Name of library	Fax	Telex	E-mail	Telephone
Khulna University Library	✓			✓
North South University Library			✓	✓
IPGMR Library				✓
BIRDEM Library	✓			✓
National Health Lib. & Doc. Centre				✓
ICDDR'B Library	✓	✓	✓	✓
AIC Library				✓
BANSDOC Library	✓	✓	✓	✓
BIDS Library & Doc. Centre	✓		✓	✓
CIRDAP Library			✓	✓
BAEC Library				✓
BARD Library				✓
FRI Library & Doc. Centre	✓			✓
Total	11	4	9	25

4.2. Availability of computer hardware and software

The computer is now an essential equipment for the libraries for information processing, management and dissemination, because it is easy to monitor the overall situation of the library and to find what they have or not by using computer. The number shows that eighty per cent of the libraries have used computer and among them, 30 per cent have possessed only one computer (*Table 14*). BANSDOC library possesses the highest number (22) of computers, followed by the British Council library and ICDDR'B library. Most of the academic libraries either have small number of computers or do not have any computer at all. Computer technology is passing its 5th generation of services in the world since 1960. Ironically, in Bangladesh, a middle class individual might own a personal computer, but established institutional libraries are not using computers. It may be said that the overall management failure in the systems may be the prime cause of this backwardness.

Table 14: Distribution of libraries by availability of computer hardware (machine)

Name of library	Number of computer hardware with configuration
Central Public Library	1
The British Council Library	12
USIS Library	4
National Library of Bangladesh	0
Community Development Library	4
Dhaka University Library	2
Jahangirnagar University Library	1
Bangladesh Univ. of Eng. & Technology	4
Rajshahi University Library	0
Chittagong University Library	0
Shahjalal University Library	1
Bangladesh Agricultural University Library	2
Khulna University Library	0
North South University Library	2
IPGMR Library	3
BIRDEM Library	4
National Health Lib. & Doc. Centre	4
ICDDR'B Library	11
AIC Library	6
BANSDOC Library	22
BIDS Library & Doc. Centre	3
CIRDAP Library	1
BAEC Library	1
BARD Library	0
FRI Library & Doc. Centre	1
Total	89

Table 15 shows the availability of software among the libraries. Almost all the libraries that have computers are using CDS/ISIS library database software excepting IPGMR library. Other software packages such as word perfect, word star, fox pro, are used by 80, 75 and 40 per cent of the libraries respectively.

Table 15: Distribution of libraries by availability of computer-based software

Name of library	Name of software			
	Word Perfect	Word Star	MS/MSW	Lotus Pro
Central Public Library		✓	✓	
The British Council Library	✓	✓	✓	✓
USIS Library	✓	✓	✓	
National Library of Bangladesh				
Community Development Library	✓	✓	✓	
Dhaka University Library		✓	✓	
Jahangirnagar University Library	✓	✓	✓	
Bangladesh Univ. of Eng. & Technology	✓	✓	✓	
Rajshahi University Library				
Chittagong University Library				
Shahjalal University Library	✓		✓	
Bangladesh Agricultural University Library	✓	✓	✓	✓
Khulna University Library				
North South University Library	✓	✓	✓	
IPGMR Library				
BIRDEM Library	✓	✓	✓	✓
National Health Lib. & Doc. Centre	✓	✓	✓	
ICDDR'B Library	✓	✓	✓	✓
AIC Library	✓	✓	✓	✓
BANSDOC Library	✓	✓	✓	✓
BIDS Library & Doc. Centre	✓	✓	✓	✓
CIRDAP Library	✓		✓	
BAEC Library			✓	✓
BARD Library				
FRI Library & Doc. Centre	✓		✓	
Total	16	15	19	8

4.3. Availability of Reprographic and Audio-visual equipments

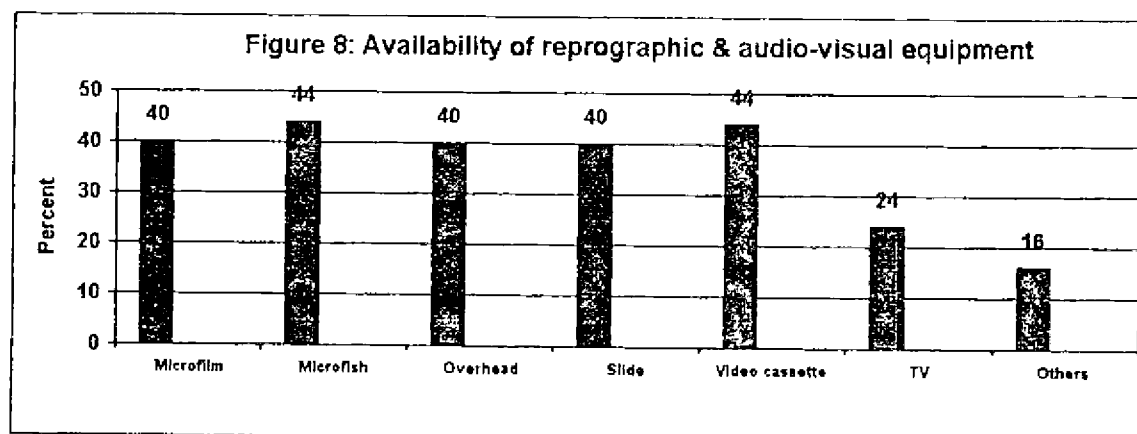
The photocopy machine is available in 76 per cent of the libraries and duplicating machines are available in only 44 per cent of the libraries (*Table 16*). Six libraries do not have any reproductive machines and most of them are academic libraries namely,

Rajshahi, Chittagong, Shahjalal and Khulna Universities. Other two are the national library of Bangladesh and BARD library. These libraries usually face problem to satisfy user demand and resource sharing with other libraries.

Table 16: Distribution of libraries by availability of photocopy/duplicating machine

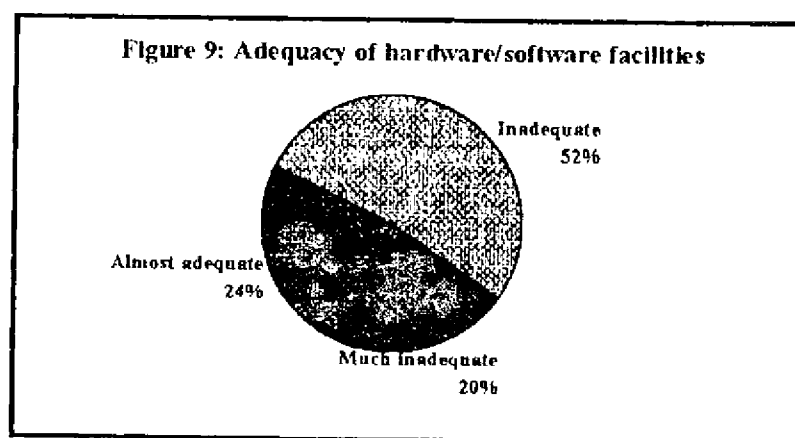
Name of Library	Availability of Machine	
	Photocopy machine	Duplicating machine
Central Public Library	✓	
The British Council Library	✓	✓
USIS Library	✓	
National Library of Bangladesh		
Community Development Library	✓	✓
Dhaka University Library	✓	
Jahangirnagar University Library	✓	✓
Bangladesh Univ. of Eng. & Technology	✓	✓
Rajshahi University Library		
Chittagong University Library		
Shahjalal University Library		
Bangladesh Agricultural University	✓	✓
Khulna University Library		
North South University Library	✓	
IPGMR Library	✓	
BIRDEM Library	✓	
National Health Lib. & Doc. Centre	✓	
ICDDR'B Library	✓	✓
AIC Library	✓	✓
BANSDOC Library	✓	✓
BIDS Library & Doc. Centre	✓	✓
CIRDAP Library	✓	✓
BAEC Library	✓	✓
BARD Library		
FRI Library & Doc. Centre	✓	
Total	19	11

About 40 per cent of the specialized and other libraries have at least 4/5 types of reprographic and audio-visual equipment (for details see Annex Table 5). Figure 8 shows the overall picture of availability of reprographic and audio-visual equipment.



4.4. Adequacy of facilities

The overall responses show that about 24 per cent of the libraries indicated that their facilities are almost adequate. Twenty per cent of the libraries said that their facilities are much inadequate. As a result, 76 per cent of the libraries face inadequacy in their facilities available at present (Figure 9). It is further observed that most of the academic libraries are very weak by their set up of available facilities (Annex Table 6).



5. Status of information services

This section is pertains specifically to documentation through computer facilities. *Table 17* shows that 64 per cent of the libraries initiated computerization of their documents while 36 per cent have not yet started. Almost 50 per cent of the academic libraries have not started computerization (*Table 17*).

Table 17: Distribution of libraries by their initiation of computerisation

Name of Library	Initiated computerisation	
	Yes	No
Central Public Library	✓	
The British Council Library	✓	
USIS Library	✓	
National Library of Bangladesh		✓
Community Development Library	✓	
Dhaka University Library	✓	
Jahangirnagar University Library	✓	
Bangladesh Univ. of Eng. & Technology	✓	
Rajshahi University Library		✓
Chittagong University Library		✓
Shahjalal University Library	✓	
Bangladesh Agricultural University Library		✓
Khulna University Library		✓
North South University Library	✓	
IPGMR Library		✓
BIRDEM Library	✓	
National Health Lib. & Doc. Centre	✓	
ICDDR'B Library	✓	
AIC Library	✓	
BANSDOC Library		✓
BIDS Library & Doc. Centre	✓	
CIRDAP Library	✓	
BAEC Library		✓
BARD Library		✓
FRI Library & Doc. Centre	✓	
Total	16	9

The status of libraries by operation of records computerization is shown in *Table 18*. None of the libraries have computerized their circulation work. Of the libraries which have initiated computerization, about 44 per cent started recording acquisition, over 87 per cent computerized cataloguing and only over 12 per cent are doing serial control.

Table 18: Distribution of libraries by status of computerisation initiated

Name of library	Status of initiated computerisation			
	Acquisition	Cataloguing	Circulation	Serial control
Central Public Library	✓			
The British Council Library		✓		
USIS Library		✓		
National Library of Bangladesh				
Community Development Library	✓	✓		
Dhaka University Library	✓			
Jahangirnagar University Library		✓		
Bangladesh Univ. of Eng. & Technology		✓		
Rajshahi University Library				
Chittagong University Library				
Shahjalal University Library		✓		
Bangladesh Agricultural University Library				
Khulna University Library				
North South University Library	✓	✓		✓
IPGMR Library				
BIRDEM Library	✓	✓		
National Health Lib. & Doc. Centre		✓		
ICDDR'B Library	✓	✓		
AIC Library		✓		✓
BANSDOC Library				
BIDS Library & Doc. Centre		✓		
CIRDAP Library		✓		
BAEC Library				
BARD Library				
FRI Library & Doc. Centre	✓	✓		
Total	7	14	0	2

Computerized databases are available at 36 per cent of the libraries (Table 19). It indicates very unsatisfactory performance of the libraries in Bangladesh. However, most of the databases exist with the health and agricultural specialized institutions. The performance of academic institutions in relation to modern information technology and operation is found to be extremely unsatisfactory. The available database in different

libraries mentioned are : BBIB, MEDLINE, D-MONO, D-DOC, Lib.data, Per News, Sc. & Tech. of Abstracts, Scientists & Technologists of Bangladesh, CAS, BIDS, LDC, CCOD and Fish data (Annex Table 7).

Table 19: Distribution of libraries by availability of computerised databases

Library	Computerised database available	Computerised database not available
Central Public Library		✓
The British Council Library		✓
USIS Library		✓
National Library of Bangladesh		✓
Community Development Library		✓
Dhaka University Library		✓
Jahangirnagar University Library		✓
Bangladesh Univ. of Eng. & Technology	✓	
Rajshahi University Library		✓
Chittagong University Library		✓
Shahjalal University Library		✓
Bangladesh Agricultural University Library	✓	
Khulna University Library		✓
North South University Library		✓
IPGMR Library		✓
BIRDEM Library	✓	
National Health Lib. & Doc. Centre	✓	
ICDDR'B Library	✓	
AIC Library	✓	
BANSDOC Library	✓	
BIDS Library & Doc. Centre	✓	
CIRDAP Library		✓
BAEC Library		✓
BARD Library		✓
FRI Library & Doc. Centre	✓	
Total	9	16

CD-ROM database is available among 52 per cent of the libraries (*Table 20*). Most of the academic libraries do not have this database. The available CD-ROM database includes : Rural development, Popline, PDQ, ULRICH periodicals directory, Public

Affairs information service, Engineering, World Bank publication, Medline, POPIN, DEVIN, INIS automatic index, AGRIS, Educational Information, ASFA and Medical literature (Annex Table 8).

Table 20: Distribution of libraries by availability of CD-ROM database

Name of Library	Availability of CD-ROM database	
	Yes	No
Central Public Library		✓
The British Council Library	✓	
USIS Library	✓	
National Library of Bangladesh		✓
Community Development Library		✓
Dhaka University Library		✓
Jahangirnagar University Library		✓
Bangladesh Univ. of Eng. & Technology	✓	
Rajshahi University Library		✓
Chittagong University Library		✓
Shahjalal University Library		✓
Bangladesh Agricultural University Library	✓	
Khulna University Library		✓
North South University Library	✓	
IPGMR Library		✓
BIRDEM Library	✓	
National Health Lib. & Doc. Centre	✓	
ICDDR'B Library	✓	
AIC Library	✓	
BANSDOC Library		✓
BIDS Library & Doc. Centre	✓	
CIRDAP Library	✓	
BAEC Library	✓	
BARD Library		✓
FRI Library & Doc. Centre	✓	
Total	13	12

6. Networking and Resource Sharing

There are various inter-library services which are received and offered among the libraries as and when necessary. The types and effectiveness of inter-library services are discussed in this section. The inter-library services cover direct involvement among

the libraries through their networking and resource sharing. Table 21 shows the various services received and offered by different scales.

Table-21 : Distribution of libraries by status of inter-library services in different scale

Name of Services	Scale given by number of libraries			
	Never	Sometime	Often	Quite Often
Inter-library loan received	4	11	4	6
Inter-library loan offered	4	11	4	6
Photocopy service received	2	12	2	9
Photocopy service offered	1	12	2	10
Answer of reference queries received	1	8	4	12
Answer of reference queries offered	2	8	4	11
On-line/Off-line search received	15	7	2	1
On-line/Off-line search offered	15	7	2	1
Translation received	23	2	--	--
Translation Offered	23	2	--	--
Manpower received	21	4	--	--
Manpower Offered	21	4	--	--
Equipment received	21	4	--	--
Equipment Offered	21	4	--	--
Any other received	24	1	--	--
Any other Offered	23	1	--	--

Source : Based on Information in Annex Tables 9-16.

According to Table 21, the same proportion of libraries received and offered inter-library loan from their collections. Most of the libraries 'sometimes' got involved in this process. On-line/Off-line search in/out was never performed by 60 per cent of the libraries. Moreover, most of the libraries never involved with translation, manpower exchange or any other services with others. Detailed information about the libraries is given in Annex Tables 9-16.

The status of inter-library services as remarked by the respondent have been categorised as good, satisfactory, poor and not involved in the process. Among the libraries, only 4 stated that the inter-library services is 'good' and 12 reported 'satisfactory'. Besides, 32 per cent noted the services as 'poor' (Table 22). It is observed that most of the academic libraries reported the inter-library services as being 'poor'.

Table 22: Distribution of libraries by their status of inter-library service

Name of library	Status of inter library service			
	Good	Satisfactory	Poor	No service
Central Public Library			✓	
The British Council Library		✓		
USIS Library		✓		
National Library of Bangladesh			✓	
Community Development Library		✓		
Dhaka University Library		✓		
Jahangirnagar University Library			✓	
Bangladesh Univ. of Eng. & Technology		✓		
Rajshahi University Library			✓	
Chittagong University Library		✓		
Shahjalal University Library			✓	
Bangladesh Agricultural University			✓	
Khulna University Library			✓	
North South University Library		✓		
IPGMR Library	✓			
BIRDEM Library		✓		
National Health Lib. & Doc. Centre		✓		
ICDDR'B Library		✓		
AIC Library	✓			
BANSDOC Library			✓	
BIDS Library & Doc. Centre	✓			
CIRDAP Library		✓		
BAEC Library		✓		
BARD Library				✓
FRI Library & Doc. Centre	✓			
Total	4	12	8	1

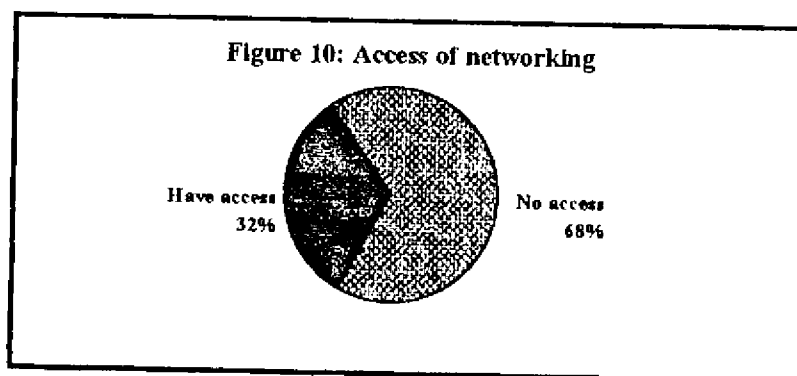
Libraries which got involved in the networking and resource sharing with the other organization were asked about the major organization with whom they generally exchange information. The major libraries mentioned that they exchange information

with social science, agricultural, medical, rural development, national library, University and research institutions at home and abroad. There are 12 libraries (48%) which exchange information with a single organization. The remaining libraries exchange information with at least two organizations at home or abroad. The highest number of libraries (64%) exchange information with the Universities and research organisations (*Table 23*).

Table 23: Distribution of libraries according to whom they generally exchange information

Library	Government	Non-Government	University	Research	Other	Total
Central Public Library					✓	✓
The British Council Library					✓	✓
USIS Library						✓
National Library of Bangladesh					✓	
Community Development Library	✓			✓		
Dhaka University Library					✓	✓
Jahangirnagar University Library						✓
Bangladesh Univ. of Eng. & Technology						✓
Rajshahi University Library						✓
Chittagong University Library						✓
Shahjalal University Library						✓
Bangladesh Agricultural University Library	✓	✓		✓		✓
Khulna University Library						✓
North South University Library		✓				✓
IPGMR Library			✓		✓	
BIRDEM Library			✓		✓	
National Health Lib. & Doc. Centre			✓		✓	
ICDDR'B Library	✓		✓			
AIC Library		✓				
BANSDOC Library						✓
BIDS Library & Doc. Centre	✓					✓
CIRDAP Library	✓			✓		
BAEC Library						✓
BARD Library		✓				
FRI Library & Doc. Centre		✓		✓		✓
Total	5	5	4	4	7	16

Sixty-four per cent libraries reported that they have had networking with at least one national or international institute/organisation. On the other hand, 36% libraries do not have either any access to networking and/or any plan to join shortly (Figure 10).



The libraries which joined with 5 networking systems reported that they have resource sharing activities, mainly with (over 62%) BANS LINK (*Table 24*). The libraries joined with other networking system such as INRD, HELLIS, NAIS and DEVINSA. Moreover, 60 per cent of the libraries intended to join with INTERNET in near future and all the libraries have proposal for networking in the years to come.

