
UNIT 2 TYPES OF LIBRARIES

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2.0 OBJECTIVES

After reading this Unit, you will be able to:

- explain the complex nature of libraries which need to operate across many boundaries;
- discuss the different types of libraries that have evolved over a period of time and their basic functions;
- categorise them as: national, academic, public and special libraries;
- explain the concept and the meaning of electronic, digital, virtual and hybrid libraries and their functions;
- explain how excellent libraries keep renewing to meet the changing requirements of the society as well as the user community; and
- discuss the challenge for all librarians to find that judicious blend of traditional service and courageous innovation which will secure their libraries' future.

2.1 INTRODUCTION

In modern societies all activities of people are organised and conducted through institutions. A social institution is an *integrated pattern* of human relationship established by the common will and serving some vital need. The pattern is caused through the interaction among people as a vital social need. In modern societies special emphasis is being given to the aspects of literacy, adult education, formal education, lifelong education, health care and dissemination of information and knowledge. Educational institutions promote knowledge, skills and socialisation processes of the society. Many of these institutions incorporate a

body of formal rules and regulations through which activities of the society are carried out and regulated.

Of the many institutions formed by the society, library and its modern cognates are the most potent ones in meeting multiple needs of users in a modern society.

It was during the middle of the 19th century that social forces came into play and revolutionised the character of *library* making it more and more a public institution. The industrial revolution had a great impact on the concept of library transforming it from private and personal institution into a democratic institution and benefiting people at large. “Libraries are hugely complex organisations which need to operate across many boundaries but have few, if any, unique services. Yet they have survived for millennia, changing to meet new circumstances and adapting to their users’ needs. They are there for the long term, not only in their duty to preserve humankind’s recorded memory but as centres of expertise in accessing, using and, increasingly, creating information and knowledge. Domsday scenarios have come and gone, yet excellent libraries keep renewing themselves. The challenge for all librarians is to find that a judicious blend of traditional service and courageous innovation which will secure their libraries’ future” [Brophy, 2007].

Francis Miksa (2007) takes a *long view* of the library which will allow a thoughtful basis for discussing present changes taking place. Accordingly, first he proposes looking at the library in society as an *era-specific* phenomenon and then discusses the library which we know, the modern library, in the same way, as an *era-specific* phenomenon, including the idea of the library that it replaced. Next, he examines three principal aspects of the modern library which are now being challenged by the present circumstances. Miksa feels that there are at least three basic aspects of the present library that our contemporary, situation is challenging. They are: i) how we view the idea of the library as a social institution, ii) how we view the target populations that the library is to serve, and iii) how we view the idea of library funding. Miksa’s views on all the above aspects are revealing and merit serious consideration by the library profession. After long discussion on the changing nature of the present library concept, Miksa concludes by saying that the emerging library will differ from the present library in that it will be in electronic form resident in individual communication devices. It will be tailored to an individual or the needs of small cohesive groups of individuals. And it will continue to need such basic functions as selection, acquisition, organisation, and access mechanisms and services, just as it always has, although now fitted to the needs of the individual or small group for whom such a library has been created.

Reference has been made to the authors Peter Brophy and Francis Miksa to emphasise the point that the concept of library as we know it today is undergoing change, and as such its role in the society has to be decided by the changed requirements of its clientele. However, attempt is being made to provide you a picture of different types of libraries as they exist today and their functions.

2.2 TYPES OF LIBRARIES

From their historical beginnings as places to keep the business, legal, historical, and religious records of a civilisation, libraries have emerged since the middle of the 20th century as far reaching bodies of information resources and services

that do not even require a building. Rapid developments in computers, telecommunications, and other technologies have made it possible to store and retrieve information in many different forms and from any place with a computer and telephone connection. The terms *digital library* and *virtual library* have begun to be used to refer to the vast collection of information to which people gain access over the internet.

This section provides a brief account of libraries with a focus on the later part of the 20th century, when both technological and political forces radically reshaped library development. It offers an overview of different types of libraries and explains their important functions.

2.2.1 National Libraries

The concept of national library is a recent development dating back to a few centuries. This development has been a feature of socio-economic, cultural and scientific advancements in the Western industrially advanced nations. Although national libraries existed in the past in some form in many countries, the growth of national libraries as we understand them today has been an outcome of the Renaissance Movement in Europe. Their growth has been further accelerated by the advances in science and technology and their applications in industry, trade, transportation and communication. Their objectives, functions and activities have been discussed in many national and international conferences.

A) *Definition and Functions of a National Library*

“A national library is a library specially established by the government of a country to serve as the pre-eminent repository of information for that country” (Wikipedia). Unlike public libraries, national libraries rarely allow citizens to borrow books. Often, they include numerous rare, valuable, or significant works. Though many national and international conferences discussed the subject of national libraries, there is no one agreed definition for the concept of national library. Of course, there are wider definitions putting less emphasis to the repository character. We shall, however, examine the expositions contained in some glossaries like Harold’s Librarians’ Glossary and Reference Book and the ALA Glossary of Library Terms for the term.

The 6th edition of Harold’s Librarians Glossary (1987) defines a National Library as:

- A library maintained out of government funds;
- Serving the nation as a whole;
- Books in it being for reference only;
- Usually copyright libraries;
- The function of such a library is to collect and preserve for posterity, the books, periodicals, newspapers and other documents published in the country;
- This is best done by a law requiring the publishers to deposit copies of all publications issued by them; and
- Books purchased being published in other countries.

On the other hand, the ALA Glossary simply defines the National Library “as a library maintained by nation”. This definition does not specify or discuss the services that a national library has to offer except the twin functions of collecting and conserving the nation’s intellectual patrimony and purchase of important books published in other countries. A far more detailed exposition of the term national library may be obtained from the recommendations of UNESCO entitled “Recommendations Concerning International Standardisation of Library Statistics”. It reads as: Libraries which, irrespective of titles, are responsible for acquiring and conserving copies of all significant publications published in the country and functioning as a deposit library either by law or under other arrangements. It will normally perform some of the following functions:

- i) produce a national bibliography;
- ii) hold and keep up-to-date a large representative collection of foreign literature, including books about the country;
- iii) act as a national bibliographical information centre;
- iv) compile union catalogues; and
- v) publish retrospective bibliographies.

This exposition is rather comprehensive and covers most of the important functions of a national library.

It may be interesting to note that the *Final Report of the Regional Seminar on the Development of National Library in Asia and Pacific Area*, held at Manila in 1964, contained the following as functions of a National Library:

- to provide leadership among libraries;
- to serve as permanent depository for all publications issued in the country;
- to acquire other types of materials;
- to provide bibliographical services;
- to serve as coordinating centre for cooperative activities; and
- to provide service to government.

It may be pointed out that Lor (1997), drawing on the work of Line and Line (1979) and IFLA (1992), established three dimensions to the work of National Library, identifying functions concerned with 1) Heritage, 2) Infrastructure and 3) Delivery of comprehensive national library service. Of these three dimensions, delivery of comprehensive national library service is worth mentioning. Under it (Delivery of comprehensive national library service) he considers the following aspects:

- acquisition and processing of library material for other libraries;
- recycling and disposing of material acquired for other libraries;
- central support of reference, consultation, loan and document delivery services by other libraries;
- system-wide professional and technological leadership;
- advice to other libraries;

- system-wide planning and coordination;
- research and development relating to the development of the service; and
- literacy programmes using constituent and affiliated libraries as centres for literacy promotion.

It must be emphasised here that from the perspective of the national library in terms of its function-leaving aside medium and content – the national library provides a cultural focal point which transcends the present and reaches into the past, in terms of the material it secures, and into the future, in terms of transmitting human knowledge to future generations. It fulfils these roles by collecting a representative, although never comprehensive, set of records and by ensuring that they are organised and preserved so as to remain of use in the future. A national library which fails to build the representative collection or fails to secure its permanence has failed in its duty”.

Of course, national libraries can not shoulder all of this responsibility on their own, and they are joined by major academic and other libraries in a cooperative endeavour which builds on specialisms which have developed over the centuries.

Looking into the future, it appears that the comprehensiveness of access to published information which national libraries sought to provide is likely to be achieved more through collaborative networks than by individual national libraries. This does not down play the critical role of collecting and preserving the national published heritage and making it available in innovative ways. For example, the British Library has demonstrated how the function of preserving the national published memory and that of broadening and deepening access can be combined, with innovative products like *Turning the Pages* and the *Business and Intellectual Property Centre*.

