

DELNET : The First Operational Library Network in India

HK Kaul*

ABSTRACT

This article describes the objectives and establishment of DELNET. Various activities of DELNET, such as, promotions of database creation among member libraries, resource sharing and standardisation are discussed. Information on funding and the hardware/software infrastructure is also provided along with databases and services.

1. INTRODUCTION

In Delhi, libraries have been growing very fast in number and size during the last four decades. They cater to the specialised and general clientele and are of various types. These include institutional libraries, research libraries, government libraries, public libraries, departmental libraries besides the libraries of the universities, colleges and schools. During the recent years, increase in information has led to increase in the demands of the users. It has been noticed that in this era of information explosion, libraries in India are generally ill-equipped to handle and retrieve information effectively. The financial resources and the space requirement for housing library collections are limited in almost all of the libraries. The option left with the forward looking librarians has been to promote the sharing of resources by automation and networking. With this

objective, in January 1988, the India International Centre initiated efforts for the establishment of Delhi Library Network (DELNET).

DELNET is the first operational library network in India. Sponsored by the National Information System for Science and Technology (NISSAT), Department of Science and Technology, Govt. of India, it was started as a project of the India International Centre in 1988 and later officially registered as a society in June 1992.

2. OBJECTIVES

The main objectives of DELNET are to promote sharing of resources among the libraries by developing a network of libraries, storing and disseminating information, offering computerised information services to users, and to coordinate efforts of suitable collection development and reducing unnecessary duplication wherever possible.

* Director, DELNET, India International Centre
40, Max Mueller Marg, New Delhi - 110 003.

3. FUNDING

NISSAT had given grants for projects, supplied modems and software, and paid for the ERNET e-mail connectivity. This funding was good for activating interest in networking. Finally, for making DELNET operational, National Informatics Centre (NIC) provided hardware, software and financial assistance for recruiting staff, internet access, etc.

DELNET is presently supported by NIC, Planning Commission through its grants. The India International Centre has allotted space and other facilities within its premises.

3.1 Membership

DELNET at present has 57 libraries as its members. The libraries that have more than 10,000 books are taken as Institutional Members and those that have less than 10,000 are given Associate Institutional Membership. DELNET has 50 institutional members and seven associate institutional members. The membership is progressively increasing and includes universities, embassies, colleges, government departments, institutions and public libraries. Some institutions from far off places like Shimla, Bhopal and Pondicherry

Institutional : 30

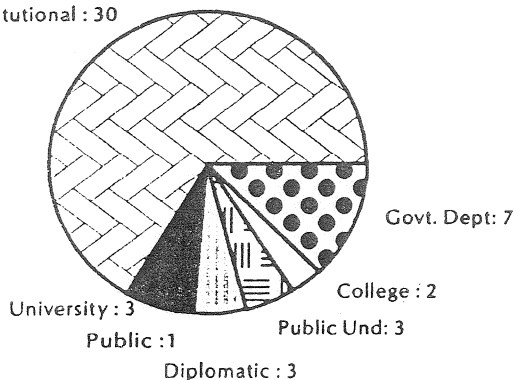


Fig.1. DELNET Members:Types

have also joined DELNET as members. A list of DELNET members is given in Annexure-I.

3.2 The Feasibility Report

In 1989, NISSAT commissioned M/s CMC Ltd. to conduct a feasibility study of DELNET as it had done such a study for CALIBNET. A Coordination Committee with Dr S Varadarajan, former DG, CSIR and Secretary, DSIR as its chairman and the author as its Member-Secretary was constituted by NISSAT to help NISSAT and CMC Ltd. in the preparation of the report and evaluation of its findings. The members of the Coordination Committee included well-known librarians, computer specialists and representatives of the Mahanagar Telephone Nigam Ltd., University Grants Commission, CMC Ltd., and NISSAT.