Table 24: Distribution of libraries according to their access of networking and intention to join

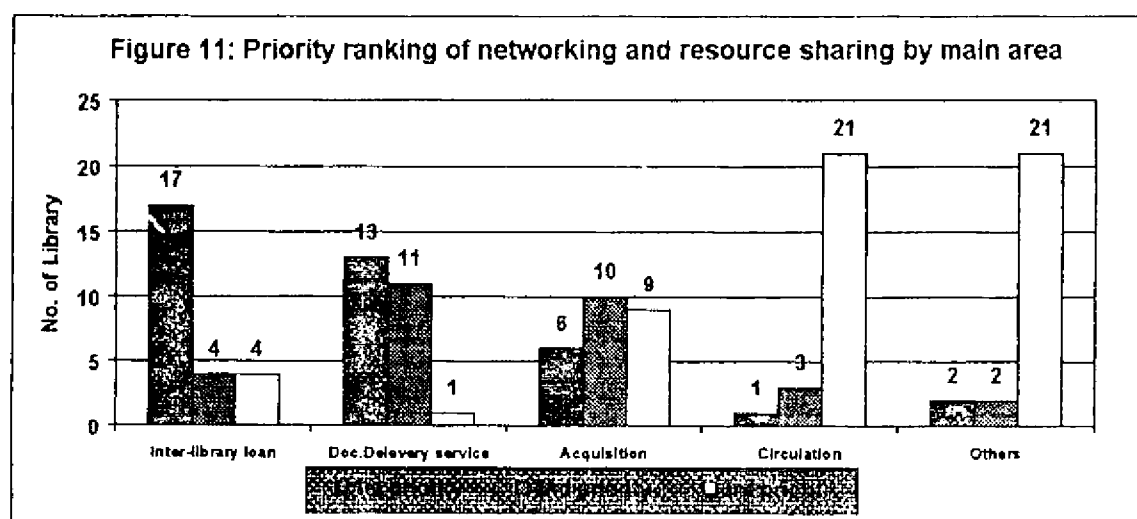
Name of Library	Have access with online and international network					Intention to join in future	
	INRD	HELLIS	NAIS	DEVINSA	BANS LINK	BANS LINK	INTERNET
Central Public Library	✓						
The British Council Library	✓						
USIS Library	✓						
National Library of Bangladesh	✓						✓
Community Development Library	✓						
Dhaka University Library							
Jahangirnagar University Library					✓		✓
Bangladesh Univ. of Eng. & Technology					✓		✓
Rajshahi University Library					✓		✓
Chittagong University Library	✓				✓		✓
Shahjalal University Library							
Bangladesh Agricultural University		✓		✓	✓		✓
Khulna University Library				✓	✓		✓
North South University Library	✓				✓		
IPGMR Library					✓		✓
BIRDEM Library			✓				✓
National Health Lib. & Doc. Centre			✓		✓		✓
ICDDR,B Library			✓				✓
AIC Library				✓			✓
BANSDOC Library						✓	✓
BIDS Library & Doc. Centre					✓		✓
CIRDAP Library		✓			✓		✓
BAEC Library							
BARD Library	✓				✓		✓
FRI Library & Doc. Centre	✓						
Total	9	2	3	2	2	10	15

Highest proportion (84%) of the libraries suggested that networking of libraries in Bangladesh is most useful (Table 25). As a whole, none of the libraries underestimated the importance of library networking.

Table 25: Distribution of libraries according to their opinion about importance of networking

Name of Library	Importance of networking		
	Most useful	Useful	Minimally useful
Central Public Library	✓		
The British Council Library	✓		
USIS Library	✓		
National Library of Bangladesh	✓		
Community Development Library	✓		
Dhaka University Library	✓		
Jahangirnagar University Library	✓		
Bangladesh Univ. of Eng. & Technology		✓	
Rajshahi University Library	✓		
Chittagong University Library	✓		
Shahjalal University Library	✓		
Bangladesh Agricultural University Library	✓		
Khulna University Library		✓	
North South University Library	✓		
IPGMR Library	✓		
BIRDEM Library	✓		
National Health Lib. & Doc. Centre	✓		
ICDDR'B Library	✓		
AIC Library	✓		
BANSDOC Library	✓		
BIDS Library & Doc. Centre	✓		
CIRDAP Library		✓	
BAEC Library	✓		
BARD Library	✓		
FRI Library & Doc. Centre			✓
Total	21	3	1

To identify the future intention about the library networking and resource sharing, a question was asked to the librarians about the main areas in which their priority of interest exists. There were 5 scale options for ranking to access the important areas by the librarian. According to Figure 11, the highest priority areas are inter-library loan and 'document delivery service' (photocopy).



Source: Based on information in Annex Tables 17-21.

The second prioritised area is acquisition while circulation of the library materials was ranked as third. The librarians have given less attention to other services for networking.

The librarians were asked, if the library is to be designated as 'National Focal Point' of networking, what would be the preferred subject(s) to cover. The answers interestingly reflect the usual notion about the libraries that each of them are interested in their own specialized subject. Moreover, those who do not have access to the networking also want to be designated as 'National Focal Point' (see Table 24). Table 26 represent the specific areas asked by the libraries for National Focal Point.

Table 26: Distribution of libraries according to their specific option of networking as focal point

Library Name	Give and Take	Only Borrow	Only Lend	Photocopying	Inter-library Loan	Referral	Document Delivery	Document Supply	Document Transfer	Document Exchange
Central Public Library		✓								
The British Council Library		✓								
USIS Library		✓								
National Library of Bangladesh		✓								
Community Development Library			✓							
Dhaka University Library									✓	
Jahangirnagar University Library									✓	
Bangladesh Univ. of Eng. & Technology				✓						
Rajshahi University Library									✓	
Chittagong University Library									✓	
Shahjalal University Library									✓	
Bangladesh Agricultural University Library						✓				
Khulna University Library									✓	
North South University Library									✓	
IPGMR Library					✓					
BIRDEM Library								✓		
National Health Lib. & Doc. Centre					✓					
ICDDR'B Library							✓			
AIC Library						✓				
BANSDOC Library				✓						
BIDS Library & Doc. Centre			✓							
CIRDAP Library	✓									
BAEC Library										✓
BARD Library	✓									
FRI Library & Doc. Centre						✓				
Total	2	4	2	2	2	3	1	1	7	1

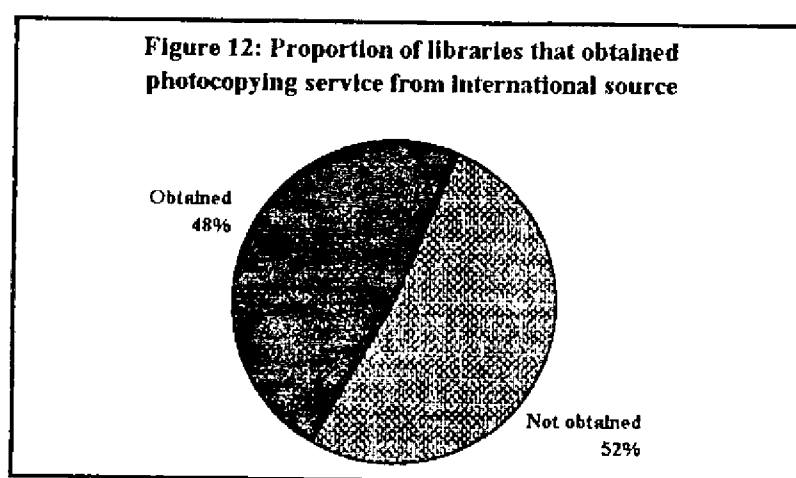
During 1995-96, the status of inter-library loan services shows that there were three libraries who borrowed from other libraries but did not lend out to other libraries. They are the British Council Library, BUET and Chittagong University Library. All others had a give-and-take relationship both for borrowing and photocopying services. The highest quantity was borrowed by the National Health Library and Documentation Centre followed by the AIC library of BARC. Besides, the highest number of items to be lent out were by the ICDDR'B library followed by the AIC library of BARC and National Health Library and Documentation Centre. The highest number of photocopying service was received by the AIC library of BARC, followed by

BANSDOC library. Besides, the highest number of photocopying services is provided by the ICDDR'B library followed by the British Council Library (Table 27).

Table 27: Distribution of libraries by their status of inter-library loan service during 1995-96

Name of Library	Status of inter-library loan service			
	No. of items borrowed from other libraries	No. of items lent to other libraries	Photocopies procured from other libraries	Photocopies provided to other libraries
Central Public Library	0	0	0	0
The British Council Library	50	0	100	50000
USIS Library	25	30	50	20
National Library of Bangladesh	150	200	0	0
Community Development Library	100	150	200	250
Dhaka University Library	0	0	0	0
Jahangirnagar University Library	0	0	0	0
Bangladesh Univ. of Eng. & Technology	112	0	900	950
Rajshahi University Library	0	0	0	0
Chittagong University Library	150	0	0	0
Shahjalal University Library	0	0	0	0
Bangladesh Agricultural University Library	0	0	0	0
Khulna University Library	0	0	0	0
North South University Library	50	45	300	500
IPGMR Library	0	0	0	0
BIRDEM Library	100	80	1000	200
National Health Lib. & Doc. Centre	2000	1000	1000	1000
ICDDR'B Library	200	1500	100	68000
AIC Library	1000	1200	2000	4000
BANSDOC Library	125	286	1418	8500
BIDS Library & Doc. Centre	100	150	300	900
CIRDAP Library	400	100	0	0
BAEC Library	0	0	0	0
BARD Library	0	0	0	0
FRI Library & Doc. Centre	12	4	265	560
Total	4574	4745	7633	134880

Not only were the local source(s) used for photocopying of materials but various international sources were also being used for this service. Out of the total libraries, forty-eight per cent obtained photocopying services from international sources (Figure 12). Most of the libraries receiving photocopy services are contacted with the BLDSC. The services provided by the other international libraries are : Library of Congress, National Library of Medicine and Regional Medical Institute, INSDOC and ICLARM (Annex Table 22).



There is no agreement or formal understanding by the libraries among themselves with the participating libraries for inter-library loan (Annex Table 23). However, some informal relationship is maintained for the sake of their own interest. Thus, in terms of agreement none of the library follows any standard practice in resource sharing. For example, the libraries lending material to other libraries usually did not maintain a fixed time period for returning the materials. *Table 28* shows that some libraries allowed one week, most of the libraries allowed 2 weeks and a few libraries allowed an infinite period for returning materials. The BARD library kept itself completely out of this process.

Table 28: Distribution of libraries according to their tolerance limit of lending out of materials

Name of Library	Tolerance Limit of Lending Out of Materials		
	One Day	Two Week	More than One Month
Central Public Library		✓	
The British Council Library		✓	
USIS Library	✓		
National Library of Bangladesh		✓	
Community Development Library		✓	
Dhaka University Library		✓	
Jahangirnagar University Library		✓	
Bangladesh Univ. of Eng. & Technology	✓		
Rajshahi University Library	✓		
Chittagong University Library	✓		
Shahjalal University Library			✓
Bangladesh Agricultural University Library	✓		
Khulna University Library			✓
North South University Library	✓		
IPGMR Library		✓	
BIRDEM Library	✓		
National Health Lib. & Doc. Centre		✓	
ICDDR'B Library	✓		
AIC Library		✓	
BANSDOC Library	✓		
BIDS Library & Doc. Centre			✓
CIRDAP Library		✓	
BAEC Library		✓	
BARD Library			
FRI Library & Doc. Centre		✓	
Total	9	12	3

Whenever a request for inter-lending service was received, most of them took at least one week to process the request. Only 3 out of 25 libraries have taken more than a week to process the lending request (*Table 29*). It is appreciable that most of the libraries take little time to process the request and it is mentionable that the informal relationship performs well among the libraries. The user of the library would not be

satisfied with the service if there is any delay considering the urgency of the materials. In fact, most of the users visit libraries when they feel the need of library materials and if no alternative exists, they request the librarian to collect the materials for them.

Table 29: Distribution of libraries according to the time taken to process inter-lending service

Name of Library	Time for processing with inter-lending request		
	Within 1 day	Over 1 day	Working time
Central Public Library	✓		
The British Council Library		✓	
USIS Library	✓		
National Library of Bangladesh	✓		
Community Development Library		✓	
Dhaka University Library			✓
Jahangirnagar University Library		✓	
Bangladesh Univ. of Eng. & Technology	✓		
Rajshahi University Library	✓		
Chittagong University Library	✓		
Shahjalal University Library		✓	
Bangladesh Agricultural University Library	✓		
Khulna University Library			✓
North South University Library	✓		
IPGMR Library		✓	
BIRDEM Library		✓	
National Health Lib. & Doc. Centre	✓		
ICDDR'B Library	✓		
AIC Library	✓		
BANSDOC Library	✓		
BIDS Library & Doc. Centre	✓		
CIRDAP Library	✓		
BAEC Library			✓
BARD Library			
FRI Library & Doc. Centre		✓	
Total	14	7	3

The libraries mentioned that most of the participating libraries took one week (excluding postal time) to respond to lending the materials (*Table 30*). Only 3 libraries, namely Chittagong University Library, Library of Khulna University and FRI library and documentation Centre took more than a week to respond.

Table 30: Distribution of libraries by their opinion about response time by the participating library

Participating Library	Time taken by the participating library		
	One week	Two weeks	Any other time
Central Public Library	✓		
The British Council Library	✓		
USIS Library	✓		
National Library of Bangladesh	✓		
Community Development Library	✓		
Dhaka University Library	✓		
Jahangirnagar University Library	✓		
Bangladesh Univ. of Eng. & Technology	✓		
Rajshahi University Library	✓		
Chittagong University Library		✓	
Shahjalal University Library	✓		
Bangladesh Agricultural University Library	✓		
Khulna University Library			✓
North South University Library	✓		
IPGMR Library	✓		
BIRDEM Library	✓		
National Health Lib. & Doc. Centre	✓		
ICDDR/B Library	✓		
AIC Library	✓		
BANSDOC Library	✓		
BIDS Library & Doc. Centre	✓		
CIRDAP Library	✓		
BAEC Library	✓		
BARD Library			
FRI Library & Doc. Centre		✓	
Total	21	2	1

The libraries mostly (80%) confirm over telephone about the availability of materials in the concerned library/centre. Some of them have used fax and other means for confirmation or answering the request. The Library of Khulna University mentioned consulting the Union Catalogue only (Table-31).

Table 31: Distribution of libraries by means of confirmation of availability of materials

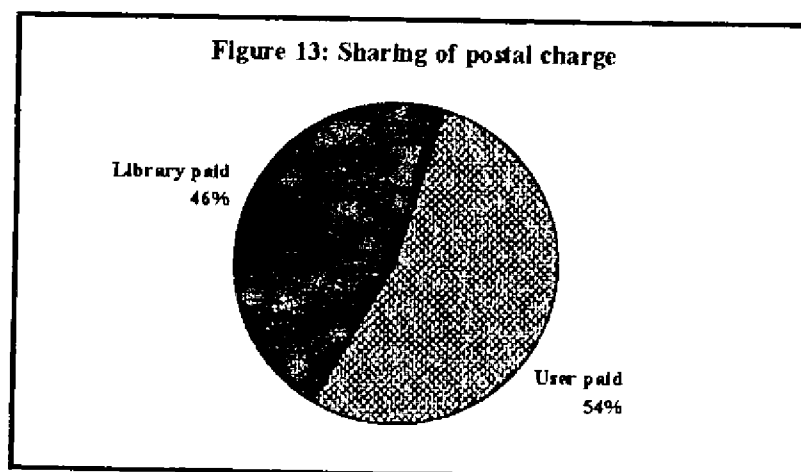
Name of Library	Means of confirmation			
	Union Catalogue	Phone	Through Fax	Other means
Central Public Library		✓		
The British Council Library		✓		
USIS Library		✓	✓	
National Library of Bangladesh		✓		
Community Development Library		✓	✓	
Dhaka University Library		✓		✓
Jahangirnagar University Library		✓		✓
Bangladesh Univ. of Eng. & Technology	✓	✓		
Rajshahi University Library		✓	✓	
Chittagong University Library				✓
Shahjalal University Library				✓
Bangladesh Agricultural University Library	✓	✓		
Khulna University Library	✓			
North South University Library		✓		
IPGMR Library		✓		
BIRDEM Library		✓	✓	
National Health Lib. & Doc. Centre	✓	✓		
ICDDR'B Library		✓		
AIC Library		✓		
BANSDOC Library	✓	✓		
BIDS Library & Doc. Centre		✓		
CIRDAP Library			✓	✓
BAEC Library		✓		
BARD Library				
FRI Library & Doc. Centre		✓		
Total	5	20	5	5

After obtaining the material from other libraries, most of the readers felt 'happy and satisfied' about the service they received from the librarian. Only two libraries, BUET and Khulna University mentioned that they are also 'almost satisfied' about the services they received (Table 32).

Table 32: Distribution of libraries by their opinion of readers' feeling

Library	Readers' feeling	
	Happy and satisfied	Almost satisfied
Central Public Library	✓	
The British Council Library	✓	
USIS Library	✓	
National Library of Bangladesh	✓	
Community Development Library	✓	
Dhaka University Library	✓	
Jahangirnagar University Library	✓	
Bangladesh Univ. of Eng. & Technology		✓
Rajshahi University Library	✓	
Chittagong University Library	✓	
Shahjalal University Library	✓	
Bangladesh Agricultural University Library	✓	
Khulna University Library		✓
North South University Library	✓	
IPGMR Library	✓	
BIRDEM Library	✓	
National Health Lib. & Doc. Centre	✓	
ICDDR'B Library	✓	
AIC Library	✓	
BANSDOC Library	✓	
BIDS Library & Doc. Centre	✓	
CIRDAP Library	✓	
BAEC Library	✓	
BARD Library		
FRI Library & Doc. Centre	✓	
Total	22	2

In the process of inter-lending services among the libraries the user themselves paid the postal charges in majority of the cases. Figure 13 show the share of postage charge paid by the library and the user.



The opinions of librarians about the bearing of postal charge for the lending services indicated that a majority favoured it to be borne by the user (76%). Besides, 4 librarian reported that it should be shared equally by the library and user ($\frac{1}{2} : \frac{1}{2}$). Only 2 librarians mentioned that postal concession is required for the user (*Table 33*). The justification of these opinion is not clear enough in the professionals' point of view, beacuse, there is a owernship of the materials. This situation may delay the process of collecting materials by the librarian and/or for the user. The support of this service needs to be formulated by the library itself to clear users' understanding about the library service and their capacity and capability. Also, there might be one/more institutional limitation(s) for this kind of service and that has to be made clear to the user for the sake of the reputation and the services of the libraries.

Table 33: Distribution of libraries by postal charge

Name of library	Postal charge borne by		Opinion about paying postal charge		
	Owner	User	Exclusively by the user	Built cost by the user	Concession is required
Central Public Library	✓			✓	
The British Council Library	✓		✓		
USIS Library	✓		✓		
National Library of Bangladesh		✓	✓		
Community Development Library		✓	✓		
Dhaka University Library	✓		✓		
Jahangirnagar University Library		✓	✓		
Bangladesh Univ. of Eng. & Technology	✓		✓		
Rajshahi University Library		✓	✓		
Chittagong University Library	✓				✓
Shahjalal University Library		✓		✓	
Bangladesh Agricultural University Library	✓		✓		
Khulna University Library	✓		✓		
North South University Library		✓	✓		
IPGMR Library	✓			✓	
BIRDEM Library		✓	✓		
National Health Lib. & Doc. Centre		✓	✓		
ICDDR'B Library		✓	✓		
AIC Library		✓	✓		
BANSDOC Library		✓			✓
BIDS Library & Doc. Centre		✓		✓	
CIRDAP Library		✓	✓		
BAEC Library	✓		✓		
BARD Library			✓		
FRI Library & Doc. Centre	✓		✓		
Total	11	13	19	4	2

Estimation of association between inter-library service

The interaction among libraries is essential for networking and resource sharing. It was expected that there might exist a relationship between inter-library services received and offered. In order to verify the existence of association between service received and

service offered, a Spearman's Rank Correlation Coefficient has been computed incorporating all the service ingredients (8 factors) into account.

The following formula has been used to estimate the Spearman Correlation Coefficient

$$r = \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

Where,

$$d_i = r_{1i} - r_{2i}$$

$$i = 1 \dots \dots \dots 8$$

d_i = yielding a difference between the rank (say $Y-X$).

n = number of cases (i).

The rank correlation has been formulated to handle the problems connected with order or ranks. The method of rank correlation deals with pairs of measurement (x_1, y_1) , (x_2, y_2) ,..... (x_n, y_n) and determine whether or not y measurements are correlated with x measurements. The r value for the coefficient of correlation ranges from zero with no correlation to +1 or -1 with perfect positive or negative correlation.

For the aforesaid problem, every ingredient such as inter-library loan, photocopy services, answer of reference queries, on-line/off-line search, translation, manpower, equipment and other, and average rank has been estimated for 25 respondents and the correlation coefficient has been estimated between two sets. This procedure calculates correlation coefficient between pairs of variables. A correlation coefficient measures the strength of the association between the two variables.

