

**NETWORKING AND RESOURCE SHARING OF
THE AGRICULTURAL COLLEGE LIBRARIES
IN MAHARASHTRA: A STUDY**



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In Library and Information Science
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CERTIFICATE

*It is hereby certified that the thesis entitled “Networking and Resource Sharing of the Agricultural College Libraries in Maharashtra: A Study” being submitted by **Shri. Dattatraya Trayambak Kalbande** for admittance to the Degree of “Doctor of Philosophy” in Library and Information Science of Dr. Babasaheb Ambedkar Marathwada University has been duly completed. Entire research work has been carried out under my guidance and supervision and is original. This thesis embodies the candidate’s own work and is up to the standard both in respect of its content and its literary presentation for being referred to the examiners.*

Dr. Subhash P Chavan

Declaration

*I, hereby declare, that the work presented in this thesis entitled “Networking & Resource Sharing of the Agricultural College Libraries in Maharashtra: A Study” submitted for admittance to the degree of “Doctor of Philosophy” in the subject of Library and Information Science under the Faculty of Social Sciences of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad has been carried out by me under the guidance and supervision of **Dr. Subhash P Chavan**, Librarian, Shri Asaramji Bhandwaldar Arts Commerce & Science College, Deogaon (R), Tq: Kannad, Dist. Aurangabad and that it has not been submitted by me to any other university for the award of degree, diploma or certificate, in part or full.*

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LIST OF ABRIVATIONS

AGLINET	Agricultural Library Network
AGRIS	Agricultural Library Information System
AICTE	All India Council of Technical Education
AMC	Annual Maintenance Contract
ARPANET	Advanced Research Project Agency Network
CAS	Current Awareness Service
CCF	Common Communication Format
CD-ROM	Compact Disk Read Only Memory
CeRA	Consortium of e-resources in Agriculture
DBMS	Database Management System
DELNET	Developing Library Network
DESIDOC	Defense Scientific Information and Documentation Centre
DRDO	Defense Research and Development Organization
DRTC	Documentation Research and Training Centre
ERNET	Education and Research Network
HTTP/IP	Hypertext Transfer Protocol / Internet Protocol
ICAR	Indian Council of Agricultural Research
ICT	Information Communication Technology
ILA	Indian Library Association
INFLIBNET	Information Library Network
INSDOC	Indian National Scientific Documentation Center
INTERNET	International Network
LAN	Local Area Network
MARC	Machine Readable Catalogue
MARC	Machine Readable Catalogue
MPKV	Mahatma Phule Krishi Vidyapeeth
NAAC	National Assessment and Accreditation Council
NICNET	National Information Network
OCLC	Ohio College Library Centre
OPAC	On-line Public Access Catalogue
PUNENET	Pune Library Network
SDI	Selective Dissemination of Information
SOUL	Software for University Library
SPSS	Statistical Package for the Social Sciences
TCP/IP	Transmission Control Protocol / Internet Protocol
UGC	University Grants Commission
UNESCO	United Nations Educational Scientific and Cultural Organization

CHAPTER- I

INTRODUCTION

1. INTRODUCTION:

The library professional has never been exposed so much in past to the changing information scenario as it has been done now. In this age of information explosion, the technology has progressively replaced the old method of information collection, storage and retrieval. Today the walls of the library are giving way to electronic environments to establish links with information and virtual libraries that are getting shaped on the resource sharing and networking. Each individual library is acting as a place for storage and services to the users while the trend is to provide shared information to the users. Emphasis is given to access to information rather than owning it.

It is also possible to create their own institutional digital repositories by transforming their institutional publications which are in print. All this needs cooperation and support from the authorities of the colleges and active participate of library professionals.

Academic libraries in India have long desired one-stop shopping for their customers and in this electronic age their customers are demanding it to search from a single point at any physical location, and retrieve information from the library catalogue, citation form journal indexes and full text information electronic resources.

Academic libraries are facing increasing pressures from multiple sources. Libraries can no longer be expected to support research and development from their own resources due to the information explosion, increasing cost of library materials, shrinking library budgets etc. The global computer network providing access to online bibliographic information and full text delivery of request will change the way work is performed in the libraries. The most important advantage of the information age for libraries may be that the information is not limited to the items held by library rather than user can access any modern library in the world through the World Wide Web.

Libraries must provide reliable, cost efficient access to information whether print or multimedia whether held locally or remotely. The need to provide information services that remove the barriers of distance and time become even more important. In earlier times libraries have always acquired and organized material so that the information is accessible more easily.

No library today can be expected to directly hold all of the resources to fulfill all the needs of its users. Rather, most libraries supplement their local collections through resource-sharing arrangements that allow them to offer their clientele access to a broader universe of materials. Libraries participate in local, regional, or global services for the borrowing and lending of materials, supported by different types of organizational relationships and technical infrastructure. (Islam, 2013)

Resource Sharing is typically composed of two activities. The first is collaborative collection development, whereby subject specializations are intended to be distributed among libraries within a clearly defined geographic region, so that individual libraries need not attempt to collect resources in all fields; but can concentrate on a particular field. The second form of resource sharing is through various document delivery mechanisms. Inter-library loan might suitably fall into this category (Grycz, 1997). No library is able to satisfy all the needs of information resources. Most libraries did not, do not and will not have all the information resources that their patrons need (Hwa-Wei Lee).

Needs of information resources can be met through the mechanism of library cooperation of sharing of resources. The appreciation of the need for cooperation leads to the formation of library consortium. To materialize the concept, first of all sever all libraries are required to come together for the mutual benefit of the respective user in the form of library cooperation. Secondly, libraries linked together with the help of communication system in terms of networking and finally they come together to acquire traditional and e-resources under the umbrella of library consortium (Chatterjee, 2007).

Network of college libraries under the umbrella of universities have been widely discussed, many projects have been initiated and undertaken at global level. In India particularly, ICAR, UGC and various educational bodies' recommendations also emphasized the necessity of networking of college libraries. The role of university library in clustering, resource sharing among the colleges and information access by avoiding the duplication of efforts and resources is immense. The INFLIBNET and NAAC are also emphasizing university and college libraries network and ensuring the role of university library in promoting the information environment of affiliated institutions. Application of new information technology has brought dramatic changes in the library and information field. With technological advancement, libraries and information centers around the world have computerized their library routines, developed databases for shared use on computer networks. Besides, improving services and operations for improved performance, libraries have also been able to evolve effective computer networks with an aim to optimize utilization of resources and facilities.

1.1 PROPOSED OF THE STUDY

The library and information networks have potential to improve library services in several ways. It brings down the cost of information products and services in the network environment in shared mode. It enables libraries to offer need-based services to the end users eliminating the limitation of size, distance and language barriers among them. With evolution in library networks, the emphasis has moved from the networks as physical entities to the resources available through the networks. These network-accessible resources include databases of library holdings, journal articles, electronic text, images, video and audio files, scientific and technical data and so on. There has been a voluminous growth of published documents in the recent past. As a result no library is able to procure process or store all documents that its users demand. According to Kent (1990) "It is difficult to anyone single library to acquire even one percent of the total document published in the world" due to one or more of the following reasons:

- a) Growth of Knowledge in different subjects.
- b) Rapid increase of literature and growth of publications.

- c) Increasing trend of new born subjects and specializations.
- d) Limitations of funds.
- e) Increase in the cost of publications.
- f) Increase in the number of members of user community teachers, scholars and students in universities.
- g) The information needs of academic community being wide in scope and varied in nature. Such information needs being often repetitive and recurring.
- h) Lack of environment to make use of available computer and communication technology for efficient and production use in libraries.

Therefore some resource sharing is necessary between one library and another library to acquire more information in a specific subject with low cost as published records are increasing at an incredible rate and their prices are keeping pace, in such circumstances library cooperation will assume a pivotal role and resources sharing will become the focal point of cooperation. As indicated earlier, the past few decades have witnessed knowledge and information explosion the world over and inadequate financial resources to do the best in terms of dissemination of knowledge and information. Under these circumstances, resource sharing and cooperative functioning of libraries and information centers through networking becomes vital. Efficient resource sharing can be achieved by using recent advances in Information Technology, i.e. networking of libraries and information centers through Local Area Networks, Metropolitan Area Networks, and Wide Area Networks and so on.

1.2 STATEMENT OF THE RESEARCH PROBLEM

“Networking & Resource sharing of the Agricultural College Libraries in Maharashtra: A study”.

1.3 DEFINITIONAL ANALYSIS

1.3.1 Network

Harrods Librarians Glossary defined the term “Network” as a system of physically separated computers with telecommunication links, allowing the resources of each participating machine to be shared by each of the others.

1.3.2 Networking

“Networking is more structured type of cooperation in which definite regions or areas or definite organizations are connected by electronic or other means to promote inter-library loaning of materials, in-service training and other sharing of resources. (Zhang, 1990).

1.3.3 Resource Sharing

“Resource Sharing is the activity is the result from an agreement, formal & informal among a group of Libraries (usually a consortium or network) to share collection, data, facilities, personnel etc, for the benefit of the users and to reduce expense of Collection development”. (Reitz, 2004).

1.3.4 Networking And Resource Sharing

A computerized inter-library loan system overcomes these limitations. For resource sharing, the participating libraries need to come together and cooperate in two broad areas: (a) developing the collection on shared basis, and (b) developing services for exploiting such collection (Dhawan, 1999).

1.3.5 Agricultural College

Agricultural College is an educational institute which imparts education to graduate, undergraduate and postgraduate students, and professional community with the help of various teaching aids and faculty to improve all round development of personality of the student admitted in the college. (Veer, 2002)

1.3.6 Agricultural College Library

A Library Attached or Associated with an Agricultural College and used by teachers, Student & Staff of the Agricultural College is Known as Agricultural College Library. (Veer, 2002)

1.3.7 Maharashtra

Maharashtra is located on the western coast of India, is divided into thirty five districts which are grouped into six divisions: Aurangabad Division, Amravati Division, Konkan Division, Nagpur Division, Nashik Division and Pune Division.

1.4 OBJECTIVES OF THE STUDY

- 1 To assess the nature and quantum of Resources available in the Agriculture College Libraries.
2. To identify the ICT infrastructure in Agriculture College Libraries.
3. To analyze the ICT skills among Librarians working in Agriculture College Libraries.
4. To know the attitudes of the Librarians towards Library networking and Resource Sharing.
5. To assess the feasibility of developing a Library Network of Agricultural Colleges.
6. To identify the barriers of Library networking& Resource Sharing.
7. To design a model for implementation of Networking& Resource Sharing in Agricultural College Libraries.

1.5 HYPOTHESIS

1. There is a significant difference in ICT Skills among the librarians of constituent colleges and Self Financed colleges.
2. There is a significant difference in Library Services among the constituent and Self Financed college libraries.
3. There is a positive attitude among the library and information science professionals in colleges towards networking and resource sharing.

1.6 SCOPE AND LIMITATION OF THE STUDY

The population of the study mainly comprised 40 Affiliated and Constituent Agricultural Colleges of Mahatma Phule Krishi Vidyapeeth, Rahuri, which have responded to the questionnaire sent.

"Constituent Agriculture College" means a college which is under the direct management of a university, whether located at headquarter or else where in the university jurisdiction of MPKV, Rahuri. (MCAER, 2011).

"Affiliated Agricultural College on permanently non-grant basis" means, a college sanctioned by the state council and affiliated to an university which shall not be entitled for any kind of grant in aid from the State Government (hereinafter) to be referred as the affiliated college (NG). (MCAER, 2011).

Hence Affiliated Agricultural College on permanently non-grant basis referred as a Self Financed Colleges for the Present study.

1.7 RESEARCH METHODOLOGY

Present study was done with the help of survey method. "The survey method is one of the most effective and sensitive instruments of research ... survey research can produce much needed knowledge." (Kasyap, 1969).

The steps in the methodology include:

- a) Data collection;
- b) Data analysis and Interpretation.

1.7.1 Data Collection

"Data are raw materials of reflection until by comparison, contrast an evaluation they are stepped up to successively higher levels of generation". (Das 1986).

1.7.2 Design of Questionnaire

A structured questionnaire was designed for librarians.

Broad details regarding the questionnaires are given below:

(a) Questionnaire for Librarians

As regard the librarians' questionnaire (Appendix-A), it is divided in five sections with 42 questions on library networking and resource sharing,

Section I: covers eight questions on basic information about college.

Section II: Covers nine questions regarding basic information about librarian.

Section III: Covers thirteen questions on library information.

Section IV: was framed with three questions on library collection, and system of classification and cataloguing.

Section V: contains thirteen questions on ICT infrastructure, library services, library budget, Opinion of resource sharing, willingness to share resources, library networks, and barriers of networking and resource sharing.

The structured questionnaire was distributed to 49 college librarians from the 10 districts i.e. Jalgaon, Nandurbar, Dhule, Nashik, Ahmednagar, Pune, Solapur, Satara, Sangli and Kolhapur. Out of the 49 college libraries 40 colleges have returned the questionnaire duly filled in giving 81.63% response. Among the 49 colleges six is constituent, 34 are self financed colleges.

1.7.3 Data Analysis

Collected data has been analyzed and presented in tabular as well as graphical form. In graphical form, bar charts, line graphs are used for presentation. For the purpose of analyzing the data collected, the fixed variables were user' constituent colleges of MPKV, Rahuri and self financed colleges in the Statistical software package (i.e. SPSS) have been used. In addition, some of the tools/techniques used for analyzing data include chi-square, P-Test, Ratio etc. Details regarding some of the tools/techniques used are given below.

a) Chi-square:

“The square of the standard normal variable is called chi-square” (Gupta, 1990). Chi-square analysis for testing the equality of promotion was carried out as per standard procedure explained in satisfactory level of significance.

c) Proportion:

A Statistical method used to test one or more hypotheses within a population or a proportion within a population. When testing a hypothesis about a population proportion (p) within a large population (one in which the sample size, "n", is not greater than 5% of the overall population), the formula is following:

$$x = (m/n - P) / \text{SqRt}[P(1-P)/n]$$

m= "yes" response

n = random sample size

p = proportion

P = population

This formula is used to test three hypotheses:

1. $p \leq P$
2. $p \geq P$
3. $p = P$

1.8 CONSPECTUS

The chapterization of the thesis is given below:

Chapter 1: Introduction

In this chapter researcher highlighted Introduction, Propose of the study, statement of the problem, conceptual analysis, Objectives of the present study, Hypothesis, Scope & Limitation, Research Methodology &chapterization

Chapter 2: Review of Literature

This chapter deals with the relevant Review of Literature. This analysis of the review of literature is the key focus of any research. It enables to be aware of the past

and current trends in any particular branch of research. It is an objective analysis and interpretation of contributions of authors, researchers, scientists, experts etc. Present study review of literature is grouped on following ways: 1. Introduction 2. ICT facilities available in Libraries 3. ICT Skills among the Library Staff 4. ICT Related Library Services 5. Networking of the Libraries 6. Resource Sharing among the Libraries 7. Conclusions

Chapter 3: Mahatma Phule Krishi Vidyapeeth Rahuri: History & Development

This chapter deals with the historical background of Mahatma Phule Krishi Vidyapeeth, Geographical Area, and Growth of MPKV, Present Educational status of University, Present Research Status of the University, Present Status of Extension Education, & Regional Extension Centers.

Chapter 4: Data Analysis and Interpretations

This chapter deals with the Statistical analysis of the collected data, For the Analysis used SPSS software as well as other Statistical tools i.e MS Excel, The data presented in Table form, pictorial, graphical form with interpretation. Also for testing the hypothesis used Chi Square test & P- Test.

Chapter 5: Model Plan for Networking & Resource Sharing In Agriculture College Libraries

This chapter deals with the model plan for the networking & Resource sharing of the agricultural college libraries. In this chapter highlighted Introduction of Model, Purpose of the MPKVLIBNET (Mahatma Phule Krishi Vidyapeeth Library Network) Networking Model, Finance provision, Organizational structure, Service area of the proposed model, Areas of resource sharing i.e Library Materials i.e Books, Journals, Articles etc, Acquisition of library materials, Governing body of the Network, Hardware & Software requirements, in the software KOHA open source software used, Home page of the Network, and lastly proposed memorandum of Understanding format & Resource Sharing agreement format between the Institute & MPKVLIBNET.

Chapter 6: Conclusions and Implications

This chapter highlighted the overall conclusions, Implications, and further areas of the research.

The thesis end with the list of bibliographical references and appendices.

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CHAPTER- II

REVIEW OF LITERATURE

2.1 PREAMBLE:

This chapter deals with the relevant Review of Literature. This analysis of the review of literature is the key focus of any research. It enables to be aware of the past and current trends in any particular branch of research. It is an objective analysis and interpretation of contributions of authors, researchers, scientists, experts etc. It present in chronological growth of literature in the field for that period. This literature review in such manner which is subject fields have grown in various way or contents that is added the value of the subject. The purpose of the literature review is to understand, various techniques and performances of phenomenon and its procedures. For the researcher it is guided to identifying and formulating the objectives, hypothesis, and methods for collection of data and for analysis of data.

Review of literature defines to the researcher for the refining the topics for restructure, recognize and reset the presentation on various ways. It also helps the researcher to study the different aspects of the problem. It enables the researcher to identify the unexplored areas, in order to create new grounds for research. Therefore it is an integral part of research studies.

Present study review of literature is grouped on following ways:

- ❖ Introduction
- ❖ ICT facilities available in Libraries
- ❖ ICT Skills Among the Library Staff
- ❖ ICT Related Library Services
- ❖ Networking of the Libraries
- ❖ Resource Sharing among the Libraries
- ❖ Conclusions

2.1.1 INTRODUCTION:

While conducting literature review, the following secondary information resources and reference books were consulted. These include Library and Information

Science Abstracts (LISA), Library, Information Science & Technology Abstracts (LISTA), Allen Kent's Encyclopedia of Library and Information Science, Popular databases like Emerald, J-store, EBSCO, Vidyanidhi, Pro-Quest, Science Direct, Scopus, INFLIBNET Theses Database, patent databases viz. E-space-net, Dolphin, CAS etc.

The core periodicals in the area include Networking & Resource Sharing of the Libraries, International Journal of Library Automation, Networking & Consortia, Pakistan Library & Information Science Journal, Library Consortium Management an International Journal, etc by organizations like WIPO, CAS etc was also referred. The resources enabled to the researcher for getting the information published in different manners or types are assisted in looking at the problems. A literature search, for validating topic of research study and tracking developments made in it, must be conducted. Literature search helps in finding gaps in research. It is a detailed and organized step by step search for all materials, documents, and information available on a topic.

The purpose of a literature search of a research article is to identify existing information sources (including books, journal articles, doctoral dissertations and Web documents) most relevant to the research in question. The various resources collected and categorized with detail study about Networking & Resource Sharing i.e. a brief coverage is listed below:

2.1.2 ICT FACILITIES AVAILABLE IN LIBRARIES:

The lot of researchers are conducted a study on ICT facilities/Infrastructure available in libraries.

Real & et...al (2014) have studied the status of the ICT Facilities available in Rural public libraries & its challenges. The researchers found that lot of the public rural libraries are adopted ICT infrastructure like they have access internet facility with bandwidth, lot of the libraries have computer terminals etc.

However, **Prakash, Ramanna& Rajkumar (2014)** in their study entitled "Library Collection, Facilities and Services of the Central University of Karnataka: A

Survey” demonstrate the varies aspects of use of collection & services, availability of the ICT infrastructure, print & electronic resources, databases.

While, **Okeke, Oghenetega & Umeji (2014)** in their paper they discovered that the most of the students in the faculty of social sciences are aware of the ITC tools like computer & etc also they explored students used GSM & social media commonly in Madonna University Okija Campus.

Nazi & et.al (2014). Surveyed that the mobile facility implementation in national library at Iran & they stated that the 68% respondents supported to the adopt this facility for the all events, overdue date intimation, OPAC facility etc. in short the users recommended to increase the ICT infrastructure for the library services through cell phone.

Mondal & Bandyopadhyay (2014) have studied the status of ICT infrastructure in the university libraries of west Bengal, India. It is concluded that the most of the libraries are in different stages of the development also they have faced lot of problems for the development of the ICT infrastructure in the libraries.

While, **Kruse (2014)** conduct a survey on Research libraries’ new role in research data management, current trends and visions in Denmark. They it is found that no any library used common ICT Infrastructure to manage the all resources it may be e-resources as well print resources.

Tiwari & Sahoo (2013) investigated the Infrastructure & Use of ICT in University Libraries in Rajasthan state. It was found that all the university libraries are in developing stage. Also ICT infrastructure was the need of the present era for the change the status & to give the quick services to the users. The researchers stated that the library staffs have needed to get the ICT training as well as practices.

Siddiqui & Walia (2013) in their study highlighted Comparatively in India & UK regarding the ICT Papers in LIS Syllabus & they it is found that in UK LIS curriculum more weight age is given to ICT papers while in Indian LIS curriculum more traditional type papers are still part of the curriculum.

Mohd, Esmail & Nagrajan (2013) have studied the attitude of the users regarding e-resources & services in engineering colleges affiliated to north Maharashtra University & then it is stated that the lack of ICT infrastructure in engineering college libraries for the access of e-resources. The library users suggested that to develop the current & adequate ICT facilities in the knowledge resource centers/ Libraries.

Malik & Mahmood (2013) identified the current status of ICT infrastructure needed for the delivering the digital reference service in university libraries. The researchers reveal that the ICT infrastructure needed for designing and implementing an effective DRS in libraries is better than before but it needs further improvement. Many libraries also own general and reference collection in electronic format. Only a few libraries have started DRS while most of them are still using face to face channel for reference transactions.

While, **Bello, Emmanuel & Busari (2013)** revealed that computer; television, printer, scanners and internet facilities were readily available to the librarians while apart from computer aided instruction Software that was scarcely available, other facilities were moderately available in their respective libraries.

Aravinthan & Venkatesh (2013) in their paper discussed that the ICT infrastructure were used for the creating, sharing & dissemination of the knowledge in the field of nursing in his study the author studied the lacuna of the ICT infrastructure adopted & used in the nursing college libraries in the state of karnataka also they stated the state government help to them for avoiding the same.

Thompson (2012) examined the California state university San Marcos library provide the computer facility in a traditional age but most of the users used it but in suggestions the users need is to provide the desktop services via cell phones. The researcher explored that the users are used more & more ICT tools for getting the information.

Showers (2012) the researcher it is found that now a day's Data driven library infrastructure are very important for to give quality services to the end user as well as

it is important not only for the libraries but also publishes, system vendors & third parties.

Nwohiri & Emezie (2012) investigation in their study the factors affecting the adaptation of IT in libraries, also they investigate the rate of the adopt the ICT tools in day to day work was very high, most of the academic libraries in Imo State are initial stage for the automation but the ICT tools like computers, Internet connectivity, Telecommunication tools, software's used rate was very high.

Issa & et..al (2012) discussed the varies standers & practices for developing the IT Infrastructure in libraries such as ITIL & CMMI, ITIL & CobiT, ITIL & eTOM etc & its benefits as well as circumstances for the adopt in the libraries with the suitable examples.

However, **Bedart & et..al (2012)** in his study “ Library Information Technology Collaboration at the university of New Maxico” studied that the There are several principal providers of information technology services and support on the University of New Mexico (UNM) campus. These include a central set of services provided by the campus Information Technologies (IT) group, University Libraries (UL) Library Information Technology (LIT), Center for Academic Research Computing (CAR-C), New Media and Extended Learning (NMEL), and the Health Science Library and Informatics Center (HSLIC). These IT organizations articulate with each other in different ways. Campus IT services are described through their catalog and have a focus on infrastructure such as networking, business enterprise computing (Banner), security, communication devices and software, computer and classroom labs, purchase and licensing for PC hardware and software and support for the Web content management system.

Aguolu (2012) reported that the Nigerian Libraries changed traditional to hybrid library with the ICT infrastructure also the researchers conclude that the most of the libraries facing problems like financial, technical, ICT skills among the staff etc as well as she stated that the Nigerian university libraries changed very fast as a electronic libraries they have adopt the ICT tools, Hardware & software for providing the library services to the end users.

Olaniyi & et..al (2012) illustrated the importance of ICT applications in library management they have discussed in details regarding the role of ICT in library services, application of biometric technology in library services, barcode technology in libraries & its impact on charging & discharging of books for home lending service.

Shivkumaren, Geetha & Jayaprakash (2011) in their study entitled “ICT Facilities in University Libraries: A Case Study” stated that the comparative analysis of the ICT Infrastructure vs. University Libraries, ICT based technology vs. university libraries in this the researchers found the 100% deemed university libraries having barcode technology in the state of Tamilnadu.

Rasul & Sahu (2011) in their study entitled “Use of It & its impact on service quality in academic library” explained that the IIMT library have only three databases, such as PROQUEST, INDIA STAT, & CAPITALINE database. As per user perceptions, need to be purchase more online databases for IIMT Library. And also to be providing latest computer facilities, increase the bandwidth of internet in the library, remote access of the library, E-Security system, online renewal, reservation facility & networking of the library. While, **Kumar & Dominic (2011)** in their paper entitle “A Study on information Communication Technology among Engineering College Libraries in Coimbatore, Tamil Nadu” studied 32 engineering college libraries & explained which of the library have top level using total number of computers with & without internet facility, in library collection it may be print of electronic, development of institutional repository, digital library & its software, & challenges for the developing ICT infrastructure in libraries. However, **Issa & et..al (2011)** in their study entitled “Application of information Technology to Library Services at the Federal University of Technology, Kure Library, Ondo State, Nigeria” evaluated that the which IT devices are available in university library, how many fund provide to adopt the such tools as well as impact of the these tools on the services of the libraries.

Dhanvandanvan (2011) highlighted that the digital library infrastructure in self financing engineering college libraries in Tamilnadu state the researcher concluded that most of the libraries used DSpace digital library software followed by

greenstone. while, **Dhanvandan, Esmail & Nagranjan (2011)** studied that the 140 sample engineering colleges from the tamilnadu state & it is stated that the which of the ICT Infrastructure available for ex. Computers, printers, e-resources, amplifier, projector, CD ROM Databases, Library management software, library portals, library webpage, webopac etc. also the researcher found that the acriditated colleges have good stage in developing regarding the ICT tools.

Srinivasa Rao & Choudhari (2010) discussed the computer infrastructure facilities & services in NIT libraries in India they have studied these libraries zone wise like, EAST, WEST, SOUTH & NORTH & the researchers concluded that South zone libraries are richer than the other zone libraries with respect to CI facilities. While, **Ejedafiru (2010)** in his research paper in title “Lack of ICT Infrastructure as a Barrier to Resource Sharing in Nigerian Libraries” stated that the none of the library are used fully ICT infrastructure for the resource sharing also the researcher found that the library staff agreed that the reasons for the failure of resource sharing in their libraries were poor communication infrastructure.

Stewart & Cervone (2003) explored in their study that Northwestern University Library has developed a rich infrastructure to support text and media digitization. However, **Veer, D.K. (2002)** studied the College of Education Libraries in Maharashtra: A Survey. And the researchers stated that a Good ICT Infrastructure and effective services marks a good library. It has been said that a library is incomplete without proper ICT Infrastructure.

2.1.3 ICT SKILLS AMONG THE LISC PROFESSIONALS

Khan & Idrees (2014) in their paper they have discussed the importance of professionals training for LIS professionals Conducted by Pakistan Academy for rural Development (PARD). Also they have elaborate the PARD play a vital role through training programme to developed the library automation skills, Information/Computer literacy skills, Knowledge Management skills, Communication Skills, Leadership Skills, etc in the LIS professionals in Pakistan Country. while, **Bhatti, Chohan & Naeem (2014)** discussed the Factors Affecting Library Usage Frequency by Students in University Libraries of Developing Countries including Pakistan. In this study it is investigated the lack of Information Literacy skills, lack of reading skills, lack of

training, Lack of awareness of ICT tools etc these factors are affect the library usage in developing countries.

Sinha & Bhattacharjee (2013) discussed the ICT & Internet Literacy skills for using the N-LIST programme , as per the their results it it is found that most of the students not aware about the N-LIST facility also they have need the training regarding development of the ICT skills as well as Internet facility. However, **Sahu (2013)** surveyed the traditional and technical skill. Traditional skill involves in Collection & Development, Preparing budget, Classification & Cataloguing, Indexing Service, Reference Service, Library Supervision while Technical skill emphasized on Digital projects/initiatives, Website Designing, Library Automation, Open Source Software Development, and Networking.

Ramaiah & Pillai (2013) identified the importance of IT Skills, Net Skills, reading, Information seeking skills, teaching & learning, Management; media resources use skills etc particularly in school libraries in India. Also the researcher discussed the importance of the training in development of the skills among the students as well as school teachers. However, **Popoola & Olalude (2013)** discussed the Symptoms of techno stress being manifested by the Library personnel & through this symptoms they have get the level of the ICT skills as well as computer literacy skills among the library professionals from the automated university libraries in Nigeria.

Ejedafiru & Oghenetega (2013) identified the level of professional librarians in ICT skills hence 85% of respondents claimed that they can operate computer effectively, while 80% and 75% said they use online information for research and are capable of using www search engines respectively.

Kumar (2013) investigate in his study entitled “Knowledge on ICT Skills among LIS Professionals of Engineering Institutions of Andhra Pradesh State: A Survey” in his study he shown the skills regarding operating system, operating/programming language, library management software, web design tools, technical skills, managerial skills, subject skills & lack of ICT related skills, constraints on ICT practice by Library & Information Professionals.

Ganesan & Kaliyaperumal (2013) discussed the ICT skills among the students of Ragas Dental college library, in this study researchers carried out most of the students have knowledge about the word processing, Social Networking sites, E-Mail facility & e-resources available in the library.

Chukwu (2013) explored the ICT skills for using the ICT resources among the students from the Owerri library as per his results most of the users aware about ICT Resources & they have sufficient skills for using them fluently also 85% new users want arrange the training for using ICT tools & resources for the fulfillment of the information need. While, **Chisita (2013)** investigate the role of libraries for development of the skills regarding to search the information regarding social issues, globalization, democracy, HIV/AIDS, Importance of the Education etc in the area of Zimbabwe. It will also examine the role of school libraries in promoting interpersonal skills development amongst students to promote responsible behavior or citizenship. However, **Ajayi, Shorunke & Akinola (2013)** examined the skills of LISc professionals regarding use of the ICT in day to day work. As per the their results it is found that 84% LISc professionals have excellent skills to use of computers, followed by Internet, Telephone, Scanner, printer, projector using skill level.

Chima-James (2012) assessed the Computer literacy skills among the university librarians from the Nigeria & he found the 84.4 % staffs are computer literate also most of the staff aware regarding computer skills through practical self teaching & training programmes.

While, **Dzandu & Dadzie (2012)** identified the level of regarding ICT skills among the scientist in Ghana & it is found that the majority of respondents In response to the question on level of skills acquired, 36.4 % indicated it was very high; 43.9 % said it was high; 16.7 % said it was medium; whilst 1.5 % respondent each said it was low, and very low. However, **Faga (2012)** assessed the problems and solutions to the acquisition of computer literacy skills of academic staff of NSUK and UNIJOS- Nijeria & he were found most of the problems faced in Computer literacy skills it may be lack of training workshop, lack of funds, inadequate power supply, Government responsibility etc. Tan, Gorman & Singh (2012) in their paper studied

the Information Literacy skills among the school librarians in Malaysia. In this paper investigators explained the IL Skills Mean scores of self-assessed IL skills by length of experience, Length of Educational Qualification, & self assessed IL Skills respectively.

Quadri (2012) reported the related literature regarding Impact of the ICT skills on the use of e-resources by information professionals in his paper in detailed he noted the some studies regarding ICT skills for information professionals, Impact of ICT on their, Use of e-resources by professionals, challenges for achieving the ICT skills etc...

Fatima, Shafique & Firdous (2012) in their paper entitle “ICT skills of LIS students: A survey of two library schools of the Punjab” The study not only identifies the situation of ICT skills of LIS products, but also highlights demands of LIS market in Pakistan. also in this study investigator stated the criteria of identifying the ICT skills among the LIS students in Pakistan country.

While, **Eze (2012)** noted that the need of the training to acquire the Acquire more skills and exposure in work, Computer training for more information skills, better communication skill, etc. However, **Bello & Mansor (2012)** explored the skills considered to contribute and enhanced job performance of the respondents were: ability to communicate effectively (96%), ability to plan, organize, and supervise cataloguing activities in the library (91%), ability to establish and maintain effective work relationship with colleagues and other library staff (91%) and ability to research into new techniques for cataloguing (96%). From the result above, practically almost all the skills were of management enhancing factors. This perhaps is evidences of the importance of managerial skill requirement for effective performances. With over ninety percent of the respondents either agreed or strongly agreed with these views, it underscored the significance of managerial skill for the smooth running of cataloguing industry.

Anunobi, Ukwoma & Ukachi (2012) illustrated the enormous challenges faced by female academic LIPs in Nigeria, these challenges include the need to acquire new digital skills needed for the changing library operations/services, and

acquire digital competencies as well as meet societal expectation. While, **Adeniji, Babalola & Adeniji (2012)** in their document discussed the importance of the Training programme for development of the ICT skills as well as professionals skills & they have found most the respondents agreed for the trainings are most helpful to developed the library daily work skills, library automation skills, use of varies ICT tools etc with practically.

Satpathy & Maharana (2011) surveyed the ICT skills of LIS professionals in engineering institutions of Orissa state. In this study the researchers illustrated the level of ICT skills of Library Staff comparatively his/her experience, educational qualifications, also they have discussed in details knowledge of Web based services, Methods of acquiring ICT skills, & Constraints in acquiring ICT skills & it is found the tight work schedule, poor infrastructure & lack of the training is the major constraints.

However, **Lai (2011)** in his study entitle “Information Literacy Training in Public Libraries: A Case from Canada” investigated the current state of IL training and the strategies and methods used by certain Canadian public libraries in improving IL skills for their staff and patrons. **Anyira (2011)** explained the librarian-based factors that hinders the 21st century library are those that have to do with acts of corruption such as inflation of costs of items, embezzlement, bribery, misappropriation etc. other challenges are lack of relevant or compliant skills, fear, bias, dogmatism, and ageism.

Jiyane & Onyancha (2010) surveyed the Information literacy education & Instruction in academic Libraries & LIS Schools in institutions of Higher education in South Africa. In this survey researchers highlighted that the need of the IL, Information Literacy Skills, Information skills, Technological skills for the fulfillment of the information need.

Haneefa & Shukkoor (2010) in their paper entitle “Information and Communication Technology Literacy among Library Professionals in Calicut University, Kerala” studied the skills regarding skills of operating system, use of Automation software, use of digital library/ Institutional repository software, also they

explored the way of getting confidence regarding use of ICT tools & it is found that most of the library professionals open a file & play a game etc...

Eisenberg, Johnson, & Berkowitz (2010) identified the Information, Communication & Technology skills & its importance for information problem solving, they have discussed in detailed like ICT skills useful for the to get the right information to the right user at the right time by the library staff as well as by self to the end user of the library as well as society.

Ramesh Babu, Vinayagamoorthy & Gopalkrishanan (2007) in their study “ICT skills among librarians in Engineering Educational institutions in Tamil Nadu” in this survey they have considered 171 librarians & studied their level of knowledge about the use of operating system & 48 & librarians fully known DOS as well as Windows OS, also they have studied level of knowledge in software packages & Programming languages & it is found that 45% fully known MS –Word followed by MS-Excel etc, & finally they have studied the constraints to acquiring the ICT skills & found that work over load of the librarians is the major constraint in acquiring ICT skills.

Larsen (2007) in his document discussed the requirement of the skills in hybrid library staff for provide the reference & information services to the users. Larsen said in a present era librarians of LISc professionals required Web 2.0/Library 2.0 skills, core reference skills, Marketing skills, communication skills etc.

Watane (2005) studied the computer literacy and use of IT in college libraries of Amravati city covering IT awareness of the library professionals and IT application in libraries.

2.1.4 ICT RELATED LIBRARY SERVICES

Saini (2014) in his document elaborate the importance of Document delivery service, methods of providing the DDS, advantages & disadvantages of his service & role of the INFLIBNET as well as central library of Babasaheb Bhimrao Ambedkar University to provide the DDS to the users & its impact on information access as well as users satisfaction about the document delivery services.

Rodrigues (2014) in web based library Service: Challenges & Opportunities focused on use of web based library services, Need of the web based library services, different types of web based library services like Web OPAC, Subject Gateway, Portals, Virtual Library Tool, Ask A Librarian, Library Website etc & its impact on Library Services as well as users satisfaction.

While, **Pawar (2014)** illustrated the historical development of the web based services adopted in libraries also varies types of the web based library services i.e Access of database, Bibliographic & Cataloguing Services, CAS/SDI, E-Mail, News Clipping Service, News Letter service & need of the this services in ICT Era.

Pawar & Rangdal (2014) in their paper discussed the use of the Web 2.0 in libraries for providing the web base effective & quick services to the end users. In web 2.0 they have elaborate the Blog Service, Wikis, Messaging, Tagging, RSS, Podcast & Social Networking tools for the providing the information.

However, **Nazi, Ghasempour, Asgari (2014)** reported the most of the users in Nigeria country used the mobile phones now a day's & libraries used this phone to the providing library services like CAS/SDI, Bulletin Board, Events etc. on the basis of investigation 55% of respondents, mobile based Reference services were a suitable and inevitable service. Analysis of agree respondents showed that: reference services via SMS with 55% and reference services through library website.

Mugridge (2014) surveyed Pennsylvania's academic libraries for the purpose of the evaluation of the technical services its use & impact on the libraries for providing the library services to the end users & it is found that the Improve or streamline processes 68.3 % librarians said this is the main purpose of the technical services.

Kern (2014) reported the importance of the user services, services for information search, collect & evaluate, & Inter library loan services to the users.

Deng (2014) examines the origins and evolution of general and specialized reference services in American libraries between 1876 and the early 1920s. The study

concludes that a further examination of the development of reference services in American libraries beyond their earliest history is needed to enhance the understanding of the current trends and issues in the field.

Brown (2014) in his research paper entitled “Outsourcing Law Firm Libraries to Commercial Law Library and Legal Research Services. The UK Experience” reported that how to law libraries provide the legal library services as well as procedure in UK.

Xu Yan (2013) explained the model for the personalized services in the digital era in libraries in this study researcher discussed the procedure of personalized service system in digital library, & plan of the Agent model for the acquisition personalized services as well as analysis process.

While, **Bagudu & Sadiq (2013)** surveyed the user’s perception regarding the digital library services in the international Islamic University, Malaysia. The researchers it is found that most of the users used this service daily & purpose of the to search the information, to search the references, & internet speed, lack of the training these are the problems faced by the users.

Sosa & Ramirez (2012) introduced the file storage service that is implemented on a private/hybrid cloud computing environment and is based on open source software. The authors evaluated performance and resource consumption using several levels of data availability and fault tolerance. This service can be taken as a reference guide for IT staff wanting to build a modest cloud storage infrastructure.

However, **Shinde & Deshpande (2012)** assessed the application of Mobile Technology for providing Library Services. In this paper concluded that Royal Roads University library used Mobile Library Site, Brock University Library Provide Catalogue Search facility on Mobile, Lakehead University Library provide FAQs service through mobile & JSTOR Database also available on Mobile users can access these facilities through mobile in a practically.

Panday (2012) in this study discussed the blog, its history, how to start a blog & use of blog in the libraries also he stated in the age of Internet, Social Media blog is very powerful tool to interact with others. Libraries are using more & more web 2.0 technology to interact with users and also using these tools convert non users to users.

Kumar, Kumar & Jyoti (2012) explained ICT Applications in library services that are Circulation, Cataloguing, CD ROM Searching, On-Line Networking, Photocopying, Audio Video Service, Internet Access Service etc.

Brock & Rancking (2012) in their book entitled “Library services for children’s & young adults: Challenges & opportunities in the digital age” discussed about the library services in 21 century as well as challenges for providing them to the users in Information technological Era.

Tyckoson (2011) in his document noted that the management of the reference services in present era. For providing the reference service to the users in ICT era the need of the trained staff, Modes of communication like email, messages, blog, SNS, etc, Training, Information sources & collections. With the help of above sources & Instruments Reference service easy to provide for the users.

While, **Xu (2010)** describes the wider utilization of information technology; the requirement for ICT services becomes more diverse and differentiated. In order to manage ICT services and meet requirements of users effectively, an ICT service catalogue model is structured, which can make service providers and users obtain accurate and consistent service information.

