UNIT 4 ORGANISATION OF INFORMATION SERVICES

Structure

4.0 OBJECTIVES

Information dissemination is the objective of modern libraries and documentation and information centres. A number of new types of documentation and information institutions have sprung up as a result of this approach. In this Unit, we will introduce you to the various types of information institutions, their purpose, functions and organisation, with specific reference to the growth and development of such institutions in India in the past fifty years.

After reading this Unit, you will be able to:

- recognise the role of documentation and information centres,
- identify the different types of information institutions;
- outline their purpose and functions; and
- describe the organisation and development of such information institutions in India.

4.1 INTRODUCTION

In Units 1, 2 and 3 of this Block you have learnt` about the concept of and need for information, an overview of information services and also have gained sufficient knowledge about users of information services. In this Unit, we introduce you to information institutions that offer a variety of products and services to meet the diverse information needs of the users.

Documentation and information services are activities that grew out of information needs of user communities engaged in research, industrial development, management of different

types of institutions organisations and planning for socio-economic development. Several new types of information centres have sprung up, resulting in the development of a national framework of information institutions. This framework is generally referred to as the information infrastructure, comprising a set of institutions, organisations and resources which support the flow, handling and delivery of information from generator to user. Such institutions are involved in acquiring, processing, storing, retrieving and disseminating information. This information infrastructure encompasses libraries, documentation centres, information centres, referral centres, information analysis centres, data centres and clearing houses. They are the components of the total information system of a country. These component units function as intermediaries linking information and users. Each one of these units has a distinct role, and, at the same time, a common objective of serving the information needs of specialised users.

After defining documentation centres, information centres, databases, etc. we shall discuss their types with reference to their ownership, specialised interests, and levels at which they operate and function.

In India, since 1050, there has been a steady growth and development of these information institutions with specific responsibilities and functions, most of them having been initiated vvidhg0vernmcnt support.

This Unit should be read and studied along with Unit 16 of BLIS 01.

4.2 DOCUMENTATION AND INFORMATION CENTRES AND DATABASES

Traditionally, libraries have been collecting various kinds of publications and holding them in readiness for use by scholars, who generally know what they want. After the World War II, there has been a knowledge explosion and consequently, exponential growth of literature .There have also been complexities in information generation, handling and use. The users have been increasingly feeling helpless due to lack of time and skill to go through the vast amount of literature or to find the information directly. Traditional library services had to be supplemented with more active service provisions. As a result, documentation and information centres began emerging to take dare of the changing needs of information users for specialised services. The emphasis first shifted to documentation where periodical articles, etc. were required to be handled and served and then to information where the information contained in the documents became the product of service.

Libraries, particularly special libraries, and documentation and information centres have been known to scan current literature sources, select items of interest to the users, prepare bibliographical entries and maintain a file to offer current and retrospective ,literature search services. These files are known as databases. In these files are recorded bibliographic data. A documentation and information centre may create databases in its areas of interest from internal and external sources and also provide on-line access to external databases for providing current and retrospective literature search services.

4.2.1 Definitions

A, organisation ,, selects, acquires, stores, organises a--retrieves specific documents to meet users' requirements, (ii) announces, abstracts, extracts and indexes documents, and (Hi) disseminates documents in "response to requests from users. An of documents alone in providing the service. This is the subtle difference between a documentation centre and an information centre.

A database is an organised set of data stored through (i) the medium of cards, files, ledgers, etc. which tan be searched manually, and (ii) the computer-readable medium which can be searched very fast. A database may contain usable raw data like physical and chemical properties, statistical and other numerical data or bibliographical information carrying description of source documents or non-bibliographical information relating to institutions, projects, spetialists, etc. While the term is predominantly used in computer field, it may be

taken to mean, for our purpose, a repository of information on a specific topic, subject area or discipline. -

Self Check Exercises

1) Give three reasons for the need for documentation and information centres.

2) State what constitutes the information infrastructure of a country.

