

Chapter 1

Introduction

1.1 Introduction

Electronic publishing has been revolutionizing the format of the recorded knowledge. As a corollary to this, electronic services are attracting reader's attention in today's networked environment. The changing scenario in library environment has arisen to meet the need and use of e-resource along with print versions. Electronic resources appear to be new challenges before the library and information professionals in respect of providing full text access to scholarly publication both in print and electronic version to its end users. Electronic resources can be used efficiently and effectively to provide information to the users. Libraries play an important role in higher education institutions. University libraries come under academic library system. It is associated with the higher education system which is mainly involved teaching-learning, research and innovation process. University Libraries play a great role in imparting higher education in Universities. So the resources in the library must be adequate to serve the user communities of the University (Murthy, 1997). At one time libraries have only printed or documentary resources. But now a days with the advancement of computer networks and electronic form of documents, e-resources form a vital part of library's resources. Electronic publications offer tremendous advantages i.e. easy transmission, access, changes, minimum storage capacity etc. With the advent of electronic publication, function and services of libraries have been changed. Due to transformation of information resources into electronic form the information professionals are facing many new challenges in selecting, collecting, organising and ultimately disseminating the information properly and exhaustively to their end users specially in higher educational institutions like University libraries (Sarmah, 2011). The electronic journal is a version of traditional print or paper based which is disseminated electronically in some form or the other directly to the end user. Although electronic journals have been in existence since 1976, full fledged e-journals came into limelight only in the 1990s. One study identified 30 scholarly e-journals in 1991, which by 1997 have increased to 2,500. Most of these belong to science and

technology and there are many more in the humanities and social sciences (Hitchcock et al., 1996).

Some say that the emergence of e-journals is driven by a few large societal forces beyond technical capabilities. These forces are – increasing journal prices, increasing cost of printing and reduced library budget. Others say that the change is driven by technological developments. With the emergence of world wide web publishing has become very easy, quick and cheap in a medium that can be accessed easily by everyone from anywhere. With the steady growth of e-journals on the internet, it was noticed that creativity and productivity has also improved due to networked technologies. Scholars welcomed the power of electronic journals and seem to have accepted this new medium for communicating research information among fellow professionals. Simultaneously, print journals have rapidly moved towards online while still retaining their traditional formats. Further the additional cost of electronic versions of traditional printed journals is usually borne by the subscribing libraries. The average increase in journal cost is estimated to be around 8% per year. At present vast majority of printed articles are also available in electronic form. Elsevier, a major publisher has so far digitised 8 million articles on world wide web for all their subscribers (Rao, 2009).

It is very clear that the Internet is re-shaping the way in which scholars communicate with one another. Libraries have readily adopted this new technology for fear of being eliminated or losing their role in providing information services to their users. The present atmosphere is said to be very “congenial” for the digital library model of information system envisaged by many intellectuals.

The Libraries of North eastern Region of India will have a long way to build their e-resources due to various probable reasons including planning, initiation and expertise behind the development of electronic resources among University Libraries (Imson & Kharbudon 2016).

E-Resource

The parallel development of information and communication technologies, and the pervasiveness of electronic information fuelled by the Internet, has provided electronic publishing with new explosive growth opportunities. Electronic publishing (EP), from its initial mainly text-based stand-alone publication base, is fast transforming into a resource set of interactive publications endowed with rich multimedia that can be packaged in many ways and disseminated in various forms across different networked environments. The whole publishing chain is changing as the distinction between author, publisher, reader or user, and library are being blurred (Chennupati, Foo, & Heng, 2006).

Initially, e-Publications (EP) were stand-alone publications distributed through storage media such as diskettes and CD-ROM. Later, EPs became multi-dimensional when multimedia technologies enabled sounds, moving images to be incorporated. Advances made in networking technologies has resulted in EP increasingly being used to refer to information content distributed over network environments such as the Internet (Ludwick & Glazer, 2000; Burk, Roberta (2001). EP can therefore be categorised broadly into offline and online publishing. Offline publishing utilizes different types of storage and delivery media such as CD-ROM, CD-I, DVD, memory card, and diskettes, while online publishing uses communication networks such as the Internet, intranets and extranets as the delivery platforms. Many types of Publications exist. These include all kinds of information resources, educational aids, games and other kinds of entertainment products.