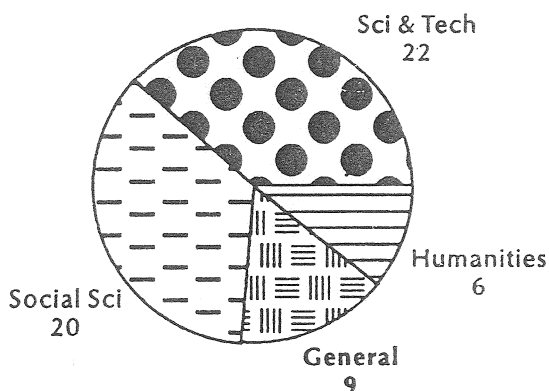


Fig.2. DELNET Member-Libraries

The feasibility report was completed in 1990. Thirty five libraries were included in the survey for the purpose of the report. Efforts were later made to implement the recommendations of the report in phases. The 'O Phase' was subsequently prefixed to these phases to include establishment of e-mail facility. However, departures were made in the implementation of the project due the meagre financial inputs available and the slow growth of membership and also to suit the demands of the users.

4. HARDWARE/SOFTWARE

4.1 Hardware

At the beginning itself (1988), DELNET advised the libraries to create databases on IBM compatible PC-ATs. It was decided that DELNET libraries would mostly be using micro- and mini- computers. The hardware requirements for each library in the feasibility report was done after considering the application areas, data volumes, future growth, and networking needs. However, it was felt that acquisition of hardware by the libraries should be directly related to the number of records created in machine readable form per year and not to the size of collections in the libraries. As such, DELNET advised the libraries, in most cases, to buy PC-486 machines to cover their database creation jobs. NISSAT provided modems to nearly fifty libraries which greatly helped in the promotion of electronic mail. At present DELNET has the following hardware at its network centre :

- ✦ One Wipro 486 DX, 33 MHz machine with 1.5 GB hard disk and 16 MB RAM with 8 terminals which is loaned by NIC and acts as the main server.
- ✦ One Wipro 486, 33 MHz machine with 425 MB hard disk and 16 MB RAM.
- ✦ One Wipro 486, 33 MHz machine with 425 MB hard disk.
- ✦ One Wipro 486, 33 MHz machine with 525 MB hard disk and 8 MB RAM.
- ✦ One Modi Olivetti 486, with 225 MB hard disk and 8 MB RAM.
- ✦ One Wipro PC/XT machine with 250 MB hard disk and 1 MB RAM.
- ✦ One Wipro PC/AT machine with 80 MB disk and 1 MB RAM.
- ✦ One Wipro PC/XT machine with 213 MB hard disk and 1 MB RAM.

(Out of these, two Wipro 486 machines were gifted to DELNET by British Council Division, British High Commission.)

4.2 Software

NISSAT was distributing the UNESCO software, CDS/ISIS to the Indian libraries free of charge till a couple of years ago. As such DELNET advised libraries in the beginning to create their databases using CDS/ISIS. Subsequently, DELNET has been able to test several softwares for the creation of union catalogues and is using the LIBRIS software developed by Frontier Information Technology Pvt. Ltd. Hyderabad. A union catalogue of books database has been created using LIBRIS.

Recently, NIC has provided the Basisplus software to DELNET which is a product of Information Dimensions, Inc. of USA. NIC has also given Techlibplus software which is a library automation software based on Basisplus platform. DELNET staff have developed application modules on it for the database of union list of current periodicals and an Indian specialists database. A sample database of publications in Indian languages for which Gist technology is used, is also prepared in Basisplus platform.

5. ACTIVITIES

5.1 Promotion of Database Creation

For effective networking, standard bibliographic data should be available in machine readable form with the libraries. So, efforts were made from the very beginning to promote the standardisation of databases in the DELNET libraries. Experts were sent to the libraries to solve the day-to-day problems. A panel of experts was being maintained for this purpose. Regular meetings of the librarians and computer specialists were organised to discuss mutual problems and the areas of cooperation. Nevertheless, there have been some

libraries in Delhi that took keen interest in database creation on their own.

DELNET provides technical assistance to member libraries in the following areas :

- a) Acquisition,
- b) Serials control,
- c) Books and journals maintenance,
- d) Circulation - issue, return, reservations,
- e) User services,
- f) Creation and maintenance of bibliographic databases,
- g) Hardware and software requirements,
- h) Union catalogue preparation,
- i) Current awareness and SDI services,
- j) Authority data compilation,
- k) Subject profiles construction,
- l) Abstracting services,
- m) Inter-library loan and user services,
- n) Document transfer/copying facilities, and
- o) Access to local, national and international databases.

5.2 Resource Sharing

DELNET established a Committee on the 'rationalisation of acquisition of foreign periodicals' in Delhi libraries as per the guidelines of NISSAT. Efforts of the Committee led to saving foreign exchange worth Rs. 10 million by rationalising subscriptions to foreign periodicals for 1991, 1992, and 1993 through resource sharing.

