

USE OF NLIST RESOURCES IN THE COLLEGE LIBRARIES OF LOWER ASSAM: A CASE STUDY

A REPORT OF THE MINOR RESEARCH PROJECT



SUBMITTED TO

UNIVERSITY GRANTS COMMISSION
NORTH EASTERN REGIONAL OFFICE (NERO)
GUWAHATI:: ASSAM

BY

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PREFACE

Electronic resources represent an increasingly important component of libraries. In the present digital knowledge era, the easy and quick access to information, which is the vital resource for each and every citizen, is essential for the development of any nation. The concept of library cooperation, inter library loan and resource sharing among libraries have paved the way for initiatives of library consortia. The most important development that has taken place for academic libraries is the move from being self-sufficient organizations to becoming members of library consortia for collaborative survival.

N-LIST is being jointly executed by the UGC-INFONET Digital Library Consortium, INFLIBNET Centre and the INDEST-AICTE Consortium. The main aim of this Programme is to subscribe and provide access to selected e-resources to Universities and colleges. The N-LIST project provides access to e-resources to students, researchers and faculty from colleges and other beneficiary institutions through server(s) installed at the INFLIBNET Centre. The authorized users from colleges can access e- resources and download articles required by them directly from the publisher's website once colleges are duly authenticated as authorized users through servers deployed at the INFLIBNET Centre.

With the said background, this volume covers the use of e-resources through N-LIST by the college libraries of Lower Assam.

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My gratitude and indebtedness to many esteemed individuals, who inspired and helped me in my project work, it cannot be conveyed in a few sentences.

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I would like to express my sincere thanks to all the respondents of my study which includes mainly the Librarian of the College Libraries of Lower Assam who have responded to my probing question and participated whole heartedly in interactive session and many a time gave suggestion which help me to make improvement in the work.

I am very grateful to my parents, my relatives and also express my sincere thanks to my friends & colleagues for their help, support and encouragements.

Finally, I beg pardon for all my errors and omission that may occur with or without my knowledge.

Date:

Place:

Juli Thakuria
(Miss Juli Thakuria)

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ABBREVIATION AND ACRONYMS

ACS	American Chemical Society
ARNO	Academic Research in the Netherlands Online
CAS	Current Awareness Service
CD ROM	Compact Disk Read Only Memory
CDSware	CERN Document Server Software
CeRA	Consortium for E-resources in Agriculture
CERN	European Council for Nuclear Research
DELCON	DBT e-Library Consortium
DIVA	Digital Scientific Archive or Digitala Vetenskapliga Arkivet in Swedish
e-Collection	Electronic Collection
e-Resources	Electronic Resources
ETD	Electronic Thesis and Dissertation
Fedora	Flexible Extensible Digital Object Repository Architecture
GIS	Geographic Information System
GNDU	Guru Nanak Dev University

ID	Identification
ICT	Information Communication Technology
IIM	Indian Institute of Management
ILL/DD	Inter Library Loan/ Document Delivery
INDEST–AICTE	Indian National Digital Library in Engineering Sciences and Technology- All India Council of Technical Education
INFLIBNET	Information and Library Network
IT	Information Technology
IIT	Indian Institute of Technology
IISc	Indian Institute of Science
IISERs	Indian Institutes of Science Education and Research
ITOR	Tools and technologies for Open Repositories
JCCC	J-Gate Custom Content for Consortia
JSTOR	Journal Storage
MP3	Moving Pictures Experts Group (MPEG)-1 Audio Layer 3
MP4	Moving Pictures Experts Group (MPEG)-4 Part 14
NAAC	National Assessment and Accreditation Council

NITs	National Institute of Technology
N-LIST	National Library and Information Services Infrastructure for Scholarly Content
OPAC	Online Public Access Catalogue
OPUS	Online Publications of the University of Stuttgart
OUAT	Orissa University of Agriculture and Technology
P.G.	Post Graduate
SDI	Selective Dissemination of Information
SWOT	Strengths, Weaknesses, Opportunities, and Threats
UGC	University Grant Commission
UGC-INFONET	University Grant Commission- Information Network
UK	United Kingdom
USA	United State of America

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Advances in computer applications during the past few decades have brought radical changes in the way information is gathered, store, organized, accessed, retrieved and consumed. The application of computers in information processing has brought several products and services to the scene. The Internet and the Web are constantly influencing the development of new modes of scholarly communication; their potential for delivering goods is quite vast, as they overcome successfully the geographical limitations associated with the print media. Further, the distribution time between product publication and its delivery has been drastically reduced. The Internet can be used for efficient retrieval and meeting information needs. This is very important for all types of libraries since most of them call for more and more academic, social, and research work. This important fact is convincing many libraries to move towards digital e-resources, which are found to be less expensive and more useful for easy access. This is especially helpful to distant learners who have limited time to access the libraries from outside by dial-up access to commonly available electronic resources, mainly CD-ROM, OPACs and Internet, which are replacing the print media.

Libraries have witnessed a great metamorphosis in recent years both in their collection development and in their service structure. Over the last several years, a significant transformation has been noticed in collection development policies and practices. Print medium is increasingly giving way to the electronic form of materials. Keeping the traditional elements of novelty the library adds information, offering users new ways to information and documentation. It is rooted in recent years the expression "learn anywhere and anytime", which obviously leads to the thought of alternative information, communication and education. If the educational system promotes an 'education for all', aiming at training beyond geographical barriers, age, proposing options for study at a distance, the institutions of information at the university level will be forced to rethink new sources of information, and, implicitly new distribution channels.

In the present digital knowledge era, the easy and quick access to information, which is the vital resource for each and every citizen, is essential for the development of any nation. The concept of library cooperation, inter library loan and resource sharing among libraries have paved the way for initiatives of library consortia. The most important development that has taken place for academic libraries is the move from being self sufficient organizations to becoming members of library consortia for collaborative survival. The UGC INFONET Digital Consortium, an initiative of INFLIBNET Centre, was a great leap forward for the democratization of knowledge. Through this programme, a very large amount of information was made available to the academic community of universities in India. Still, a large group of students and teachers in colleges, except those who have access to nearby university libraries, were deprived off this knowledge reservoir. So as a next step, the project entitled "National library and Information

Services Infrastructure for Scholarly Content (N-LIST)" jointly executed by UGC-INFONET Digital Library Consortium, INFLIBNET Centre and INDEST-AICTE Consortium, IIT Delhi was launched in the year 2010.

1.2 ORIGIN OF THE RESEARCH PROBLEM

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, via internet and so on.

The library at present is maintaining two parallel collection of reading materials such as traditional and electronic resources to satisfy the varied needs of the user communities. Further, the Library and Information Centres require availability and accessibility to a variety of information resources and formats (such as digital full-text, sound, graphics, images, multimedia and hypertext). In view of the financial constraints almost all the libraries including the college libraries are unable to procure sufficient reading and research materials both in traditional and e-form for teaching and research purpose of the users including academicians. Moreover, the increasing volume of available publications

has also created confusions for the library to acquire all the titles within the allocated limited budget which caused immense problems for the users in pursuing their teaching and research work. This has resulted in the academic communities including students and researchers to move from print to electronic resources. Mention may be made that now-a-days, the e-resources are profusely available through Internet, World Wide Web and Consortia and subject gateways.

Students on many courses in many universities/colleges are now required to find web access to the lecture notes and selected digital resources in support of their study. They have personalised web environments in which they can join discussion forums with their class or group, and this new kind of access gives them much greater flexibility of study. Student's may search the library's online catalogue, use a subject guide or databases to access a citation from the internet or access full-text articles from web based journals. They may browse an electronic journals, fill out an interlibrary lending form, e-mail a reference question via ask-a librarian service or borrow an e- book all by remote access. This kind of new facilities effect the user's services of the libraries.

Keeping in view the growing importance of Issues, Developments, Opportunities and Challenges of E-resources in Higher Education it is necessary to study the use of E-Resources in the users of higher educational institutions.

1.3 SIGNIFICANCE OF THE STUDY

The e-resources have been playing significant impact on the collections and services of college libraries. Libraries are no more place or institutional specific rather today's libraries are deinstitutionalized. There are so many advances in information technology. There has been proliferation of e- information during the last two decades throwing more and more challenges to the library profession in its organization, storage, dissemination and use of information. The important question emerges: What impact does this new media has on the libraries in terms of resources, space, technical services and equipment? This study tries to find an answer to this question. The study will facilitate the researcher/LIS professionals to find out the relevance, length and impact of the e-resources services provided by these libraries.

1.4 OBJECTIVES OF THE STUDY

The present study is an attempt to find out the use of N-LIST Services by the Colleges of Lower Assam. The main objectives of the study are:

- i. To study the available e- Resources in the College Libraries in Assam;
- ii. To know the awareness of N-LIST e-Resources and the purpose of using these resources among the users of College Libraries;
- iii. To find out the level of satisfaction and problems faced while accessing N-LIST Services by the users;

- iv. To know the storage media format for accessing downloading information.

1.5. METHODOLOGY

In order to make the study a purposeful one, data are collected from the following sources:

Primary Sources and Direct Personal Observation

Periodicals are taken for the study. The survey method was adopted, using questionnaire as a tool for data collection. A questionnaire was prepared with multiple choices and open ended and sent to the college libraries of Lower Assam. A total of 68 questionnaires were sent and 59 of them were received.

In addition to questionnaire method, interview schedule and observation method were also used to collect required information as a supplement to the questionnaire method to bring more clarity to the data which are essential and use for statistical techniques and corresponding analysis interpretation of data.

The Secondary Sources

Secondary Sources like books, directories and other reference sources were consulted to get a basic idea for the work. Data was also taken from the N-LIST website.

Besides, the various web sites have been visited for getting primary data of different International, National and Local organizations which is related to my study.

1.6 SCOPE AND LIMITATION OF THE STUDY

At present in Assam there are 295 no of colleges under section 2(f)/12(B) of UGC Act. All these colleges are affiliated to the three Universities i.e. Assam University, Silchar, Dibrugarh University, Dibrugarh and Gauhati University, Guwahati.

Assam is divided into two broad categories based on the flow of the mighty Brahmaputra, namely Upper Assam and Lower Assam. Dhubri, Kokrajhar, Bongaigaon, Goalpara, Darrang, Baksa, Udalguri, Chirang, Kamrup, Barpeta&Nalbari District come under Lower Assam.

The present study delimited only the colleges falls under the District of Lower Assam.

1.7 RESEARCH GAP

In modern library the electronic resources are becoming more and more important. The printed resources are now being digitized, which has given rise in increases of the availability of books and journals in the electronic format. The electronic books are helpful because of their easy portability and its feature of incorporating more than one

book in a single hand held device. The published materials are also available on open access platform. This helps the poorer also to get the information required free of cost and bridge the digital divide. After review of several literatures it is found that only a few preliminary studies have been carried out by few professionals about the use, management, and usage statistics of N-LIST e-resources of the college libraries in Assam. The comprehensive study relating to the Use of N-LIST E-Resources in the College Libraries in Lower Assam in particular is not available. Therefore, the present study has been undertaken.

LITERATURE REVIEW

2.1. INTRODUCTION

Literature has become an important source in any field of the work. Due to information explosion large amount of information are coming out making it difficult for an individual to keep track on the documents. It is through literature survey that a user can directly refer to that particular document which is relevant to the concept. The work that is taken up comprises of these following concepts: Information, E-Resources, College Libraries and Assam etc.

2.2 REVIEW OF RELATED STUDIES

An attempt has been made here to review select studies which are most relevant for the present investigation listed in alphabetical/chronological order. There are so many literatures are available regarding the use of e-resources. Following are the some literatures which I have found to relevant my topic at international and national level:

Wadnerkar (2016) said in his article “Open Access Social Science Journals on N-LIST: An Analytical Study” that a total of 287 e-journals on Social sciences were accessed through NLIST and analyzed based on country, Languages,

Subject Headings, Keywords, their accessibility and availability of Archives of online journals in Social Sciences. It is observed that UK was 1st rank publishing 225 e journals followed by USA and India (from table 3) It is observed that Social Science E-journals are interdisciplinary in nature. Out of 287 E-journals 141 e-journals are useful for purely for social sciences as core subject.

Benny (2015) conducted the study among the academic librarians under Mumbai University to ascertain the major challenges faced by them while selecting and acquiring e-resources. The survey revealed that the college libraries' e-collection is dominated by e-journals. It is found that the librarians use multiple tools to select the e-resources. Apparently, the selection of e-resources depends upon the recommendations made by faculty and the subject relevance of the e-resources. The study revealed that the librarians use different methods to acquire the e-resources depending upon the types of e-resources. The survey revealed that the college librarians provide in-house training to the library staff to update their skills. They also impart training to the users and use different methods to create awareness among them. Unfortunately the college libraries neither have a license agreement nor a preservation strategy for e-resources.

Biradar and D (2015) studied to identify the needs and requirements of library users in general and to know the use of UGC-INFONET e-resources in the Kuvempu University by female students of science stream in particular. Study

shows that 85% of student use UGC-INFONET e-resources. J-Gate portal and American Chemical Society are considerably highest used bibliographic database and e-journal publisher in UGC-INFONET project respectively. 8.24% of students responded that they are highly dissatisfied with the accessibility issue. Many problems were faced by students while accessing to e-resources offered by UGC-INFONET programme such as, low bandwidth/slow Internet connection, limited number of computers, inconsistent electricity supply and lack of computers with Internet connection Paper highlights the problems of students in accessing UGC-INFONET consortium. It also tries to emphasize on users satisfaction towards this consortium.

Chikkamanju and Kumbar (2015) were carried out at First Grade Colleges such as Arts, Commerce and Science discipline first Grade Colleges affiliated to Tumkur University. These studies aim to examine the purpose of use, types of services, level of satisfaction, problem faced while accessing, training/orientation program and preferred external storage medium for storing information resources downloaded via N-LIST Services. For this purpose the researchers prepared a well structured questionnaire and interview schedule as a tool for data collection and same was analysed and presented with useful percentage analysis and suitable table for presentation of data.

Kaur and Singh (2015) discussed the study of use of library resources and services by The Girls students of four women colleges i.e. KMV College, Lyallpur Khalsa College for Women, B.D. Arya Girls College, P.C.M.S.D. College for Women of the District Jalandhar, Punjab (Affiliated to G.N.D.U.

Amritsar). They studied various aspects like frequency of visit, adequacy of library hours, purpose of visit to the library, types of document used, to locate documents, field preference, uses of services, infrastructure facilities, overall functioning of the library etc.