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

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

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4.2.2 Relationship to Libraries

Document collection is a major function of all information service units. Libraries are traditionally known to be centres for collecting and storing documents. For that matter, documentation and information centres were established initially as extensions of special libraries. This has been particularly so in our country where the documentation and information centres came up around the nucleus of special libraries. Most of the library practices and techniques are extended and refined to suit documentation and information work. Usually, documentation and information centres are set up in specialised subject fields for the benefit of specialist groups of users working in those fields. Initially, when information work was manual or semi-automatic in nature, it was possible for only special libraries to perform the task and meet the requirements. Besides, the size of both their user community and their collection was relatively small. Thus, special libraries easily and quickly became information centres.

There are varying arguments on say the relationship of services vis-a-vis documentation and information services Some that include documentation and information services; others argue that library services and documentation and information services operate independently with their distinct and separate identity and functioning; still others view that documentation and information service encompasses library services. However, for your purpose, you may consider documentation and information centres as extensions of special libraries and that they practise and perform many library techniques and functions, with such refinements as may be necessary to handle information to serve the complex needs computerisation of library services the distinction between libraries and information centres of specialised users. It is all the more important to remember that with the increasing is going to vanish in due course.

4.3 TYPES OF DOCUMENTATION AND INFORMATION CENTRES

Documentation and information centres are discussed here under three broad groups. They are:

i) By ownership, i.e., those centres that are owned, funded and run by government agencies or learned societies or professional associations or private agencies.

ii) By specialised interests, i.e., those centres that cater to specialists in different subject areas of research, in mission-oriented projects, and those others interested in special materials, or specific kinds of information.

iii) By levels; i.e., those centres that operate at the global, regional, national, or local levels.

These groups are not mutually exclusive. An institution owned by a learned society may offer general services, or government agencies operating either at local or national level, may very well offer specialised services.

In the following paragraphs, we give you a brief description of these types of documentation and information centres with examples of each type.

4.3.1 By Ownership

i) **Public documentation/information centres** -Established from public funds, these may not be self- supporting financially. In developing countries, documentation and information centres are set up usually under the aegis of government agencies and they may be attached to or associated with special libraries. They may or may not be accessible to general public.

Examples :

Indian National Scientific Documentation Centre (INSDOC), New Delhi
Defence Scientific Information and Documentation Centre (DESIDOC), Delhi
National Informatics Centre (NEC), New Delhi.

ii) Semi-public documentation/information centres - Established by learned or professional societies, trade associations industrial undertakings, etc., they exist primarily for serving the members of their parent institutions, but may be accessible to others also. They may aim at operating on self-supporting basis.

Examples:

Aslib Information Centre, Aslib, UK.

Information Centre for Iron and Steel, Steel Authority of India Ltd. (SAIL) R&D Centre, Ranchi.

National Information Centre for Textiles and Allied Subjects (NICTAS), ATIRA, Ahmedabad.

iii) Private documentation/information centres - They belong mainly to private business enterprises, commercial firms, etc., and serve primarily the interests of their own institutions. In developed countries, most of the documentation and information centres function under private management and along commercial lines.

Examples:

Institute for Scientific Information, Philadelphia, USA.

Information Centre, Tata Energy Research Institute (TERI), New Delhi. 4.3.2 By Specialised Interests

4.3.2 By Specialised Interests

i) Subject fields - Documentation and information centres devoted to subjects like science, social science, engineering, technology, etc.

Examples:

Science and Technology - Indian National Scientific Documentation Centre (INSDOC), New Delhi.

Social Science - National Social Sciences Documentation Centre (NASSDOC), New Delhi,

Medical Sciences - Indian Medlars Centre, New Delhi.

ii) **Mission-oriented -** Documentation and information centres devoted to missions, sectors, etc. of national economy.

Examples:

Defence Scientific Information and Documentation Centre (DESIDOC), Delhi.

Environmental Information System, New Delhi

Biotechnology Information System, New Delhi.

Centre for Documentation on Rural Development, Hyderabad.

iii) **Types of materials** - Documentation and information centres devoted to particular types of materials such as patents, standards, trade literature, translations, etc.

Examples:

Patent Information System, Nagpur.

European Translation Centre, Delft, Netherlands.