Under the umbrella *National Libraries Section* (IFLA), many national libraries cooperate to discuss their common tasks, define and promote common standards and carry out projects helping them to fulfil their duties. Similarly national libraries of Europe participate in *The European Library*. This is a service of *The Conference of European National Librarians* (CENL).

The foregoing account is provided in this Unit, to give you a brief account of the concept of national library and its functions.

It is to be noted that in most of the countries there is a national or state library or group of libraries maintained by national resources, usually bearing responsibility for publishing a national bibliography and maintaining a national bibliographical information centre. National libraries strive principally to collect and to preserve the nation’s literature, though they try to be as international in the range of their collection as possible.

The Bibliotheque Nationale in Paris, the British Library in London, and the Library of Congress in Washington, D.C., are among the most famous and most important national libraries in the Western World.

There are many other national libraries with important collections and very long histories. The Russian State Library (formerly called Lenin Library) in Moscow is the National Library of Russia. It is of a size and importance comparable to the Library of Congress. It receives several publications from throughout the

country and distributes their copies to special libraries. This library organises domestic and international lending and exchanges and offers courses of lectures for professional education and also for readers. The Soviet Library – Bibliographical Classification scheme based on a Marxist-Leninist Classification of Knowledge is produced by it.

The National Library of China, Japan and India are some of the important national libraries. Literature describing all the above libraries along with their functions and services offered by them is available.

The National Library of India

A) Collection

It may be emphasised here that the National Library of India located in Kolkata has more than 2.2 million books and other materials. The collection is built through the following means:

- Books received through Delivery of Books and Newspapers Act 1956;
- Purchase;
- Gifts;
- Exchange; and
- Other depository privileges.

The majority of collection is in English and Indian languages, though there are some books in few foreign languages. The broad categories of publications acquired through purchase are:

- Books and journals on India in any language, published anywhere in the world;
- Indian publications published before 1954, and not available in the library;
- Books by Indian authors published abroad;
- Standard reference works; and
- Books on library, documentation, and information science, science and technology, education, planning and development and standard works on history, sociology, and biographies of eminent people, rare and out of print books on microfilms and other standard works within the limits of budget provision.

The National Library has some gifts which enrich its holdings considerably. The famous of such collections happens to be that of Sir Asutosh Mukhopadhyay collection gifted by his family. It covers the whole gamut of subjects in the humanities and sciences as far as published knowledge up to the early decades of the 20th century. Of course, the library possesses the enviable collections of historians like Sir J.N. Sirkar and S.N. Sen. Archival papers of Sir Tej Bahadur Sapru and other rare manuscripts greatly attracts research scholars.

The National Library has exchange relations with 170 institutions in 56 countries all over the world. As result of such relations, the library has been

able to acquire valuable foreign documents, not normally available through trade channels.

Besides U.N. publications, the publications of American, British, Canadian governments as also publications of OECD are deposited in the National Library according to the agreements made with Government of India. These documents add a new dimension to the importance of the National Library. All these documents, as also the other holdings of the library are processed, organised and serviced to the patrons of the library.

B) *Services*

The National Library of India provides the following services:

- Lending service including inter - library loan;
- Reading facilities;
- Bibliography and reference services; and
- Reprography services.

The lending function is rather peculiar for a national library. However, for historical reasons, the National Library of India has continued its lending facilities to the members of the library in and around Kolkata. Inter - library loan facilities are offered to members and institutions with the cooperation of other libraries, both at national and international levels. This service obtains loan of books from Russian State Library, Moscow, British Library, London, and libraries in Australia, Hungary, Denmark, Sweden, and a few other countries.

Self Check Exercise

Note: i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of the Unit.

1) What are the functions of national library?

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2) Briefly discuss the services offered by the National Library of India.

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- 3) Mention some of the important national libraries of the World.

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2.2.2 Academic Libraries

Use of libraries for reading and reference is an integral part of learning, teaching and research. Libraries in schools and colleges provide facilities for students and teachers to read books or consult them for reference, thus widening the scope of class room learning and teaching. University libraries provide additional facilities for higher learning, research and dissemination of knowledge.

The massification of higher education has led in recent years to much greater prominence being given to the role of academic library in supporting learning and teaching. In the U.K., The Robbins's Report (Committee on Higher Education, 1963) set the stage with its famous statement of principle: "higher education opportunities should be available to all those who are qualified by ability and attainment to pursue them and who wish to do so".

The Follett Report (1993) set in train strategic thinking which has enabled libraries to take an institutional lead in some areas, for example, in the development of broad cross-organisational information strategies.

The effects of information and communication technologies on the changes and developments taking place in academic libraries cannot be undermined. However, it has to be recognised that there are other drivers of change. These include the role of library staff in the direct delivery of teaching, especially in relation to information literacies, accountability and pressure on resources with consequent requirement for robust performance and the whole question of the design of the physical library in an age of electronic communications.

At this point in time, the role that academic libraries will play in future is far from clear. They remain institutional expertise in information organisation even if the recognition of this expertise is rather patchy. Their legacy collections are important and recognised as such. The integration of their services into learning, teaching and research provides the greatest challenge, with the possible loss of large numbers of researchers as direct users as alternative patterns of scholarly communication emerge. Also their remains the question as to *what physical academic library should look like* in an age of e-learning and e-research.

However, we need to have understanding of the present situation so far as the academic libraries are concerned.

The academic libraries comprise: school libraries, college libraries and the university libraries. Performance of each of these types of libraries is important in promoting the objectives of their parent organisations to which they are attached.

A) *School Libraries*

The librarian of the school library has responsibilities of not only maintaining the library but also getting involved in activities that would compliment and supplement classroom teaching. It is necessary for her/him to possess teaching skills. Story-telling, book talks, demonstrating the lives of birds and animals through audio-visual aids, etc. are some of other desirable skills that a school librarian should possess. Most of these activities call for imagination both in design and presentation. S/he should develop a participative approach with the teachers and play a supportive role in improving the performance of the school as a whole.

A school library should offer some of these services to its clientele:

- Lending,
- Information and reference services,
- Guidance and advisory services,
- Preparation of reading lists both on anticipatory and responsive basis,
- Service on current events, activities, personalities, etc. and
- Other routine services.

It may be pointed out that the situation relating to school libraries in India presents a dismal picture and needs considerable improvement. In this connection, it is worth pursuing the recommendations of the Secondary Education Commission and the Directorate of Extension Programme for Secondary Education of the NCERT to vitalise school libraries.

B) *College Libraries*

College education provides a completely different environment to students. Here, the teachers will not be in a position to provide individual attention to students. Students have to depend more on self-learning. Therefore, college library plays important role in supplementing class room teaching. In this section we shall briefly discuss the objective functions, nature of collection that needs to be built up and the services to be rendered to the different categories of users.

The major functions of a college library may be summed as under:

- Giving the young minds (boys and girls) a wider and deeper understanding of different disciplines;
- Preparing the students for advanced studies in various disciplines;
- Preparing the girls and boys for shouldering higher responsibilities in life;
- Providing adequate reading facilities; and
- Introducing special materials to faculty necessary for their research.

For translating the above functions into practice the college library needs certain key components. They are:

- A collection of books and other learning material;
- The identification of user community which comprises students, teachers and the college management;

- Physical facilities like building, furniture and other equipment;
- Professional staff for the library; and
- Finance and budget.

In order to meet the varied academic and extra curricular needs of both students and the teachers, a college library should acquire a wide range of learning and teaching materials. The quality of the collection has to be determined on the basis of a well thought out policy laid down by the library advisory committee. The librarian and her/his staff using the global selection tools should bring to the attention of experts worth while titles on different subjects to build a collection adequate to meet the learning and teaching requirements. The collection thus acquired must be processed and properly organised to facilitate its maximum use. The important services to be provided by a college library comprise the following:

- Textbook Services;
- Lending and interlibrary loan service;
- Reading room services;
- Information and reference services;
- Documentation services on a specific request;
- Display of current journals and new acquisitions to the library;
- Assistance in the use of the library;
- Audio-visual services – such as tape slide demonstrations; and
- Reprographic facilities (on liberal basis).

It goes without saying that use of modern technology in services will facilitate better performance and efficacy of the library. Voluntary help and service should be the real motto of the library staff. They should be active partners in playing supportive role in teaching and learning process and help the library user community to the maximum extent. Last but not the least aspect is the funding policy to be followed by the management. They should do well to follow the accepted norms and standard practices. Modernisation of the library facilities is the need of the times.