E-Resource is a media to help the information seeker to find all e-published information i.e. E-database, E-Journals, E-book, E-magazine etc. Among them some e-resources are freely available and some are priced. Broadly there are three types of e-resources in a university library. E-books, E-journals and E-magazines. Besides online Databases, websites, CD-ROM, Disketts etc. An electronic resource is defined as a resource which requires computer access or any electronic product that delivers a collection of data, be it text referring to full text bases, electronic journals, image collections, other multimedia products and numerical, graphical or time based, as a

commercially available title that has been published with an aim to being marketed. These may be delivered on CD-ROM, on tape or via internet and so on. Over the past few years, a numbers of techniques and related standards have been developed which allow documents to be created and distributed in electronic form. Hence to cope with the present situation, libraries are shifting towards new media, namely electronic resources for their collection developments that the demands of users are better fulfilled. The e-resources on magnetic and optical media have a vast impact on the collections of university libraries. These are more helpful due to inherent capabilities for manipulation and searching, providing information access is cheaper to acquiring information resources, savings in storage and maintenance etc. and sometimes the electronic form is the only alternative (Kumar and Gopalakrishnan, 2016).

North Eastern States of India

Northeast India is the eastern-most region of India. It is connected to East India via a narrow corridor squeezed between independent nations of Bhutan and Bangladesh. Earlier, it comprised of the contiguous Seven Sister States but with the inclusion of Sikkim in the year 2002 by Government of India Under North Eastern Council, now NER consists of eight states. Northeast India is generally considered to be a backward enclave in a progressing economy and one of the most challenging regions of the country to govern. It has been the site of separatist movements among the tribal peoples. North East India constitutes about 8% of India's size and its population is approximately 40 million (2011 census), 3.1% of the total Indian population (Devee & Das, 2018).

The Northeast region is a land locked region (Fig.1.1 and Fig.1.2). It can be physiographically categorised into the Eastern Himalayas, Northeast Hills (Patkai Naga Hills and Lushai Hills) and the Brahmaputra and the Barak Valley Plains. Northeast India (at the confluence of Indo-Malayan, Indo-Chinese, and Indian biogeographical realms) has a predominantly humid sub-tropical climate with hot, humid summers, severe monsoons, and mild winters. Along with the west coast of

India, this region has some of the Indian sub-continent's last remaining rain forests, which support diverse flora and fauna and several crop species. Reserves of petroleum and natural gas in the region are estimated to constitute a fifth of India's total potential. The region is covered by the mighty Brahmaputra-Barak river systems and their tributaries. Geographically, apart from the Brahmaputra, Barak and Imphal valleys and some flat lands in between the hills of Meghalaya and Tripura, the remaining two-thirds of the area is hilly terrain interspersed with valleys and plains; the altitude varies from almost sea-level to over 7,000 metres (23,000 ft) above MSL. The region's high rainfall, averaging around 10,000 millimetres (390 in) and above, creates problems of ecosystem, high seismic activity, and floods. The states of Arunachal Pradesh and Sikkim have a montane climate with cold, snowy winters and mild summers. The Siliguri Corridor in West Bengal, with a width of 21 to 40 kilometres (13 to 25 mi), connects the North Eastern region with the main part of India. The region shares more than 4,500 kilometres (2,800 mi) of international border (about 90 per cent of its entire border area) with China (southern Tibet) in the north, Myanmar in the east, Bangladesh in the southwest, and Bhutan to the northwest (Bhattacharyya, 2005). The states are officially recognised under the North Eastern Council constituted in 1971 as the acting agency for the development of the eight states. The North Eastern Development Finance Corporation Ltd (NEDFi) was incorporated on 9 August 1995 and the Ministry of Development of North Eastern Region (DONER) was set up in September 2001.