Xia (2010) illustrated the Living Human Digital Library (LHDL) project presented web services to build a biomedical digital library infrastructure that allows clinicians and researchers not only to preserve, trace and share data resources, but also to collaborate at the data-processing level.

Vila (2010) explained the mobile services developed by the Rector Gabriel Ferraté Library (BRGF) of the Technical University of Catalonia (UPC), in Barcelona, Spain.

Srinivasa (2010) explained the provision of providing networked services (NSs) among National Institute of Technology (NIT) libraries in India. The survey findings indicate that the majority of libraries prefer to provide communication network services (telephone, Internet, e-mail, facsimile etc), online journals (90%), automated catalog system (85%), multimedia databases (85%) and support (70%) services rather than the other services.

Chun (2010) describes the cloud computing services focuses on users and affords powerful data storage and web service e functions in the resource construction and service of libraries. Based on the recent research achievements and practice abroad, the construction and service of libraries should be deeply studied about the information resource sharing, librarian ranks, and information facilities.

Wang (2009) describes the impact of IT in university libraries and the findings revealed that most of the library users were satisfied with their library information services on the IT impact; they still need professional assistance in their using IT for information search in the increase of e-resources.

Thibodeau (2009) describes the greatest change in library services between 1989 and 2005/06 was in the area of access to information, with 40% more of the respondents providing access to commercial online services, 100% more providing access to Internet resources, and 28% more providing training in database searching and use of information resources.

Maitrayee (2009) surveyed forty-nine libraries to get an idea about the current status and explored the possibilities of forming regional consortia with a mission to enhance access to information and knowledge through cooperation for benefit of the engineering communities. The focus is on librarians' perceptions/opinion on the formation of state level consortia; ICT infrastructure; users' needs; collection development policies and the services provided by engineering libraries to the community.

Malcolm (2008) indicated the evolving presence of institutional repositories in UK higher education and argues for the inclusion in institutional repositories of all

information that an institution wishes to make publicly accessible, including open educational content; recognition of the skills that librarians have to bring to the creation and management of repositories; and continuing national and international collaboration to make repositories more easily accessible and useful to researchers and others. While, **Borang (2008)** reported the status of ICT based services in libraries of academic institutions in Arunachal Pradesh. The libraries under the study were providing access to Internet, e-resources and consortium activities and OPAC of their own libraries.

Tung (2007) describes that the libraries always rely on Information Technology (IT) to systematically manage their huge books and journals (e.g. Digital Library (DL) and Web-Based Online Public Access Catalogue (Web-OPAC)).

Odero-Musakali (2007) discussed the internet adoption and assimilation among university libraries in Kenya. The ubiquitous presence of ICTs in academic libraries, especially the internet and its potential impact on learning, teaching, and research, implies that any effort that would shed light on this technology is laudable.

Silva (2005) discussed the impact of Internet services and resources on medical research and teaching at McGill University Libraries. Dee (2005) reported that 36 (21%) of the academic health science libraries examined provide digital chat reference services; this was an approximately 6% increase over the 25 libraries (21%) located in 2002.

Moyo (2004) explored new services and delivery modes incorporating: electronic collections, such as e-books, e-journals and databases; virtual reference services, and other online services. Innovation of new services that are peculiar to the online/Web environment is the trend in modern electronic libraries.

Naik (2003) assessed the application of information technology components for library and information services in the selected university libraries of Karnataka during a period IT was making its inroads to the university libraries particularly with the support of INFLIBNET center.

Han & Goulding (2003) highlighted the three levels in the information & reference services, role of the reference librarians & user expectation, needs, some factors like cost, time, importance of the information in the digital era & useful tools for the providing the instance reference service to the library customers in the digital era.

Dee (2003) highlights the school libraries offer chat service to provide immediate, high quality information at the time and point of need to students, faculty, staff, and health care professionals.

Halub (1999) describes the librarians have found the provision of Web-based services to be a very worthwhile endeavor. Library users value the services that they access from their desktops because the services save time.

2.1.5 NETWORKING OF THE LIBRARIES

There is little in the library literature on networking, particularly among librarians at multi-campus institutions. Therefore, this literature review includes articles written by librarians as well as LISc professionals.

Nicholas & Sterling (2014) discussed about the Jamaica Libraries Information Network (JAMLIN), College Library Information Network (COLINET), The Social and Economic Information Network (SECIN), Online Computer Library Centre (OCLC) software. Also they stated OCLC and The UWI Mona Library agreed to allow LIAJA to use the Question Point base management environment of the Library for six months to provide the support that was needed for librarians in Jamaica to practice and develop their competencies.

Kumbhar (2014) in “Library Networking & Resource Sharing” define the concept of Networking, Objectives of the Library Network like to Improve resources utilization & services level, to enhance resource sharing to avoid duplication of the publication etc, also researcher highlighted the various international networks like UNESCO, IFLA, ARPANET, National Level Networks like INFLIBNET, INSDOC, IISC, DELNET, CALIBNET, BONET etc its services & role in Resource sharing.

Oliveira & Cianconi (2013) identify and analyze the actions in the Network of Libraries and Information Centers on Art in the State of Rio de Janeiro (REDARTE/RJ), in order to promote the production of new knowledge and implementation of new ideas, minimizing the difficulties met by information professionals.

Mizutani (2013) in his document highlighted the historical development of networks between museums, libraries and archives, and on the opening in 2004 of the Art Libraries' Consortium (ALC), a union catalogue of art libraries based in the Tokyo metropolitan area which has been steadily expanding.

Islam (2012) discussed about various networks in the country of Bangladesh like Bangladesh-INASP-PERI Consortium (BIPC), Library Consortium of Bangladesh (LiCOB), National Agricultural Information System (NAIS), Social Science Research Network (SSRN), Health Literature, Library and Information Science Network (HELLIS), Development Information Network on South Asia (DEVINSA), National Science and Technology Information Policy (NASTIP), Bangladesh University Libraries Network (BULN), Bangladesh National Scientific and Library Information Network (BANSLINK) & Population Information Network (POPIN) in detail & its role for the joint acquisition, digitization, for development of search engine, for establishment of e-journal center, & the development of digital resources jointly.

Siddike (2011) in his study stated that most of the respondents were unaware about library networking and resource sharing. Whenever they were explained about the merits of networking and resource sharing they were totally amazed and expected the library to take necessary initiatives regarding networking and resource sharing. Among the users, 20 % have given emphasis on establishing library networking and resource sharing system.

Mohammed (2010) in his research paper discussed the concept of networking, ways for the networking among the Islamic Sharia Court (LAW) Libraries in Nigeria, & Areas of Networking in the areas the researcher stated

cooperative acquisition, Inter library loan, reference & information services, technical services, exchange of staff, funding etc.

Prasad Rao & Laxminarsaiah (2009) introduced the SPACENET ISRO Libraries Network Developed by ISRO Libraries Branches spread over the India. Also in this paper stated that work flow of SPACENET, Infrastructure used for SPACENET, SPACENET Services etc. while, **Khalil & Khan (2009)** describe the importance of Library Networks in present era in Pakistan with special reference to the Medical field. In Pakistan the MELAP (Medical Library Association of Pakistan) play a vital role for fulfillment of information need also the researcher stated that no any library are eligible to purchase the all documents published in the world in this situation library networks are most important to connect the libraries each other for the resources sharing. However, **Kargbo (2009)** in his research document entitle “The Need for Networks among Public, Academic, and School Libraries in Metropolitan Sierra Leone” discussed the about library networks & its role in academic, public school libraries.

However, **Bordelon (2008)** highlighted the varies library networks in the field of business & economics. In this field the researchers discussed the role of following Networks for getting the information to the researchers, students & teachers those networks are Business Reference and Services Section (BRASS), Reference and User Services Association (RUSA), American Library Association (ALA) and The Business and Finance Division of the Special Libraries Association (SLA).while, **Bottoorf & et..al (2008)** stated that Networking as an activity to enhance one's career is not discussed. Also the researcher said the library networks are vital aspects in 21st century for the librarians specially branch & regional libraries.

Malviya & Kumar (2007) in their study entitled “Networking and Consortia Management Techniques” stated the role of OCLC in networking of the libraries also they have elaborate the functions of the library network in different stages like initial stage, intermediate stage & advanced stage with characteristics.

Odufuwa (2006) sees network as “A network consist of two or more computers that are linked in order to share resources (such as printers and CD-

ROMs,) exchange files, or allow electronic communication. The computers on a network may be linked through cables, telephone lines, radio waves or infrared light beams". While, **McClure, Feldman, Ryan (2006)** in their document discussed the characteristics of successfully Networked public libraries & impact of the technology on networking in the political system. However, **Laxman Rao (2006)** highlighted the Role of NISSAT promoted and tried to provide some financial assistance for developing these networks. They are ADINET (Ahmadabad Library Network), BALINET (Bangalore Library Network), BONET (Mumbai Library Network), CALIBNET (Calcutta Library Network), MALIBNET (Madras Library Network), MYLIBNET (Mysore Library Network), and DELNET (Developing Library Network).

Mirza (2005) defined the importance of the Library Network in Pakistan. In this study particularly noted that the Objective, aims, Functions, vision, mission & historical development of LABELNET (Lahore Libraries Network). Also it is investigated that the role of LABELNET in resource sharing, future plans of this library network etc. while, **Khan (2005)** elaborate the Pakistan Education and Research Network (PERN) to connect all the public and private universities of Pakistan via a high-speed network allowing real time transfer of audio and video, multimedia-enabled lectures and remote research partnership through this scheme the universities connection with PERN would get two megabyte (MB) of bandwidth. Also the researcher stated the other library networks for build the libraries in a single window these are Online Computer Library Center (OCLC), The Research Libraries Information Network (RLIN), and The Western Library Network (WLN).while, **Ani, & Edem, (2005)** discussed in their study about Nigerian university library network (NULINET), academic libraries network in Nigeria (ACALIBNET), which will eventually integrate all academic libraries in the country. ACALIBNET will then provide a national link of all academic resources to the internet.

Dulle (1998) discussed the networking of agricultural libraries in Tanaza in his result found that the most of the libraries suggested to developed the electronic library network based on the low cost communication technology. Also he stated the problems for establishing the library network among the agricultural libraries that is budgetary provision, ICT infrastructure, Government help etc.

Brody & Nolan (1993) in their paper noted that the Pittsburg University developed CD Network for access the millions of e-resources in campus as well as out of campus branches. & this network is very popular in users, & in the future plan of this network is developed a software foe getting tactical information for the use of CD Network among the member libraries.

Lee (1991) in his report Identified the varies library networks in the papua New Guinea country. These are the Papua New Guinea Library and Information Network (PNGUNET) & its branches i.e Government & public Library Network, Research Library & Information Network, Engineering & technology Library Information Network, Medical & Health Library Information Network, Management Library & Information Network, Education & Information Library Network & its role of development in Union Catalogue as well as resource sharing in concern colleges as well as researchers.

2.1.6 RESOURCE SHARING AMONG THE LIBRARIES

Islam (2013) studied the 29 research, university libraries from the Bangladesh & concluded that most of the libraries are participated in the resource sharing network as well he found the librarians have positive attitude towards the resource sharing.

Breeding (2013) in his document entitle “Introduction to resource sharing” highlighted the conceptual framework, procedure of the Inter Library loan services, consortial resource sharing, & work flow of the ILS in detailed with example as well as its importance in the present era because none of the library able to purchase the all documents published in the world due to fund, space, maintenance etc. however, **Akparobore (2013)** surveyed the 202 library processionalals regarding to find out the motivational factors to knowledge sharing & it found that those librarians have 1-10 years experience used more technology for knowledge sharing.

While, **Thakur & Gupta (2012)** in their paper entitle “Knowledge Sharing: A tool for Networking” descried the Importance of the Knowldege Sharing in Short “The more you share the more knowledge you gain”. **Randor & Shrauger (2012)** explained the three models for providing access to e-books include borrowing, buying, and renting. Also some barriers faced by librarians for e-book resource

sharing include reviewing local license agreements for e-books, gathering information on customer preferences, providing feedback to vendors and licensing librarians on customer needs. However, **Islam (2012)** discussed the status of the academic & research libraries regarding Networking & Resource Sharing in the present era from the Bangladesh & he highlighted that most of the research libraries having fully automated libraries comparatively academic libraries the same position found in the participation in the resource sharing system via consortia based as well as personally.

Hales (2012) reported the impact of electronic resources on resource sharing. In this document author explored the historical development of Inter Library Loan, Legal Barriers of Inter Library Loan, Future of the ILL & resource sharing with the help of electronic resources in the present era its impact & usefulness, need of the resource sharing. **Crowe (2012)** in his paper identified the historical development of the OCLC regarding implementation of Inter Library Loan system for resource sharing among the new countries. While, **Ahamad & Ahamad (2012)** examined the Knowledge Resource Sharing Among the Users special reference to Edward College, Peshawar & it is concluded that Books, Personal Collection, Journals, Photos etc agree for the these resources share to the each other's respectively, main purpose of the resource sharing is class preparation, homework & keep up to date, 76.66% users preferred e-resources to share.

Siddike (2011) studied the user's perception regarding networking & resource sharing. In this study researchers studied the 6 university libraries from the Dhaka, Bangladesh. Out of the respondents it is found that 53% users satisfied with the fulfillment of their information need through Interlibrary Loan/Resource sharing, only 20% uses want to some development in resource sharing that means the university libraries from the Bangladesh having satisfaction level in the networking & resource sharing. While, **Owolabi, Bamigboye & Agboola (2011)** surveyed the 65 university libraries form the Nigeria country & it is found that 100% librarians are agree with share of resources through resource sharing system, the present status found that 92.3% libraries involved in this system for sharing the resources to each other, most of the libraries 83.07% used exchange of Publication method followed by Donation/Gift methods, & lack of fund, lack of cooperation & lack of the security

majors are the barriers faced by the university librarian in the resource sharing among each other.

However, **Ossai (2010)** stated the mission & vision of the consortia in Africa & Nigerian Country. The main mission of the Consortia is to promote resource sharing of the resources. **Taha (2010)** studied the three libraries & their sub campuses in the UAE. These libraries are High Colleges of Technology (HCT) United Arab Emirates University (UAEU) and Zayed University for Women (ZU). In this study it is elaborate that the importance of the building of library consortia based network. **Igwe (2010)** explained the resource sharing in the Information & Communication Technological Era, challenges facing Nigerian University Libraries with respect to ICT application and utilization for resource sharing, as well as to areas of library operations to which information and communication technology can be applied and utilized for resource sharing. While, **Ali & et..al (2010)** in their document explained the importance of the resource sharing for the institution, user, library, library staff in Nigerian country. Also they have discussed the steps of the resource sharing, barriers of the resource sharing, categories of the resource sharing & ways of the resource sharing used in the present era special reference to the Nigeria.

Rabinowitz (2009) evaluated the resource sharing performance in a academic health science library for the utilizing the Inter Library Loan System its impact on users satisfaction, it frequency for used etc.

While, **Lawal, Bassey & Ani (2008)** investigates the state of the art in resource sharing among law libraries in Nigerian universities. The study revealed that: every law library acknowledged the need for resource sharing with attendant benefit to the participating libraries; majority of the libraries often shared resources, while (49.15%) of the libraries shared resources rarely. Admittance was ranked first by (88.89%), on forms of resource sharing, followed by donation/gift (74.07%), while cooperative classification (3.70%) was ranked least. Only 6 libraries (22.22%) agreed that they had written policy on resource sharing. However, **Beaubien & Stevens (2008)** in their document explored the need of the rethinking regarding resource sharing. In this document authors highlighted the RRS Need; users need, Delivery Issue, Rethinking Resource Sharing Manifesto. **Ameen (2008)** in his document

surveyed 20 libraries from the top cities in Pakistan country & found the barriers of collection sharing in Pakistan & concluded technical, procedural, and psychological barriers in developing formal collection sharing.

Zou & Dong (2007) discussed historical development of resource sharing in the U.S. and China, particularly in the areas of print union catalogs and union lists, online bibliographic utilities, and interlibrary loan. The researchers also illustrated three models for Library Resource Sharing that is Centralized Model, Consortium Model & Gateway Model & its Impact in China on Library Resource Sharing. while, **Bennett (2007)** elaborate the importance of Online Public Access Catalogue in Resource Sharing among the Consortium partners Libraries & it is found that the Circulation statistics goes higher tremendously compare with without OPAC facility available period.

Rotich & Munge (2007) elaborate some of the reasons for failure have been: insufficient information resources for sharing, inadequate budget allocation to cater for the high costs of information resources, and the lack of appropriate communication infrastructure and enabling technologies to support any meaningful venture considering that most libraries in Kenya have been operating on manual systems.

While, **Laxman Rao (2006)** in his paper entitle “Knowledge-Sharing Activities in India” reported that the knowledge resource sharing group & its stated that in four group like NISSAT, NIC, Library Consortia in this INDEST, CSIR, UGC Infonet, Document Delivery Services & Centers & Interlibrary Cooperation among them.

Mirza (2005) identified the resource sharing scenario in libraries of Lahore & it is concluded that Lahore is the Hurt of Pakistan their having lot of Educational Institutions but the till there is no any good network developed as well as not done the any plan for the future development only in past 1990 one network started named LABELNET but current status not known in short at present there is no any formal resource sharing library network among the libraries in Lahore.

Graham (2000) surveyed The Western North Carolina Library Network (WNCLN) is a consortium of three libraries within the University of North Carolina system: Appalachian State University in Boone (ASU); the University of North Carolina at Asheville (UNC-A) and Western Carolina University (WCU) regarding ABC courier service for the document delivery & it is found that most of the teachers & Student not aware about the resource sharing concept as well as Inter Library Loan System Facility.

Mannan & Bose (1998) in their case study research paper analyzed the 25 Academic, Special & Public Libraries from the country of Bangladesh & it concluded that special libraries have good collection compare to academic & public library collections also special libraries promoted to the users regarding resource sharing finally in the attitudes regarding resource sharing is positive among the all types of libraries staff.

Lee (1991) in his report entitled Library Development, Resource sharing, and Networking among Higher Education Institutions in Papua New Guinea, Identified the varies library networks under the Papua New Guinea Library and Information Network (PNGUNET) i.e Government & public Library Network, Research Library & Information Network, Engineering & technology Library Information Network, Medical & Health Library Information Network, Management Library & Information Network, Education & Information Library Network & its role of development in Union Catalogue as well as resource sharing in concern colleges as well as areas of the subjects.

While, **Sloan (1986)** in resource sharing among academic libraries: The LCS Experience assessed the development of Library computer system in last five years in United States & it is highlighted that LCS the largest circulation system in the US with the largest resource sharing pool of currently held library material of any state in the US. also in this paper researcher stated the contribution of OCLC in the Resource Sharing, Interlibrary loan resource sharing in LCS.

2.1.7 CONCLUSION

As discussed above, the researcher has made a comprehensive review of the existing literature i.e. from the research works (Ph. D theses), the research papers presented in the Seminars/Conferences and the research articles published in the journals. Besides these research contributions as reviewed above, the researcher further has also attempted to take a review of existing literature published in some of the basic books pertaining to the components related the present research.

The review of literature it can be interpreted that no attempts have been made by the researchers so far to contribute on the present research topic undertaken by the researcher. So, the investigation presents the first attempt and it would be an original and significant contribution to the literature on the concerned subject. It is revealed through review literature that the area of present study is unexplored and no study related to this topic has been done.

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CHAPTER- III

MAHATMA PHULE KRISHI VIDYAPEETH RAHURI: AN OVERVIEW

3.1 HISTORICAL BACKGROUND:

India lives in villages and Agriculture has been the backbone of Indian rural economy since ages. To achieve the food grain demand of the country it is necessary to enhance the agricultural growth and for this agriculture education is very important. Visualizing the importance of Agricultural Education, University Education Commission under the Chairmanship of Dr. S. Radhakrishnan, recommended the establishment of independent Rural Universities in the country in the year 1948. To start with, Gobind Ballabh Pant University of Agriculture and Technology at Pant Nagar was the first Agriculture Universities established in the year 1960, and subsequent Agricultural Universities established in India have embraced education, research and extension integral to their functioning. At present, there are 65 state Agricultural Universities, five Deemed to be universities, one Central Agricultural University and four Central Universities s having distinct agricultural Faculties.

Based on the recommendations of the Kothari Education Commission (1966), initially only one agricultural university named the “Maharashtra Agricultural University” was established in 1968 by the Government of Maharashtra with its head quarter at Bombay. However, as the state of Maharashtra constitutes four regions with distinctly different agro climatic zones, cropping patterns and research needs etc. the agriculturists, students and politicians jointly made a demand for a separate agricultural university for each of their regions. Keeping in view the aspirations of the people and a speedy agricultural development, the then existing Maharashtra Agricultural University was made for Western Maharashtra, Kokan regions, Dr. Panjabraob Deshmuk Krishi Vidyapeeth at Akola for Vidarbha and Marathwada regions. However in 1972, two additional agricultural universities were created, namely Dr. Balasaheb Swant Konkan Krishi Vidyapeeth at Dapoli for Kokan region,

and Marathwada Krishi Vidyapeeth at Parbhani for Marathwada region. Thus by 1972, four independent agricultural universities were established in the state.

The Mahatma Phule Krishi Vidyapeeth 1969 has been named after the great social reformer Mahatma Jyotiba Phule the first champion for the cause of the farmers and underprivileged people living in the most miserable conditions. Mahatma Phule started his noble work by erecting a statue of a farmer at the entrance of the first Indian National Congress Committee meeting in 1885.

A learned farmer and dairyman, Late. Dr. Annasaheb P. Shinde, the then minister of State for Agriculture, Government of India played a significant role for selecting location of MPKV at Rahuri.

3.2 GEOGRAPHICAL BACKGROUND

The central Campus of MPKV , Rahuri is located about 35km. away from Ahmednagar on State Highway No.19 leading to Manamad. The Jurisdiction of MPKV, Rahuri extends over Western Maharashtra consisting of 10 districts viz., Jalgaon, Dhule, Nandurbar, Nashik, Ahmednagar, Pune, Solapur, Satara, Sangali and Kolhapur. The unique feature of this university jurisdiction is the wide variability in agro-climatic conditions of farming. Four out of nine agro-climatic zones of Maharashtra fall in this region. These are Western Ghat Zone, Sub-montane Zone, Western Maharashtra plain zone and scarcity zone. The total geographical area distributed among the 10 districts of this university is about 116 lakh ha (37.5 % of total geographical area of State). Out of this, about 72 lakh ha (62.4%) area is under cultivation. The area under kharif cropping is about 42 lakh ha (58%) while in rabi, it is about 30 lakh ha (42%) the Total irrigated area is 13 lakh ha (18%).

3.3 GROWTH OF INSTITUTION:

Under the provision of Maharashtra Agricultural Universities (MAU) Act, all agricultural colleges, schools training institutes, research stations and related centers were transferred to the MPKV, Rahuri along with buildings and associated

farm land, which were earlier functioning under the Department of Agriculture, Government of Maharashtra. In addition to existing infrastructures of the institutions and staff. Additional lands area and staff was provided for establishment of MPKV Central Campus at Rahuri. The process of land procurement, development and creating facilities at Rahuri started since, 1969 under the dynamic leadership of first MPKV vice chancellor, Prof. M.S. (Alias Nanasaheb) Pawar, for the period of about five years. Thereafter: need base development programmers related to agricultural education, research and extension education were undertaken under the leadership of Vice-Chancellors. The Present Vice-Chancellor Dr. T.A. More is providing leadership to MPKV w.e.f. December 31st 2010 to till date.

3.4 PRESENT STATUS OF UNIVERSITY.

3.4.1 Education

Initially only Agriculture faculty was established in this University Later on faculties of Agricultural Engineering (1969) and Veterinary Science (1988) were established. There are three constituents Agricultural College situated at Pune (1907) Dhule (1960) and Kolhapure (1963) for undergraduate degree programme and post graduate programmes are being offered at Post Graduated Institute Rahuri (1972) and at college of Agriculture, Pune (1984) Dhule (2010) Kolhapure (2009).

The Agricultural Universities adopted trimester system in the year 1968 with a view to impart more detailed instructions in the subjects with more focus on practical's, However, experience in the initial stages revealed that the trimester system was more rigid and did not take into consideration, the season oriented farming in the country. As such the semester system was introduced in 1974. A novel program me was initiated during 1887-88 in the form of Rural Agricultural work Experience (RAWE) Programme on the line of internship programme in medical colleges. The students stay with the farmers for the entire period of VII semester, learn the skills of the farmers, experience difficulties faced by them and apply the knowledge gained at the college to suggest the modification to the farmers. The RAWE Programme was found very useful in learning agriculture live. A separate college of Horticulture was established during 1985 in the premises f the college of Agriculture, Pune and it offers B.Sc (Hort.) degree.

Under the Faculty of Agricultural Engineering, College of Agricultural Engineering was established In 1969. Which offers B.Tech degree , Post Graduate Degree, M.Tech. In four subjects namely Farm Machinery and Power, Irrigation and Drainage Engineering, Agricultural Process Engineering and soil and Water Conservation Engineering is also offered in this college since 1984.

Krantisinha Nanan Patil college of Veterinary Science was established at Shrivral (District Satara) in 1988 At present, this college is affiliated to University of Veterinary and Fishery Sciences, Nagpur.

The University also has a Faculty of Lower Agricultural Education in which non-graduate programmes are offered through the constituent agricultural schools and affiliated institutes. These institutes offer training in Dairy Technology, Poultry Keeping, Livestock supervisors Training, Mali Training etc. These training programmers are useful for providing trained man power at the grass root level. As part of informal education, Krishi Vigyan Kendra (KVKs) have been started. The university has one KVK at constitute agriculture college at Dhule for catering the needs of the tribal areas of Dhule, Nandurbar and Jalgoan District. The ICAR, New Delhi has sanctioned three additional KVKs to MPKV Rahuri at Mamurabad Farm, Dist. Jalgaon : Borgaon, Dist. Satara and Mohol, Dist. Solapur with total 48 posts. Thr Krishi Vigyan Kendras run by Private institutes are affiliated to this university are also rendering very good service to improve on and off farm management practices.

3.4.2 Reforms in Education :

3.4.2.1 Implementation of Revised Course Curricula & Syllabi for Master & Doctoral Degree Programme:-

In the changing scenario of agriculture and globalization an urgent need was felt to revise Course Curricula and Syllabi of the Master and Doctoral degree programme. The Indian Council of Agricultural Research (ICAR), New Delhi constituted a national core Group under Chairmanship of Dr. Katyal, Hon. Ex. Vice Chancellor, Haryana Agril, University consisting of 12 eminent academicians, renowned agricultural scientists and distinguished extension specialists for revision of the post graduate syllabi. The Director of Instructions Co-ordinations Committee

(DICC) of Four SAUs in Maharashtra appointed subject Co-coordinators for restructuring post graduate Master and Doctoral Curricula and Syllabi in the month of May 2009. The subject coordinators modified and designed the Course Syllabi considering the demands and local needs of the State. The subject co-coordinators considerable. Efforts to prepare the final document by July 2009. This document helped in implementing the revised syllabi from the academic year 2009-10 .The Major features of revised syllabi include uniform degree nomenclature throughout the country, addition of six Non-credit Compulsory Courses (NCCC) standardized syllabus content, course listing at National Level, assigned appropriate credit load for theory & Practical courses, externally evaluated comprehensive examination, synopsis presentation of PG research with promotion of research publication and completion of degree program within stipulated time limit (e.g. two years for Master degree & three years for doctor degree.)

3.4.2.2 Modification of Academic Rules & Regulations for Post Graduated Degree Programme

With a view to effective implementation of revised PG syllabi and Curricula from academic year 2009-10. The modification of academic rules and regulations for PG Programme was the need of the hour, the associated dean of this institute took pioneer efforts for modification of academic rules and regulation based on recommendations of NCG, which are base line for four SAUs in Maharashtra. Accordingly, the distinguished changes suggested by NCG, ICAR, New Delhi regarding grading system, credit requirement, residential requirement, duration eligibility, constitution of the student advisory committee, non-credit compulsory courses, commencement of academic year of M.Sc. & Ph.D. degree programme (i.e. from first August), zero time loss between admission of Masters & Doctoral degree programme), evaluation of comprehensive examination, synopsis. Thesis submission and change in fee structure were incorporated in revised academic rules and regulations for PG Programme for smooth academic functioning and implementation from the year 2009-10.

3.4.2.3 Modification of Rules and Regulations regarding Student's Council in UG/PG colleges

Student's council is an integral part of academic activities in the development of a "Sensible National Citizen" and to foster better possible "Student-teacher relationship" through conduct of social service activities. In view of implementation of revised academic programme for Bachelor and Post Graduate degrees, the existing rules of student council were modified and were implemented from the academic year 2009-10.

3.4.2.4 Undergraduate programme as per Fourth Deans Committee

The IV Dean Committee under the chairmanship of Dr. S.L. Mehta Hon. vice Chancellor, MPAUT Udaipur nominated by the Indian Council of Agricultural research, New Delhi, recommended the syllabus for the year various degree programmers' of the agriculture and allied disciplines. The Director of Instruction, Co-ordination committee of SAU s made necessary need based changes according to the requirements of the state and recommended to MCAER, Pune through the vice-chancellors Co-ordination Committee for implementation. Utmost sincere efforts were made to orient and revise the syllabus so as to inculcate entrepreneurship and make the students competent in the era of globalization. The revised syllabus has been implemented from 2006-07 . The Revised syllabus also offers hands-on-training to the UG students.

3.4.2.5 Experiential Learning

In the new curriculum, the IV Deans Committee has recommended 1-2 years of experiential learning. This is a new initiative with the primary aim of removing weaknesses in the present education system and to develop a cadre of highly skilled professionals. Who could create their own enterprises. The courses design is amide at competence development thought knowledge, not only in new and cutting edge technologies, but also in all aspects of enterprise management, so that the graduates have complete understanding of field problems, project development and execution with an end-to –end approach. The emphasis is given on developing skill for career in agri-business and agric-clinic. The layout of UG program includes six semesters of course work. One semester RAWE and one semester of electives in interdisciplinary

courses for entrepreneurship development. In the electives, students have flexibility to choose course's These courses have higher practical exercises for skill updating, The proportion of theory and practical is nearly 50:50. Removing the curriculum redundancy, the courses curricula is reoriented to develop the knowledge, skills and the entrepreneurial mindset of the students to take up self employment. Each college may provide specialization in 4 or 5 areas keeping in view the facilities available and the need. A few new courses are also introduced such as introductory agriculture, Renewable Energy, Organic Farming, Biotechnology, Agribusiness, Project Development Appraisal and Monitoring and Entrepreneurship Development.

3.4.2.6 Reorientation of Agricultural Diploma

The Changing scenario of agriculture and the need of skilled human resource led to realize the need to restructure the curricula of Lower Agricultural Education. The new curriculum has been designed with more emphasis on practicals. The first year curricula of 1200 marks is divided into 550 marks for theory and 650 marks for practicals whereas, the second year curricula of 1200 marks is divided into 350 marks for theory and 850 marks for practical's . The syllabuses of some subject have been modified and the new subjects like crop protection agricultural engineering, information technology and agricultural business management have been included. Agro business projects of 300 marks have also been included. The options for the projects are seed production technology, soil, water and plant analysis, vermicompost, sericulture, nursery management, green house technology and floriculture, dairying sheep & goat rearing. Poultry keep in, fruit and vegetable processing, farm machinery, mushroom production, bio-fertilizer production and watershed development. From these, at least six projects should be implemented on commercial basis by the Agritech schools. The group of 10 students should be formed and trained in a particular project for the benefit of his self employment. The Agricultural schools have been converted into Agri-Tech Schools from the academic year 2007-08. The designation of the post of superintendent, Agril. School will be redesignated as Principal of Agri-Tech School. The University has produced 51425 skilled manpower thought this diploma like for the yare 2011-12.

3.4.2.7 Establishment of Agriculture Polytechnic

The Government of Maharashtra passed a resolution to convert all the 227 affiliated Agri. Tech schools of Maharashtra into Agriculture polytechnic from the academic year 2012-13. Therefore 87 Agri-tech schools were designated as Agriculture polytechnics from the academic year 2012-13. The duration of Agriculture polytechnic shall be of three years in semi English Medium. Each Agri. Polytechnic should have 20. ha land out of which 10.00 ha should be irrigated. The admission capacity of each Agri-polytechnic well be 60 students per year. Twenty percent extra seats will be created for admission to students of Agri.

Polytechnic to second year of under graduate degree programme in Agriculture, Horticulture, Forestry, Fisher, Agri, Biotechnology, Agri Business Management and Home Science Faculties on merit basis while ten percent extra seats will be created for admission to first year of under graduate degree programme to those students who have not secured admission by merit II nd year of UG. The students seeking admission after XII th std examination in agri. Polytechnic will be eligible for admission to II nd year in UG degree programme.

3.5 RESEARCH

The Jurisdiction of Mahatma Phule Krishi Vidyapeeth, Rahuri extends over the Western Maharashtra comprising of 10 districts divide in to four agro climatic zones viz, Western Ghats Zone, Sub-montane zone, Plain zone and Scarcity zone extended from Solapur to Nandurbad, Jalgaon district is located in the assured rainfall of the Central Plateau Zone in the Jurisdiction of the University.

The University has a network of 27 research stations located in 4 agro climatic zones for conducting the research on soil, climate, cropping system, livestock and other aspects of farming business. The state level Crop Specialists are placed at Jalgon (Oilseeds) Padegaon (Sugarcane), Niphad (Wheat) and solapur (Soils). Moreover from 4 Zonal Research Stations are located at Igatpure, Pune Kolhapur and Solapur. Also there are 20 Sub- Research stations meant for verification of technologies developed by the university and to conduct research programmers based on feedbacks received from the farmers.

At present, there are 84 non-plan schemes funded by State Govt., 51 AICRPs on different crops/plant sciences, 2 Network Projects funded by ICAR on 100% basis. There is 1 centrally sponsored Research Scheme funded by the Central Govt. Ministry of Agriculture, 43 ad-hoc research projects funded by different agencies and 12 Research Projects under National Horticulture mission in operation in the jurisdiction of MPKV.

The University has concentrated its efforts to develop suitable technologies for dry land agriculture, irrigated farming as well as hi-tech agriculture. During the last 44 years, the university has released more than 200 high yielding varieties of cereals, pulses, oilseeds, vegetables, sugarcane, fruits, flowers and other cash crops. The university has also passed more than 1100 agro techniques for enhancing agricultural production and productivity of different crops. The contribution of university in water management is quite significant. The research on micro propagation refer of 24 farm implements and machinery, dry land horticulture, integrated pest and nutrient management including bio fertilizers , mushroom production etc. are worth mentioning. The university has focused its attention on location specific and need based research activities in order to cater the needs of all types of farmers and farming groups. Biotechnology with its vast potential is important in agricultural development. The University has developed biotechnological competence in areas of plant tissue culture. Molecular biology ,biocontrol agents and biofertilizers. A plant tissue culture laboratory is established with a view to develop and use the plant tissue culture techniques to supplement and complement crop improvement research programme in MPKV, Rahuri. The Programmers of clonal propagation of elite type of eucalyptus, banana, sugarcane and embryo culture aided hybridization in ber, indication of somaclonal variation in sugarcane were conducted in the laboratory. This laboratory has been strengthened for a large scale multiplication of plants with grants received from the State and Central Governments, ICAR and DBT. tissue culture facilities have also been created at Regional Sugarcane Research Station, Padegaon, college of Agriculture, Kolhapur, Pune, Dhule and at NARP Ganeshkind, Pune.

The University has established a biotechnology centre at the Central Campus Rahuri from its revenue receipts. This centre has initiated research work on characterization of crop varieties, hybrids and parents as well as microorganisms released by this university by DNA finger printing map based cloning of resistant genes, marker assisted selections and development of transgenic in chickpea and cotton.

3.6 EXTENSION EDUCATION:

The Agricultural Universities are entrusted with the responsibility of extension education activities. Which include training of extension personnel, official of agriculture and other developmental departments and farmers with up-to date technology of increase agricultural production and to improve standard of living of farmers.

In view of this the university has established following various centers for effective extension activities.

3.6.1 Agricultural Technology Information Centre (ATIC)

The building of ATIC is located near the entrance gate at Central Campus Rahuri the ATIC provides a direct access to farmers for information and knowledge, strong linkage between different research divisions/ units and users of technology, a dynamic feed forward and feedback mechanism popularization of new technologies developed by the university, reply to the queries of farmers immediately through help line activity, and diagnostic service, distribution of seeds, saplings, seedlings, grafts, bio-agents, processed products and agricultural literature to farming community and generation of financial resources through sales and services.

3.6.2 Regional Extension Centers of MPKV:

The Regional Extension Centre (REC) has been established by the University at Dhule, Rahuri, Pune and Kolhapur. Each centre has a team of subject Matter specialists to look after extension education activities for selected two/three districts.

3.7. REFERENCES

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CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

In this chapter, the data collected from the librarians of college libraries affiliated to Mahatma PhuleKrishiVidyapeeth, Rahuri through questionnaire method and have been analyzed and interpreted by using different statistical tools and techniques.

Descriptive analysis and differential analysis have been carried out and the same is presented in this chapter. Descriptive analysis of data is in terms of frequency distribution and percentage analysis. Differential analysis is in terms of statistical techniques such as chi-square test, P-Test, Ratio and correlation. In addition to the tables, graphical representation such as pie- chart, bar graph and linear graph have also been used.

The questionnaires were distributed among all the librarians affiliated to Mahatma PhuleKrishiVidyapeeth. Out of 49 colleges, 40 were received and the response rate is 81.63%. These collected primary data has been grouped into two broad categories such as 'Constituents' and 'Self Financed' institutions. The same is shown in following table.

4.2 DATA ANALYSIS AND INTERPRETATION

4.2.1 About Institutions

Table No. 4.2.1 Name of College Library

Sr.No	Name of the Library	Place	Library Code
Constituents Institutions/Library			
1	College of Agriculture Library	Pune	A
2	College of Agriculture Library	Kolhapur	B
3	Mahatma PhuleKrishiVidyapeeth Library	Rahuri	C
4	College of Agriculture Library	Dhule	D

Sr.No	Name of the Library	Place	Library Code
6	College of Agriculture Library	Nandurbar	F
Self Financed Institutions/Library			
7	College of Agriculture	Bahubali	G
8	PadmashreeDr.D.Y.Patil College of Agricultural Engineering & Technology Library	Talsande	H
9	College of Agricultural Biotechnology Library	Loni	I
10	PadmashreeDr.D.Y.Patil College of Agricultural Business Management Library	Akurdi	J
11	College of Agriculture Library	Sonai	K
12	Krishna College of Agriculture Library	Rethre(BK)	L
13	ShreemantShivajiraje College of Horticulture Library	Phaltan	M
14	LokneteMohanraoKadam College of Agriculture Library	Sonsal	N
15	Dr.UlhasPatil College of Agriculture Library	Jalgaon	O
16	Dr.UlhasPatil College of Agricultural Engineering & Technology Library	Jalgaon	P
17	Padmashree Dr. AppasahebPawar College of Agriculture Library	Baramati	Q
18	DadasahebMoashi College of Agriculture Library	Rajmachi	R
19	K.K.Wagh College of Agriculture Library	Nashik	S
20	College of Horticulture Library	Sonsal	T
21	Padmabhushan. VasantDada Patil College of Agriculture Library	Ambi	U

Sr.No	Name of the Library	Place	Library Code
23	K.K.Wagh College of Agricultural Biotechnology Library	Nashik	W
24	Lokmangal College of Agriculture Library	Wadala	X
25	PadmashreeDr.D.Y.Patil College of Agriculture Library	Talsande	Y
26	Navalbhou College of Agriculture Library	Amalner	Z
27	Shramshakti College of Agriculture Library	Maldad	AA
28	Shramshakti College of Food Technology Library	Maldad	AB
29	Sadguru College of Agriculture Library	Mirajagaon	AC
30	College of Agriculture Library	Phaltan	AD
31	RajashreeShhatrapatiShahuMaharajCollege of Agricultural Business Management Library	Sangli	AE
32	College of Agricultural Business Management Library	GunjalwadiPathar	AF
33	K.K.Wagh College of Agricultural Business Management Library	Nashik	AG
34	College of Agricultural Business Management Library	Loni	AH
35	College of Agriculture Library	Loni	AI
36	College of Agriculture Library	Babhulgaon	AJ
37	College of Animal Husbandry Library	Shradanagar	AK
38	K.K.Wagh College of Horticulture Library	Nashik	AL
39	Sharad College of Agriculture Library	Jainapur	AM
40	College of Agricultural Business Management Library	Shradhanagar	AN

4.2.2 Type of Management

University Management means a college, which is under the direct management university, weather located at the headquarters or elsewhere in the university area. And Self Financed Management means a college, which is under the management of any authority other than a University and is affiliated to university.