C) *University Libraries*

An enduring metaphor for the university library is that it is the *heart of the university*. The exact origins of this phrase are not clear. However, Grimes (1998) suggests that it was first used by William Eliot (who was president of Harvard University, Chicago during the period 1869-1909). Subsequently the image was picked up in U.K. and appeared in various reports like Parry Report 1967. The metaphor implies that the academic library is of unparalleled importance. The objectives and functions of a university library are derived from the functions of a university which are:

- Learning and teaching;
- Research and generation of new knowledge;
- Dissemination and publication of research results;
- Conservation of knowledge and ideas; and
- Extension and services.

i) *Functions*

As stated above the major functions of a university library are derived from the objectives of the university. They comprise:

- Development of a collection in a wide range of subjects for learning, teaching, research, publication, etc.;
- Getting the stock of knowledge materials organised and maintained for use;
- Organising and providing a variety of library, documentation and information services, both responsive and anticipatory.

The user community of university library generally falls under the following categories:

- Students at different levels of study in different subjects;
- Teachers imparting instructions and guiding students at different levels and in different subjects;
- Research students working for M.Phil and Ph.D. degrees;
- Post-doctoral research scholars working on specific projects;
- Professors and experts guiding research projects and managing research activities of the university;
- Members of various academic and executive bodies of the university;
- Scholars in general, who get special privileges of using the university library; and
- Others.

It can be inferred from the above that university libraries have a great responsibility and a very important role to play not only in shaping students for higher learning and research, but also in providing a variety of services to meet other demands. It must be emphasised here that the university library is governed as per the statutory laws of the university. Hence the library system will be subject to scrutiny and evaluation by its academic and executive councils. There are well laid out policy procedures for its administration. The chief librarian manages the library as per the policy guide lines. Let us now consider some of the important features which need constant and special attention for the successful functioning of a university library.

The major areas of concern of a university library are:

- Collection development;
- Processing and organisation;
- Services;
- Professional staff;
- Physical facilities;
- Finance and budget.

Each one of the above components has a significant role to play in the overall success of the library as a support mechanism in promoting the goals of the university in its pursuit for the achievement of higher learning and research.

ii) *Collection Building and Organisation*

A major responsibility of the university library is to build a sound collection of documents carefully geared to the academic needs of students, teachers and other researchers and scholars engaged in academic pursuits. While it is not easy to specify what constitutes the best collection, the actual and potential needs of users have to be ascertained at appropriate intervals. User and use study techniques and methods developed during the last three decades will provide some valid basis for collection building. The results of citation analysis are being adopted in the acquisition of the current journals. The collection must be need-based and representative. In fact, a university is rated high or low by the quality of collection it builds. Budget provisions are the limiting factors in achieving a comprehensive and balanced collection. Another important factor in the proper management of a university library concerns the proper housing of the large stock of materials. The materials should be properly classified and organised and located at right places of use so that they are easily accessible for any one to use. The physical storage and filing of all documents, both print and non-print, must be conducive to use. In particular, the open access system is practised in the modern university libraries. Adoption of technology adds to the efficacy of the library procedures.

iii) *Services*

The major success of the university library depends on the range of services it offers to its users. The services ought to be planned, keeping in view the general demand for such services, and the capability of the library in offering such services. The primary concern should be to initiate any service on user needs and interests. Services can be categorised as follows:

- Library Services:
 - i) Lending,
 - ii) Information and reference,
 - iii) Reading facilities,
 - iv) Assistance in the use of library, and
 - v) Display of periodicals and current acquisitions.
- Awareness Services
 - i) Current Contents of Journals, and
 - ii) Selective Dissemination of Information (SDI).
- Bibliographic Services
 - i) Literature search,
 - ii) Compilation of bibliographies on specific subjects.

- Condensation Services
 - i) Preparation of abstracts of specific topics,
 - ii) Digest services, and
 - iii) Review and preparation of state of the art reports.
- Other Services
 - i) Document supply services, and
 - ii) Internet-based search services.
- Special Services
 - i) User education,
 - ii) Exhibitions and special displays, and
 - iii) Special lectures and workshops.

One thing must be noted in the context of the provision of library services. That is the services will prosper by offering high quality services. The basic idea about the word *quality*, becomes when used properly, a statement that the *essential product-customer-purpose* linkage has been established. Fundamentally quality is concerned with meeting the *want and needs* of customers. In other words, detailed knowledge and understanding of needs, preferences, skills, and reactions of users is fundamental to the future of library. The closer the library can get to its users as individuals the more likely it is to find a place in the portfolio of services they choose to use. If libraries can get this right, then they can become the services of choice for their users. The present trend is towards personalisation.

iv) *Professional Staff*

The university library staff must be professionally well qualified. They must match the quality of the teaching and research community in terms of academic and professional qualifications, experience and expertise. Their constant interaction with students at different levels, faculty, research scholars, computer and communication experts, and management experts of the university ensures the credibility and appreciation from the user community. It is only through innovative approaches that the user community will be drawn towards library and its services. Ability of library staff to communicate with different groups of users and articulate the services organised by the library will go a long way in establishing good relations. The conduct of the library staff plays a great role in successful operation of university library.

v) *Physical Facilities*

There is no gain saying the fact that proper facilities in the form of a planned building to house the library holdings and servicing them in functional manner is a necessity which enhances the utility of the library. In planning future library buildings the impact of computer and communication technologies will have to be kept in view. Today most of the print materials are available commercially in micro and machine readable forms making storage problems rather simple. This aspect must be taken into consideration when space requirements are formulated. Space allocation must meet the changed information environment.

vi) *Finance and Budget*

University libraries generally operate on the budgets allocated by the universities. The financial allocations are based on certain norms and recommendations of different commissions on education. According to Raj Committee, 20% of the university budget should be made available to the university library. But this provision is not followed uniformly by all universities. Different yard sticks are applied in different cases. It may be mentioned here that the cost of university library must be considered in the context of changing educational technology. It is learnt that the U.G.C. is seized of the subject and sooner, if not later some policy will be formulated taking into context the application of ICTs and the changing information environment. Whatever may be the situation proper funding is necessary for university libraries.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of the Unit.

4) How does a university library differ from that of a college library?

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2.2.3 Public Libraries

Public libraries have a proud heritage. They are now acknowledged to be an integral part of community life as promoters of literacy, providers of a wide range of reading for all ages, and centres for community information services. Yet, although the practice of opening libraries to public has been known since ancient times, it was not without considerable opposition that the idea became accepted, in the 19th century, that a library provision was a legitimate charge on public funds. It required legislation to enable local authorities to devote funds to this cause.

By the second half of the 20th century, there was general agreement around the position that the *public library* fulfilled *three interconnected roles*: education, information and entertainment. It enabled its users to undertake informal learning as well as providing a place for study, it provided access to organised sources of information on all subjects, and it provided entertainment, primarily through lending fiction. Within these roles all libraries developed all manner of services. However, as budgetary cuts started in UK, it became apparent that public libraries were struggling to define what this *tripartite role* really meant in an age of mass communication and mass formal education.

Policy level studies discussed much more deeply into the role of the public library and the contribution it makes to society. In 1993 The Comedy Consultancy issued a report under the title *Borrowed Time* which focussed on five main areas in

which Public Libraries are currently impacting on public life. They are: *Education, Social Policy, Information, Cultural Entertainment and Economic Development*. Another significant event in this direction took place with the issue of *UNESCO Manifesto on Public Libraries* in 1995. This was issued in collaboration with IFLA. This *manifesto* emphasises the following aspects:

- The *public library* which being the *local gateway* to knowledge, provides a basic condition for lifelong learning, independent decision-making and cultural development of the individual and social groups;
- A living force for education, culture and information, and essential agent for the fostering of peace and spiritual welfare through the minds of men and women;
- The local centre of information, making all kinds of knowledge and information readily and freely available to its users;
- Accessible for all, regardless of age, sex, religion, nationality, language or social status;
- And lastly, the libraries which have collections and services, all types of appropriate media and modern technologies, as well as materials with high quality and have relevance to local needs and conditions. Materials must reflect current trends and the evolution of the society, as well as the memory of human endeavour and imagination.

The above aspects cover all facets of public library services. The manifesto also spelt out key missions, which relate to information literacy, education and culture which are at the core of public library services.