Singh, Bhue and Bhoi (2015) discussed about NLIST for Scholarly Content and its services, available electronic resources like journals, e-books, bibliographic database and E-resources for educational institute. In the western Odisha GM College and Sohela Degree College have the N LIST initiative would help towards Information rich society and access to e resources would have significant impact on the students, faculty and Researchers from the both Institutions

Sujatha (2015) studied the use of Electronic Information Sources (EIS) by the academic community (teachers/scientists, researchers and postgraduate students) of the Fisheries Colleges/ Research Institutes in South India. Study results showed that the academic community who participated in that survey was aware of e-sources and also the internet. Even though a majority of the academic community uses electronic information sources for their academic-related work, the most preferred information source by the respondents is the printed journals followed by EIS as the next preferred source. It is also observed that 'Retrieval of irrelevant information', 'Poor connectivity or slow access' and 'Poor database searching

skills' are the major problems identified by the respondents in the use of electronic sources.

Chikkamanjul & Kumar (2014) was carried out at Women's First Grade Colleges such as Arts and Science discipline affiliated to University of Mysore. These studies aim to examine the factors affecting the optimum utilization of N-LIST Services, place of access, purpose of use, types of services, level of satisfaction, problem faced while accessing, training/ orientation program and preferred external storage medium for storing information resources downloaded via N-LIST Services. It was found that majority of faculty and students 270(87.10%) use N-LIST services daily.

Sahu and Maurya (2014) discussed about NLIST: National Library and Information Services Infrastructure for Scholarly Content regarding its services, available electronic resources like journals, e-books, bibliographic database and E-resources for technical institutions (IITs, IISc, IISERs and NITs). It also highlights that can access these resources and how, in present time how many colleges are registered and accessing these resources. These resources are subscribed by the NLIST consortium for colleges.

Ahmed and Waris (2013) have studied the Use of Internet Facility by P.G. Students of J.N. Medical College, Aligarh Muslim University, Aligarh. The survey reveals that most of the P.G. students are aware of the availability of internet and largely use them for their work. They fully agree that with the usage of internet the quality of course work improves with enrichment of appurtenant contents and materials leading to high quality manuscript most of the students use internet services but ratio of services used by the students is different because it depends upon the type of disciplines. Email and World Wide Web are the most used services by the students. It is however found that lack of training is the obstacle in proper and full utilization of internet.

Chikkamanjul & Kumar (2013) presents the study which was carried out at University of Mysore Constituent Colleges such as Maharaja's Arts College and Yuvraja's Science College, Mysore. Aims to examine the factors affecting the optimum utilization of N-List Services, place of access, purpose of use, types of services, level of satisfaction, problem faced while accessing, training/ orientation program and preferred external storage medium for storing information resources downloaded via N-List Services. For this purpose the researchers prepared a well structured questionnaire and interview schedule as a tool for data collection and same was analyzed and presented with useful percentage analysis and suitable table for presentation of data. In the present study the authors have provided a useful summary of use of N-List services by the faculty and students of University of Mysore constituent degree colleges in Mysore.

Kumar (2013) described the awareness about N-List Project, its components, availability of e-resources through n-list, how to access these resources and outlines the structure and their roles.

Madaan and Dhingra (2013) This Paper throws light on the concept of Consortia and the factors which led to the development of 'Consortia Based subscriptions'. It discusses various existing Consortia like UGC-INFONET, INDEST Consortium, Consortia for e-resources in Agriculture (CeRA), FORSA Library Consortia and Health Sciences Library and Information Science Network (HELINET). It also explores various initiatives of INFLIBNET, an independent, Inter- University Centre of UGC with special reference to the details of N-LIST Programme as conciliated in DAV College, Sector-10, Chandigarh. The paper concludes with the provisions of facilities and services of N-LIST to the faculty and the students of DAV College, Chandigarh.

Manhas, Maan and Rani (2013) particularly focused on the usage of various electronic information resources by the students and the faculty members of Adesh Institute of Engineering and Technology, Faridkot, Punjab, India. Majority of the respondents, i.e., 88%, were aware about the electronic information resources and are using the same for academic purposes. More than 46.2% of the respondents use the resources on daily basis. 39.4% of the respondents use

electronic information resources to get the up-to-dated information. The users were also asked to answer the question, whether use of electronic information resources have any impact on their academic performance? Majority of the respondents, i.e., 87.1%, were agreed that their academic work would suffer without electronic information resources.

Naqvi and Sengar (2013) have conducted a survey at Integrated Academy of Management and Technology (INMANTEC) to find out the use of Internet by the Post Graduate Students. The study shows that majority of students (40.90%) had been using internet for more than 3 years. The study reveals that majority of the students (50%) used the internet on daily basis for their day-to-day information requirement and 71% of the students browse academic websites, followed by the entertainment website with 17% students.

Dhanavandan, Esmail and Nagarajan, (2012) studied to know the access and awareness of electronic resources among the students & faculties of Krishnasamy College of Engineering & Technology Library. They found that students (77%) are leading users of e-resources in terms of respondents (faculty 23 %). Majority of the users (42%) indicated that they preferred print version of resources for their convenience. Only 12% of the respondents use e-resources rarely. Majority (66%) of the respondents satisfied with the e-resources available in the library. They are giving more importance to electronic version of documents. With the availability

of more resources through the Internet with high-speed connectivity the demand for E-resources in their specific subject is increasing.

Durodolu, Wasiu and Kasim (2012) have studied the availability and use of electronic resources about the Olabisi Onabanjo University Library in Nigeria. They have prepared questionnaire and distributed to the library professional in the university library. They have assumed some hypothesis and after testing they found that there is commitment to their level of digitization in Olabisi Onabanjo University Library, there is usefulness of digitization to the library staff and there is no awareness of digitization process to the users of the library.

Habiba and Chowdhury (2012) studied the status of electronic resources facilities and services provided by the Dhaka University Library (DUL). It also discussed the purpose of using e-resources, benefits, subject coverage status, overall user satisfactions, problems that are faced by DUL users while accessing e-resources and perceived impact of e-resources on users. This study revealed that, a majority of the users of DUL use e-resources for their learning purpose. It was found that, e-resources materials in DUL are available and users are generally satisfied with these materials. Although DUL lacks of infrastructure facilities, the existing e-resources can fulfill user needs. Moreover, DUL should arranges more training programmes for users, appoint trained professionals with ICT skills and accommodated users opinions on subscribing new e-journals

Mahapatra, Swain and Jena (2012) find in their study on “Use of E-Resources by Faculty Members of Orissa University of Agriculture & Technology: A Study” that majority of faculty members use personal computers; simultaneously they fairly use laptops for the sake of information retrieval. It is found that a great majority of faculty members of OUAT prefer e-journals (94.44%) followed by e-articles (72.22%) and e- dissertations and theses (63.89%). This implies that faculty members express their greater urge for online information to satiate their keen interest on teaching and research. Most of the faculty members are well aware of the premiere agricultural e-databases like, CAB Abstracts (77.78%), Agricola (69.44%) and Agris (66.67%). Concurrently the awareness and use of other key databases like Biosis (41.67%) and Agora (41.67%) is found to be moderate.

Muliman (2012) has studied the use of e-resources in the three universities namely Bangalore University Library, Karnataka University Library, and Gulbarga University Library. Based on usage compiled for the years 2007 to 2009 from the selected three university libraries it was observed that the resources are not effectively being used by the users. In the year 2007 and 2009 Bangalore University users downloaded more number of articles from American Chemical Society. Bangalore University Library utilized UGC INFONET e - resources more than Karnataka University and Gulbarga University libraries. It reflects the libraries having facilities of computers with Internet Connectivity. In the year 2008 highest usage is from JCCC and it is again the Bangalore University and in

Karnataka University Library it is Springer. The usage is maximum from ACS, JCCC, Springer, JSTOR, Emerald and rest of the usage is less in these three University Libraries of Karnataka State.

Sakshi and Joginder (2012) have studied the use of e-resources by chemists and physicists of Panjab University; Chandigarh. The study reveals that all the faculty members and research scholars were familiar with e-resources. 100% faculty members use e-resources for the purpose for their research and education and preferred both print and electronic media for searching information. More than 50% PG students use internet at the university library. Google is the most used search engine. 59.38% respondents were satisfied with e-resources and a majority of respondents i.e. 85.42% face the common problem of slow speed in accessing e-resources. Some suggestions are highlighted to make maximum use of e-resources.

Tyagi (2012) attempts to determine how scientists working in Pharmacopoeia Laboratories India and use Electronic Information Resources in their evidence based research, whether print or electronic formats are used more, and the usage pattern among scientists. Almost all the scientists (100%) marked that the preferred services used by them were accessing e-journals, online databases, internet facility, CD-ROM databases and Scan/Xerox/Printout facility provided by the library. The impact of all e-resources on the members in terms of the extent

to which they were replacing printed media in satisfying their information needs. 100% marked to a very high extent electronic resources have become a substitute for printed materials. While 55.56%, 64.29% and 75.00% said that to a small extent: although using e-resources, printed materials are still the basic element. The findings of this study suggest that databases without links to full text and online journal collections without links from bibliographic databases will have lower use. These findings have implications for collection development, promotion of library resources, and end-user training

Verma and Gupta (2012) explained about the use of e-resources by the faculty members of GLA Institute of Technology and Management, Mathura. It also described the various aspects like awareness of the users, use pattern of e-resources, user satisfaction level and problems encountered while accessing e-resources. Possible solutions have also been suggested for the effective utilization of e-resources.

Talmale and Humbre (2012) in “SWOT analysis of N-LIST programme” have conducted strength, weakness, opportunity and threat analysis of N-LIST programme. SWOT analysis helps in evaluating the strengths to overcome weaknesses, using opportunities to overcome threats and take appropriate strategic actions. According to them, changes take place due to many factors such as technology, demographic features, economic factors, etc. Many problems can

be solved if member libraries agree to use common library automation systems, standards and formats,

Chauhan, Prem and Sarbjot (2011) have carried out a study on the Library Consortia in India, International Scenario of Library Consortia, and showed modest usage of e-resources by Himachal Pradesh University. The university has downloaded around 7000+ full-text articles during the year 2005 and 2006. It has been observed that 17% of the whole usage of the university was made during the month of April. The average download per month in 2005 is 192 and in the year 2006 this average dwindled to 180 downloads per month. This shows 0.5% per month less usage than the last year's usage. The main reason of this decrease was late renewal of e-resources, which provoked publishers to stop the e-access. Discontinued access led drastic decrease in the usage of e-resources. The maximum explored electronic resource in the year 2005 and 2006, is American Institute of Physics and American Physical Society (AIP/APS).

Hadagali and Kumbar (2011) Examines the use of electronic resources by faculty members and research scholars of universities of Karnataka State, India, in order to determine the level of use and different purposes of using electronic resources, and its impact on the academic community. The study emphasizes different aspects such as, the future of the library and information services in academic libraries depends upon major factors, like, availability of adequate manpower, which provision for continuous updating of IT skills and allocation of

adequate recurring grants to procure, update and maintain IT infrastructure and electronic resources.

Jeyapragash , Ragavan , Prabu and Sivakumaren (2011) in their article *Usage of Electronic Resources at Bharathidasam University Library: A Study* examined the issues regarding the electronic resources available in the library, how the faculty members are aware of the e-resource, problem faced by them in accessing and the priority of e-resource they accessed. They found that the users' demand for the information changed from traditional to digital environment due to Information Technology (IT). The libraries also need to adopt the latest technologies to provide effective and relevant information to the users. It is necessary for the libraries to develop the digital content based library collection to meet the requirement of the users. On the other hand, it is also very important to analyses, evaluate the utilisation of the digital resources at the user's level.

K. and Bhandi (2011) present the importance of open access journals to provide awareness to the faculty members of five Autonomous Colleges in Dakshina Kannada District of Karnataka. The study result has provided library professionals and academicians with clear insights into the benefits of using open access journals. The study result reveals that the majority respondents are unaware of open access journals and among those who uses electronic journals majority of them are using open access journals for their academic purposes.

Through this study the researcher provided awareness to the to the faculty members regarding various open access initiatives available in India and abroad.

Ravi and Somasekhar (2011), in their article “Status of college libraries in India in accessing N-LIST services: an observation” have compared the government colleges from different states and union territories and the registered colleges using NLIST services. Only a few colleges are registered for N-LIST services. Those not registered with N-LIST due to lack of funds cannot access the e-journals and e-books available with N-LIST. The authors suggest that the government and NAAC should make it mandatory for colleges to register with N-LIST and that INFLIBNET should provide the necessary awareness and orientation programmes.

Thanuskodi (2011) has studied the User Awareness towards Using E-resources in Madras High Court. The study reveals that 3-4 hours of access to internet is quite common among the respondents of government advocates and junior advocates. Results of the study showed that senior advocate respondents rank in the first position with respect to their overall preference to legal CD-ROM databases, independent advocate respondents the second, panel advocates the third, government advocates the fourth and junior advocates the last.

Thanuskodi and Ravi (2011) discussed the utilization of digital resources by faculty and research scholars of Manomaniam Sundaranar University,

Tirumelveli. Results show that 67.14 percent of the faculty is familiar with the use of digital resources, and majority of these members are using digital resources for research purpose. Study also reveals that majority of the faculty members are learning the required skills for the usage of digital resources through self study.

Davidson and Kyrillidou (2010) have done a survey to capture the value and impact of digital content; determine how specific populations apply digital content to their work in the Ontario Council of University Libraries. The scope of e-resources being surveyed is directly related to what is (and is not) included in the SFX knowledge base, which is an important consideration when comparing 2004–05 and 2010–11 data. The majority of the uses of the Scholars Portal resources are from the sciences and the medical health field and used by undergraduate students from off campus locations for the purposes of coursework.

Sankaranarayanan and Nagarajan (2010) trace the use of e-resources by the Faculty members of Agricultural Colleges in TamilNadu. From this study the investigator is able to find out that most of the Faculty members of the Agricultural Colleges prefer Electronic Journals as the first source of information for their Teaching and Research. This study reveals that majority (58.63%) of the Faculty members are using e-resources more than once in a week.

Singh and Arora (December 2010) describes the use of electronic resources by the students and teachers of various college libraries of Delhi. The survey was particularly conducted to know the use of e-resources, and awareness of electronic resources in various college libraries of Delhi. The analysis of the data collected covers various types of e-resources, purpose of use of e-resources, problems faced by the users in using the e-resources, satisfaction level of users and finally it highlights the suggestions made by the users for further improvement of use of e-resources in various college libraries of Delhi. This study has also shown the preferences and importance given to e-resources by the students and teachers of various college libraries of Delhi

Bhatt and Joshi (2009) evaluate the usage of E-resources available under UGC-INFONET Digital Library Consortium accessible in MSU campus and its impact on research output. The Science and Technology journal (especially in Physics and Chemistry) as it is available in electronic format depicts optimum usage. On the other hand, Social Sciences and Humanities journals are low in usage as compared to Science and Technology. After the access of e-resources through UGC INFONET Digital Library Consortium, the research output has increased significantly due to increase in awareness, infrastructure availability and adaptability by Scientists as compared to Social Scientists and Humanists.