Table No. 4.2.2 Type of Management

Sr. No	Type of Management	No of Colleges	Percentage
1	University Management	6	15
2	Self-Finance	34	85
	Total	40	100

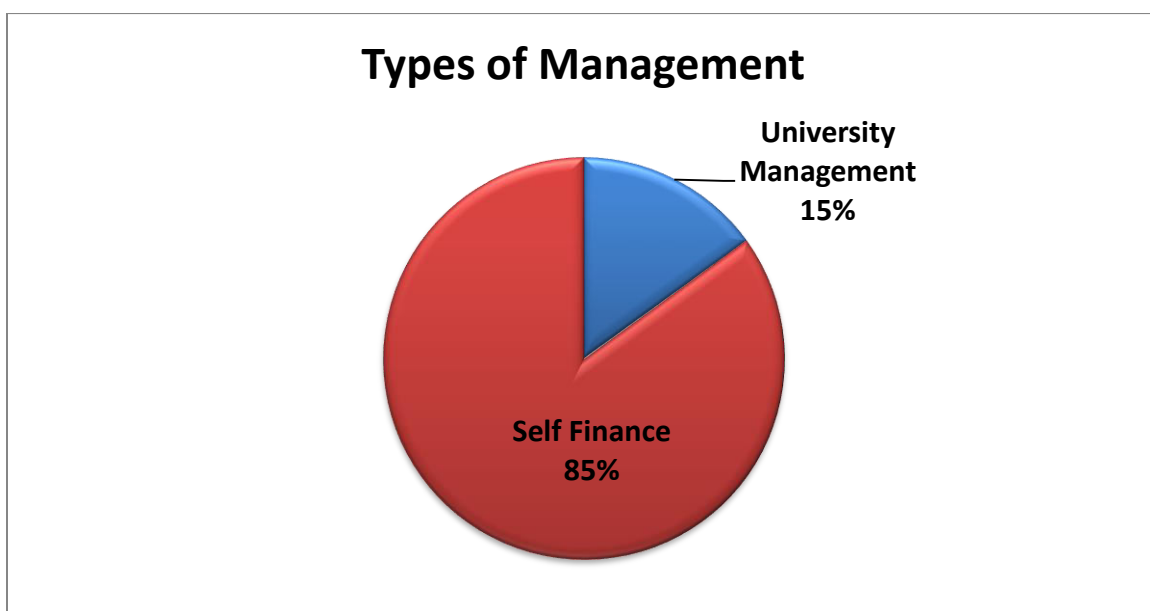


Fig. No. 4.1 Type of Management

The data analyzed in the table 4.2.2 and pie-diagram 4.1 shows that highest number of Agricultural Colleges has Self Finance management i.e. 34 (85%) and under the university management is 6 (15%). It is well established fact that private participation in Agricultural College Libraries is high compared to University Management.

4.2.3 Accreditation Status of Colleges

Table No.4.2.3 Accreditation Status

Sr. No	Accreditation Status	No of Colleges	Percentage
1	Yes	24	60
2	No	16	40
	Total	40	100

The table no.4.2.3 it is shows that out of 40 Agricultural Colleges 24 (60%) Accredited and 16 (40%) Colleges don't have accredited till.

Table no 4.2.3.1 Accreditation Status VS Category of Colleges

Sr. No	Accreditation Status	Constituents Colleges (n=6)	Percentage	Self-Finance Colleges (n=34)	Percentage	Chi-Sq.	P-Value
1	Yes	6	100	10	29.41	10.588	0.001
2	No	0	0	24	70.59		

Note:-Note:-Chi-Sq = 10.588, DF = 1, P-Value = 0.001

The table 4.2.3.1 and graph 4.2 shows the number of Agricultural college libraries which have been Accreditation status. It is observed that all Constituents colleges 6 (100%) are accredited and only 10 (29.41%) self-financing colleges accredited, while 24 (70.59%) self Financed Colleges are not Accredited. Chi. Sq test is also administered to test the hypothesis that there is significant difference in Accreditation Status of 'Constituents Colleges' and 'Self-Finance colleges'. Level of significance (α) = 0.05, P-Value = 0.001 is less than level of significance. Hence the hypothesis "there is significant difference in Accreditation Status of 'Constituents Colleges' and 'Self-Finance colleges'" is valid.

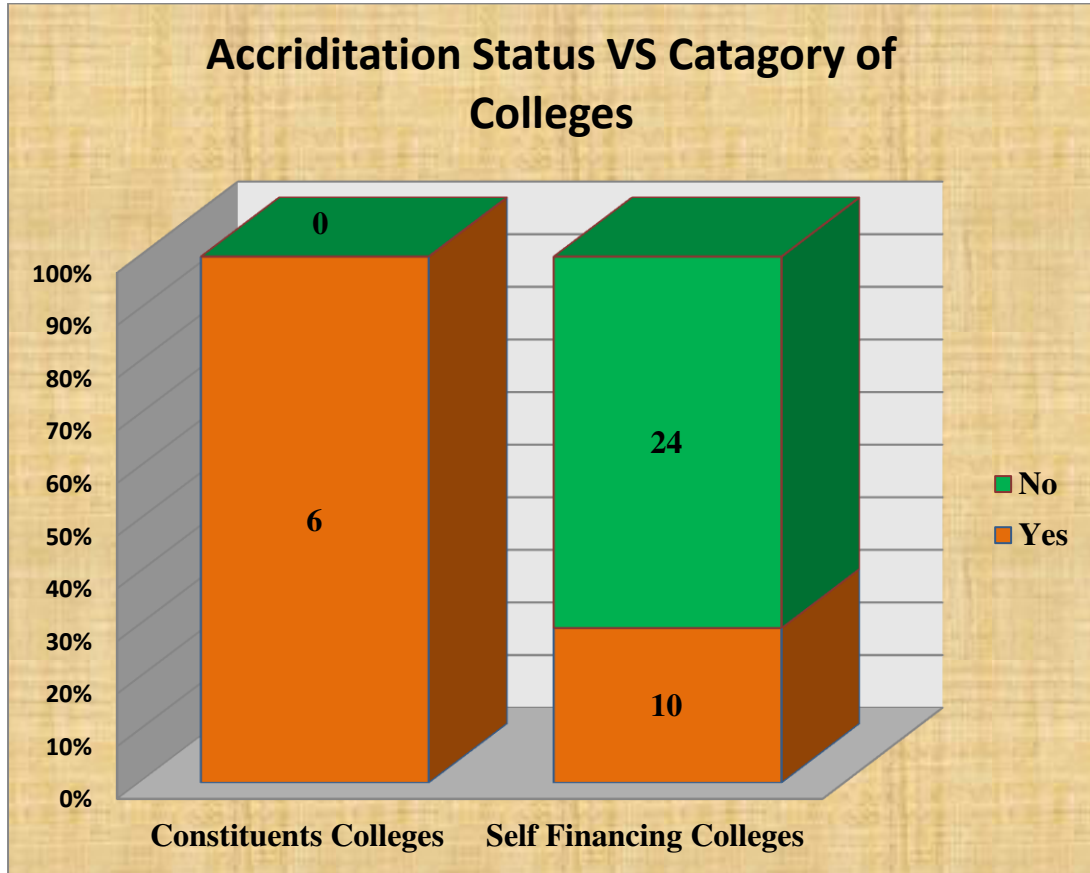


Fig.No.4.2 Accreditation Status VS Category of Colleges

Table No. 4.2.4 Accreditation Grade

Sr. No	Accreditation Grade	No of Colleges	Percentage
1	A	14	87.5
2	B	1	6.25
3	C	0	0
4	D	1	6.25
	Total	16	100

The table 4.2.4 shows the number of Agricultural College which has been Accreditation Grade. It is observed that the out of the total accredited colleges 14 (87.5%) colleges are accredited with A Grade followed by only 1 (6.25%) college are accredited with B and D Grade. However 0 (0.00%) colleges are not accredited with C Grade.

Table No. 4.2.4.1 Accreditation Grading VS Category of the Colleges

Sr. No	Accreditation Grade	Constituents	Percentage	Self-Financing	Percentage
1	A	6	100	8	80
2	B	0	0	1	10
3	C	0	0	0	0
4	D	0	0	1	10
	Total	6	100	10	100

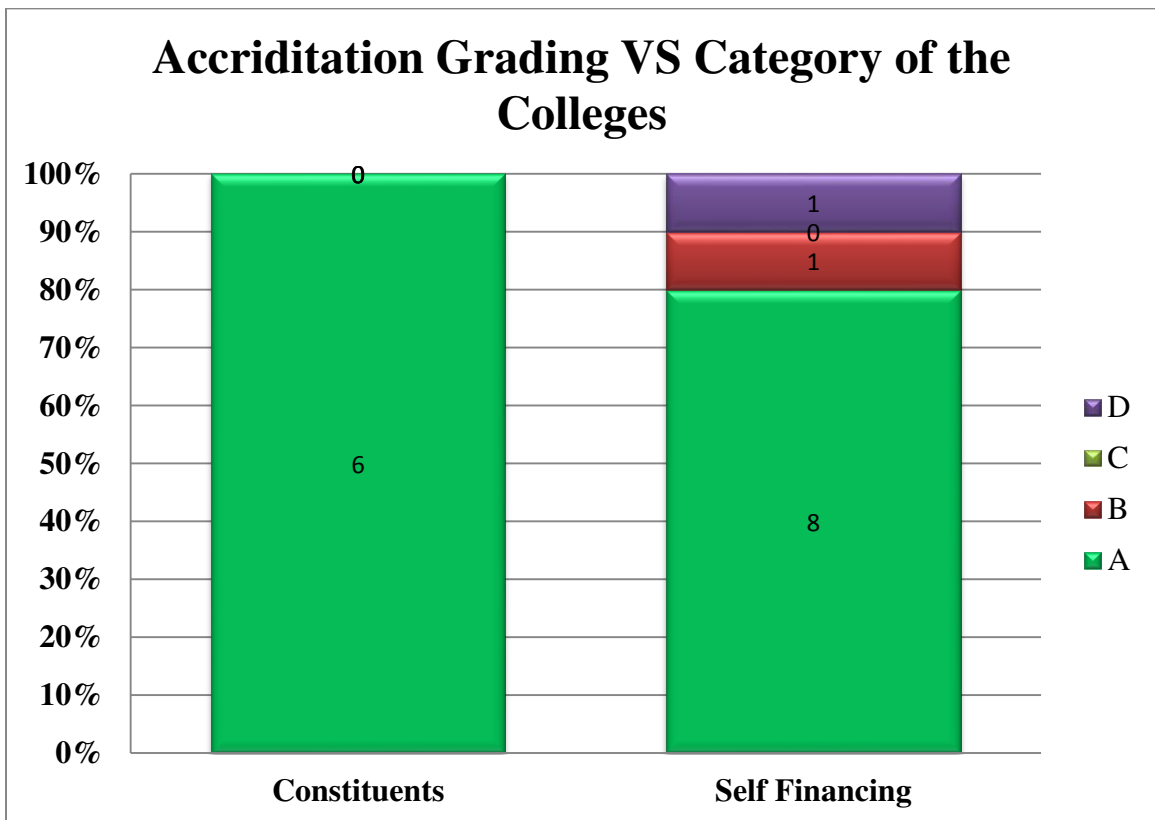


Fig.No.4.3 Accreditation Grading VS Category of the Colleges

The table 4.2.4.1 and Fig.4.3 shows that all 6 (100%) Constituents Colleges Accredited with A Grade and followed by 8 (80%) self finance colleges, only 1 (10%) self finance college having B and D Grade, while 0 (0.00%) self-financing colleges have C Grade.

Table No. 4.2.5 Intake Capacity of Students

Sr. No	Name of the Course	No of Students	Percentage
1	B.Sc. (Agriculture)	2283	60.56
2	M.Sc. (Agriculture)	346	9.18
3	BBA (Agriculture)	280	7.43
4	B.Tech (Agricultural Engineering)	225	5.97
5	B.Sc. (Horticulture)	197	5.23
6	B.Sc. (Agricultural Bio-Technology)	160	4.24
7	B. Tech (Food Technology)	120	3.18
8	Ph.D. (Agriculture)	74	1.96
9	B. Sc. (Animal Husbandry)	30	0.80
10	MBA (Agriculture)	30	0.80
11	M.Tech (Agriculture Engineering)	16	0.42
12	Ph.D. (Agricultural Engineering)	9	0.24
13	Total	3770	100.00

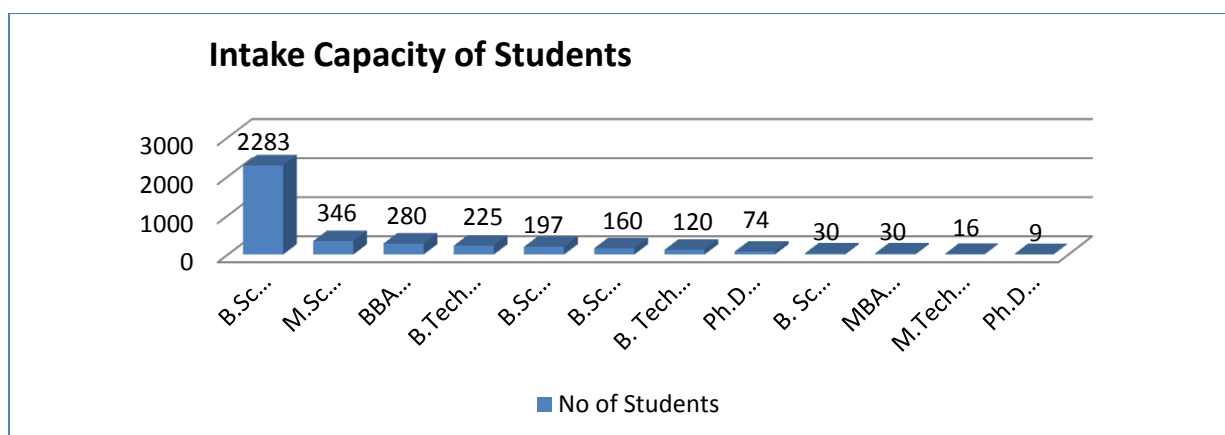


Fig. No.4.4 Intake Capacity of Students

The table 4.2.5 and fig. 4.4 shows the Intake Capacity of the Students in the Colleges. It reveals that there are 2283 (60.56 %) B. Sc. Students admitted, 346 (9.18%) M. Sc. Students and 225(5.97%) B. Tech students have intake capacity under the jurisdiction of the Mahatma PhuleKrishiVidyapeeth, Rahuri. The table clearly shows that majority of the Agricultural colleges are offering B.Sc courses. It is seen that only 9 (0.24 %) having intake capacity of Ph. D. in Agricultural Engineering.

Table No.4.2.6 Type of Courses

Sr. No	Courses	No of Colleges	Percentage
1	UG	29	72.5
2	UG & PG	2	5
3	UG, PG & Ph.D.	2	5
4	Diploma	7	17.5
5	Other	0	0
	Total	40	100

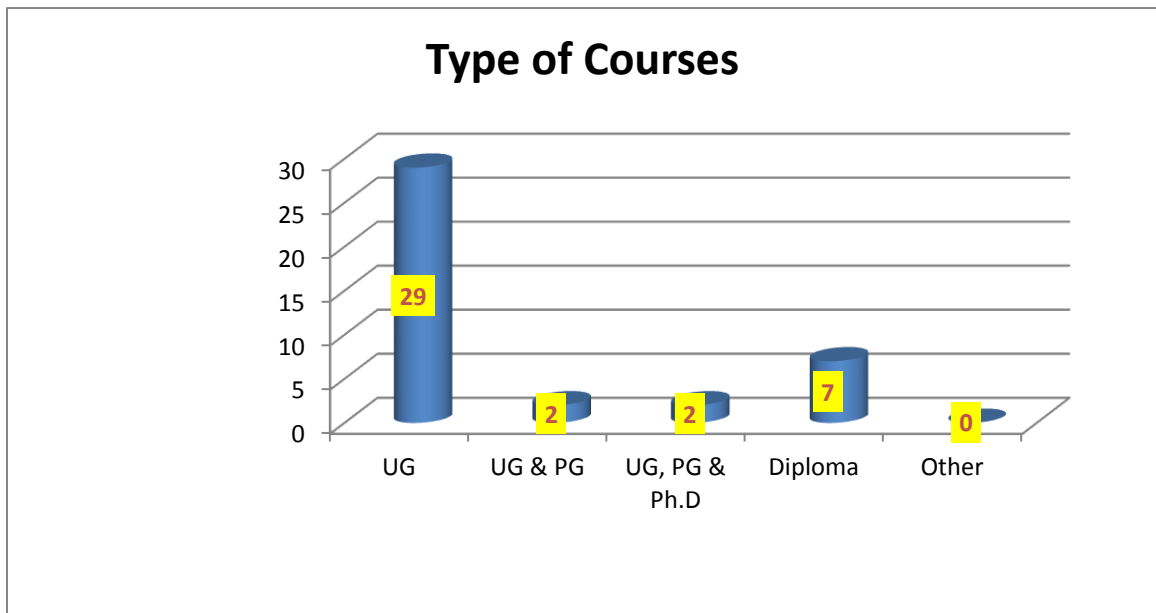


Fig. No.4.5 Type of Courses offered in Agricultural Colleges

The table 4.2.6 fig. and 4.5 shows the distribution of colleges based on type of courses offered. It reveals that there are 29 (72.5 %) colleges offered under Graduate courses. and 2 (5%) offered UG and PG both, it is also seen that only 2 (5 %) colleges offered UG, PG; Ph. D., There are 7(17.5%) colleges having Diploma. The table clearly shows that majority of the Agricultural colleges are offering Under Graduate courses.

4.3 ABOUT LIBRARIAN

Table No. 4.3.1 SEX Ratio

Sr. No	Sex	No of Respondent	P- Test	P-Value
1	Male	28(70)	Test of $p = 0.4$ vs $p < 0.4$	0.129
2	Female	12(30)		

Note:-Test of $p = 0.4$ vs $p < 0.4$ P-Value= 0.129

Table no. 4.3.1 it is shows that out of 40 college librarians there is 28 (70%) are Male Librarians while 12 (30%) librarians are female. Also for testing of the null hypothesis i.e.the P- Test also administered. There is $p=0.4$ vs $p < 0.4$ the parameter value is 0.129.

The percentage of female employees in agricultural college libraries is 40%. Hence Hypothesis Agricultural Colleges follow the reservation policy in recruitment process (30 % reservation for the Female) valid.

4.3.2 Qualification of Librarian

The Professional qualification, including the technical qualification and training on I.T. related disciplines are the important aspects, because the librarians are expected to organize technology based information services on one hand, and to impart information seeking skills on the other.

Table 4.3.2.1 Academic Qualification

Sr. No	Academic Qualification	No of Respondent	Percentage
1	12th	1	2.5
2	B.A	18	45
3	B.Com	1	2.5
4	B.Sc.	6	15
5	B.A & M.A	11	27.5
6	B.Com & M.Com	1	2.5
7	B.Sc. & M.Sc.	2	5
	Total	40	100

The table no4.3.2.1 and following Fig No.4.6 shows that the academic qualifications of the librarians. Most of the librarians have graduation in B.A 18 (45%), Followed by B.A with M.A 11 (27.5%) and out of 40 only 2 librarians have undergraduate in B.Com.

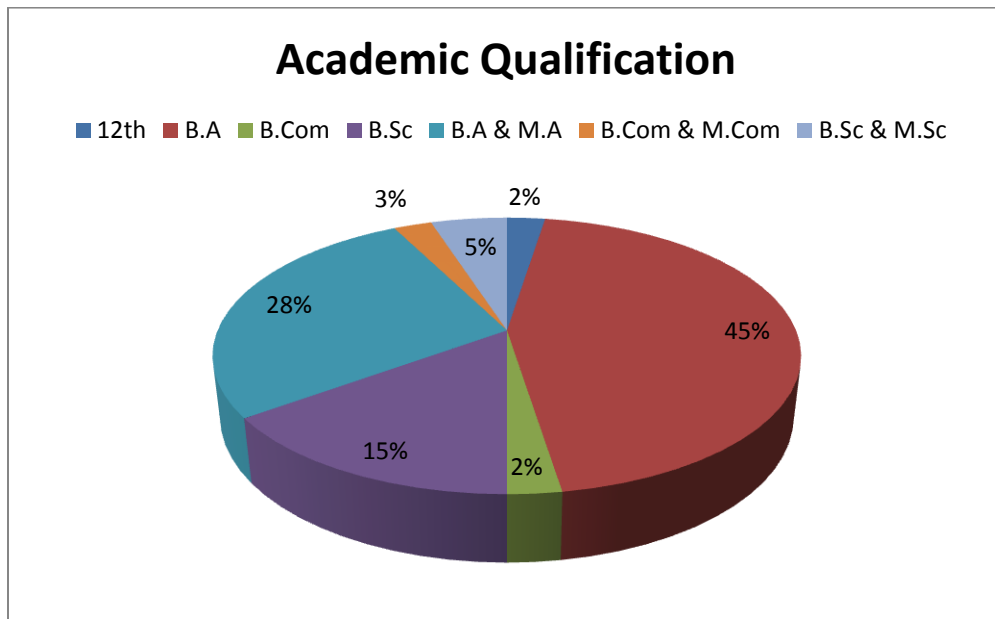


Fig. No.4.6 Academic Qualification

Table No. 4.3.2.2 Professional Qualification

Sr. No	Professional Qualification	No of Respondent	Percentage
1	B.LISc	4	10
2	M.LISc	33	82.5
3	M.LISc& MPhil	1	2.5
4	M.LISc , MPhil & Ph.D.	1	2.5
5	M.LISc, NET/SET, Ph.D.	1	2.5
	Total	40	100

The analysis of data as shown in the table 4.3.2.2 and following graph 4.7 distribution of library based on qualifications of the librarians. Out of 40 libraries there are 33 (82.5 %) librarians are having Master Degree in Library and Information Science, 4(10%) librarian has Bachelor degree in Library and Information science, 1 (2.5%) Librarians have Master of Philosophy and Ph. D degree in Library and Information Science. It is also shows that only 1 (2.5%) librarians have Master degree, NET/SET with Ph. D in Library and Information Science.



Fig. No. 4.7 Professional Qualification

Table No. 4.3.3 Age Wise Distribution

Sr. No	Age	No of Librarians	Percentage
1	25-30 years	9	22.5
2	31-35 years	13	32.5
3	36-40 years	10	25
4	41-45 years	4	10
5	46-50 years	2	5
6	51-55 years	1	2.5
7	56-60 years	1	2.5
	Total	40	100

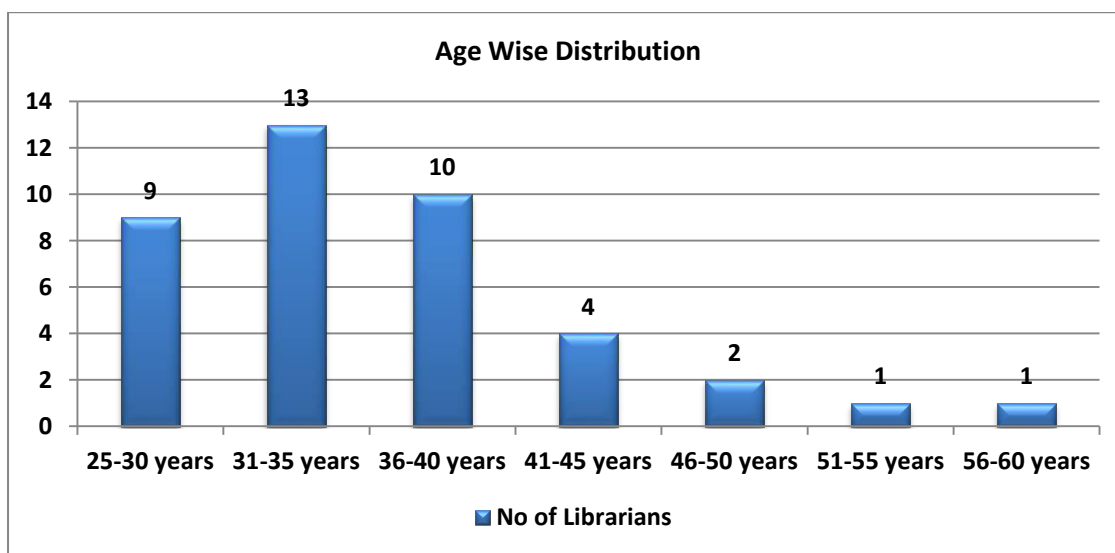


Fig. No. 4.8 Age Wise Distribution

The table 4.3.3 and graph 4.8 shows the Age of librarian in Agricultural college libraries. It is observed that 13 (32.5%) librarians are working in the range of 31-35 years, 10 (25%) librarians are working in the range of 35-40 years and 9 (22.5%) librarians in the range of 25-30 years. It is also shows that 4(10%) librarians are working in the range of 41-45 years. However 2(5%) librarians are working in the range of 46-50 years, while only 1 (2.5%) librarians are working in the age of 51-55 and 56-60 years.

Table No. 4.3.4 Experience in Year

Sr. No	Experience In Year	No of Librarians	Percentage
1	1 - 5 years	14	35
2	6 - 10 years	18	45
3	11 - 15 years	1	2.5
4	16 - 20 years	0	0
5	21 - 25 years	4	10
6	26 - 30 years	2	5
7	31- 35 years	1	2.5
	Total	40	100

The table 4.3.4 shows the experience in years of librarian in Agricultural college libraries. It is observed that 14 (35%) librarians are working in the range of 1-5 years, 18 (45%) librarians are working in the range of 6-10, However 4 (10%) librarians are working in the range of 21-25 and 2 (5%) librarians are working in the range of 26-30 years, While 1 (2.5%) librarian are working in the range of 31-35.

Table No. 4.3.5 ICT Skills among Librarians

Sr. No	ICT Skills	High	Medium	Low
1	Operating System	12 (30)	25 (62.5)	3(7.5)
2	Library Automation & Networking (LMS)	14 (35)	19 (47.5)	7 (17.5)
3	Institutional Repository/Digital Library	5 (12.5)	19 (47.5)	16 (40)
4	Web Technologies	6 (15)	14 (35)	20 (50)
5	Network Technologies	13 (32.5)	20 (50)	7 (17.5)
6	Office Automation	26 (65)	12 (30)	2 (5)
7	Content Management System	13 (32.5)	17 (42.5)	10 (25)

The Table 4.3.5 it can be seen that High level of ICT Skills 26 (65%) has been given Office Automation. It is followed by operating system 12 (30%) and library automation and networking (LMS) 14 (35%). However content management system 13 (32.5%), Networking Technologies 13 (32.5%). Least importance has been given to Web Technologies only 6 (15%) and Institutional Repository/Digital Library only 5 (12.5%) librarians have high level ICT Skills. It is also shows that Low level of ICT Skills 3 (7.5%) Operating System and only 2 (5%) office automation and 20 (50%) of the librarians have low ICT skills regarding Web Technologies.

Table No. 4.3.5.1 ICT Skills VS Category of Colleges

These ICT skills were further evaluated between Constituents and Self Finance institutions and the same is shown in Table 4.3.5.1

Sr. No	ICT Skills	Constituents Colleges (n=6)			Self Finance Colleges (n=34)			Chi. sq	P-Value
		High	Medium	Low	High	Medium	Low		
1	Operating System	5 (83.33)	1 (16.17)	0 (0)	7 (20.59)	24 (70.59)	3 (8.82)	41.622	0.000
2	Library Automation & Networking (LMS)	6 (100)	0 (0)	0 (0)	8 (23.53)	19 (55.88)	7 (20.59)		
3	Institutional Repository/Digital Library	2 (33.33)	4 (66.37)	0 (0)	3 (8.82)	15 (44.12)	16 (47.6)		
4	Web Technologies	3 (50)	2 (33.33)	1 (16.67)	3 (8.82)	12 (35.29)	19 (55.88)		
5	Network Technologies	5 (83.33)	1 (16.67)	0 (0)	8 (23.53)	19 (55.88)	7 (20.59)		
6	Office Automation	6 (100)	0 (0)	0 (0)	20 (58.82)	12 (35.29)	2 (5.88)		
7	Content Management System	4 (66.37)	2(33.33)	0 (0)	9 (26.47)	15 (44.12)	10 (29.41)		

Note:-Note:-Chi-Sq = 41.622, DF = 1, P-Value = 0.000

The Table 4.3.5.1 and Following Figure 4.9 observed that there is out of 6 Constituents college librarians 6 (100%) librarians have high level ICT skills in the Library Automation and Networking as well as in Office Automation followed by 5 (83.33%) having high level ICT Skills among the Operating System and Networking Technologies. Only 1 (16.67%) librarian has Low level ICT Skills in the Web Technologies.

And in the Self -financed college libraries only 7 (20.59%) Librarians have high level ICT Skills in Operating System, 8 (23.53%) in Library Automation and Networking, 20 (58.82%) in Office Automation. It also seen that 19 (55.88%) librarians have low level skills in web technologies. The chi-square test is also administered to test the hypothesis that there is significant difference in ICT skills among the librarians of ‘Constituents Colleges’ and ‘Self-Finance colleges’ institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. **Hence the hypothesis no 2 “there is significant difference in ICT skills among the librarians of ‘Constituents Colleges’ and ‘Self-Finance colleges’ is valid.**

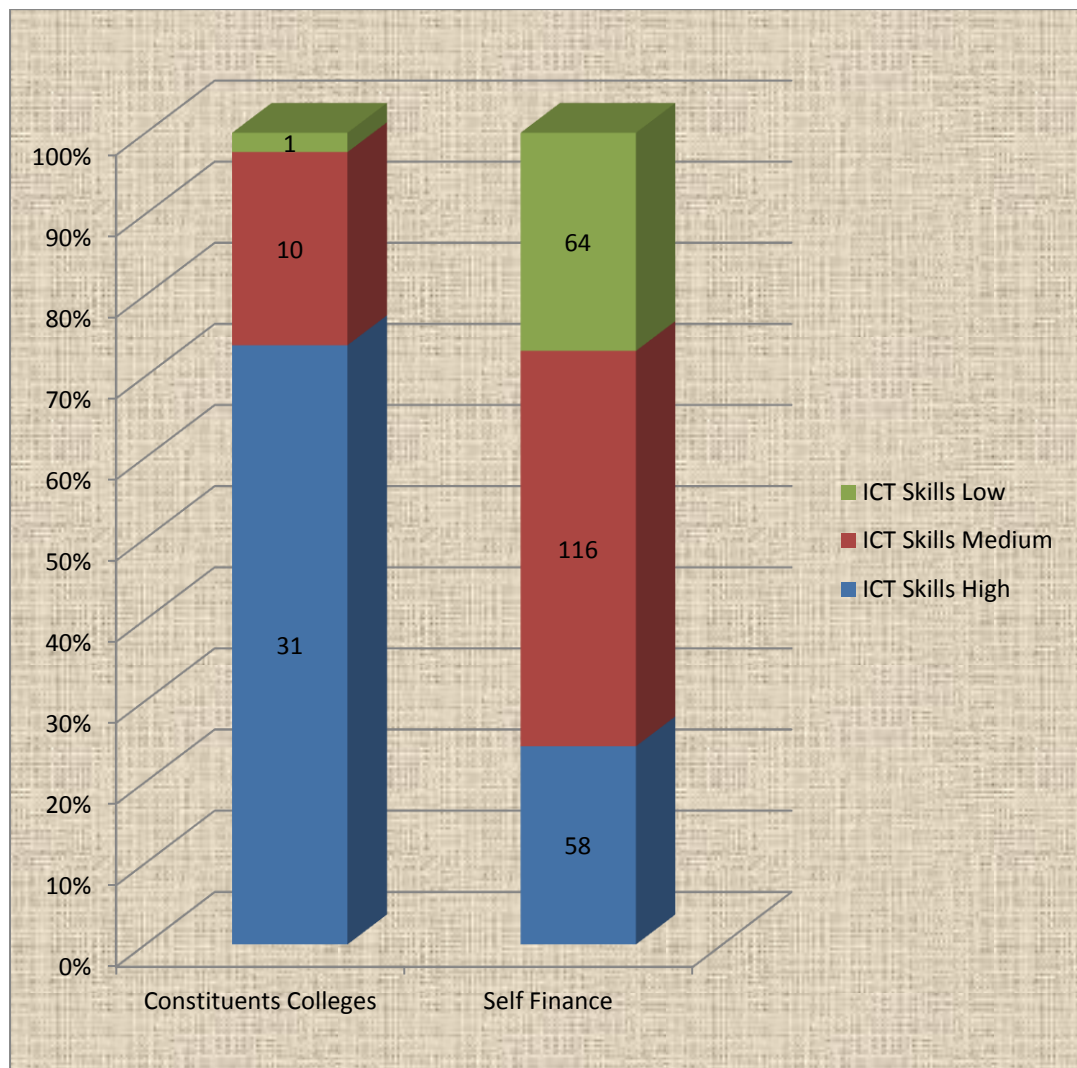


Fig. No. 4.9 ICT Skills VS Category of Colleges

4.4 ABOUTLIBRARY

Table No. 4.4.1 Year of Establishment of College Library

Sr. No	Year of Establishment	No of Colleges	Percentage
1	1907-1910	1	2.5
2	1911-1920	0	0
3	1921-1930	0	0
4	1931-1940	0	0
5	1941-1950	0	0
6	1951-1960	1	2.5
7	1961-1970	2	5
8	1971-1980	0	0
9	1981-1990	0	0
10	1991-2000	1	2.5
11	2001-2010	25	62.5
12	2011-2014	10	25
	Total	40	100

The table 4.4.1 and following fig. 4.10 shows the number of Agricultural college libraries which have been established during 1907 to 2014. It is observed that the maximum number of colleges established in the period of 2001 to 2010 i.e. 25 (62.5%). Followed by in the period of 1907-1910 there are only 1 (2.5 %) college libraries established. However in the period of 1911-1950 there are 0 (0.00%) colleges are established. In the Period of 1951-1960 and 1991-2000 each period also 1 (2.5%) college are established. It is also shows that in the Period of 2010 to 2014, 10 (25%) Agricultural college library established.

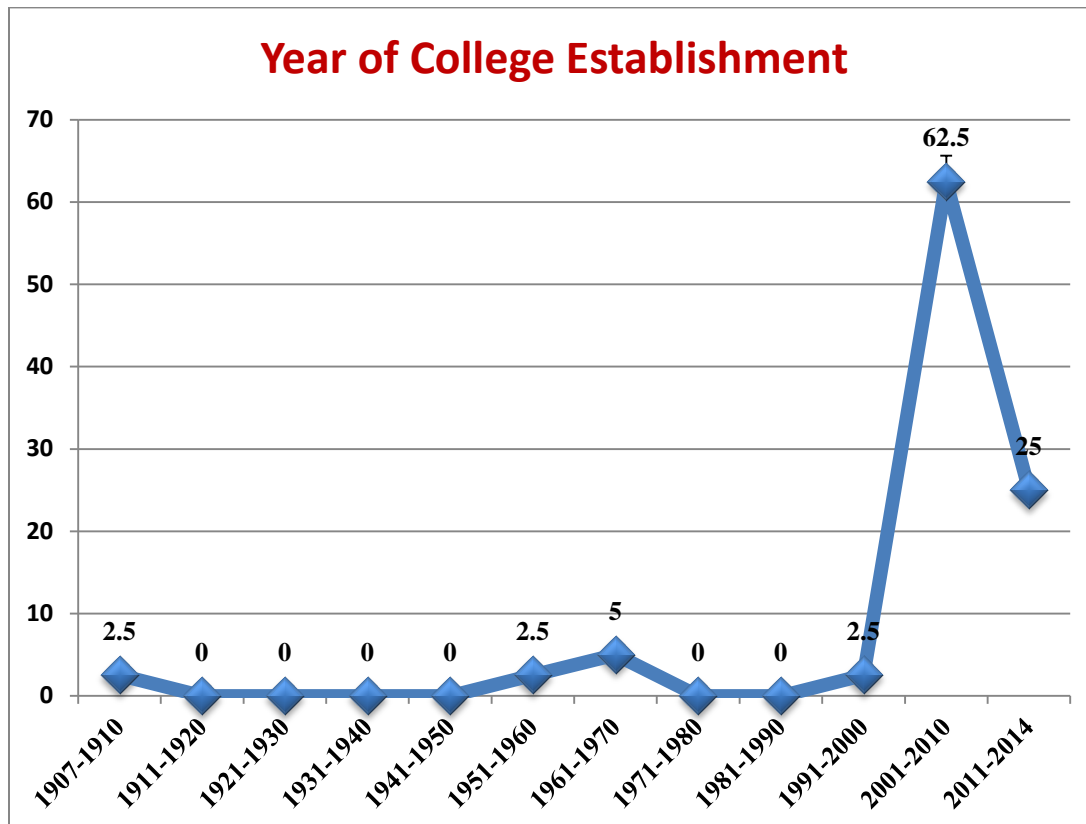


Fig. No. 4.10 Year of Establishment of College Library

Table No. 4.4.2 Library Hours

Sr. No	Library Timing	No of Libraries	Percentage
1	Below 6 Hours	0	0
2	7-12 Hours	40	100
3	13-18 hours	0	0
4	18-24 hours	0	0
	Total	40	100

The table 4.4.2 shows the working hours of the library. Out of 40 libraries there are all 40 (100%) libraries working in between 7-12 hours. There is no library working in the range of 13-18 hours and 18-24 hours. Also It is seen that, there is none of the library working for the below 6 hours. In average most of the libraries have working time 8 hours.

Table No. 4.4.3 Designation wise Distribution of Library Staff

Sr. No	Designation	No of Staff	Percentage
1	Assistant Librarian	23	24.21
2	Technical Assistant	5	5.26
3	Chief Cataloguer	6	6.32
4	Issue Assistant	15	15.79
5	Library Attendants	18	18.95
6	Others	28	29.47
	Total	95	100.00

The statistics in the table 4.4.3 shows the distribution of library staff on the basis of designation. It is seen that, 23 (24.21%) having Assistant Librarian, 5 (5.26%) of Technical Assistant. There are 6 (6.32%) having Chief Cataloguer., 15 (15.79%) is Issue Assistant. It is observed that, 18 (18.95%) are Library Attendant, while 28 (29.47%) having others i.e Peon etc.

Table No. 4.4.4 Reading Room Timing

Sr. No	Reading Room Timing	No of Libraries	Percentage
1	Below 6 Hours	1	2.5
2	7-12 Hours	34	85
3	13-18 hours	5	12.5
4	18-24 hours	0	0
	Total	40	100

The table 4.4.4 shows the working hours of the library reading room out of 40 libraries. There are 34 (85%) libraries Reading Room opened in between 7-12 hours. There are 5 (12.5%) libraries Reading Room opened in the range of 13-18 hours and only 1(2.5%) libraries Reading Room opened in the range of 18-24 hours.

Table No. 4.4.5 Separate Library Building

Sr. No	Library Building	No of Libraries	P-Test	P-Value
1	Yes	17(42.50)	Test of $p = 0.5$ vs $p < 0.5$	0.215
2	No	23(57.50)		

Note:-Test of $p = 0.5$ vs $p < 0.5$, P-Value = 0.215

The table No.4.4.5 it is shows that out of 40 college librarians there is 17 (42.50%) libraries have separate library building and 23 (57.50%) libraries don't have separate library building for functioning of library activities. Also for testing of the null hypothesis P- Test also administered. There is $p=0.5$ vs $p < 0.5$ the parameter value is 0.215.Hence as per the P-Test result 50% of the College Libraries have separate library building.