Public libraries were long perceived as places for lending and reading books, especially fiction and journals for personal education and were not identified with scientific knowledge. This view of public libraries is obviously changing and they represent much more and more successful now than they were in the past. But, what is the role and mission of public libraries in today's Knowledge Society?

A) *Role of Public Libraries in Knowledge Society*

We need to clarify that *knowledge society* is not a society in which knowledge is reserved for the privileged and the chosen individuals or specific groups, but it is intended and must be open to all individuals regardless of age, education, occupation and religion, and to all social groups regardless of ethnic origin, size and class origin. Since knowledge itself is a common and public good and as such intended for all, it must be accessible to all under the same conditions.

Hence, each society must ensure the ways and mechanisms so that each individual as well as groups have access to information, sources of information and knowledge. In a way it is obligation of each State to build the knowledge society as a complete and fundamental programme of its long-term development. In other words, everything that is related to the efficient functioning of public libraries as agents that ensure access to knowledge and the sources of knowledge must be supported. It may be stated that these obligations derive from the documents of the *World Summit on Information Society* (WSIS). Indeed, the tasks and the mission of public libraries are specially emphasised in the recommendations of the Alexandria

Manifesto on libraries in the building of the information society. This manifesto stresses the role of libraries in the democratic process and in the information and knowledge society. All this is based on the fundamental human right to knowledge, learning and communication without any barriers. Indeed, public libraries are intended for and directed to all that live and work in a community regardless of level of education and culture, occupation or level of knowledge in order to serve their informational needs.

Special role of Public Libraries in Knowledge Society:

- Education – especially self-education where public libraries have a long and successful history, also in life-long learning which is an irreplaceable way of personal growth in today's world;
- Information – ensuring access to information for all, has become an obligation in the realisation of human rights;
- Cultural enrichment – access to different sources of information and knowledge for all. This also includes literacy advancement, which today also means information literacy, as well as awareness of the need to read as a main process to acquiring knowledge, which means not only to see something, but to be informed and acquire knowledge;
- Economic development – public libraries must act as a form of local economic information service, in accordance with the main economic aspects of the areas tourism, agriculture, manufacture, technologies etc. Public libraries are also the most appropriate places to obtain all needed information and statistics concerning all the above.

In this connection, it may be said that no society can effectively function and progress with out proper communication system. This is true even more in case of *knowledge societies* where the process of transmitting and accessibility of information and sources of knowledge are absolutely indispensable. If we accept the fact that public libraries play an important and fundamental role in our societies, they should *adapt themselves and gear their functions* in that direction. This must be one of the strategic goals of their development which should of course, be in accordance with the concept of national advancement of building knowledge society.

The National Knowledge Commission (NKC) of India has recently decided to give priority to the development of public libraries in India as one of the steps to be taken towards transforming Indian society into knowledge society and converting Indian economy into a Knowledge-based Economy (KBE). This effort needs to be applauded.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of the Unit.

5) Discuss the special role of public libraries in a knowledge society.

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2.2.4 Special Libraries

The national, university and public libraries form the network of general libraries more or less accessible to the general public. There are a large number of libraries beyond this network. They are established by special groups of users to meet their own needs. Many of these originated with *learned societies* and especially with the great scientific and engineering societies founded during the 19th century to provide specialist material for their members. Thus some special libraries were founded. With the coming of Industrial Revolution arose the need for working class educated in technology, and industrialists and philanthropists provided facilities and books necessary for technical instruction. Special libraries are attached to official institutions, such as government departments, hospitals and the like. For the most part, however they came into being in order to meet specific needs in commercial and industrial organisations. Special libraries are planned strictly on practical lines, with activities and collections carefully controlled in size and scope. They are largely *concerned with communicating information to specialist users in response to –or preferably in anticipation of– their specific needs*. Special libraries have therefore been much concerned with theoretical investigation of information techniques including the use of computers for information retrieval.

A) *Definition and Meaning*

In the expression special libraries the word *special* has to be interpreted to mean *specialist* to get closer to the concept. As a matter of fact, these are libraries that serve a particular institution that has a specific role to play, and they will therefore tend to be *one subject* oriented libraries. For example, they could serve a hospital, or an industrial organisation or a scientific institution, etc. They also vary in size depending in part of the size of the institution they serve whose information needs are defined. Special libraries, some times referred to as *information centres*, are located in multitude of settings including international organisations.

B) *Functions and Services*

- Special libraries organise the resources they collect in ways that best suit local needs;
- Analyse, synthesise and evaluate information and data;
- Provide critical reviews, reports and compilations;
- Provide abstracts, indexes and extracts;
- Perform literature searches and compile bibliographies;
- Disseminate current information and SDI which stimulate research; and
- Establish a monitoring system for the evaluation of performance.

The above stated functions of special libraries make them more user centred engaged in the provision of need-based services.

C) *Services*

Special librarians have become adept at *reading the runes* (to try to guess what is going to happen in the future by examining what is happening now) of the environment in which their parent organisations operate. Therefore,

they scan information sources to find material that they know will interest their clientele. They master the ways and means of presenting information that will save the time of their busy customers. Special libraries generally provide the following services to their user community:

- Reference Service;
- Awareness Services such as Current Awareness and routing, news letters and other bulletin services;
- Personalised and customised information services such as SDI;
- Specialised services like consolidation and repackaging of information; and
- Analysis, synthesis and evaluation of information and data and preparation of critical reports as and when required.

In all these activities they use information technology available to them. For this purpose the staff need to be specially trained in modern information technology, particularly in practical usage aspects. Only then, the staff will be in a position to deliver the type of services expected of them. It goes without saying that they should be qualified in the subjects in which the parent organisations operate.

In the foregoing pages we have briefly discussed the nature, functions and services provided by different categories of conventional libraries. The discussion provides you the basic knowledge necessary to have a proper understanding of the functioning of different types of libraries.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of the Unit.

- 6) Discuss the need for special libraries and the services they offer to their clientele.

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2.2.5 Digital Libraries

The idea of easy, finger-tip access to information – what we conceptualise as digital libraries today has its origin in Vannevar Bush’s Memex Machine and has continued to evolve with each advance in information technology. When computers were connected into large networks forming the Internet, the concept evolved again, and research turned to creating libraries of digital information that could be accessed by any one from any where in the world. The fundamental reason for building digital libraries is a belief that they will provide better delivery of information than was possible in the past with traditional libraries. Therefore,

phrases like *electronic library*, *virtual library*, *library without walls*, and *digital library* have sprung up and all have been used interchangeably to describe this broad concept. But, what does this phrase mean? What is a digital library? And what are the issues and challenges in creating digital libraries? Also what are the issues involved in creating a coordinated scheme of digital libraries? This section is intended to provide an overview of digital libraries and briefly discuss answers to some of the above questions.

A) *Definition*

There is much confusion surrounding the phrase digital library arising out of *three factors*. First, the library community has used several different phrases over the years to denote this concept – electronic library, virtual library, library without walls and it never was quite clear what each of these different phrases meant. Digital library is simply the most widely accepted term and now is used exclusively at conferences, online and in the literature.

The second factor adding to the confusion is that digital libraries are at the focal point of many areas of research, and what constitutes a digital library differs depending upon the research community that is describing it. For example:

- From an information retrieval point of view, *it is a large database*.
- For people who work on hypertext technology, *it is one particular application of hypertext methods*,
- For those working in wide-area information delivery, *it is an application of the Web*, and
- For library science, *it is another step in continuing automation of libraries*.

Third, confusion arises from the fact that there are many things on the Internet that people are calling *digital libraries*, which from a librarian's point of view *are not*. For example:

- For computer scientists and software developers, *collections of computer algorithms* or *software programs* are digital libraries;
- For database vendors, their databases and electronic document delivery services constitute digital libraries;
- For large corporations, a digital library is the document management systems that control their business documents in electronic form; and
- For a publisher, it may be an *online version of catalogue*.