This was mainly achieved in the fields of physical sciences, medical sciences, and agricultural sciences. The Chairman of the sub-committees for these disciplines took keen interest in the rationalisation programme. The committee is now called Committee on Resource Sharing. It is

hoped that in the years to come, DELNET would be able to save more foreign exchange for the country through sharing of periodical resources .

In 1991, a courier service was started on contract with a private agency for inter library lending among the participating libraries but it was not very effective. Recently, DELNET has introduced its own courier service with the financial help of NIC. It is hoped that the service will be well-used by the libraries.

5.3 Standardisation

A standardisation committee of DELNET has been meeting from time to time with the chairmanship of Dr SS Murthy of DESIDOC, DRDO. The standardisation committee decided for standardisation in the following areas:

1. Communication format for interchange of bibliographic data,
2. Input output format,
3. Bibliographic description: Mandatory and optional data elements,
4. Classification scheme and subject headings,
5. Thesaurus,
6. Authority files,
7. Language scripts into roman script,
8. Forms of heading,
9. Identification numbers, codes and abbreviations,
10. Data input for abstracting and indexing, and
11. Search/command language.

It was felt that standardisation in case of classification schemes, subject headings and thesaurus given under items 4 and 5 above would not necessitate application of

standards in the beginning. It was decided that the classification schemes generally in use in the Indian libraries were Colon, Classification, Universal Decimal Classification, and Dewey Decimal Classification. It would be almost impossible to impose a standard classification scheme on all libraries. About 80 percent of the requests received by OCLC were either by author or by title as revealed by Mr Frederick Kilgore, past president of the OCLC, at a DELNET meeting, the committee felt that a similar pattern of requests may emerge in DELNET also. Out of the remaining 20 percent of the requests, about 15 percent would be by subject headings. For searches by class numbers, of all the three schemes, the participating library could search by the classification numbers or it could pass on such requests to DELNET central office for necessary action. It was therefore considered that it would not be necessary to impose a standard classification scheme on the participating libraries. However, preference is given to Dewey numbers in the DELNET union catalogue.

With regard to the standardisation of subject headings and the creation of thesaurus for DELNET, the committee decided that LCSH would be used primarily. Specialised libraries may use additional thesauri that are available in each major discipline such as social sciences, humanities and science and technology. It was considered that a thesaurus for DELNET would eventually be created that would incorporate Indian terms also.

5.4 Databases Created

DELNET has so far created four databases which are available online to member libraries and other DELNET users.

5.4.1 Online Union Catalogue of Books in Member Libraries

This union catalogue is growing in size. A user can get information by author, title, subject, descriptors and Dewey class numbers. At present, the union catalogue of books has 1,68,253 bibliographic records with 1,76,297 locations data in it. By March 1997 about four lakh additional records will be added to the union catalogue.

5.4.2 Union List of Current Serials

DELNET created in 1991, a union list of current serials available in Delhi libraries, with the support of NISSAT and with the

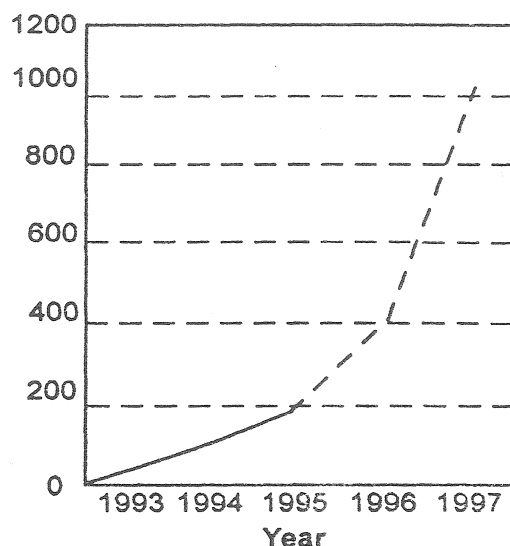


Fig.3. Union Catalogue of Books
active cooperation of Jawaharlal Nehru University Library. This database has been updated now and is available online to DELNET users on Basisplus. It covers serials on all subjects. It has 11,112 records in it.