National Technical Information Service, Virginia, USA (for reports).

University Microfilms Inc. Ann Arbor, Michigan (for theses).

iv) **Kinds of information** - Documentation and information centres dealing with bibliographic information, management information, industrial information, economic and statistical information, hard data, etc.

Examples:

Bibliographic Information - INSDOC, NASSDOC.

Management Information - National Informatics Centre.

Economic and Statistical Information - PREDICASTS, USA.

Hard Data - National Information Centre for Crystallography (NICRYS), Deptt. of Biophysics and Crystallography, University of Madras.

4.3.3 By Different Levels

i) **Global Information Systems** Characterised by decentralised input, centralised processing and decentralised distribution/dissemination of world wide information.

Examples:

International Nuclear Information System (INIS), Vienna.

Agricultural Information System of FAO (AGRIS), Rome.

Development Science Information System (DEVSIS), IDRC, Canada.

International Serials Data System (ISDS), Paris.

ii) International Information/Database Centres - These hold bibliographic databases in subject fields and offer on-line retrospective/current searches to users all over the world. These may be grouped as,

a) International Database Access Centres which provide to users world-wide online access to various data bases maintained by them.

Examples:

DIALOG - On-line Information Retrieval System, Lockheed, USA (presently called Knight Ridder Information Services, as DIALOG has been acquired by the later).

ORBIT/SDC - On-line Retrieval of Bibliographic Information, System Development Corporation, USA.

ESA - European Space Agency - On-line Information Retrieval Service, Frascati, Rome.

b) International information centres which offer service on a world-wide basis

Examples:

International Patent Documentation Centre (INPADOC), Vienna.

Trade Information Service, International Trade Centre, Geneva.

c) International database producers/suppliers who provide off-line and online retrieval services.

Examples:

CA SEARCH, Chemical Abstracts Service, Columbus, Ohio.

INSPEC, Institution of Electrical Engineers, London.

MEDLARS, National Medical Library, Bethesda, Maryland, USA.

iii) **Regional Information Centres** - Towards collaboration and co-operation among countries belonging to a geographically continuous region or to some other interest group, a number of regional information networks, systems and programmes have come about in recent times. They help in the exchange of information and experiences among countries with similar interests.

Examples:

Commonwealth Regional Renewable Energy Resources Information Service, Melbourne, Australia.

SEAMED Regional Centre for Tropical Biology (BIOTROP), Scientific Information Programme, Bagon, Indonesia.

TECHNONET ASIA - An Asian Network for Industrial Technology and Extension, Singapore.

iv) **National Information Centre/National Documentation Centres** - They perform national level functions and services and are mostly comprehensive in character because of their wide scope.

Examples:

Indian National Scientific Documentation Centre, New Delhi.

Institute of Scientific and Technical Information, (China), Beijing.

Thailand National Documentation Centre, Bangkok.

v) **Regional Documentation Centres (domestic)** - In a geographically vast country, besides the National Documentation Centre, there may be a need to set up information centres in different regions in order to mobilise the information resources and facilities and to serve particular requirements of the users.

vi) **Sectoral Information Centres** -- These are devoted to specific disciplines or missions and each are built around the nucleus of certain information centre having already a strong information base. The services are available on a national scale to all institutions and individuals engaged in the concerned discipline or mission.

Examples:

NISSAT Sectoral Information Centres such as National Information Centre for Drugs and Pharmaceuticals (NICDAP), Lucknow.

National Information Centre for Food Science (NICFOS), Mysore.

National Information Centre for Leather and Allied Industries (NICLAI), Chennai

Self Check Exercises

3) Name the three different types of documentation and information centres ample of each type.

4) State the levels at which information and documentation centres operate.