After analysing the mean rank values of 8 individual services, the computed coefficient has turned out to be .9327 which shows that there is high degree of association between service received and service offered in terms of all ingredients together. This result indicated at 1 per cent level of significance for all services. The following coefficient estimate shows for the individual service with 1 per cent level of significance.

Service	Coefficient
Inter-Library Loan	1.0000
Photocopy service	0.8261
Answer of reference queries	0.8496
On-line/Off-line search	1.0000
Translation service	1.0000
Manpower help	1.0000
Equipment assistance	1.0000
Any other service	0.6615
All service	0.9327

7. Problems of networking and resource sharing

7.1. Problems of networking

All the libraries mentioned the constraints of networking. A majority of the librarians (70%) mentioned that 'mechanical system failure may interrupt the functioning' and 72 per cent reported that 'it would increase workload' (Table 34). The other problems mentioned by the librarians are : The present budget may be further reduced under network system; maintenance cost of equipment may be difficult to bear; and some participation may be passive and may not be cost effective.

Table 34: Distribution of libraries according to their main constraints of networking

Name of Library	Main constraints of networking					
	Electricity	Human resources	Financial resources	Technical resources	Physical resources	Other
Central Public Library			✓	✓		✓
The British Council Library			✓	✓	✓	
USIS Library			✓	✓	✓	
National Library of Bangladesh			✓	✓	✓	
Community Development Library		✓		✓		✓
Dhaka University Library			✓	✓	✓	
Jahangirnagar University Library			✓		✓	✓
Bangladesh Univ. of Eng. & Technology		✓		✓		✓
Rajshahi University Library			✓		✓	✓
Chittagong University Library	✓	✓				✓
Shahjalal University Library		✓		✓		
Bangladesh Agricultural University			✓		✓	✓
Khulna University Library		✓		✓	✓	
North South University Library		✓	✓		✓	
IPGMR Library			✓	✓	✓	
BIRDEM Library			✓		✓	✓
National Health Lib. & Doc. Centre			✓		✓	✓
ICDDR'B Library		✓	✓		✓	
AIC Library		✓	✓		✓	
BANSDOC Library		✓	✓		✓	
BIDS Library & Doc. Centre	✓				✓	✓
CIRDAP Library			✓	✓		✓
BAEC Library				✓	✓	✓
BARD Library			✓	✓	✓	
FRI Library & Doc. Centre		✓	✓		✓	
Total	2	10	18	13	19	12

According to their sequential mentioning of the problem, the main problems seems to stem from managerial functions. For example, 'system failure' will happen if the libraries do not take proper care of their running system. About the 'increase workload': how will it happen if the library has enough skilled manpower? Thus, the above constraints are not very difficult to solve if the library possesses a good managerial environment.

7.2. Problems of transacting library materials

The libraries have some real problems for lending or transacting in/out materials. The librarians mentioned three problems, out of which, two are major problems faced by the libraries. Firstly, the lending or transacting materials asked by the readers during loan period which involved the problem of acquisition of multiple copies in the library. Secondly, the lending documents are not returned in due time which suggests the inefficiency of library operation by the management. Only two academic libraries mentioned the problem of physical conditions of documents generally deteriorating during the period of lending (*Table 35*).

The problems revealed the all-over bad experience of the librarians. The lent-out materials asked by the user during lending period is not the fault of the user requirement or the librarian. But libraries should satisfy their users by their attitude and cooperation. Moreover, if the libraries maintain networking system and make formal relationship with other libraries then the said problem would minimize. In case of materials being damaged, almost all the libraries in Bangladesh maintained the clause of punishment in terms of money or otherwise. However, library to library arrangement for controlling the damage to materials has not been formalized for operation because libraries themselves mentioned that they do not have any agreement for inter-library service system.

Table 35: Distribution of libraries by their problem for transacting materials with others

Name of Library	Problem for transacting materials with others		
	Documentation system not fully functional in time	Physical condition not satisfactory	Document supplied by the other organizations not satisfactory
Central Public Library	✓		✓
The British Council Library	✓		
USIS Library	✓		✓
National Library of Bangladesh	✓		✓
Community Development Library	✓		✓
Dhaka University Library	✓		✓
Jahangirnagar University Library	✓		✓
Bangladesh Univ. of Eng. & Technology		✓	✓
Rajshahi University Library	✓		✓
Chittagong University Library	✓		✓
Shahjalal University Library	✓		
Bangladesh Agricultural University Library	✓		✓
Khulna University Library		✓	✓
North South University Library	✓		✓
IPGMR Library	✓		✓
BIRDEM Library	✓		✓
National Health Lib. & Doc. Centre	✓		✓
ICDDR'B Library	✓		✓
AIC Library	✓		✓
BANSDOC Library	✓		✓
BIDS Library & Doc. Centre	✓		✓
CIRDAP Library	✓		✓
BAEC Library	✓		✓
BARD Library			
FRI Library & Doc. Centre	✓		✓
Total	21	2	22

8. Budget status for the 1995-96

It is observed that the overall annual budget of a library is not less than four million takas. This amount is assumed from the declared budget for books and preodicals among the libraries for a year, since the institutional and establishment cost of the

library could not be analysed in this study due to the limitation of information. Moreover, the CIRDAP library has declined to provide budget information on books and periodicals for this period. The estimated average cost of per library among the surveyed libraries is found to be taka about 3.7 million for books and periodicals for the year 1995-96 (Table 36).

Table 36: Annual budget of the library for books & preodicals and cost per user in 1995-96

Library Name	Annual Budget for Books & Periodicals (Taka)	Cost per user (Taka)	Cost per library (Taka)
Central Public Library	10000000	77.35	7.88
The British Council Library	4895000	148.33	15.64
USIS Library	800000	121.49	36.51
National Library of Bangladesh	2030000	7.96	108.09
Community Development Library	500000	24.63	8.41
Dhaka University Library	8000000	12.92	3.51
Jahangirnagar University Library	1298000	16.86	13.82
Bangladesh Univ. of Eng. & Technology	4624794	38.27	39.40
Rajshahi University Library	3800000	14.16	7.59
Chittagong University Library	9500000	52.90	27.67
Shahjalal University Library	1500000	141.67	31.95
Bangladesh Agricultural University	3250000	20.02	31.18
Khulna University Library	7000000	421.69	115.28
North South University Library	1200000	162.36	3.65
IPGMR Library	500000	22.42	2.90
BIRDEM Library	1250000	243.85	36.31
National Health Lib. & Doc. Centre	1400000	54.90	223.64
ICDDR'B Library	4992000	178.29	106.33
AIC Library	1000000	68.26	159.74
BANSDOC Library	4700000	276.34	333.69
BIDS Library & Doc. Centre	1000000	8.33	31.95
CIRDAP Library	na.	na.	na.
BAEC Library	4500000	160.71	479.23
BARD Library	235000	4.01	10.01
FRI Library & Doc. Centre	2500000	4346.11	702.88
Average for per library	3707283	275.99	105.72

According to the cost of individual library, an estimation has been done in relation with the overall turnover of the user in a particular library. The average per user cost is 106 taka per library for the year 1995-96. Estimation shows that there are eight institutions which will spend more than 100 taka per user while other sixteen

institutions/libraries will spend less than 50 taka. Out of these lowest sixteen, there are seven libraries which will not spend more than 10 takas per user. The FRI library and documentation centre has been found to have a high user cost (703 taka) on books and periodicals per annum, followed by BAEC and BANSDOC libraries.

A comparative analysis of the budget of books and periodicals with the number of users turnover within a year shows that the FRI library has the highest budget of Taka 11 million with 703 Taka per user whereas the central public library has a budget amount of taka 10 million with only taka 8 per user. This budget situation maintains a high gap considering the turnover of the user. Other libraries in Bangladesh also shows a similar situation. The overall result reveals a high turnover of the users having less amount of budgetary provision. This result also indicate that there is no standard budgetary system that can be applied to all the libraries in Bangladesh in relation with the users perspectives.

Considering the cost per books and preodicals : an unrealistic amount of Taka 4,346 is shown by the FRI library and documentation centre. On the other hand, very little amount (about Taka 4) was spent by the BARD library followed by the National Library of Banglaresh and BIDS library. There are nine other libraries that spent taka over hundred taka per book and preodical and rest of the libraries spent less than hundred takas for the same purpose.

9. Networking & resource sharing: User's Perspectives

The user level survey has been conducted to examine the present condition and future prospects of the libraries. The user level information also provided the extent and effectiveness of the libraries in regards to user perspectives. A total of 100 users were interviewed from the following 18 institutes/organizations :

01.CDL	=	Community Development Library
02.DU	=	Dhaka University Library
03 RU	=	Rajshahi University Library
04.BUET	=	Bangladesh University of Engineering & Technology
05.BCSIR	=	Bangladesh Council of Scientific and Industrial Research
06.BAEC	=	Bangladesh Atomic Energy Commission
07.BIDS	=	Bangladesh Institute of Development Studies
08.MOL	=	Ministry of Land
09.BARC	=	Bangladesh Agriculture Research Council
10.FRI	=	Fisheries Research Institute
11.DOF	=	Department of Fisheries
12.IPSA	=	Institute of Post-graduate Studies in Agriculture
13.BARI	=	Bangladesh Agricultural Research Institute
14.BAU	=	Bangladesh Agricultural University
15.IPGMR	=	Institute of Post-graduate Medicine and Research
16.BIRDEM	=	Bangladesh Institute of Research and Rehabilitation Diabetic and Endocrinology and Medicine metabolic
17.CMCH	=	Chittagong Medical College Hospital
18.NIPORT	=	National Institute of Population Research and Training

All the users were asked how frequently they visited the library, availability of services they received, whether they get help from the library personnel in order to collect materials/information and availability of national and international database in respect of the degree of usefulness. For further improvement of the library services, suggestions were also sought from the users.

9.1. Selected Characteristics of the user

Information on users characteristics were collected only for sex, category they belong to and their area of specialization. Out of total users surveyed, 73 per cent were male and the rest were female. Among the respondents interviewed, 15 per cent were students, 15 per cent scientists, 21 per cent researchers, 43 per cent teachers and 6 per cent administrators. The aim was to evaluate the status of networking and resource sharing among the libraries in Bangladesh. All the categories have been separated by two groups i.e. low and high, based on professional skills denoted by C_1 and C_2 . The low group consisted of 27 per cent and the high group 73 per cent (Table 37).

Table 37: Professional characteristics of the user by status

Category / User	Low status		High status		Total	
	n	Per cent	n	Per cent	n	Per cent
Student	3	20.0	12	80.0	15	15.0
Scientist	9	60.0	6	40.0	15	15.0
Researcher	12	57.1	9	42.9	21	21.0
Teacher	3	7.0	40	93.0	43	43.0
Administrative	-	-	6	100.0	6	6.0
All	27	27.0	73	73.0	100	100.0
Note for user status:						
Student:	C_1 = Postgraduate		C_2 = M.phil/P.h.d.			
Scientist:	C_1 = Junior		C_2 = Senior			
Researcher:	C_1 = Junior		C_2 = Senior			
Teacher:	C_1 = College		C_2 = University			
Administrative:	C_1 = Low level		C_2 = High level			

The maximum number of users were interviewed from the high group because of their better understanding about the library. Although different segment of the users differ in their opinion, the importance of information as expected would get preference in the modern world to the higher segment of the academic group, businessmen personnel

and researchers in Bangladesh. The following 29 areas of specializations were found among the users :

01. Rural Sociology
02. Economic Development
03. Community Development
04. Liberation Movement
05. Anthropology
06. Land distribution
07. Contemporary Marxism
08. Bio-Technology
09. Bio-chemistry
10. Nuclear Physics
11. Civil Engineering
12. Agricultural Engineering
13. Agricultural extension
14. Plant breeding
15. Plant Pathology
16. Fisheries management
17. Aqua culture
18. Shrimp culture
19. Medicine
20. Cardiology
21. Diabetic & Endocrinology
22. Nutrition
23. Population control
24. Trade
25. Advertizing
26. Information Science
27. Automated indexing
28. Computer information system
29. Socio-Economic information system.

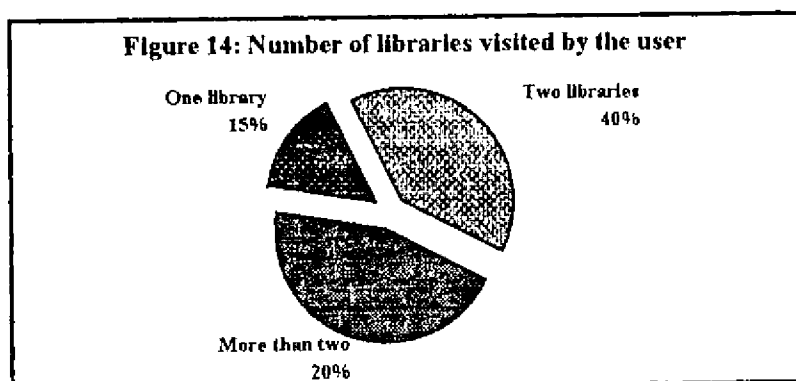
9.2. Status of the user's visit to the Library

The frequency of visit by the users in their parent (institutional) library and other than parent library was collected by 5 scale-points i.e. always, frequently, occasionally, rarely and never. Table 38 presents a visit matrix of the users according to their parent and other library. About 91 users always visited their parent library and among them 55 users frequently visited, while in 27 cases users visited the library occasionally.

Table 38: Visitation matrix of the user between parent and other library

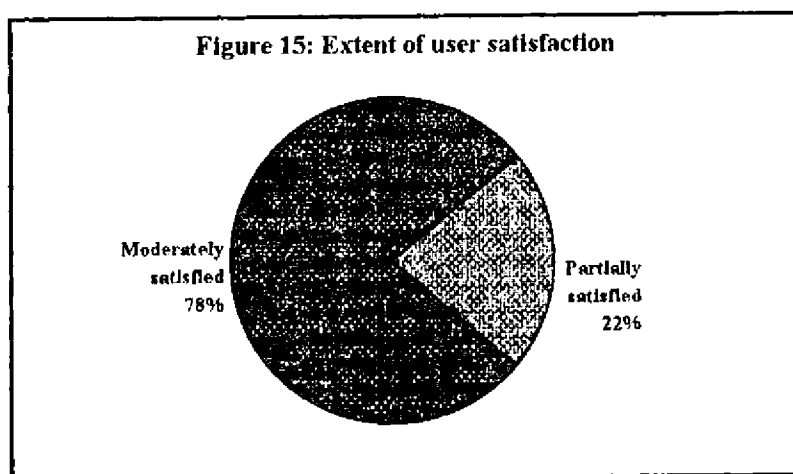
Number of user visited parent library	Number of user visited other library			Total
	Always	Frequently	Occasionally	
Always	9	55	27	91
Frequently	3	0	0	3
Occasionally	3	3	0	6
Total	15	58	27	100

On the other hand, only 91 per cent users reported that they always visited both their parent library and other libraries. Nine per cent respondents did not always visit their parent library but most of them always visited other libraries. It is interesting to observe that none of the libraries were fully equipped to satisfy their users. As a result, most of the users frequently visited other libraries for their information need. Another estimate shows that 15 per cent users visited only one library other than the parent library, 40 per cent visited two libraries and 45 per cent visited more than two libraries to fulfil their information needs (Figure 14).



9.3. Extent of user satisfaction

It is interesting that none of the users was completely satisfied from any library! Although there is no standard barometer for scientific measurement of human interest on satisfaction level, most of the libraries (78%) 'moderately' satisfied the need of the users. Only 22 per cent respondents said that they are partially satisfied in terms of their needs (Figure 15).



The users' responses indicated that they took six alternative measures when they did not get materials/information that they were looking for in the parent library. The responses have been cross-checked with their satisfaction levels. Most of the 'moderately satisfied' respondents said that they requested the librarian to cater to their

desired information/materials in favour of them. Over 46 per cent of the same group either visited other libraries or took assistance from the senior colleagues to satisfy their needs (*Table 39*). On the other hand, most of the 'partially satisfied' users reported that they took assistance from the senior colleagues (73%), went to other libraries (55%) and requested the librarian to get the desired information/materials (46%). Other three alternative ways of the users to fulfill their needs included contact international information centres, search substitute information/materials and leave the search. The response results demonstrate weakness of the existing library services in Bangladesh.

Table 39: Measures taken to meet the need by satisfaction level of the user

Measures taken to meet the need	Extent of satisfaction level					
	Not satisfied		Partially satisfied		Total	
	n	Col %	n	Col %	n	Col %
Gone to other libraries	36	46.2	12	54.5	48	48.0
Request librarian for collection	63	80.8	10	45.5	73	73.0
Take assistance from colleague	36	46.2	16	72.7	52	52.0
Contact other information centre	6	7.7	0	0	6	6.0
Search substitute information	15	19.2	3	13.6	18	18.0
Leave the search	0	0	3	13.6	3	3.0
All	78	78.0	22	22.0	100	

An indepth query on one of the alternatives—'request' the librarian to get the desired information/material—has been done to see the performance of the librarians. The result shows that about 84 per cent users got relevant information/material from the librarian for what they had asked for. Most of them however, did not get the information timely. The overall result depicted that about 73 per cent of the total respondents requested the librarian to do so. Among them only 16 per cent received their requested materials in due time, almost 80 per cent received too late and 4 per cent reported it is not cost-effective (*Table 40*).

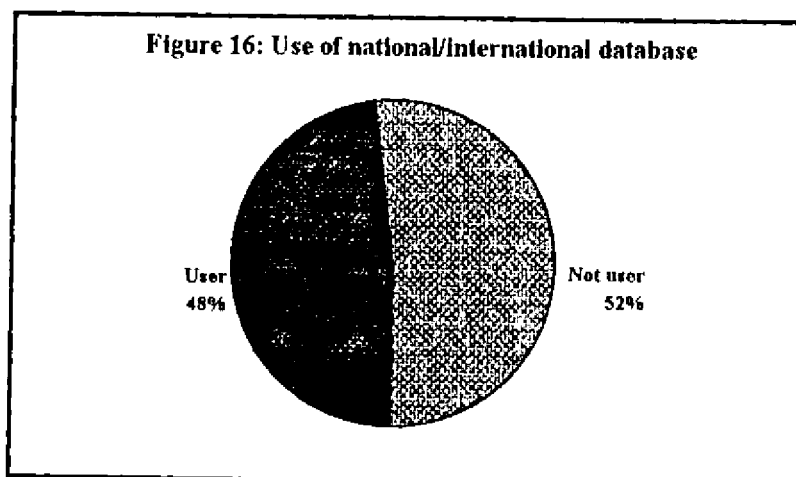
Table 40: User's responses about the request to the librarian for collection of materials

Appropriateness of collected materials	Status of service paid by librarian						Total	
	Timely received		Received too late		Service was expensive			
	n	Row %	n	Row %	n	Row %	n	Col %
	Relevant	12	19.7	46	75.4	3	4.9	61
Almost relevant	-	-	12	100.0	-	-	12	16.4
All	12	16.4	58	79.5	3	4.1	73	100.0

To recapitulate, the users satisfaction from both parent and other libraries was not highly appreciable. The situation reveals that the major libraries are not able to satisfy the users by their own resources. Therefore a very unsatisfactory situation is prevailing in the other minor libraries in Bangladesh also. The libraries themselves need further improvement according to their category of users in regards to collection and availability of materials and services. Modern library and information science management need to be introduced in the libraries for quickening their activities and easy-going procedures. This measure should be taken immediately for marking the existing poor information services with any international standard.

9.4. Availability of services and use of data base

The respondents were asked whether they used any national or international databases which are available in Bangladesh. Out of total respondents, 48 per cent replied that they use national/international databases (Figure 16).



Among the users of databases, most said that these are very useful for their purpose. None of the database users however reported that it is not useful. This is a good indicator of measuring the degree of usefulness and modern library facilities in Bangladesh. Altogether it is found that 13 databases are available in different libraries under survey. The major portion of users indicated as AGRIS, ICLARM, DEVINSA, MEDLINE and IDS are mostly used in the libraries (*Table-41*).