5.4.3 Database of Indian Specialists

Database of Indian specialists has been made available on-line to the users on Basisplus. This database contains details of specialists who excel in various disciplines such as science and technology, social sciences and humanities. At present details

of about 1000 specialists are in the database and it is likely to grow into a major biographical resource on Indian specialists.

5.4.4 Multi-lingual Books Database

A sample multi-lingual books database for the books is available in Indian languages using the GIST technology on Basisplus software. The bibliographical

DELNET has also introduced RENNIC (Research & Education Network of NIC) e-mail facility among its members, which again gives them both national and international e-mail access including internet. At present only the e-mail access facility has been provided to the member libraries. In due course TELNET and other online facilities will be introduced. It is made available by NIC to DELNET libraries at a token fee of Rs.2750/- per library per year.

6. SERVICES OFFERED

DELNET offers the following services to its members.

6.1 Online Services

DELNET has the following databases and information available online:

- ⊕ Union Catalogue of Books,
- ⊕ Union List of Serials,
- ⊕ Indian Specialists : A who's who,
- ⊕ Multi-lingual Books : A sample database,
- ⊕ Directory of Member-Libraries,
- ⊕ Abbreviations, and
- ⊕ DELNET information

Databases of official publications and grey literature are being added in 1996-97.

5.2 Training Programmes

DELNET considers that for implementing a library network effectively, training of concerned librarians is very essential. Keeping this in view, training courses on computer applications including CDS/ISIS and e-mail were organised for participants from time to time by DELNET with the financial assistance of NIC and NISSAT. Officials of DESIDOC, NIC, NISSAT, DOE and other organisations took keen interest in providing training to librarians by

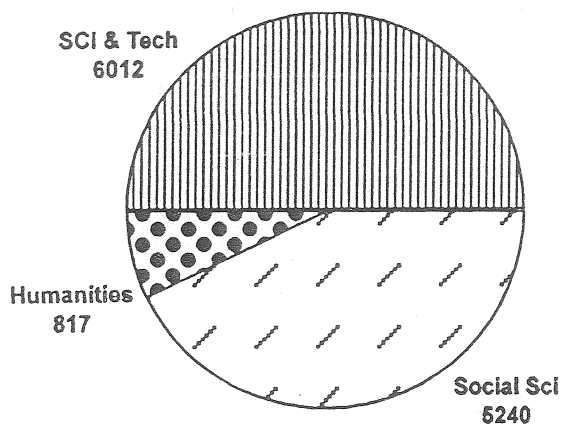


Fig.4. Union List of Periodicals (Delhi Libraries) Subject wise

details of the books can be transliterated into any of the Indian languages as well as in some of the European languages. This sample database is available online and will be of great help to libraries with books in Indian languages.

5.5 Electronic Mail

DELNET provides e-mail connectivity to its members through ERNET which is developed by the Department of Electronics (DOE), Govt. of India. The libraries have access to ERNET users and also to the internet.

As a result, DELNET e-mail reaches the libraries, institutions and individuals in India having ERNET connections and those in the rest of the world with internet connection. At present 53 libraries in Delhi and outside are using DELNET's e-mail.

lecturing and conducting practicals during the training programme and the workshops. The courses were held at IIC, DESIDOC and IIT. Seventy librarians working in Delhi were trained in the use of CDS/ISIS alone. DELNET also offered training in handling e-mail and use of AACR2.

6.3 Retro-conversion

DELNET also undertook to assess the creation of a bibliographic database using CDS/ISIS and CCF. This was done to find out the most cost-effective approach for creating bibliographic databases. The following aspects were studied.

- (a) Conversion of data from books on the shelves taking into account the essential fields including descriptors.
- (b) Conversion of data from the books on the shelves taking into account the essential fields but without descriptors.
- (c) Time involved in the creation of descriptors and their inputting in the computer.
- (d) Direct conversion of data taken from the classified catalogue, which has call number, author, title and accession number, without filling in input sheets.
- (e) Completion of the missing data in approach (d) above by locating books, filling it in the print out, and inputting the data.
- (f) Conversion of the catalogue of bound periodicals directly from the existing catalogue without descriptors.
- (g) Completion of missing information and descriptors for bound periodicals and inputting them into PC.
- (h) Conversion of data of the reference books from the shelves and completion of the essential fields.

- (i) Conversion of the data taken from the accession register.
- (j) Completion of the missing data in (i) above by locating books and filling in the details in the printout and inputting the remaining data.