Sarma (2009) carried out a study to the teachers and research Scholars of Guru Gobind Singh Indraprastha University, Delhi. Study shows the use of e-resources is very common among the teachers and research scholars of Guru Gobind Singh Indraprastha University and majority of the teachers and research scholar are dependent on e-resources to get the desired and relevant information. But practical use of e-resources is not up-to the worth in comparison to investments made in acquiring these resources; secondly infrastructure and training programs should also be revised as per requirements. It is observed that the availability of e-resources on the campus is almost sufficient for all the existing disciplines but the infrastructure to use these resources is not adequate and can hinder the ability to meet the requirements of users that the majority of the teachers (88.46%) and research scholar (93.33%) prefer to use e-journals majority of teachers, and research scholars are using the library Web site as gateway to access the electronic sources faculty members have taken the training regarding the access to electronic resources, while teachers didn't get any training regarding the access to electronic resources. A majority of research scholars didn't get training in the use of electronic resources and few of the research scholars, i.e. got training in the access of electronic resources.

Madhusudhan (2008) carried out a study on the use of electronic resources by teachers, students and research scholars of universities and research organizations. Seventy-eight percent (78%) of the respondents feel that the use of the UGC-INFONET e-journals has created high dependency value on their research work

and they needed current article alert services and electronic document supply services.

Heterick (2002) reported in his article *Faculty Attitudes toward Electronic Resources* that more than 60% of faculty studied are comfortable using electronic resources. They believe that a variety of electronic resources is important to their research, and they consider electronic databases to be invaluable. In addition, 62% expect that they will become increasingly dependent on electronic resources in the future. The resources they use most often are online catalogs, full-text electronic journal databases, and abstracting and indexing databases. More than 70% of all respondents consider their library's online catalogue to be "very important" to their research. However, the importance of this resource varies significantly by field. Just over 60% of the economists consider their library's online catalogue to be "very important", while nearly 90% of humanists regarded it as such. In fact, the home library catalogue is the most important electronic resource for humanists, by a large margin. Based on their replies, it is as important to their research as personal computers.

Rogers (2001) studied faculty and graduate student use of electronic journals, printed journals and electronic databases was conducted at Ohio State University (OSU) during the years 1998-2000. The surveys were administered three times (once in a year), allowing the researcher to gain insight into the changes of attitudes and adoption over time of electronic services. The findings of the

surveys showed that since 1998 there has been a significant progress in the acceptance and usage of electronic journals at OSU. In 1998, only 200 e-journals were available, while in 2000, the number of available e-journals increased to more than 3,000. In 1998, 19% of the respondents used e-journals at least once a week, while in 2000, the percentage increased to 36%. At the same time, the at least weekly usage of printed journals decreased from 45% in 1998 to 34% in 2000.

Weingart and Anderson (2000) measured the awareness of the faculty and administrators toward electronic resources were studied at the University of Utah. The findings showed greater need for publicity and training. The questionnaires were distributed to all faculty and administrators (856 individuals). The return rate was 49.8%. The questionnaire contained a list of 55 databases available to the faculty and administrators. For each database, each respondent was asked to check whether he/she was aware of the existence of the database. For each database the respondent used, he was asked to rank its ease of use. Only 54% accessed the databases remotely, the rest of the respondents accessed them from the library.

State Level

During my survey I found that some literature mainly depicts the use or usages of e-resources in different libraries of entire state of Assam. These are bellows:

Gohain (2013) has studied the use and user awareness of e-journals by research scholars of Tezpur University. Finding revealed that 54.75 percent respondents have the habit of using e-journals every day. E-journals are mostly used by the research scholars for research work followed by for finding relevant information in the area of specialization. 55.31 percent respondents were highly satisfied with the quality of e-journals subscribed by the library. It was also observed that 92.74 percent users were well aware of the e-journals. Lack of guidance and trainings, restriction from the publishers to access full text, non availability of a particular issue and poor internet connectivity were the problems that users faced, while using e-journals.

Nikam and B.R (2013) have studied the use of E-Resources by the Academia of Speech and Hearing Discipline. They have found that the mostly used e-resources by the respondents are e-journals and e-databases. About 95.5% respondents are highly satisfied and only 4.5% respondents are not satisfied in using e-resources. The positive impact of e-resources use is that it gives access to current/up-to-date information. The second impact is easy access to information, faster access to information and access to wider range of information. It is seen that access to e-resources can hinder ones work. Some of the negative impact are there is too much information, it can be time consuming, limited access to computer terminals and lack of IT knowledge to effectively utilise the services. The respondents scoring 40% say that the e-journals/e-databases are very important and 30% of them are of the view that they are moderately important. Whereas 20% feel that

the e-journals/ e-databases are somewhat important and only 5% say that the e-journals/e-databases are not important.

Egberongbe(2011) has sought to investigate the use and impact of electronic resources on productivity of lecturers, researchers and students of university of Lagos. The study revealed that majority of the respondents used electronic resources, were aware and have become familiar with electronic resources. The study also revealed that both faculty and students used e-resources to access information available worldwide for teaching, learning and research. The study revealed the extent of training in both access to and usage of electronic resources. There was a general indication that scholars (i.e., students and researchers) did not receive training in the use of electronic resources. They rather resorted to the trial and error techniques of usage.

Mandal, Borah and Nath (2012) analysed the usage statistics of digital-resources through UGC-INFONET in Assam University in the year 2009 and 2010. They found that the access of e-journals increases to some extent in 2010 comparatively from the year 2009. The study also revealed that the access hits of Springer Link are more than the other publisher, while the access of Cambridge University Press is very low.

Borthakur, Das and Gohain (2010) trace the availability of e-resources under the UGC- IINFONET E-journal Consortium in University Libraries of Assam and

usage statistic for full text access in the year 2009. It also revealed the use of e-journals accessed by the user of three universities of Assam viz, Dibrugarh University, Tezpur University & Assam University.

Sarma, Singh, Deka and Devi (2010) have described the general aspect of Assam Agricultural University Library, Jorhat. It also showed the different web-resources that are subscribed by the library for its users.

Chand, Arora, Naga, and Pradhan (2008) traced the usage trends of access to e-journals in ten universities of North East India. The preliminary findings from the data of last five years revealed that there was an upward trend. The paper briefly described open access journals and the measurement tools of e-journals.

Robertson (2003) addressed the impact of e-journals on academic library services. Her survey revealed that 64% of the respondents felt that e-journals definitely had a sizeable impact on the volume of ILL-DS requests processed. It was noted that fewer requests were now submitted to ILL-DS departments and that library users were increasingly accessing e-journals themselves. Robertson concluded that ILL budgets were continuing to decrease in size whilst, at the same time, subscriptions to e-journals were significantly on the increase.

2.3 CONCLUSION

After reviewing the related literature it is seen that except few preliminary studies has been carried out by few professionals. The comprehensive study relating to the use of NLIST e-resources in the College Libraries in Lower Assam in particular is not available. Therefore, the present study has been undertaken.

E-RESOURCES IN THE COLLEGE LIBRARIES OF LOWER ASSAM

3.1 INTRODUCTION

Academic institutions and their libraries play an important role in promoting the overall development of a society. A college library is the heart of the college and the vital role played by these libraries are well-recognized by those who are concerned with higher education. Their main task is to support the objective of the parent institutions. In order to meet their objectives a library collects, processes, maintains and distributes a wide variety of reading materials which becomes the basis of all their activities. Each and every library cannot effort the overall collections required by their users due to paucity of funds.

Over the past few years, a numbers of techniques and related standards have been developed which allow documents to be created and distributed in electric 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 useful 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.

3.2 DEFINITION OF E-RESOURCES

Any information source available in electronic format which can be used to meet the information requirements of users is termed as e-resource. Through electronic resources users are able to access latest information.

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, via internet and so on (Bajapi, R.P. & others, 2009)

According to the online Dictionary of Library and Information Science by Reitz, E-resources are materials consisting of data and/or computer program (s) encoded for reading and manipulation by a computer or by using a peripheral device directly connected to the computer, such as CD- ROM drive, or remotely via a network such as the internet (Millawithanachchi, 2012)

Electronic resources refer to those materials that require computer access, whether through a personal computer, mainframe, or handheld mobile device. They may either be accessed remotely via the Internet or locally (Johnson, Sharon et.al, 2012)

3.3. CATEGORY OF E-RESOURCES

Internet plays a vital role in today's environment. All types of documents are accessible through it. The resources which are available through internet can informally divided into two categories:

3.3.1. Paid E-resources

3.3.2. Free E-resources

3.3.1. Paid E-resources

Here, publisher or owner is charging some fee to access the resources. Access to products from the commercial publishers is mostly available on payment. Few of the leading publishers under this category are Royal Society of Chemistry, Elsevier, Springer, Blackwell Publishing Agency, Cambridge University Press, etc.

3.3.2. Free E-resources

Some documents are freely accessible through different search engine. Users do not pay any amount for searching the information. Such type of E-resources can be divided in few more sub- categories like:

3.3.2.1 *Open Access Journals*

3.3.2.2 *Information available at institutional Repository*

3.3.2.3 *Organizational/ Individual's Website*

3.3.2.4 *Individual Blogs/ Professional Discussion Forums*

3.3.2.1. *Open Access Journals*

Open access journal or free journals are available freely in the internet. Many of the publishers are providing free access to few of their journals and many organizations are making open access for their products.

3.3.2.2. *Information available at Institutional Repository*

Without paying any cost users can access information from several institutional repositories in the world. Institutional Repository of Dspace at the INFLIBNET Centre,

Ahmedabad (<http://dspace.inflibnet.ac.in>) and Indian Institute of Science, Bangalore are the example of freely accessible Institutional Repository.

3.3.2.3. *Organizational/ Individual Websites*

Organisational and Individual Website are the source of electronic information. For example Information and Library Network Centre (INFLIBNET), Ahmedabad created union databases of book, serials etc. and other specialized databases which are being maintained and hosted by the Centre through its official websites.

3.3.2.4. *Individual Blogs/ Professional Discussion Forums*

Individual Blogs or Professional Discussion Forums are the platforms to share any one view or opinions with other fellow professionals around the world. Day by day various forums, discussion group and blog are flourishing with explosive speed.

3.4. COMPONENT OF E-RESOURCES

E- Resources include (Kamila, 2007):

3.4.1. E- Databases: E-Databases (Electronic Databases) include periodical indexes & abstracts (e.g. CAB Abstract, Library and Information Science Abstract (LISA), METADOX (Metal Abstract), SCOPUS (Abstracting, Indexing and Citation data in science, Engineering and Technology), WIPS (World Wide Intellectual Property Search), ACS Archival Access List, ASTM standards, ASTM Journals, Life Science Review Journals, Communication & mass media, Magillion Literature Plus, Taylor & Francis (List), Directories, Encyclopedias, Dictionaries and related reference works.

3.4.2. E-Books/ Wiki Books/E-Audios/E-Music: The term 'E-Book' (Electronic Book) includes the hardware, a suitable device to read electronic media, perhaps better called 'E-book reader'. The hardware is important as it provides what readers may need to exploit with the software available and link this to specific requirements. We should include E-audio (Electronic Audio) here as this needs to be taken with visual and the integration of the two is already taking place with pod casts and vodcasts. A teaching conjecture: an 'E-book reader' with audio so that a student can follow a reading of e.g. Beowulf, see the old English and a modern translation on-screen, and highlight and make notes on either. E-audio services (Otis 4 MP3 Players) are available with MP3, MP4 players loaded with audio files with the help of Compaq iPAQ PDA (Personal Digital Assistant). Overdrive is a famous supplier of e-audios.

Wiki book is a type of E-book. The writing of such an e-text book could be done individually or shared easily with other authors and with restrictions on who could make changes, unlike Wikipedia as normally seen. Adding more complex material could be added as a box in the text- although this may also be used to show examples or explanations of related material.

3.4.3. E-Journals: These are called Electronic Journals. The University users can access more than 50 Library and Information Science E-Journals through different consortium. There are many Open Sources E-Journals are available through internet.

3.4.4. E-Magazines: These are called Electronic Magazines. Magazines can now be in digital format instead of the hard copy for a price, which is equivalent of the print version.

3.4.5. E-News: E-News (Electronic News) resources like LexisNexis and Factiva, and links to local, national and international newspaper.

3.4.6. Data/GIS: Numeric and geo-spatial and other data suitable for those interested in using either statistical or GIS software.

3.4.7. Digital Library Projects: Through installing any of the digital library software like GNU Eprints/ D-Space/ Greenstone/ OPUS/ DIVA/ ARNO/ Fedora/ CDSWare/ iTOR etc. we can access animation, article, book, book chapter, dataset, learning objects, image, 3-D, map, musical score, plan or blueprint, preprint, presentation, recording (acoustical), recording (musical), recording (oral), software, technical report, thesis, video, working paper and others.

3.5. PURPOSE OF E-RESOURCES

Main purpose of electronic resources is providing current information.

- i) Update information is necessary for research work.
- ii) Through electronic resources users are able to access latest information.
- iii) Save the time of user and staff due to easy information retrieval.
- iv) Solve the space problem in library because e-resources required very less space if they are offline i.e. CDs, DVDs etc.
- v) Easy to use and disseminate by the user

3.6. NEED OF E-RESOURCES

Electronic resources have great potential and bright future to attract users. It combines all the benefits of the multimedia, digital coding and internet. It enable user to carry

everywhere and can be read on all types of computers including handheld device (Chauhan & Mahapatra).

- ◆ E-resources can be downloaded instantly and easily.
- ◆ E-resources are available 24 hours x 7 days in a week. Users can read e-resources at any time and from anywhere.
- ◆ E-resources are portable and can be taken anywhere through portable computer, CDs, DVDs, Pen drive, external hard-disc etc.
- ◆ Font size can be changed suitably.
- ◆ E-resources provide facility to hold and turn pages easily
- ◆ Visually challenged /disable users can listen to audible e-resources
- ◆ In buying e-resources, the overhead charges like shipping, postal, handling are totally ruled out
- ◆ E-resources are more attractive
- ◆ To make e-resources more attractive and understandable, background music and animation can be done.
- ◆ Maintenance cost of e-resources is very less because it does not require binding and repair.
- ◆ For shelving and rectification, e-resources save human resources.