So what is a working definition of a digital library that makes sense to librarians? It may be mentioned here that the most scientific definition arising from the community of library practice is the one set forth by the Digital Library Federation: "Digital Libraries are organisations that provide the resources, including the specialised staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital work so that they are readily and economically available for use by a defined community or set of communities". However, the interest and concerns of both communities

(librarians and computer specialists) are reflected in a broader, *two part definition* that arose from a research workshop on social aspects of digital libraries:

- “Digital libraries are a set of electronic resources and associated technical capabilities for creating searching and using information. In this sense, they are an extension and enhancement of information storage and retrieval systems that manipulate digital data in any medium (text, images, sounds, statistic and dynamic images) and exist in distributed networks. The content of digital libraries includes data, metadata; they describe various aspects of the data (i.e. representation, creator, owner, reproduction rights) and metadata that consists of links or relationships to other data or metadata whether internal or external to the digital library.
- Digital Libraries are constructed – collected and organised – by [and for] a community of users and their functional capabilities support the information needs and uses of that community. They are a component of communities in which individuals and groups interact with each other, using data, information and knowledge resources and systems. In this sense, they are an extension, enhancement, and *integration of a variety of information institutions* as physical places where resources are selected, collected, organised, preserved, and accessed in support of a user community. These information institutions include among others, libraries, museums, archives, etc. Digital Libraries also extend and serve other community settings, including classrooms, offices, laboratories, homes and public spaces”.

B) *Characteristics*

It is to be noted that characteristics mentioned below have been gleaned from various discussions about digital libraries, both online and imprint.

- Digital libraries are the digital face of traditional libraries that include both digital collections and traditional, fixed media collections. So they encompass both electronic and paper materials.
- Digital libraries will also include digital materials that exist outside the physical and administrative bounds of *any one digital library*.
- They include the processes and services that are the backbone and nervous system of libraries. However, such traditional processes though forming the basis of digital library work will have to be revised and extended to accommodate the differences between new digital media and traditional fixed media.
- Digital libraries provide a coherent view of all of the information contained within a library, no matter its form or format.
- They will serve particular communities or constituencies, as traditional libraries do now, though those communities may be widely dispersed throughout the network.
- Digital libraries will require both the skills of librarians and as well as those of computer scientists to be viable.

C) *Issues and Challenges in Creation*

The optimism and hype from the early 1990s has been replaced by a *realisation* that building digital libraries will be a difficult, expensive, and long term effort [Lynch, 1995]. Creating effective digital libraries poses serious challenges. The integration of digital media into traditional collections will not be easy, like previous new media (such as video and audio tapes), because of the unique nature of digital information – it is less fixed, easily copied, and remotely accessible by multiple users simultaneously. Some of the more serious issues facing the development of digital libraries are outlined in this section.

D) *Technical Architecture*

The first issue is that of the technical architecture that underlines any digital library system. The architecture will include components such as:

- High-speed local networks and fast connectors to the Internet,
- Relational databases that support a variety of digital formats,
- Full - text search engines to index and provide access to resources,
- Electronic document management functions that will aid the overall management of digital resources.

One of the important things to note about technical architectures for digital libraries is that they would not be *monolithic systems* with which librarians are familiar. Instead, they will be *a collection of disparate systems and resources* connected through a network, and integrated within one interface, most likely a web interface. The resources supported by the architecture may include:

- Bibliographic databases that point to both paper and digital materials,
- Indexes and finding tools,
- Collection of pointers to Internet resources,
- Directories,
- Photographs,
- Numerical data sets, and
- Electronic journals.

Though the above mentioned resources may reside on different systems and in different databases, *they would appear as though they were one single system* to the users of a particular community.

E) *Building Digital Collections*

One of the essential issues in creating digital libraries will be the building of digital collections. Obviously, for any digital library to be viable, it must have a digital collection with the critical mass to make it really useful. There are three methods of building digital collections:

- Digitisation – converting paper and other media in existing collections to digital form;

- *Acquisition of original digital works* created by publishers and others. For example: electronic books, journals etc.,
- *Access to external materials* not held in-house by providing pointers to websites.

F) *Metadata*

Metadata is another issue central to the development of digital libraries. Metadata is the data that describes the content and attributes of any particular item in a digital library. It is a concept familiar to librarians because it is one of the primary things that librarians do. For example, they create cataloguing records that describe the documents. While there are formal library standards for metadata, namely AACR-2R, such records are very time consuming to create and require specially trained personnel to undertake such work.

Therefore, simpler schemes for metadata creation are being proposed. One such scheme is *Dublin Core*, an effort to try and determine the *core* elements necessary to describe materials. The lack of common metadata standards is another barrier to information access and use in a digital library.

G) *Naming, Identifiers, and Persistence*

Another important issue related to metadata is the problem of *naming in* a digital library. Names are strings that uniquely identify digital objects and are part of any document's metadata. Names are important in a digital library just as ISBN number in a traditional library. They are needed to uniquely identify digital objects. Any system of naming that is developed must be permanent and be lasting indefinitely. It means the name cannot be bound up with a specific location. The unique name and its location must be separate. The name must remain valid whenever documents are moved from one location to another. Three of the schemes proposed to solve this problem are: PURLs, URNs, and Digital Object Identifiers (DOI).

PURLs: Persistent Uniform Resource Locators (PURLs) are a scheme developed by OCLC in an attempt to separate a document name from its location and therefore increase the probability that it will always be found.

URNs: Uniform Resource Names (URN) is a development of the Internet Engineering Task Force (IETF). A URN is not a naming scheme in it self, but a *framework* for defining identifiers.

DOI: Digital Object Identifier (DOI) is a joint initiative by American Publishers and the American Corporation for National Research designed to provide a method by which digital objects can be reliably identified and accessed.

H) *Copyright / Rights Management*

One of the barriers to digital library development is copyright. The current paper-based concept of copyright breaks down in the digital environment because the control of copies is lost. Digital objects are less fixed, easily copied, and remotely accessible by multiple users simultaneously. The problem for libraries is that, they do not own their information. Libraries do

not hold the copyright of the material they possess. Therefore, they can not freely digitise and provide access to copyrighted materials in their own collections. Instead they will have to develop mechanisms for managing copyright. Such mechanisms which allow them to provide information without violating copyright are called *rights management*.

I) *Presentation*

Another important issue associated with digital libraries is preservation that is keeping digital information available in perpetuity. In the preservation of digital materials, the real issue is *technical obsolescence*. In other words, preservation of digital information will mean constantly coming up with new technical solutions. There are three types of preservation that one can refer to. They are:

- The preservation of the storage medium;
- The preservation of access to content;
- The preservation of fixed-media materials through digital technology.

There are many more problems and challenges relating digital libraries, however the scope of the Unit is confined to the basics and hence they are not discussed here.

It has been pointed out that the current technologies focus on conversion of paper to digital formats and *not conversion of the library into a digital format*. In this way, the digitisation is comparable to the technology of microforms. “it is more accurate to discuss the concept of digital libraries in terms of *digital coherence* and its application to library collections than to discuss the *replacement of libraries in general with digital incarnations*”. Digital coherence can become a tool with which the library can provide value - added information services to users. While a good deal of literature on digital libraries emphasises technology and resources at the expense of service perspective, a number of authors and researchers have considered human interaction in the digital library environment. It may be stated that the digital library proponents must consider the role of people (as users and service providers) if the digital library is to be truly beneficial. Technology and information resources on their own can not make an effective digital library.

Self Check Exercise

- Note:** i) Write your answer in the space given below.
ii) Check your answer with the answers given at the end of the Unit.
- 7) Explain the concept of a digital library.

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2.2.6 Virtual Libraries

Much of the explanation surrounding the emerging 21st century library is based on the opportunities provided by enhanced access to information resources through the use of networked information technologies. Existing libraries are a product of an intersection and an interaction of *people, resources, and procedures*.

The delivery of services to patrons and other users, including library staff, is built upon the *collective personnel, information, and technological resources* that constitute the library. Library professionals (experts) are accepting the *potential and practicality* of *virtual* libraries to better serve users by providing access to a broader range of information than available locally and by supporting traditional resource sharing among libraries.

A) Definition of Virtual Library

“A *Virtual Library* is a selected organised collection of units (nodes) of documentary resources

- Spread everywhere (space);
- Accessible always (time);

Where individuals and groups as

- Authors (producers of documents);
- Publishers (editors of documents);
- Readers (users of documents)

Are linked across the global electronic network and related in different ways to documents that are:

- Fast and easily obtainable
- Available in their full version.

In view of satisfying multiple cultural exigencies (information, learning and entertainment, etc.).”

But, according to Allan Powell “the virtual library can have many definitions, including: A library with little or no physical plant of books, periodicals, reading space, or support staff, but one that disseminates selective information directly to distributed library customers, usually electronically. A more traditional library that has transformed some significant portions of its information delivery channels into electronic format, so that many or most of its customers do not need to visit the library to obtain information. A library that operates as a *nexus* of selected information management activities within the organisation, some of them centralised, but most of which happen through the efforts of decentralised staff, resources, systems, and even outside suppliers, who are accessible and dispersed through out the organisation”.