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

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4.4 FUNCTIONS OF DOCUMENTATION AND INFORMATION CENTRES

In general, a documentation or an, information centre brings to the attention of specialist users the current as well as retrospective literature/information of value to them; sieves through the information sources and indicates with a high degree of precision the right kind of information, makes exhaustive searches of literature so as not to miss any worthwhile information and provides documentation and information services on demand and in anticipation. However, the functions that are assigned to it would vary from one documentation centre to another. For example, a local documentation/information centre has the sole function of providing information services for supporting the programmes and activities of its own institution. It would collect and provide information in so far as it is concerned with the actual work in progress in the institution. Towards this end, the local documentation/ information centre may select and acquire worthwhile materials, organise them for use and serve them to the users both in anticipation of and against specific requests. A national documentation centre, on the other hand, may assume the responsibility for those activities which are beyond the means of local documentation/information centres. The national documentation centre offers service at the national level to all the users in a country. To sum up, a documentation/information centre performs major functions such as collection, processing, storage, retrieval, publication or reproduction and dissemination of information.

Services and Products of Documentation and Information Centres

All functions of documentation and information centres are performed with the objective of providing information services or products. Information products generally refer to the

information packages provided in the form needed by users while information services refer to the identification and supply of specific information either against demand or in anticipation. It must, however, be noted that these expressions are mutually dependent and very often used together to denote a service.

As mentioned, information products and services are offered either in response to or in anticipation of requests. The services have been discussed in Unit 3 of this Block. We may group the services according to responsive and anticipatory services as follows :

Responsive Services

- Answering enquiries
- Referral service
- Compilation of bibliographies
- Retrospective search service
- Document back-up service
- Translation service

Anticipatory Services

- Current Awareness Service and products thereof
- Selective Dissemination of Information service
- Preparation of abstracts, digests, etc.
- Compilation of directories, handbooks, etc.
- Compilation of ad hoc bibliographies,
- State-of-the-art reports

Self Check Exercise

5) List the functions of documentation and information centres.

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

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

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4.5 ORGANISATION OF DOCUMENTATION AND INFORMATION CENTRES IN INDIA

The documentation and information centres at local levels that are attached to individual R&D institutions, business houses, industrial enterprises, government departments. etc., are established and administered by their parent institutions. At the national level, it might be the responsibility of the appropriate government agency to establish and administer the national documentation/information centre.

In a developing country like India, documentation and. information centres are mostly established in the government sector, as research and development efforts are largely government funded and managed.

In India, the national documentation/information centres are, organised under the autonomous bodies of the central Government or under the departments of the Government. Thus, we find that INSDOC is functioning under the Council of Scientific and Industrial Research (CSIR), which is an autonomous body under the Ministry of Science and Technology. Similarly, the NASSDOC functions under the Indian Council of Social Science Research

(ICSSR), an autonomous body under the Ministry of Human Resources Developm6nt. The Agricultural Research Information Centre (A&1C) functions under the Indian Council of Agricultural Research (IGAR). The national level information system that are managed by the Government departments include National Information System for Science and Technology (NISSAT), under the Ministry of Science and Technology, Biotechnology Information System under the Department of Biotechnology (Ministry of Science and Technology), Environmental Information System (ENVIS) under the Ministry of Environment and Forests, and so on. The Sectoral Information Centres are also managed by certain government-supported institutions as mentioned in Section 4.3.3.

There are varying patterns of national level organisation of documentation and information centres and systems in different countries. In the past, examples of USA for decentralised structure, USSR for centralised structure and UK for a mixture of both these, were used to be mentioned as models. At present, however, the network concept is gaining currency. The aim is towards developing a system in which the documentation and information centres in a country are well integrated, articulated and co-ordinated. The trend is to pool the resources, facilities, services and expertise of various documentation and information centres for achieving maximum economy arid productivity with efficiency.

4.5.1 Functional Organisation

The library is expected to take care of selection, acquisition and storage of documents. The documentation/information centre, in collaboration with the library, would then have the responsibility of processing and disseminating information. For this, it may be organised on a functional basis into sections and sub-sections such as (a) information processing, database creation and maintenance, (b) information services, (c) translation services, (d) reprography services, and (e) user education, use promotion and liaison.