3.7. FEATURES OF E-RESOURCES

Elsevier had recognized E-resources as tidal wave of future. If it is really a wave, it is likely to affect at least every academic community. The main feature of digital world, though now commonly known to most of us, however is being summarized as below (Chandel, 2008):

- Access to information any where any time to any one
- No physical existence
- Easy and fast retrieval
- Integrated use of resources
- Increased readership
- Expanding range of material (can integrate various types of material for access)
- Identification of relevant information from millions of records
- Comparatively economical
- Requires skill, ability to locate, evaluate and use information
- Requires equipment, space
- Interactive
- Even multiple and unlimited access may give incomplete results
- Access to related material through linkage
- Availability of pre-print copy
- Reduction time lag of publication time
- Automatic Alerting Service

- User oriented service, interest profile (Selective Dissemination of Information)
- Participation in discussion forum
- Integration of multimedia

3.8. ADVANTAGES OF E-RESOURCES

The reasons for actually embarking on the purchasing of electronic resources are generally accepted because of the ease of usability, readability, affordability and accessibility. The following are the advantages of e-resources over the print media (Bajpai, Mal, and Bajpai)

a. *Multi-access:* A networked product can provide multiple points of access at multiple points in time (24 hours a day, 7 days a week) and to multiple simultaneous users.

b. *Speed:* An electronic resource is lot quicker to browse or search, to extract information from, and to integrate that information into other material and to cross-search or reference between different publications.

c. **Functionality:** E-resource will allow the user to approach the publications to analyze its content in new ways by click of the mouse on search mode.

d. **Content:** The e- resources can contain a vast amount of information, but more importantly the material can consist of mixed media i.e. images, video, audio animation which could not be replaced in print.

Apart from the above some other advantages of e resources may include: international reach, unlimited capabilities, reduced cost, convenience, search ability and linking.

3.9. DISADVANTAGES OF E-RESOURCES

E-resources have the following disadvantage:

- ◆ Users should have basic computer knowledge
- ◆ Reading on the screen
- ◆ Incomplete volumes
- ◆ Poor graphic quality
- ◆ Depending on network speed

- ◆ Site license problem
- ◆ Lack of standardization of format
- ◆ Lack of permanent archive
- ◆ Insufficient hardware support
- ◆ Insufficient software support
- ◆ Lack of reliability
- ◆ Many users need training for use of e-resources
- ◆ Use of e-resources is dependable on electricity supply
- ◆ Downloading and printing cost of e-resources is higher than photo copy of a print document

3.10. OPEN SOURCE/ ACCESS E-RESOURCE AND COMMERCIAL E-RESOURCES

Open source/ access are software/ e- resource whose source code and binary version both is available through internet. Open source e-resources helps libraries mainly in lowering initial and ongoing costs, eliminating vendor lock-in and allowing for greater flexibility.

Commercial E-resources is the e-resource, which is available through subscription from the existing commercial unit. Through consortium the research and educational institution can access this type of journal in a very lower price.

3.11. LIBRARY CONSORTIA

With the variety and number of e-resources, limited funds and very demanding clientele, libraries cannot be that much luxurious with e-resources. Hence purchase decisions need to be influenced by and oriented towards current user needs. Consortium offers multiple resources for minimum cost without seriously considering the local utility of each of the individual titles available.

Library consortium is a group of two or more libraries which have agreed to co-operate with one another in order to fulfill certain similar needs, usually resource sharing. It usually, refers to co-operation, co-ordination and collaboration between, and amongst libraries for the purpose of sharing information. Consortia are basically, evolving a form of cooperation among the libraries which come together to share resources electronically.

3.11.1. Features of Library Consortia

The features of library consortia are mentioned below:

- ☞ It provides each organizations and institutions with the capacity to share their resources without sacrificing the individuality of each member library.

- ☞ The collections of the Consortium libraries enable each member library to support scholarly research for its users.

- ☞ Cooperative research and development in application of information communication and technology enhances service and realizes cost effectiveness.

- ☞ Staff development and interaction with quality of service.

- ☞ It is the cooperative task to reduce the cost of purchase consortia. As a result, end users can take benefits of more resources than would be available through one library.

- ☞ To advance library services are provided with an emphasis on access to new E-resources including databases and services offered through the internet and www.

- ☞ To expanding inter library searching at less cost is possible.

- ☞ Uncertainties in legal issues are handled with more confidence.

3.11.2. Advantages of Consortia

Some of the important advantages of the library consortium are given below.

- ☞ Consortia-based subscription to electronic resources provides access to wider number of electronic resources at substantially lower cost.
- ☞ Optimum utilization of funds.
- ☞ Facilities to build up digital libraries.
- ☞ Helpful to provide better library services like CAS and SDI.
- ☞ Cost Sharing for Technical and training support.
- ☞ Electronic Journals demand neither library space nor shelling costs nor can they be stolen from the library.

- ☞ The consortium have been offered better terms of licenses for use, archival access and preservation of subscribed electronic resources, which would not have been possible for any single institution; and Available 24/7.
- ☞ Less economy expansion.

3.11.3. Disadvantages of Consortia

Some of the important disadvantages of the library consortium are as following below.

- ☞ Absence of a printed copy of Journals.
- ☞ Require training of staffs in handling electronic documents etc.
- ☞ Consortia require high initial investments in licensees and information and communication technology.
- ☞ Copyright problems.

- ☞ Unreliable telecommunication links and insufficient bandwidth.
- ☞ Lack of archiving and back files availability.
- ☞ Internet Access is necessary.
- ☞ Users are not accepting e-journals as per with the printed Journals.

3.11.4. Indian Library Consortia Scenario for E-resources

Some of the successful library consortia setup so far in India are:

(i). UGC- INFONET E-Journal consortium.

http://www.ugc.ac.in/new_initiatives/infonet.html

(ii). Indian National Digital Library in Engineering Sciences and Technology

(INDEST) Consortium. <http://www.paniit.iitd.ac.in/indest>

(iii). Inter University Centres (IUC-DAEF Consortia) (Atomic Energy)

http://brahma.iuc.res.in/-iuc_cc/iuc_loc.html

(iv). Health Sciences Library and Information Network (HELINET)

<http://www.rguhs.ac.in/hn/newhell.html>

(v). Forum for Resource Sharing in Astronomy and Astrophysics (FORSA)

<http://www.iiap.res.in/library/forsa.html>

(vi). Council of Scientific and Industrial Research (CSIR e-journal consortium)

<http://www.niscair.res.in>

(vii) DeLCON Consortium <http://www.nbrc.ac.in/delcon/>

(viii) IIM Consortium <http://www.iimsworld.in/consort.htm>

(ix) CeRA consortium <http://cera.iari.res.in/>

Apart from the mentioned consortia, there have been efforts to setup similar kind of consortia by ICAR, ICSSR and other governmental agencies to provide and access to e-resources. Among the above all consortia, UGC-INFONET and INDEST-AICTE. Consortiums are proving to be a boon for the academic users. These two major initiatives have come to the rescue of academic libraries so that they can cater to the needs of academic depending upon them. These revolutionary steps are providing scholarly resources including peer reviewed journals, databases, abstracts, proceedings etc. These efforts will definitely boost the higher education system of our country.

3.12. COLLEGE LIBRARIES IN ASSAM

The main aim of the college to develop and provide easily accessible modes of quality higher education and training with the use of latest educational inputs and technology. A college is no longer a place where students apply to study. Colleges are now actively pursuing students using a wide variety of strategies to market their courses. The student is now the customer or client. With globalization, colleges are spreading their reach beyond geographical and political borders.

The Internet has also played a major role in streamlining administrative procedures and processes of colleges worldwide. Any modern college, management school or institute

today has its own website on which courses offered are listed. Students apply for admission on-line which reduces paperwork and increases administrative efficiency. They receive e-notifications regarding admission, course schedules, and billing procedures, which they can pay on-line, as well as their results. Teachers prefer to receive tutorials on-line, which not only lends it to faster transmission, but also avoids the difficulty in reading a manuscript. Similarly, some teachers not only put up their course material on the web-site, but also their lectures, which can be heard on-line such that students who were unable to attend can also benefit from them. The faculty and students remain connected through email on which students receive instructions, send essays/ assignments, fix appointments, etc. All students are expected to have their own laptop or notebook computer.

A library is called the heart of any higher education institution. Assam has the most wide-ranging networks of higher educational institutions in the whole of North- Eastern region of India. It is a gateway of North East Region. It is popularly known as 'red river and blue hill'. In Assam there are fourteen universities of which eight state universities, two central universities and four private universities (Table 3.1).

Table 3.1: Name of the Universities in Assam

Sl. No.	Name of the University	Location	Year of Establishment	Type	Specialisation	Website
1	Assam Agricultural University	Jorhat	1969	State	Agriculture, Veterinary, Fisheries and Home Science	www.aau.ac.in
2	Assam Don Bosco University	Azara, Guwahati	2009	Private	General	www.dbuniversity.ac.in
3	Assam Down Town University	Guwahati	2010	Private	General	www.adtu.in
4	Assam Kaziranga University	Jorhat	2011	Private	General	www.kazirangauniversity.ac.in
5.	Assam Science and Technical University	Guwahati	2010	State	Engineering	www.astu.org.in
6	Assam University	Silchar	1994	Central	General	www.aus.ac.in
7	Bodoland University	Kokrajhar	2009	State	General	www.bodolanduniversity.in
8	Cotton College State University	Guwahati	1901	State	General	www.ccsu.ac.in
9	Dibrugarh University	Dibrugarh	1965	State	General	www.dibru.ac.in
10	Gauhati University	Guwahati	1948	State	General	www.gauhati.ac.in

11	Krishna Kanta Handique State Open University	Guwahati	2007	State	Distance and Open Learning	www.kkhsou.in
12	Mahapurusha Srimanta Sankaradeva Viswavidyalaya	Nagaon	2014	Private	Value Oriented Education with Humanistic Insight	www.mssv.co.in
13	Sankaradeva University of Health Science	Guwahati	2010	State	Health Science	www.ssuhs.in
14	Tezpur University	Tezpur	1994	Central	General	www.tezu.ernet.in

Though there are fourteen universities, the colleges under 2f/12B of UGC Act are affiliated only the three university i.e. Assam University, Silchar, Gauhati University, Guwahati and Dibrugarh University, Dibrugarh.

River Brahmaputra is a major river and lifeline of the state of Assam. Assam is divided into two broad categories based on the flow of the mighty Brahmaputra, namely Upper Assam and Lower Assam. The logic behind this categorisation is that a river flows from high land to low land. Since Brahmaputra flows from east to west, the eastern parts of Assam, being high lands are known as Upper Assam and western parts are known as Lower Assam.

The districts which come under Upper Assam are Dibrugarh, Tinsukia, Sibsagar, Jorhat, Golaghat, Lakhimpur, Dhemaji . An extended list of the region also includes the districts of Sonitpur, Karbi Anglong & Nagaon. The Upper Assam region is the most productive region in the state, which is rich in natural resources like coal, oil and natural gas as well as tea plantations.

Dhubri, Kokrajhar, Bongaigaon, Goalpara, Darrang, Morigaon, Baksa, Udalguri, Chirang, Kamrup, Barpeta & Nalbari come under Lower Assam.

According to Wikipedia Assam has following regional divisions, each comprising a number of districts. The administrator responsible for the administration of a division is called a Divisional Commissioner (Table 3.2).

Table 3.2. Division of Assam

Division Name	Divisional Office	Districts
North Assam	Tezpur	Udalguri, Darrang, Sonitpur,
Lower Assam	Panbazar	Dhubri, Kokrajhar, Bongaigaon, Goalpara, Baksa, Chirang, Barpeta, Nalbari, Kamrup rural, Kamrup Metro
Central Assam	Nagaon	Dima Hasao, Karbi Anglong ,Nagaon, Morigaon
Upper Assam	Jorhat	Lakhimpur, Dibrugarh, Dhemaji, Tinsukia, Sibsagar, Jorhat, Golaghat
Barak Valley	Silchar	Cachar, Hailakandi, Karimganj

The present study covers only the colleges of lower Assam districts.

3.13. CONCLUSION

E-resources are one of the important requirements in this present ICT environment. E-resources is distribution of information in any electronic form such as CD-ROM, floppy disk or magnetic tape or access a computer network like e-journals, e-books, ETD etc. The main purpose of electronic resources is providing current information. E-resources are easily accessible. Users can access its required documents through different databases, e-journals etc. subscribed in the library. Due to the inherent facility of Electronic resources all the college libraries have now been adapting the electronic resources instead of printed materials. The College Libraries in Assam are subscribing many more E-resources to meet its user's information need.

NATIONAL LIBRARY AND INFORMATION SERVICES INFRASTRUCTURE FOR SCHOLARLY CONTENT

4.1. INTRODUCTION

NLIST is the acronym of National Library and Information Services Infrastructure for Scholarly Content. The Project is being jointly executed by the UGC-INFONET Digital Library Consortium, INFLIBNET Centre and the INDEST-AICTE Consortium, IIT Delhi provides for i) cross-subscription to e-resources subscribed by the two Consortia, i.e. subscription to INDEST-AICTE resources for universities and UGCINFONET resources for technical institutions; and ii) access to selected e-resources to colleges. The N-LIST project provides access to e-resources to students, researchers and faculty from colleges and other beneficiary institutions through server(s) installed at the INFLIBNET Centre. The authorized users from colleges can now access e-resources and download articles required by them directly from the publisher's website once they are duly authenticated as authorized users through servers deployed at the INFLIBNET Centre.

4.2. COMPONENT OF NLIST

The project has four distinct components, i.e.

- i) To subscribe and provide access to selected UGC-INFONET e-resources to technical institutions (IITs, IISc, IISERs and NITs) and monitor its usage;
- ii) To subscribe and provide access to selected INDEST e-resources to selected universities and monitor its usage;
- iii) To subscribe and provide access to selected e-resources to 6,000 Govt./ Govt.-aided colleges and monitor its usage; and
- iv) To act as a Monitoring Agency for colleges and evaluate, promote, impart training and monitor all activities involved in the process of providing effective and efficient access to e-resources to colleges.

The INDEST and UGC-INFONET are jointly responsible for activity listed at i) and ii) above. The INFLIBNET Centre, Ahmedabad is responsible for activities listed at iii) and iv) above. The INFLIBNET Centre is also responsible for developing and deploying appropriate software tools and techniques for authenticating authorized users.

From year 2014, NLIST programme is subsumed under UGC-INFONET Digital Library Consortium as college component. The colleges (except Agriculture,

Engineering, Management, Medical, Pharmacy, Dentistry and Nursing) in India are eligible to get access e-resources under NLIST Programme.

The following three sets of institutions are benefitting from the N-LIST Project:

- I **Universities:** 100 universities covered under the UGC-INFONET Digital Library Consortium can now access Web of Science.

- II **Technical Institutions:** IITs, IISc, IISERs and selected NITs (i.e. core members of the INDEST-AICTE Consortium) can now access selected e-resources namely Annual Reviews, JSTOR, Project Muse, Nature and Taylor Francis.

- III **Colleges:** All colleges including Govt., Govt.-aided as well as non-aided colleges (except colleges imparting education in agriculture, engineering, management, medical, pharmacy, dentistry and nursing) can now access selected electronic resources including electronic journals, electronic books and bibliographic databases. These resources include more than 6000+ e-journals and 97,300+ e-books.