“The key characteristics of a true virtual library are:

- There is no corresponding physical collection,
- Documents will be available in electronic formats,
- Documents are not stored in any one location,

- Documents can be accessed from any workstation,
- Documents are retrieved and delivered as and when required, and
- Effective search and browse facilities are available” (Sherwell, 1997).

The realisation that convergence of communications and computing technologies offer opportunities for extending the reach and the range of the traditional library is driving the acceptance of the virtual library concept. The Internet, the Web, and digital collections provide a context for making the idea of a virtual library real.

B) *Virtual Library Design*

A pragmatic approach for designing virtual libraries is to focus on services rather than on technology. A service-based architecture for a virtual library is essential and provides the framework to accommodate both digital resources and the collections that will not be transformed into *bits* and *bytes*.

C) *Service-Based Architecture*

Since the library, by its nature, is primarily a service institution, a service philosophy should guide the *virtual library*. A library collects books and other materials, and appoints qualified staff with a view to provide services to its users. The following components must be taken into consideration while building a virtual library:

- Users,
- Services,
- Resources,
- Technology,
- Management,
- Policy,
- Funding.

If we consider services as the output of the virtual library, the other components should serve as infrastructure for the creation and delivery of services to users. The interaction of different components of a virtual library are shown in the figure.

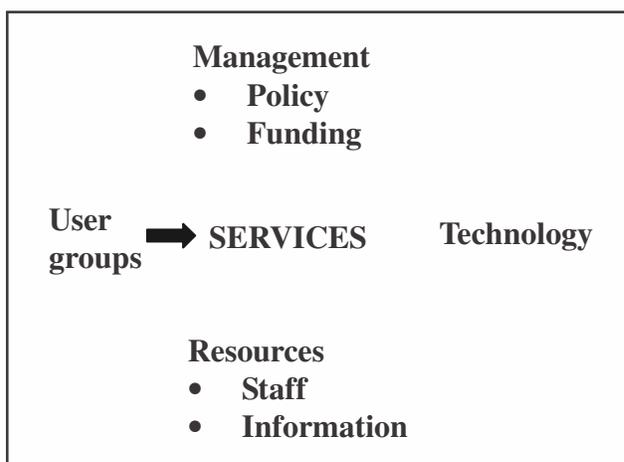


Fig. 2.1: Components of a Virtual Library

It may be emphasised that user needs define and shape appropriate services, which are based on available resources, including staff and information. Technology, in the form of many different tools, supports the delivery of services. Of course, the management *identifies* and *prioritises* the services and formulates overall policy. Management also acquires and allocates the funding necessary for the infrastructure, services and the infrastructure needed for their delivery (resource and technology). Service-based architecture not only identifies components of the virtual library and indicates where funds to be allocated, it also allows the development of service quality benchmarks. For any service, we need to indicate the goals and objectives of the service, and then propose performance metrics by which to assess the utility of a service and ultimately, the value of the service to users.

D) *Virtual Library: Services for Users*

Though demographic characteristics play an important role in deciding users of virtual library, the boundaries can be wider and more inclusive. Focussing on services allows us to think about the *types* and *levels* of services we are going to provide to a variety of user groups. Defining the services for any group directs us to the technologies appropriate to those groups. The types of services provided by a virtual library comprise the following:

- Resource discovery services,
- Access services,
- Reference services,
- Instruction service, and
- Patron account service.

Resource discovery service: This service provides users with a variety of tools and approaches for discovering the existence of appropriate resources. Typically, a user will search one or more repositories of metadata, full text, or images to identify and select resources. Three types of searches are possible: i) Single Database Searching, ii) Broadcast Searching, and iii) Integrative Searching.

Access service: Once the user has discovered the resources, the access service addresses getting the information to the user. It depends on the users' paying capacity.

Reference service: Both cost and quality of service are important considerations for establishing reference service. With the limited resources made available for reference service the library must consider priority of serving various user groups.

Instruction service: This service focuses on appropriate training and instruction activities to assist users. Users will need to know how to use the new and emerging technologies. But, more importantly they may need help in understanding what resources are available, their costs, and their authenticity.

Patron (user) account service: This service area addresses user activities including accessing account information through the network, use the service to order materials, or pay for the resources.

The above list of services is illustrative and not comprehensive. These five services are intended to provide a point of departure for discussing what the virtual library might provide.

E) *Standards and Interoperability for Virtual Library*

The virtual library is a focus for collaboration and collaborative services. In the network environment, there is an assumption that systems and organisations interoperate. Definitions of interoperability reveal common themes: working together, exchanging information, interacting without special effort on the part of the user, or operating together effectively. Usually the content of the interoperability is focussed on technical interoperability between information systems. For example, a system-centric definition of interoperability might be the ability of two or more systems or components to exchange information and use the exchanged information without special effort on the part of either system. In service-based virtual library, a focus on users should inform the concept of interoperability so that the users may successfully search and retrieve information from two or more systems in a meaningful way with confidence.

The implementation of standards such as Z39.50 enables interoperability among systems. But, implementing such technologies and offering services based on interoperable systems require a clear understanding of the information access and use issues.

Collaboration among libraries has always been manifested in resource sharing programmes. Opportunities for resource sharing increase with a virtual library as the research of librarians and users extend to a broader and more comprehensive range of resources. Many different groups can benefit from a virtual library. The challenge is to ensure that the various groups have opportunities to participate in the design, development and governance of the virtual library. Indeed the virtual library offers a new context for taking traditional library collaboration forward.

Self Check Exercise

Note: i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of the Unit.

8) What is a virtual library? Discuss its characteristics.

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9) What is meant by interoperability? How can it help users of a virtual library?

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2.2.7 Hybrid Libraries

The hybrid library is a term that has entered the parlance of library and information profession recently. It is stated that the term *hybrid library* was first coined in 1998 by Chris Rusbridge in an article published in the D – Lib Magazine.

A) *What is a hybrid library?*

Hybrid library is a term used by librarians to describe libraries containing a mix of traditional print library resources and the growing number of electronic resources. In other words hybrid libraries are a mix of traditional print materials such as books, and magazines as well as electronic based materials such as downloadable audio-books, e-books and electronic journals etc. The challenge associated with the management of hybrid library is to encourage end-user resource discovery and information use, in a variety of formats and from a number of local and remote sources, in a seamlessly integrated way.

Hybrid libraries evolved in the 1990s when electronic resources became easily available for libraries to acquire for public use. In the beginning electronic resources were typically accessed to material distributed on media such as CD-ROM or searchers of special databases. OCLC helped to push libraries towards acquiring digital resources by providing a centralised technology resource for participating libraries. Now, with the widespread availability of digital content, it includes internet resources and documents which are online, such as e-prints.

The hybrid library should be “designed to bring a range of technologies from different sources together in the context of a working library, and also explore integrated systems and services in both electronic and print environments” (Chris Rusbridge, 1998). The hybrid library should not, then, be seen as nothing more than an uneasy transitional phase between the conventional library and digital library, but rather, as worth while model in its own right, which can usefully developed and improved.

It may be pointed out that this kind of library has been given other labels. The concept of “*gateway library*”, for instance, seems to be one which describes a similar idea. In other words, the *gateway library* and *hybrid library* are the same. They describe the *real world* situation where libraries provide access to a range of different media but also express the ideal of greater integration.

Hybrid libraries need staff that is trained in helping users navigate the vast amount of information available in digital age. The staff should have expertise and training in handling electronic media as well as traditional print forms.

B) *Issues in Hybrid Library*

Some of the issues facing the hybrid libraries are: digital divide, interoperability, collection development, ownership of electronic resources and preservation of digital media.

The term *digital divide* is used to describe the gap between those with information technology knowledge and those who do not possess this knowledge.