Fig.1.1- India (Political)
(Map not to scale)



Fig. 1.2 North Eastern Region

Traditional library resources are the printed materials like books, journals, magazines, newspaper, maps, globe etc. The manuscripts, monographs, non published materials are also considered as traditional library resources. These resources are the cultural and social heritage of the society. But with the advancement of ICT the electronic reading materials also forms a major part in library's collection (Buragohain, 1999). The electronic resources are --- CD-ROM, DVD, online Databases, e-books, e-journals, e-magazines, e-paper etc. These resources are termed as electronic or e-resources. Some of these, for example, CD ROM, DVD can be used offline whereas others are online only. Now a days, with the advancement of Internet and networked environment the online e-resources gaining popularity. In a modern library the e-resource played a crucial role in offering quality services to the users (Saikia and Gohain, 2013). Some important publishers which provides e-resources are --- American Chemical Society, American Institute of Physics, American Physical

Society, Annual Reviews, J-STOR, Oxford University Press, Royal Society of Chemistry, Springer Link, Taylor and Francis, Elsevier Science, Wiley-Blackwell Publishing, Cambridge University Press, Emerald, Institute of Physics, etc. The libraries can access the e-resources individually or through consortia. Consortia is nothing but group of institutions joined together to have common access to the electronic resources in networked environment (Bhatia, 2011). The library consortia are very important aspect for effective use of e-resources. In the developed countries like USA, UK, Russia, Germany, France, South Korea etc. have successfully implemented the consortia for e-resources. Some of the leading consortia are --- OHIO-LINK, HEAL LINK, Georgia's Galileo and Virginia's VIVA, Korea Electronic Site License Initiative (KESLI), London Higher Education Consortium, North West Universities Association (NWUA), Scottish Confederation of Universities and Research Libraries (SCURL) etc (Adeniran, 2013).

In India, consortium for libraries is a quite recent development. Some important consortium are --- Forum for Resource Sharing in Astronomy and Astrophysics (FORSA), Indian Digital Library of Engineering Science and Technology (INDEST) Consortium, CSIR Consortia, IIM Library Consortium, Health Science Library Network Consortium (HELNET) etc. These consortium are mainly for Technical, Scientific and Research Libraries, very few consortium are formed for academic libraries (Habiba & Chowdhury, 2012). At present University Libraries in India are facing challenges due to reduced budget and increase in cost of publication. Realising the need of scholarly e-resources, the University Grants Commission (UGC) has set up an ambitious project known as UGC INFONET E-Journals Consortium in the year 2003 which facilitates free access to different e-books, e-journals and bibliographic databases of various disciplines to the Indian Universities. "N-LIST" is also a similar type of programme for the college libraries initiated by UGC INFLIBNET (Mishra & Sailo 2016).

There are many as 62 Universities and Central Institutions of Higher Education in the seven (7) selected states of North Eastern Region funded by Central

Government, State Government and private Universities. The Universities are listed below (State wise chronologically according to year of establishment)---

Assam:

Table 1.1.1: Universities of Assam

Sl. No	Name	Location	Status	Year of establishment
1	Gauhati University	Guwahati	State University	1948
2	Dibrugarh University	Dibrugarh	State University	1965
3	National Institute of Technology Silchar	Silchar	Central Institution	1967
4	Assam Agricultural University	Jorhat	State University	1969
5	Assam University	Silchar	Central University	1994
6	Indian Institute of Technology Guwahati	Guwahati	Central Institution	1994
7	Tezpur University	Tezpur	Central University	1994
8	Central Institute of Technology Kokrajhar	Kokrajhar	Central Institution	2006
9	Krishna Kanta Handique State Open University	Guwahati	State University	2006
10	Mahapurusha Srimanta Sankaradeva University	Nagaon	Private University	2006
11	Assam Don Bosco University	Guwahati	Private University	2008
12	Assam Down Town University	Guwahati	Private University	2008