4.5.2 Planning Process

The planning process for the establishment of a documentation/information centre may involve the following steps;

i) Formulation of the overall objectives of the documentation centre,

ii) Identification of users and their requirements.
   a) Identification of actual and potential users;
   b) Information requirements and categorisation of user groups; and
   c) Types of information services.

iii) Estimating the inputs related to information sources, manpower/expertise, infrastructure facilities such as institutional support, building and equipment. They could be worked out in financial terms;

iv) Working out the details of the management structure for control and supervision and administration of the centre. This would include not only the management structure of the centre but also its hierarchical position in the organisation or department under which in function

iv) Planning the details of the services and products to be provided;

v) Drawing out a realistic work plan which would involve a number of time –bound action for developing the documentation/information centre in a phased manner and with the means and resources that are available; and

vi) Reviewing and evaluating the developmental phase for any modification or alteration of either the programmes or the strategy.

Self Check Exercise

6) List the steps in the planning of documentation and information centres

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

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

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4.6 GROWTH AND DEVELOPMENT OF DOCUMENTATION AND INFORMATION CENTRES IN INDIA

The post-independence period of India (1947) witnessed the establishment of many bibliographical information centres and systems, in response to the need for information support in diverse national endeavours. The successive Five-Year Plans of the country supported development of a vast infrastructure for science and technology. The Government was committed to the policy that science and technology are to be used as instruments of national development and progress. There has been a vast expansion in facilities for higher education, particularly in technical disciplines. The industrial growth has also been phenomenal. To sustain all these efforts in R&D, education, industrial development, etc., the need for documentation and information support became imperative and creation of necessary infrastructure, therefore, has been attended to continuously. Today, we have a very large network of special libraries and information centres.

4.6.1 Government's Encouragement and Support

The government policy declarations in many fields advocate explicitly or implicitly the development of facilities for library and information support. The Scientific Policy Resolution (1958), the Technology Policy Statement (1983), the National Policy on Education (1986), and the recommendations of the Science Advisory Council to the Prime Minister have all stressed the importance of information in national development.

The Five-Year Plans of the country have laid a good deal of emphasis on the planned development of library and information facilities. NISSAT came to be established as a project under the 3&T Plan of the Fifth Five-Year Plan. A Seventh Plan Working Group (1985-1990) outlined detailed proposals for modernisation of libraries and informatics. The Eighth Plan (1998-95) Working Group on Libraries reiterated the same action. The Nineth Plan Working Group on Libraries and Informatics (1997-2002) also emphasised modenisation of library and information facilities in the country for optimum use of the information resources and for sharing of these resources. In addition, the Planning Commission appointed uhig6-le[p]e! core Task Group with Dr. A.P.J. Abdul Kalam, Scientific Adviser to Defence Minister as the Chairman and Dr. N. Sco6ugirl· Director-General, NIC as member-Secretary, to advise On the use of information and communication technologies for resources sharing among libraries and information centres, The recommendations of this Task Force are being duly considered by the Planning Commission for incorporation in the Ninth Plan document. Thus, in all the planned endeavours, the emphasis is on modernisation and introduction of computer-oriented information handling

4.6.2 Progress during the 1960s and 1960s

As a support to the growing R&D activities in the country, the special libraries attached to various scientific institutions initially began to assume the functions of information centres and have been offering services at the local level. At about that time international organisations like UNESCO and the FID were interested in promoting national systems of information facilities. The establishment of INSDOC in 1952; with technical assistance from UNESCO, is a landmark in the development of documentation facilities in the country. ' Later, DESIDOC came into existence 'in 1967. The Library and Information Services Division of the Bhabha Atomic Research Centre was also established as a central facility in 1968 and this Division took active of the part in the INIS programme .The library of the Directorate General of Health Services assumed the role of National Medical 'inl966 to offer nation-wide service on health science literature. The creation of such national level information centres gave an 'impetus to many R&D institutions under the Council of

Scientific and Industrial Research (CSIR), Indian Council of Agricultural Research (ICAR), Indian Council for Medical Research (ICMR), and Defence Research and Development Organisation (DRDO) to develop their information infrastructure by upgrading and atreugt6-cning their libraries.