Table No. 4.4.6Library Building Area

Sr. No	Building Area (Sq. fit.)	No of Libraries	Percentage
1	Below 100	1	2.5
2	101-500	7	17.5
3	501-1000	12	30
4	1001-1500	2	5
5	1501-2000	5	12.5
6	2001-2500	5	12.5
7	2501-3000	0	0
8	3001-3500	2	5
9	3501-4000	0	0
10	4001-4500	0	0
11	4501-5000	2	5
12	Above 5001	4	10
	Total	40	100

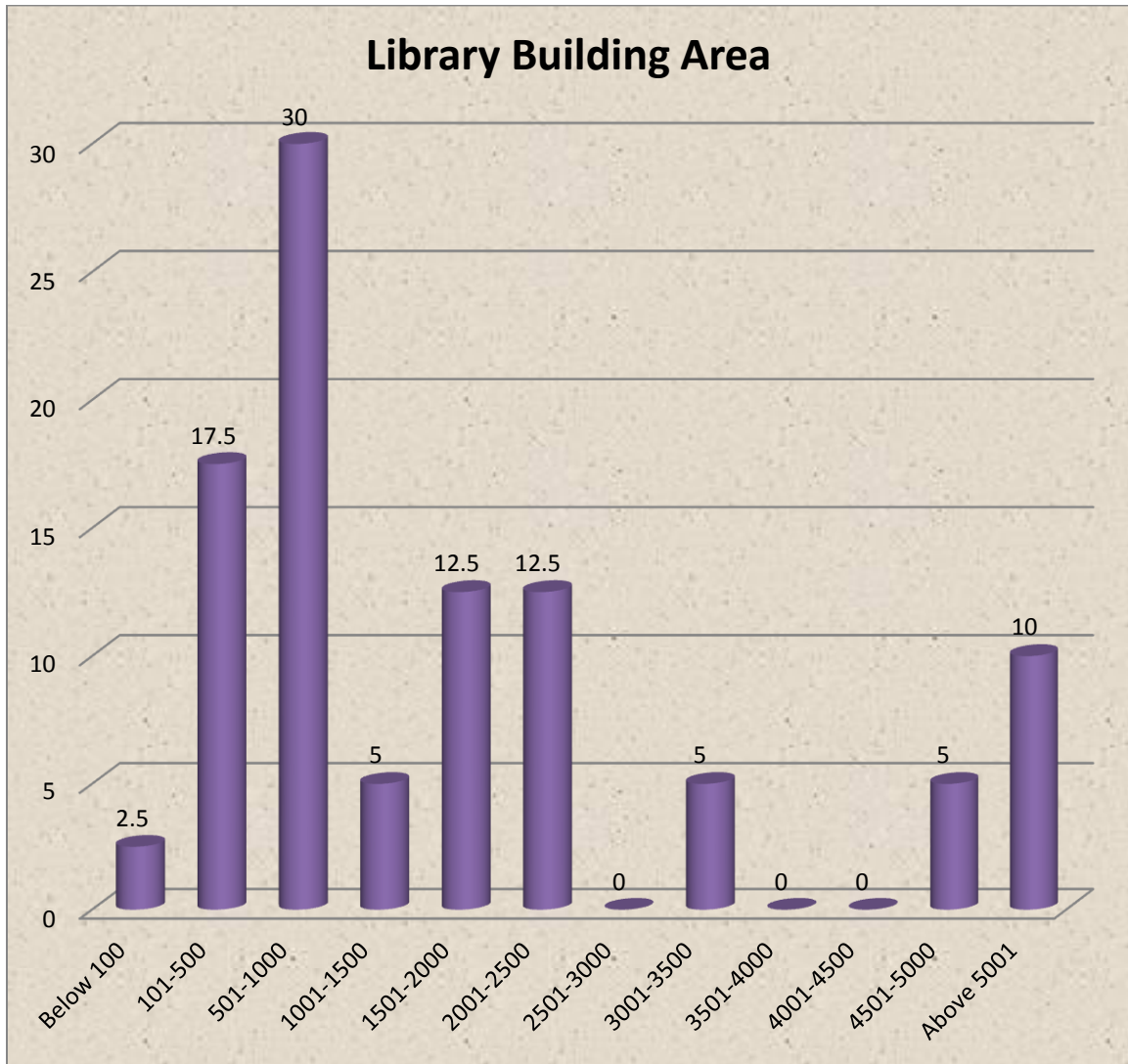


Fig. No. 4.11 Library Building Area

It is clear from the table 4.4.6 and fig. 4.11 shows the distribution of libraries based on existence of Library building area. It is observed that 12 (30 %) of the responded libraries are situated in 501-100 Sq. fit. Area and remaining 7(17.5 %) of the libraries are 101-500 Sq. fit. area. It is observed that 2 (12.5%) libraries are situated in 1001-1500, 3001-3500, 4501-5000 sq.fit respectively; While 4 (10%) libraries are above 5001 Sq. fit. area.

Table No. 4.4.7 Digital Library Area

Sr. No	Digital Library Area (Sq. fit.)	No of Libraries	Percentage
1	< 0	2	5
2	1-100	8	20
3	101-200	10	25
4	201-300	8	20
5	301-400	2	5
6	401-500	3	7.5
7	501-600	1	2.5
8	601-700	0	0
9	701-800	2	5
10	801-900	2	5
11	901-1000	0	0
12	1001-2400	1	2.5
13	2401-5500	1	2.5
	Total	40	100

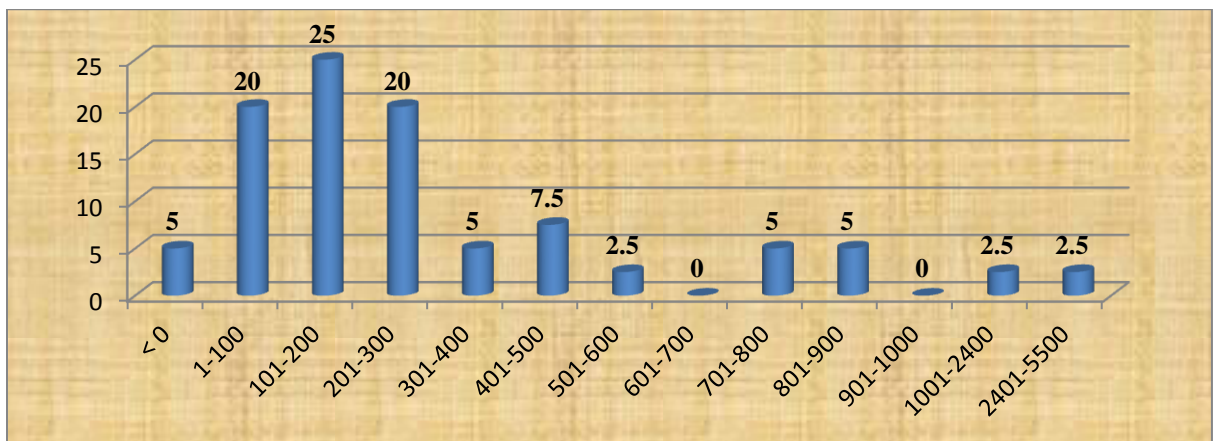


Fig. No. 4.12 Digital Library Area

The table 4.4.7 and graph 4.12 shows the distribution of digital library area (Sq. fit.) made available in the library. It is observed that, 10 (25%) libraries have in the range of 101-200 Sq. fit. area, Followed by 8(20%) libraries having in the range of 1-100 and

201-300 Sq. fit. Area, however only 1 (2.5%) libraries having in the range of 501-600 and 1001-2400, 2401-5500 Sq. fit. Area, it is also shows that only 2 (5%) libraries having in the range of 301-400, 701-800, 901-1000 Sq. fit. area.

Table No. 4.4.8 Library Automation Status

Sr. No	Library Automated	No of Libraries	Chi. Sq.	P-Value
1	Yes	26(65)	3.801	0.051
2	No	14(35)		
	Total	(40) 100		

Note:-Note:-Chi-Sq = 3.801, DF = 1, P-Value = 0.051

The analysis of the data as shown in the table 4.4.8 reveals that out of 40 libraries, 26 (65%) libraries are automated and 14 (35%) libraries are non- automated libraries.

The chi-square test is also administered to test the hypothesis that there is Level of significance (α) = 0.05, P-Value = 0.050 is less than level of significance. Hence the hypothesis is significant.

Table No.4.4.9 Present Status of Library Automation

Sr. No	Present Status	No of Libraries	Percentage
1	Completely Automated	8	20
2	Partially Automated	6	15
3	Initial Stages	26	65
	Total	40	100

In order to ascertain the extent of the automation of the libraries the librarians were asked to indicate the extent of automation of the libraries. It is observed from the data as shown in the table 4.4.9 and following bar diagram 4.13 out of libraries, 8 (20%) libraries are completely automated and 6 (15%) libraries are partially automated. It is observed that only 26 (65%) library is in Initial stage of the Library Automation.

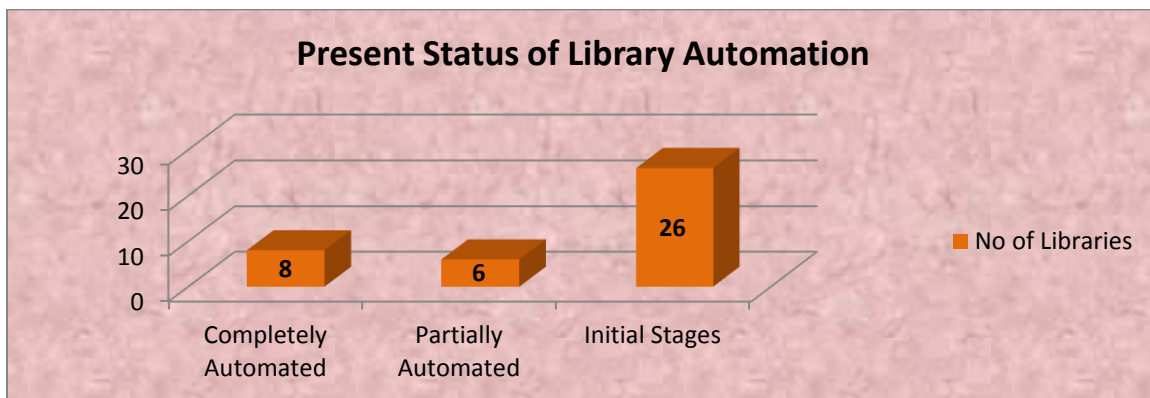


Fig. No.4.13 Present Status of Library Automation

Table No. 4.4.10 Library Software

Sr. No	Library Software	No of Libraries	Percentage
1	Library Manager	5	12.5
2	SOUL 2.0	4	10
3	KOHA	3	7.5
4	SLIM 21	3	7.5
5	AUTOLIB	3	7.5
6	Vriddhi	2	5
7	E-Campus	2	5
8	Godavari- agri-tech	2	5
9	E-Granthalaya	1	2.5
10	e-Krishi	1	2.5
11	No any	14	35
	Total	40	100

Librarians were asked to provide the details about the use of software in their libraries. It is observed from the data as shown in the table 4.4.10 and following graph 4.14 out of 40 libraries, it is observed that 5 (12.5%) libraries use Library Manager Software and 4 (10%) libraries use SOUL 2.0 software, 3 (7.5%) libraries use KOHA, SLIM 21 and AUTOLIB software. However 2 (5%) libraries use Vriddhi, E-Campus, Godavari-agri-tech software's. It is also shows that only 1 (2.5%) libraries using E-

Granthalaya and e-Krishi, While 14 (35%) libraries are not using any single software for the library automation as well as library housekeeping operations.

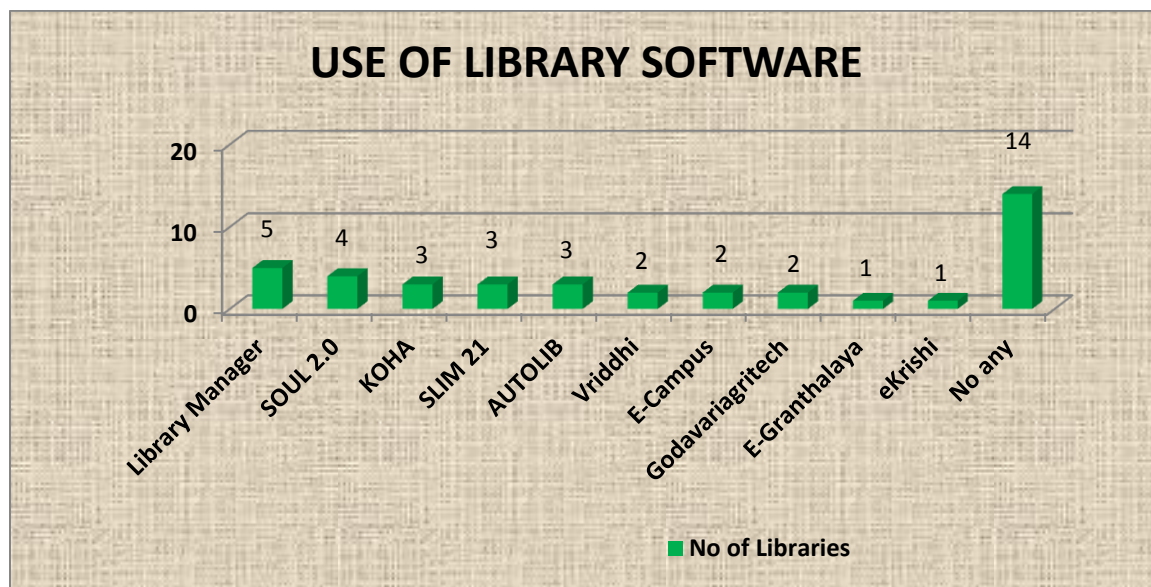


Fig. No.4.14 Library Software

Table No.4.4.11 Areas of Automation

Sr. No	Areas of Automation	Initial	Completed	Total
1	Acquisition	27 (67.5)	13 (32.5)	40 (100)
2	Cataloguing	17 (42.5)	23 (57.5)	40 (100)
3	Circulation	24 (60)	16 (40)	40 (100)
4	Serial Control	31 (77.5)	9 (22.5)	40 (100)
5	Information Retrieval Service	32 (80)	8 (20)	40 (100)
6	SDI/CAS	37 (92.5)	3 (7.5)	40 (100)
7	OPAC	26 (65)	14 (35)	40 (100)
8	Administration	32 (80)	8 (20)	40 (100)
9	Budgeting	37 (92.5)	3 (7.5)	40 (100)

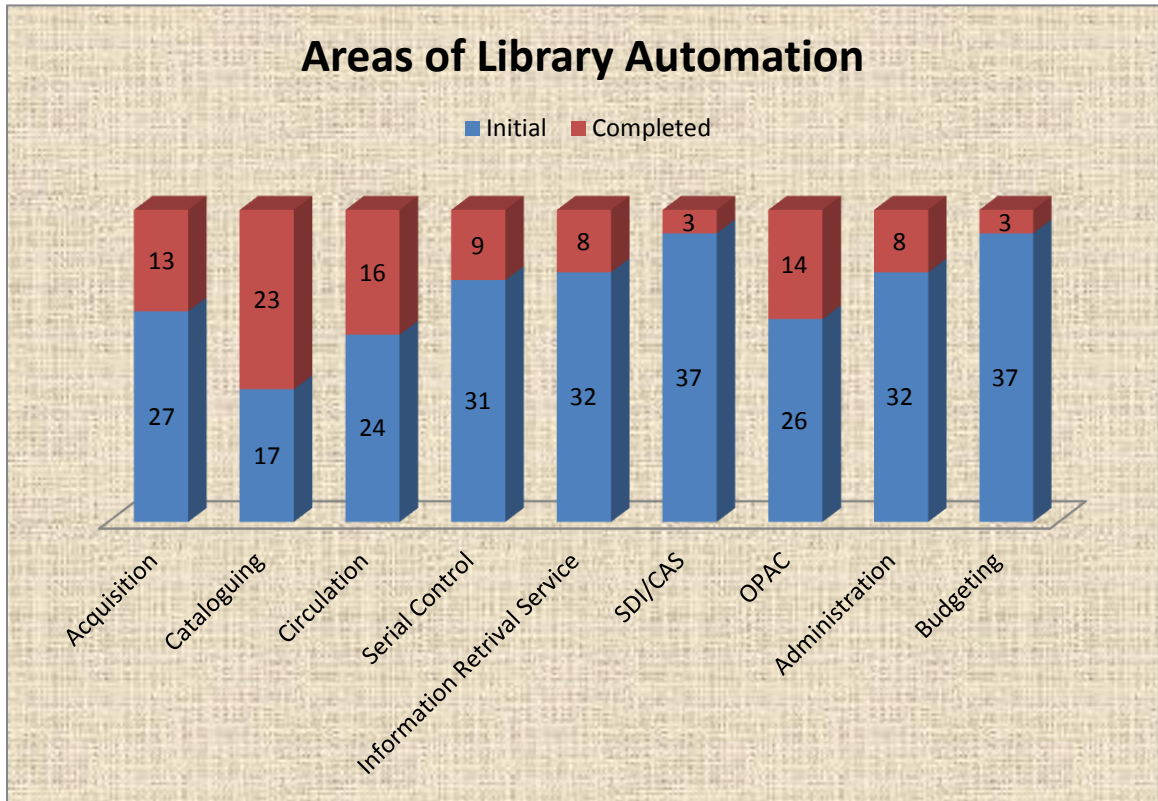


Fig. No.4.15 Areas of Automation

The table 4.4.11 and graph 4.15 shows the Areas of Library Automation. It is observed that 27 (67.5%) having initial stage in the automation of the Acquisition, and 13 (32.5 %) libraries completed the acquisition with the help of library software. Followed by 17 (42.5%) initial stage in Cataloguing and 23 (57.5%) are complimented the cataloguing, 24 (60%) libraries are in initial stage providing Circulation with the help of Software and only 16 (40%) libraries are in the Complete stage, only 3 (7.5%) libraries completely automated in Budgeting and SDI/CAS.

Table No. 4.4.11.1 Areas of Library Automation VS Category of Colleges

Sr. No	Library Areas	Constituents Colleges (n=6)		Self-Financed Colleges (n=34)		Chi-Sq.	P-Value
		Initial	Completed	Initial	Completed		
1	Acquisition	3 (50)	3 (50)	24(70.59)	10(29.41)	50.924	0.000
2	Cataloguing	0 (0)	6(100)	17(50.00)	17(50.00)		
3	Circulation	1 (16.67)	5 (83.33)	23(67.65)	11(32.35)		
4	Serial Control	2 (33.33)	4(66.67)	29(85.29)	5(14.71)		
5	Information Retrieval Service	1 (16.67)	5 (83.33)	31(91.18)	3(8.82)		
6	SDI/CAS	3 (50)	3 (50)	34(100)	0(0)		
7	OPAC	0 (0)	6(100)	26(76.47)	8(23.53)		
8	Administration	3 (50)	3 (50)	29(85.29)	5(14.71)		
9	Budgeting	5 (83.33)	1 (16.67)	32(94.12)	2(5.88)		

Note:-Note:-Chi-Sq = 50.924, DF = 1, P-Value = 0.000

The table 4.4.11.1 shows the Areas of Library Automation Vs Category of Colleges. It is reveals that out of the total 6 Constituentslibraries 3 (50%) libraries are initial stage in Acquisition, SDI/CAS Services and Administration service. However 2 (33.33%) libraries are in initial stage of Serial control of periodicals. It is observed that only 1 (16.67%) library is in initial stage in Budgetingwhile 5 (83.33%) are completed. It reveals that only 1 (16.67%) library is in initial stage in Circulation and Information Retrieval Service, while 5(83.33%) libraries completed respectively. So it is concluded that Constituents College libraries are mostly fully automated.

Apart from this the Self Financed College libraries are initially started their work on SDI/CAS Service. Followed by Budgeting 32 (94.12%), Serial Control and

Administration 29 (85.29%) in the Initial stage, and 17 (50%) libraries completed their cataloguing in the Automation followed by Circulation 11 (32.35%).

The chi-square test is also administered to test the hypothesis that there is **Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance.**Hence the hypothesis“**Most of the Constituents College Libraries are fully automated**” is **Valid.**

Table No. 4.4.12 Back-end Database of Automation Software

Sr. No	Database	No of Libraries	Percentage
1	MySQL	18	45
2	Oracle	7	17.5
3	MS Access	1	2.5
4	No any	14	35
	Total	40	100

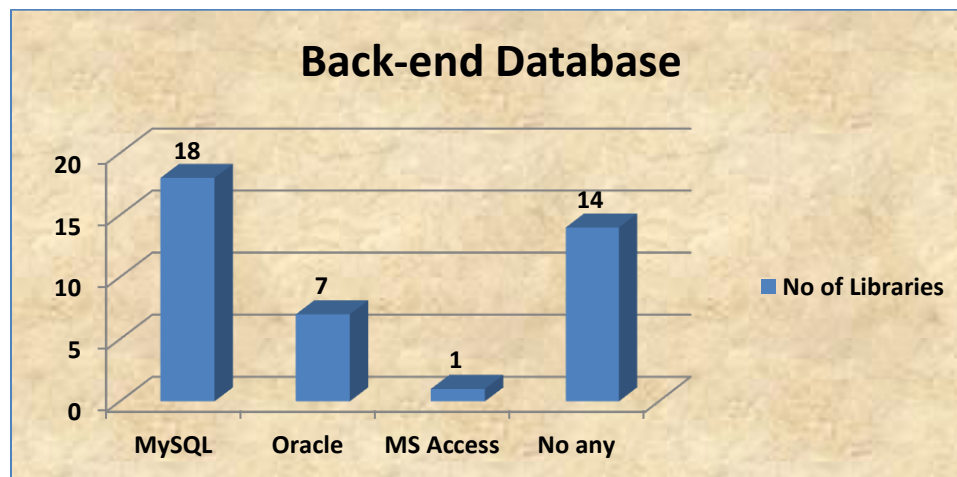


Fig. No. 4.16 Back-end Database

The table 4.4.12 and graph 4.16 shows the Back-end Database. It is reveals that out of the total 40 libraries 18 (45%) libraries have MySQL, However 7 (17.5%) libraries have Oracle. It is observed that only 1 (2.5%) library have My Access back end database and It is also shows that 14 (35%) libraries don't have any backend database because they don't have any library management software.

Table No. 4.4.13 Total Records in Database

Sr. No	No of Records	No of Libraries	Percentage
1	0	14	35
2	1-1000	8	20
3	1001-2000	6	15
4	2001-3000	2	5
5	3001-4000	4	10
6	4001-5000	2	5
7	5001-50000	2	5
8	50001-115000	2	5
	Total	40	100

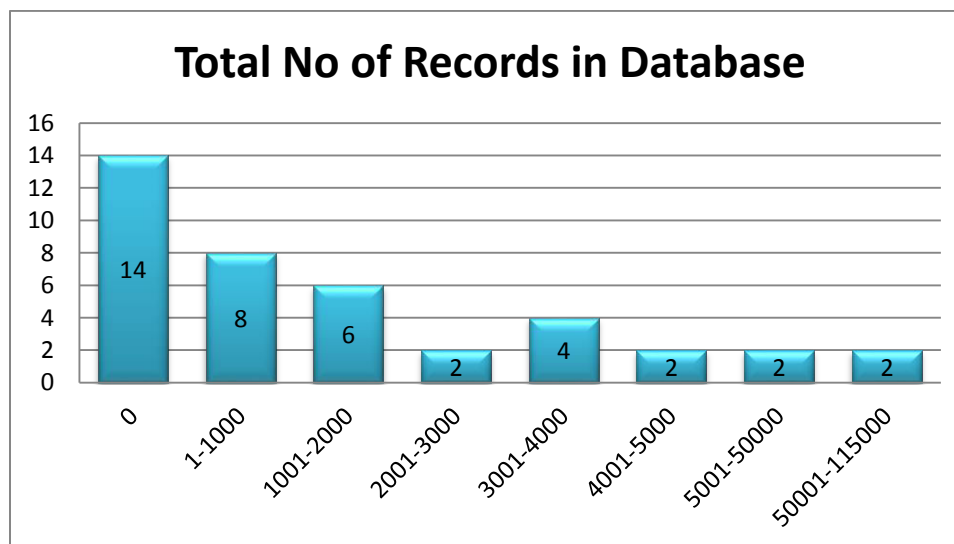


Fig. No. 4.17 Total Records in Database

The table 4.4.13 and graph 4.17 shows the No. of Records available in Database. It is reveals that out of the total 40 libraries 14 (35%) libraries have 0 record in the libraries, However 8 (20%) libraries have 1-100 range of record, followed by 6 (15%) libraries have 1001-2000 range of record. It is observed that only 2(5%) libraries have 2001-3000 and 4001-115000 range of record in the Database.

Table No. 4.4.14Frequency of Updating Database

Sr. No	Frequency	No of Libraries	Percentage
1	Always	20	50
2	Sometime	3	7.5
3	Rarely	3	7.5
4	Never	14	35
	Total	40	100

The table 4.4.14 shows the Frequency of Updating the Database. It is examined that out of the total 40 libraries 20 (50%) libraries have Always Update; However 3 (7.5%) libraries have Sometime Update and Rarely Update. It is observed that only 14 (35%) libraries have Never Update.

Table No. 4.4.15Separate Library Server

Sr. No	Separate Library Server	No of Libraries	P-Test	P-Value
1	Yes	17(42.5)	Test of $p = 0.5$ vs $p < 0.5$	0.215
2	No	23(57.5)		
	Total	40 (100)		

Note:-Test of $p = 0.5$ vs $p < 0.5$; p value= 0.215

The table 4.4.15 shows the availability of Separate Library Server. It is examined that out of the total 40 libraries 17 (42.5%) libraries have Separate Library Server; However 23 (57.5%) libraries don't have Separate Library Server. The P-test is also administered to test the hypothesis that there is $p = 0.5$ vs $p < 0.5$.value of Separate Library Server. The parameter value is (0.215).

Table No. 4.4.16 LAN Connectivity

Sr. No	LAN Connectivity	No of Libraries	P-Test	P-Value
1	Yes	20 (50)	Test of $p = 0.5$ vs $p \text{ not} = 0.5$	1.000
2	No	20 (50)		
	Total	40(100)		

Note:- Test of $p = 0.5$ vs $p \text{ not} = 0.5$, P-Value = 1.000

The table 4.4.16 shows the Availability of Local Area Network in the Agricultural College Libraries. And it is observed that out of the total 40 Agricultural College libraries 20 (50%) libraries have LAN Connectivity; However 20 (50%) libraries don't have LAN Connectivity. The P-test is also administered for testing of the data that there is $p = 0.5$ vs $p \text{ not} = 0.5$.value of Separate Library Server. The parameter value is (1.000).

Table No. 4.4.17 Separate Web Page

Sr. No	Separate Web Page	No of Libraries	Percentage
1	Yes	5	12.5
2	No	35	87.5
	Total	40	100

The table 4.4.17 shows the Separate Web Page. It is observed that out of the total 40 libraries only 5 (12.5%) libraries have Separate Web Page; However 35 (87.5%) libraries don't have Separate Web Page for the libraries.

Table No. 4.4.18 Availability Internet Facility

Sr. No	Internet Facility	No of Libraries	P-Test	P-Value
1	Yes	39(97.5)	Test of $p = 0.99$ vs $p < 0.99$	0.331
2	No	1(2.5)		
	Total	40(100)		

Note:-Test of $p = 0.99$ vs $p < 0.99$, P-Value= 0.331

The table 4.4.18 shows the Availability of separate Web Sites for the libraries. And it is observed that out of the total 40 libraries 39 (97.5%) libraries provide the Internet Facility to the users as well as staff; However only 1 (2.5%) library don't have Internet Facility in the Library. Test of $p = 0.99$ vs $p < 0.99$ P-Value 0.331. The 99% collages have Internet Facility. Hence the hypothesis is significant.

Table No. 4.4.19 Types of Internet Connectivity

Sr. No	Internet Connectivity	No of Libraries	Percentage
1	Broadband	32	80
2	Dial-up	1	2.5
3	Leased Line	6	15
4	Other	1	2.5
	Total	40	100

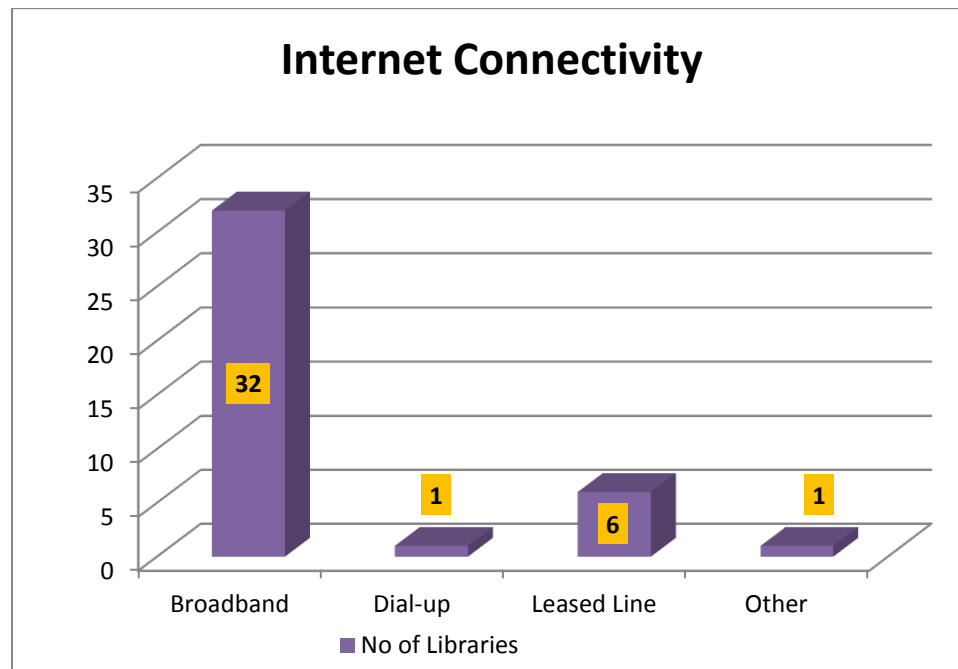


Fig. No. 4.18 Internet Connectivity

The table 4.4.19 and graph 4.18 shows the type of Internet Connectivity used in the library. And it is observed that out of the total 40 libraries 32 (80%) libraries used Broadband connectivity; followed by 6 (15%) libraries have used Leased Line connection. however only 1 (2.5%) libraries have used Dial-up connection of Internet Connectivity.

Table No. 4.4.20 Speed of Internet Connectivity

Sr. No	Speed	No of Libraries	Percentage
1	64 kb	9	22.5
2	128 kb	7	17.5
3	1 mbps	4	10
4	4.2 mbps	7	17.5
5	10 mbps	4	10
6	Other	9	22.5
	Total	40	100

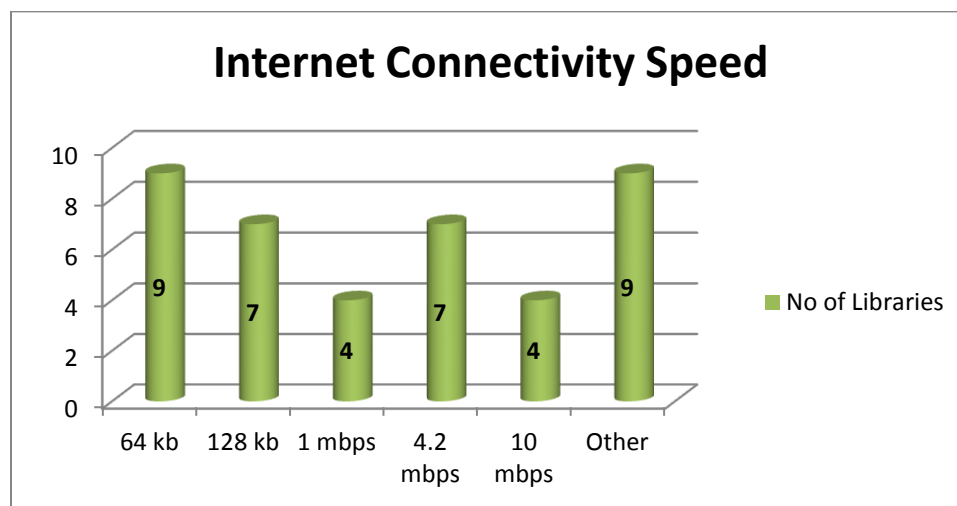


Fig. No. 4.19 Internet Connectivity Speed

The table 4.4.20 and graph 4.19 shows the Internet Connectivity Speed. It is observed that out of the total 40 libraries 9 (22.5%) libraries have 64 kb speed; followed

by 7 (17.5%) libraries having 128 kb and 4.2 mbps speed respectively. however only 4 (10%) libraries have 1mbps and 10 mbps speed of the Internet Connectivity.

Table No. 4.4.21 Use of Classification Scheme

Sr. No	Classification Scheme	No of Libraries	Percentage
1	DDC	35	87.5
2	CC	1	2.5
3	UDC	0	0
4	Any Other	2	5
5	No Any	2	5
	Total	40	100

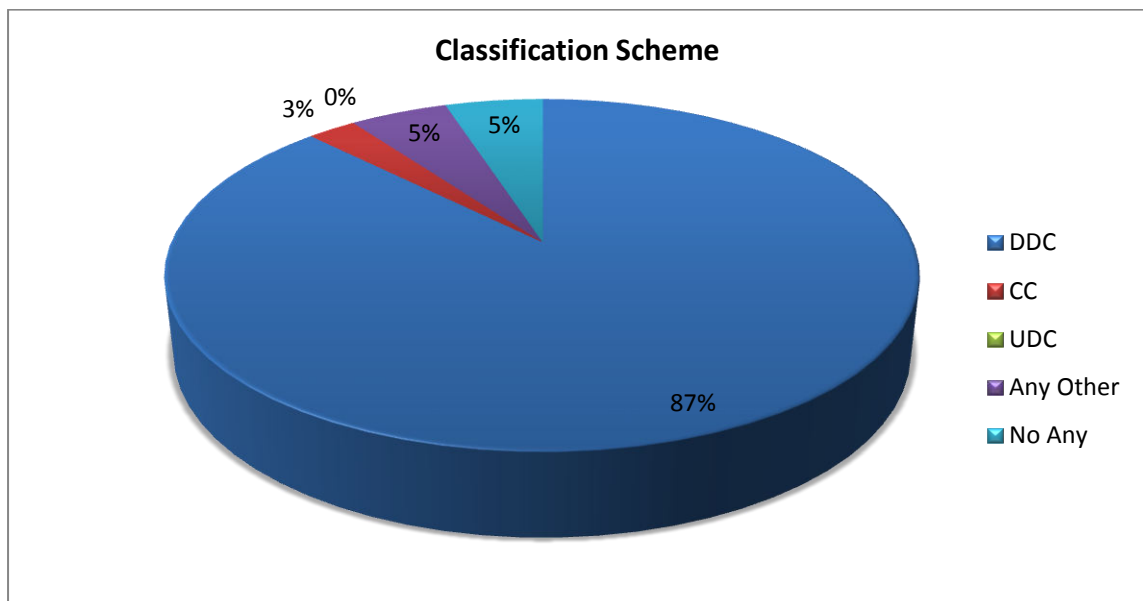


Fig. No. 4.20 Use of Classification Scheme

The table 4.4.21 and graph 4.20 shows the use of Classification Scheme in the Agricultural College Libraries. It is reveals that out of the total 40 libraries 35 (87.5%) libraries have Used DDC Classification Scheme, However only 1 (2.5%) libraries have used CC Classification Scheme. It is observed that none of the library used UDC Classification Scheme. And only 2 (5%) libraries have used any other or No Any Classification Scheme.

Table No.4.4.22 Use of Cataloguing Scheme

Sr. No	Cataloguing Scheme	No of Libraries	Percentage
1	AACR-II	24	60
2	CCC	6	15
3	Other	10	25
	Total	40	100

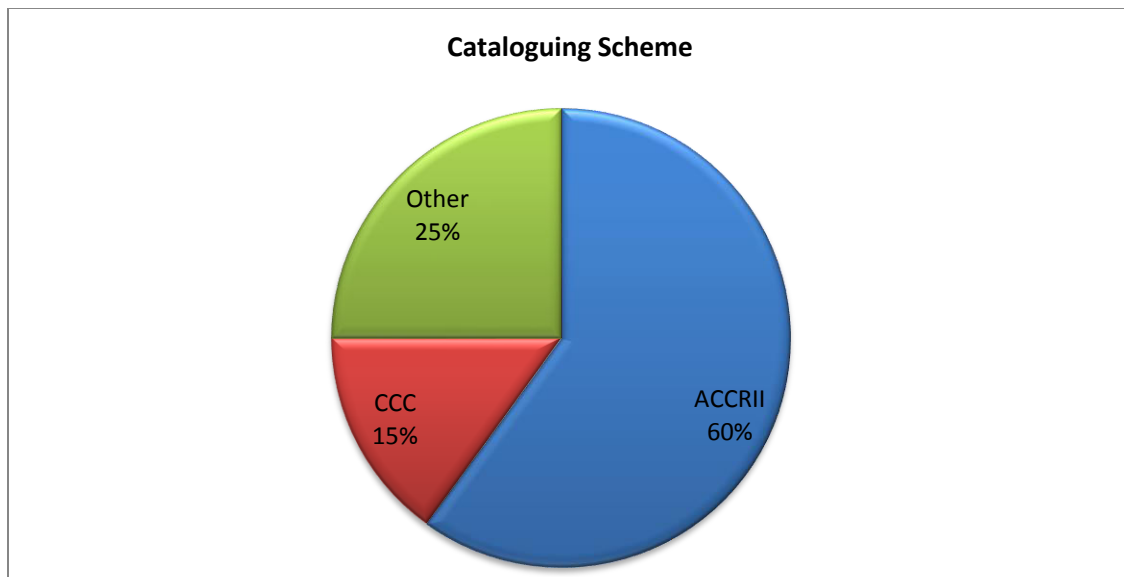


Fig. No.4.21 Cataloguing Scheme

The table 4.4.22 and graph 4.21 show the use of Cataloguing Scheme. And it is seen that out of the total 40 libraries 24 (60%) libraries have used AACR-II Cataloguing Scheme, however only 6 (15%) libraries have used CCC Cataloguing Scheme. It is observed that 10 (25%) libraries have used other Cataloguing Scheme.

4.5 LIBRARY COLLECTION

Table No 4.5.1 Total Print Resources Available in Agricultural College Libraries

Library Code	Text Books	Reference Books	Current Periodicals	Back Volumes	Thesis/ Dissertations	Project Reports	Preprints/ Reprints	Standards	Annual Reports	Other	Total
	1	2	3	4	5	6	7	8	9	10	
A	48539	5093	11	4950	0	0	0	0	500	1000	60093
B	22000	14500	19	4754	45	0	0	0	700	2000	44018
C	79005	15000	70	27372	8052	900	2800	3000	5500	5000	146699
D	23310	15539	47	2600	155	50	275	0	450	250	42676
E	800	250	10	0	0	0	0	0	10	300	1370
F	810	267	10	0	0	0	0	0	5	215	1307
G	1000	200	30	0	0	25	0	0	7	148	1410
H	2540	623	10	30	0	70	0	0	12	768	4053
I	1508	1298	10	100	0	250	0	0	0	132	3298
J	1110	1030	22	2140	0	150	0	0	0	0	4452
K	1500	500	17	65	0	0	0	0	0	0	2082
L	2189	1038	15	55	2	0	0	0	0	0	3299
M	1021	881	15	81	0	0	0	0	0	148	2146
N	3885	874	22	0	0	0	0	0	0	0	4781
O	494	548	8	0	0	0	0	0	0	0	1050
P	1417	330	12	6	110	150	45	0	0	0	2070
Q	5367	1892	30	150	5	100	0	0	0	0	7544
R	714	1523	5	0	0	0	0	0	0	935	3177
S	2250	1600	24	360	0	0	0	0	0	0	4234
T	930	327	22	0	0	0	0	0	0	0	1279
U	2347	437	10	0	6	0	0	0	0	0	2800
V	1662	468	18	67	119	302	0	0	0	641	3277
W	1107	199	9	60	0	160	0	0	0	0	1535
X	1020	1897	12	0	0	17	0	0	0	0	2946

Library Code	Text Books	Reference Books	Current Periodicals	Back Volumes	Thesis/ Dissertations	Project Reports	Preprints/ Reprints	Standards	Annual Reports	Other	Total
	1	2	3	4	5	6	7	8	9	10	
Y	1325	549	12	20	0	0	0	0	0	0	1906
Z	1023	500	5	10	0	300	0		55	0	1893
AA	1119	630	5	0	0	0	0	0	0	0	1754
AB	549	220	5	0	0	0	0	0	0	0	774
AC	3552	200	10	250	25	110	0	0	10	0	4157
AD	777	471	17	80	0	0	0	0	0	50	1395
AE	836	800	190	0	0	99	12	0	0	0	1937
AF	768	436	0	0	60	56	0	0	0	42	1362
AG	130	453	1	2	0	0	0	0	0	0	586
AH	348	259	10	0	0	185	140	0	3	0	945
AI	578	398	10	120	0	225	40	0	10	0	1381
AJ	268	243	0	33	0	0	0	0	0	0	544
AK	1300	200	10	0	0	0	0	0	0	0	1510
AL	600	20	2	0	0	0	0	0	0	0	622
AM	1800	540	8	0	0	0	0	0	0	0	2348
AN	600	100	10	0	0	0	0	0	0	0	710

The table 4.5.1 its shows that the total collection Item Wise available in the each library affiliated to the Mahatma PhueKrishiVidyapeethRahuri And it's found that most of the libraries having good collection on the Text Books i.e. A (Agriculture College Library, Pune) having Text book 48539, Mahatma PhuleKrishiVidyappeeth Library have 79,005 Text books collections. It is also observed that Constituents College Libraries have good collections compare to the Self Financed Colleges.