Table 41: Degree of usefulness of national and international databases

Name of national and international database	Degree of usefulness	
	Most useful	Useful
DEVINSA	6	12
IDS	3	12
CIRDAP	-	6
CAS	-	6
CABI	-	6
AGRIS	27	24
ICLARM	12	6
AIS	3	9
BIOSIS	9	9
MEDLINE	6	-
POPLINE	3	-
DEVLINE	6	-
DEVSIS	6	-
N=48	45	42

The frequency of availing library services from the parent and other libraries was determined by applying 4 qualities, such as, *frequently*, *sometimes*, *rarely* and *never* used by a scale ranging in between 9 services. The mean result of scale by individual service availed by the respondents is presented in *Table 42*. The information in the table shows that the lower the value, the higher is the frequency of use; and the higher and the value, the lower the use of the services. According to the mean value in the *Table 42*, the users frequently or sometimes borrowed books from the library followed by photocopying of articles from journals and book materials. All other services were availed 'rarely' or 'never' from the parent or other libraries.

Table 42 : Mean responses of the frequency of availing services

Service	Parent library	Other library
Borrowing of books	1.21	2.17
Inter-library loan	3.31	3.20
Photocopying Book materials	1.63	1.70
Photocopying articles from journals	1.45	1.51
Translations	3.94	3.85
CD-ROM search	3.40	3.19
On-line access	3.79	3.61
In-house database	3.40	2.98
Any other services	3.73	3.73

Moreover, the situation of availing services has been further analysed by setting cross tabulation as matrix method on the 4 scales for individual services. The result shows that 88 per cent users frequently borrowed books from the parent library and 24 per cent do same from outside libraries (*Table 43*). In case of inter-library loan, 36-39 and 49 per cent rarely and never availed services respectively from either of the libraries. About 73 per cent users frequently photocopied books from parent libraries and 55 per cent from other libraries. A similar trend is seen for the photocopying of articles from journals. The translation service was never received by 94 per cent of the users from both the sources. In case of CD-ROM service, 70 per cent of the users never availed from the parent library and 52 per cent said the same for the other library. The on-line service was never enjoyed by 70 per cent of the users from both the sources and only 9 per cent sometimes used this service from the parent library or other libraries. In case

of using in-house database, only 3 per cent users frequently used databases from both parent and other libraries. To avail any other services the users generally decline to accept services from the libraries.

Table 43: User matrix of availing parent and outside library services

Library Services		Frequency of Use				Total
		Frequently	Sometimes	Rarely	Never	
Borrowing books & others:	Frequently	24	39	9	16	88
	Sometimes	0	3	0	0	3
	Rarely	0	9	0	0	9
	Never	0	0	0	0	0
	Total	24	51	9	16	100
Inter-library loan	Frequently	6	0	0	0	6
	Sometimes	0	6	0	0	6
	Rarely	0	0	27	12	39
	Never	0	3	9	37	49
	Total	6	9	36	49	100
Photocopying books	Frequently	49	21	0	3	73
	Sometimes	0	3	0	0	3
	Rarely	6	3	3	0	12
	Never	0	0	0	12	12
	Total	55	27	3	15	100
Photocopying article	Frequently	58	18	0	0	76
	Sometimes	0	9	0	0	9
	Rarely	6	0	0	3	9
	Never	0	0	3	3	6
	Total	64	27	3	6	100
Translation service	Frequently	0	0	0	0	0
	Sometimes	0	3	0	0	3
	Rarely	0	0	0	0	0
	Never	3	0	0	94	97
	Total	3	3	0	94	100
CD-ROM service	Frequently	9	0	0	0	9
	Sometimes	0	3	3	6	12
	Rarely	0	0	9	0	9
	Never	0	12	12	46	70
	Total	9	15	24	52	100
On-line service	Frequently	0	0	0	0	0
	Sometimes	0	3	0	0	3
	Rarely	0	0	15	0	15
	Never	0	6	6	70	82
	Total	0	9	21	70	100
In-house database	Frequently	3	0	0	0	3
	Sometimes	0	18	3	3	24
	Rarely	0	0	3	0	3
	Never	6	15	3	46	70
	Total	9	33	9	49	100
Any other service	Frequently	0	0	0	0	0
	Sometimes	0	3	0	0	3
	Rarely	0	0	21	0	21
	Never	0	0	0	76	76
	Total	0	3	21	76	100

9.5. User's suggestions to improve library services

As library and information users, all the respondents were asked to give their suggestions for future improvement of the library services, keeping in mind the present status of the library service system. All the respondents have given only one response although this question was open-ended. Among the users, 57 per cent have given emphasis on establishing library networking and resource sharing system (Table 44). The second highest response was to install modern technological facilities in the library. The other suggestions made by the users were: professional skills and specialisation on subject of the librarian need to be developed; specialized library should be developed properly; library budget need to be increased for improvement of the library systems; libraries should be computerized immediately; professional and qualified library staff should be appointed; and a good environment need to be created in the library for better service.

Table 44: Suggestions of the users for improving library services

Suggestions of the users	Percentage (%)
Library networking and resource sharing system should be established	57
Specialized library should be developed properly	6
Skill development & professional efficiency of library personnel need improvement	9
Library must be computerized immediately	3
Library budget need to be increased to improve users' facilities	6
All modern technological facilities should be installed in the library	13
Professional and qualified library staff should be appointed	3
Readers friendly environment in the library should be maintained in the library	3
N	100

The overall results suggest that the existing Library and Information services are below the expectation level of users despite quite a good number of rich academic and specialized libraries in the country. However, as noted earlier, to improve the prevailing poor services, care should immediately be taken to provide efficient resource sharing systems among the libraries through better management and use of modern technological facilities.

CHAPTER-5

MODEL PLAN

CHAPTER-5 **MODEL PLAN****Introduction :**

Information is a prime resources for the socio-economic development. The library and information centres are the intitutions responsible to meet information needs of users. The proper performance of this function requires well organised library services supported by an infrastructure comprising administrative authority— sometimes in the form of legislation, an organisational structure and adequate finance. All these elements—finance, organisation, authority, accommodation and equipment, manpower and collection of documents may be regarded as library resources (Parker,1979:13).

As no library can be self sufficient with its resources, so it is almost difficult to fulfil the users demand relating to their information needs. "Resource Sharing" can play an important role in this age of information explosion. Resource sharing in the library field is aimed at extending the resources and services of the member libraries to a wider category of users, instead of remaining isolated units. "Whatever resources may be involved, a basic objective of all library resource sharing programmes must be to improve the ability of the participating libraries to perform their basic function of matching user needs and information sources." (Parker,1979:14).

A fundamental obstacle to the attainment of this objective in Bangladesh is the lack of resources. Library collections are inadequate in most of the libraries and even those whose collection is adequate, it remains under-used. Lack of qualified staff prevents the proper development, either of document collections or of user education programmes, and even where this is not a problem, librarians often have to struggle with inadequate finance, cumbersome organizational structures and a lack of basic legislative support. A lack of resources, far from encouraging sharing, often produces the opposite effect. Therefore, it is necessary to cooperate in improving existing library resources, either in quality, or quantity or both and it is important to establish the development of programmes for the shared use of available library resources. But the lack of authentic data on the present library situation of the country is one of the main obstacles to effective planning, whether of library development in general, or of resource sharing programmes in particular.

However, as it is clear from the findings of this study that the condition of the influencing libraries of the country regarding their resources and services is in its infancy, so an attempt has been made to propose an elementary model plan of library networking and resource sharing for the country.

Present Library Scenario:

Existing Libraries : The library movement in Bangladesh started during the middle of the last century, the inspiration being provided by the west. Establishing a library network and extension of its services to the people have been for long and still is a living issue of the country. But due to a lack of proper initiative by the government and the concerned authorities, the scenario of whole library and information system of the country is completely traditional. At present the country is having various types of libraries and information centres which include Public, National, Academic and

Special libraries. According to Khan (1996:1–2) "Over the last three decades, a good number of various types of libraries have been established in the country. As of today, Bangladesh has the following types of libraries :

- University Libraries - 22 of which 9 is government.
- University Institute Library - 11
- National Libraries and Documentation Centres - 3
- National Archives - 1
- Government Public Libraries - 4 divisional, 58 district and 4 branch libraries
- Non-government Public Libraries - over 500
- College Libraries - 1,031 (384 intermediate colleges, 605 degree colleges, 30 honours colleges and 16 University-Colleges) of these 223 are government colleges.
- Engineering College, Technical and Polytechnic Libraries - 22
- Medical and Dental College Libraries - 22
- Special Libraries - 665 (including health, agriculture, science and technology, research institutes in various fields, ministries, departmental, missions in Bangladesh and foreign etc.)
- High School Libraries - (there are at present 11,095 high schools and 2,750 junior high schools in the country) - very few of them have good libraries."

The following categories of people who require information and literature support :

- "—Rural literate people
- Students, fellows and teachers
- Policy-makers, Planners, and decision makers
- Researchers and Scientists
- Business and trade people." (Khan,1996:2)

But it is a fact that among the above mentioned libraries only few University and research organization libraries are fulfilling the criteria. Most are libraries in paper only.

Very recently, in view of the changing attitudes of information users in getting specific information, a number of libraries and information centres of the country have taken initiative to establish a proper system for providing desired information to their users.

Considering the usefulness to the users and existing facilities of the libraries with the objectives of this study 25 libraries and information centres from the various types have been surveyed.

Telecommunication Facilities :

The country has a network of an extensive telecommunication system which has connected the capital city with other places within the country and major cities of the world through two earth satellite ground stations. "Presently, the telecom infrastructure of the country is mostly a combination of analogue and digital transmission lines, analogue and digital switches, satellite exchanges and has also several large-scale Trunk-Automated exchanges which form the backbone of the Nation Wide Dialling."(BANSDOC,1996:44). By the early years of the next century the whole country is expected to use the digital technology. Untill very recently, the Bangladesh T & T Board was the sole authority in the telecom sector. However, portions of the telecom services have been licensed to the private sector, and a Telecommunications Regulatory Board has been established to take over the regulatory functions of the Bangladesh T & T Board. "The very low per capita telephone service (telephone density per capita is approximately 0.0032) is one of the major reasons for the delay in the introduction of data communication in Bangladesh. To access any information services by remote connection through a modem, it is imperative to have access to a

telephone line."(BANSDOC,1996:45). The telecom infrastructure of the country now avails with the significant help of the private sector, radio-trunking systems, cellular mobile, paging systems etc. within the next two years, advanced services for data transmission such as VSAT and for lower bandwidth applications X.25 are expected to be introduced. Responding the demand of the day, the Bangladesh T & T Board has recently decided to investigate offers for the Internet Services in cooperation or as a complementary service with the private sector (BANSDOC,1996:43–45).

In addition to the basic services mentioned above, the Bangladesh T & T Board very recently established a Packet Switched Data Network (PSDN) in the country. The main nodes of this network have been set up in Dhaka, Chittagong, Khulna, Rajshahi, Barisal, Sylhet, Mymensingh and Bogra of the country. Presently, subscribers from these areas will be able to exchange data at the rate of 1200 bps to 9600 bps through this network. It is expected that this service will be extended to other places of the country in near future. As a result of the introduction of PSDN service, different organizations of the country will get opportunity to exchange data at a very lower cost within the country and abroad. The available service of the data network is X.25 leased, X.28 leased and X.28 dialup (*The Daily Star*, September 16,1996:2).

Internet in Bangladesh :

Computer culture is catching up in the country. A few dynamic entrepreneurs specialised in computer and telecommunication have attempted to provide E-mail and internet services to the local users. With the aim to enter in the Global Village, Bangladesh T & T Board has given licenses to five organisations to install VSAT. Among these, at present four companies are providing on-line internet services. Among them, Information Services Network (ISN) and Grameen Cybernet Ltd. managed to lease their VSATs from BTTB while the other two—Agni and Kaifnet— have taken lines from ISN and Grameen Cybernet in order to provide internet services.

Information Services Network (ISN) started functioning from 4 June, 1996 while Grameen Cybernet started from 15 July, 1996. Grameen Cybernet likes to identify itself as the best service provider in Bangladesh. According to them they have the world's fastest DIGITAL ALPHA services and the best routers available in the market. They have also installed 32 dial up lines to ease a user's access to internet without waiting. An individual or an organization in Bangladesh having necessary equipment i.e. a computer, a modem, and a regular telephone line, is required to be a member of ISN or Grameen Cybernet Host computer by paying entry-fee of Taka 10,000.00 (ten thousand) and other charges (varies between the two hosts). The member will then be provided with an ID number and a 'password' with which he will be able to connect his computer with the internet through his host. Those who do not have computers of their own can also avail of the internet services by using these computer or at the host computers at a fee. Charges which may vary from place to place. Agni and Kaifnet are both providing on-line internet services and off-line e-mail services. Agni charges the same fees as ISN. Kaifnet has not started commercial operation as yet. There are eight off-line e-mail service providers in the country. Some of these are Pradesta, Drik-lay, Bdnet. However, Bangladesh has finally managed to get on the information highway. By this time several individuals and organizations have joined in the process.

Among the library and information centres of the country only Community Development Library (CDL) has joined in the internet so far and others like SAIC, DISC, BANSDOC, BUET library, DU library, North-South University (NSU) Library and the British Council Library planning to join very soon.

✓ Need for Networking of libraries for resource sharing is urgent and essential particularly in developing countries where library resources are inadequate. Inadequate resources are to be augmented by pooling these resources for mutual

sharing by majority of libraries and their users. However, there are certain pre-requisites which are essential before launching any network plan. Some of them are as bellow :

- Survey of resources which include collection, manpower, infrastructural facilities;
- Availability of essential tools required for networking;
- Policy and guidelines;
- Legal sanctions of the plan;
- Development of well defined information system;
- Financial provision;
- Suitability of types of network.

Resources of the important libraries :

(A) **Information Resources** : It is already mentioned that information is considered a major resource for any development activity. The essential pre-requisite of a successful research and study is the availability of appropriate information resources. In 1995 BANSDOC undertook a project for an analytical study of the National Science and Technology (S & T) Information Infrastructures and Services in the country with the financial support from UNESCO. The survey covered 102 scientific and technological institutions and organizations. Result of that survey (BANSDOC,1995) shows that the total number of books in the 102 S&T institutions and organizations libraries is about 13,54,026 volumes. However, no reliable statistics is available regarding their journal holdings in the country. A collection status compiled by BANSDOC is presented in Table-1 below. Reference collection is very important for inter-library lending and resource sharing on a national, regional and international basis. Other special collections in the form of manuscripts, technical reports, abstracts, dissertations, theses, maps, microfilms, microfiches, motion pictures, films, video tape and disks and archival materials available in 102 S & T libraries and information centres number about 1,38,574. According to the findings of the present study almost 32 per cent of the libraries have owned more than hundred thousand

books and periodicals. The highest number of books and journals is owned by the library of Dhaka University. A rich collection of Audio-visual materials is found in the BIDS library and Agricultural Information Centre of BARC. Among the academic libraries, 70 per cent possess more than twenty thousand books. On the other hand, 80 per cent of the special libraries and 60 percent of the other libraries have less than twenty thousand books. The academic libraries are very poor in their collection of audio-visual materials. All the academic libraries subscribe to inland and foreign journals, whereas, 20 percent of the special libraries and 40 percent of the other libraries did not subscribe to journals. The academic and special libraries are poor subscribers of inland journals compared to their status of foreign journals subscription. Regarding the human resources, the information show that about 79 per cent of total manpower are non-professional among the surveyed libraries. Only a few special libraries have employed a small number of non-professionals. It is observed that the overall adequacy of professional manpower is not appreciable among the surveyed libraries.

The estimated average cost of per library among the surveyed libraries is found to be Taka 3.7 million for books and periodicals for the year 1995-96. The average per user cost is Taka 106.00 per library for the year 1995-96. Estimation shows that there is eight institutions who will expense more than Taka 100.00 per user while other sixteen institutions/libraries who will spend less than Taka 50.00. Out of these lowest sixteen there are seven libraries who will not spend more than Taka 10.00 per user. The FRI library and documentation centre has been found to be very high interest of per user cost (Taka 703.00) on books and periodicals per annum followed by BAEC and BANSDOC library.

The following tables show the status of collection, manpower and budget of various libraries/information centres discipline-wise. (Source : BANSDOC Study, 1996 and present survey)

Table 1
Name of the Libraries with their Resources
 (B=Books; P=Periodicals; P&D=Periodicals and other documents;
 CP=Current Periodicals; NA=Not available)

AGRICULTURE

Sl.No.	Name	Prof.Staff	Taka in lakh	
			1994-95 Budget for Books & Periodicals	Collection
01	Agriculture Information Centre, Dhaka	17	30.00	B-13,000 P-1,850 CP-100
02	Bangladesh Agricultural Institute Library, Dhaka	05	0.85	B-27,000 P-250 CP-5
03	Bangladesh Agricultural University Library, Mymensingh	16	25.00	B-1,28,908 P-33,448 CP-440
04	Bangladesh Agricultural Development Corporation Library, Dhaka	04	0.40	B-25,000 P-44 CP-NA
05	Bangladesh Agricultural Research Institute Library, Gazipur	04	06.00	B-14,000 P-163 CP-113
06	Bangladesh Forest Academy Library, Dhaka	02	0.52	B-1,650 P-NA CP-NA
07	Bangladesh Forest Research Institute, Chittagong	03	0.16	B-6,000 P-500 CP-5
08	Bangladesh Institute of Nuclear Agriculture, Mymensingh	01	03.00	B-NA P-NA CP-NA
09	Bangladesh Jute Research Institute Library, Dhaka	02	01.40	B-5000 P-2500 CP-7

(Contd. Table 1)

Taka in lakh

Sl.No.	Name	Prof.Staff	1994-95 Budget for Books & Periodicals	Collection
10	Bangladesh Livestock Research Institute Library, Savar, Dhaka	06	12.00	B-2557 P-211 CP-64
11	Bangladesh Rice Research Institute Library, Gazipur	04	22.65	B-550 P-250 CP-100
12	Bangladesh Tea Research Institute Library, Srimangal, Maulvibazar	02	15.30	B-3558 P-152 CP-NA
13	Fisheries Research Institute Library, Mymensingh	01	25.00	B-2500 P-93 CP-26
14	Institute of Postgraduate Studies in Agriculture Library, Gazipur	04	11.00	B-8900 P-212 CP-35
15	SAARC Agricultural Information Centre (SAIC), Dhaka	18	11.51	B-219 P-285 CP-22
16	Soil Resources Development Institute Library, Dhaka	01	10.50	B-3306 P-NA CP-NA
17	Bangladesh Sugarcane Research and Institute Library, Pabna	03	02.10	B-3180 P-85 CP-30
18	Bangladesh Sericulture Research and Training Institute Library, Rajshahi	02	00.95	B-2800 P-12 CP-7

Table 1.1

HEALTH & POPULATION

Taka in lakh

Sl.No.	Name	Prof.Staff	1994-95 Budget for Books & Periodicals	Collection
01	Bangladesh College of Physicians and Surgeons Library, Dhaka	02	10.00	B-2,934 P-451 CP-109
02	Bangladesh Institute of Child Health, Dhaka	03	02.50	B-2,000 P-350 CP-10
03	BIRDEM Library, Dhaka	05	15.00	B-4,719 P-126 CP-58
04	Dissemination and Information Service Centre, ICDDR'B, Dhaka	08	\$137.294	B-27,000 P&D-12,000 CP-415
05	Institute of Diseases of the Chest Hospital Library, Dhaka	04	01.00	B-1400 P-50 CP-NA
06	Institute of Post Graduate Medicine and Research (IPGMR) Library, Dhaka	05	10.00	B-20,000 P-300 CP-42
07	Institute of Public Health & Nutrition Library, Dhaka	04	00.50	B-700 P-55 CP-NA
08	National Health Library & Documentation Centre NHL,DC, Dhaka	05	21.00	B-19,000 P-10,000 CP-168
09	National Institute of Cardiovascular Diseases and Hospital Library, Dhaka	01	0.88	B-3000 P-20 CP-NA
10	National Institute of Ophthalmology Library, Dhaka	01	0.50	B-1000 P-120 CP-NA
12	National Institute of Population Research and Training (NIPORT) Library, Dhaka	03	02.55	B-4500 P-150 CP-12
13	National Institute of Preventive and Social Medicine (NIPSOM) Library, Dhaka	05	05.50	B-6000 P-200 CP-39

The country has also a number of Medical College libraries at Dhaka, Sylhet, Chittagong, Rajshahi, Khulna, Faridpur, Dinajpur, Rangpur, Comilla, Mymensingh, Barisal, Bogra and Nuclear Medicine Centre Libraries at a few places in the country.