4.6.3 Progress during the I970s

There was a spurt in expansion of documentation and information facilities during the seventies. At the national level, the National Social Sciences Documentation Centre (NASSDOC, 1970),the National Informatics Centre (NIC, 1975), the National Documentation Centre for Health and Family Welfare (1975) and the Agricultural Research Information Centre came up. An important development was the evolution of sectoral information centres Under the NISSAT programme and other agencies like the Biotechnology Information System (BTIS), Environmental Information System(ENVIS). These sectoral centres came up around the information centres already having well developed facilities and expertise. They are able to offer specialised services devoted to specific disciplines and missions.

There would be more than 2,000 special libraries, and information centres attached to R&D institutions, academic institution, industrial, government departments, etc, They endeavour to take care of information needs at the local level. There has been realisation lately that their resources and facilities need to be co-ordinated towards optimum utilisation and elimination of unnecessary duplication. There has also been a need to follow uniform techniques, methods and practices towards facilitating exchange of information among the individual centres. In order to achieve these, information systems are being developed around the existing infrastructure. The action programme in this regard envisages interlinking and co-ordinating a large number of resources, services and centres to form versatile, articulated and integrated information systems. A trend in this direction has been set by evolving the National Information System for Science and Technology (NISSAT) in 1977. NISSAT is a major programme in the information field in the country and is expected to contribute substantially to the development of modern and effective information systems and services.

4.6.4 Progress during the 1980s and 1990s

The expansion of the information infrastructure continued in the 80s and 90s of the last century but began moving in new directions. There has been a technological revolution in information handling and service. Every sector is moving for possession of knowledge and information. It is said that we are now an information-intensive society. In this context, the dominant role of information is to be perceived. Apart from increase in number, the documentation and information centres have been strengthening their resources and facilities and modernising their operations and services. The present emphasis is on computerisation of information activities and services and networking of libraries and information centres. Conditions are quite favourable now for the country to make rapid progress in building and strengthening the information systems and services along modern lines.'

During the eighties, NISSAT added six more sectoral centres devoted to crystallography, chemical sciences, textile technology, bibliometrics, ceramics and CD-ROM database collection. Earlier, four sectoral centres had already been established in drugs and pharmaceuticals, food science and technology, leather technology and machine tools. The UGC has established the National Centre for Science Information (NCSI) at the Indian Institute of Science, Bangalore and two others for social science disciplines at SNDT University, Bombay and MS University, Baroda. The Environmental Information System (ENVIS), Biotechnology Information System (BTIS) and the Patent Information System (PIS) are operational now and they take care of three important areas for information support. A few more national level information systems are in the pipeline. Parallely, the present decade saw the emergence of networks. The biggest of these, after that of National Informatics Centre (NICNET), is INFLIBNET that will link all the university major research libraries in the country to form a single information system.

4.6.5 Future Direction

The first decade of the twenty-first century will see a number of major milestones in the services provided by the libraries and information centres. These centres will have more and more of electronic publications in the form of floppies, tapes and CD-ROMs, Also, libraries -academic institutions will subscribing online journals also, in addition

to journals in paper format. More and more libraries will have online catalogues in place of card catalogues, use Internet and other public data networks extensively for collection and dissemination of information. Traditional librarians and documentalists will play a new role as information managers and database administrators. Information services will be provided to users usually online who can receive the information right from their homes or work places. So, the students in the field of library and information science also need to orient their skills in this direction.

Self Check Exercises

7) List five new specialised information centres that were established in India during the eighties.

8) State the main focus of the development of information services for the future.

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

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

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4.7 SUMMARY

Documentation and information centres are intermediary information sources between the generators and the users of information. They constitute the information resource of a country. By developing a strong information resource base and a suitable information infrastructure, a country is able to improve its capability in information handling, service and utilisation. It is acknowledged that information is an essential resource for supporting national development, that it has become an indispensable component in scientific and industrial development, and that documentation and information centres serve the purpose of providing access to information to every type of users. There are different kinds as well as levels of documentation and information centres. Each of them has its own role, yet it serves the common purpose of providing access to information.