Colleges not covered under the 12B Section of the UGC Act, can benefit from the N-LIST Programme by joining as an Associate. These colleges are required to pay a fixed amount towards subscription and annual membership fees.

The N-LIST website (<http://nlist.inflibnet.ac.in>) provides an interface for eligible colleges to register online.

4.3. ELIGIBILITY

Faculty, staff, students and researchers from eligible colleges covered under Section 12B/2F of UGC Act and Non-Aided colleges (except Agriculture, Engineering, Management, Medical, Pharmacy; Dentistry and Nursing) are eligible to access e-resources through the N-LIST project.

4.4. HOW TO JOIN?

Colleges, desirous of accessing e-resources, are required to register themselves with the N-LIST. For that one should visit the N-LIST Website and click on Register on the navigation bar. Fill-in the Registration Form online and submit it. One may also download the Registration Form and submit it by post. Ensure to provide a list of authorized users including faculty, staff, researchers and students along with associated data in prescribed format preferably in excel sheet available on the websites. Once registered, username and password will be created for authorized users, i.e. faculty, staff, researchers and students as per the list submitted by the colleges.

4.5. ANNUAL MEMBERSHIP FEE

Registered eligible colleges are required to pay Rs. 5,000.00 (Rupees Five Thousand) with Service tax 15% as annual membership fee.

NOTE: Non-Aided Colleges (except Agriculture, Engineering, Management, Medical, Pharmacy, Dentistry and Nursing) may join NLIST on payment of Annual Membership Fee of Rs. 34,500 (30000+ Service tax 15%)

4.6. SCOPE

The N-LIST covers all the disciplines viz. Pure Sciences, Social Sciences and Humanities including Linguistic and Languages. However e-resources in engineering, agriculture and medicine are not covered under the N-LIST programme.

4.7. WHAT'S NEW?

Access to APS Journals are temporary not available to college under NLIST Programme.

Following eBooks are added under NLIST Programme:

- Access to JSTOR journals are now available to colleges under NLIST programme

- Trial access to World Scientific Publication and University Publishing online through Cambridge University Press –ebooks
- Cambridge University Press- ebooks (1800+ title)
- Hindustan Book Agency (65+titles)
- Sage Publications (1000 titles)
- Institute of South East Asian Studies (ISEAS) Books (382+titles)
- Springer eBooks (2300 titles)
- Taylor Frances eBooks (1800 titles)

4.8. ELECTRONIC RESOURCES IN N-LIST

UGC-INFONET consortium subscribes to the following E-resources for the colleges. Numbers of title of electronic resources are given within circular bracket and their respective website is given in second column through which title can be accessed. All electronic resources subscribed under N-LIST are available from the publisher's web site are given below:

E-Journals (Full text)

American Institute of Physics (18 titles)	http://journals.aip.org/
American Physical Society (10 titles)	http://publish.aps.org/browse.html
Annual Reviews (33 titles)	http://arjournals.annualreviews.org/

Cambridge University Press (224 titles)	http://journals.cambridge.org/
Economic and Political Weekly (EPW) (1 titles)	http://www.epw.in/
Indian Journals (150 titles)	http://www.indianjournals.com/
Institute of Physics (46 titles)	http://www.iop.org/EJ/
JSTOR (2000 titles)	http://www.jstor.org/
Oxford University Press (206 titles)	http://www.oxfordjournals.org
Royal Society of Chemistry (29 titles)	http://www.rsc.org/Publishing/Journals/
H. W. Wilson (1420 titles)	http://vnweb.hwwilsonweb.com /hww/jumpstart.jhtml

E-Books

Cambridge Books Online (1800 titles)	http://ebooks.cambridge.org
E-brary (83000+ titles)	http://site.ebrary.com/lib/inflibnet
EBSCoHost-Net Library (936 titles)	http://www.netlibrary.com/
Hindustan Book Agency (65+ titles)	http://hindustan.igpublish.com
Institute of South East Asian Studies (ISEAS) Books (382+ titles)	http://iseas.igpublish.com

Oxford Scholarship (1402+ titles) <http://www.oxfordscholarship.com/>

Springer eBooks (2300 titles) <http://www.springerlink.com>.

Sage Publication eBooks (1000 titles) <http://knowledge.segepub.com>.

Taylor Francis eBooks (1800 titles) <http://www.tandfebooks.com>.

Mylibrary-McGraw Hill (1124 titles) <http://lib.mylibrary.com/>

Bibliographic Database

MathSciNet <http://www.ams.org/mathscinet/>

E-Resources for Universities

Web of Science <http://isisknowledge.com>

E-Resources for Technical Institutions (IITs, IISc, IISERs and NITs)

Annual Reviews <http://arjournals.annualreviews.org/>

Project Muse <http://muse.jhu.edu/>

Nature <http://www.nature.com/>

4.9. N-LIST OPERATION

The N-LIST Project operates through its Headquarter set-up at the INFLIBNET Centre, Gandhinagar, Gujarat, India.

The NSC's of UGC INFONET Digital Library Consortium and INDEST-AICTE Consortium in their joint meeting would take decisions on policy issues under overall policy direction of National Mission on Education through ICT.

4.10. MAJOR FUNCTIONS AND RESPONSIBILITIES OF THE INFLIBNET CENTRE

- Establish proxy servers and associated authentication mechanism for colleges to enable them to access e-resources directly from publisher's site;
- Provide full text access to electronic resources subscribed for educational institutions through proxy servers after establishing authenticity of users;
- Identify gaps in resources and infrastructure and make attempts to fill in those gaps so as to deliver effective and efficient services;
- Generate alerting services from subscribed e-resources deploying technological tools for content delivery such as RSS feed, Atoms, Blogs etc.
- Setup computer laboratories consisting of 10-20 Internet -enabled PCs to facilitate walk-in users to access subscribed e-resources;
- Impart awareness and training programmes for colleges and institutions; and

- Collect and analyse usage statistics of e-resources and find trends of usage in different subject disciplines.

4.11. TRAINING AND SUPPORT

The INFLIBNET Centre conducts awareness and training programmes in various universities to generate awareness regarding availability of e-resources to colleges under the N-LIST Project. Besides, universities are also being encouraged to conduct awareness training programmes for its affiliated colleges. Besides, N-LIST website host online tutorials, user guide and spoken tutorials for e-resources covered under the project.

4.12. ADVANTAGES OF N-LIST

- a. Any-time availability of desired knowledge at appropriate levels of comprehension to all for self placed learning.
- b. Providing e-Learning support to every higher education institution for technology assisted learning.
- c. Facilitating development and deployment of ultra low cost physical tool kits for science students to encourage project and design based learning complementary to the e-learning.

- d. Systematically building a huge database of the capabilities of every individual human resource over a time.
- e. Use e-learning as an effort multiplier for providing access, quality and equality in the sphere of providing education to every learner in the country
- f. Provide for connectivity & access devices, content generation, personalization & mentoring, testing & certification and encouragement of talent
- g. Providing e-books & e-journals, utilizing the repository of contents generated so far and the automation of evaluation processes. Creating a high impact brand for e-journals in leading disciplines with a provision for good incentive-based payment to the researchers publishing their high quality papers in these Journals.
- h. Bringing efforts of different interested agencies working in the field of e-learning under one umbrella and establishing logical linkages between various activities.

- i. Capacity building in this sphere and utilizing dormant capacities of various organizations. Creating infrastructural facilities for long term utilization and making sustained efforts for content generation & connectivity including access devices production
- j. Spreading Digital Literacy for teacher empowerment and encouraging teachers to be available on the net to guide the learners.
- k. Launching a national movement for content and question generation.
- l. Development of GIS (Geographical Information System) based resource inventory as a knowledge base (for subjects and skills where ever possible/feasible) for educational and planning purposes.
- m. Improving teachers training and course curriculum.
- n. Providing Digital/ Information Literacy for Teacher empowerment.
- o. Platform for sharing of ideas and techniques and pooling of knowledge resources.

- p. Standardization & Quality Assurance of e-Content.
- q. Deriving lessons from our ancient knowledge base.
- r. Effective utilization of intellectual resources, minimizing wastage of time in scouting for opportunities or desired items of knowledge appropriate to the requirement.

4.13. POTENTIAL GROWTH OF THE CONSORTIUM: NUMBER OF COLLEGES TO BENEFIT

4.13.1 Core members

All 6,000 colleges covered by sections 2F and 12B of the UGC Act are eligible under the programme. Table 4.1 shows the number of colleges State-wise which are eligible to register under N-LIST programme.

4.13.2 Associate Members

Apart from colleges covered under 2F and 12B of the UGC Act, all other colleges are eligible to become associate members benefitting from highly discounted rates

Table 4.1. No of Registered Colleges State-Wise

Sr. No.	State	Registered	Access Enabled
01	Maharashtra	1	0
02	Andaman and Nicobar Islands	3	2
03	Andhra Pradesh	190	147
04	Arunachal Pradesh	6	4
05	Assam	184	172
06	Bihar	63	56
07	Chandigarh	16	14
08	Chhattisgarh	111	78
09	Dadra and Nagar Haveli	2	0
10	Daman and Diu	1	0
11	Delhi	68	57
12	Goa	30	26
13	Gujarat	563	382
14	Haryana	85	65
15	Himachal Pradesh	74	37
16	Jammu and Kashmir	52	43
17	Jharkhand	23	20
18	Karnataka	677	494
19	Kerala	333	222
20	Madhya Pradesh	172	126
21	Maharashtra	1068	866
22	Manipur	38	37
23	Meghalaya	29	24
24	Mizoram	17	14
25	Nagaland	22	17
26	Orissa	81	70
27	Pondicherry	61	19
28	Punjab	147	115
29	Rajasthan	235	151
30	Sikkim	4	4
31	Tamil Nadu	369	276
32	Telangana	109	82
33	Tripura	24	11
34	Uttar Pradesh	212	185
35	Uttarakhand	17	9
36	West Bengal	308	291

4.14. CURRENT STATUS

As on 5th November the total number of 5340 colleges have registered themselves with N-LIST including 3731 no of 2F/12B colleges, 323 no of non-aided colleges, 3880 no of 2F/12B and non-aided colleges.

Log-in ID and password for accessing e-resources has been sent to the authorized users from these 3731 colleges. All e-resources subscribed for colleges under the NLIST Project are now accessible to these 3731 colleges through the N-LIST website (<http://nlist.inflibnet.ac.in>)

4.15. CONCLUSIONS

The N-LIST programme has successfully filled-in the serious gap of providing access of e-resources to colleges. While there are several government funded consortia that are catering to the information requirements of engineering and technological institutions, universities and research laboratories, none of them targets users in colleges. The N-LIST programmes along with other consortia initiatives are effectively serving the research information requirements of the entire nation. The initiatives effectively bridge the digital divide and help the nation to move towards an information-rich society.

DATA ANALYSIS AND INTERPRETATION

5.1 INTRODUCTION

Analysis of data is the important step in any research process. It is link between raw data and significant result. The present study reports the analysis of data gathered through structured questionnaire. Respondents completed 30 items questionnaire which included questions on personal data, computer skills, frequency of e-resources use, satisfaction with e-resources, and barriers to use the e-resources.

5.2. ANALYSIS OF DATA

The data, collected by the researcher, with the help of questionnaire are analysed here with simple statistical method. Out of 68, a total of 59 questionnaires were received from the College Librarian with 86.76% response rate (Table 5.1, Figure 5.1). The collected data are analysed below:

Table 5.1: Percentage of Total Population

Respondent	Total Questionnaires Distributed	Number of Respondents	Percentage
Librarian	68	59	86.76%

Source: Returned Questionnaire

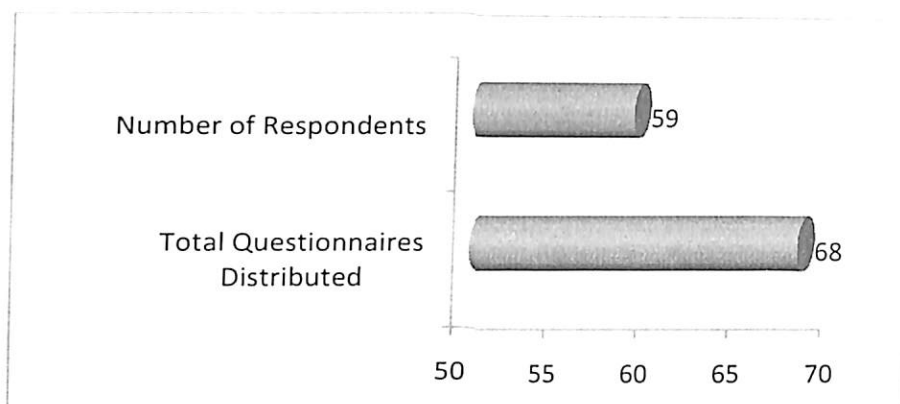


Figure 5.1: Response of Total Population

5.2.1. General Information about the Surveyed Libraries

Following are the list of the surveyed college libraries who have registered themselves under N-LIST programme. Table 5.2 describes the general background i.e. address, year of establishment, stream, website etc. of the surveyed colleges of Lower Assam.

From the survey it is seen that 11 numbers of colleges have three streams (Arts, Science and Commerce), 35 numbers have two streams and 21 numbers have one stream.