Table No. 4.5.1.1 No of Print Collection Available in Libraries

Sr. No	No of Print Collection	No of Libraries	Percentage
1	1-1000	6	15
2	1001-2000	14	35
3	2001-3000	6	15
4	3001-4000	4	10
5	4001-5000	5	12.5
6	5001-6000	0	0
7	6001-7000	0	0
8	7001-8000	1	2.5
9	8001-10000	0	0
10	10001-60000	2	5
11	Above 60001	2	5
	Total	40	100

The table 4.5.1.1 shows the No. of Print Collection available in the libraries including i.e Text books, Reference Books, Bound Volumes, Current Periodicals, Annual Reports, Standards, Patents, Thesis, Reprints and Preprints. And it reveals that out of the total 40 libraries 6 (15%) library's collection having in the range of 1-1000; however 14 (35%) library's collection 1001-2000 in this range. While 5001-7000 collection of not any Library's. Only 1(2.5%) Library has 7001-8000 range collection. It is observed that only 2 (5%) library's having total collection in the range of 10001-60000.

Table No.4.5.2No. of E- Resources Available in Libraries

Library Code	E-Books	E-Journals	E-Theses/ Dissertations	E-Full text Databases	E- Bibliographic Databases	Audio/Video equipment's	Course Material	Total
	1	2	3	4	5	6	7	
A	25	5158	6300	80	15	366	1	11945
B	64	5158	5200	28	5	75	1	10531
C	213	5158	7500	190	23	115	2	13201
D	65	3372	155	25	17	350	60	4044
E	25	1500	25	1	5	20	1	1577
F	27	27	5	3	2	20	1	85
G	0	7500	0	0	0	10	5	7515
H	0	11	0	0	0	0	0	11
I	0	0	0	0	0	0	0	0
J	0	0	0	0	0	120	0	120
K	0	0	0	0	0	0	0	0
L	0	0	0	0	0	0	0	0
M	0	0	0	0	0	17	0	17
N	0	0	0	0	0	0	0	0
O	0	0	0	0	0	0	0	0
P	0	6	0	0	0	0	0	6
Q	0	90	0	0	0	1	0	91
R	0	4	0	0	0	0	0	4
S	50	0	0	0	0	80	0	130

Library Code	E-Books	E-Journals	E-Theses/ Dissertations	E-Full text Databases	E- Bibliographic Databases	Audio/Video equipment's	Course Material	Total
	1	2	3	4	5	6	7	
T	0	0	0	0	0	0	0	0
U	0	0	0	1	0	10	1	12
V	282	7	0	5	0	0	0	294
W	50	0	0	0	0	80	0	130
X	0	2	17	0	0	0	0	19
Y	0	16	0	0	0	0	0	16
Z	0	0	0	0	0	0	0	0
AA	0	0	0	0	0	5	0	5
AB	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	10	10
AD	0	0	0	0	0	0	16	16
AE	0	0	0	0	0	0	0	0
AF	0	0	0	0	0	0	0	0
AG	0	0	0	0	0	0	0	0
AH	0	0	0	0	0	10	0	10
AI	0	0	0	0	0	25	10	35
AJ	0	0	0	0	0	0	0	0
AK	0	10	0	0	0	0	0	10
AL	50	0	0	0	0	80	0	130
AM	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0

The table No.4.5.2 its shows that the total e-collection available in the library affiliated to the Mahatma Phue Krishi Vidyapeeth Rahuri And it's found that most of the don't have good collection on e-resources only Constituents college libraries have good collection of e-journals and e-thesis i.e. A (Agriculture College Library, Pune) having 5158 (e-journals) and 6300 e-theses, C (Mahatma Phule Krishi Vidyapeeth Library) have 13201 e-resources. It is also observed that Constituents College Libraries have good collections compare to the Self Financed College Libraries.

Table No. 4.5.2.1 Total Number of E- Collection

Sr. No	No of E-Collection	No of Libraries	Percentage
1	0	14	12.5
2	1-100	15	21.25
3	101-200	4	8.75
4	201-300	1	6.25
5	301-1000	0	6.25
6	1001-50000	2	10
7	5001-10000	1	10
8	10001-15000	3	7.5
	Total	40	100

The table 4.5.2.1 shows the No. of E-Collection. It is reveals that out of the total 40 libraries 14 (12.5%) library's collection has 0 No. of collection; however 15 (21.25%) library's collection has 1-100 in this range. It is observed that 1only 2 (10%) library's collection has 1001-50000 in this range. While 301-1000 collection of not any (0%) Library, Only 1(2.5%) Library has 5001-10000 range of collection.

4.6 ICT INFRASTRUCTURE

Table No. 4.6.1 Hardware Available in Libraries

Library Code	Computers	Laptop	Tablets	Server	Printer	Scanner	Barcode Reader	E-Book Reader	L.C.D. Projector	Television with VCR	Photo Copy Machine	Audio Visual Equipment's	CCTV	Telephone	Fax	Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1 to 15
A	43	1	1	2	4	2	2	2	1	0	1	1	12	1	1	74
B	40	1	0	1	2	2	1	1	0	1	2	1	19	1	0	72
C	80	1	0	4	4	2	1	4	2	1	2	1	20	10	1	133
D	47	1	0	3	5	3	2	2	1	1	1	4	15	1	1	87
E	4	0	0	0	1	1	0	0	1	0	1	0	0	1	1	10
F	3	0	0	1	1	1	0	0	1	0	1	0	0	2	0	10
G	2	0	0	1	1	0	1	0	0	0	0	0	0	0	0	5
H	5	0	0	0	1	1	1	0	0	0	0	0	0	0	0	8
I	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
J	40	1	0	0	1	1	1	0	0	0	1	0	5	1	1	52
K	1	0	0	0	1	0	0	0	0	0	1	0	3	1	1	8
L	1	0	0	0	1	1	0	0	0	0	1	0	1	1	1	7
M	5	1	0	1	0	1	1	0	6	1	1	2	0	1	1	21

Library Code	Computers	Laptop	Tablets	Server	Printer	Scanner	Barcode Reader	E-Book Reader	L.C.D. Projector	Television with VCR	Photo Copy Machine	Audio Visual Equipment's	CCTV	Telephone	Fax	Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1 to 15
N	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3
O	2	0	0	1	1	1	0	0	1	1	0	0	0	1	1	9
P	2	0	0	1	1	1	0	0	1	1	0	0	0	1	1	9
Q	53	25	0	1	1	0	1	0	0	1	0	0	10	0	0	92
R	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
S	2	0	0	0	0	0	0	0	0	0	2	1	0	0	0	5
T	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3
U	6	0	0	1	1	1	0	0	1	0	1	1	0	1	0	13
V	13	0	0	0	1	1	0	0	0	0	1	0	0	0	0	16
W	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
X	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3
Y	5	0	0	0	1	1	1	0	0	0	0	0	0	0	0	8
Z	5	0	0	0	1	1	0	0	1	1	1	0	0	1	1	12
AA	1	0	0	1	1	1	0	0	1	1	1	0	5	1	1	14
AB	1	0	0	1	1	1	0	0	1	1	1	0	5	1	1	14

Library Code	Computers	Laptop	Tablets	Server	Printer	Scanner	Barcode Reader	E-Book Reader	L.C.D. Projector	Television with VCR	Photo Copy Machine	Audio Visual Equipment's	CCTV	Telephone	Fax	Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1 to 15
AC	10	0	0	0	1	1	0	0	2	1	1	1	2	1	1	21
AD	5	1	1	0	1	1	1	0	6	1	1	1	0	1	1	21
AE	1	0	0	0	1	1	0	0	1	1	1	0	0	0	0	6
AF	5	0	0	0	1	1	0	0	1	1	1	0	0	1	1	12
AG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AH	1	0	0	0	0	0	0	0	1	0	1	0	0	1	0	4
AI	1	1	0	0	0	0	0	0	1	0	1	0	0	1	0	5
AJ	20	0	0	0	1	1	0	0	1	1	1	1	0	2	1	29
AK	4	0	0	1	1	0	1	0	0	1	0	0	0	0	0	8
AL	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3
AM	20	1	0	0	1	1	0	0	1	0	1	1	0	1	1	28
AN	2	0	0	1	1	1	1	0	0	0	0	0	0	0	0	6

The table no. 4.6.1 reveals that total no of Hardware's available in the Agricultural College Libraries. The Code no A to F indicated Constituents Colleges and Code G to AN Indicated all the Self Financed College. In the out of 6 Constituents Colleges Mahatma PhuleKrishiVidyapeeth Library on rank first with 133 hardware's including 80 Computers, and 4 Servers, and 20 CCTV Cameras for the Security Purpose, Followed by Agriculture College Library of Dhule with 87 Hardware's including 47 computers and 3 servers. On a rank three have Agriculture College Library Pune with 74 hardware's including 43 Computers, 1 Laptop, 2 Separate Library servers and etc.

It is also shows that the Self Financed College Libraries situation regarding the hardware's, that is only one library have 92 hardware's that is Agricultural College Library Baramati followed by Pad. Dr. D. Y. Patil College of Agricultural Business management College Library with 52 hardware's including 40 Computers.

Out of 6 Constituents College Libraries all have good ICT Infrastructure but out of 34 Self Financed College Libraries 18 libraries have only 1 to 2 Computers and One library don't have till any desktop in the library, Most of the Self Financed College Libraries don't have separate Library servers, and CCTV cameras for the Security Purpose.

Hence the **Hypothesis No.1 There is Significant Difference in ICT Infrastructure Facility in Self Financed and Constituents Agricultural College Libraries is Valid.**

Table No. 4.6.1.1 Total Hardware VS Category of the Colleges

Sr. No	Hardware	Constituents College (N=6)	Percentage	Self-Finance College (N= 34)	Percentage
1	Computers	217	56.22	222	49.22
2	Laptop	4	1.04	30	6.65
3	Tablets	1	0.26	1	0.22
4	Server	11	2.85	10	2.22
5	Printer	17	4.40	24	5.32
6	Scanner	11	2.85	21	4.66
7	Barcode Reader	6	1.55	9	2.00
8	E-Book Reader	9	2.33	0	0.00
9	L.C.D. Projector	6	1.55	26	5.76
10	Television with VCR	3	0.78	13	2.88
11	Photo Copy Machine	8	2.07	19	4.21
12	Audio Visual Equipment's	7	1.81	10	2.22
13	CCTV	66	17.10	31	6.87
14	Telephone	16	4.15	20	4.43
15	Fax	4	1.04	14	3.10
16	Other	0	0.00	1	0.22
	Total	386	100.00	451	100.00

The table 4.6.1.1 and following Fig. 4.22 shows the Total Hardware VS Category of the Colleges. It is reveals that in the 6 Constituents colleges having 386 total hardware's out of this 217 (56.22%) having Computers; however 66 (17.10%)having CCTV. 4 (1.04%) colleges having Fax. And in the 34 Self Financed Colleges having total 451 hardware's out of this 222 (49.22%) have Computers, 10 (2.22%) servers and

etc.Hence the **Hypothesis No.1 “There is Significant Difference in ICT Infrastructure Facility in Self Financed and Constituents Agricultural College Libraries” is Valid.**

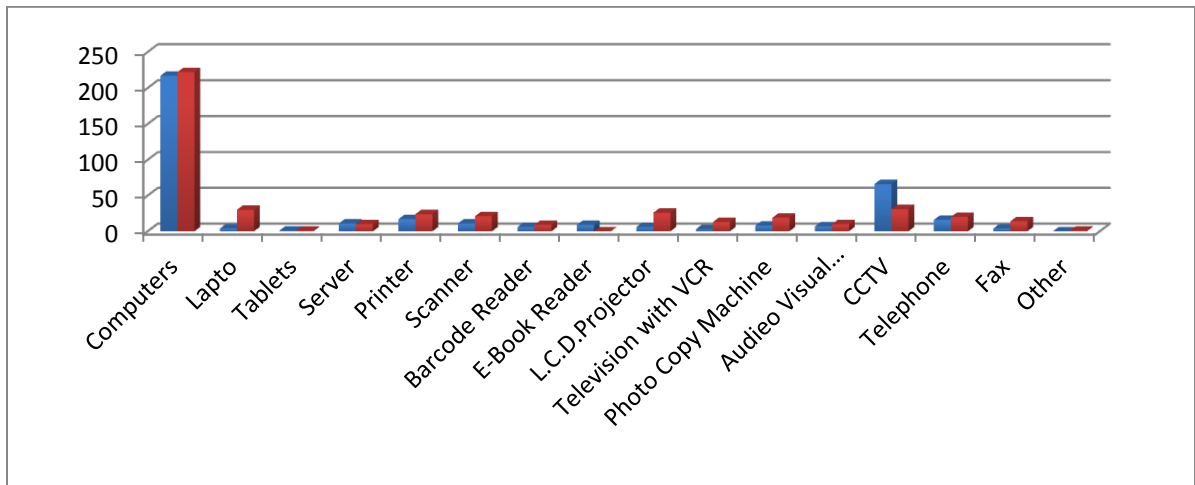


Fig.No 4.22 Total Hardware

Table No. 4.6.2 Library Automation Software

Sr. No	Type of Library Software	Automation Software	Percentage
1	In House	3	7.5
2	Only Commercial	19	47.5
3	Only Open Source Software	3	7.5
4	Commercial & Open Source Both	1	2.5
5	Not Available	14	35
	Total	40	100

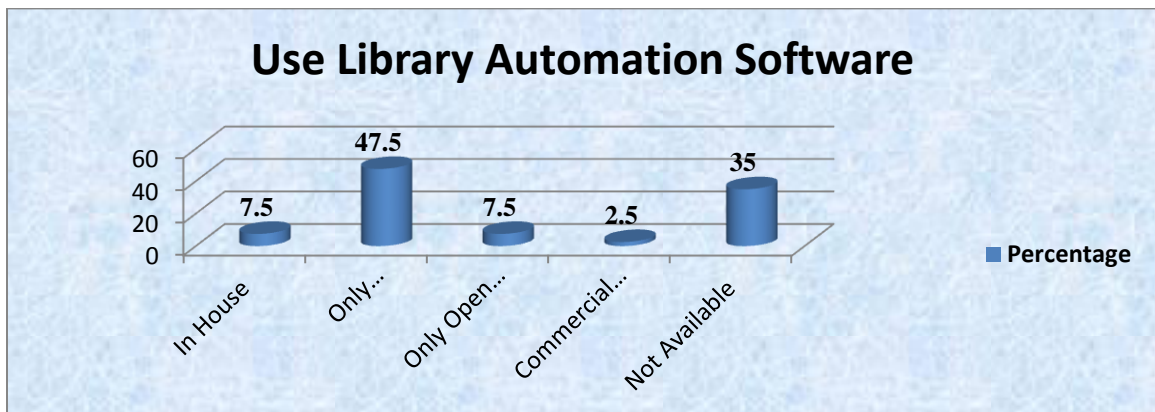


Fig. No. 4.23 Use Library Automation Software

The table 4.6.2 and graph 4.23 shows the out of 40 libraries 19 (47.5%) libraries used only commercial software, followed by 3 (7.5%) libraries have In House Software and only 1 Library have open source as well as commercial software for the library Automation, and it is observed that 14 (35%) libraries don't have any Library Automation software and all the 14 Libraries are the Self Financed College Libraries.

Table No. 4.6.3 Digital Library Software

Sr. No	Type of Library Software	Digital Library Software	Percentage
1	In House	2	5
2	Only Commercial	6	15
3	Only Open Source Software	0	0
4	Commercial & Open Source Both	2	5
5	Not Available	30	75
	Total	40	100

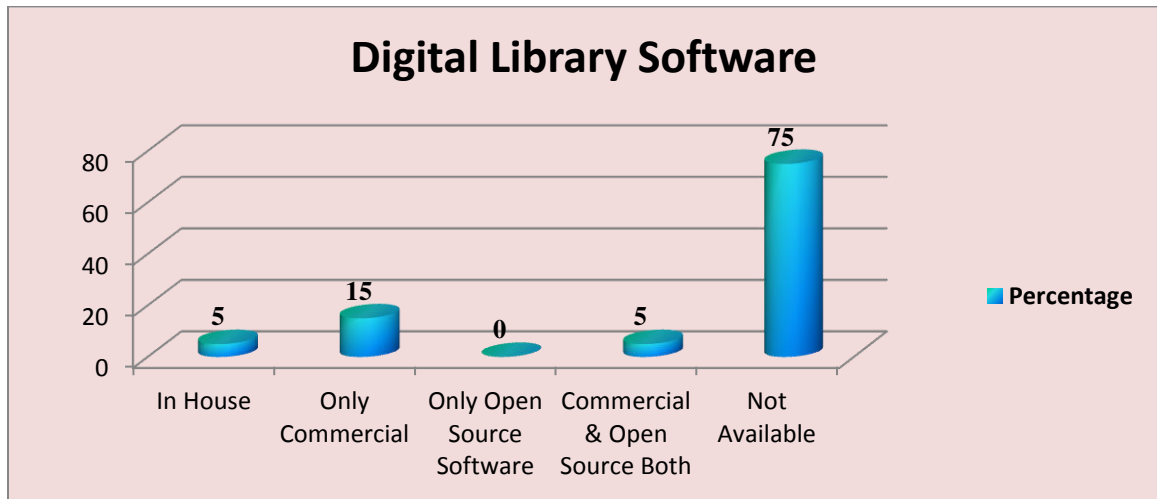


Fig.No.4.24 Digital Library Software

The table 4.6.3 and graph 4.24 shows the Availability of Digital Library Software's. It is seen that out of the total 40 libraries 6 (15%) libraries used commercial Digital library software, followed by 2 (5%) libraries have In House Software and

Commercial as well as Open Source Software. And it is observed that 30 (75%) libraries don't have any digital library software.

Table No. 4.6.4 Institutional Repository Software

Sr. No	Type of Library Software	Institutional Repository Software	Percentage
1	In House	1	2.5
2	Only Commercial	3	7.5
3	Only Open Source Software	1	2.5
4	Commercial & Open Source Both	1	2.5
5	Not Available	34	85
	Total	40	100

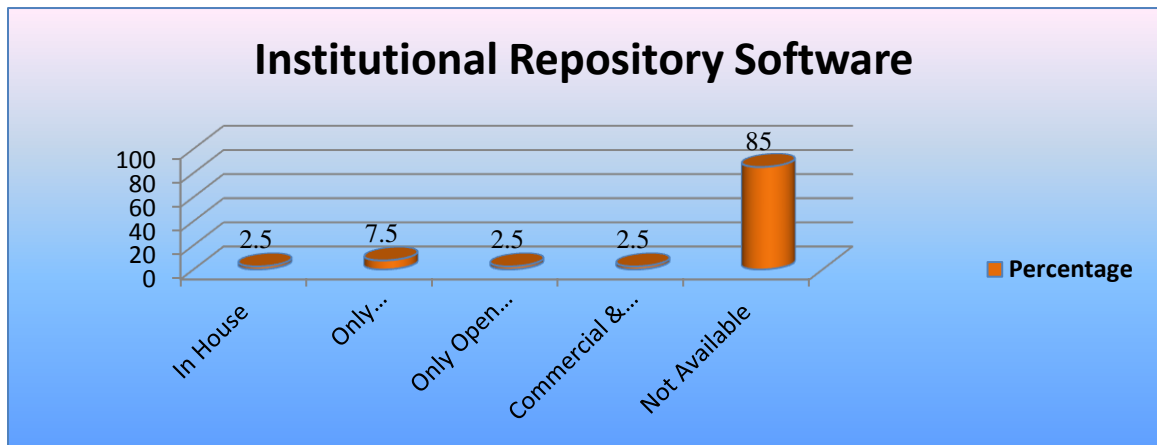


Fig.No.4.25 Institutional Repository Software

The table 4.6.4 and Fig. 4.25 shows the availability of Institutional Repository Software. It reveals that out of the total 40 libraries 3 (7.5%) libraries have only commercial digital library software, however only 1 (2.5%) libraries used In House software and Commercial as well as Open source software. It is observed that 34 (85%) libraries don't have any digital library software.

Table No. 4.6.5E-Learning Software

Sr. No	Type of Library Software	E-Learning Software	Percentage
1	In House	1	2.5
2	Only Commercial	2	5
3	Only Open Source Software	2	5
4	Commercial & Open Source Both	0	0
5	Not Available	35	87.5
	Total	40	100

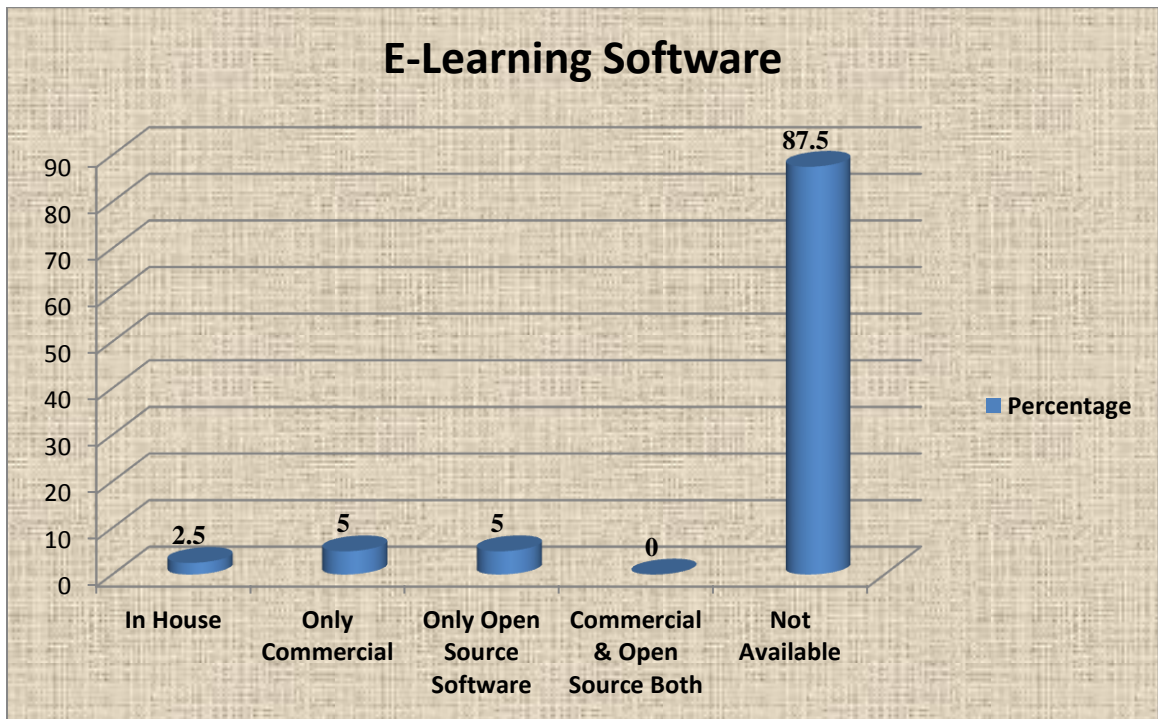


Fig. No. 4.26 E-Learning Software

The table 4.6.5 and Fig. 4.26 shows the Use of E-Learning Software. It is reveals that out of the total 40 libraries only 2 (5%) libraries used commercial software as well as Open Source Software for the E-Learning purpose, and 35(87.5%) libraries don't used any e-learning software in their libraries.

Table No. 4.6.6 Office Automation Software

Sr. No	Type of Library Software	Office Automation Software	Percentage
1	In House	1	2.5
2	Only Commercial	2	5
3	Only Open Source Software	2	5
4	Commercial & Open Source Both	0	0
5	Not Available	35	87.5
	Total	40	100

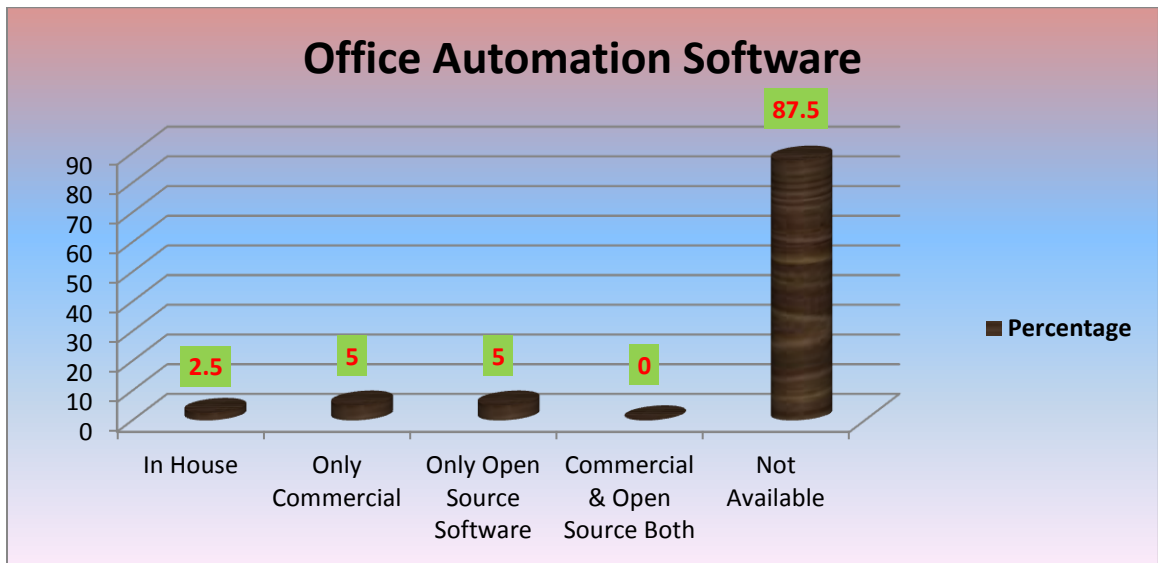


Fig.No 4.27 Office Automation Software

The table 4.6.6 and Fig. 4.27 shows the Use of Office Automation Software. It is revealed that out of the total 40 libraries 2 (5%) libraries have only commercial software, followed by only 2 (5%) libraries have Open source office automation software. It is observed that 35 (87.5%) libraries not used any office automation software.

4.7 LIBRARY SERVICES

Table No. 4.7.1 Manual Library Services

Sr. No.	Manual Services	Yes	No
1	Circulation of Books	40 (100)	0(0.0)
2	Reference & Information Services	40 (100)	0(0.0)
3	Referral Services	21 (52.5)	19 (47.5)
4	Current Awareness Services	17 (42.5)	23(57.5)
5	Book Bank	22 (55)	18(45)
6	Catalogue Service	18(45)	22(55)
7	Photocopying	27(67.5)	13(32.5)
8	Inter Library Loan	17(42.5)	23(57.5)
9	User Education/Library Orientation/ Library Literacy	17(42.5)	23(57.5)
10	News Paper Clipping	37(92.5)	3(7.5)
11	Translation Services	3(7.5)	37(92.5)
12	Open Access Service	31(77.5)	9(22.5)

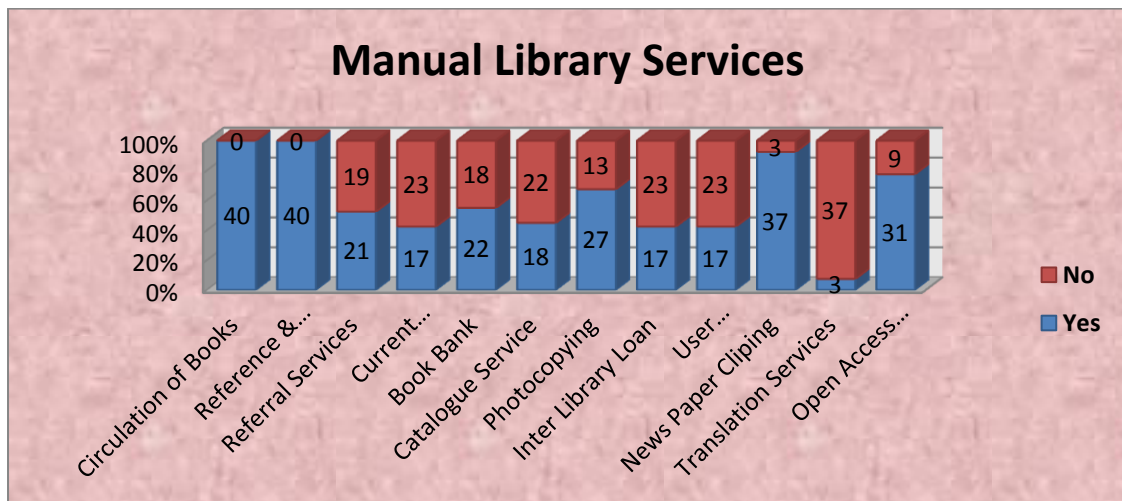


Fig. No. 4.28 Manual Library Services

The table 4.7.1 and Fig. 4.28 shows the Manual Library Services provide by the libraries to the users and It is reveals that out of the total 40 libraries all 40 (100%)

libraries have provided circulation of books and reference and information service, followed by 27 (67.5%) provide the Photocopy Service, 21 (52.5%) libraries have provided Referral services and 19 (47.5%) libraries have not provided the referral service to the users, However only 3 (7.5%) libraries have provided Translation service and 37 (92.5%) libraries have not provided.

Table 4.7.1.1 Manual Library Services Vs Categories of the Colleges

Sr. No	Manual Services	Constituents Colleges (n=6)		Self-Financed Colleges (n=34)		Chi. Sq.	P-Value
		Yes	No	Yes	No		
1	Circulation of Books	6(100.00)	0(0.00)	34(100.00)	0(0.00)	11.144	0.001
2	Reference & Information Services	6(100.00)	0(0.00)	34(100.00)	0(0.00)		
3	Referral Services	5(83.33)	1(16.67)	16(47.06)	18(52.94)		
4	Current Awareness Services	5(83.33)	1(16.67)	12(35.29)	22(64.71)		
5	Book Bank	4(66.67)	2(33.33)	18(52.94)	16(47.06)		
6	Catalogue Service	5(83.33)	1(16.67)	13(38.24)	21(61.76)		
7	Photocopying	6(100.00)	0(0.00)	21(61.76)	13(38.24)		
8	Inter Library Loan	4(66.67)	2(33.33)	13(38.24)	21(61.76)		
9	User Education/Library Orientation/ Library Literacy	5(83.33)	1(16.67)	12(35.29)	22(64.71)		
10	News Paper Clipping	6(100.00)	0(0.00)	31(91.18)	3(8.82)		
11	Translation Services	1(16.67)	5(83.33)	2(5.88)	32(94.12)		
12	Open Access Service	4(66.67)	2(33.33)	27(79.41)	7(20.59)		

Note:-Chi-Sq = 11.144, DF = 1, P-Value = 0.001

The table 4.7.1.1 shows the Library Services Vs Categories of the Colleges. It is observed that out of the total 6 Constituents college libraries All 6 (100%) libraries have provided circulation of books, reference and information service and Newspaper

Clipping service, followed by 5 (83.33%) libraries have provided Referral services, Catalogue Service and User Education/Library Orientation/ Library Literacy, 4 (66.67%) libraries provide the Book bank, Interlibrary Loan and Open Access services to the users only 1 (16.67%) library provide the Translation service and 5 (83.33%) libraries don't provide the manual translation service to the users.

It is also observed that the out of the total 34 Self financed libraries all 34 (100%) libraries have provided circulation of books, reference and information service, However only 2 (5.88%) libraries have provided Translation service and 32 (94.11%) libraries have not provided, 16 (47.06%) libraries provide the Referral Service, and only 12 (35.29%) Libraries provide CAS and User Education/Information Literary services.

The chi-square test is also administered to test the **hypothesis No.3 that there is a significant difference in manual library services among the libraries of 'constituents', and 'self-financing' institutions. Level of significance (α) = 0.05, P-Value = 0.001 is less than level of significance. Hence the hypothesis is Valid.**

Table No. 4.7.2 Computerized Services

Sr. No	Computerized Services	Yes	No
1	Circulation	20 (50)	20 (50)
2	Reference Service	14(35)	26(65)
3	Current Awareness Service	4(10)	36(90)
4	OPAC	12(30)	28(70)
5	Alerting Service	7(17.5)	33(82.5)
6	Bulletin Board Service	8(20)	32(80)

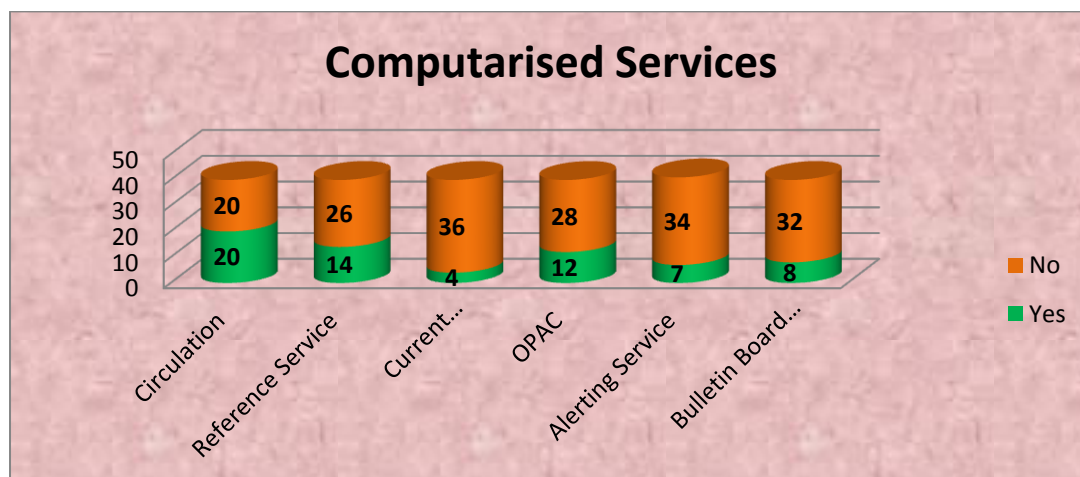


Fig. No. 4.29 Computerized Services

The table 4.7.2 and graph 4.29 shows the computerized services. It is reveals that out of the total 40 libraries 20(50%) libraries have provided circulation through computerized and 20 (50%) libraries are not provided this service through computer, followed by 14 (35%) libraries have provided Referral services and 26 (65%) libraries are not provided this service, However only 7 (17.5%) libraries have provided Alerting service and 33 (82.5%) libraries have not provided this service to the users through computerization.

Table No. 4.7.2.1 Computerized Services VS Categories of the Colleges

Sr. No	Computerized Services	Constituents Colleges (n=6)		Self-Financed Colleges (n=34)		Chi-Sq.	P-Value
		Yes	No	Yes	No		
1	Circulation	6(100)	0(0)	14(41.18)	20(58.82)	52.339	0.000
2	Reference Service	3(50)	3(50)	11(32.35)	23(67.65)		
3	Current Awareness Service	4(66.67)	2(33.33)	0(0)	34(100)		
4	OPAC	6(100)	0(0)	6(17.65)	28(82.35)		
5	Alerting Service	4(66.67)	2(33.33)	3(8.82)	31(91.18)		
6	Bulletin Board Service	5(83.33)	1(16.67)	3(8.82)	31(91.18)		

Note:-Chi-Sq = 52.339, DF = 1, P-Value = 0.000

The table 4.7.2.1 shows the Computerized Services VS Categories of the Colleges. It is found that out of the total 6 Constituents college libraries all 6 (100%) libraries have provided circulation and OPAC service through computers, followed by 5 (83.33%) libraries have provided Bulletin Board Service and 4 (66.67%) provide Current Awareness Service and alerting service to the users.

It is also observed that the out of 34 libraries 14 (41.18%) libraries have provided circulation of books and 20 (58.82%) libraries have not provided, However only 3 (8.82%) libraries have provided Alerting Service and Bulletin Board service and 31 (91.18%) libraries have not provided.

The chi-square test is also administered to test the **hypothesis No.3 that there is a significant difference in computerized library services among the libraries of ‘constituents’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. Hence the hypothesis is Valid.**

Table No. 4.7.3 ICT Based Services

Sr. No	ICT Based Services	Yes	No
1	Digital Library Service	8(20)	32(80)
2	Institutional Repository	5(12.5)	35(87.5)
3	Retrieval of CD ROM		
	Databases	7(17.5)	33(82.5)
4	Internet Browsing	22(55)	18(45)
5	Online Database Service	9(22.5)	31(77.5)
6	Web OPAC	9(22.5)	31(77.5)
7	News Paper Clipping	11(27.5)	29(72.5)
8	E-mail/ List Forum	13(32.5)	27(67.5)
9	Ask A Librarian	7(17.5)	33(82.5)

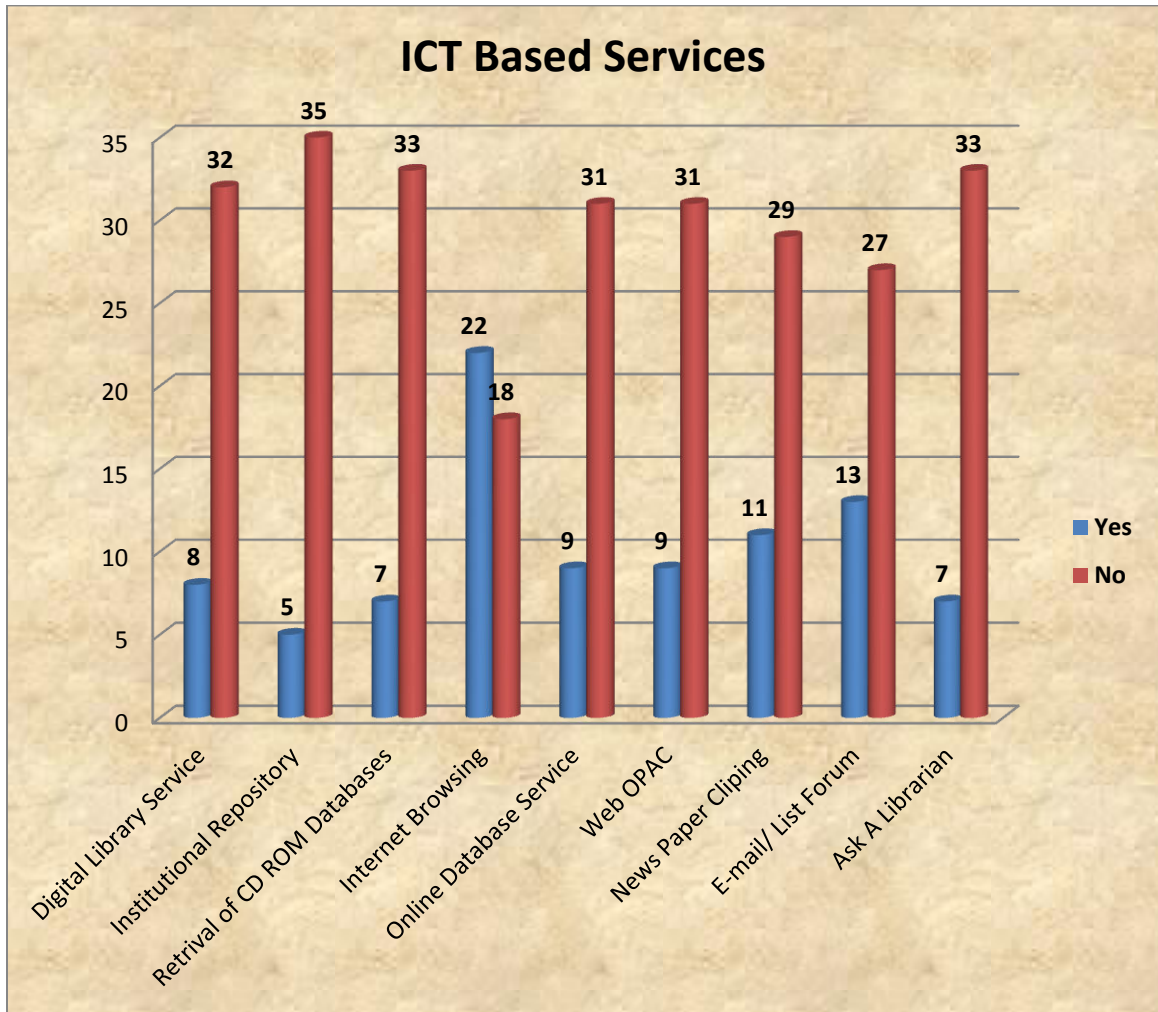


Fig. No. 4.30 ICT Based Services

The table 4.7.3 and graph 4.30 shows the ICT Based services. It is reveals that out of the total 40 libraries 22 (55%) libraries have provided Internet Browsing service and 18 (45%) libraries have not provided this service to the users, followed by 11 (27.5%) libraries have provided Newspaper Clipping service. It is also shows that 13 (32.5%) libraries have provided E-mail/ List Forum and 27 (67.5%) libraries are not provided this service, however only 7 (17.5%) libraries have provided Retrieval of CD ROM Databases service and 33 (82.5%) libraries have not provided this service to the users.