Table 1.2

SCIENCE & TECHNOLOGY

Sl.No.	Name	Prof.Staff	Taka in lakh	
			1994-95 Budget for Books & Periodicals	Collection
01	Bangladesh Atomic Energy Centre Library, Dhaka	05	30.00	B-12,234 P-457 CP-100
02	BANSDOC Library, Dhaka	06	50.00	B-15,000 P-2,303 CP-125
03	Bangladesh Council of Scientific and Industrial Research (BCSIR) Library, Dhaka	06	47.00	B-12800 P-350 CP-90
04	Bangladesh Space Research and Remote Sensing Organisation (SPARRSO) Library, Dhaka	04	01.20	B-5526 P-76 CP-10
05	Geological Survey of Bangladesh Library, Dhaka	06	04.00	B-6940 P-97 CP-13
06	Housing and Building Research Institute Library, Dhaka	04	00.75	B-4814 P-98 CP-22
07	Bangladesh Petroleum Institute Library, Dhaka	03	02.50	B-2617 P-70 CP-10
08	Bangladesh University of Engineering & Technology (BUET) Library, Dhaka	18	42.97	B-120,000 P-10,706 CP-198

Table 1.3

SOCIAL SCIENCE AND RURAL DEVELOPMENT

Sl.No.	Name	Prof.Staff	Taka in lakh	Collection
			1994-95 Budget for Books & Periodicals	
01	Bangladesh Institute of Development Studies (BIDS) Library, Dhaka	08	08.30	B-100000 P-20,000 CP-84
02	CIRDAP Library, Dhaka	02	NA	B-16461 P-400 CP-50
03	Institute of Statistical Research and Training Library (ISRT), Dhaka	05	01.17	B-5,000 P-3000 CP-34
04	BARD Library, Comilla	02	03.00	B-55000 P-3600 CP-39
05	ERD Documentation Centre, Dhaka	02	Gift & Exchange	B-1,000 P&D-23,900 CP-10
06	BISS Library, Dhaka	05	4.00+ Gift & Exchange	B-12,000 P&D-5,000 CP-160
07	BPATC Library, Savar, Dhaka	07	05.50	B-75000 P-5000 CP-200
08	NILG Library, Dhaka	02	01.00	B-12,000 P&D-10,000 CP-10
09	Community Development Library, Dhaka	04	15.00	B-20000 P-2000 CP-100
10	BRAC Library, Dhaka	01	02.00+ Gift & Exchange	B-6,000 P&D-5,000 CP-52

Table 1.4
UNIVERSITIES

Sl.No.	Name	Prof.Staff	Taka in lakh	
			1994-95 Budget for Books & Periodicals	Collection
01	Dhaka University Library, Dhaka	50	80.00	B-55,0000 P-69,000 CP-339
02	Jahangirnagar University Library, Savar, Dhaka	17	25.00	B-70000 P-7000 CP-172
03	Chittagong University Library, Chittagong	15	34.00	B-166000 P-14000 CP-585
04	Rajshahi University Library, Rajshahi	20	38.00	B-234000 P-35000 CP-205
05	Shahjalal University of Science & Technology Library, Sylhet	04	15.00	B-10300 P-288 CP-20
06	Khulna University Library, Khulna	06	18.00	B-16000 P-600 CP-38
07	North-South University Library, Dhaka	03	12.00	B-8000 P-500 CP-63

(B) **Advanced communication facilities** : Among the new technologies, computers, CD-ROMs, and E-mail have immense contributions in the field of communication. The status of computerization in libraries and information centres of the country is not satisfactory. A few libraries and information centres are using computer mainly for word processing work and partially for information storage and retrieval. The CD-ROM facilities are available only in a few libraries. Only six libraries have e-mail facilities and only one library is connected in the internet upto this

survey time in the country. Most of the libraries are using micro CDS/ISIS software. The DISC and AIC are the pioneers in creating bibliographic databases using the CDS/ISIS and Inmagic software. According to this study the survey result indicated that out of 25 libraries, only 16 per cent are using telex, 36 per cent using E-mail, 44 per cent using Fax and cent per cent are using telephone for communication. Among these libraries, Community Development Library, BANSDOC Library and DISC of ICDDR'B are using all types of communication facilities. It is observed that most of the academic libraries are very poor in the use of tele and electronic media. Regarding the Computer facilities, 80 per cent of the surveyed libraries have used computer and among these 30 per cent have possessed only one computer. The highest number (22) of computers are possessed by BANSDOC followed by the British Council Library, DISC of ICDDR'B and AIC of BARC. Most of the academic libraries either have a small number of computers or do not have any computer at all. Those libraries having computers are mostly using CDS/ISIS library database software with other software packages. Regarding the computer manpower 72 per cent of the libraries have profession computer manpower and 28 per cent libraries do not have any computer manpower. About 94 per cent of the computer manpower do not have any degrees in the particular field but have training to run the routine functions.

The technological facilities including computers with software, CD-ROM, Fax, Photocopies, Telephone and Internet available in the major special and academic libraries are presented in Table 2.

Table-2
ADVANCED COMMUNICATION FACILITIES

Sl. No	Name of the Library and information centre	Computer facilities with software and available databases	CD-ROM	FAX	E-mail/Internet	Photocopy machine
01	Agricultural Information Centre (AIC)	CDS/ISIS, Inmagic — 2 databases	√	-	-	√
02	Bangladesh Agricultural University Library	CDS/ISIS, Inmagic — 2 databases	√	-	-	√
03	Bangladesh Agricultural Research Institute Library	W. P. 5.1	-	-	-	-
04	Bangladesh Atomic Energy Commission Library	CDS/ISIS — 1 database	-	-	-	√
05	Bangladesh International Institute of Strategic Studies Library	CDS/ISIS — 1 database	-	-	-	√
06	BIRDEM Library	CDS/ISIS — 1 database	√	-	-	√
07	BANSDOC Library	CDS/ISIS — 4 database	-	√	√ e-mail	√
08	CIRDAP Library	CDS/ISIS — 3 database	-	-	-	√
09	BPATC Library	CDS/ISIS — 2 database				
10	Community Development Library (CDL)	CDS/ISIS — 2 database	√	√	√ both	√
11	Dhaka University Library	CDS/ISIS — 1 database	-	-	√	√
12	BUET Library	CDS/ISIS — 1 database	√	-	-	√
13	DISC, ICDDR'B	CDS/ISIS — 6 database	√	√	√ e-mail	√
14	IPSA Library	CDS/ISIS — 1 database	-	-	-	√
15	BADC Library	W. P. 5.1	-	-	-	√
16	ERDOC	CDS/ISIS — 1 database	-	-	-	√
17	NSU Library	CDS/ISIS — 1 database	√	√	√ e-mail	√
18	BIDS Library and Documentation Centre	CDS/ISIS — 6 database	√	-	√ e-mail	√
19	NHLDC	CDS/ISIS — 1 database	√	-	-	√

(Table Contd.)

Sl. No	Name of the Library and information centre	Computer facilities with software and available databases	CD-ROM	FAX	E-mail/Internet	Photocopy machine
20	NIPORT Library	CDS/ISIS — 2 database	√	-	-	-
21	National Institute of Local Government Library	CDS/ISIS — 1 database	-	-	-	√
22	BRAC Library	CDS/ISIS — 1 database	√	√	-	√
23	FRILDOC	W.P. 5.1	-	-	-	√
24	Geological Survey of Bangladesh Library	W.P. 5.1	-	-	-	√
25	Jahangirnagar University Library	CDS/ISIS — 1 database	-	-	-	√
26	Rajshahi University Library	CDS/ISIS — 1 database	√	-	-	√
27	Khulna University Library	CDS/ISIS — 1 database	√	-	-	√
28	Chittagong University Library	W. P. 5.1	√	-	-	√
29	Shahjalal University of Science and Technology Library	W.P. 5.1	-	-	-	√
30	Bangladesh Forest Research Institute	CDS/ISIS	-	-	-	√
31	SAARC Agricultural Information Centre (SAIC)	CDS/ISIS	√	√	√	√

Source : *BANSDOC Study, 1996 and Present Survey*

Status of computerized files/databases in the library and information centres in Bangladesh :

The organizational and institutional libraries of Bangladesh that have computerized their information upto April, 1996 mostly use the micro CDS/ISIS software are listed below with number of records approximately :

<u>Name of the library/information centre</u>	<u>Number of records</u>
AIC	13,540
BANSDOC	4,2,12
BFRI	20,000
BIDS	20,000
BIRDEM	524
BTRI	3,558
BUET	5,000
ICDDR'B	7,500

Source : *BANSDOC*, 1996:24

✓Regarding the CD-ROM facilities, it is observed that about 28 libraries of the country have CD-ROM facilities and offer services from the CD-ROM databases. It should be mentioned here that ICDDR'B with the help of some Asian organizations have been participating in a CD-ROM project, called AHEAD (Asian Health Environmental and Allied Databases). These organisations have been contributing their databases to produce the Asian CD. The AHEAD CD-ROM databases include information on periodicals articles, monographs, reference books etc. However, with the financial assistance from IDRC Canada, it is the first attempt to produce CD from Asia. Regarding the computer facilities in the libraries of the country it is observed that about 50 library and information centres of the country have either created or in the process of creating databases by using the personal computer. However, a few more libraries are also planning to install computer and CD-ROM in the near future (*BANSDOC*,1996:30–32).

✓**Availability of essential tools required for networking and resource sharing in the country :**

For national, regional and international networking and resource sharing, the availability of tools like directories, bibliographies, union catalogues, indexes and abstracts, databases etc. are most essential. But no authentic information in this regard

are available in the country. However, it is observed that the country has compiled or is in the process of compiling some essential tools required for networking and resource sharing. An exhaustive survey is required to have authentic data on it. However, some information in this regard has been collected from different sources (BANSDOC,1996 and present survey) and a brief description of this are furnished below :

Agriculture and allied disciplines :

- Directory of Agricultural Institutions in the SAARC Region (SAIC)
- Directory of Agricultural Periodicals in the SAARC Region (SAIC)
- Directory of Agricultural Scientists and Technologists in the SAARC Countries (SAIC)
- Database on women in Agriculture (SAIC)
- Database on Agroforestry (SAIC)
- Database on Potatoes (SAIC)
- Database on Fish Disease (SAIC)
- Directory of Agricultural Implements used in SAARC countries(SAIC)
- Database on Post-harvest Technology (SAIC)
- Database on Bio-technology (AIC)
- Database on CD-ROM (SAIC)
- AGRINDEX (AGRIS) (AIC)
- NAIS database (AIC)

Science and Technology :

- Directory of Scientists and Technologists of Bangladesh (BANSDOC)
- Directory of Scientists and Technologists of Bangladesh living abroad (BANSDOC)
- Bangladesh Science and Technology Abstract (BANSDOC)
- Current Scientific and Technological Research Projects of Bangladesh (BANSDOC)

- Survey of Research and Development Activities of Bangladesh (BANSDOC)
- Science and Technology Information Newsletter for CAS Service (BANSDOC)
- National Catalogue of Scientific and Technological Periodicals of Bangladesh (BANSDOC)

Social Sciences :

- Directory of Social Science Research Organisations in Bangladesh (SSRC)
- Annotated Bibliography on Social Science Research Work in Bangladesh (SSRC)
- Directory of Social Science Publications in Bangladesh (under compilation by Social Science Research Council-SSRC)
- South Asian Review and Abstracts (DAVINS) [BIDS]

Medical Sciences :

- Index Bio-Medicus (NHLDC)
- Index Medicus for WHO—South-East Asia Region (NHLDC)
- Bibliography on Diarrhoeal Diseases (ICDDR'B)

The country still does not have any complete Union Catalogue, except a few, such as Union Catalogues on Medical and Agricultural Fields.

The study reveals that only the University Grants Commission of Bangladesh, in collaboration with the Asia Foundation, took an initiative to compile a Union Catalogue of the collections of different Universities of Bangladesh a few years back, but the project did not materialize.

Summary of the existing networking and resource sharing activities in Bangladesh :

As the concept of information networking and resource sharing is a new phenomenon in the country, it is observed that the process is apparently rooted more on a theoretical basis than on the practical considerations. It is also observed that the concept has not been formalized by any legal support, and as a result, the country has not yet been able to implement fully this concept (BANSDOC,1996:35)

However, according to BANSDOC (1996:36–38), some efforts and initiatives were taken by different organizations in different sectors to initiate cooperation in the field. Some of the attempts taken or are being taken are given below:

National

- An informal inter-library loan system was operational in the country even before 1971.
- The former National Agricultural Library and Documentation Centre (NALDOC) of BARC took an initiative to establish its network 'BAIN' but could not be materialized.
- In 1976 the ICDDR'B and NHL-DC signed an agreement to facilitate library cooperation through inter-library loan system. Subsequently BIDS (1977), BIRDEM (1978), USAID, Dhaka (1992), Aga Khan Community Health Programme, Dhaka (1992) and the BRAC (1995) joined this programme.
- The NHL-DC and ICDDR'B and BIDS has been successfully operating a cooperative programme for avoiding duplication in journal subscriptions.
- The Agricultural Information Centre (AIC) has taken an initiative to launch a network of agricultural institutions (NAIS). Of the 36 agricultural organizations and institutions, 11 have been participating in this programme.

- The Social Science Research Council (SSRC) has taken an initiative to organize a Social Science Information Network in Bangladesh. 43 organizations and institutions involved in social science research have been brought under this network. The network has been functioning as a national focal point for APINESS.
- The CIRDAP has taken steps to develop a regional network on rural development known as *Information Network on Rural Development* (INRD) and a network on women information known as *Women Information Network* (WIN).
- The BARD, Comilla developed a network of rural development institutions in Bangladesh termed as *the Bangladesh Development Support Information and Communication (BDSIC) Network*.
- The National Institute of Population Research and Training (NIPORT) has established an information network in the field of health, family planning, MCH and Population.
- The Dhaka University Library also attempted to develop an information network of university libraries initially by preparing a union catalogue of the holdings of the university libraries. But unfortunately the project did not materialized.
- The BANSDOC worked towards formulation of a National Science and Technology Information Policy (NASTIP) and the policy is awaiting for government approval. Under this policy, a four tier science and technology information networking system has been recommended. The BANSDOC also has now been implementing a project *Automation and Networking of Science and Technology Libraries in Bangladesh* in three phases. The Network has been named as *Bangladesh National Scientific and Library Information Network* (BANSLINK).
- The Community Development Library (CDL) is also on its way to organize its Rural Information Network (RIRC).

International

- The NHL-DC as the national focal point is participating with HELLIS network organized by WHO-SEARCO.
- The BIDS Library and Documentation Centre is the national focal point for DEVINSA network organized by CSCD through the Marga Institute in Sri Lanka (The project period was over in 1995 and awaiting for renewal). The BIDS-LDC has also been maintaining a *Development Science Correspondents Network*.

- The Institute of Business Administration (IBA) Library, Dhaka University has been selected as national focal point for the Association of Management Development Institutions in South Asia Library Network for Resource Sharing (AMDISA Library Network).
- The Community Development Library has been selected for the network called *South-South Exchange* and *TVE*.

A proposal for Bangladesh Academic and Special Library Network (BASLIBNET)

In view of this background of the libraries and information services network available in Bangladesh, an attempt has been made to propose a suitable plan of networking for resource sharing among the special and University libraries in Bangladesh. It should be mentioned here that as the existing conditions of National and Public libraries of the country are not much encouraging, no steps have been taken so far towards this direction under public library system, hence, these are not included in the proposed network.

Why Bangladesh Academic and Special Library Network (BASLIBNET) :

Library networking in Bangladesh become a necessity for the following reasons :

- Due to an exceptional information growth it is impossible for any library to procure the full range of library resources.
- Due to increasing cost of information material and low level of library financial support that makes it most difficult for an individual library to provide better service based solely on its own collection.
- Technological advancements in the world for information transfer.
- Increasing emphasis for avoiding unnecessary duplication of information resources, etc.

Objectives of the BASLIBNET :

The primary objectives of any national network should be to provide access to all types of information resources for all persons in all locations within the country. In the beginning of the network, effort should be made to provide access to such a information which has extensive use by a maximum number of users. Since it is not possible to bring all national resources under the network, so the beginning has to be done to coordinate and disseminate need based information.

However, reviewing the relevant literature (Agarwal,1986:57; Khan,1993:58; BANSDOC,1996:34; UNESCO,1985:50–51) the following objectives have been selected for the proposed network:

- to provide collection development and to increase resources of the network members;
- to achieve an effective bibliographic control of library materials for promotion of the flow, exchange and use of relevant information;
- to ensure better and rapid access to information resources and to ensure maximization of their use by the network members;
- to avoid unnecessary duplication both in acquisition and processing of library materials;
- to provide and avail technological facilities for all house keeping functions and user services;
- to provide access to composite databases;
- to provide efficient means of inter-library services, document reproduction and transfer facilities;
- to provide also access to national and international databases; and
- to stimulate, promote and upgrade the skills and competence of library staff and network members in various information handling by arranging research and training programmes.

The expected benefits of the network will be as follows :

- All round costs of the network participants may be reduced;
- Possibility to avoid unnecessary duplication of information materials and efforts;
- Maximum use of library holdings;
- Possibility of developing specialized collections for network participants;
- Maximum accessibility to information;
- Improvement of the quality of databases by limited resources;
- Improved user service without much cost.

Major functions and activities of the proposed network :

Considering the existing library and information system of the country and reviewing the relevant literature (UNESCO,1985:69–79; Chandel and Saraf, 1986:177–83; Atherton,1977:112–14) the following functions and activities have been selected for the proposed network:

**General
Functions**

- Cooperative acquisition of books, current periodicals, theses, standards, patents, translations and photocopies and other audio-visual and non-book materials.
- Assignment of specialization in material acquisition.
- Coordinated subscription.
- Exchange of duplicate holdings.
- Identification of core subjects in the discipline.

Technical functions

- Cooperative processing (cataloguing & classification).
- Distribution of catalogue cards on demand.
- Preparation of Union Catalogue of the resources/List of periodicals.
- Inter-library loan.
- Reciprocal borrowing privileges/membership.
- Reference and/or referral service.
- Abstracting and Indexing services.
- Subject bibliographical services (bibliography development)

Publication Programme, Information Repacking functions

- Preparation of list of new arrivals on accessions and their exchange.
- Preparation of newsletters.
- Preparation of directories/manuals and other reference sources as joint ventures.
- Identification of translation centre, panel of translators for translation service.
- Photocopying/Reprographic service

Coordination services

- Clearing House functions.
- Storage and retrieval functions
- Delivery or Mailing services

Research, Training and other special function	—User interest surveys —Joint research Projects. —In-service personnel training. —Workshops and Meetings. —Marketing of network services. —Feed-back between the producer and users of information.
Other functions	—Undertake surveys for resources, infrastructural facilities and services of the network. —Creation of data bank/data bases. —Creation of facilities for the use of tools and techniques of information handling. —User orientation. —Keep liason with other national, regional and international networks for cooperation and exchange of information.

Expected barriers for BASLIBNET :

The major barriers which may have to be faced by proposed BASLIBNET are as follows :

- Legal sanctions by the concerned authority
- Adequate financial support.
- Absence of national Libraries and information policy and system in all field.
- Skilled, trained professional personnel.
- Non-availability of union catalogues and absence of proper bibliographic control of information.
- Absence of appropriate library standards.
- Technological facilities.

- Appropriate leadership with proper knowledge.
- Psychological/Local autonomy and Institutional differences.
- Proper communication facilities.

Proposed configuration/Topology :

As discussed in the earlier chapter, the types of academic and special library and information system in Bangladesh constitute five sectors i.e., *Agriculture and allied discipline, Health and Population, Social Science and Rural Development, Science & Technology, Universities*. So an attempt has been made to coordinate and propose for sectoral network on the basis of subject specialization.