Table 5.2: Basic Information of the Surveyed Libraries

Sl. No.	Name of Colleges & District	Address	Year of Establishment	Websites	Stream		
					Arts	Science	Commerce
1	Abhayapuri College, Bongaigaon	P.O. Abhayapuri, Dist: Bongaigaon, Assam, 783384	1955	www.abhayapuricollege.org	✓	✓	
2	Arya Vidyapeeth College, Kamrup(Metro)	A K Azad Road, Sarabhatti, Gopinath Nagar, Sankarpur, Birubari, Ghy-16	1958	www.aryavidyapeethcollege.org www.avcollege.ac.in	✓	✓	✓
3	Assam Engineering College	Jalukbari, Kamrup (Metro), Guwahati-781013	1955	www.aec.ac.in	-	-	-
4	B. Barooah College	Dr. B Baruah Road, Ulubari Guwahati 781007	1943	www.bbarooahcollege.co.in	✓	✓	
5	B.H. College, Howly	Hala Pakuri, Assam 781316	1964	www.bhcollege.in	✓	✓	✓
6	B.H.B College	P.O: Sarupeta , Dist: Barpeta, Pin- 781318	1971	www.bhbcollege.com	✓		✓
7	Bajali College	Pathsala, Barpeta, Assam, 781325	1955	www.bajalicollege.ac.in	✓	✓	✓
8	Baosi Banikanta Kakati College	Vill & P.O.: Nagaon, Dist: Barpeta, Assam, 781311	1971	www.bbkccollege.org	✓	✓	

9	Bapujee College, Sarukhetri	P.O.: Sarthebari Barpeta, Assam, 781307	1970	www.bapujicollege.org	√		
10	Barama College, Baksa	Barama, Baksa (BTAD) 781346	1971	www.baramacollege.ac.in	√	√	
11	Barbhag College	Kalag, Dingdingi, Dist: Nalbari 781351	1964	www.barbhagcollege.com	√		
12	Barnagar College	P.O.: Sorbhog, Dist: Barpeta, 781317	1962	www.barnagarcollege.ac.in	√		√
13	Beltola College	Beltola, Bongaon, Mazipara, Guwahati-781028	1983	www.beltolacollege.edu.in	√		
14	Bengtol College	Vill + P.O. Bengtol, Chirang (BTAD), 783394	1981	www.bengtolcollege.org	√		
15	Bholanath College	Ward No. 15, College Road, P.O: Bidyapara, Dist: Dhubri 783324	1946	www.bncollege.org.in	√	√	√
16	Bijni College	College Road, Bijni, Dist: Chirang(BTAD), 783390	1969	www.bijnicollege.ac.in	√	√	
17	Bikali College, Goalpara	Dhupdhara, Goalpara, NH-37, Dighali Pachim, 783123	1982	www.bikalicollege.org	√	√	
18	Bimala Prasad Chaliha College	Nagarbera, Kamrup, 781127	1972	www.bpchalihacollege.org	√		√
19	Birjhora Mahavidyalaya	Salbari, Bongaigaon Rd, Mayapuri, Bongaigaon,	1986	www.birjhoramahavidyalaya.org		√	

		783380							
20	Bongaigaon College	Bongaigaon, 783380	1964	www.bongaigaoncollege.ac.in	√				√
21	Chhaygaon College	Chhaygaon, Kamrup, 781124	1974	www.chhaygaoncollege.com	√				√
22	Commerce College, Kokrajhar	Kokrajhar B.T.C., Assam, 783370	1985	www.commercecollege.ac.in	√				√
23	Cotton College, Kamrup(Metro)	Panbazar, Guwahati, 781003	1901	www.cottoncollege.org.in	√				√
24	Dakshin Kamrup College, Kamrup(Rural)	Mirza, Kamrup, Assam, 781125	1961	www.dkcollege.in	√				√
25	Dimoria College, Khetri	P.O.: Khetri, Kamrup (Metro), Assam, 782403	1979	www.dimoriacollege.org	√				√
26	Dispur College	G M C Hostel Rd, Ganeshguri, Dispur, 781006	1978	www.dispurcollege.org	√				√
27	Dudhnoi College	Dudhnoi, Goalpara, 783124	1972	www.dudhnoicollege.net	√				√
28	G.L. Choudhury College	P.O: Barpeta Road, Barpeta, 781315	1990	www.glcc.ac.in	√				
29	Gauhati Commerce College, Kamrup(Metro)	R G Barooah Road, Guwahati, 781021	1962	www.gauhaticommercecollege.com					√
30	Girl's College, Kokrajhar	Rashmivar, Narabari, B.T.A.D. 783370	1990	www.gkokrajhar.ac.in	√				
31	Goalpara College	Agia Rd, Goalpara, 783101	1955	www.goalparacollege.in	√				√

32	Gossaigaon College	P.O.: Gossaigaon, BTAD Kokrajhar, Assam, 783360	1971	www.gossaigaoncollege.org	√	√	
33	Guwahati College, Kamrup(Metro)	Bamunimaidam, Guwahati, 781021	1964	www.guwahaticollege.org.in	√	√	√
34	Handique Girl's College, Kamrup(Metro)	GNB Road, Dighalipukhuri, Guwahati-781001	1939	www.hgcollege.org	√	√	
35	Janata College, Kokrajhar	P.O.: Sarfunguri, Assam, 788121	1977	www.janatacollege.org	√		
36	Jawaharlal Nehru College	Boko, Kamrup (Rural), 781123	1964	www.jncollegeboko.com	√	√	
37	K. C. Das Commerce College, Kamrup(Metro)	P.O: Rehabari, Chatribari, Guwahati-781008	1983	www.kcdccollege.com			√
38	K. R. B. Girl's College, Kamrup(Metro)	Fatasil Ambari, Guwahati, 781009	1971	www.krbgirlscollege.com	√		
39	Karmashree Hiteswar Saikia College	Sixmile-Panjabari Road, Guwahati, 781022	1988	www.khscollege.com	√		
40	Kharupetia College	P.O.: Kharupetia College, NH- 52, Dist-Darrang, 784115	1981	www.kharupetiacollege.org	√		√
41	Khoirabari College	Khoirabari, Udalguri (BTAD), 784522	1991	www.khoirabaricollege.org	√		
42	Kokrajhar Govt College, Kokrajhar	Kokrajhar, BTAD, 783370	1959	www.kokrajhargovtcollege.org www.kgc.ac.in	√	√	

43	Lalit Chandra Bharali College	Assam Trunk Rd, Fatasil Hills, Guwahati, 781011	1971		✓	✓	✓
44	M.C. College	Barpeta, Assam, 781301	1939	www.mccassam.org	✓	✓	
45	Nabajyoti College	Vill+P.O.: Kalgachia, Dist: Barpeta, Assam, 781319	1971	www.nabajyoticollege.in	✓	✓	
46	Nalbari College	Nalbari, Assam, 781335	1945	www.nalbaricollege.org	✓	✓	✓
47	Nalbari Commerce College	Japarkuchi, P.O.: Chowk-bazar, Nalbari, 781334	1979	www.nalbaricommercecollege.ac.in			✓
48	North Gauhati College	College Nagar, Guwahati-31	1962	www.northgauhaticollege.org	✓	✓	
49	P. B. College, Dhubri	Gauripur, Dhubri, 783331	1964	www.pbcollege.in	✓		✓
50	Pandu College	Maligaon, Guwahati, 781012	1962	www.panducollege.org	✓	✓	✓
51	Paschim Guwahati Mahavidyalaya	Vill: Dharapur, P.O. + P.S. Azara, Kamrup (Metro), 781017	1978	www.paschimguwahatimahavidyalaya.in	✓		✓
52	Pragjyotish College	Santipur Main Road, Santipur, Bharalumukh, Guwahati-781009	1954	www.pragjyotishcollege.org.in	✓	✓	✓
53	Pub Kamrup College, Kamrup(Rural)	Baihata Chariali, Assam, 781381	1972	www.pubkamrupcollege.org	✓	✓	
54	Puthimari College,	Kamalpur, Dimu Rd, Guiya Kamrup(Rural), 781382	1981	www.puthimaricollege.org.in	✓	✓	

55	R G Barua College	Fatasil Ambari, Guwahati, 781025	1978	www.rgbaruahcollege.org	✓	✓
56	Rangia College, Kamrup(Rural)	Bongaon, Rangia , Kamrup (Rural) ,781354	1963	www.rangiacollege.org	✓	✓
57	S.B.Deorah College, Kamrup(Metro)	Guwahati Shillong Rd, Bora Service, Ulubari, 781007	1984	www.sbdeorahcollege.org	✓	✓
58	Salbari College	P.O.: Salbari, Baksa (B.T.A.D.), 781318	1986	www.salbaricollege.org	✓	
59	Sapatgram College	Sapatgram, Nayahat Road, Sapatgram- 783337	1972	www.sapatgramcollege.org	✓	
60	Saraighat College	Changsari, Assam, 781101	1981	www.saraighatcollegeghy.org	✓	
61	Science College, Kokrajhar	Kokrajhar, Assam, 783370	1995	www.sciencecollege.ac.in		✓
62	Sipajhar College	Sipajhar, Darrang, 784145	1971	www.sipajharcollege.org	✓	
63	Sonapur College	Sonapur, Kamrup, 782402	1991	www.sonapurcollege.org	✓	✓
64	SBMS College, Kamrup(Rural)	Sualkuchi, Kamrup, 781103	1963	www.sbmscollege.org	✓	✓
65	Suren Das College	P.O. + P.S. : Hajo, Dist: Kamrup (Rural). 781102	1979	www.surendascollege.org	✓	
66	Suren Das College, Hajo	P.O. + P.S. : Hajo, Dist: Kamrup (Rural), 781102	1979	www.surendascollege.org	✓	

67	Tihu College	Tihu, Nalbari, 781371	1963	www.tihucollege.org	√	√	√
68	Udalguri College	P/O.: Udalguri, BTAD, 784509	1979	www.udalguricollege.in	√	√	√

5.2.2. District-Wise Percentage

The following table 5.3 shows the district wise registration of member colleges under N-LIST. Though most of the colleges registered, a majority of the colleges have not registered themselves with N-LIST. Most of the colleges from Kamrup Metropolitan District (94.44%) are registered in N-LIST. Out of 13 numbers of colleges in Dhubri District only 4 (30.77%) numbers have registered under N-LIST. However not a single colleges in South Salmara-Mankachar District has registered with N-LIST Programme. The total no of registration is increasing day by day and the college fraternity is benefited through these e-resources.

Table 5.3: District Wise N-LIST Registered Colleges in Assam

Sl No.	Districts	Total no of Colleges	No. of N-LIST Registered Colleges	Percentage
1	Baksa	6	2	33.33%
2	Barpeta	19	11	57.89%
3	Bongaigaon	7	4	57.14%
4	Chirang	5	2	40%
5	Darrang	5	3	60%
6	Dhubri	13	4	30.77%
7	Goalpara	8	5	62.5%
8	Kamrup	22	14	63.64%
9	Kamrup Metropolitan	18	17	94.44%
10	Kokrajhar	7	3	42.86%
11	Nalbari	8	5	62.5%
12	South Salmara-Mankachar	3	0	0
13	Udalguri	4	2	50%

5.2.3 Library Collection

The status of library collection has been shown in table 5.4. The status of printed books/monographs is not encouraging. The survey result reveals that most of the library(27.12%) each is having books in between 10,001 to 20,000 followed by 20,001-30,000(18.64%), 30,001-40,000(22.03%) and 40,001 to 50,000 (10.17%) . Only 5.08%

library each is having books below 10,000 and 8.47% library in between 50,001- 60,000 and 60,001 to above respectively .

Table 5.4: Library Collection of the Surveyed Libraries

Range for Availability of Books	No. of College Libraries	Percentage (%)
Below 10,000	3	5.08
10,001-20,000	16	27.12
20,001-30,000	11	18.64
30,001-40,000	13	22.03
40,001-50,000	06	10.17
50,001-60,000	05	8.47
60,001- Above	05	8.47

5.2.4 Library Hardware

From the survey it is revealed that almost all the libraries have more no of personal computer. Every college has printer, photocopier and internet connectivity with broad band facilities. Except Cotton College have internet connectivity with leased line facilities.

5.2.5. Purpose of Using E-resources

The users use electronic resources for many purposes. According to the respondents, majority of the user's i.e. 71.19 % used N-LIST resources for their research work

followed by preparing class notes (35.59%), support academic work(16.95%), writing papers, seminars (13,56%) and for preparing project work (8.47%) etc. Only 6.78% use for other work likes competitive exams etc.

Table 5.5: Purpose of E-resources

Option	No. of Colleges	Percentage
Preparing Class Notes	21	35.59
Writing Seminar Paper	8	13.56
Preparing Projects	5	8.47
Support Academic Work	10	16.95
Research	42	71.19
Others (Please ,specify)	4	6.78

5.2.6. Computer Provided for Searching E-resources at Library

From the study it is seen that 94.92% college library of Lower Assam has provided computers for searching e-resources to their users. Only 5.08% library has not provided computers to their users due to lack of infrastructure (Table 5.6).

Table 5.6: Computer for Searching E-resources

Option	No. of Colleges
Yes	56 (94.92%)
No	3(5.08%)

5.2.7. Users of N-LIST Resources

Table 5.7 below shows the types of users of the surveyed registered colleges of Lower Assam who were given User Id and Password to access e-resources under N-LIST. The table shows that all the surveyed libraries have created Id and Password to their faculty members. However 75% libraries has created Id and Password for students and 5% libraries has created user Id and Password to the interested staff in their colleges.

Table 5.7: Types of Users

Users	No. of Colleges
Faculty	59 (100%)
Students	44 (75%)
Staff	3 (5%)

5.2.8. User Awareness/Demonstration

From the survey it is seen that 82% colleges has provided demonstration to the faculty members. 63% colleges have given orientation programme to the faculty and student. 7% colleges have not given any comment about the orientation/demonstration of using e-resources.

Table 5.8: Demonstration Given to Users

Users	Percentage
Faculty	82%
Student	63%
Staff	7%

5.2.9. Frequency of Searching/Browsing

Table 5.9: Frequency of Browsing

Frequency	No. of Colleges	Percentage (%)
Daily	30	50.85
Weekly	17	28.81
Sometimes	9	15.25
Never	0	0
No Comment	3	5.08

The college libraries are having the internet facilities with broadband connectivity. The users i.e. faculty, student & staff are accessing e-resources in the college campus daily (50.85%), weekly (28.81%), sometimes (15.25%) etc. However 5.08% libraries have not put any comment about the searching of e-resources by their users (Table 5.9).

5.2.10. Duration of Access to N-LIST

Table 5.10: Duration of Access

Option	No. of Colleges	Percentage (%)
One hour	16	27.12
Two hour	11	18.64
Three hour	7	11.86
More than three hour	4	6.78
Anytime	5	8.47
No Comment	16	27.12

INFLIBNET Centre providing access to the N-LIST e-resources through their personal computers from anywhere. The above table 5.10 shows the duration of access to e-resources inside the college campus.

5.2.11. Storage Media for Accessing/ Downloading

Table: 5.11: Storage Media Format

Option	No of Respondents	Percentage
Hard Disc	17	28.81%
External Hard Disc	10	16.95%
Pen Drive	23	38.98%
CD ROM & Other	9	15.25%

From the study it is seen that 38.98% users use Pen Drive to store the information while accessing/downloading the N-LIST e-resources. 28.81% use Hard Disc, 16.95% use external Hard Disc and 15.25% use CD-ROM for storage purpose.

5.2.12. Problem Faced While Searching N-LIST Resources

The Figure 5.2 revealed that 54.24% users of colleges are facing problem while searching N-LIST e-resources and 45.76% are not.