Usually the concept of interoperability is focused on technical interoperability between information systems. For example, a system-centric definition of interoperability might be the ability of two or more systems or components to exchange information and use the exchanged information without special effort on the part of either system. The hybrid libraries own and subscribe to different resources in different formats. Some of the common formats are e-journals, serials, print monographs, CD and DVD. The main components of digital library framework are user interfaces, repository, handles system, and search system. The handle system and search system are the major components that should be designed with interoperability features to search across different repositories owned by different vendors. The user interface should be designed in such a way that it helps library users develop a common knowledge to do searches across all repositories.

i) *Collection Development*

Collection development is another challenge facing the hybrid libraries. The process is similar to that of a traditional library. In fact, hybrid libraries follow the same policies and procedures followed in traditional library collection development.

ii) *Ownership of Electronic Resources*

This is one of the problematic aspects faced by hybrid libraries. Ownership of electronic materials is *virtual* and not *physical*. There are no clear policies about the ownership of electronic materials once the subscription is cancelled or expired. Libraries have to pay attention to the legal contracts from the database vendors. If the hybrid libraries plan on archiving the electronic resources, then there are legal issues related to it. The most important issues are intellectual property and authenticity of digital information.

iii) *Preservation of Digital Media*

To make the preservation of digital media cost - effective, standardisation of different media format is required. The three possible approaches to the problem are:

- i) Technology preservation,
- ii) Emulation, and
- iii) Migration.

In technology preservation method, both hardware and software related to digital information are preserved. This may not be cost-effective because changes to hardware and different versions of software need to be either maintained or constantly upgraded. In emulation some emulator software programmes will mimic the hardware and software of the original data and display in the original format. In migration, digital information is converted to a standard media with standard format.

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of the Unit.

10) Discuss the concept of hybrid library and indicate some of the issues relating to it.

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2.3 SUMMARY

Libraries are an important resource for individuals and for communities of people who are interested in the preservation of knowledge. Their importance stems from their ability to maintain records of human endeavour within a range of different contexts using many different types of media. Libraries will therefore continue to play important social, cultural, technical, and pedagogic roles in the future. Obviously, some changes in the library concept will be needed in order to accommodate the requirements of the new information storage and delivery technologies and what these enable people to do.

This Unit discusses different types of libraries, their characteristics, functions and services. It starts with traditional libraries. In this regard, National Libraries, Academic Libraries, Public Libraries, and Special Libraries have been described and their functions and services have been briefly explained. The entire discussion is centred around the role of the emerging 21st century library based on the opportunities presented by enhanced access to information resources through the use of networked information technologies. In fact, existing libraries are a product of an intersection and an interaction of people, resources, and procedures. The realisation that the converging of communications and computing technologies offer an opportunity for extending the reach and range of the traditional library is driving the acceptance of concepts like *digital libraries*, *virtual libraries*, and *hybrid libraries*. There fore, the latter part of this Unit is devoted to the discussion on *digital libraries*, *virtual libraries*, and *hybrid libraries*. A pragmatic approach for designing *digital*, *virtual*, and *hybrid libraries*, is to focus on services rather than on technology. A service-based architecture for creating the emerging library is a logical starting point because library, by its nature, is primarily a service institution. It may be pointed out that a simple focus on faster access to more information generally has only the end-user of the information in mind, where as service-based architecture can address the roles and responsibilities of the people who staff these libraries as well as the people who use them. Hence, emphasis has been given to this approach in discussing the design, development and management of digital, virtual and hybrid libraries.

2.4 ANSWERS TO SELF CHECK EXERCISES

1) The Final Report of the Regional Seminar on the Development of National Library in Asia and Pacific Area, held at Manila in 1964, contained the following as functions of a National Library can be stated as under:

- to provide leadership among libraries;
- to serve as permanent depository for all publications issued in the country;
- to acquire other types of materials;
- to provide bibliographical services;
- to serve as coordinating centre for cooperative activities; and
- to provide service to government.

Keeping in view the practices followed in some important national libraries of the World, we may study the objectives and functions under convenient groups mentioned below:

- functions relating to collection development and conservations,
- disseminating functions,
- preparation of national bibliographies, and
- services offered to users.

It may be noted that in India, the National Bibliography is published by the Central Reference Library located in the National Library campus at Belvedere, Calcutta.

2) The National Library of Calcutta, India, presently provides the following services:

- Lending service including inter library loan;
- Reading facilities;
- Bibliography and Reference services; and
- Reprography (document supply) services.

3) Some of the national libraries of the World are:

- i) Library of Congress (L.C.), Washington, D.C.
- ii) The British Library, London, U.K.
- iii) Russian State Library (Formally called the Lenin Library), Moscow.
- iv) The National Diet Library of China, Peking.
- v) Australian National Library.

4) University libraries are intended to help and support the universities in realising the objectives of the University of which they are part. The major functions of a university library are:

- Development of collection in a wider range of subjects for learning, teaching and research, publications etc.

- Organisation and maintenance of the collected material for use,
- To design and organise and provide a variety of documentation and information services both responsive as well as anticipatory.

A university library is distinct from a college library in functions such as research, conservation of knowledge and ideas and publication of research results. Therefore in a university library, the collections, the different house keeping operations, and the services have to be different from that of college library. The competence of staff required to perform those functions must be high and requires scholarship, effective communication skills and ability to innovation.

- 5) Public Libraries are intended for and directed to all that live and work in a certain community, to all ages, from children to elders, to all social, national and religious groups, to all regardless of level of education and culture, occupation or level of knowledge in order to serve their cultural and informational needs.

In accordance with this, public libraries participate in five major fields of public life. They are:

- Education – especially self-education and life-long learning;
- Political life – participation in the realisation of democratic and civil rights and duties;
- Information – ensuring access to information for all, has become an obligation in the realisation of human rights;
- Cultural enrichment – access to different sources of information and knowledge for all which includes literacy advancement, information awareness;
- Economic development – public libraries must act as a form of local economic information service in accordance with the main economic aspects of the area.

Since knowledge is the public good and as such intended for all, it must be accessible to every one. Each individual and social group would have equitable access to knowledge and sources of knowledge. It is the obligation of each state to build the knowledge society and public libraries have an important role in this endeavour. In India the National Knowledge Commission has realised this fact and has recommended to the Government of India a development plan for this purpose.

- 6) It may be mentioned that World War I, and II accelerated the process of industrial development backed by scientific and technological research. Research and Development became increasingly institutionalised. This trend led to the growth of special libraries collections and new services by libraries. Thus libraries were established to serve special groups of users to meet their own needs. Special libraries are planned on strictly practical lines with activities and collections carefully controlled in size and scope. The special libraries are mainly concerned with communicating information to their users. The word *special* must be interpreted to mean *specialist* to get a clear concept of Special Library.

Special librarians have become adept at *reading the runes* of the environment in which their parent organisations operate. They scan information sources to find material that they know will interest their clientele. Special libraries generally provide the following services to their user community:

- Reference Service;
- Awareness Services such as Current Awareness and routing, news letters and other bulletin services;
- Personalised and customised information services such as SDI;
- Specialised services like consolidation and repackaging of information; and
- Analysis, synthesis and evaluation of information and data and preparation of critical reports as and when required.

In all these activities they use information technology available to them.

- 7) The concept of *digital library* has several differing interpretations, derived from different communities involved in digital library research, practice, organisation, and commerce. In other words, there is no agreed upon definition of digital libraries. Different perspectives about digital libraries, together with competing visions and associated definitions, come from different communities that are involved in digital library work. We shall consider two communities: research and practice. The research community grounded mostly in computer science, asks research questions directed towards their technology oriented aspects and components. On the other hand, the practice community, grounded mostly in library and information science, asks developmental, operational, and use questions in real-life economic and institutional contexts, restrictions and possibilities, concentrating on applications on the use end of the spectrum.

Digital Libraries Federation (DLF) which represents libraries provides an agreed definition of digital library as follows: “Digital Libraries are organisations that provide the resources, including the specialised staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital work so that they are readily and economically available for use by a defined community or set of communities”.

Borgman provides a definition of digital libraries which may be considered as a bridge between the research community definition and the practical community definition in the following way: “Digital libraries are a set of electronic resources and associated technical capabilities for creating searching and using information. In this sense, they are an extension and enhancement of information storage and retrieval systems that manipulate digital data in any medium... The content of digital libraries includes data, metadata; they describe various aspects of the data and metadata... Digital Libraries are constructed – collected and organised – by [and for] a community of users and their functional capabilities support the information needs and uses of that community”.

However, it may be emphasised that the *digital library* is not merely equivalent to a digitised collection with information management tools. It is

also a series of activities that bring together collections, services, and people in support of life cycle of creation, dissemination, use, and preservation of data, information and knowledge.

- 8) The term *Virtual Library* has been defined in different ways. “It is a selected organised collection of units of documentary resources Spread everywhere (across space), Accessible always (through out the time), Where individuals and groups are linked across the global electronic network and related in different ways to documents that are fast and easily obtainable and available in their full version., in view of satisfying multiple cultural exigencies (information, learning and entertainment, etc.).