Table No. 4.7.3.1 ICT Based Services VS Categories of the Colleges

Sr. No	ICT Based Services	Constituents Colleges (n=6)		Self-Financed Colleges (n=34)		Chi-Sq.	P-Value
		Yes	No	Yes	No		
1	Digital Library Service	6(100)	0(0)	2(5.88)	32(94.12)	92.705	0.000
2	Institutional Repository	4(66.67)	2(33.33)	1(2.94)	33(97.06)		
3	Retrieval of CD ROM Databases	4(66.67)	2(33.33)	3(8.82)	31(91.18)		
4	Internet Browsing	6(100)	0(0)	16(47.06)	18(52.94)		
5	Online Database Service	4(66.67)	2(33.33)	5(14.71)	29(85.29)		
6	Web OPAC	5(83.33)	1(16.67)	4(11.76)	30(88.24)		
7	News Paper Clipping	4(66.67)	2(33.33)	7(20.59)	27(79.41)		
8	E-mail/ List Forum	5(83.33)	1(16.67)	8(23.53)	26(76.47)		
9	Ask A Librarian	4(66.67)	2(33.33)	3(8.82)	31(91.18)		

Note:-Chi-Sq = 92.705, DF = 1, P-Value = 0.000

The table 4.7.3.1 shows the ICT Based Services VS Categories of the Colleges. It is found that out of all 6 constituents college libraries 6 (100%) libraries have provided Digital Library service and Internet Browsing Service, followed by 5 (83.33%) libraries have provided Web OPAC and E-mail/ List Forum, 4 (66.67%) libraries provide IR, Retrieval of CD ROM Database, News Paper Clipping and Ask A Librarian Service to the Users.

It is also observed that the out of the total 34 self Financed college libraries 2 (5.88%) libraries provide Digital Library Services, Only 1 (2.94%) library provide IR Service, 3 (8.82%) libraries provide Retrieval of CD ROM Database as well Ask A

librarian Service , 16 (47.06%) libraries have provided Internet Browsing and 18 (52.94%) libraries have not provided this service,

The chi-square test is also administered to test the **hypothesis No.3 that there is a significant difference in ICT Based library services among the libraries of ‘constituents’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. Hence the hypothesis is Valid.**

Table No. 4.7.4 Ad on Services

Sr. No	Ad On Services	Yes	No
1	Library Portal	2(5)	38(95)
2	Mobile Based Services	3(7.5)	37(92.5)
3	Wi-Fi Services	11(27.5)	29(72.5)

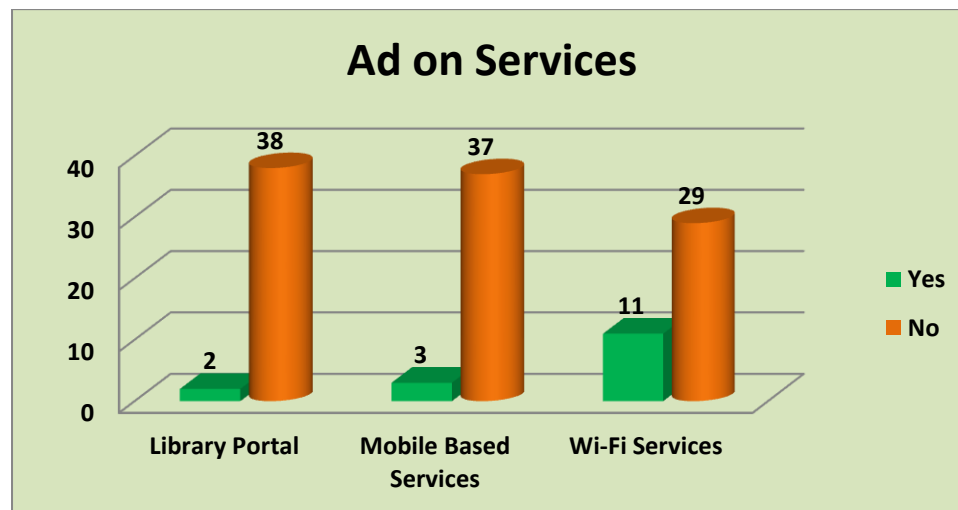


Fig. No. 4.31 Ad on Services

In the table 4.7.4 and graph 4.31 seen the Ad on services provide to the users. Out of the total 40 libraries 11 (27.5%) libraries have provided Wi-Fi Services and 29 (72.5%) libraries have not provided this service, followed by 3 (7.5%) libraries have provided Mobile Based service and 37 (92.5%) libraries have not provided this

service, however only 2 (5%) libraries have Library Portal service and 38(95%) libraries don't provide mobile based services to the users.

Table No. 4.7.4.1 Ad on Services VS Categories of the Colleges

Sr. No	Ad On Services	Constituents Colleges (n=6)		Self-Financed Colleges (n=34)		Chi-Sq.	P-Value
		Yes	No	Yes	No		
1	Library Portal	2(33.33)	4(66.67)	0(0)	34(100)	22.362	0.000
2	Mobile Based Services	3(50.00)	3(50.00)	0(0)	34(100)		
3	Wi-Fi Services	4(66.67)	2(33.33)	8(23.53)	26(76.46)		

Note:-Chi-Sq = 22.362, DF = 1, P-Value = 0.000

The table 4.7.4.1 found that the Ad -On-Services VS Categories of the Colleges. Out of 6 Constituents college libraries 4 (66.67%) libraries have provided Wi-Fi services and 2 (33.33%) libraries have not provided this service, followed by 3 (50.00%) libraries have provided Mobile Based Service, while only 2 (33.33%) libraries have provided Library Portal service and 4 (66.67%) libraries have not provided this service to the users.

It is also observed that the out of the total 34 Private College libraries 0 (0%) libraries not provide Library portal as well as Mobile based services, However only 8 (23.33%) libraries have provided Wi-Fi Service to the users.

The chi-square test is also administered to test the **hypothesis No.3 that there is a significant difference in Ad-On-library services among the libraries of 'constituents', and 'self-financing' institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. Hence the hypothesis is Valid.**

4.8LIBRARY BUDGET:-

Table No. 4.8.1Range of Library Budget of 2014-15 in (RS)

Sr. No	Budget	No of Libraries	Percentage
1	1000-50000	1	2.5
2	50001-100000	12	30
3	100001-150000	4	10
4	150001-200000	6	15
5	200001-250000	3	7.5
6	250001-300000	3	7.5
7	300001-350000	1	2.5
8	350001-400000	2	5
9	400001-450000	0	0
10	450001-500000	3	7.5
11	500001-550000	0	0
12	550001-600000	0	0
13	600001-650000	2	5
14	Above 650001	3	7.5
	Total	40	100

The table 4.8.1 shows the Library Budget for the year 2014-2015 in Rs. It is revealed that out of the total 40 libraries only 1 (2.5%) libraries Budget has in the range Rs.1000-50000, followed by 12 (30%) libraries Budget have in the range of Rs.50001-100000. It is also shows that 6 (15%) libraries Budget have in the range of Rs. 150001-200000, while only 1 (2.5%) libraries Budget have in the range of 300001-350000. And 2 (5%) libraries have total budget in between Rs.600001-650000, only 3 (7.5%) libraries have budget of current year on above Rs.650001.

Table No. 4.8.2 Library Budget on Print Resources in 2011 to 2014

Library Code	Books			Periodicals			Back Volumes			Magazines			Other			Total
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	
A	3394074	2795316	504785	0	0	0	15000	0	7000	3000	5000	2000	0	0	0	6726175
B	2636941	1738423	800000	45000	49900	40000	0	0	0	15000	20000	25000	0	0	0	5370264
C	4678316	3925320	2000000	95431	116403	15000	46725	0	0	0	0	0	0	0	0	10877195
D	2000000	2300000	1000000	500000	500000	350000	0	0	0	10000	10000	10000	0	0	0	6680000
E	0	0	1000000	0	0	50000	0	0	0	0	0	0	0	0	0	1050000
F	0	0	1000000	0	0	50000	0	0	0	0	0	0	0	0	0	1050000
G	35000	35000	35000	5000	5000	5000	5000	5000	5000	0	0	0	0	0	0	135000
H	235000	320000	380000	12000	18000	18000	30000	30000	33000	32000	30000	30000	80000	100000	130000	1478000
I	150000	175000	100000	50000	60000	70000	0	0	0	0	0	0	0	0	0	605000
J	40000	35000	65849	0	0	0	0	0	0	10000	10000	10000	0	0	0	170849
K	10000	100000	200000	4000	4000	4000	0	0	0	4000	4000	4000	0	0	400000	734000
L	50000	75000	80000	70000	9000	10000	0	0	0	5000	8000	15000	0	0	0	322000
M	150000	300000	400000	10000	15000	15000	0	0	0	1500	2000	2000	0	0	0	895500
N	300000	350000	400000	40000	50000	60000	5000	5500	6000	4400	5200	6200	0	0	0	1232300
O	0	25380	4160	0	0	437	0	0	0	0	0	5439	0	0	2315	37731
P	39631	39420	39165	0	0	0	0	0	0	0	0	5939	0	0	2315	126470
Q	100000	100000	100000	20000	20000	20000	10000	10000	10000	0	0	0	0	0	0	390000
R	145000	250000	300000	0	0	0	0	0	0	10000	10000	10000	0	0	0	725000
S	45766	90885	121339	30526	21720	24040	0	0	0	0	0	0	0	0	0	334276
T	170000	200000	250000	10000	11500	12000	1500	2000	2500	2500	2700	3300	0	0	0	668000
U	200000	250000	300000	0	30000	30000	0	0	0	0	0	0	0	0	0	810000
V	70840	78583	90978	12560	10340	18298	0	0	0	7000	5000	7890	0	0	0	301489

Library Code	Books			Periodicals			Back Volumes			Magazines			Other			Total
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	
W	22356	81579	317115	5800	6820	15720	0	0	0	0	0	0	0	0	0	449390
X	43487	49575	78989	6540	7990	12578	0	0	0	7863	9990	9990	0	0	0	227002
Y	200000	345000	400000	10000	18000	25000	30000	35000	35000	38000	40000	50000	10000	12000	15000	1263000
Z	113985	46762	38780	0	0	0	10000	0	0	1500	1600	3000	0	0	0	215627
AA	43444	20500	70300	3000	2000	5000	0	0	0	2300	4300	7000	0	0	0	157844
AB	38900	470000	52500	7000	9000	12000	0	0	0	3400	6300	7900	0	0	0	607000
AC	75000	85000	120000	10000	15000	25000	5000	0	0	2000	2000	2000	0	0	0	341000
AD	125000	300000	300000	10000	15000	15000	0	0	0	1500	2000	2000	0	0	0	770500
AE	45500	23300	78000	4000	6000	9000	0	0	0	7000	9000	5000	0	0	0	186800
AF	35000	47970	32765	0	0	0	0	0	0	1000	1300	1000	800	2800	1000	123635
AG	13764	52742	127000	0	0	0	0	0	0	600	600	1000	0	0	0	195706
AH	50000	60000	40000	5000	3000	7000	0	0	0	2000	0	2000	0	0	0	169000
AI	0	70000	80000	0	10000	12000	0	5000	5000	0	2000	2000	3000	0	0	189000
AJ	0	50044	79000	0	0	0	0	0	0	0	0	5000	0	0	0	134044
AK	0	30000	89000	0	20000	20000	0	0	0	0	0	0	0	0	0	159000
AL	0	0	27350	0	0	14000	0	0	0	0	0	0	0	0	0	41350
AM	0	0	300000	0	0	7000	0	0	0	0	0	0	0	0	10000	317000
AN	0	0	100000	0	0	10000	0	0	0	0	0	0	0	0	0	110000

In the table no. 4.8.2 researchers evaluated that the total budgets spent on the print resources in the year of 2011-14. And it is found that out of the all 40 libraries all the libraries spent their budgets on the Text books as well as on the on the Current Periodicals. The Constituents College Libraries (Code A to F) have very high budgets with compare to the Self financed college libraries. In the Constituents colleges MahatmaPhuleKrishiVidyapeeth Library has on Rank first with the budget of Rs. 1, 08, 77,195.And they have spent the budget on books, current periodicals. Followed by Agriculture College Library with Rs.67, 26,175.

In the self financed colleges only few libraries have spent good budgets on the print resources in the year of 2011-2014. i.e Pad. Dr. D.Y. Patil Agriculture College of Business Management on rank first with Rs.14,7800, Followed by LokneteMohanraoKadam College of Agriculture on rank second with Rs.12,32,300, and other all self financed libraries (Code G to AN) have below 10 Lacks budgets spent of the Print resources in the year of 2011-2014.

Table No.4.8.2.1 Range of Library Budgets in Lacks on Print Resources (2011-2014)

Sr. No	Budget in Rs.	No of Libraries	Percentage
1	100000-200000	14	35
2	200001-300000	2	5
3	300001-400000	6	15
4	400001-500000	1	2.5
5	500001-600000	0	0
6	600001-700000	3	7.5
7	700001-800000	3	7.5
8	800001-900000	2	5
9	900001-100000	0	0
10	100001-110000	2	5
11	110001-120000	0	0
12	120001-130000	2	5
13	130001-1500000	1	2.5
14	Above 1500001	4	10
	Total	40	100

The table 4.8.2.1 shows the Library Budget in Lacks on Print Resources in the year of 2011-2014. It reveals that out of the total 40 libraries 14 (35%) libraries Budget has in the range of Rs.100000-200000, followed by 6 (15%) libraries Budget have in the range of Rs. 300001-400000. It is also shows that 3 (7.5%) libraries Budget have in the range of Rs.600001-700000.

Table No. 4.8.3 Library Budget on E-Resources in 2011 to 2014

Library Code	E-Books			E-Journals			CD/DVD ROM Databases			Other Educational CD/DVD			Other			Total
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	
A	0	204426	0	49050	0	0	20000	15000	0	31158	0	0	0	0	0	319634
B	0	680458	0	0	406659	38800	0	6300	0	15000	265400	0	0	0	0	1412617
C	4098080	0	0	1000000	0	700000	0	1726663	0	0	0	0	0	0	0	7524743
D	270000	500000	200000	0	0	0	0	0	0	500000	700000	0	500000	200000	100000	2970000
E	200000	0	0	700000	0	700000	0	0	0	0	0	0	0	0	0	1600000
F	200000	0	0	0	0	700000	0	0	0	0	0	0	0	0	0	900000
G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Library Code	E-Books			E-Journals			CD/DVD ROM Databases			Other Educational CD/DVD			Other			Total
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	
Q	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
U	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AF	0	0	0	0	0	0	0	0	0	2000	4000	5000	0	0	0	11000
AG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Library Code	E-Books			E-Journals			CD/DVD ROM Databases			Other Educational CD/DVD			Other			Total
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	
AI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The researcher it is investigated in the table No. 4.8.3 library budgets spent under the head of E-Resources that is E-Books, E-Journals, CD/DVD ROM Databases and Educational CD's and DVD's. And it is found that only Constituents College Libraries (Code A to F) spent their budgets on the purchasing of E-Resources in the year of 2011-14. Mahatma PhuleKrishiVidyapeeth Library spent total Rs. 29, 70,000, followed by Agriculture College of Pune with the budget of Rs.3, 19,634.

If we see the status of the self financed college libraries (Code G to AN) only one library spent their budget on purchasing of the Educational CD'S and DVS's that is only Rs.11,000, and other 33 self financed libraries have 0 budget in the year of 2011-14 under the head of E-Resources.

Table No.4.8.3.1 Range of Library Budget on E-Resources in 2011 to 2014 (In Rs.)

Sr. No	Budget in Rs.	No of Libraries	Percentage
1	0	33	28.33
2	1-100000	1	3.75
3	100001-100000	0	3.75
4	100001-200000	0	5.00
5	200001-300000	0	6.25
6	300001-400000	1	8.75
7	400001-500000	0	8.75
8	Above 500001	5	16.25
	Total	40	100.00

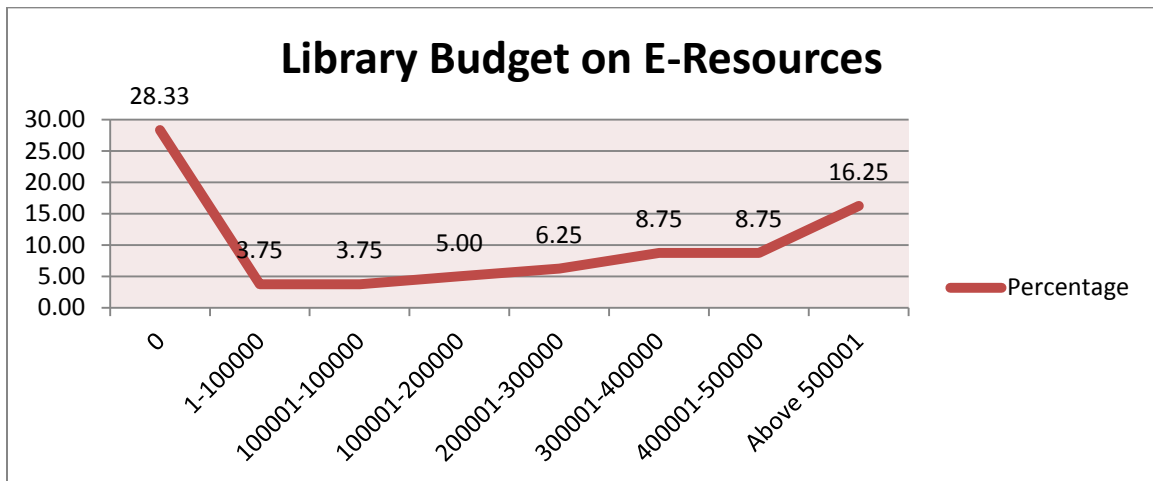


Fig No.4.32 Library Budget on E-Resources

The table no.4.8.3.1 and fig. No. 4.32 shows the Library Budget in Lacks on E-Resources (2011-2014). It reveals that out of the total 40 libraries 33 (28.33%) libraries Budget have 0, followed by 5 (16.25%) libraries Budget have Above Rs. 500001. It is also shows that 3 (7.5%) libraries Budget have in the range of Rs.600001-700000, while only 1 (2.5%) libraries Budget has in the range of Rs. 300001-400000 in the year of 2011-14.

Table No. 4.8.4 Library Budget on Academic Activities in 2011 to 2014

Library Code	Conferences			Training			Workshop			Total
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	
A	0	0	0	2000	0	7000	0	0	0	9000
B	0	0	0	0	0	0	0		0	0
C	50000	0	0	0	0	0	0	0	10000	60000
D	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0	0	0
F	0	0	0	0	0	0	0	0	0	0
G	3000	3000	3000	0	0	0	2000	2000	2000	15000
H	0	0	0	0	0	0	0	0	0	0
I	0	0	0	0	0	0	0	0	0	0
J	0	0	0	0	0	0	0	0	0	0
K	0	0	0	0	0	0	0	0	0	0
L	0	0	0	0	0	0	0	0	0	0
M	0	0	0	0	0	0	0	0	0	0
N	0	0	0	0	0	0	0	0	0	0
O	0	0	0	0	0	0	0	0	0	0
P	0	0	0	0	0	0	0	0	0	0
Q	5000	7000	10000	0	0	0	7000	15000	3000	47000
R	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0	1000	1000
T	0	0	0	0	0	0	0	0	0	0
U	0	0	0	0	0	0	0	0	0	0
V	0	0	0	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0	0	0	0
X	0	0		0	0	0	0	0	0	0

Library Code	Conferences			Training			Workshop			Total
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	
Y	0	0	0	0	0	0	0	0	0	0
Z	0	0	0	0	0	0	0	0	0	0
AA	0	0	0	0	0	0	0	0	0	0
AB	0	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	0	0	0	0
AD	0	0	0	0	0	0	0	0	0	0
AE	0	0	0	0	0	0	0	0	0	0
AF	0	0	0	0	0	0	0	0	0	0
AG	0	0	0	0	0	0	0	0	0	0
AH	0	0	0	0	0	0	0	0	0	0
AI	0	0	0	0	0	0	0	0	0	0
AJ	0	0	0	0	0	3000	0	0	2000	5000
AK	0	0	0	0	0	0	0	0	0	0
AL	0	0	0	0	0	0	0	0	0	0
AM	0	0	0	0	0	0	0	0	0	0
AN	0	0	7000	0	0	0	0	0	3000	10000

The researcher it is evaluated in the table No.4.8.4 library budgets under the head of Academic Activities i.e Conference, Seminar, Workshop, Trainings etc..For attending as well as organizing. And it is found that out of 40 Agricultural College Libraries only 7 (17.5%) libraries have provision and 33 (82.5%) don't have budgets on academic activities in the year of 2011-14. Mahatma PhuleKrishiVidyapeeth Library spent total Rs.60,000, followed by Padmashree Dr. Appasaheb Pawar College of Agriculture Library, Baramati with the budget of Rs.47,000 for the attending and organizing the workshops, seminars and training programmes.

Table No.4.8.4.1 Range of Library Budget on Academic Activities in 2011 to 2014

Sr. No	Budget in Rs.	No of Libraries	Percentage
1	0	33	82.5
2	1001-5000	1	2.5
3	50001-10000	3	7.5
4	10001-15000	1	2.5
5	Above 15001	2	5
	Total	40	100

The table 4.8.4.1 shows the Library Budget on Academic Activities in (2011-2014). It reveals that out of the total 40 libraries 33 (82.5%) libraries Budget have 0, followed by 3 (7.5%) libraries Budget have in the range of Rs. 50001-10000. It is also shows that 2 (5%) libraries Budget have in the range of Rs. Above-15001, while only 1 (2.5%) libraries Budget have in the range of Rs.10001-150000.

Table No.4.8.5 Library Budget on Hardware/ Software & ICT Infrastructure.

Library Code	Hardware / Software			ICT Infrastructure			Total
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	
A	0	0	61726	550516	574163	681090	1867495
B	0	0	0	64000	99281	25000	188281
C	120000	500000	600000	119392	753764	0	2093156
D	600000	500000	100000	700000	900000	150000	2950000
E	0	0	85000	0	0	155900	240900
F	0	0	85000	0	0	155900	240900
G	30000	45000	50000	10000	0	0	135000
H	20000	50000	0	150000	0	70000	290000
I	50000	25000	0	70000	70000	0	215000
J	0	0	0	0	0	0	0
K	0	0	15000	0	0	0	15000
L	0	0	0	0	0	0	0
M	0	33000	0	0	0	0	33000

Library Code	Hardware / Software			ICT Infrastructure			Total
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	
N	0	0	0	0	0	0	0
O	0	0	0	0	0	0	0
P	0	0	0	0	0	0	0
Q	30000	0	0	100000	75000	80000	285000
R	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
T	0	0	0	0	0	0	0
U	0	50000	225000	0	50000	100000	425000
V	48000	35000	43000	23000	21500	17890	188390
W	0	0	0	0	0	0	0
X	0	0	0	0	0	0	0
Y	0	0	0	0	0	0	0
Z	50000	50000	75000	0	0	0	175000
AA	0	0	0	0	0	0	0
AB	30000	0	0	25000	0	15000	70000
AC	35000	25000	0	0	0	0	60000
AD	0	0	0	0	0	0	0
AE	0	0	0	0	0	0	0
AF	0	0	20000	0	0	0	20000
AG	0	0	0	0	0	0	0
AH	30000	0	50000	20000	0	10000	110000
AI	0	30000	20000	0	0	0	50000
AJ	0	0	85000	0	0	80000	165000
AK	0	0	85000	0	0	45000	130000
AL	0	0	30000	0	0	35000	65000
AM	0	0	430000	0	0	200000	630000
AN	0	0	30000	0	0	78000	108000

The table No.4.8.5 shows library budgets on Hardware, Software and Information Communication Technology, and it is found that out of 40 Agricultural College Libraries

only 15 (37.5%) libraries have provision and 25 (62.5%) don't have spent budgets on purchasing of the Hardware, Software and ICT Infrastructure in the year of 2011-14. College of Agriculture Dhule Library spent total Rs.29, 50,000, followed by Mahatma PhuleKrishiVidyapeeth Library with the budget of Rs.20, 93,156for the purchasing Hardware, Software & ICT Tools.

Table No. 4.8.5.1 Range of Budget on Hardware/ Software & ICT Infrastructure in 2011-14 (In Rs.)

Sr. No	Budget in Rs.	No of Libraries	Percentage
1	0	15	13.33
2	1-100000	7	11.25
3	100001-1000000	15	37.50
4	1000001-2000000	1	5.00
5	2000001-3000000	2	7.50
	Total	40	100.00

The table 4.8.5.1 shows the range of Library Budgets spent on Hardware, Software and ICT Infrastructure. It is reveals that out of the total 40 libraries 15 (13.33%) libraries Budget have Rs.0; followed by 7 (11.25%) libraries Budget has in the range of Rs.1-100000. It is also shows that 2 (7.50%) libraries Budget have in the range of Rs. above-2000001-3000000, while only 1 (5%) libraries Budget have in the range of Rs. 1000001-2000000.

4.9 LIBRARY NETWORK

Table No. 4.9.1 Membership of Library Network

Sr. No	Library Network	Yes	No
1	OCLC	6 (15)	34(85)
2	CeRA of ICAR	6 (15)	34(85)
3	Jgate Plus	6 (15)	34(85)
4	AGLINET	2(5)	38(95)
5	INDEST	2(5)	38(95)
6	JCCC HELINET	1(2.5)	39(97.5)
7	AGRICAT	6 (15)	34(85)
8	INFLIBNET/N-LIST	6(15)	34(85)
9	AGRIS	9(22.5)	31(77.5)
10	DELNET	7(17.5)	33(82.5)
11	Other	1(2.5)	39(97.5)

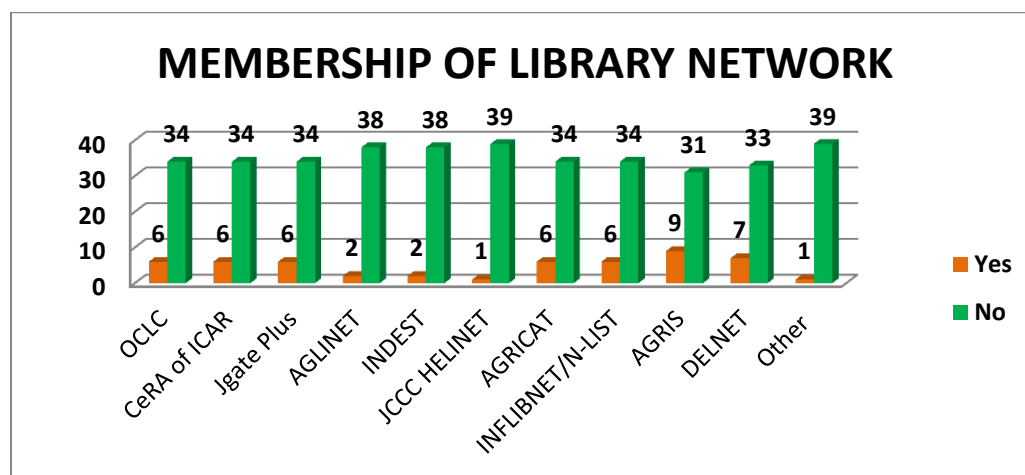


Fig. No. 4.33 Membership of Library Network

The table 4.9.1 and fig. no. 4.33 shows the Membership of Library Network. It reveals that out of the total 40 libraries 6(15%) libraries having membership of OCLC, CeRA of ICAR, J-Gate Plus, INFLIBNET-NLIST and 34 (85%) have not members of this networks, However only 1(2.5%) libraries have membership of JCCC HELINET and 39 (97.5%) libraries have not members of this network.

Table No. 4.9.1.1 Membership of Library Network Vs Category of Colleges

Sr. No	Library Network	Constituents Colleges (n=6)		Self-Financed Colleges (n=34)		Chi-Sq.	P-Value
		Yes	No	Yes	No		
1	OCLC	6(100)	0(0.00)	0(0.00)	34(100)	136.021	0.000
2	CeRA of ICAR	6(100)	0(0.00)	0(0.00)	34(100)		
3	Jgate Plus	5(83.33)	1(16.67)	1(2.94)	33(97.06)		
4	AGLINET	1(16.67)	5(83.33)	1(2.94)	33(97.06)		
5	INDEST	1(16.67)	5(83.33)	1(2.94)	33(97.06)		
6	JCCC HELINET	0(0.00)	6(100)	1(2.94)	33(97.06)		
7	AGRICAT	6(100)	0(0.00)	0(0.00)	34(100)		
8	INFLIBNET/N-LIST	1(16.67)	5(83.33)	5(14.71)	29(85.29)		
9	AGRIS	6(100)	0(0.00)	3(8.82)	31(91.18)		
10	DELNET	3(50.00)	3(50.00)	4(11.76)	30(88.24)		
11	Other	1(16.67)	5(83.33)	0(0.00)	34(100)		

Note:-Chi-Sq = 136.021, DF = 1, P-Value = 0.000

The table 4.9.1.1 shows the membership of library networks vs Categories of the Colleges. It is found that out of the total 6 libraries Constituents college libraries All 6(100%) libraries having membership of OCLC and 34 (100%) self-financed libraries have not member of this network, followed by all 6(100%)constituents libraries having membership of CeRA of ICAR and 34 (100%) self financed libraries have not member of this network. however only 5(83.33%) constituents libraries having membership of JGate Plus and 1 (16.67%) libraries have not member of this network. It is found that all constituents libraries have membership of the networks followed by very few self financed libraries having membership of National level as well as international level networks.

The chi-square test is also administered to test the hypothesis that “**There is a significant difference in membership of library networks among the libraries of ‘constituents’, and ‘self-financing’ institutions.**Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance.Hence hypothesis is valid

Table No. 4.9.2 Reasons for Joining Library Network

Sr. No	Reasons	Agree	Disagree
1	Access of Union Catalogue	40(100)	0(0)
2	Inter Library Loan Services	38(95)	2(5)
3	Consortium Usage	35(87.5)	5(12.5)
4	Centralized Acquisition	30(75)	10(25)
5	To save the time of Staff/Users	37(92.5)	3(7.5)
6	Document Delivery Service	33(82.5)	7(17.5)
7	Professional Communication among Group	34(85)	6(15)
8	Reduce Library Budget	29(72.5)	11(27.5)
9	Access to Institutional Repository	32(80)	8(20)
10	Training	36(90)	4(10)
11	To Develop Library Infrastructure	31(77.5)	9(22.5)

Note:-Strongly Agree: Agree Ratio = 5.76: 1

- **Agree ratio =** 375/65 5.76
- **Disagree ratio =** 65/65 1.00

In the table 4.9.2 found that theReasons for joining Library Network. It is reveals that out of the total 40 libraries All 40(100%) libraries joined library network for Access of Union Catalogue, followed by 38 (95%) libraries joined library network for Inter Library Loan Services and 2 (5%) libraries have not joined this network for ILL service. However 36 (90%) libraries joined for training and 4 (10%) libraries have not joined, while 31(77.5%) libraries have joined for To Develop Library Infrastructure.

‘Disagree’ total 65 and ‘Agree’ total 375 have been divided by number of respondents (N: 65) and Agree to Disagree value has been calculated. The ratio between Agree: Disagree works out to 5.76:1 the disagree ratio (1) is negligible.

Table No. 4.9.2.1 Reasons for Joining Library Network Vs Category of Colleges

Sr. No	Reasons	Constituents Colleges (n=6)		Self-Financed Colleges (n=34)		Chi-Sq.	P-Value
		Agree	Disagree	Agree	Disagree		
1	Access of Union Catalogue	6(100)	0(0)	34(100)	0(0)	8.504	0.004
2	Inter Library Loan Services	6(100)	0(0)	32(94.12)	2(5.88)		
3	Consortium Usage	6(100)	0(0)	29(85.29)	5(14.71)		
4	Centralized Acquisition	6(100)	0(0)	24(70.59)	10(29.41)		
5	To save the time of Staff/Users	6(100)	0(0)	31(91.18)	3(8.82)		
6	Document Delivery Service	6(100)	0(0)	27(79.41)	7(20.59)		
7	Professional Communication among Group	6(100)	0(0)	28(82.35)	6(17.65)		
8	Reduce Library Budget	5(83.33)	1(16.67)	24(70.59)	10(29.41)		
9	Access to Institutional Repository	6(100)	0(0)	26(76.47)	8(23.53)		
10	Training	6(100)	0(0)	30(88.28)	4(11.76)		
11	To Develop Library Infrastructure	5(83.33)	1(16.67)	26(76.47)	8(23.53)		

Note:-Chi-Sq = 8.504, DF = 1, P-Value = 0.004

The table 4.9.2.1 shows the Reasons for joining library network VS Categories of the Colleges. It reveals that out of the total 6 libraries Constituents college libraries all 6(100%) libraries have joined library network for Access of Union Catalogue, ILL Service, Consortium usage, save the time of users as well as staff, professional communication, access of IR, and Trainings. Followed by 100% self financed college

libraries joined library network of access of union catalogue, followed by 32 (94.12%) joined for ILL service, 31 (91.18%) joined for save the time of users as well as staff.

The chi-square test is also administered to test the hypothesis that “**There is a significant difference in reasons for joining library networks among the libraries of ‘constituents’, and ‘self-financing’ institutions.** Level of significance (α) = 0.05, P-Value = 0.004 is less than level of significance. Hence hypothesis is valid

4.10 RESOURCE SHARING & NETWORKING

Table No. 4.10.1 Opinion on Resource Sharing & Networking Programme

Sr. No	Description	Yes	No
1	Resource sharing models are adequate for Libraries	30 (75)	10(25)
2	Resource sharing and Network activity in increasing becoming important into next Generation Libraries	38 (95)	2(05)
3	Would you like to share you Resources under Networking Programme	39(97.5)	1(2.5)

The table 4.10.1 shows the Opinion on Resource Sharing & Networking programme. It is reveals that out of the total 40 libraries 30(75%) respondents says Resource sharing models are adequate for Libraries and only 10 (25%) says its not adequate for libraries, however 38 (95%) librarians agree on the opinion of Resource sharing and Network activity in increasing becoming important into next Generation Libraries and only 2(05%) respondents are not agree, while 39 (97.5%) respondents like to share Resources under Networking Programme and 1 (2.5%) respondents disagree with this opinion.

Table No. 4.10.1.1Opinion on Resource Sharing & Networking Programme VS Category of Colleges

Sr. No	Opinions	Constituents Colleges (n=6)		Self-Financed Colleges (n=34)		Chi-Sq.	P-Value
		Yes	No	Yes	No		
1	Resource sharing models are adequate for Libraries	5 (83.33)	1(16.67)	25(73.53)	9(26.47)	0.611	0.435
2	Resource sharing and Network activity in increasing becoming important into next Generation Libraries	6(100)	0(0)	32(94.12)	8(5.88)		
3	Would you like to share you Resources under Networking Programme	6(100)	0(0)	33(97.6)	1(2.94)		

Note:-Chi-Sq = 0.611, DF = 1, P-Value = 0.435

The table 4.10.1.1 shows the Opinion on resource sharing & Networking programme VS Categories of the Colleges. It is reveals that All 6 (100%) constituents college libraries saidResource Sharing and Network activity in increasing becoming important into next Generation Libraries and they would like to share Resources under Networking Programme. It is also shows that 5 (83.33%) libraries say Resource sharing models are adequate for Libraries, while only 1 (16.67%) respondents not agree with the opinion of Resource sharing models are adequate for Libraries. It is also observed that the out of the total 34self financedcolleges 25 (73.53%) libraries agree withResource sharing models are adequate for Libraries and 9 (26.47%) libraries not agree, However 32 (94.12%) libraries said Resource sharing and Network activity in increasing becoming important into next Generation Libraries and 8(5.58%) said it's not helpful to the next generation libraries.The chi-square test is also administered to test the hypothesis that“**There is a significant difference in opinion of resource sharing activities among the libraries of ‘constituents ’, and ‘self-financing’ institutions.Level of significance (α) = 0.05, P-Value = 0.435 is greater than level of significance.Hence the hypothesis is Invalid.**

Table No. 4.10.2 Willingness to Share Print Resources

Sr. No	Print Resources	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	Books	32(80)	6(15)	1(2.5)	0(0)	1(2.5)
2	Reference Sources	22(55)	17(42.5)	0(0)	1(2.5)	0(0)
3	Current Periodicals	22(55)	11(27.5)	3(7.5)	3(7.5)	1(2.5)
4	Back Volumes	20(50)	14(35)	5(12.5)	1(2.5)	0(0)
5	Thesis/Dissertations	14(35)	14(35)	4(10)	5(12.5)	3(7.5)
6	Reprints/Preprints	10(25)	11(27.5)	8(20)	7(17.5)	4(10)
7	Patents	7(17.5)	6(15)	7(17.5)	11(27.5)	9(22.5)
8	Standards	8(20)	7(17.5)	7(17.5)	11(27.5)	7(17.5)

Note:- Strongly Agree: Agree: Neutral: Disagree: Strongly Disagree Ratio = 5.4:3.44:1.4:1.56:1

- Strongly Agree ratio = 135/25 = 5.4
- Agree ratio = 86/25 = 3.44
- Neutral ratio = 35/25 = 1.4
- Disagree ratio = 39/25 = 1.56
- Strongly Disagree ratio = 25/25 = 1

The table 4.10.2 shows the Willingness to share print resources. It reveals that out of the total 40 libraries 32 (80%) libraries have strongly agree to share Books, followed by 6 (15%) libraries only agree, only 1 (2.5%) not decided till and 1 (2.5%) strongly disagree. Also 7 (17.5%) libraries strongly agree to share Patent, followed by 6 (15%) libraries agree, 7 (17.5%) libraries Neutral, 11 (27.5%) libraries Disagree and 9 (22.5%) libraries with strongly disagree to share Patents. However 22 (55%) respondents strongly agree to share Reference Sources and Current Periodicals, and 0 (0%) libraries strongly disagree to share reference sources and back volumes.

The ‘Strongly Disagree’ total 25 and ‘Strongly Agree’ total 135 have been divided by number of respondents (N: 25) and Strongly Agree, Agree, Neutral, Disagree,

and Strongly Disagree value has been calculated. The ratio between Strongly Agree: Agree: Neutral: Disagree: Strongly Disagree works out to 5.4:3.44:1.4:1.56:1 the strongly disagree ratio (1) is negligible. Therefore it seems that the most of librarians prefer for sharing of resources under networking programme of libraries.

4.10.2.1 Willingness to Share Print Resources Vs Category of Colleges

The table 4.10.2.1 shows the Willingness to share print resources VS Categories of the Colleges. It reveals that 6 (100%) constituent college libraries strongly agree to share books, followed by 5 (83.33%) libraries have strongly agree to share reference sources, only 1 (16.67%) libraries only agree to share reference sources. However only 1 (16.67%) library strongly agree to share Patents and 2 (33.33%) libraries with strongly disagree.

It also shows that out of the 34 self-financed libraries 26 (74.47%) libraries strongly agree to share books, followed by 6 (17.65%) libraries have only agree, only 1 (16.67%) libraries with Neutral and strongly disagree. However only 6 (17.65%) libraries have strongly agree to share Patents and standards, followed by 10 (29.39%) libraries with disagree to share the patents.