After considering the advantages and disadvantages of the different types of network and also keeping in view the operational technologies and trends, a choice of the decentralised model (combination of *star & Ring* configuration) made for all sectoral network is preferred to be implemented in two phases. First of all, specialisation of subjects shall have to be identified among similar types of libraries, so that the respective centres become richer in their resources and can avoid acquisition of such materials which fall under the purview of other centres. For the implementation of the network and considering the cost of leased telephone lines, initially Public Switched Telephone Network (PSTN) and Public Switched Data Network (PSDN) are proposed for all Sectoral Networks. Leased line is only proposed for expected busy traffic among the selected nodes of the network. Keeping in view the above, it has been proposed initially to use the dial-up network for the required information exchange among the local nodes and X.25 packet switches for wide area network.

The network topology for all sectoral network and integration of the Sectoral Network has been designed as WAN (Wide Area Network) on the basis of the physical location of the libraries and data flow requirements. The backbone of all the networks consists

of Dial-up and X.25 packet switches. Though the UNIX network operating system is popular in the world now, but considering the existing availability of hardware and other facilities in the libraries of the proposed system the networking facility uses the *Netware 4X*, introduced by *NOVELL*, which is the network operating system designed for organisation of all sizes is proposed for the network. It is expected that initially all the Focal Points of the Sectoral Networks and gradually all the nodes of the networks will have access to other international data bases through internet. The interaction among the nodes of the proposed networks will be both non-directed and directed. It is proposed that each node of the network will have access to any of the nodes of the network directly or through the focal point. But the main function of the focal points of the proposed networks will be coordination and development of the networks.

Choice of Focal Points :

The following factors have been considered in determining the Focal Points (FP) for Sectoral Networks :

- Richness of collection/resources;
- Availability of infrastructural facilities and manpower;
- Area of research and teaching;
- Number of users within the organization and neighbourhood;
- Location etc.

Priority of Functions of the Sectoral Networks :

After formation of the Sectoral Networks the following functions will have to be considered on a priority basis at the initial stage :

- Formulation of policy and planning for the network;
- Preparation of agreement for resource sharing;
- Arrangement of financial sources;

- Framing of inter-library loan code;
- Identification of core subjects in the discipline among the network members;
- Distribution of multiple copies of catalogue cards of new holdings of each library among the network members. This will help develop a Union catalogue;
- Provision for routing the contents of periodicals among the network members;
- Exchange of duplicate holdings;
- Arrangement for photocopying service;
- Publication of newsletters;
- Provision for users orientation;
- Manpower development;
- Formation of various committees.

However, gradually the other functions will have to be performed for smooth operation of the network.

(A) Sectoral Network for Agricultural Libraries :

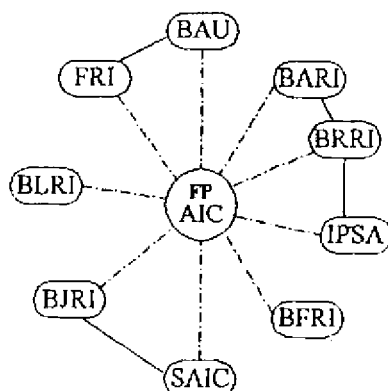
For the purpose of agricultural related information network, the following institutions may be initially selected for networking:

- Agricultural Information Centre (AIC), Dhaka.
- SAARC Agricultural Information Centre (SAIC), Dhaka.
- Bangladesh Agricultural University (BAU) Library, Mymensingh.
- Bangladesh Agricultural Research Institute (BARI) Library, Gazipur.
- Bangladesh Rice Research Institute (BRRI) Library, Gazipur.
- Institute of Post-graduate Studies in Agriculture (IPSA) Library, Gazipur.
- Bangladesh Forest Research Institute (BFRI) Library, Chittagong.
- Bangladesh Jute Research Institute (BJRI) Library, Dhaka
- Bangladesh Live-stock Research Institute (BLRI) Library, Savar, Dhaka.
- Fisheries Research Institute Library (FRIL), Mymensingh.

On the basis of the findings of the study each institution would then specialize on one or two areas which have been shown in the following diagram :

Figure -1

Configuration for Sectoral Network in Agricultural libraries:



Where SAIC of Dhaka is the Focal Point (FP) and others are Node(N).

In the second phase other libraries/information centres in the field may join the network.

(B) Sectoral Network in Health and Population Libraries :

In the *first phase* the following eight libraries/information centres from health sciences and one library from population field may join the network :

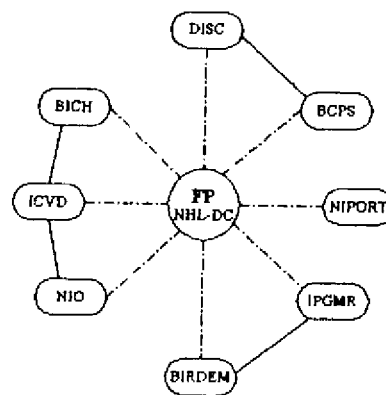
- National Health Library and Documentation Centre (NHL-DC), Dhaka.
- Dissemination and Information Service Centre (DISC). ICDDR'B, Dhaka
- Bangladesh Institute of Research and Rehabilitation of Diabetes, Endocrine and Metabolic Disorders (BIRDEM) Library, Dhaka.
- Bangladesh Institute of Child Health Library (BICH), Dhaka.
- National Institute of Cardio-vascular Diseases (ICVD) Library, Dhaka.
- Bangladesh College of Physicians and Surgeons (BCDS) Library, Dhaka.

- National Institute of Population Research and Training (NIPORT) Library, Dhaka.
- National Institute of Ophthalmology (NIO) Library, Dhaka.
- Institute of Post-graduate Medicine and Research (IPGMR) Library, Dhaka

In the *second phase* other libraries/information centres in the field including Medical colleges may join the network.

Figure-2

Configuration for Sectoral Network in Health and Population Libraries :



Where NHL-DC is the Focal Point (FP) and others are node(N).

(C) Sectoral Network for Social Science and Rural Development Libraries :

In the first phase the following libraries/information centres from Social Science and Rural Development may join the Network.

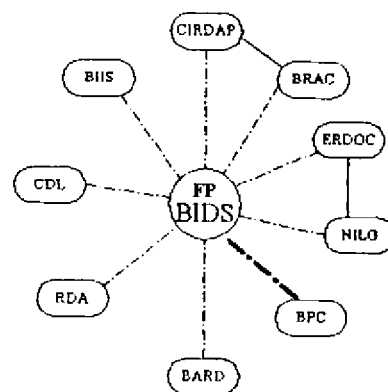
- Bangladesh Institute of Development Studies (BIDS) Library and Documentation Centre, Dhaka

- Centre on Integrated Rural Development for Asia and Pacific (CIRDAP) Library, Dhaka.
- Bangladesh Academy for Rural Development (BARD) Library, Comilla.
- Economic Relations Division Documentation Centre (ERDOC), Dhaka
- National Institute of Local government (NILG) Library, Dhaka.
- Rural Development Academy (RDA) Library, Bogra.
- Bangladesh International Institute of Strategic Study (BIISS) Library, Dhaka
- Community Development Library (CDL), Dhaka
- Bangladesh Rural Advancement Committee (BARC) Library, Dhaka.
- Bangladesh Planning Commission (BPC) Library, Dhaka.

In the *second phase* other libraries/information centres in the field may join the network.

Figure-3

Configuration for Sectoral Network in Social Science and Rural Development Libraries:



Where BIDS-LDC is the Focal Point (FP) and others are Node(N).

(D) Sectoral Network in Science and Technology Libraries :

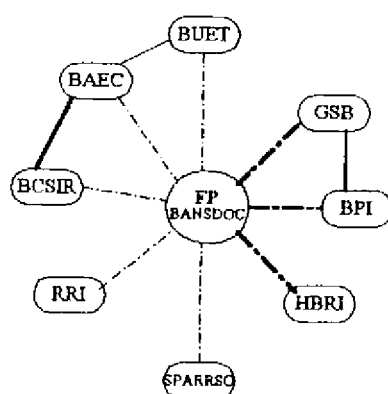
In the first phase the following libraries/information centres from Science and Technology may join the network :

- Bangladesh National Scientific and Technical Documentation Centre (BANSDOC), Dhaka.
- Bangladesh Atomic Energy Centre (BAEC) Library, Dhaka.
- Bangladesh Council of Scientific and Industrial Research (BCSIR) Library, Dhaka.
- Bangladesh University of Engineering and Technology (BUET) Library, Dhaka.
- Bangladesh Space Research and Remote Sensing Organization (SPARRSO) Library, Dhaka.
- Geological Survey of Bangladesh (GSB) Library, Dhaka
- Housing and Building Research Institute (HBRI) Library, Dhaka
- Bangladesh Petroleum Institute (BPI) Library, Dhaka.
- River Research Institute (RRI) Library, Faridpur.

In the *Second phase* other libraries/information centres in the field may join the network.

Figure-4 :

Configuration for Sectoral Network in Science and Technology Libraries.



Where, BANSDOC is the Focal Point (FP) and others are Node (N).

(E) Sectoral Network in University Libraries :

In the *first phase* the following University Libraries may join the network :

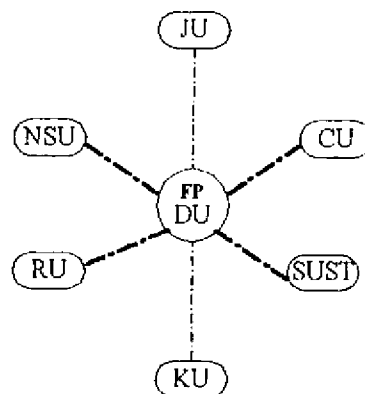
- Dhaka University (DU) Library, Dhaka.
- Jahangirnagar University (JU) Library, Savar, Dhaka.
- Chittagong University (CU) Library, Chittagong.
- Rajshahi University (RU) Library, Rajshahi
- Khulna University (KU), Library, Khulna.
- Shahjalal University of Science and TEchnology (SU) Library, Sylhet.
- North-South University(NSU) Library, Dhaka.

As the Bangladesh Agricultural University Library and Bangladesh University of Engineering and Technology Library are to join the Sectoral Networks for Agriculture and Science and Technology respectively, so these are not included in this network.

In the *Second Phase* other University Libraries may join the network.

Figure-5

Configuration for Sectoral Network in University Libraries :



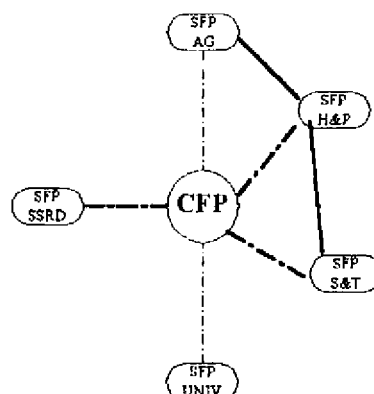
Where DUL is the Focal Point (FP) and others are Node(N).

(F) Integration of the Sectoral Networks :

After creation of the Sectoral Networks, these will be integrated.

Figure-6

Configuration for integration of the Sectoral Networks for BASLIBNET



One coordinating body will have to be formed for the proposed BASLIBNET which will act as the Central Focal Point (CFP) of the BASLIBNET

The determination of the configurations both sectoral and coordinated are based on the diagnosis of the existing resources and infrastructural facilities of the library and information centres in Bangladesh.

Functions of the Central Focal Point :

The main function of the Central Focal Point (CFP) will be to act as the coordinating centre of the Sectoral Networks. Other functions will include:

- Promotion of the concept of information network for resource sharing throughout the country.
- Providing policy, guidelines, consultancy and planning to the Government or any other agency associated with the networks.
- Coordination and monitoring of the sectoral networks.
- Financial management of the Sectoral Networks.

- Promotion of Communications among Sectoral networks and its nodes.
- Provisions of nation-wide referral service for enquiries coming from regional and international information centres or individuals.
- Publication of newsletters and other information bulletins in cooperation with sectoral networks.
- Take any other measures/steps to promote and encourage networking in the country

The factors that have been considered while proposing network configurations :

- present situation of the library and information systems and services of the country;
- cost effectiveness;
- possible modes for information transfer; and
- area of specialization in material collection.

Based on the above analysis three alternative programmes are identified for the proposed networks :

—Non-computerised	--	Programme - I
—Semi-computerised	--	Programme - II
—Computerised	--	Programme - III

For programme I, non-computerised network means that all the process of the network will be run manually. No computer will be involved in any process of the network.

For programme II, Semi-computerised network means that parts of the processes of the network will be carried out by the application of computers.

For programme III, computerised network means that all the processes of the network will be computerized as much as possible.

Comparison among the programmes :

Functions	Programme-I	Programme-II	Programme-III
Cooperative acquisition	Mail and Meetings	Mail and meetings	Electronic mail/ Tele conferences.
Policy Making	Meetings	Meetings	In house database/
ILL verification	Mannual	Manual in house database	On-line catalogue
Transmission	Mail / Telephone	Mail/Phone/Fax	Electronic Mail
Document supply	Mail/currier/transport	Mail/Phone/Fax	Electronic Mail
Union Catalogue	Manual card/print	Manual/Microfilm	MARC inputing
Database building	Secondary Sources acquiring	Database Subscription inhouse	Database Subscription inhouse
Database Searching	Manual Print form	Off-line searching in centre	Off-line and On-line Searching
Information retrieval and Reproduction	Photocopy from Secondary sources	Inhouse database searching software and off-line print, photocopy	Inhouse database/ on-line print/ down loading.

(Source : Zhang, 1990:149)

Weaknesses of the library and information centres regarding the infrastructural facilities and required hardware configurations for the BASLIBNET :

It is observed from the study (BANSDOC, 1996; Mannan, 1996) that the existing condition of the library and information centres of Bangladesh regarding the infrastructural facilities is not encouraging. Only a few (about 50) libraries have personal computers (1–5) but almost they do not have trained personnel required for networking. Few libraries have CD-ROM facilities. Only seven libraries have E-mail facilities and only one library has been connected with internet systems to date. Few libraries have photocopying facilities and few (3–5) have microfilming facilities. A few libraries have their own partial database. No union catalogues or accession lists

are available so far. Almost all libraries suffer from acute financial problems, and the outlook of the authority (both government and institutional) is not fair in comparison with other activities.

For the proposed network to be operational, the following resources (both general and hardware configurations) among others are required :

General :

- Willingness
- Proper financial provisions.
- Professionally trained personnel.
- Legal sanctions by the authority.
- Well defined library and information policy and system.
- Standardization of the library activities, i.e. codes, practices, processing principles and format of communication.

Hardware :

- One mainframe computer for Focal Point.
- One network server for Focal Point and each node.
- Dual processor.
- Network card.
- Mirroring facilities.
- Leased lines or telephone lines from Bangladesh T & T Board for nodes.
- Personal computers (according to ability) for each nodes, one telephone and other required facilities.
- Modem and modem-rack that support X.25 protocol.
- 10 base-T switching Hub with power suppliers.
- CD-ROM facilities for all nodes.
- Reproduction facilities (both microfilming and photocopying) for each node.
- OCR (optical character reader) for Focal Point.
- Preservation equipment and facilities for all nodes.
- Standard Software package and other accessories.

Implementation :

Based on the above priorities the proposed networks will be implemented phase-wise.

- First of all each participating organisation/library shall have to be designated as information centre for a particular subject or discipline in which it may build up its unique collection. It would concentrate on its core subject. The remaining peripheral subjects may be taken by other institutes where such subjects form the core collection. This needs a detailed survey of collection and its use.
- All the Focal Points should immediately take up the compilation work of Union Catalogue of serial publications. The work shall have to be distributed instead of its compilation at one place or by single organisation.
- All important tools required for networking shall have to be ascertained. Some of them have to be acquired and compiled according to the needs.
- Cooperative acquisition under the present different administrative set ups may not be possible at this stage. However, cooperation among the network members for preparation of the acquisition lists/catalogue cards and their distribution could be initiated. Accordingly in the first phase, all the five Sectoral Network will be formed and made functional with minimum network activities. Depending on the success of the phase one integrated network would be developed by combining the Focal Point of all Sectoral Networks.

Internetworking among the Sectoral Networks:

Internetworking is possible among the Sectoral Networks by using X.25 packet Switch Data Network (PSDN) of BTTB and via the international gateways.

Analysis of Cost-effectiveness :

It is observed that in establishing the proposed network, it will place additional costs on an already overburdened library budget. These costs must be alleviated by introducing one of the more effective methods. Therefore an exhaustive feasibility study and cost-benefit analysis will be required for implementation and smooth operation of the proposed Network.

Recommendations

Development of network strategies implies how the proposed network will function. Whatever the topology and structure of network has been planned, It is not going to matter much as the topology can be changed or modified any time according to the feasibility and workability of the system. What is important is how the system is made to function effectively to achieve the very objectives of resource sharing and networking. Following are some of the suggestions emerging out of the findings of the present study for smooth implementation and operation of **BASLIBNET** :

- An exhaustive survey should be carried out to identify the existing resources, infrastructural facilities and users needs of the library and information centres of the country for the network.,
- The Government should take the necessary administrative and financial measures needed for the network. Necessary financial support and sources should be well defined.
- A National Commission should be set-up represented mainly by the participating organizations, users, experts in the field and the national professional associations to ensure continued support to the network.

- As the member libraries of the networks are not fully equipped with the resources and technological facilities, inter-library loan, reference and referral services and the cooperative acquisition of resources should be arranged as soon as possible. Assignment of specialization in the acquisition of library resources should be defined clearly.
- An agreement has to be reached in all aspects among the libraries of the networks for smooth operation of the network and sharing of the resources.
- An inter-library loan code should be framed at the national level.
- A user education and orientation programme should be arranged periodically to inform all network members and users of the availability of materials in the respective collection of the network, available tools and technological facilities and techniques of its use.
- Training programmes should be arranged and manuals should be developed to upgrade the knowledge and skills of the staff of network members in the basic library work, in the computerization of the library activities, information processing, repackaging and for dissemination of information.
- An effective communication system among the participants of the network should be developed through union catalogues, bibliographies, current awareness services, indexing and abstracting services, news letters etc. for efficient utilization of information sources and services.

- The Central Focal Point (CFP): As the national coordinating centre, it should develop standards/guidelines for information handling and for information services and products for the benefit of all the components of the network.
- The Central Focal Point (CFP): It will be responsible for coordination and development of the Sectoral Networks, services and products and providing new ones, where necessary through cooperative acquisition, processing, storage, retrieval and dissemination of information, to meet the present and future information needs of the users.
- Steps should be taken by the authority to frame and approve the National Library and Information Policy/System for all sectors to promote effective functioning of the network.
- Steps should be taken to gradually build up a pool of skilled and trained personnel, adequate computer/technological, reprographic and translation facilities in the participating libraries of the network.
- An effective Communication facilities (specially telecommunication-e.mail) should be developed to facilitate quick delivery of information/document at an affordable cost.
- To create positive awareness among the administrators, policy-makers, participating organizations and users, an effective motivational programmes should be arranged as and when required.

- An effective mechanism to be devised to collect and access to all non-conventional materials of the country, creation and development of a centralised database of periodicals and compilation of directories of all the component organization in the network.
- Liaison should be established with other regional and international networks for cooperation and exchange of information and expertise in information handling.
- Meetings, seminars etc. of library and information professionals, administrators and users should be organized for evaluation and exchange of opinions concerning problems and development of the network activities.
- Status and incentives of Library and information professionals of the network should be increased for better output.
- An effective marketing strategies should be devised to offer the services of the network to users for sustaining of the network.
- To facilitate the access to information all major national and international databases on CD-ROMs should be made available on on-line among the network participants through telecommunication facilities.
- Adequate infrastructural facilities should be developed and holdings of the participating libraries should be computerized using common communication formats, to ensure successful implementation of the resource sharing programme.

- For BASLIBNET, a coordinating body should be formed to manage and coordinate the network. The coordinating body will be composed of members representing different Sectoral Networks and government and will have the full administrative authority for policy-making and development of the network.
- A directory of organizations, including the library and information centres and the libraries participating in the Sectoral Networks with their facilities, subject areas covered by the network and output of the network should be compiled.
- Formal approval to participate in the network should be obtained from the authorities of the participating organizations.