Table 1 reveals the minimum cost involved in converting a bibliographic entry into machine readable form

Table 1. Lowest cost per entry

Category	With Bibliographer, Data Input Asstt. and cost of Project Director's time spent		Without the cost of Project Director's time spent	
	Actuals (Rs)	Standard (Rs)	Actuals (Rs)	Standard (Rs)
Books	9.21	8.98	7.20	7.02
Reference Books	9.87	9.15	7.72	7.15
Periodicals	18.07		14.04	

It has been found that collecting data directly from the books on the shelves and capturing of data is the best in terms of cost effectiveness and collection of necessary data. Such a job was achieved with the help of two bibliographers and one data input assistant.

The standard cost for each entry of book data with the involvement of Project Director was found to be Rs. 8.98 and without his involvement it was Rs. 7.02. Keeping in view the demands for retro conversion from various libraries, DELNET entered into an arrangement with INSDOC and evolved rates for DELNET libraries. The rates are given in Annexure-II.

6.4 Referral Centre

DELNET maintains a referral centre that provides reference facilities to participating libraries. The referral centre also looks after the access to the central databases and

monitors the access to international databases.

6.5 Courier Service/Inter Library Loan

Promotion of inter-library loans is done through the use of online union catalogue, e-mail and courier service. DELNET has recently introduced vehicular delivery system to facilitate the fast exchange of materials among the libraries, by using a three wheeler scooter, which is useful for document delivery as well as inter-library loans.

6.6 Conferences and Programmes

DELNET organises national workshops, seminars, and meets from time to time. A National Workshop on Library Network Services was organised by DELNET in collaboration with the Documentation Research and Training Centre (DRTC), Bangalore. The workshop was entirely service oriented.

An Indo-British Meet on Library Networking was also organised by DELNET in collaboration with the British Council Division, British High Commission and NISSAT.

DELNET also organised a seminar on Networking of Public Libraries in SAARC Countries during the World Book Fair in February 1996 in collaboration with the National Book Trust, India, and Raja Rammohan Roy Library Foundation.

DELNET organises lectures by specialists in networking and information technology. The lectures are open to members, specialists and users in general. Recently in January 1996, Dr N Seshagiri, Director General, National Informatics Centre (NIC) spoke on the 'Networking of Libraries in India : A National Perspective'.

6.7 Newsletter

DELNET publishes a newsletter in order to spread the message and increase the awareness about library networking in India. Through this newsletter, DELNET communicates to its members and others interested in library networking on the progress it is making in various fields. The newsletter is also a forum for communication on the advances, achievements and needs of the libraries and their services.

7. PROBLEMS ENCOUNTERED

DELNET has been facing problems on various fronts. Some of these are listed here:

- ✦ DELNET did not get sufficient financial assistance from its sponsor and therefore had to look out for help from other sources at all times.
- ✦ NIC's support through hardware, software and finance has indeed made DELNET the first operational library network in India, but it does not have finance for building, and needs money, and maintenance support on a regular basis. JNU has given an acre of land for DELNET building and it is still on the look out for major assistance to construct infrastructural facilities.
- ✦ Hardware configurations need to be upgraded from time to time but as sanctions take time, frustrations increase. Alternative arrangements have to be immediately done.
- ✦ Software also needs maintenance and upgradation. LIBRIS union catalogue package was upgraded but the requirements have been increasing with regular online use. To meet these requirements, new modules are to be developed on Basisplus. Three softwares have already been prepared and one more

is getting ready. DELNET software team has to be constantly in touch with more experienced software experts from time to time.

- ✦ The staff that work for six months or more with DELNET start getting offers of permanent positions from other organisations with more salaries. We frequently recruit, and train new staff but find it hard to retain them. Also, since DELNET is under a project, it is unable to attract well-trained library professionals who are equally good at computer applications and communication.
- ✦ Lease lines and the telephone lines, when out of order, create a great pressure as complaints rise from users of e-mail and union catalogue.
- ✦ Library staff in member-libraries many a time carry out adjustments in modems or computers causing temporary stoppage, which result in more pressure on the e-mail unit of DELNET.