Table No. 4.10.2.1 Willingness to Share Print Resources Vs Category of Colleges

Sr. No	Print Resources	Constituents Colleges (n=6)					Self-Financed Colleges (n=34)					Chi-Sq.	P-Value
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree		
1	Books	6 (100)	0(0)	0(0)	0(0)	0(0)	26(74.47)	6(17.65)	1(2.94)	0(0)	1(2.94)	5.092	0.278
2	Reference Sources	5(83.33)	1(16.67)	0(0)	0(0)	0(0)	17(50.00)	16(47.06)	0(0)	1(2.94)	0(0)		
3	Current Periodicals	2(33.33)	1(16.67)	0(0)	2(33.33)	1(16.67)	20(58.82)	10(29.39)	3(8.82)	1(2.94)	0(0)		
4	Back Volumes	4(66.67)	2(33.33)	0(0)	0(0)	0(0)	16(47.06)	12(35.29)	5(14.71)	1(2.94)	0(0)		
5	Thesis/Dissertations	2(33.33)	2(33.33)	0(0)	1(16.67)	1(16.67)	12(35.29)	12(35.29)	4(11.76)	1(2.94)	2(5.88)		
6	Reprints/Preprints	2(33.33)	3(50.00)	0(0)	0(0)	1(16.67)	8(23.53)	8(23.53)	8(23.53)	7(20.29)	3(8.82)		
7	Patents	1(16.67)	1(16.67)	1(16.67)	1(16.67)	2(33.33)	6(17.65)	5(14.71)	6(17.65)	10(29.39)	7(20.29)		
8	Standards	2(33.33)	1(16.67)	1(16.67)	1(16.67)	1(16.67)	6(17.65)	6(17.65)	6(17.65)	10(29.39)	6(17.65)		

Note:-Chi-Sq = 5.092, DF = 4, P-Value = 0.278

The chi-square test is also administered to test the hypothesis that “There is a significant difference in willingness to share print resources among the libraries of ‘constituents’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.278 is greater than level of significance. Hence the hypothesis is Invalid.

Table No. 4.10.3 Willingness to Share E-Resources

Sr. No	E-Resources	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	E-Books	22(55.00)	9(22.50)	5(12.50)	3(7.50)	1(2.50)
2	E-Journals	20(50.00)	10(25.00)	7(17.50)	2(5.00)	1(2.50)
3	E-Theses/Dissertations	19(47.50)	6(15.00)	12(30.00)	1(2.50)	2(5.00)
4	CD's/DVD's ROM	19(47.50)	11(27.50)	6(15.00)	4(10.00)	0(0.00)
5	E-Full Text Databases	17(42.50)	5(12.50)	13(32.50)	5(12.50)	0(0.00)
6	E-Bibliographical Databases	16(40.00)	6(15.00)	13(32.50)	3(7.50)	2(5.00)
7	E-Learning Services	14(35.00)	7(17.50)	13(32.50)	3(7.50)	3(7.50)
8	Institutional Repositories	12(30.00)	8(12.00)	16(40.00)	3(7.50)	1(2.50)
9	E-Project Reports	17(42.50)	7(17.50)	8(12.00)	4(10.00)	4(10.00)

Note:- Strongly Agree: Agree: Neutral: Disagree: Strongly Disagree Ratio = 11.14:4.93:6.64:2: 1

- **Strongly Agree ratio =** 156/14 11.14
- **Agree ratio =** 69/14 4.93
- **Neutral ratio =** 93/14 6.64
- **Disagree ratio =** 28/14 2.00
- **Strongly Disagree ratio =** 14/14 1.00

In the table No. 4.10.3 calculate the ratio between the 'Strongly Disagree' total 14 and 'Strongly Agree' total 156 have been divided by number of respondents (N: 14) and Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree value has been calculated. The ratio between Strongly Agree: Agree: Neutral: Disagree: Strongly Disagree works out to 11.14:4.93:6.64:2: 1 the strongly disagree ratio (1) is negligible. Therefore it seems that the most of librarians prefer for sharing of e-resources in networking of libraries.

Table No. 4.10.3.1 Willingness to Share E-Resources Vs Category of Colleges

Note:-SA= Strongly Agree; A= Agree; N= Neutral; D= Disagree; SD= Strongly Disagree.

Sr. No	E-Resources	Constituents Colleges (n=6)					Self-Financed Colleges (n=34)					Chi-Sq.	P-Value
		SA	A	N	D	SD	SA	A	N	D	SD		
1	E-Books	2(33.33)	2(33.33)	1(16.67)	0(0)	1(16.67)	20(58.82)	7(20.59)	4(11.76)	3(8.82)	0(0)	62.681	0.000
2	E-Journals	2(33.33)	2(33.33)	1(16.67)	0(0)	1(16.67)	18(52.94)	8(23.53)	6(17.65)	2(5.88)	0(0)		
3	E-Theses/Disertations	2(33.33)	2(33.33)	1(16.67)	0(0)	1(16.67)	17(50.00)	4(11.76)	11(32.35)	1(2.94)	1(2.94)		
4	CD's/DVD's ROM	3(50.00)	2(33.33)	0(0)	1(16.67)	0(0)	16(47.06)	9(26.47)	6(17.65)	3(8.82)	0(0)		
5	E-Full Text Databases	4(66.67)	1(16.67)	1(16.67)	0(0)	0(0)	13(38.24)	4(11.76)	12(35.29)	5(14.71)	0(0)		
6	E-Biblio. Databases	2(33.33)	1(16.67)	1(16.67)	0(0)	2(33.33)	14(41.18)	5(14.71)	12(35.29)	3(8.82)	0(0)		
7	E-Learning Services	2(33.33)	0(0)	1(16.67)	1(16.67)	2(33.33)	12(35.29)	7(20.59)	12(35.29)	2(5.88)	1(2.94)		
8	IR	3(50.00)	2(33.33)	0(0)	0(0)	1(16.67)	9(26.47)	6(17.65)	16(47.06)	3(8.82)	0(0)		
9	E-Project Reports	1(16.67)	1(16.67)	0(0)	0(0)	4(66.67)	16(47.06)	6(17.65)	8(23.53)	4(11.76)	0(0)		

Note 1:-Chi-Sq = 62.681, DF = 4, P-Value = 0.000

The table 4.10.3.1 shows the Willingness to share E- resources VS Categories of the Colleges. It is reveals that out of the total 6 Constituentscolleges 2 (33.33%) respondents are agree to share E-Books, E-Journals, E-Theses, E-Databases and E-Learning services respectively.

Also in the self financed college libraries 20 (58.82%) respondents strongly agree to share e-books, followed by e-journals i.e 18 (52.94%), E-Theses 17 (50.00, however only 1 (2.94%) respondents strongly disagree to share E-Theses and E-Learning resources.

The chi-square test is also administered to test the **hypothesis that “There is a significant difference in willingness to share e-resources among the libraries of ‘constituents ’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. Hence the hypothesis is valid.**

Table No. 4.10.4 Willingnessto Share Academic Activity

Sr. No	Academic Activities	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	Staff Training	31(77.50)	6(15.00)	2(5.00)	1(2.50)	0(0.00)
2	Expertise of Library Staff	27(67.50)	8(20.00)	4(10.00)	1(2.50)	0(0.00)
3	Workshop/Seminar /Conferences	27(67.50)	5(12.50)	7(17.50)	1(2.50)	0(0.00)

Note:-Strongly Agree: Agree: Neutral: Disagree Ratio = 28.33:6.33:4.33: 1

- **Strongly Agree ratio =** 85/3 28.33
- **Agree ratio =** 19/3 6.33
- **Neutral ratio =** 13/3 4.33
- **Disagree ratio =** 3/3 1.00

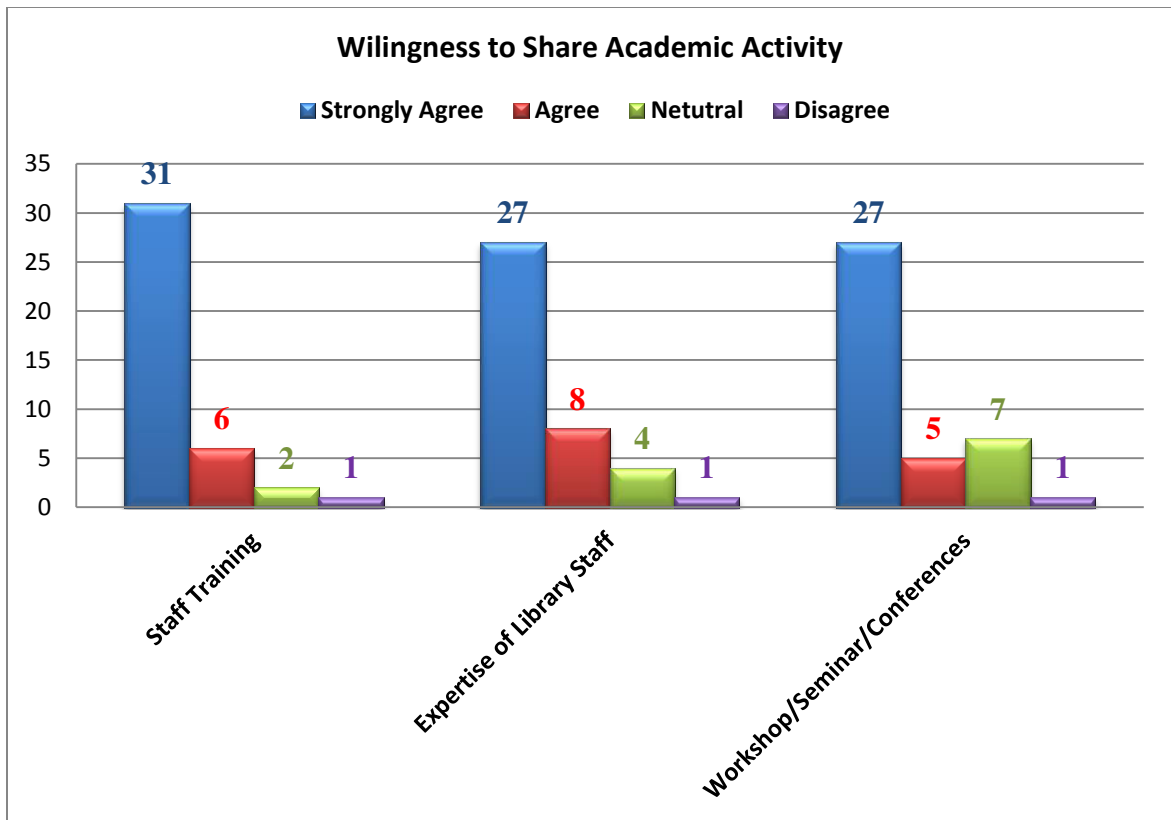


Fig. No. 4.34 Willingness to Share Academic Activity

The table 4.10.4 and graph 4.34 shows the Willingness to share Academic Activities. It is reveals that out of the total 40 libraries 31 (77.50%) libraries strongly agree to share Staff Training, followed by 6 (15%) libraries agree, 2 (5%) libraries with Neutral and 1 (1.50%) libraries with disagree. However 27 (67.50%) libraries strongly agree to share Workshop/Seminar/Conferences, followed by 5 (12.50%) libraries only agree, 7 (17.50%) libraries Neutral and 1 (2.50%) libraries with Disagree.

The 'Strongly Disagree' respondents are total 0, so here 'Disagree' respondents value concenter for calculating Ratio. Disagree total value is 2 and 'Strongly Agree' total 85 have been divided by number of respondents (N: 3) and Strongly Agree, Agree, Neutral, and Disagree, value has been calculated. The ratio between Strongly Agree: Agree: Neutral: Disagree works out to 28.33:6.33:4.33: 1 the disagree ratio (1) is negligible. Therefore it seems that the most of librarians prefer for sharing of academic activities in networking of libraries.

Table No. 4.10.4.1 Willingness to Share Academic Activity Vs Category of Colleges

Note:-SA= Strongly Agree; A= Agree; N= Neutral; D= Disagree; SD= Strongly Disagree.

Sr. No	Academic Activities	Constituents Colleges (n=6)					Self-Financed Colleges (n=34)					Chi-Sq.	P-Value
		SA	A	N	D	SD	SA	A	N	D	SD		
1	Staff Training	5(83.33)	1(16.67)	0 (0)	0(0)	0(0)	26(76.47)	5(14.71)	2(5.88)	1(2.94)	0(0)	4.206	0.122
2	Expertise of Library Staff	4(66.67)	2(33.33)	0 (0)	0(0)	0(0)	26(76.47)	6(17.65)	4(11.76)	1(2.94)	0(0)		
3	Workshop/ Seminar /Conferences	4(66.67)	2(33.33)	0 (0)	0(0)	0(0)	23(67.65)	3(8.82)	7(20.29)	1(2.94)	0(0)		

Note:-Chi-Sq = 4.206, DF = 2, P-Value = 0.122

The table 4.10.4.1 shows the Willingness to share Academic Activity VS Categories of the Colleges. It reveals that out of the total 6 libraries Constituents college libraries 5 (83.33%) libraries strongly agree to share staff trainings only 1 (16.67%) library agree, however 4 (66.67%) libraries are strongly agree to share Expertise of Library staff as well as Workshop/Seminar/Conferences under the networking & resource sharing programme. It is also shows that out of the 34 self financed institutions 26 (76.47%) libraries strongly agree to share Staff Trainings and expertise of staff.

The chi-square test is also administered to test the hypothesis that “**There is a significant difference in willingness to share academic activities among the libraries of ‘constituents’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. Hence hypothesis is valid**”

Table No. 4.10.5 Methods for Resource Sharing

Sr. No	Methods	Yes	No
1	Face to Face	7(17.5)	33(82.5)
2	Postal/ Currier	25(62.5)	15(37.5)
3	Web Bases	24(60)	16(40)

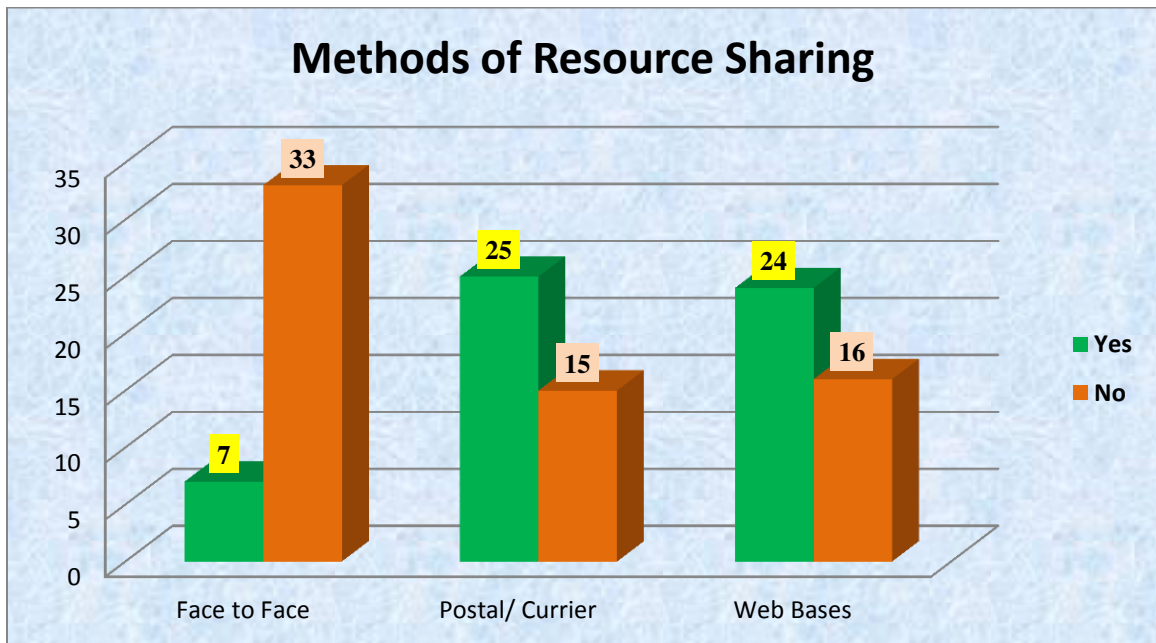


Fig. No. 4.35 Methods for Resource Sharing

The table 4.10.5 and graph 4.35 shows the preferred methods for Resource Sharing. It is reveals that out of the total 40 libraries only 7(17.5%) libraries have preferred Face to Face method and 25(62.5%) libraries have preferred Postal and Currier and while 24 (60%) libraries have preferred Web Based resource sharing method for sharing resources among each others.

Table No. 4.10.5.1 Methods for Resource Sharing Vs Category of colleges

Sr. No	Methods	Constituents Colleges (n=6)		Self-Financed Colleges (n=34)		Chi-Sq.	P-Value
		Yes	No	Yes	No		
1	Face to Face	1(16.67)	5(83.33)	6(17.65)	28(82.35)	0.672	0.412
2	Postal/ Currier	3(50.00)	3(50.00)	22(64.71)	12(35.29)		
3	Web Bases	6(100)	0(0)	18(52.94)	16(47.06)		

Note:-Chi-Sq = 0.672, DF = 1, P-Value = 0.412

The table 4.10.5.1 shows the Methods for Resource Sharing VS Categories of the Colleges. It is reveals that out of the total 6 libraries only 1(16.67%) library preferred Face to Face method and 5(83.33%) libraries have not preferred this method, 3 (50%) libraries preferred postal/ currier method and 6 (100%) libraries preferred web based method for the resource sharing

It is also found that all out of the 34 self financed college libraries 6 (17.65%) preferred face to face method, 22 (64.71%) preferred Postal/ Currier methods and 18 (52.94%) preferred web based method for the sharing of the resources.

The chi-square test is also administered to test the hypothesis that “**There is a significant difference in resource sharing methods among the libraries of ‘constituents’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.004 is less than level of significance. Hence hypothesis is Invalid**”

Table No. 4.10.6 Attitude towards Library Networking & Resource Sharing

Sr. No	Descriptions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	It Provide up to Date Information	30(75)	9(22.5)	0(0)	1(2.5)	0(0)
2	It Provide Adequate facility & Services	23(57.5)	12(30)	4(10)	1(2.5)	0(0)
3	Increase of Library usage	30(75)	8(20)	2(5)	0(0)	0(0)
4	Improvement in the Library Services	29(72.5)	10(25)	0(0)	1(2.5)	0(0)
5	It increase the research output in the Colleges	27(67.5)	11(27.5)	1(2.5)	0(0)	1(2.5)
6	It require more Manpower in the library	13(32.5)	12(30)	1(2.5)	11(27.5)	3(7.5)
7	It increase the workload of library	6(15)	9(22.5)	6(15)	15(37.5)	4(10)
8	It supports for the fulfillment of the users need	23(57.5)	12(30)	5(12.5)	0(0)	0(0)
9	It creates positive attitude among users towards library	25(62.5)	14(35)	1(2.5)	0(0)	0(0)
10	It is difficult to implement in libraries	3(7.5)	4(10)	5(12.5)	16(40)	12(30)
11	It is difficult to maintain	4(10)	3(7.5)	4(10)	20(50)	9(22.5)
12	It affects library routine work	2(5)	8(20)	5(12.5)	16(40)	9(22.5)
13	It increases ICT Tools infirmary	7(17.5)	20(50)	10(25)	2(5)	1(2.5)

Note:-Strongly Agree: Agree: Neutral: Disagree: Strongly Disagree Ratio = 11.14:4.93:6.64:2: 1

- Strongly Agree ratio = 156/14 11.14
- Agree ratio = 69/14 4.93
- Neutral ratio = 93/14 6.64
- Disagree ratio = 28/14 2.00
- Strongly Disagree ratio = 14/14 1.00

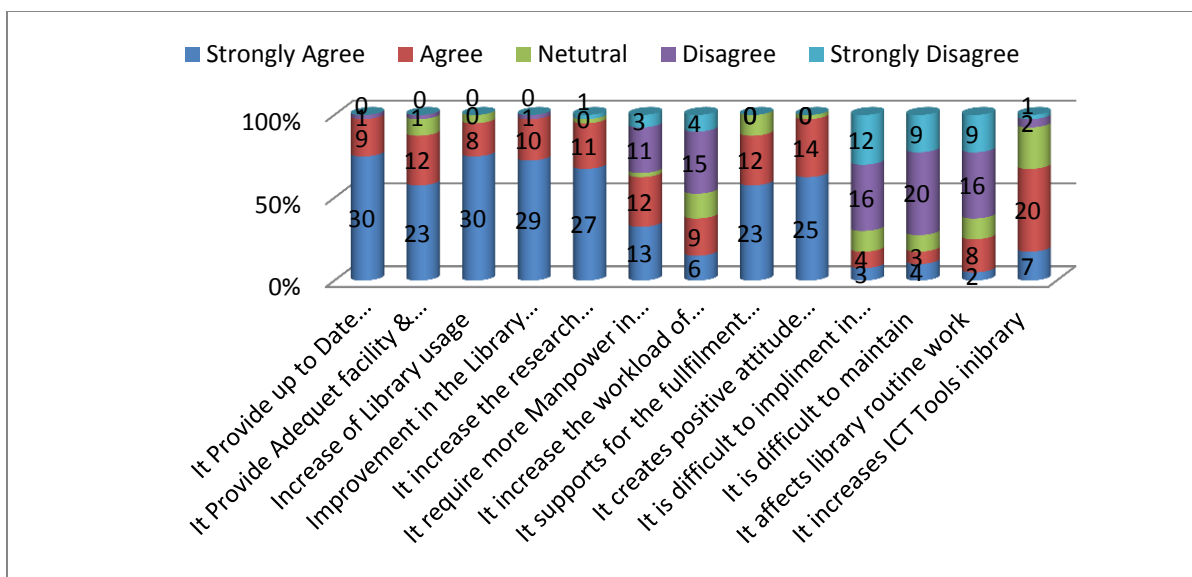


Fig. No. 4.36 Attitude towards Library Network

The table no. 4.10.6 and fig. no.4.36 shows the Attitude towards library networking. It reveals that the calculate ratio between the ‘Strongly Disagree’ total 14 and ‘Strongly Agree’ total 156 have been divided by number of respondents (N: 14) and Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree value has been calculated. The ratio between Strongly Agree: Agree: Neutral: Disagree: Strongly Disagree works out to 11.14:4.93:6.64:2: 1the strongly disagree ratio (1) is negligible. **Hence hypothesis no.4 there is a positive attitude among the library and information science professionals in agricultural Colleges towards Networking and Resource Sharing is valid.**

Table No. 4.10.6.1 Attitude towards Library Networking & Resource Sharing VS Category of Colleges

Sr. no	Attitudes	Constituents Colleges (n=6)					Self-Financed Colleges (n=34)				
		SA	A	N	D	SD	SA	A	N	D	SD
1	It Provide up to Date Information	6(100)	0(0)	0(0)	0(0)	0(0)	24(70.59)	9(26.47)	0(0)	1(2.94)	0(0)
2	It Provide Adequate facility & Services	3(50)	3(50)	0(0)	0(0)	0(0)	20(58.82)	9(26.47)	4(11.76)	1(2.94)	0(0)
3	Increase of Library usage	4(66.67)	2(33.33)	0(0)	0(0)	0(0)	26(76.47)	6(17.65)	2(5.88)	0(0)	0(0)
4	Improvement in the Library Services	4(66.67)	2(33.33)	0(0)	0(0)	0(0)	25(73.53)	8(23.53)	0(0)	1(2.94)	0(0)
5	It increase the research output in the Colleges	5(83.33)	1(16.67)	0(0)	0(0)	0(0)	22(64.71)	10(29.41)	1(2.94)	0(0)	1(2.94)
6	It require more Manpower in the library	1(16.67)	0(0)	0(0)	5(83.33)	0(0)	12(35.29)	12(35.29)	1(2.94)	6(17.65)	3(8.82)
7	It increase the workload of library	0(0)	2(33.33)	0(0)	3(50)	1(16.67)	6(17.65)	7(20.59)	6(17.65)	12(35.29)	3(8.82)
8	It supports for the fulfillment of the users need	4(66.67)	2(33.33)	0(0)	0(0)	0(0)	19(55.88)	10(29.41)	5(14.71)	0(0)	0(0)
9	It creates positive attitude among users towards library	5(83.33)	1(16.67)	0(0)	0(0)	0(0)	20(58.82)	13(38.24)	1(2.94)	0(0)	0(0)
10	It is difficult to implement in libraries	0(0)	0(0)	0(0)	1(16.67)	5(83.33)	3(8.82)	4(11.76)	5(14.71)	15(44.12)	7(20.59)
11	It is difficult to maintain	0(0)	0(0)	0(0)	1(16.67)	5(83.33)	4(11.76)	3(8.82)	4(11.76)	19(55.88)	4(11.76)
12	It affects library routine work	0(0)	0(0)	0(0)	2(33.33)	4(66.67)	2(5.88)	8(23.53)	5(14.71)	14(41.18)	5(14.71)
13	It increases ICT Tools in library	0(0)	2(33.33)	4(66.67)	0(0)	0(0)	7(20.59)	18(52.94)	6(17.65)	2(5.88)	1(2.94)

Note:-SA= Strongly Agree; A= Agree; N= Neutral; D= Disagree; SD= Strongly Disagree.

The table 4.10.6.1 shows the Attitude towards library networking and Resource Sharing VS Categories of the Colleges. It is reveals that out of the total constituents college libraries 6 (100%) are strongly agree on it provide up to date information, followed by 5 (83.33%) libraries are strongly agree on It increase research output in libraries and It creates positive attitude among users towards libraries, 4 (66.67%) libraries have strongly agree on Its support to increase of library usage, Improvement in the library services, Its support to the fulfillment of users need, it is also seen that 5 (83.33%)constituents libraries are strongly disagree on it is difficult to implement in libraries as well as it is difficult to maintain. In short most of the constituents libraries have positive attitude towards library networking and resource sharing.

Hence out of the 34 self financed agricultural college libraries 26 (76.47%) are strongly agree on It increase of library usage followed by 25 (73.53%) libraries strongly agree on its helpful to improvement of library services, only 4 (11.76%) libraries said it is difficult to maintain and 3 (8.82%) respondents are strongly agree on It is difficult to Maintain in libraries. **Hence hypothesis no. 4 there is a positive attitude among the library and information science professionals in agricultural Colleges towards Networking and Resource Sharing is valid.**

Table No. 4.10.6.2 Positive Attitude towards Library Networking & Resource Sharing VS Category of Colleges

Sr. No	Positive Attitudes	Constituents Colleges (n=6)					Self-Financed Colleges (n=34)				
		Strongly Agree	Agree	Neutral	Dis-agree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	It Provide up to Date Information	6(100)	0(0)	0(0)	0(0)	0(0)	24(70.59)	9(26.47)	0(0)	1(2.94)	0(0)
2	It Provide adequate facility & Services	3(50)	3(50)	0(0)	0(0)	0(0)	20(58.82)	9(26.47)	4(11.76)	1(2.94)	0(0)
3	Increase of Library usage	4(66.67)	2(33.33)	0(0)	0(0)	0(0)	26(76.47)	6(17.65)	2(5.88)	0(0)	0(0)
4	Improvement in the Library Services	4(66.67)	2(33.33)	0(0)	0(0)	0(0)	25(73.53)	8(23.53)	0(0)	1(2.94)	0(0)
5	It increase the research output in the Colleges	5(83.33)	1(16.67)	0(0)	0(0)	0(0)	22(64.71)	10(29.41)	1(2.94)	0(0)	1(2.94)
6	It supports for the fulfillment of the users need	4(66.67)	2(33.33)	0(0)	0(0)	0(0)	19(55.88)	10(29.41)	5(14.71)	0(0)	0(0)
7	It creates positive attitude among users towards library	5(83.33)	1(16.67)	0(0)	0(0)	0(0)	20(58.82)	13(38.24)	1(2.94)	0(0)	0(0)
8	It increases ICT Tools in library	0(0)	2(33.33)	4(66.67)	0(0)	0(0)	7(20.59)	18(52.94)	6(17.65)	2(5.88)	1(2.94)

Note: Strongly Agree: Agree: Neutral: Disagrees: Strongly Disagree = 97: 48: 11.50: 2.50: 1

- Strongly Agree ratio = 194/2 97.00
- Agree ratio = 96/2 48.00
- Neutral ratio = 23/2 11.50
- Disagree ratio = 5/2 2.50
- Strongly Disagree ratio = 2/2 1.00

The table No. 4.10.6.2 shows the positive Attitude towards library networking and resource sharing programme. It is reveals that the calculate ratio between the ‘Strongly Disagree’ total 2 and ‘Strongly Agree’ total 194 have been divided by number of respondents (N: 2) and Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree value has been calculated. The ratio between Strongly Agree: Agree: Neutral: Disagree: Strongly Disagree works out to 97: 48: 11.50: 2.50: 1. In the ratio output it is seen that the ration have been decrees from strongly agree to strongly disagree. And Strongly Disagree ratio (1) is negligible.

Hence hypothesis no. 4 there is a positive attitude among the library and information science professionals in agricultural Colleges towards Networking and Resource Sharing is valid.

Table No. 4.10.6.3 Negative Attitude towards Library Networking & Resource Sharing VS Category of Colleges

Sr. No	Negative Attitude	Constituents Colleges (n=6)					Self-Financed Colleges (n=34)				
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	It require more Manpower in the library	1(16.67)	0(0)	0(0)	5(83.33)	0(0)	12(35.29)	12(35.29)	1(2.94)	6(17.65)	3(8.82)
2	It increase the workload of library	0(0)	2(33.33)	0(0)	3(50)	1(16.67)	6(17.65)	7(20.59)	6(17.65)	12(35.29)	3(8.82)
3	It is difficult to implement in libraries	0(0)	0(0)	0(0)	1(16.67)	5(83.33)	3(8.82)	4(11.76)	5(14.71)	15(44.12)	7(20.59)
4	It is difficult to maintain	0(0)	0(0)	0(0)	1(16.67)	5(83.33)	4(11.76)	3(8.82)	4(11.76)	19(55.88)	4(11.76)

Note:-Strongly Agree: Agree: Neutral: Disagree: Strongly Disagree = 0.93: 1: 0.57: 2.21: 1

- Strongly Agree ratio = 156/14 0.93
- Agree ratio = 69/14 1.00
- Neutral ratio = 93/14 0.57
- Disagree ratio = 28/14 2.21
- Strongly Disagree ratio = 14/14 1.00

The table 4.10.6.3 shows the Negative Attitude towards library networking and resource sharing programme. It is found that the calculate ratio between the ‘Strongly Disagree’ total 14 and ‘Strongly Agree’ total 156 have been divided by number of respondents (N:14) and Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree value has been calculated.

And it works out to 0.93: 1: 0.57: 2.21: 1. In the ratio output it is seen that the ratio has been increased towards strongly agree to strongly disagree. And Disagree ratio (2.21) and strongly disagree ratio (1) is greater than strongly agree ratio is negligible. **Hence hypothesis no. 4 there is a positive attitude among the library and information science professionals in agricultural Colleges towards Networking and Resource Sharing is valid.**

Table No. 4.10.7 Barriers of Resource Sharing

Sr. No	Barriers of Resource Sharing	Yes	No
1	Competitiveness of institutions convert move for centralization	21(52.5)	19(47.5)
2	Urgency of users requirement	31(77.5)	9 (22.5)
3	Local self- sufficiency goals and ownership paradigm	26 (65)	14 (35)
4	Autonomy of actions desired by librarians	20(50)	20 (50)
5	Size and status consciousness of established libraries	25(62.5)	15(37.5)
6	Psychological and egoistic barriers from users, librarians & staff	18(45)	22(55)
7	Discouragement from past experience	17(42.5)	23(57.5)
8	Traditional/ Institutional barriers	20(50)	20(50)
9	Physical and geographical barriers	26(65)	14(35)
10	Discouragement from past experience	24(60)	16(40)

The table 4.10.7 shows the Barriers of Resource Sharing. It reveals that out of the total 40 libraries only 21(52.5%) respondents face the barrier competitiveness of institutions convert move for centralization, 31(77.5%) libraries face Urgency of user's requirement, 17 (42.5%) libraries have Discouragement from past experience and 23 (57.5%) libraries have not, While 24 (60%) libraries face the barriers of discouragement from past experience.

Table No. 4.10.7.1 Barriers of Resource Sharing VS Category of Colleges

Sr. No	Barriers of Resource Sharing	Constituents Colleges (n=6)		Self-Financed Colleges (n=34)		Chi- Sq.	P-Value
		Yes	No	Yes	No		
1	Competitiveness of institutions convert move for centralization	4(66.67)	2(33.33)	17(50.00)	17(50.00)	2.163	0.141
2	Urgency of users requirement	4(66.67)	2(33.33)	27(79.41)	7(20.59)		
3	Local self- sufficiency goals and ownership paradigm	3(50.00)	3(50.00)	23(67.65)	11(32.35)		
4	Autonomy of actions desired by librarians	4(66.67)	2(33.33)	16(47.06)	18(52.94)		
5	Size and status consciousness of established libraries	4(66.67)	2(33.33)	21(61.76)	13(38.24)		
6	Psychological and egoistic barriers from users, librarians & staff	1(16.67)	5(83.33)	17(50.00)	17(50.00)		
7	Discouragement from past experience	1(16.67)	5(83.33)	16(47.06)	18(52.94)		
8	Traditional/ Institutional barriers	1(16.67)	5(83.33)	19(55.88)	15(44.12)		
9	Physical and geographical barriers	2(33.33)	4(66.67)	24(70.59)	10(29.41)		
10	Legal, Political and administrative barriers	5(83.33)	1(16.67)	19(55.88)	15(44.12)		

Note:-Chi-Sq = 2.163, DF = 1, P-Value = 0.141

The table 4.10.7.1 shows the Barriers of Resource Sharing Vs Category of Colleges. It reveals that out of the total 6 constituents college libraries only 4 (66.67%) libraries have faced the barrier like Competitiveness of institutions convert move for centralization, Urgency of user's requirement, Autonomy of actions desired by librarians and Size and status consciousness of established libraries.

It is also shows that out of the 34 self financed libraries 17 (50%) libraries have feel the barrier like Competitiveness of institutions convert move for centralization, and Psychological and egoistic barriers from users, librarians and staff.

The chi-square test is also administered to test the hypothesis that **“There is a significant difference in barriers towards resource sharing among the libraries of ‘constituents’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.141 is greater than level of significance. Hence hypothesis is Invalid**

Table No. 4.10.8 Barriers of Networking

Sr. No	Barriers of Networking	Yes	No
1	Lack of ICT Infrastructure	28(70)	12(30)
2	Lack of Budget	28(70)	12(30)
3	Lack of Trained staff	30(75)	10(25)
4	Lack of Management support	20(50)	20(50)
5	Lack of ICT applications training	29(72.5)	11(27.5)
6	Lack of Awareness of the networking programme	29(72.5)	11(27.5)
7	Lack of co-operation & Co-ordination	17(42.5)	23(57.5)
8	Lack of Legislative measures	28(70)	12(30)

In the table 4.10.8 it is found that the Barriers towards Networking. Out of the total 40 libraries 28(70%) libraries faced the barriers like Lack of ICT Infrastructure, and lack of budget, 12 (30%) libraries have not faced this problem, and 30(75%) libraries face

theLack of Trained staff, 17 (42.5%) libraries have Lack of co-operation & Co-ordination, While 28 (70%) libraries have Lack of Legislative measures towards networking in the libraries.

Table No. 4.10.8.1 Barriers of Networking Vs Category of colleges

Sr. No	Barriers of Networking	Constituents Colleges (n=6)		Self-Financed Colleges (n=34)		Chi-Sq.	P-Value
		Yes	No	Yes	No		
1	Lack of ICT Infrastructure	1(16.67)	5(83.33)	27(79.41)	7(20.59)	89.574	0.000
2	Lack of Budget	0(0)	6(100)	28(82.35)	6(17.65)		
3	Lack of Trained staff	0(0)	6(100)	30(88.24)	4(11.76)		
4	Lack of Management support	0(0)	6(100)	20(58.82)	14(41.18)		
5	Lack of ICT applications training	0(0)	6(100)	29(85.29)	5(14.71)		
6	Lack of Awareness of the networking programme	0(0)	6(100)	29(85.29)	5(14.71)		
7	Lack of co-operation & Co-ordination	0(0)	6(100)	17(50.00)	17(50.00)		
8	Lack of Legislative measures	2(33.33)	4(66.67)	28(82.35)	6(17.65)		

Note:-Chi-Sq = 89.574, DF = 1, P-Value = 0.000

The table 4.10.8.1 shows the Barriers of Networking VS Category of Colleges. It is reveals that out of the total 6 constituents college libraries only 2 (33.337%) libraries faced the barriers like lack of legislative measures and followed by 1 (16.67%) libraries have faced Lack of ICT Infrastructure otherwise all the libraries don't faced the barriers of the networking like lack of budget, lack of trained staff, lack of training, lack of management support and etc..

In this table It is also shows that out of the 34 self financed libraries 30 (88.24%) libraries faced the Lack of trained staff, followed by 29 (85.29%) faced Lack of ICT applications training and lack of awareness of the networking technologies, it is also seen that 28 (82.35%) respondents faced Lack of budgets and lack of legislative measures barriers also 27 (79.41%) libraries have lack of ICT Infrastructure problems for the implementation of the Networking.

The chi-square test is also administered to test the hypothesis that “**There is a significant difference in barriers towards networking among the libraries of ‘constituents ’, and ‘self-financing’ institutions.**Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. Hence hypothesis is valid.

4.11 CONCLUSION

In this chapter the data received were analyzed and presented in tables and figures along with inferences. However important findings were grouped and listed as to the major variables of the study in the chapter Six.

CHAPTER- V

MODEL PLAN FOR NETWORKING AND RESOURCE SHARING IN AGRICULTURE COLLEGE LIBRARIES

5.1 INTRODUCTION:

Now we are living in 21st century & present century is called ICT age. In the ICT era peoples are used the ICT tools in the day to day activities, for example e-purchasing, e-selling, e-prayers, e-friendship with the help of ICT tools. Like that libraries also used varies new ICT tools for provide the quality, instant library services to the users. Now a day's library users not need to the come library but library will come to the user's desktop with the help of modern IT tools, software's & Hardware's.

A network usually consists of a formal arrangement whereby materials, information, and services provided by a variety of libraries and other organizations are available to all potential users. Libraries may be in different jurisdictions but agree to serve one another on the same basis as each serves its own constituents. Computers and telecommunications may be among the tools used for facilitating communication among them (Prabhu,2011).

There are number of commercial software in the market which is very costly and small / medium sized libraries cannot afford them. However, now days a number of free software's are also available, some are open-source software like KOHA which is a complete application for automation and networking of libraries. National Informatics Centre has also come-up with a Library Automation Software called as e-Granthalaya which is being given at zero cost to the libraries in India. The software is useful for automation of in-house activities in a library as well as user services. (Mahajan, 2005).

5.2 PROPOSED LIBRARY NETWORK MODEL

The proposed library network for agricultural college libraries affiliated to Mahatma Phule Krishi Vidyapeeth will be called the “**Mahatma Phule Krishi Vidyapeeth Library Network (MPKVLIBNET)**”.

Here all members have different resources and scattered in different places which they can share with one another through distributed network. The following picture explains the structure of distributed network as it existed in various other library networks.

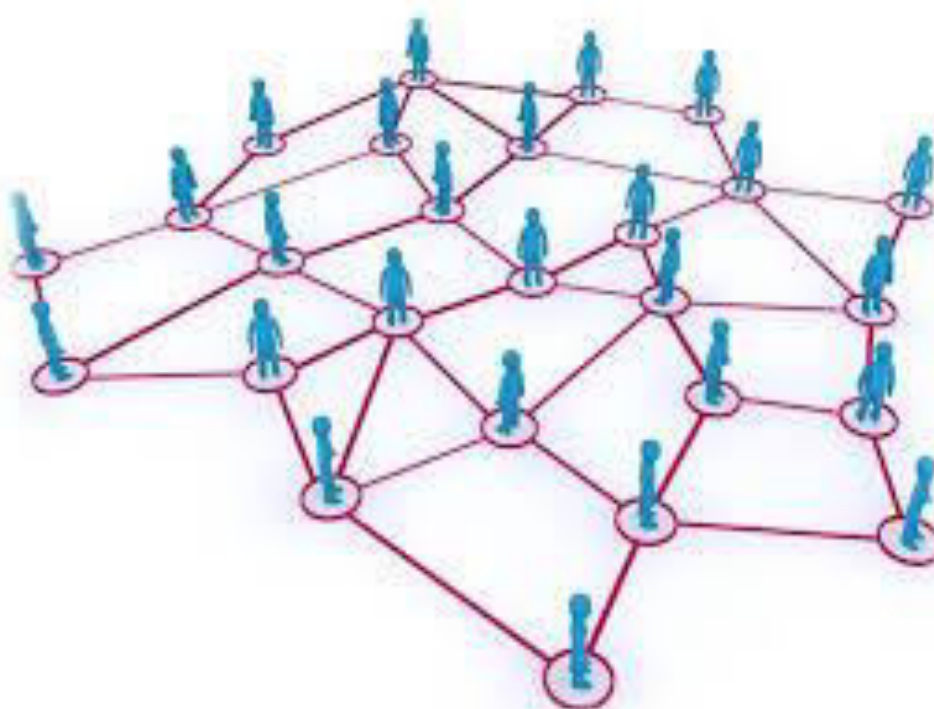


Figure 5.1: Library Networking Model

5.3 FINANCE PROVISION:-

When planning for library Networking & Resource Sharing, sufficient funds have to be provided by the institutions or the funding agencies for purchasing of hardware, software, furniture etc. for the networking & resource sharing. It should be noted that if sufficient funds are not available for purchasing the entire software, then the library should developed networking step by step, in only which are of utmost importance for networking & resource sharing.