Conclusion :

The rationale for the formation of an information network in Bangladesh is the need to maximize the use of information and minimize the cost by resource sharing. The concept of resource sharing provides an alternative for increasing access to information. Resource sharing among the libraries having literature on common field of specialization is a must in the present era as no library can meet the diverse needs of all of its all potential users and can afford to collect, store and disseminate all available information on any subject individually. As Kent expressed the success and survival of libraries much depend on how much and to what extent libraries cooperate with each other in the future. Although, most libraries realise the imperative need for resource sharing and though the topic has been profusely discussed at professional platforms, still it has not taken a concrete shape anywhere in the country. Efforts so far have been made informally in a limited scale to improve inter-library loan, photocopying facilities and compilation of union catalogues of periodicals in few selected subjects. The failure of resource sharing in Bangladesh is perhaps due to a lack of proper initiatives, confidence and willingness to cooperate each other.

The entire world is now going to be transformed into a Global Information Village. The growth of information technologies provides new ways to bring the entire world into the form of Global Information Village or Society. Bangladesh being a developing country can't be lag behind from this process. Recent development of communication technologies and the application of computer to library operations have made it easier to proceed towards this direction.

Networking of libraries by area and fields of specialization is a pre-requisite for resource sharing. With the present increase in the research organizations and universities in Bangladesh and with the present focus on research and development activities, greater demands will be made by information users on libraries and information centres in near future. Therefore, proper planning is necessary to harness the free flow of information throughout the country.

The implementation of *Bangladesh Academic and Special Library Network* (BASLIBNET) in order to achieve this objectives is an ambitious and challenging task with multi agency involvement that depends much on mutual cooperation between organizations and individuals willing to participate in the network.

It is admittedly an ambitious undertaking; however, if provided with necessary infrastructural, physical, financial and technological facilities for the creation of BASLIBNET, Bangladesh will hopefully witness the free flow of information accross its five sectoral networks.

Limitations of the study

The study suffers the following problems :

- i) It is confined within selected libraries and information centres in Bangladesh. Broader use of library and information centres may provide more useful information.
- ii) The size of the sample both of users and libraries might have limited the scope of the study. A larger sample size would definitely provide more specific information for broad based policy implication.
- iii) A purposive selection of the libraries and information centres may raise the question of bias. However, before making the selection, a scientific approach was adopted to minimize the bias in selecting libraries.
- iv) The cost benefit effect of the proposed model has not been taken into consideration. Furthermore, the technological aspects for implementation of the model have also not been taken into account due to resource constraint. More user studies would have revealed a better picture.

APPENDICES

Appendix-1 : Questionnaire (Library & Information Centres)

Appendix-1.1 : Questionnaire (Users)

Appendix-2 : Annex Tables

APPENDIX-1**CONFIDENTIAL**

**QUESTIONNAIRE
ON
NETWORKING AND RESOURCE SHARING AMONG THE LIBRARIES IN
BANGLADESH : PRESENT CONDITIONS AND FUTURE PROSPECTS**
[Please Mark (✓) on the relevant ones and use extra sheet wherever required]

01. INSTITUTIONAL PROFILE

- i) Name of the Library/Information Centre : _____

- ii) Address with Pin: _____

- iii) Telephone No. with STD/ISD code : _____
- iv) Fax : _____ (v) Telex _____ (vi) E-mail _____
- vii) Nature of organisation :
- ☐ *Public Library* ☐ *Academic Library*
- ☐ *Special Library* ☐ *Any other* _____
- viii) Name and designation of the Head : _____

- ix) Parent body : _____
- x) Year of establishment : _____

02. COLLECTION

- i) Please indicate the number of collection against each of the followings :
- Books _____ Journals (Back vols.) _____
- Thesis _____ Audio-visual materials _____
- Patents/standards _____
- Any other _____
- ii) Number of journals being subscribed : _____
- Inland : _____ Foreign _____

iii) How do you rate your present collection ?

☐ *Almost adequate* ☐ *Inadequate* ☐ *Poor*

iv) Write the names of three rich subjects in your collection :

<u>Name of the Subject</u>	<u>No. of collection</u>
----------------------------	--------------------------

(a)

(b)

(c)

v) Please write the status of your library catalogue:

Book Material

No. of documents catalogued ☐☐☐☐

No. of documents yet to be catalogued ☐☐☐☐

vi) Have you catalogued your serial holdings ? *Yes/No. If yes , please mention the number of records in the catalogue*_____

vii) Do you have some Union Catalogue(s) in your library ? *Yes/No. If yes, please mention the title(s)*_____

03. NUMBER OF USER (Daily)

i) Teachers : _____

ii) Students : _____ UG : _____ PG: _____ Ph.D. _____

iii) Scientists: _____

iv) Govt. Officials and General Public (in case of Public Library)_____

v) Any other : _____

04. INFRASTRUCTURAL FACILITIES

Please write the details of the hardware, software and other equipment available in your centre/Library :

i) Hardware(a) *Computer hardware with configurations*(b) *Reprographic equipment*(c) *Audio-visual equipment*(d) *Any other*ii) Computer Softwareiii) Others

iv). Please give your opinion about the above existing facilities whether these are :

☐ *Almost Adequate* ☐ *Inadequate* ☐ *Much Inadequate*
05. INFORMATION TECHNOLOGY AND SERVICES

i) Have you initiated computerization ? Yes/No.

*If yes, please mention the status :*Name of operationNo. of records computerised

(a) Acquisition

(b) Cataloguing

(c) Circulation

(d) Serial control

(e) Any other

- li) Name the computerized Databases available in your Library/Centre with approximate number of records other than listed under 05(i) above :

Name of the Databases

No. of Records

(a)

(b)

- iii) Please indicate the availability of Databases on CD-ROM, if any _____

06. MANPOWER

- i) Please give the staff structure of professionals alongwith their qualifications, designations and pay scales :

- ii) Do you have qualified/trained computer manpower ? Yes/No.

If yes, please write their qualifications/training etc. with details :

- iii) Do you feel that your present manpower is :

☐ *Almost Adequate* ☐ *Inadequate* ☐ *Much Inadequate*

If *much inadequate*, which manpower do you require immediately (please list the category of professionals/other positions in order of priority) :

a)

b)

c)

iv) Are you optimistic that the above positions which you need would be sanctioned by the authority ?

☐ Yes ☐ No. If no, how would you tackle the problem ?

- a) Would not be able to initiate computerisation/ networking
- b) Would train existing manpower
- c) Would carry out present library services
- d) Any other

07. NETWORKING AND RESOURCE SHARING

i) Below is the list of inter-library services. Please indicate the status of such services being RECEIVED AND OFFERED by using the following scales :

Quite often (4), Often (3), Sometimes (2), Never (1),

Name of Services

Status

Being received

Being offered

- (a) Inter-library loan
- (b) Photocopy Service
- (c) Answer of reference queries
- (d) On-line / Off-line search
- (e) Translation
- (f) Manpower
- (g) Equipment
- (h) Any other

ii) How do you rate inter-library services being received by you are :

☐ Very Good ☐ Good ☐ Satisfactory ☐ Poor

iii) Name some of the important organizations with whom you generally exchange information : _____

iv) Do you have access to any national and international network ?

☐ Yes ☐ No

If yes, which network have you joined or intend to join in near future ?

Please mention name :

Have joined _____ Intend to join _____

v) Please give your opinion about the importance of Networking of libraries in Bangladesh in the prevailing situation :

☐ *Most useful* ☐ *Useful* ☐ *Moderately useful.*

vi) When your library/centre would be connected with a network, what would be your main areas for resource sharing ? Please rank the following in order of priority with 1, 2, 3, 4, 5 scale:

- a) Inter-library Loan
- b) Document Delivery Service (Photocopy)
- c) Acquisition
- d) Circulation
- e) any other

08. Please write the main constraints of Networking :

- i) It may not be cost effective
- ii) Some participation may be passive
- iii) It would increase workload without any additional manpower
- iv) Present budget may be further reduced under network system
- v) Mechanical system failure may interrupt the functioning
- vi) Maintenance cost of equipment may be difficult to bear

09. If your library/centre is given option to be designated as National Focal Point of Networking, which specific subject(s) would you prefer to cover : _____

10. **Status of Interlibrary Loan Services** during the year 1995-96

i) No. of items you borrowed for your own users :

ii) No. of items you lent out to other libraries :

iii) Photocopies you procured from other libraries (No. of pages):

iv) Photocopies you provided to other institution/libraries :

10.1. Do you also provide photocopies to your user by obtaining from international photocopy services ? ☐ Yes ☐ No

*If yes, please mention the source and quantum of service
in terms of number of pages and expenditure incurred :*

Source: _____ No. of pages _____ Expenditure _____

10.2. If your are lending your library material to other libraries what is the loan period being allowed ?

☐ *One week* ☐ *Two weeks* ☐ *More than two weeks*

☐ *Any oher time limit*

i) Please mention the response time taken by the participating library
excluding postal time :

☐ One week ☐ Two weeks ☐ More than two weeks

☐ One month ☐ More than one month

ii) On obtaining the material from other libraries how do your readers feel ?

a) *Happy and satisfied* : ☐

b) *Almost satisfied* : ☐

c) *Were no more in need due to delayed response* : ☐

d) *No reaction* : ☐

iii) Whenever you receive a request for inter-lending service, how much time
does it take to process the request ?

a) 3 days ☐ b) one week ☐ c) more than one week ☐

d) *Any other time limit* ☐

iv) Do you charge postage for material from the user or pay from your own
budget ? _____

v) What is your opinion about the postal charges ?

a) It should be exclusively borne by the user

b) Half cost should be borne by the library

c) Postal concession is required

vi) Do you have some agreement or understanding with the participating
libraries? Yes ☐ No ☐

If yes, please provide the copy of such interlending rules

vii) What problems do you face while transacting library material with other libraries ?

a) *Documents are generally not returned in time* ☐

b) *Physical condition of documents generally get deteriorated* ☐

c) *The document was required by other readers during loan period* ☐

viii) By which means do you mostly confirm the availability of material in the concerned library/centre ?

a) *Consulting union catalogue* ☐

b) *Telephone* ☐

c) *Fax* ☐

d) *On-line search* ☐

e) *Any other* ☐

11. BUDGET AND EXPENDITURE (1995-96)

i) Institutional Budget : _____

ii) Library / Information Centres budget : _____

iii) Expenditure on :

a) Books _____

b) Journals _____

c) Other materials _____

d) Establishment _____

iv) Do you have a proposal for Networking in near future ? Yes ☐ No ☐

If yes, what would be the source of budget ? _____

Date _____

Signature of the respondent

Designation

APPENDIX-1.1**CONFIDENTIAL**

**QUESTIONNAIRE
ON
NETWORKING AND RESOURCE SHARING AMONG THE LIBRARIES IN
BANGLADESH : PRESENT CONDITIONS AND FUTURE PROSPECTS**
[Please Mark (✓) on the relevant ones and use extra sheet wherever required]

A. USER PROFILE

01. Name(Optional) : _____
02. Sex : ☐ Male ☐ Female
03. Organization _____

B. CATEGORY OF USER YOU BELONG ;

01. **Student** : ☐ Postgraduate ☐ M. Phil. ☐ Ph.D.
02. **Scientist** : ☐ Junior ☐ Senior
03. **Researcher** : ☐ Junior ☐ Senior
04. **Teacher** : ☐ College ☐ University
05. **Administrator** : (Please specify your designation) _____
06. **Others** : (Please specify your designation) _____

C. Area of specialization : _____

D. Please indicate the frequency of your visit to the library using the following scale :

Always(1), Frequently(2), Occasionally(3), Rarely(4), Never(5).

01 Your Institutional library :

1	2	3	4	5
---	---	---	---	---

02 Other library :

1	2	3	4	5
---	---	---	---	---

E. If you are a user of other library/libraries please list them in the descending order of use :

Order

Name of the library

01.

02.

03.

F. To which extent the above libraries you are using are meeting your information needs :

☐ Completely ☐ Moderately ☐ Partially ☐ Not at all

G. When you do not get the material/information you are looking for in the library you often use, what alternatives do you take ?

01. Go to other libraries ☐

02. Request the Librarian to get
the desired information/material ☐

03. Take assistance from senior colleagues ☐

04. Contact international information centres ☐

05. Search substitute information/material ☐

06. Leave the search ☐

In case of '02' above please mark the status of the service ?
It was:

— timely received ☐

— received too late ☐

— service was expensive ☐

— Reference were :

Most relevant ☐ Relevant ☐ Almost relevant ☐ Not relevant ☐

H. Are you a user of any National/International databases ?

☐ Yes ☐ No

If yes, please name the data base(s) alongwith your observation about their usefulness using the following scale [Most useful (1), Useful (2), Moderately useful (3), Not useful (4)]

Name of database

Degree of usefulness

I. How often have you been availing the following library services within your institutional library and outside libraries ? please indicate the frequency of use by applying following scale [frequently(1), sometime(2), rarely(3), never(4)]:

	Nature of Service	Institutional Library	Outside Libraries
01	Borrowing of books		
02	Inter-library loan (through your institutional library)		
03	Photocopying of book materials		
04	Photocopying of articles from journals		
05	Translations		
06	Computerised data search: a. CD-ROM search b. On-line access c. In-house database		
07	Any other services, please specify		

As a library and information user, if you have any suggestion to improve the present status of library services, please write briefly.

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APPENDIX-2**Annex Table 1: Daily movement of users by category**

Name of Library	Category of users							
	Teacher	Student	Under Graduate	Post Graduate	Ph. D.	Shiksha	Govt. official	Others
Central Public Library	10	2000	500	1480	20	20	15	10
The British Council Library	20		500	400	10	20	30	20
USIS Library	5		30	20	5		5	5
National Library of Bangladesh	2		10	30	5		5	8
Community Development Library	20		20	25	5	10	20	90
Dhaka University Library	150		5000	2000	100	20	10	10
Jahangirnagar University Library	30		170	80	20			
Bangladesh Univ. of Eng. & Technology	50		200	100	15	10		
Rajshahi University Library	100		1000	400	40	20		40
Chittagong University Library	125		627	300	30	15		
Shahjalal University Library	50		75	20	5			
Bangladesh Agricultural University Library	55	150	65	40	5	3		15
Khulna University Library	40	150				4		
North South University Library	50		1000					
IPGMR Library	10	20	500		5	5	5	5
BIRDEM Library	10			30	10	50	10	
National Health Library & Documentation Centre	3		5	10		2		
ICDDR'B Library	10		10	15	5	80	10	20
AIC Library					2	15	3	
BANSDOC Library	3		5	25	2	3	3	4
BIDS Library & Doc. Centre	5		25	20	8	30		12
CIRDAP Library					2	4	3	1
BAEC Library	3			5	2	18		2
BARD Library	5			3	2	20		45
FRI Library & Doc. Centre	2	15	10	4	1	16		2
Total	758	2335	9752	5007	299	365	119	289

Annex Table 2: Immediate manpower requirement by category of professionals

Name of library	Category of professional immediately need			
	Information Specialist	System Librarian	Computer Operator	Library Professional
Central Public Library				
The British Council Library				
USIS Library	✓			
National Library of Bangladesh				
Community Development Library				
Dhaka University Library				
Jahangirnagar University Library				
Bangladesh Univ. of Eng. & Techno.				
Rajshahi University Library				
Chittagong University Library				
Shahjalal University Library				
Bangladesh Agricultural University Library	✓	✓		
Khulna University Library				
North South University Library				
IPGMR Library				
BIRDEM Library				
National Health Library & Documentation Centre				
ICDDR'B Library				
AIC Library			✓	✓
BANSDOC Library				
BIDS Library & Doc. Centre				
CIRDAP Library				
BAEC Library				
BARD Library				
FRI Library & Doc. Centre				
Total	2	1	1	1

Annex Table 3: Librarians' expectations about getting sanctioned posts

Name of library	Optimistic about the said position	
	Yes	No
Central Public Library		
The British Council Library		
USIS Library		✓
National Library of Bangladesh		
Community Development Library		
Dhaka University Library		
Jahangirnagar University Library		
Bangladesh Univ. of Eng. & Technology		
Rajshahi University Library		
Chittagong University Library		
Shahjalal University Library		
Bangladesh Agricultural University Library	✓	
Khulna University Library		
North South University Library		
IPGMR Library		
BIRDEM Library		
National Health Library & Documentation Centre		
ICDDR'B Library		
AIC Library	✓	
BANSDOC Library		
BIDS Library & Doc. Centre		
CIRDAP Library		
BAEC Library		
BARD Library		
FRI Library & Doc. Centre		
Total	2	1

Annex Table 4: Presence of qualified/trained computer manpower in the libraries

Name of Library	Have Computer manpower	
	Yes	No
Central Public Library	✓	
The British Council Library	✓	
USIS Library	✓	
National Library of Bangladesh		✓
Community Development Library	✓	
Dhaka University Library	✓	
Jahangirnagar University Library	✓	
Bangladesh Univ. of Eng. & Technology	✓	
Rajshahi University Library		✓
Chittagong University Library		✓
Shahjalal University Library	✓	
Bangladesh Agricultural University Library	✓	
Khulna University Library		✓
North South University Library	✓	
IPGMR Library		✓
BIRDEM Library	✓	
National Health Library & Documentation Centre	✓	
ICDDR'B Library	✓	
AIC Library	✓	
BANSDOC Library	✓	
BIDS Library & Doc. Centre	✓	
CIRDAP Library	✓	
BAEC Library	✓	
BARD Library		✓
FRI Library & Doc. Centre		✓
Total	18	7

Annex Table 5: Availability of hardware and software equipment in the libraries

Library Name	Computer Hardware			Computer Software			Other Equipment		
	Personal Computer	Workstation	Printer	Database Software	Word Processing Software	Other Software	Scanner	Photocopier	Other
Central Public Library									✓
The British Council Library	✓	✓	✓	✓	✓	✓			
USIS Library			✓		✓				
National Library of Bangladesh									
Community Development Library	✓	✓	✓	✓	✓	✓			
Dhaka University Library		✓			✓		✓		
Jahangirnagar University Library									
Bangladesh Univ. of Eng. & Technology									
Rajshahi University Library									
Chittagong University Library									
Shahjalal University Library									
Bangladesh Agricultural University Library	✓	✓	✓	✓	✓	✓			
Khulna University Library									
North South University Library				✓	✓				
IPQMR Library									
BIRDEM Library	✓	✓	✓	✓	✓	✓			
National Health Library & Documentation Centre	✓	✓	✓	✓			✓		
ICDDR/B Library	✓	✓	✓	✓	✓				
AIC Library	✓	✓	✓	✓	✓	✓			
BANSDOC Library	✓	✓	✓	✓	✓	✓			
BIDS Library & Doc. Centre	✓	✓	✓	✓	✓			✓	
CIRDAP Library	✓								
BAEC Library									
BARD Library									
FRI Library & Doc. Centre		✓							
Total	10	11	10	10	11	6	2	1	1

Annex Table 6: Status of existing facilities among the libraries

Name of library	Existing facility		
	Adequate	Inadequate	Much Inadequate
Central Public Library			✓
The British Council Library	✓		
USIS Library	✓		
National Library of Bangladesh			✓
Community Development Library	✓		
Dhaka University Library			✓
Jahangirnagar University Library		✓	
Bangladesh Univ. of Eng. & Technology		✓	
Rajshahi University Library		✓	
Chittagong University Library			✓
Shahjalal University Library		✓	
Bangladesh Agricultural University Library		✓	
Khulna University Library			✓
North South University Library		✓	
IPGMR Library		✓	
BIRDEM Library	✓		
National Health Library & Documentation Centre		✓	
ICDDR'B Library		✓	
AIC Library	✓		
BANSDOC Library		✓	
BIDS Library & Doc. Centre		✓	
CIRDAP Library	✓		
BAEC Library		✓	
BARD Library			✓
FRI Library & Doc. Centre		✓	
Total	6	13	6