7. CONCLUSION

It may be mentioned that DELNET has emerged as the first operational cooperative network incorporating all the disciplines—

Science and Technology, Social Sciences and Humanities—in its ambit. Each member-library is contributing towards the progress of DELNET. More attention is being now devoted to the monitoring of the standards of the bibliographic databases that are being created in different member libraries in Delhi. Without maintaining adequate standards, it would be impossible to merge the databases into a single DELNET database. We therefore hope that as the work progresses further, the DELNET user librarians will become more conversant with the technology, standards, use of e-mail, and networking. DELNET database are used not only by the librarians and scholars in Delhi but also by those outside Delhi.

The growth of DELNET has been evolutionary in nature. It took us nearly eight years in the promotional process. We hope that the efforts made by DELNET and the participating institutions will result in ensuring a substantial growth of DELNET in the coming years with additional online databases, more data added to the existing databases, and with the availability of online access through internet to international databases.

DELNET Member-Libraries

- | | |
|---|--|
| 1. American Centre Library | 25. Indira Gandhi National Centre for the Art |
| 2. All India Association for Christian Higher Education | 26. Indira Gandhi National Open University |
| 3. All India Council for Technical Education | 27. Indian Institute of Advanced Study, Shimla |
| 4. All India Management Association | 28. Indian Institute of Forest Management, Bhopal |
| 5. British Council Library | 29. Indian Institute of Mass Communication |
| 6. Bharat Heavy Electricals Ltd. | 30. Indian Institute for Public Administration |
| 7. CSIR Centre for Bio-technology | 31. Indian Institute of Technology |
| 8. Centre for the Development of Telematics | 32. India International Centre |
| 9. Fifth Central Pay Commission | 33. Indianoil Institute of Petroleum Management, Gurgaon |
| 10. Centre for Policy Research | 34. Institute of Management Technology, Ghaziabad |
| 11. Central Road Research Institute | 35. Indian National Science Academy |
| 12. Centre for Human Sciences | 36. Indian Oil Corporation Ltd. |
| 13. Council of Scientific and Industrial Research | 37. Institute for Studies in Industrial Development |
| 14. Central Secretariat Library | 38. Jawaharlal Nehru University |
| 15. Devahuti Damodar Swaraj Trust | 39. Lady Shri Ram College |
| 16. Defence Scientific Information and Documentation Centre | 40. National Social Science Documentation Centre |
| 17. Department of Electronics | 41. National Council of Cement and Building Materials, Ballabgharh |
| 18. Delhi Public Library | 42. National Council of Education Research and Training |
| 19. Delhi University Library System | 43. National Institute of Education Planning and Administration |
| 20. E Cole Francaise D'Extreme-orient, Pondicherry | 44. National Institute for Health and Family Welfare |
| 21. Friedrich Ebert Stistung | 45. National Institute of Immunology |
| 22. Indian Agricultural Research Institute | |
| 23. Institute for Defence Studies and Analysis | |
| 24. Institute Francais De Pondicherry, Pondicherry | |

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|---|---|
| 46. National Institute of Sikh Studies | 52. Russian Centre of Science and Culture |
| 47. National Physical Laboratory | 53. Sahitya Academy |
| 48. Planning Commission Library | 54. Shastri Indo-Canadian Institute |
| 49. Power Finance Corporation Ltd. | 55. Sri Ram College of Commerce |
| 50. Publication and Information Directorate | 56. Solid State Physical Laboratory |
| 51. Press Trust of India | 57. Tata Consultancy Services |

DELNET—INSDOC Rates for Retro-Conversion

		Rs. per Record
1.	Monographs and Grey Literature	
A.	I Filling in of input sheets	12
	II Editing of these sheets	12
	III Inputting into the machine	12
	IV Editing of data	12
	V Printing of catalogue cards/printing in book form/supply of floppy	12
B.	A + Classification (DDC only)	16
C.	A + B + Processing & pasting, etc. (ready for the shelf)	18
D.	Where libraries provide input sheets	4
2.	Documentation Lists	
A.	Bibliographic data on slips (The data in the descriptors will be supplied by the libraries)	
	I. Inputting of the data	4
	II. Editing of the data	4
	III. Supply of documentation list/floppy	4
B.	Bibliographic data on slips, (the data with only one subject heading but without descriptors will be supplied by the libraries)	
	I. Inputting data	3
	II. Editing of data	3
	III. Supply of documentation list/supply of floppy	3
3.	Press Clippings (only bibliographic)	
	Bibliographic data to be supplied by the libraries with one subject heading	
	I. Inputting of the data	3
	II. Editing of the data	3
	III. Supply of documentation list/supply of floppy	3