Along with the vast expansion of facilities in research and development and in higher education and progress in industrial and economic development, documentation and information centres have sprung up in a large number in our country since independence. The country has made good progress in the development of documentation and information facilities, We have well established documentation and information centres at national, regional, sectoral and local levels. At present, our country is moving towards co-ordinating the large number of information units to evolve an integrated national information system. The imperatives now are to modernise the operations and services in the documentation and information centres with the application of computer and communication technologies and to create an effective network, which will optimise resources and facilities and enhance flow of information across the country for the benefit of information users.

4.8 ANSWERS TO SELF CHECK EXERCISES

1) The three reasons for the need for documentation and information centres are:

   a) Libraries until recently were concerned only with the supply of documents. The information need of the users shifted from documents as a whole to the information contained in the documents.

b) Emphasis of service was shifting to meet the changing complexity of information needs of users.

c) Users need carefully evaluated, analysed, consolidated and repackaged information oriented towards their special needs.

2) The information infrastructure comprises a set of institutions, organisations and resources which support information flow, its handling and delivery from generator to the user. It encompasses libraries, documentation and information centres, referral centres, information analysis centres, data centres, clearing houses, etc.

3) The three types of documentation and information centres are those that are owned, funded and run by government or other agencies (Example INSDOC, DESIDOC); institutions meeting specialised interest (Centre for Documentation for Rural Development, Hyderabad); and institutions operating at different levels (International Serials Data System).

4) There are at least four levels at which documentation and information centres operate, viz., global, regional, national and local.

Global Level - International Nuclear Information System, Vienna.

Regional Level - Technonet Asia for Industrial Information, Singapore.

National Level - Thailand Documentation Centre, Bangkok.

Local Level - Technical Information Centre of Defence Research and

5) The functions of documentation and information centres are: collection, processing , storage , retrieval , dissemination , publication of information and documents supply.

6) the steps in the planning of documentation and information centres involve the following

Formulation of objectives , identification of users and users and requirements; estimating the inputs – information sources, manpower, facilities and finance ; working out the management structure ;planning the services and products ; preparing the action plan for implementation; review and evaluation of the development phase.

7) the five documentation and information centres in India established in the eight are : National Center for science Information,Bangalore;NISSAT sectoral Centre for Textile Technology , Ahmedabad ; Environmental Information System; Biotechnology Information system and the patent Information System.

8) The main focus of the development of information services for the future is modernization of information services through networking of information components using computer and communication technologies.

4.9 KEY WORDS

Database : Organised set of data stored in a computer and which can be searched automatically. Can contain usable raw data or a description of the sources where data can be found. Includes both bibliographic and non bibliographic data. Bibliographic databases result from the accumulation of bibliographic records (secondary information).

Data Centre : An organisation handling raw or partially processed data or partially processed results.

FID : International Federation for Information and Documentation. A non- Governmental international organisation engaged in promotion and co-ordination of documentation and information activities through

		out the world. Its headquarter is located at The Hague (Netherlands).
Information Policy	:	A set of decisions taken by a government, through appropriate laws and regulations, to step up the harmonious development of information transfer activities in order to satisfy the information needs of the country
Infrastructure	:	Set of institutions, organisations, resources, which supports the flow, handling and delivery of information from the generator to the user, including its acquisition, processing, repackaging and transfer
National Information System	:	Set of discipline, mission, or function-oriented information centres (or infrastructure) operating in a co-ordinated way and through the use of common tech-niques of information handling in accordance with the goals of the national information policy to satisfy the needs of the users at large.
Network (Information)	:	A set of inter-related information centres and systems associated with communication facilities, which are co-operating through more or less formal and institutional agreements, in order to jointly implement in-formation handling operations with a view to pooling their resources and better serving *the* users
Sectoral Information Centres	:	Information centres devoted to specific disciplines or missions or functions and offering specialised services.
Referral Centre	:	A centre which provides indication of sources (per-sons, institutions, publications, etc.) from which in-formation may be obtained on a given subject; mechanism for switching user to the sources of information
Unisist	:	It is a programme evolved by UNESCO around 1470 towards a World Science Information System, With the objective of advancing measures for sharing of information by the countries of the world through co-operative agreements among governments, international organisations and operating services.

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