13	Bodoland University	Kokrajhar	State University	2009
14	National Law University & Judicial Academy	Guwahati	State University	2009
15	Srimanta Sankardev University of Health Sciences	Guwahati	State University	2009
16	Assam Rajiv Gandhi University of Co- operative Mangement	Sivasagar	State University	2010
17	Assam Science & Technological University	Guwahati	State University	2010
18	Cotton University	Guwahati	State University	2011
19	Kumar Bhaskar Varma Sanskrit and Ancient Studies University	Nalbari	State University	2011
20	Assam Kaziranga University	Jorhat	Private University	2012
21	Assam Women's University	Jorhat	State University	2013
22	Bhattadev University	Pathsala	State University	2017
23	Indian Institute of Information Technology (IIIT) Guwahati	Guwahati	Public Private Partnership (PPP)	2017
24	Krishnaguru Adhyatmik Vishvavidyalaya	Barpeta	Private University	2017
25	Madhabdev University	Narayanpur	State University	2017
26	Rabindranath Tagore University	Hojai	State University	2017
27	Royal Global University	Guwahati	Private University	2017

Arunachal Pradesh:**Table 1.1.2: Universities of Arunachal Pradesh**

28	Rajib Gandhi University	Itanagar	Central University	1984
29	North East Regional Institute of Science & Technology	Nirjuli	Central Institution	1984
30	National Institute of Technology Arunachal Pradesh	Yupia, Papum Pare	Central Institution	2010
31	Arunachal University of Studies	Namsai, Lohit Dist.	Private University	2012
32	Indira Gandhi Technological & Medical Science University	Ziro	Private University	2012
33	Venkateshwara Open University	Itanagar	Private University	2012
34	Apex Professional University	Pasighat	Private University	2013
35	Himalayan University	Itanagar	Private University	2013
36	Arunadodaya University	Itanagar	Private University	2014
37	North East Frontier Technical University	Aalo, West Siang	Private University	2014

Manipur:**Table 1.1.3: Universities of Manipur**

38	Manipur University	Imphal	Central University	1980
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39	Central Agricultural University	Imphal	Central University	1993
40	National Institute of Technology Manipur	Imphal	Central Institution	2010
41	Sangai International University	Churachandpur	Private University	2014

Mizoram:

Table 1.1.4: Universities of Mizoram`

42	Mizoram University	Aizawal	Central University	1986
43	ICFAI University	Aizawal	Private University	2006
44	National Institute of Technology Mizoram	Aizawal	Central Institution	2010

Meghalaya:

Table 1.1.5: Universities of Meghalaya

45	North Eastern Hill University	Shillong	Central University	1973
46	Martin Luther Christian University	Shillong	Private University	2005
47	William Carey University	Shillong	Private University	2005
48	ICFAI University	Tura	Private University	2006
49	Indian Institute of Management (IIM)	Shillong	Central Institution	2007

	Shillong			
50	Techno Global University	Shillong	Private University	2008
51	University of Science and Technology Meghalaya	Khanapara	Private University	2008
52	National Institute of Technology Meghalaya	Shillong	Central Institution	2010
53	University of Technology & Management	Shillong	Private University	2010
54	Mahatma Gandhi University	Tura	Private University	2011

Nagaland:

Table 1.1.6: Universities of Nagaland

55	Nagaland University	Kohima	Central University	1994
56	Global Open University	Dimapur	Private University	2006
57	ICFAI University	Wokha	Private University	2008
58	National Institute of Technology Nagaland	Dimapur	Central Institution	2010

Tripura:

Table 1.1.7: Universities of Tripura

59	Tripura University	Agartala	Central	1987
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			University	
60	ICFAI University	Agartala	Private University	2004
61	National Institute of Technology Agartala	Agartala	Central Institution	2010
62	Maharaja Bir Bikram University	Agartala	State University	2015

1.2 Aim and Objectives

The objective behind conducting present study are as follows ----

1. To determine the purpose and utilisation of the library services by faculty, research scholars and students.
2. To find out the user awareness and flexibility level in e-resource uses.
3. To know the different types of electronic information resources and services used by the faculty, research scholars, post graduate students.
4. To suggest suitable recommendations to improve the existing facilities.
5. To find a fruitful plan for the effective use of e-resources in the University Libraries of North Eastern Region.