Annex Table 7: Availability of computerized database in the libraries/centres

Library/Centre	Database/Computerized Material											
	1	2	3	4	5	6	7	8	9	10	11	12
Central Public Library												
The British Council Library												
USIS Library												
National Library of Bangladesh												
Community Development Library						✓						
Dhaka University Library												
Jahangirnagar University Library												
Bangladesh Univ. of Eng. & Technology	✓											
Rajshahi University Library												
Chittagong University Library												
Shahjalal University Library												
Bangladesh Agricultural University Library											✓	
Khulna University Library												
North South University Library												
IPGMR Library												
BIRDEM Library		✓	✓									
National Health Library & Documentation Centre		✓										✓
ICDDR,B Library			✓	✓								
AIC Library					✓	✓						
BANSDOC Library							✓					
BIDS Library & Doc. Centre								✓	✓	✓		
CIRDAP Library												
PAEC Library												
BARD Library												
FRI Library & Doc. Centre												✓
Total	1	2	2	1	2	1	1	1	1	1	1	2

Annex Table 8: Availability of CD-ROM database in the libraries

Library Name	Availability of CD-ROM database															
	ICDDR,B	ICM	ICM	ICM	ICM	ICM	ICM	ICM	ICM	ICM	ICM	ICM	ICM	ICM	ICM	ICM
Central Public Library																
The British Council Library																
USIS Library			✓	✓	✓											
National Library of Bangladesh																
Community Development Library																
Dhaka University Library																
Jahangirnagar University Library																
Bangladesh Univ. of Eng. & Techno						✓										
Rajshahi University Library																
Chittagong University Library																
Shaheed University Library																
Bangladesh Agricultural University Library													✓			
Khulna University Library																
North South University Library							✓									
IPGMR Library																
BIRDEM Library		✓						✓								
National Health Library & Documentation Centre							✓									✓
ICDDR,B Library		✓						✓								
AIC Library													✓			
BANSDOC Library																
BIDS Library & Doc. Centre									✓	✓						
CIRDAP Library	✓	✓														
BAEC Library												✓				
BARD Library																
FRI Library & Doc. Centre															✓	
Total	1	3	1	1	1	1	1	3	1	1	1	2	1	1	1	1

Annex Table 9: Status scale of inter-library services for inter-library loan service

Name of Library	Inter-library loan being offered				Inter-library loan being offered			
	Never	Sometimes	Often	Only after	Never	Sometimes	Often	Only after
Central Public Library		✓				✓		
The British Council Library				✓				✓
USIS Library		✓				✓		
National Library of Bangladesh			✓				✓	
Community Development Library		✓				✓		
Dhaka University Library			✓				✓	
Jahangirnagar University Library		✓				✓		
Bangladesh Univ. of Eng. & Technology		✓				✓		
Rajshahi University Library		✓				✓		
Chittagong University Library		✓				✓		
Shahjalal University Library	✓				✓			
Bangladesh Agricultural University Library		✓				✓		
Khulna University Library	✓				✓			
North South University Library		✓				✓		
IPGMR Library		✓				✓		
BIRDEM Library			✓				✓	
National Health Library & Documentation Centre				✓				✓
ICDDR'B Library				✓				✓
AIC Library				✓				✓
BANSDOC Library		✓				✓		
BIDS Library & Doc. Centre				✓				✓
CIRDAP Library				✓				✓
BAEC Library			✓				✓	
BARD Library	✓			✓				
FRI Library & Doc. Centre	✓			✓				
Total	4	11	4	6	4	11	4	6

Annex Table 10: Status scale of inter-library services for photocopy service

Name of Library	Photocopy service being offered				Photocopy service being offered			
	Narrow	Semi-narrow	Difficult	Challenging	Narrow	Semi-narrow	Difficult	Challenging
Central Public Library		✓				✓		
The British Council Library				✓				✓
USIS Library		✓				✓		
National Library of Bangladesh		✓				✓		
Community Development Library		✓				✓		
Dhaka University Library				✓				✓
Jahangirnagar University Library		✓				✓		
Bangladesh Univ. of Eng. & Technology				✓				✓
Rajshahi University Library		✓				✓		
Chittagong University Library		✓				✓		
Shahjalal University Library	✓				✓			
Bangladesh Agricultural University Library		✓				✓		
Khulna University Library		✓				✓		
North South University Library		✓				✓		
IPGMR Library				✓				✓
BIRDEM Library			✓				✓	
National Health Library & Documentation Centre				✓				✓
ICDDR'B Library				✓				✓
AIC Library				✓				✓
BANSDOC Library		✓				✓		
BIDS Library & Doc. Centre			✓				✓	
CIRDAP Library				✓				✓
BAEC Library				✓				✓
BARD Library	✓							✓
FRI Library & Doc. Centre		✓				✓		
Total	2	12	2	9	1	12	2	10

Annex Table 11: Status scale of inter-library services for answer of reference queries

Name of Library	Answer of reference queries received				Number of reference queries (Ref.)			
	Never	Sometimes	Often	Quite often	Never	Sometimes	Often	Quite often
Central Public Library				✓				✓
The British Council Library				✓				✓
USIS Library		✓				✓		
National Library of Bangladesh		✓				✓		
Community Development Library		✓				✓		
Dhaka University Library				✓				✓
Jahangirnagar University Library		✓				✓		
Bangladesh Univ. of Eng. & Technology				✓				✓
Rajshahi University Library				✓				✓
Chittagong University Library		✓				✓		
Shahjalal University Library	✓				✓			
Bangladesh Agricultural University Library				✓				✓
Khulna University Library				✓				✓
North South University Library		✓				✓		
IPGMR Library				✓				✓
BIRDEM Library				✓				✓
National Health Library & Documentation Centre			✓				✓	
ICDDR'B Library				✓				✓
AIC Library				✓				✓
BANSDOC Library		✓				✓		
BIDS Library & Doc. Centre			✓				✓	
CIRDAP Library			✓				✓	
BAEC Library			✓				✓	
BARD Library				✓	✓			
FRI Library & Doc. Centre		✓				✓		
Total	1	8	4	12	2	8	4	11

Annex Table 12: Status scale of inter-library services for on-line/off-line search

Name of Library	Online/off-line search method				Database/Inter-network service			
	Never	Continued	Online	Yearly	Never	Continued	Online	Yearly
Central Public Library	✓				✓			
The British Council Library			✓				✓	
USIS Library		✓				✓		
National Library of Bangladesh	✓				✓			
Community Development Library		✓				✓		
Dhaka University Library	✓				✓			
Jahangirnagar University Library	✓				✓			
Bangladesh Univ. of Eng. & Technology		✓				✓		
Rajshahi University Library	✓				✓			
Chittagong University Library	✓				✓			
Shahjalal University Library	✓				✓			
Bangladesh Agricultural University Library		✓				✓		
Khulna University Library	✓				✓			
North South University Library	✓				✓			
IPGMR Library	✓				✓			
BIRDEM Library				✓				✓
National Health Library & Documentation Centre		✓				✓		
ICDDR'B Library			✓				✓	
AIC Library		✓				✓		
BANSDOC Library	✓				✓			
BIDS Library & Doc. Centre		✓				✓		
CIRDAP Library	✓				✓			
BAEC Library	✓				✓			
BARD Library	✓				✓			
FRI Library & Doc. Centre	✓				✓			
Total	15	7	2	1	15	7	2	1

Annex Table 13: Status scale of inter-library services for translation service

Name of Library	Translation received		Translation offered	
	Never	Sometimes	Never	Sometimes
Central Public Library	✓		✓	
The British Council Library	✓		✓	
USIS Library	✓		✓	
National Library of Bangladesh	✓		✓	
Community Development Library		✓		✓
Dhaka University Library	✓		✓	
Jahangirnagar University Library	✓		✓	
Bangladesh Univ. of Eng. & Technology	✓		✓	
Rajshahi University Library	✓		✓	
Chittagong University Library	✓		✓	
Shahjalal University Library	✓		✓	
Bangladesh Agricultural University Library	✓		✓	
Khulna University Library	✓		✓	
North South University Library	✓		✓	
IPGMR Library	✓		✓	
BIRDEM Library	✓		✓	
National Health Library & Documentation Centre	✓		✓	
ICDDR'B Library		✓		✓
AIC Library	✓		✓	
BANSDOC Library	✓		✓	
BIDS Library & Doc. Centre	✓		✓	
CIRDAP Library	✓		✓	
BAEC Library	✓		✓	
BARD Library	✓		✓	
FRI Library & Doc. Centre	✓		✓	
Total	23	2	23	2

Annex Table 14: Status scale of inter-library services for manpower service

Name of library	Manpower received		Manpower offered	
	Never	Sometimes	Never	Sometimes
Central Public Library	✓		✓	
The British Council Library	✓		✓	
USIS Library	✓		✓	
National Library of Bangladesh	✓		✓	
Community Development Library		✓		✓
Dhaka University Library		✓		✓
Jahangirnagar University Library	✓		✓	
Bangladesh Univ. of Eng. & Technology	✓		✓	
Rajshahi University Library	✓		✓	
Chittagong University Library	✓		✓	
Shahjalal University Library	✓		✓	
Bangladesh Agricultural University Library		✓		✓
Khulna University Library	✓		✓	
North South University Library	✓		✓	
IPGMR Library	✓		✓	
BIRDEM Library	✓		✓	
National Health Library & Documentation Centre	✓		✓	
ICDDR'B Library	✓		✓	
AIC Library	✓		✓	
BANSDOC Library	✓		✓	
BIDS Library & Doc. Centre		✓		✓
CIRDAP Library	✓		✓	
BAEC Library	✓		✓	
BARD Library	✓		✓	
FRI Library & Doc. Centre	✓		✓	
Total	21	4	21	4

Annex Table 15: Status scale of inter-library services for equipment service

Name of library	Equipment received		Equipment returned	
	Never	Sometimes	Never	Sometimes
Central Public Library	✓		✓	
The British Council Library	✓		✓	
USIS Library	✓		✓	
National Library of Bangladesh	✓		✓	
Community Development Library		✓		✓
Dhaka University Library	✓		✓	
Jahangirnagar University Library	✓		✓	
Bangladesh Univ. of Eng. & Technology		✓		✓
Rajshahi University Library	✓		✓	
Chittagong University Library	✓		✓	
Shahjalal University Library	✓		✓	
Bangladesh Agricultural University Library	✓		✓	
Khulna University Library	✓		✓	
North South University Library	✓		✓	
IPGMR Library	✓		✓	
BIRDEM Library	✓		✓	
National Health Library & Documentation Centre		✓		✓
ICDDR'B Library	✓		✓	
AIC Library		✓		✓
BANSDOC Library	✓		✓	
BIDS Library & Doc. Centre	✓		✓	
CIRDAP Library	✓		✓	
BAEC Library	✓		✓	
BARD Library	✓		✓	
FRI Library & Doc. Centre	✓		✓	
Total	21	4	21	4

Annex Table 16: Status scale of inter-library services for any other service

Name of library	Any inter-library		Any inter-library		
	Never	Sometimes	Never	Sometimes	Quite often
Central Public Library	✓		✓		
The British Council Library	✓		✓		
USIS Library	✓		✓		
National Library of Bangladesh	✓		✓		
Community Development Library	✓		✓		
Dhaka University Library	✓		✓		
Jahangirnagar University Library	✓		✓		
Bangladesh Univ. of Eng. & Technology	✓		✓		
Rajshahi University Library	✓		✓		
Chittagong University Library	✓		✓		
Shahjalal University Library	✓		✓		
Bangladesh Agricultural University Library	✓		✓		
Khulna University Library	✓		✓		
North South University Library	✓		✓		
IPGMR Library	✓		✓		
BIRDEM Library	✓		✓		
National Health Library & Documentation Centre	✓		✓		
ICDDR'B Library	✓		✓		
AIC Library	✓		✓		
BANSDOC Library	✓		✓		
BIDS Library & Doc. Centre		✓		✓	
CIRDAP Library	✓		✓		
BAEC Library	✓		✓		
BARD Library	✓				✓
FRJ Library & Doc. Centre	✓		✓		
Total	24	1	23	1	1

Annex Table 17: Prioritization of inter-library loan service among the main areas of resource sharing if the library is connected with a network

Name of library	Inter-library loan		
	1st priority	2nd priority	3rd priority
Central Public Library	✓		
The British Council Library			✓
USIS Library	✓		
National Library of Bangladesh	✓		
Community Development Library	✓		
Dhaka University Library	✓		
Jahangirnagar University Library	✓		
Bangladesh Univ. of Eng. & Technology			✓
Rajshahi University Library			✓
Chittagong University Library	✓		
Shahjalal University Library	✓		
Bangladesh Agricultural University Library		✓	
Khulna University Library		✓	
North South University Library	✓		
IPGMR Library	✓		
BIRDEM Library	✓		
National Health Library & Documentation Centre	✓		
ICDDR'B Library	✓		
AIC Library	✓		
BANSDOC Library		✓	
BIDS Library & Doc. Centre	✓		
CIRDAP Library	✓		
BAEC Library		✓	
BARD Library	✓		
FRI Library & Doc. Centre			✓
Total	17	4	4

Annex Table 18: Prioritization of document delivery service (DDS) among the main areas of resource sharing if the library is connected with a network

Name of library	DDS (Photocopy)		
	1st priority	2nd priority	3rd priority
Central Public Library		✓	
The British Council Library	✓		
USIS Library		✓	
National Library of Bangladesh		✓	
Community Development Library	✓		
Dhaka University Library		✓	
Jahangirnagar University Library	✓		
Bangladesh Univ. of Eng. & Technology		✓	
Rajshahi University Library	✓		
Chittagong University Library		✓	
Shahjalal University Library	✓		
Bangladesh Agricultural University Library	✓		
Khulna University Library		✓	
North South University Library	✓		
IPGMR Library	✓		
BIRDEM Library		✓	
National Health Library & Documentation Centre	✓		
ICDDR'B Library	✓		
AIC Library	✓		
BANSDOC Library	✓		
BIDS Library & Doc. Centre	✓		
CIRDAP Library		✓	
BAEC Library		✓	
BARD Library		✓	
FRI Library & Doc. Centre			✓
Total	13	11	1

Annex Table 19: Prioritization of acquisition service among the main areas of resource sharing if the library is connected with a network

Name of library	Acquisition		
	1st priority	2nd priority	3rd priority
Central Public Library			✓
The British Council Library		✓	
USIS Library			✓
National Library of Bangladesh			✓
Community Development Library		✓	
Dhaka University Library	✓		
Jahangirnagar University Library		✓	
Bangladesh Univ. of Eng. & Technology	✓		
Rajshahi University Library		✓	
Chittagong University Library			✓
Shahjalal University Library		✓	
Bangladesh Agricultural University Library			✓
Khulna University Library	✓		
North South University Library		✓	
IPGMR Library		✓	
BIRDEM Library			✓
National Health Library & Documentation Centre		✓	
ICDDR'B Library			✓
AIC Library		✓	
BANSDOC Library			✓
BIDS Library & Doc. Centre		✓	
CIRDAP Library			✓
BAEC Library	✓		
BARD Library	✓		
FRI Library & Doc. Centre	✓		
Total	6	10	9

Annex Table 20: Prioritization of circulation service among the main areas of resource sharing if the library is connected with a network

Name of library	Circulation service		
	1st priority	2nd priority	3rd priority
Central Public Library			✓
The British Council Library			✓
USIS Library			✓
National Library of Bangladesh			✓
Community Development Library		✓	
Dhaka University Library			✓
Jahangirnagar University Library			✓
Bangladesh Univ. of Eng. & Technology			✓
Rajshahi University Library			✓
Chittagong University Library			✓
Shahjalal University Library		✓	
Bangladesh Agricultural University Library			✓
Khulna University Library			✓
North South University Library		✓	
IPGMR Library			✓
BIRDEM Library			✓
National Health Library & Documentation Centre			✓
ICDDR'B Library			✓
AIC Library			✓
BANSDOC Library			✓
BIDS Library & Doc. Centre			✓
CIRDAP Library			✓
BAEC Library			✓
BARD Library			✓
FRI Library & Doc. Centre	✓		
Total	1	3	21

Annex Table 21: Prioritization of any other services among the main areas of resource sharing if the library is connected with a network

Name of library	Other services		
	1st priority	2nd priority	3rd priority
Central Public Library			✓
The British Council Library	✓		
USIS Library			✓
National Library of Bangladesh			✓
Community Development Library		✓	
Dhaka University Library			✓
Jahangirnagar University Library			✓
Bangladesh Univ. of Eng. & Technology			✓
Rajshahi University Library			✓
Chittagong University Library			✓
Shahjalal University Library		✓	
Bangladesh Agricultural University Library			✓
Khulna University Library			✓
North South University Library			✓
IPGMR Library			✓
BIRDEM Library			✓
National Health Library & Documentation Centre			✓
ICDDR'B Library			✓
AIC Library			✓
BANSDOC Library			✓
BIDS Library & Doc. Centre			✓
CIRDAP Library			✓
BAEC Library			✓
BARD Library			✓
FRI Library & Doc. Centre	✓		
Total	2	2	21

Annex Table 22: Photocopying service from international sources

Name of library	Source of international sources					
	ERIC	IAHX European Institute of Health & Regional Development	NIDH National Institute of Development Humanities	INSDOC	IBAHN	Other
Central Public Library						
The British Council Library	✓					
USIS Library						
National Library of Bangladesh						
Community Development Library						✓
Dhaka University Library						
Jahangirnagar University Library						
Bangladesh Univ. of Eng. & Technology	✓					
Rajshahi University Library						
Chittagong University Library						
Shahjalal University Library						
Bangladesh Agricultural University Library	✓					
Khulna University Library						
North South University Library						
IPGMR Library	✓		✓			
BIRDEM Library	✓		✓			
National Health Library & Documentation Centre	✓		✓		✓	
ICDDR'B Library						
AIC Library	✓	✓				
BANSDOC Library	✓	✓		✓		
BIDS Library & Doc. Centre	✓					
CIRDAP Library						
BAEC Library	✓					✓
BARD Library						
FRI Library & Doc. Centre					✓	
Total	10	2	3	1	2	2

Annex Table 23 : Status of agreement/understanding with the participating libraries

Name of library	Agreement with the participating library	
	Yes	No
Central Public Library		✓
The British Council Library		✓
USIS Library		✓
National Library of Bangladesh		✓
Community Development Library		✓
Dhaka University Library		✓
Jahangirnagar University Library		✓
Bangladesh Univ. of Eng. & Technology		✓
Rajshahi University Library		✓
Chittagong University Library		✓
Shahjalal University Library		✓
Bangladesh Agricultural University Library		✓
Khulna University Library		✓
North South University Library		✓
IPGMR Library		✓
BIRDEM Library		✓
National Health Library & Documentation Centre		✓
ICDDR'B Library		✓
AIC Library		✓
BANSDOC Library		✓
BIDS Library & Doc. Centre		✓
CIRDAP Library		✓
BAEC Library		✓
BARD Library		✓
FRI Library & Doc. Centre		✓
Total		25

Annex Table 24: Annual budget for library materials (books/journals/others) (in Taka)

Library	2008-09	2009-10	2010-11	2011-12
Central Public Library	8000000	1500000	500000	10000000
The British Council Library	2925000	1190000	780000	4895000
USIS Library	500000	200000	100000	800000
National Library of Bangladesh	2000000	30000	--	2030000
Community Development Library	300000	100000	100000	500000
Dhaka University Library	4000000	4000000	-	8000000
Jahangirnagar University Library	1000000	180000	118000	1298000
Bangladesh Univ. of Eng. & Technology	1087394	3537400	-	4624794
Rajshahi University Library	2200000	1600000	-	3800000
Chittagong University Library	2500000	7000000	-	9500000
Shahjalal University Library	1300000	200000	-	1500000
Bangladesh Agricultural University Library	100000	2500000	650000	3250000
Khulna University Library	5000000	1800000	200000	7000000
North South University Library	500000	600000	100000	1200000
IPGMR Library	132000	368000	-	500000
BIRDEM Library	400000	850000	-	1250000
National Health Library & Documentation Centre	600000	800000	-	1400000
ICDDR'B Library	2500000	2000000	492000	4992000
AIC Library	1000000	-	-	1000000
BANSDOC Library	1000000	3500000	200000	4700000
BIDS Library & Doc. Centre	200000	600000	200000	1000000
CIRDAP Library	-	-	-	-
BAEC Library	300000	4200000	-	4500000
BARD Library	75000	100000	60000	235000
FRI Library & Doc. Centre	800000	1000000	200000	2000000
Total	38419394	37855400	3700000	79974794

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