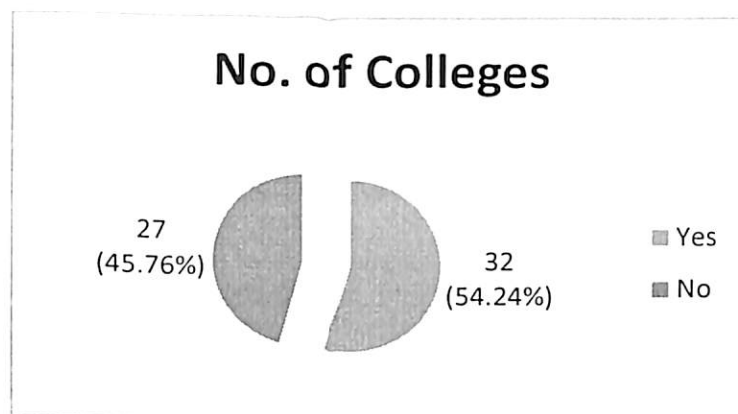


Figure 5.2: Problem Facing While Searching N-LIST Resources

5.2.13. Barrier of Using N-LIST Resources

The college libraries faced so many problems when using e-resources under N-LIST. Lack of internet connectivity is the main barrier in most of the college libraries, followed by lack of power supply, lack of awareness, lack of full-text, and lack of computer etc.

Table 5.12: Barrier of Using N-LIST Resources

Option	No. of Colleges	Percentage (%)
Lack of Computer	9	15.25
Lack of Internet Connectivity	21	35.59
Lack of full-text	7	11.86
Lack of Power Supply	15	25.42
Lack of Awareness	6	10.17
Others	1	1.69

5.2.14. Satisfaction to Uses of N-LIST

Table 5.13: Level of Satisfaction

Option	No. of Respondents
Yes	51 (86.44%)
No	8 (13.56%)

A question was asked to know the satisfaction level of infrastructure among the users for accessing e-resources. It is observed that 86.44% respondents are satisfied with the services of e-resources, internet facility and library infrastructure and atmosphere along with other reading and learning materials. 13.56% of users are unsatisfied with functioning and services provided by the libraries (Table 5.13; Figure 5.).

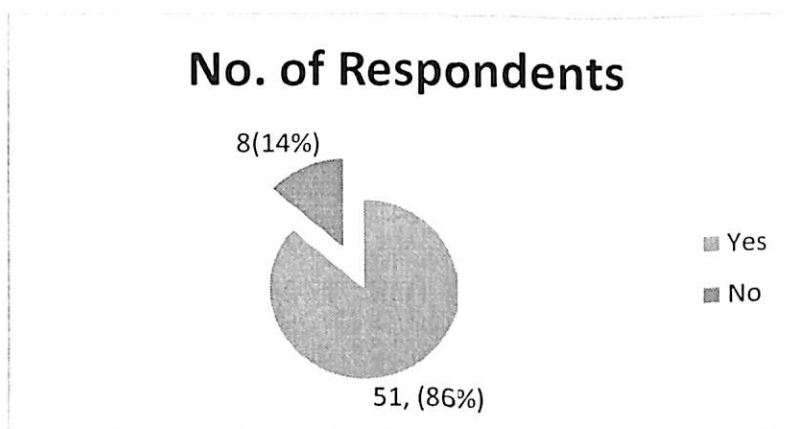


Figure 5.3: Satisfaction Level of N-LIST Resources

5.3. CONCLUSION

The libraries at present age must have a good collection including all type of resources to meet the thrust of the users. Electronic resources are found very important to the users of the College Libraries of Assam. The College Libraries of Assam subscribing a good number of E-resources through N-LIST consortium. But most of the respondents are not aware about them. Most of the respondents are satisfied with the services of e-resources, internet facility and library infrastructure and atmosphere along with other reading and learning materials.

IMPORTANT FINDINGS AND RECOMMENDATIONS

6.1. INTRODUCTION

The finding of the study in concise and summarized way arranged here for consideration and evaluation. Researcher has used random sampling method to collect the primary information from the universe. The study has confined on the colleges of Lower Assam only and data were collected with the help of questionnaire schedule prepared by researcher herself.

6.2. MAJOR FINDINGS

Following findings are derived from the Colleges in Lower Assam:

- All the colleges are affiliated under Gauhati University. The colleges are mainly offering degree courses. However some colleges are offering M.A. courses in some subjects. From the survey it is seen that 11 numbers of colleges have three streams (Arts, Science and Commerce), 35 numbers have two streams and 21 numbers have one stream.

- Highest number of colleges from Kamrup Metropolitan District (94.44%) is registered in N-LIST and the colleges in Dhubri District are lowest 4 (30.77%). However not a single colleges in South Salmara-Mankachar District has registered with N-LIST Programme
- Library collection is one of the important components of a library. Survey result reveals that most of the library(27.12%) each is having books in between 10,001 to 20,000 followed by 20,001-30,000(18.64%), 30,001-40,000(22.03%) and 40,001 to 50,000 (10.17%) . Only 5.08% library each is having books below 10,000 and 8.47% library in between 50,001- 60,000 and more than 60,000.
- Besides N-LIST E-resources some colleges have other open source resources.
- From the survey it is revealed that almost all the libraries have more no of personal computer. Every college has printer, photocopier and internet connectivity with broad band facilities. Except Cotton College have internet connectivity with leased line facilities.
- According to the respondents, majority of the user's i.e. 71.19 % used N-LIST resources for their research work followed by preparing class notes (35.59%), support academic work(16.95%), writing papers, seminars (13.56%) and for

preparing project work (8.47%) etc. Only 6.78% use for other work likes competitive exams etc.

- From the study it is seen that 94.92% college library of Lower Assam has provided computers for searching e-resources to their users.
- All the surveyed libraries have created Id and Password to their faculty members. However 75% libraries has created Id and Password for students and 5% libraries has created user Id and Password to the interested staff in their colleges.
- 82% college libraries are provided demonstration to the faculty members and 63% colleges have given orientation programme to the faculty and student.
- Users are searching e-journals in weekly, fortnightly etc. and majority of the users are searching not regularly. The users i.e. faculty, student & staff are accessing e-resources in the college campus daily (50.85%), weekly (28.81%), sometimes (15.25%) etc. Most of the users browse the N-LIST resources from their home.
- The users access the N-LIST e-resources from their home as well as at college campus. 27.12% use one hour daily followed by 18.64% use 2 hour, 11.86% use

three hour, 8.47% use anytime in the working hours. Some users acknowledge that they use the N-LIST resources when needed.

- Mainly Pen Drive (38.98%) is used to store the information while accessing/downloading the N-LIST e-resources. 28.81% use Hard Disc, 16.95% use external Hard Disc and 15.25% use CD-ROM for
- 54.24% users of colleges are facing problem while searching N-LIST e-resources and 45.76% are not
- It is further evident that majority of the users are faced so many problems when using e-resources under N-LIST. Lack of internet connectivity (35.59%) is the main barrier in most of the college libraries, followed by lack of power supply (25.42%), lack of awareness (15.25%), lack of full-text (11.86%), and lack of computer (10.17%) etc.
- The overall benefit of the usage of e-resources is good and users are satisfied using these resources.

6.3. RECOMMENDATIONS

The present study conducted to examine the “Use of E-resources in the College Libraries in Lower Assam”. On the basis of finding of the survey, major recommendations which emerged out of the study are listed below:

- ◆ E-resources are useful and very interesting to use them. The uses of E-resources are very common among the faculty of the college Libraries. Some students depend upon E-resources for their academic work.
- ◆ Majority of the users are not getting the benefit of these resources due to unawareness of the availability of the N-LIST e-resources. So user education and awareness programme should be done at regular interval among the students of the colleges that they can know that the college library has the facility to access E-resources.
- ◆ The college campus should have Wi-Fi connectivity enabled.
- ◆ The users of college Libraries of Assam should be taught about the advanced search strategies/facilities to make e-resources easily accessible

- ◆ Poor internet connectivity in the libraries faced problem for using e-resources. So high band width connectivity should be implemented by the college authorities.

- ◆ Poor computer laboratory in the college create problem in searching the E-resources. The internet service within the college campus is very poor and the availability of books and other resources are not up to the mark.

- ◆ Should provide open access of the E-resources throughout the college junction so that every student can go through their requirement.

- ◆ Library should subscribe more number of e-resources relevant to different department to meet the demand of the users.

- ◆ Maximum time the N-LIST site fails to connect with the E-resources site. There should be a separate digital section with a trained professional staff to guide the faculty and also students to access electronic resources.

- ◆ Training for using E-resources is necessary

- ◆ Use of E-resources is good now a days but it is very time consuming, inconvenient to study all time from the monitor which effect eye power.

6.4. CONCLUSIONS

From the findings it is seen that N-LIST e-resources are useful and very interesting to use them. As e-resources can provide latest first hand information, the users of the college libraries used it for preparing seminar paper, project work and other extension work. There is no Wi-Fi connectivity in every college libraries in Assam and students of the different department urgently need it. So the college authority should take necessary step for that. The library are lacking in user awareness programme. In order to fully exploit the use of e-resources, services and facilities, each library should conduct user awareness program.

CONCLUSION

Now a day there is a demand for E-resources rather than the printed one. E-resources are playing vital role in research and development of the libraries. In the age of IT and information explosion e-resources are more sharable and convenient usages. Required information can be made available locally or on remotely by through internet.

E- Resources are important information sources as they provide current information overcoming the barriers of space, time and location. Now e-resources have reduced the size of the library but increased the capacity. It took less space but accommodate maximum documents which are not possible in the traditional library.

Consortia have reduced the cost of subscribing materials. Now libraries can subscribe more databases, e-resources in fewer amounts. It is not possible to adopt a uniform set of rules pertaining to electronic resources which can be equally applicable to all libraries. So each libraries has to find own policy to facilitate its users.

Academic libraries invest considerable amount for the procurement, creation and maintenance of e-resources for setting of best kind of electronic environment that suits

best to their users. Recent developments in ICT have changed the face of scholarly communication from print to electronic media. The College Libraries of Assam subscribes online resources for different department through N-LIST consortium. But most of the users are not getting the benefit of these resources due to unawareness of the availability of the e- resources. So user education and awareness programme should be done at regular interval among the Faculty and Students of the college.

E-resources have changed the way of searching and accessing information and made users way easier to retrieve the required information.

N-LIST services are considered a vital part of academic college services in the 21st century. It has tremendously changed the way of seeking information towards electronic resources and services. It is today important to learn and know the assessing the use of N-LIST Services among the Faculties and Students. The study reveals that N-LIST Services are useful to academic users and elaborates on the problems faced while accessing and utilizing N-LIST Services. The study helps in planning, developing and extending the N-LIST Services to academic Colleges.

This study was aimed to examine the use of N-LIST resources in the College Libraries of Assam. The objectives set for the study have been fulfilled satisfactorily. Most of the students use e-resources but the ratios used by the respondents are different because it

depends upon the type of department/ disciplines. E-books and E-journals are the most used e-resources by the students. Students need always latest information. The internet is remedial source for accessing information speedily and exhaustively. Thus it is the basic responsibility of college authorities to provide high speed internet connection, a number of nodes, terminals and downloading facilities. It is better to use more computers for the purpose of increasing the use of internet and e-resources among the students. Because in this ever growing universe of knowledge, internet is a vehicle by which the milestone of latest information can be reached.

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WebSites:

1. <http://n-list.inflibnet.ac.in>
2. http://en.wikipedia.org/wiki/List_of_institutions_of_higher_education_in_Assam
3. http://nlist.inflibnet.ac.in/N_LIST%20Brochure.pdf
4. <http://nlist.inflibnet.ac.in/statecollegelist.php>
5. <http://moyak.com/papers/copy-cataloguing-india.pdf>
6. www.ugc.ac.in/recog_college.aspx
7. <http://en.m.wikipedia.org>

From:
JuliThakuria
Librarian
Dr. Birinchi Kumar Barooah College
Puranigudam, Nagaon, 782141.

To,
.....
.....
.....
.....

Dated:

Sub: Requesting for providing information about your Library.

Dear Sir/Madam,

With reference to the subject cited above, I have the honour to inform you that I am conducting a survey on "Use of NLIST Resources in the College Libraries of Assam: a Case Study" as part of Minor Research Project under University Grant Commission. In this regard, I request you to co-operate me by filling in the questionnaire that has been attached herewith. The information provided by you will be for academic purpose only. I will be highly grateful to you for this kind cooperation.

Thanking You,

Yours Sincerely

(JuliThakuria)
Librarian
Dr. B.K.B.College,
Puranigudam

QUESTIONNAIRE FOR THE LIBRARIAN
Use of NLIST Resources in the College Libraries of Assam
 (To be filled up by giving a tick mark (√) wherever applicable)

1. Name of the College:

2. Address: : Town/City:..... Dist:.....

State:..... Pin:.....

Phone No:..... Fax:.....

Web site:.....E-mail:.....

3. Stream: Arts Science Commerce

4. Name of the Library:

5. Year of establishment:

3. Library Hours:

4. Library Users: a) Faculty: b) Students: c) Research Scholars:

Staff: Total:

5. Library Collections:

Books:

CD-ROMs:.....

Current Periodicals:

DVD-ROMs:.....

Bound Periodicals:

Magnetic Tapes:.....

Reports:

Audio Cassettes:

Manuscripts:

Video Cassettes:

Gray Literature:

Others (Please, specify).....

6. Total no. of Computers in the library:

7. Total no. of Printers in the library:

Dot Matrix Printer: Inkjet Printer: Laser Jet Printer:

Bar Code Printer:

8. Total no. of Scanners:

9. Have your library any Photocopier: Yes No Total

10. Have your library any AV equipment: Yes No Total

11. Availability of internet connectivity in the library Yes No

12. Internet Connectivity:

Dial-up: Broadband: Leased Line: Any Other:

Bandwidth: 56kbps 556kbps 100mbps Any other

Internet Service Provider: BSNL VSNL Any Other

13. No of computer with internet connectivity

Library Department Computer centre Other

14. No. of computer used for searching NLIST resources in the library:

15. Type of power back up facility

Generator UPS Inverter Any Other

16. Users covered under NLIST access given

Faculty Students Staff

17. Demonstration given to users for using NLIST resources Faculty Students yes/No yes/No

If Yes,

Year 2010 2011 2012 2013 2014 2015 2016

Faculty

Students

18. Purpose of Using N-LIST Resources

Preparing Class Note Writing Seminar Paper Preparing Projects

Support Academic Work Research Others (pl. Specify)

19. Duration of access to NLIST resources a day

One hour Two hour Three hour More than three hours

20. Experience of using NLIST E-resources

Less than 1 year 1 to 2 year 2 to 3 year above 3 year

21. Frequency of access to N-LIST journals:

Everyday Weekly Sometimes Never No Comment

22 Storage Media for Accessing/Downloading

Hard Disc External Hard Disc Pen Drive CD ROM & Other

23. Problem faced by uses of N-LIST Resources: Yes No

24. Barrier to use of N-LIST Resources

Lack of computer Lack of internet connectivity Lack of full-text
Lack of power supply Lack of awareness others

25. Satisfaction to uses of N-LIST Resources: Yes No

26. Access to E-journals other than NLIST

UGC-INFONET Consortium Direct Subscription Free access Others

27. Any other Comment/ Information/Suggestions:

Place:
Date:

Signature of the Librarian

(Please, Use separate sheet if necessary)

Proceeding of the
UGC SPONSORED NATIONAL SEMINAR
ON
UGC Infonet Digital Library Consortia:
A Gateway to Higher Education with
special reference to N E Region

29-30 April, 2015



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Use of N-LIST provide E- Resources in some Selected College Libraries in Lower Assam

Juli Thakuria

Librarian, B.K.B. College, Nagaon

Introduction:

Appearance of World Wide Web (WWW) transformed the scattered world into a global village and brought the revolutionary changes. With the help of computer, libraries started changing its nature from traditional libraries to automated libraries, then electronic libraries and now we are dealing with online or digital libraries. The same way print publishing industry has also shifted to e-publishing. The information demands of users are also getting changed with reference to format and speed to access the information. The library managers, its users as well as the publishers dealing with print documents were facing various difficulties. The emergence of electronic resources came to rescue to remove these difficulties and is being welcomed by the whole world. Today, to subscribe and manage electronic resources is the cutthroat need of the hour.