1.3 Hypothesis

Hypothesis have been drawn on the basis of above mentioned aims and objectives.

H1:--- University Libraries are not given due emphasis in terms of fund for which e-resource could not be well organised.

H2:--- University Libraries could not provide e-resource service due to constrains of properly trained manpower.

1.4 Study Area

The Topic of the study “The Use of E-Resources in University Libraries in the States of North Eastern Region of India: A study” is closely associated with the University Libraries of North East India. The area of study is restricted to the University Libraries situated in the seven (7) number of states of North Eastern Region of India which comprises namely --- Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura. The North Eastern Region of the country is considered as the backward region. The Region is located in a remote area in compararison to the other parts of the country. So, this part of the country has been choosen because it is very important to have a detailed study of the developments in the university libraries in the use of e–resources which gives a clear picture of the conditions of higher education in the region. Although there are 44 Universities including public and private, only the public funded Universities of seven states namely Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura are considered for the study. Though a good number of Universities are functioning, 11 (Eleven) University Libraries have been selected for the study which are very important to impart higher education in the entire region.

The selected University Libraries are –

1. Central Library, Mizoram University, Aizawl, Mizoram
2. Central Library, Nagaland University, Kohima, Nagaland
3. Central Library, Tezpur University, Tezpur, Assam
4. Central Library, Tripura University, Agartala, Tripura
5. Krishna Kanta Handique Library, Gauhati University, Guwahati, Assam
6. Laxminath Bezbaruah Central Library, IIT Guwahati, North Guwahati
7. Laxminath Bezbaruah Library, Dibrugarh University, Dibrugarh, Assam
8. Library, North Eastern Hill University, Shillong, Meghalaya
9. Library, Rajiv Gandhi University, Itanagar, Arunachal Pradesh
10. Manipur University Library, Manipur University, Imphal, Manipur
11. Rabindra Library, Assam University, Silchar, Assam

There are many university libraries in the NER funded both from government and private sources. Many of them are established in recent past. Some are offering degree in specialized areas of knowledge. For the purpose of the present study it was decided to select only public funded universities established earlier than December 1995 and imparting degrees in various general areas of knowledge and the number of e-resources available are not below 8000 and minimum number of users is 2500. With these set of criteria only eleven (11) university libraries were selected for the present study.

1.5 Materials and Methods

Survey method is adopted and study is conducted with the help of questionnaire consisting of related questions. A set of questionnaire were distributed to each university Librarians and another set were randomly distributed among users of different selected Universities of North Eastern Region. In addition to questionnaire method interview schedule and observation method was also used to collect required information to supplement to the questionnaire method to bring more clarity to the data which are essential and used for analysis and interpretation.

1.6 Importance of Present Works

The present work is very important for the development of University Libraries in the North Eastern Region because e-resources play a very pivotal role in providing effective library services. It is not possible for the University Libraries to fulfil the diversified need of the students, researchers and faculties. By this study a clear picture of the present situation of the use of e-resources in the University Libraries will be reflected. It also helps in preparing future plans for better use of e-resources in University Libraries. University Libraries of North East have great scope for networking in near future. Therefore the study has immense scope and importance in this age of competitive world.

1.7 Chapterisation

The Chapter Plan has been organised as follows :

Chapter 1 – Introduction

Chapter 2 – Review of literature

Chapter 3– Study of Different University Libraries of North Eastern States of India

Chapter 4 – Overview of using E-Resources in University Libraries

Chapter 5 – Use of E-Resources in University Libraries of seven North Eastern States of India

Chapter 6 – Analysis and Findings

Chapter 7 – Conclusion

1.8 Design of Questionnaire

2 (Two) sets of questionnaire have been designed consisting of different questions for answering. First one is for the professional (librarian) and second one is for the user. These questionnaires helped a lot in collecting the required data for the study. Sample questionnaires were appended as annexure.