In other words, it is a library in which the holdings are found in electronic stacks. It is a library that exists, without any regard to physical space or location. It is a technological way to bring together the resources of various libraries and information services, both internal and external, all in one place, so that users can find what they need quickly and easily.

The important characteristics of a true *virtual library* are:

- There is no corresponding physical collection,
- Documents will be available in electronic formats,
- Documents are not stored in any one location,
- Documents can be accessed from any workstation,
- Documents are retrieved and delivered as and when required, and
- Effective search and browse facilities are available”.

The types of services provided by a virtual library comprise the following:

- i) Resource discovery services,
 - ii) Access services,
 - iii) Reference services,
 - iv) Instruction service and
 - v) Patron (user) account service.
- 9) In a networked environment, there is a fundamental assumption that systems and organisations will interoperate. The concept of interoperability is focussed on technical interoperability between information systems. It is the ability of two or more systems or components to exchange information and use the exchanged information without special effort on the part of either system. The implementation Z39.50 enables interoperability among systems.
- 10) The *hybrid library* is a term used by the librarians to describe libraries containing a *mix* of traditional print library resources and number of electronic resources. The term was first coined by Chris Rusbridge in 1998.

Hybrid libraries evolved in 1990s when electronic resources became easily available to libraries.

Some of the issues facing the hybrid libraries are: the digital divide, interoperability, and collection development, ownership of electronic

resources and preservation of digital media. The term digital divide is used to describe the gap between those with information technology knowledge and those who do not possess such knowledge. The complicated and changing copyright laws are a challenge for many virtual libraries as it is difficult to make sure whether their users are using digital items lawfully. Also, hybrid libraries need trained staff to help users to navigate the vast amount of information available in the digital age.

2.5 KEYWORDS

- Academic Libraries** : The libraries associated with educational institutions.
- Audio-visual** : Hearing and seeing.
- Browsing** : To look through a book in a casual manner.
- Consolidation** : Comprehensive account, descriptive or critical reported separately in different sources but brought together on a specific subject for use.
- Digest** : A Publication comprising summaries of information on a single topic or a number of related topics.
- Digital Coherence** : It means all the objects in a digital library, whether *sounds, images, texts*, or some other media can be treated in essentially the same way. Prior to digital coherence, libraries needed to treat various media differently. This concept permits equality among various information resources.
- Digital Library System (DLS)** : A software system that is based on a architecture and provides all functionality required by a particular *digital library*. Users interface with a digital library through the corresponding DLS.
- Disintermediation** : The term is used for the process where by users are encouraged to interact directly with services.
- Information Behaviour:** The ways in which users seek, acquire and utilise information.
- Information Literacy** : The knowledge and skills required to locate and use information contained in various formats. The ability to make significant connections to form interpretations, to provide context, etc.
- Innovative** : Bring in novelties; make changes in.
- Interoperability** : It is concerned with standards needed to enable systems to interact and information to be stored, transported and communicated between and across them.
- Library Network** : Interlinking library resources and services by means of computer and communication technologies.
- Lifelong Learning** : Learning throughout life continues to be emphasised

- Metadata** : *It is data about data* – consists of descriptions of information *objects* (books, Web pages, audio tapes etc.). The term is usually applied to *structured data* since without structure it is impossible to process the information contained in a metadata record.
- Networked Learning** : A term used to describe all the methods of delivering, learning which rely on information and communications technologies.
- Repackaging** : Reports prepared or presented to suit a particular group of users.

2.6 REFERENCES AND FURTHER READING

Abram, S. “Post Information Age Positioning for Special Librarians: Is Knowledge Management the Answer?”. *Information Outlook* 1.6 (1997): 18-25. Print.

Arms, W.Y. *Digital Libraries*. Cambridge MA: MIT Press, 2000. Print.

Borgman, C.L. *et al.* “Social Aspects of Digital Libraries: Final Report to the NSF”. 1996.

Borgman, C.L. “What are Digital Libraries? Competing Visions”. *Information Processing & Management*, 38. 3 (1999): 227-243. Print.

Brophy, Peter. *The Academic Library*. 2nd ed. London: Facet Publishing, 2005. Print.

---. *The Library in the Twenty-First Century*. London: Facet Publishing, 2007. Print.

Candela, L. “Setting the Foundations of Digital Libraries: The DELOS Manifesto”. *D-Lib Magazine*, 13.3/4 (2007). Print.

Cleveland, G. *Digital Libraries: Definitions, Issues and Challenges*. 1998 Web. 25 September 2012. <http://archive.ifla.org/VI/5/op/udtop8/udtop8.htm>

Dolan, J. *A Blue Print for Excellence: Public Libraries 2008 – 2011: Connecting People to Knowledge and Inspiration*. London: MLA, 2007. Print.

The European Library. Connecting Knowledge. Web. 27 September 2012. <<http://www.theeuropeanlibrary.org/tel4/>>

Grimes, Deborah Jean. *Academic Library Centrality*. ACRL Publications in Librarianship. 50. Chicago: Association of College and Research Libraries, 1998.

Hybrid Library. Web. 25 September 2012. <<http://en.wikipedia.org/wiki/Hybridlibrary>>.

IFLA. *UNESCO Public Library Manifesto*. The Hague: IFLA, 1995. Print.

Joint Funding Council’s Libraries Review Group: Report (The Follett Report). Bristol: Higher Education Funding Council for England, 1993. Web. 27 September 2012. <<http://www.ukoln.ac.uk/services/papers/follett/report/>>

Lesk, M. E. *Practical Digital Libraries*. San Francisco: Morgan Kaufman, 1997. Print.

Levy, D. A. "Digital Libraries and the Problem or Purpose". *Bulletin of the American Society for Information Science*. 26.6(2000):22-26. Print.

Line, M.B. and J. Line. "The Nature and Aims of National Libraries: Introductory Notes". *National Libraries*. Ed. Maurice B. Line and Joyce Line. London: Aslib: 1979. Print.

Lor, P.J. *Guidelines for Legislation for National Libraries*. UNISIST, Paris: Unesco, 1997. Print.

Lynch, C, and Garcia – Molina, H. "Interoperability, Scaling, and the Digital Libraries Research Agenda: A Report on the May 18-19, 1995 IITA Libraries Workshop," *Microcomputers for Information Management: Global Internetworking for Libraries* 13.2(1996).

Majumdar, Uma. *India's National Library: Systemisation and Modernisation*. Calcutta: National Library, 1987. Print.

Moen, W. E. and Murray, K. R. "A Service-based approach for Visual Libraries". *Texas Library Journal*. (Fall 2002): 1-11. Print.

Virtual Libraries: Themes. Web. 25 September 2012. < <http://www.problemistics.org/vl/themes.html>>

Miksa, Francis. "The Cultural Legacy of the Modern Library for the Future" (old version). *Journal of Education for Library and Information Science* 37.2 (2007): 100-119. Print.

National Libraries. Ed. M.B. Line and J. Line. London: ASLIB, 1979. Print.

National Library. Web. 26 September 2012. <http://en.wikipedia.org/wiki/National_library>

Oppenheim, Charles and Smithson, D (1997). What is the hybrid library? Web. 25 September 2012.<<http://jis.sagepub.com/cgi/content/abstract/25/2/97>>.

Powell, Alan. "Management Models and Measurement in the Virtual Library". *Special Library*. 85.4 (1994): 260-263.

Riccio, H. M (2001). Features – The Virtual Library – Past, Present and Future. Web. 25 September 2012. <<http://www.llrx.com/features/virtuallibrary.htm>>.

Rusbridge, Chris (1998). "Towards the Hybrid Library". *D-Lib Magazine*. 4. 7/ 8 (1998). Web. 25 September 2012. <<http://www.dlib.org/dlib/july98/rusbridge/07rusbridge.html>>

Stipanov, J. *Knowledge Society and Public Libraries*. Zagreb: The Author, 2005. Print.

UNESCO. *Public Library Manifesto*. UNESCO: Paris, 1994. Print.

--- . *Regional Seminar on the Development of National Library in Asia and Pacific Area, Manila*, 3-15 February 1964. Final Report. Paris: UNESCO, 1964.

Waters, D. T (1998). *What are digital libraries?* Web. 25 September 2012. <<http://www.clir.org/pubs/issues/issues04.html/issues04.html#dlf>>

A Working Definition of Digital Library [1998]. Web. 27 September 2012. < <http://old.diglib.org/about/dldefinition.htm>>.