Objective:

The main purpose of this study was to investigate the awareness, level of use of electronic resources and problems faced by users while using electronic resources under NLIST project.

Methodology:

A total number of 197 colleges in Assam have registered themselves in NLIST project. Out of these 49 colleges of lower Assam have registered and 22 no of colleges were drawn for the present study. In the present study survey method has been selected for carrying out the present investigation. A questionnaire was administered; visit of college libraries and interview of librarian was conducted to collect the information regarding the use of electronic resources, frequency of use of electronic resource, problems faced by users while using electronic resources etc. A total of 25 questions with multiple choices were designed and distributed to the colleges to collect the primary data.

Data Analysis

After collection of filled up questionnaire from the respondents the data has

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been tabulated and analyses with simple statistical method.

General Background of the College Libraries

The background information of colleges pertaining to name of colleges, their locations, established year, courses offered and websites have been tabulated in Table 1.

Table 1: General Information of the Surveyed Libraries

Sl. No	Name of Colleges & District	Year of Establishment	Websites	Stream		
				Arts	Science	Comm
1	Abhayapuri College, Bongaigaon	1955	www.abhayapuricollege.org	?	?	
2	Arya Vidyapeeth College, Kamrup(Metro)	1958	www.aryavidyapeethcollege.org	?	?	
3	Bapujee College, Barpeta	1970	www.bapujicollege.org	?		
4	Barama College, Baksa	1971	www.baramacollege.ac.in	?	?	
5	Bikali College, Goalpara	1982	www.bikalicollege.org	?		?
6	Cotton College, Kamrup(Metro)	1901	www.cottoncollege.org.in	?	?	
7	Dakshin Kamrup College, Kamrup(Rural)	1961	www.dkcollege.in	?	?	
8	Gauhati Commerce College, Kamrup(Metro)	1962	www.commercecollege.com			?
9	Girl's College, Kokrajhar	1990	www.gckokrajhar.ac.in	?		
10	Guwahati College, Kamrup(Metro)	1964	www.guwahaticollege.org	?	?	?
11	Handique Girl's College, Kamrup(Metro)	1939	www.hgcollege.org	?	?	
12	K. C. Das Commerce College, Kamrup(Metro)	1983	www.kcdccollege.com			?
13	K. R. B. Girl's College, Kamrup(Metro)	1971	www.krbgirlscollege.com	?		
14	Kokrajhar Govt College, Kokrajhar	1959	www.kokrajhargovtcollege.org	?	?	
15	P. B. College, Dhubri		www.pbcollege.in	?		?
16	Pub Kamrup College, Kamrup(Rural)	1972	www.pubkamrupcollege.org	?	?	
17	Puthimari College, Kamrup(Rural)	1981	www.puthimaricollege.org.in	?		
18	North Gauhati College, Kamrup(Metro)	1962	www.northguahaticollege.org	?	?	
19	Rangia College, Kamrup(Rural)	1963	www.rangiacollege.org	?	?	?
20	Sapatgram College, Dhubri	1972	www.sapatgramcollege.org	?		
21	S.B.Deorah College, Kamrup(Metro)	1984	www.sbdeorahcollege.org	?		?
22	SBMS College, Kamrup(Rural)	1963	www.sbmscollege.org	?	?	

Library Collection

The status of library collection has been shown in table 2. The status of printed books/monographs is not encouraging. The survey result reveals that most of the library (07=31.82%) each is having books in between 10,001 to 20,000 and 20,001 to 30,000 respectively. Only 01 (4.55%) library each is having books below 10,000 and in between 50,001- 60,000 and 60,001 above respectively.

Table 2: Library Collection of the Surveyed Libraries

Range for Availability of Books	No. of College Libraries	Percentage (%)
Below 10,000	01	4.55
10,001-20,000	07	31.82
20,001-30,000	07	31.82
30,001-40,000	02	9.09
40,001-50,000	03	13.64
50,001-60,000	01	4.55
60,001- Above	01	4.55

Library Hardware

Table 3 shows the hardware availability in the college libraries of Lower Assam. From the table it is revealed that except 4 no's of college libraries, almost all the libraries have more no of personal computer. Every college has printer, photocopier and internet connectivity with broad band facilities. Except Cotton College have internet connectivity with leased line facilities.

Table 3: Availability of Library Hardware in the Colleges

Sl. No	Name of Colleges	Personal Computer	Printer	Scanner	Photocopier	AV Equipment	Internet Connectivity (Broadband)
1	Abhayapuri College	5	1	2	1	0	Yes
2	Arya Vidyapeeth College	3	1	0	1	0	Yes
3	Bapujee College	6	3	1	1	0	Yes
4	Barama College	7	2	0	1	0	Yes
5	Bikali College	2	1	0	1	0	Yes
6	Cotton College	16	9	1	2	1	Yes (Leased line)
7	Dakshin Kamrup College	22	3	2	2	0	Yes
8	Gauhati Commerce College	12	3	1	1	2	Yes
9	Girl's College, Kokrajhar	5	2	1	0	1	Yes
10	Guwahati College	5	3	0	1	1	Yes
11	Handique Girl's College	20	4	2	1	1	Yes
12	K. C. Das Commerce College	10	5	1	1	1	Yes
13	K. R. B. Girl's College	5	2	1	1	0	Yes
14	Kokrajhar Govt College	10	4	2	2	1	Yes
15	P. B. College	10	1	1	1	0	Yes
16	Pub Kamrup College	49	2	0	1	0	Yes
17	Puthimari College	3	2	1	1	1	Yes
18	North Gauhati College	8	2	0	1	0	Yes
19	Rangia College	11	2	1	1	1	Yes
20	Sapatgram College	4	2	0	1	0	Yes
21	S.B. Deorah College	7	5	1	1	0	Yes
22	SBMS College	6	2	0	1	0	Yes

Computer Provide for N-LIST /E -Resources

From the study it is seen that Pub Kamrup College Library has provided more no of computers for searching e-resources i.e. 45. Whereas Arya Vidyapeeth College library has provided the least no of computer to their users for searching e-documents. Another college library, i.e. Sualkuchi Budhram Madhab Satradhikar College has not given the exact no of computer that is used for searching e-resources.

Table 4: No. of Computer provided for searching E-resources

Sl. No.	Name of Colleges	Total No. of Computer
1	Abhayapuri College	2
2	Arya Vidyapeeth College	1
3	Bapujee College	5
4	Barama College	4
5	Bikali College	2
6	Cotton College	6
7	Dakshin Kamrup College	15
8	Gauhati Commerce College	3
9	Girl's College, Kokrajhar	23
10	Guwahati College	2
11	Handique Girl's College	14
12	K. C. Das Commerce College	3
13	K. R. B. Girl's College	4
14	Kokrajhar Govt College	6
15	P. B. College	8
16	Pub Kamrup College	45
17	Puthimari College	2
18	North Gauhati College	3
19	Rangia College	8
20	Sapatgram College	2
21	S.B. Deorah College	3
22	SBMS College	-

Users Covered under NLIST

Table 5 below shows the types of users of the surveyed registered colleges of Assam who were given User Id and Password to access e-resources under NLIST. The table shows that all the colleges have created Id and Password to the faculty members. However 11 colleges are providing access to e-resources to the students and 5 no. of colleges are providing the access facility to the interested staff in the colleges.

Table 5: Users of the N-LIST e-resources

Sl. No.	Name of Colleges	Faculty	Student	Staff
1	Abhayapuri College	Yes		Yes
2	Arya Vidyapeeth College	Yes		
3	Bapujee College	Yes		
4	Barama College	Yes	Yes	
5	Bikali College	Yes	Yes	Yes
6	Cotton College	Yes	Yes	
7	Dakshin Kamrup College	Yes	Yes	Yes
8	Gauhati Commerce College	Yes		
9	Girl's College, Kokrajhar	Yes	Yes	
10	Guwahati College	Yes		
11	Handique Girl's College	Yes	Yes	
12	K. C. Das Commerce College	Yes	Yes	
13	K. R. B. Girl's College	Yes	Yes	
14	Kokrajhar Govt College	Yes	Yes	
15	P. B. College	Yes		Yes
16	Pub Kamrup College	Yes		
17	Puthimari College	Yes		Yes
18	North Gauhati College	Yes	Yes	
19	Rangia College	Yes		
20	Sapatgram College	Yes		
21	S.B. Deorah College	Yes	Yes	
22	SBMS College	Yes		

User Awareness/Demonstration

From the survey it is seen that 86.36% colleges has provided demonstration to the faculty members. 63.64% colleges have given orientation programme to the faculty and student (Figure 1).

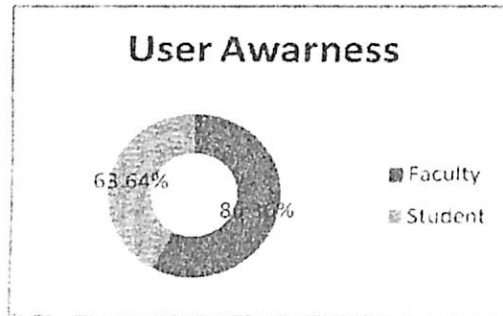


Figure 1: User Orientation

Duration of Access to NLIST Resources

INFLIBNET Centre providing access to the N-LIST e-resource through the proxy server. User can access e-resources through their personal computers from anywhere. Table 6 shows the duration of access to e-resources in the college campus.

Table 6: Duration of Access

Option	No. of Colleges	Percentage (%)
One hour	4	18.18
Two hour	5	22.73
Three hour	3	13.64
More than three hour	3	13.64
Anytime	2	9.09
No Comment	5	22.73

Searching of NLIST Resources

Almost all the college libraries are having the internet facility for accessing e-resources in the college campus. Table 7 reflects that 45.45% users searching N-LIST e-resources every day, followed by 40.91% sometimes and 9.09% weekly. 4.55% users have not given any comment about searching the e-resources.

Table 7: Frequency of Searching E-Resources

Frequency	No. of Colleges	Percentage (%)
Everyday	10	45.45
Weekly	2	9.09
Sometimes	9	40.91
Never	0	0
No Comment	1	4.55

Problem Faced while Searching

Figure 2 revealed that 50% users of colleges are facing problem while searching N-LIST e-resources and 50% are not.

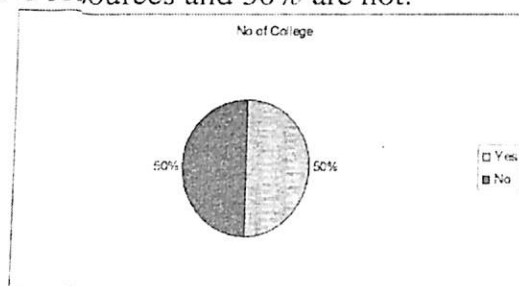


Figure 2: Browsing Problem

Barrier of Using NLIST Resources

The college libraries faced so many problems when using e-resources under N-LIST. Lack of awareness is the main barrier in most of the college libraries, followed by lack of internet connectivity, lack of full-text, lack of power supply and lack of computer etc.

Table 8: Barrier of Using N-LIST e-Resources

Option	No. of Colleges	Percentage (%)
Lack of Computer	3	13.64
Lack of Internet Connectivity	7	31.82
Lack of full-text	5	22.73
Lack of Power Supply	5	22.73
Lack of Awareness	12	54.55
Others	1	4.55

Satisfaction to Uses of N-LIST

The users are highly satisfied by using N-LIST e-resources. From the survey it is seen that 82% users are satisfied and 18% are not satisfied (Figure 3).

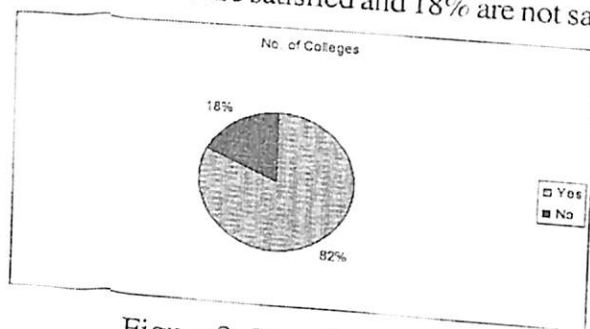


Figure 3: User Satisfaction

Major Findings : From the survey the following observations have been made:

- The study covers all streams of colleges i.e. Arts, science & Commerce
- Majority of the libraries i.e. 31.82% each are having collection in between 10000-20000 & 20001-30000 respectively. Only 1(4.55%) libraries each are having books below 10000, 50001-60000 & more than 1 lakh.
- Pub Kamrup College has the highest number of computer i.e. 49.
- All the surveyed libraries have internet connectivity with broadband. Except Cotton college library has leased line connectivity.
- Pub Kamrup College has more computer for accessing e-resources i.e. 45 and Arya Vidyapeeth College has low no. i.e. 01
- All college libraries have given user name & password to the faculty members. Some colleges have given access facility to students. 5 nos of colleges have given staff also.
- 86.36% college library has given demonstration to faculty members. 63.64% college library has given demonstration to students for using NLIST resources.
- Highest (45.45%) number of users searching NLIST provide e-resources everyday followed by 40.91% sometimes, 9.09% weekly & 4.55% college users have not given any comment.

- 50% college's users faced problem while searching NLIST resources & 50% are not.
- Major barrier of using the NLIST resources is lack of awareness.
- 82% users of the college libraries are satisfied to uses of NLIST resources and 18% are not.

Conclusion : With the advantages of the information age the libraries have brought new opportunities to enhance their services. Using new technologies to achieve the highest degree of security possible if new technologies are ensured and need another layer of action for the effective use of the resources. Users orientation on how to search, retrieve, and use e-resources should be arranged for the teachers and students of the colleges regularly. Infrastructure facility should be improved for accessing e-resources in the college libraries and students syllabus/course oriented e-resources including e-books should be included under NLIST.

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