5.4 ORGANIZATIONAL STRUCTURE

This model has been developed for the co-operation between the agricultural colleges libraries affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri. The Jurisdiction of MPKV have scattered in eight district of western & North Maharashtra. The resources, which the model intends to share are acquired in a single database as well as on a single site using cloud based server system. For running this model smoothly & regularly the following structure for its control & governing.

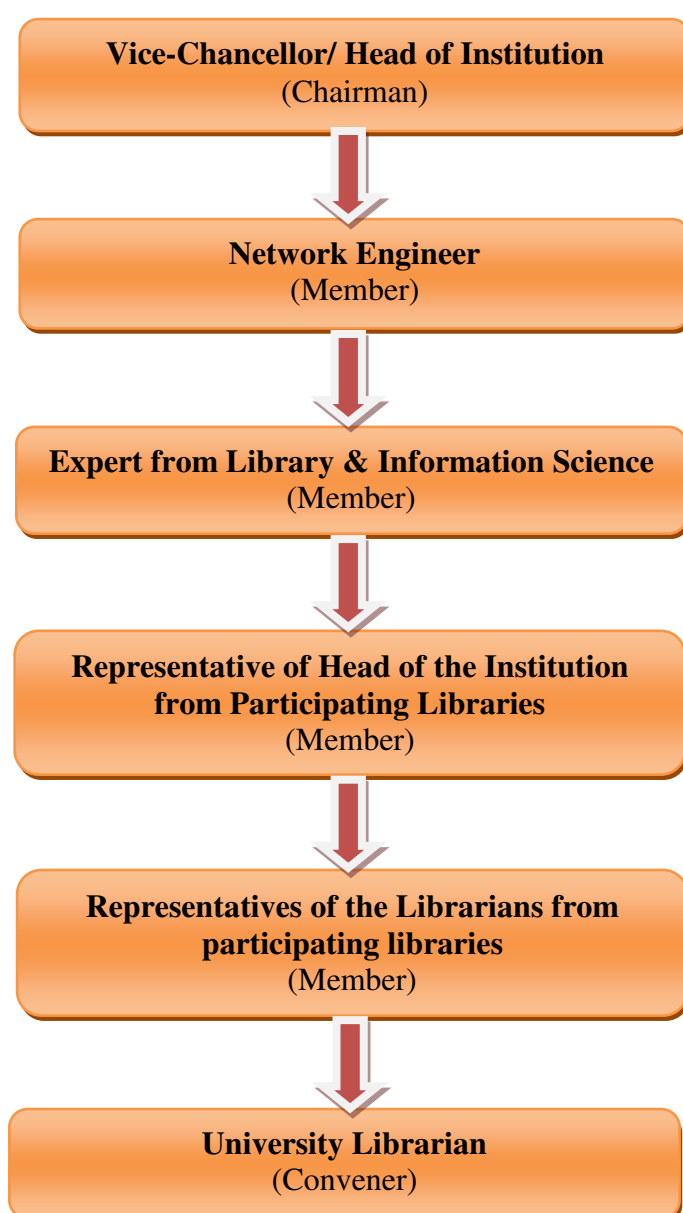


Figure 5.2: Organizational Structure of MPKVLIBNET

5.4.1 Name of the Colleges

Table no- 5.1 List of the Colleges under MPKVLIBNET

Sr.No	Name of the Library	Place
1	College of Agriculture	Pune
2	College of Agriculture	Kolhapur
3	Mahatma Phule Krishi Vidyapeeth	Rahuri
4	College of Agriculture	Dhule
5	College of Agriculture	Karad
6	College of Agriculture	Nandurbar
7	College of Ariculture	Bahubali
8	Padmashree Dr.D.Y.Patil College of Agricultural Engineering & Technology	Talsande
9	College of Agricultural Biotechnology	Loni
10	Padmashree Dr.D.Y.Patil College of Agricultural Business Management	Akurdi
11	College of Agriculture	Sonai
12	Krishna College of Agriculture	Rethre(BK)
13	Shreemant Shivajiraje College of Horticulture	Phaltan
14	Loknete Mohanrao Kadam College of Agriculture	Sonsal
15	Dr.Ulhas Patil College of Agriculture	Jalgaon
16	Dr.Ulhas Patil College of Agricultural Engineering & Technology	Jalgaon
17	Padmashree Dr. Appasaheb Pawar College of Agriculture	Baramati
18	Dadasaheb Moashi College of Agriculture	Rajmachi
19	K.K.Wagh College of Agriculture	Nashik
20	College of Horticulture	Sonsal
21	Padmabhushan. Vasant Dada Patil College of Agriculture	Ambi
22	MAEER's MIT College of Food Technology	Loni Kalbhor
23	K.K.Wagh College of Agricultural Biotechnology	Nashik
24	Lokmangal College of Agriculture	Wadala
25	Padmashree Dr.D.Y.Patil College of Agriculture	Talsande
26	Navalbhou College of Agriculture	Amalner
27	Shramshakti College of Agriculture	Maldad
28	Shramshakti College of Food Technology	Maldad
29	Sadguru College of Agriculture	Mirajagaon
30	College of Agriculture	Phaltan
31	Rajashree Shhatrapati Shahu Maharaj College of Agricultural Business Management	Sangli
32	College of Agricultural Business Management	Gunjalwadi Pathar
33	K.K.Wagh College of Agricultural Business Management	Nashik
34	College of Agricultural Business Management	Loni
35	College of Agriculture	Loni

Sr.No	Name of the Library	Place
36	College of Agriculture	Babhulgaon
37	College of Animal Husbandry	Shradanagar
38	K.K.Wagh College of Horticulture	Nashik
39	Sharad College of Agriculture	Jainapur
40	College of Agricultural Business Management	Shradhanagar

5.4.2 Map of Service Areas of Proposed Model



Figure 5.3: Map of MPKV

5.5 AREAS OF RESOURCE SHARING

On a Networking & Resource Sharing of agricultural college libraries, it is possible to share the library materials/resources through library request. Following Information Resources provide to users

5.5.1 Library Materials

Library Materials include Books, Manuscripts, Bound Volumes/Current Periodicals, Theses/Dissertations, Institutional Repository, university/College Publications, Audio /Video Materials.

❖ Books:-

The books (Original or Photocopy) can issue only for Two Months, if required more institute re-issue one time for fifteen days.

❖ Journals/Magazines/Articles:-

Journals/Magazines or Journal Articles are available only on a request. A journal article downloads or scanned send to the concern user as well as librarian by mail. One user can get five research papers free of cost after that he/she pay nominal charges under the scanning as well as postal charges.

❖ Theses/ Dissertations:-

Theses/Dissertations/Projects are available only on a request. A Theses /Dissertations/Projects scanned send to the concern user as well as librarian by mail. And one user can get limited Pages of the theses/ dissertations.

5.5.2 Acquisition of Library Materials

It is need to develop the centralized bibliographic database for the participative libraries like AGRICAT, INDCAT. In the acquisition libraries used copy cataloguing through Z39.50 browsing standard.

In the centralized acquisition libraries follow the following instructions.

❖ **Duplication:-**

All the libraries avoid the duplication of documents at the time of purchasing process.

❖ **Specification of Subject/Areas**

The libraries will agree to in development of collection on the basis of the subject areas for example one library purchase the books on Agricultural Economics, Agricultural Chemistry, Zoology, Plant Biotechnology etc the second library purchase the books from the Chemical Biotechnology, Food Science & Technology, Farm Technology etc.

❖ **Security**

Students/College staff will pay 1500/- at the time of admission under the head of library deposit fee on a returnable basis.

5.5.3 Library Equipments

Libraries can exchange the limited materials like L.C.D projector, Computers, Audio Visual Equipments etc at the time of training/workshop/seminar etc. otherwise Equipments will not exchange.

5.6 GOVERNING BODY

1	Head of College/Institute or Principal	Chairman
2	Network Administrator	Member
3	Head of the Departments	Member
4	Representative of Users/Students	Member
5	Librarian	Convener

5.7 HARDWARE & SOFTWARE REQUIREMENT

Each of the member libraries must have at least some of the following hardware. However, the main library (Central Host) may require most of the hardware mentioned below, but with additional disk space. Hardware specifications are given below:

1. One Server/Computer
2. One Printer
3. One Scanner
4. Operating System
5. Telecommunication Network, Telephone, Internet ,LAN,WAN, Switches etc
6. Web Based Library Software

5.7.1 KOHA Open Source Software

Koha is a full featured Integrated Library System (ILS). There is no cost for the license; you have the freedom to modify the product to adapt it to your needs, etc. KOHA is developed initially in New Zealand by Katipo Communications with Horowhenua Library Trust. It is currently maintained by a dedicated team of software providers and library technology staff from around the globe. That by adopting it, the customer becomes "joint owner" of the product. In particular, the customer can freely install new versions or not, and can take part in new developments by financing them or by carrying them out them self. (<http://koha.org> accessed on 10/01/2015).

5.7.1.1 Why KOHA

❖ **Cost-effective:**

Paying licensing fees for proprietary solutions, users of open-source software can often deploy the product using in-house resources. They pay only for needed support or any additional vendor services they require.

❖ **Innovation:**

Code is open, users are free to innovate and improve the software to meet their needs free innovation also means that open-source software has much faster development cycles when compared to proprietary software.

❖ **Free/open source software:-**

KOHA is an economical alternative to reliance upon commercially supplied software. It means the cost involved development, license, upgrading, maintenance etc., lower than commercial software. KOHA does not need the initial cost like commercial software.

❖ **Free/Open source: -** KOHA is open source software.

5.7.1.2 Technology Platform

- Linux operating system: Linux/ ubuntu
- Open source library management system: KOHA
- Database: MySQL Ver. 14.14
- Programming Language: Perl
- Server Version: Apache/2.2.17
- Search engine: Zebra (<http://koha.org>)

5.7.1.3 MARC tag has been used to describe the respective records

Table no-5.2 MARC tag

Tag Name	Description
082\$a	Call No
100\$a	Personal Author Name
245\$a	Title of the Book
250\$a	Edition Statement
260\$a	Place of Publication
260\$b	Name of Publisher
260\$c	Date of Publication
850\$c	Holding Institution
942\$c	Item Number
952\$a	Home Branch
952\$b	Holding Branch
952\$p	Accession No
952\$0	Available
952\$c	Shelving Location
952\$g	Price

5.7.1.4 Server Configuration

- Intel (R) Core(TM) i5- 4210U Dual Core
- 1.7 Ghz , 3M3540
- 4 GB DDR3
- Hard disk 05 TB SATA HDD or Above
- Optical Disk/ DVD Writer
- OEM Mother Board
- Keyboard
- Mouse

5.7.1.5 Client Configuration

- Intel Core i3 Fourth Generation
- 2.33 GHz with 1333 MHz
- 4 GB DDR-II RAM
- 1 TB HDD
- Keyboard
- Optical Mouse

5.7.1.6 Supporting Hardware

- Printer
- Scanner
- Telephone
- Fax
- Modem
- Switches
- Router
- External Hard Disc
- A.C
- UPS

5.7.1.7 Supporting Software

- IR/DL Software
- Operating System Windows 98 or latest version
- LAN/WAN
- VoIP
- Internet Explorer
- Programming Language (Java/Perl etc)

5.8 TRAINING OF STAFF

Institute or MPKVLIBNET governing body organize the training for the staff

5.9 LOCAL AREA NETWORKING (LAN)

Local Area Networking (LAN) should install within the campus for searching to resources by the students, staff & scholars.

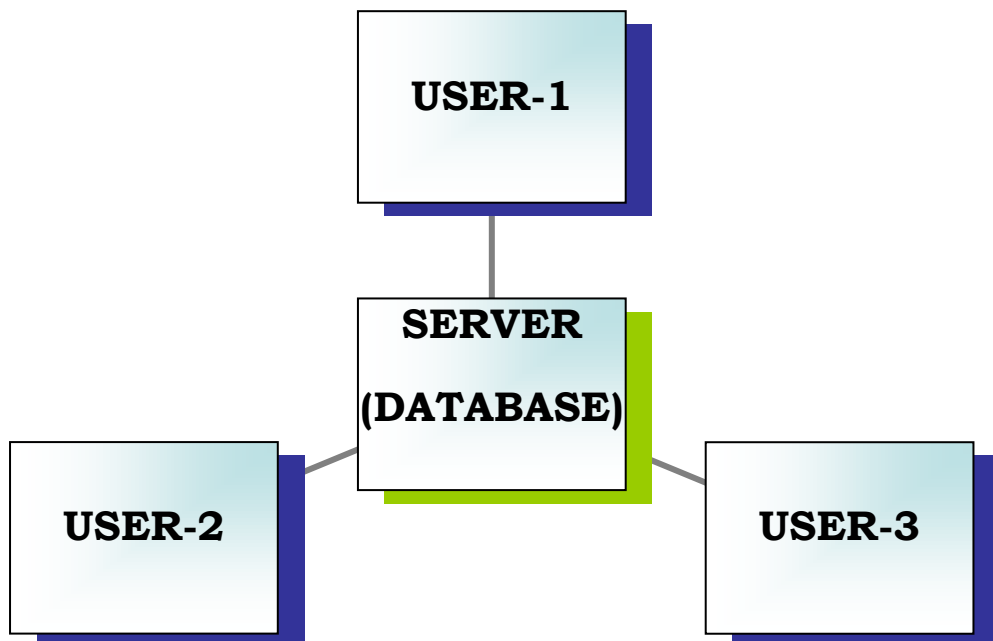


Figure 5.4: Local Area Networking/Institutional Networking

5.10 MODEL

“A model can come in many shapes, sizes, and styles. It is important to emphasize that a model is not the real world but merely a human construct to help us better understand real world systems. In general all models have an information input, an information processor, and an output of expected results”.
<http://serc.carleton.edu/introgeo/models/whatisamodel.html> accessed on 05/09/2014

5.10.1 MPKVLIBNET Home Page

The below picture is a proposed main page of MPKVLIBNET web portal and it gives the information about all types of resources available with the libraries and instructions to search the catalogues effectively.



Figure 5.5: Home Page of MPKVLIBNET

5.10.2 Search / Browse Interface

This user interface allows the faculty and students to search the bibliographic details of books, journals and other bibliographic records from MPKV server. There are eight search fields are given such as Keyword, Subject, Title, Author, Publisher, Publisher Location, ISBN and Barcode.

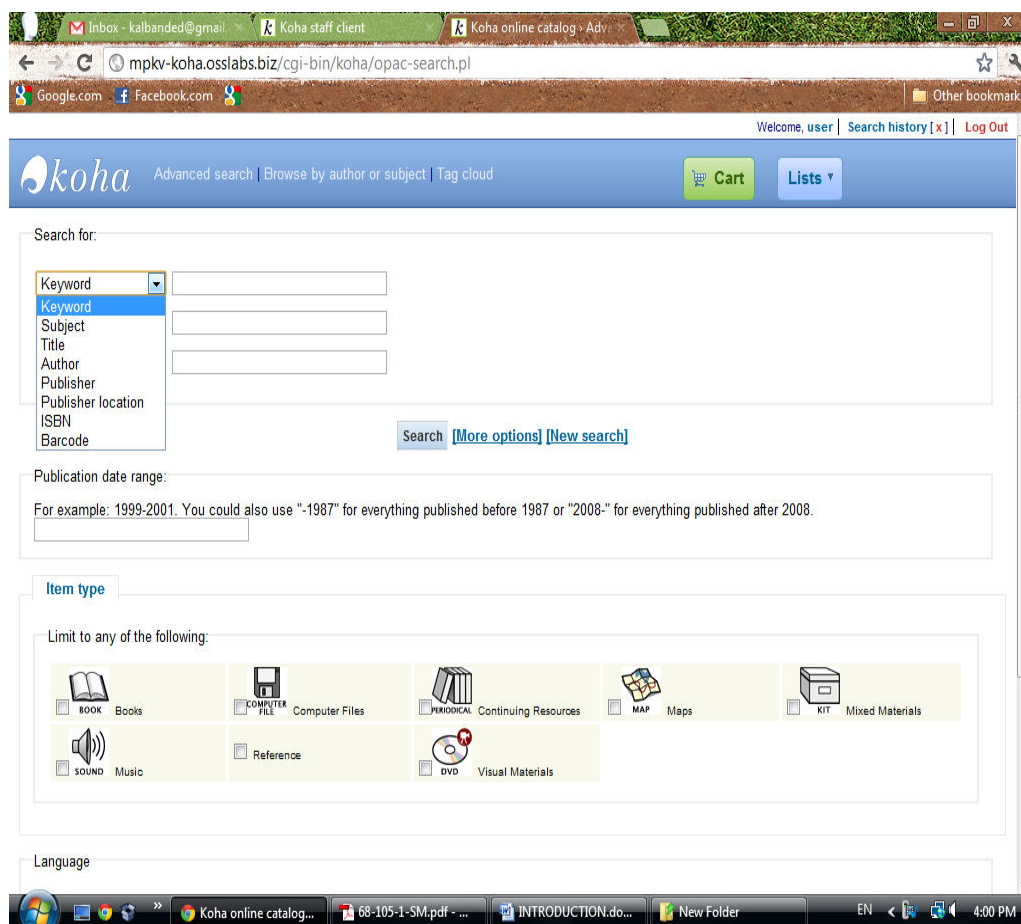


Figure 5.6 : Opening Screen of the MPKV user interface

5.10.3 Display of OPAC Output

OPAC and online union catalogue of MPKV can be accessed and viewed by selecting field name then enter the search term and click on 'search' button. It will show all the bibliographic record of books on the basis of search term with respect to search field. Book jacket is also enabled for better visualization. As shown on below fig.5.7.

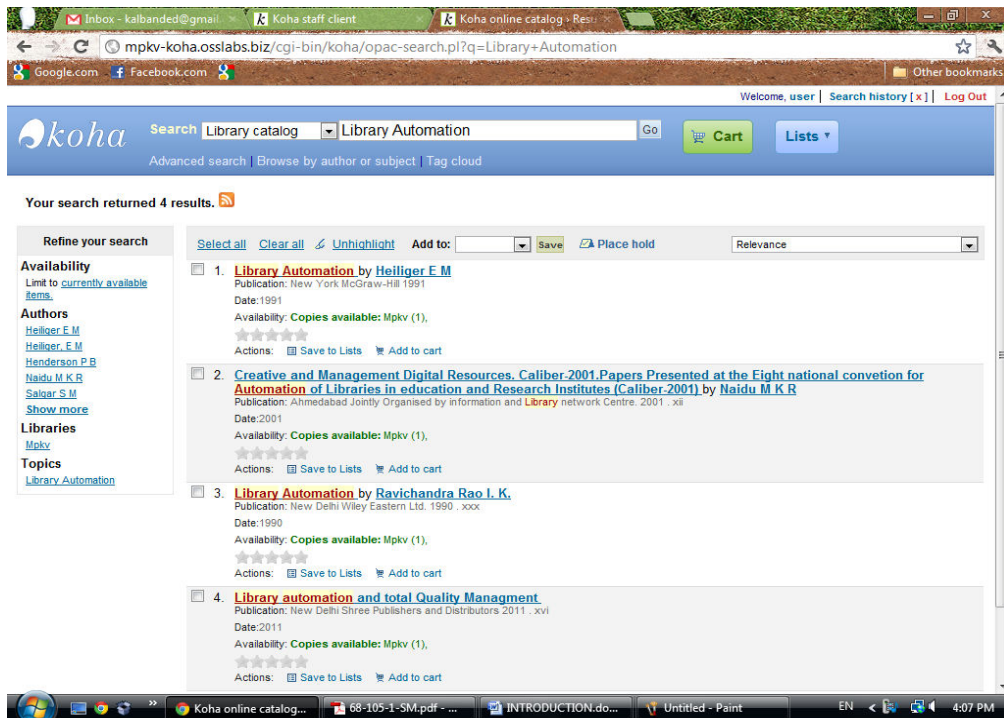


Figure 5.7 : OPAC – Output Search

5.10.4 Selection of Language and Type of Documents

Unicode system has been enabled in this networked model to search user's respective language, also can select / search the resources by selecting the library database for a quick retrieval. As shown below fig 5.8.

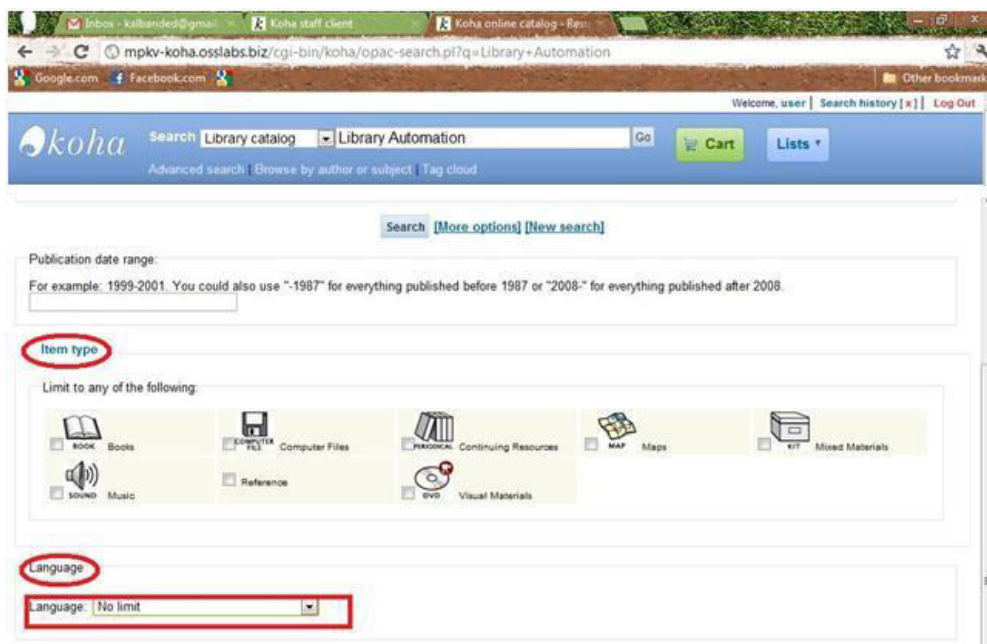


Figure 5.8 : Selection of Type of documents and Language - OPAC Search Screen

5.10.5 Bibliographic Details and Its Locations

The below figure displays the bibliographic details of a selected record with its available locations like institution name, status, call number and other relevant information.(Kalbande, 2012)

The screenshot shows a web browser window displaying a Koha library catalog record. The browser's address bar shows the URL: `mpkv-koha.osslabs.biz/cgi-bin/koha/opac-detail.pl?biblionumber=102144`. The Koha logo is visible in the top left of the page. A search bar contains the text "Library catalog" and a "Go" button. There are also buttons for "Cart" and "Lists". Below the search bar, there are links for "Advanced search", "Browse by author or subject", and "Tag cloud".

The record details are as follows:

- Normal view** | **MARC view** | **ISBD view**
- Creative and Management Digital Resources. Caliber-2001.Papers Presented at the Eight national convection for Automation of Libraries in education and Research Institutes (Caliber-2001)**
- by [Naidu M K R](#)
- Authors: [Jambhekar A](#) | [Naidu M K R](#) | [Salgar S M](#)
- Published by : [Jointly Organised by information and Library network Centre, \(Ahmedabad\)](#)
- Physical details: xii 368pp
- Year: 2001
- Tags from this library:
No tags from this library for this title.
- [Add](#)
- average rating: 0.0 (0 votes)

Below the details, there are tabs for "Holdings (1)", "Title notes", and "Comments (0)". The "Holdings (1)" tab is active, showing a table with the following data:

Item type	Location	Call number	Copy	Status	Date due
	Mpkv		1	Available	

On the right side of the page, there are navigation and utility buttons: "Browse results", "Previous", "Back to results", "Next", "Print", "Save to your lists", and "Add to your cart". The Windows taskbar at the bottom shows the time as 6:10 PM.

Figure 5.9: Bibliographic Details and its Location

5.11 MEMORANDUM OF UNDERSTANDING (MOU)

The all participative colleges/libraries obey and followed the rules prescribed in following MoU format.

MPKVLIBNET MoU On NETWORKING & RESOURCE SHARING OF THE AGRICULTURAL COLLEGE LIBRARIES

This Agreement is made on the _____day of _____200__ between **MPKVLIBNET-Mahatma Phule Krishi Vidyapeeth Library Network**, and _____

(with full address)

(Here in after referred to as the ‘Institutional Member’)

Whereas MPKVLIBNET has agreed to grant non-exclusive license to the Institutional Member to use MPKVLIBNET’s Archives and Services, Union Catalogues and other databases online, provide technical guidance in database creation and networking and deliver to the Institutional Member from time to time any computer programmes and to grant a non-exclusive license to use such programmes and their associated documents on the terms and conditions hereinafter contained:

Whereas the Institutional Member has its library located at _____ and has agreed to become a member of MPKVLIBNET to use MPKVLIBNET archives and services at this location only and promote and share its library resources with other institutional members of MPKVLIBNET:

Now it is hereby agreed as follows:

The Institutional Member shall:

1. Use the MPKVLIBNET databases for furthering its own research programmes and providing information to its users and Institutional Members of MPKVLIBNET.

2. Use the software arranged by or through MPKVLIBNET, if desired by the Institutional Member, on the machine owned by the Institutional Member at the above location.
3. Create records using international standards as adopted by MPKVLIBNET from time to time (MPKVLIBNET is recommending the creation of records using MARC, AACR II, the Library of Congress Subject Headings List and specialized thesauri, but libraries that have used other standards can still join MPKVLIBNET and upgrade their records in due course of time).
4. Contribute the records of all items created by the Institutional Member to the Central Union Catalogues, Union Lists, etc. maintained by MPKVLIBNET. The copyright of records created by the Institutional Member in its own machine will rest in the Institutional Member, but the copyright of the Central Union Catalogues shall rest in MPKVLIBNET.
5. MPKVLIBNET membership free of charge

The Institutional Member shall not:

1. Use the MPKVLIBNET Union Catalogues, Union Lists and other databases for any commercial purpose. The Institutional Member shall not rent, sell or license the use of or deliver or release or otherwise part with the possession of the systems/materials/software or the MPKVLIBNET Union Catalogues, Union Lists and databases or any part thereof to any third person.
2. Allow the use of the software/materials/database by any other person other than its own bonafide members of its library or information centre at the above location.

It is further agreed that:

1. MPKVLIBNET will not accept records in the Central Union Catalogues that do not have the essential fields as prescribed by MPKVLIBNET or those that contain typographical and factual mistakes. The Institutional Member has agreed to create records of MPKVLIBNET standard.

2. The Institutional Member will have qualified manpower, a suitable computer and Internet access in their Library for the use of MPKVLIBNET databases and services.
3. All charges towards telecommunication, stationary, etc. arising out of the use of MPKVLIBNET databases and services by the Institutional Members will be borne by the Institutional Member.
4. The Institutional Member shall not be entitled to assign, sub-license or otherwise transfer the license whether in whole or in part to any other user.
5. If the Institutional Member does not create standard records, cooperate with other Institutional Members of MPKVLIBNET in exchanging information, MPKVLIBNET shall terminate the contract with a month's notice to the Institutional Member.
6. This contract may also be terminated by immediate notice in writing if MPKVLIBNET or the Institutional Member has been responsible for a breach of its obligations and terms of this agreement. In such a case, the Institutional Member shall stop the use of the MPKVLIBNET system facilities and databases with immediate effect and return any software/hardware provided by or through MPKVLIBNET back to MPKVLIBNET. All disputes between the parties shall be settled by negotiation.

Signature & Seal

(Chairman of MPKVLIBNET)

Date:-----/-----/20

Signature & Seal

(Librarian of Participative Library)

Date:-----/-----/20

5.12 RESOURCE SHARING AGREEMENT FORMAT

This agreement will propose two years or which the governing body will decide

**MAHATMAPHULE KRISHI VIDYAPEETH LIBRARY NETWORK
(MPKVLIBNET)
RESOURCE SHARING & NETWORKING PARTICIPATION
AGREEMENT**

The undersigned, entering into an agreement to participate in MPKVLIBNET, shall:-

- 1- Participate in MPKVLIBNET resource sharing as a supplier.
- 2- Commit to resource sharing with all MPKVLIBNET members.
- 3- Provide resources to the MPKVLIBNET members on recommendation on Inter Library Loan free of cost.

This agreement shall remain in force until the undersigned requests a cancellation in writing.

Signature & Seal

Date-----/-----/20

(Librarian)

PARTICULARS OF THE MEMBER

Contact Name:-----

College Name:-----

Address:-----

Contact Number:-----

Mail Address:-----

Fax:-----

After signing, please forward this agreement and to be placed on the online list of participants.

5.13 REFERENCES:-

- <http://serc.carleton.edu/introgeo/whatisamodel.html> accessed on 05/09/2014
- <http://mpkv.ac.in> accessed on 07/01/2015
- <http://www.koha.org/> accessed on 10/01/2015.
- Kalbande D. T, Syed F.M. & Shinde, P.A. (2012). “Online Catalogue for Mahatma Phule Krishi Vidyapeeth, Rahuri.” In: International Conference on Creating Wisdom and Knowledge through shared Learning: Role of Librarians and Information Managers.{MANLIBNET }.Held at Indian Institute of Management (IIM). Indore. 11-13 Oct.2012. P.P.68-72.ISBN NO: 978-93-80574-40-0.
- Mahajan, Preeti. (2005), Academic libraries in India: a present day scenario, *Library Philosophy and Practice*, Vol. 8 (1)11-3.
- Prabhu,R (2011). Networking of College Libraries Affiliated To Bharathidasan University: A Study. Published Theses. Page 167-189.
- Rana,S.A.(2009). Resource Sharing & networking Model of Medical College Libraries in Faisalabad. MLISc Dissertation submitted to DLISc, Allama Iqbal Open University, Islamabad. 1-75 pp.

CHAPTER -VI

CONCLUSIONS AND IMPLICATIONS

6.1 INTRODUCTION

The computer and telecommunication technologies have revolutionized the field of library and information science. They are being utilized for collecting data, storage, organization, processing, analysis and dissemination of data or information to the users. With the introduction of new technology, libraries are expected to use modern technology. It has great relevance in the context of the fourth law of library science “save the time of readers and staff” in which Dr. S.R.Ranganathan provided the objectives relating to internal efficiency of library.

There is a visible impact of information technology on the functioning of library and information centers. During the last decades, library and information centers’ in India have started making use of the state-of-art of new information and communication technologies in a big way.

In this research study the researcher has taken into consideration all relevant resources and services of agricultural college libraries and examined them in detail to understand the impact of library resource sharing and networking of agricultural college libraries upon them. Inferences were drawn from the analysis of the data. Subsequently findings have been recorded and presented.

6.2 FINDINGS OF THE STUDY & TESTING OF HYPOTHESIS

Considering the data analysis and interpretation the following conclusions were made.

6.2.1 ABOUT INSTITUTE

1. For the present study out of 49 colleges, 40 were received and the response rate is 81.63%. These collected primary data has been grouped into two broad categories such as 'Constituents' and 'Self Financed' institutions. For the research.
2. Highest number of Agricultural Colleges has Self Finance management i.e. 34 (85%) and under the university management is 6 (15%). It is well established fact that private participation in Agricultural College Libraries is high compared to University Management.(Table 4.2.2 Fig. 4.1)
3. It is found that out of 40 Agricultural Colleges 24 (60%) Accredited and 16 (40%) Colleges don't have accredited till.(Table no.4.2.3)
4. It is observed that all Constituents colleges 6 (100%) are accredited and only 10 (29.41%) self-financing colleges accredited, while 24 (70.59%) self Financed Colleges are not Accredited. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance.(Table 4.2.3.1 and graph 4.2)
5. The researcher it s investigated that out of the total accredited colleges 14 (87.5%) colleges are accredited with A Grade followed by only 1 (6.25%) college are accredited with B and D Grade. (Table 4.2.4)
6. In the Accreditation grade Vs category of the colleges 6 (100%) Constituents Colleges Accredited with A Grade and followed by 8 (80%) self finance colleges. (Table 4.2.4.1 and Fig.4.3)
7. In the Intake Capacity of the Students. It reveals that there are 2283 (60.56 %) B. Sc. Students admitted, 346 (9.18%) M. Sc. Students and 225(5.97%) B. Tech students have intake capacity under the jurisdiction of the Mahatma Phule Krishi Vidyapeeth, Rahuri. And it is clearly found that majority of the Agricultural colleges are offering B.Sc courses.(Table 4.2.5 and fig. 4.4)

6.2.2 ABOUT LIBRARIAN

8. Out of 40 college librarians there is 28 (70%) are Male Librarians while 12 (30%) librarians are female. As per the P- Test result. There is $p=0.4$ vs $p < 0.4$ the parameter value is 0.129. The percentage of female employees in agricultural college libraries is 40%. Hence Hypothesis Agricultural Colleges follow the reservation policy in recruitment process (30 % reservation for the Female) valid.
9. In the academic qualifications of the librarians. Most of the librarians have graduation in B.A 18 (45%), Followed by B.A with M.A 11 (27.5%) and out of 40 only 2 librarians have undergraduate in B.Com. (Table no 4.3.2.1 , Fig No.4.6)
10. In the professional qualifications of the librarians. Out of 40 libraries there are 33 (85.2 %) librarians are having Master Degree in Library and Information Science, 4(10%) librarian has Bachelor degree in Library and Information science, 1 (2.5) Librarian have Master of Philosophy and Ph. D degree in Library and Information Science. It is also shows that only 1 (2.5%) librarians have Master degree, NET/SET with Ph. D in Library and Information Science. (Table 4.3.2.2 , Fig.4.7)
11. Age of librarian in Agricultural college libraries. It is observed that 13 (32.5%) librarians are working in the range of 31-35 years, 10 (25%) librarians are working in the range of 35-40 years and 9 (22.5%) librarians in the range of 25-30 years. It is also shows that 4(10%) librarians are working in the range of 41-45 years. However 2(5%) librarians are working in the range of 46-50 years. (Table 4.3.3 and Fig 4.8)
12. In the result of experience of librarians in Agricultural college libraries. It is observed that 14 (35%) librarians are working in the range of 1-5 years, 18 (45%) librarians are working in the range of 6-10, However 4 (10%) librarians are working in the range of 21-25 and 2 (5%) librarians are working in the range of 26-30 years, While 1 (2.5%) librarian are working in the range of 31-35. (Table 4.3.4)

6.2.3 ICT SKILLS AMONG LIBRARIANS

13. It can be seen that High level of ICT Skills 26 (65%) has been given Office Automation. It is followed by operating system 12 (30%) and library automation and networking (LMS) only 14 (35%). However content management system, Networking Technologies 13 (32.5%), Least importance has been given to Web Technologies only 6 (15%) and Institutional Repository/Digital Library only 5 (12.5%) librarians have high level ICT Skills. (Table 4.3.5)

In the comparative observation between constituents college librarians and self financed librarians regarding ICT skills it is found that is out of 6 Constituents college librarians 6 (100%) librarians have high level ICT skills in the Library Automation and Networking as well as in Office Automation followed by 5 (83.33%) having high level ICT Skills among the Operating System and Networking Technologies. Only 1 (16.67%) librarian has Low level ICT Skills in the Web Technologies. And in the Self-financed college libraries only 7 (20.59%) Librarians have high level ICT Skills in Operating System, 8 (23.53%) in Library Automation and Networking, 20 (58.82%) in Office Automation. It also seen that 19 (55.88%) librarians have low level skills in web technologies. The chi-square test is also administered to test the hypothesis that there is no significant difference in ICT skills among the librarians of ‘Constituents Colleges’ and ‘Self-Finance colleges’ institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. **“Hence the hypothesis no 1 “there is significant difference in ICT skills among the librarians of ‘Constituents Colleges’ and ‘Self-Finance colleges’” is valid.** (Table 4.3.5.1 and Fig 4.9)

6.2.4 ABOUT LIBRARY

14. It is observed that the maximum number of colleges as well as college libraries established in the period of 2001 to 2010 i.e. 25 (62.5%). Followed by in the period of 1907-1910 there are only 1 (2.5 %) college libraries established. However in the period of 1911-1950 there are 0 (0.00%) colleges are established. In the Period of 1951-1960 and 1991-2000 each period also 1 (2.5%) college are established. It is also

- shows that in the Period of 2010 to 2014, 10 (25%) Agricultural college library established. (Table 4.4.1 ,fig. 4.10)
- 15.** Out of 40 libraries there are all 40 (100%) libraries working in between 7-12 hours. There is no library working in the range of 13-18 hours and 18-24 hours. Also It is seen that, there is none of the library working for the below 6 hours. In average most of the libraries have working time 8 hours. (Table 4.4.2)
 - 16.** It is seen that, 23 (24.21%) having Assistant Librarian, 5 (5.26%) of Technical Assistant. There are 6 (6.32%) having Chief Cataloguer., 15 (15.79%) is Issue Assistant. It is observed that, 18 (18.95%) are Library Attendant, while 28 (29.47%) having others i.e Peon etc. (Table 4.4.3)
 - 17.** Working hours of the library reading room out of 40 libraries. There are 34 (85%) libraries Reading Room opened in between 7-12 hours. There are 5 (12.5%) libraries Reading Room opened in the range of 13-18 hours and only 1(2.5%) libraries Reading Room opened in the range of 18-24 hours. (Table 4.4.4)
 - 18.** As per the P- Test there is $p=0.5$ vs $p < 0.5$ the parameter value is 0.215.Hence as per the P-Test result 50% of the College Libraries have separate library building. (Table No.4.4.5)
 - 19.** In the Library building area. It is observed that 12 (30 %) of the responded libraries are situated in 501-100 Sq. fit. Area and remaining 7(17.5 %) of the libraries are 101-500 Sq. fit. area. It is observed that 2 (12.5%) libraries are situated in 1001-1500, 3001-3500, 4501-5000 sq.fit respectively; While 4 (10%) libraries are above 5001 Sq. fit. area. (Table 4.4.6 and fig. 4.11)
 - 20.** In the distribution of digital library area (Sq. fit.) made available in the library. It is observed that, 10 (25%) libraries have in the range of 101-200 Sq. fit. area, Followed by 8(20%) libraries having in the range of 1-100 and 201-300 Sq. fit. Area, however only 1 (2.5%) libraries having in the range of 501-600 and 1001-2400, 2401-5500 Sq. fit. Area, it is also shows that only 2 (5%) libraries having in the range of 301-400, 701-800, 901-1000 Sq. fit. area. (Table 4.4.7 and graph 4.12)

- 21.** As per the analysis of the data out of 40 libraries, 26 (65%) libraries are automated and 14 (35%) libraries are non- automated libraries. The chi-square test is also administered to test the hypothesis that there is Level of significance (α) = 0.05, P-Value = 0.050 is less than level of significance. Hence the hypothesis is significant. (Table 4.4.8)
- 22.** In order to ascertain the extent of the automation of the libraries the librarians were asked to indicate the extent of automation of the libraries. It is observed that out of 40 libraries, 8 (20%) libraries are completely automated and 6 (15%) libraries are partially automated. It is observed that only 26 (65%) library is in Initial stage of the Library Automation. (Table 4.4.9 and Fig4.13)
- 23.** In the use of library software for library housekeeping operations it is seen that out of 40 libraries, 5 (12.5%) libraries used Library Manager Software and 4 (10%) libraries used SOUL 2.0 software, 3 (7.5%) libraries used KOHA, SLIM 21 and AUTOLIB software. However 2 (5%) libraries used Vriddhi, E-Campus, Godavari-agri-tech software's. It is also shows that only 1 (2.5%) libraries using E-Granthalaya and e-Krishi, While 14 (35%) libraries are not using any single software .(Table 4.4.10 graph 4.14)
- 24.** It is observed that 27 (67.5%) having initial stage in the automation of the Acquisition, and 13 (32.5 %) libraries completed the acquisition with the help of library software. Followed by 17 (42.5%) initial stage in Cataloguing and 23 (57.5%) are complimented the cataloguing, 24 (60%) libraries are in initial stage providing Circulation with the help of Software and only 16 (40%) libraries are in the Complete stage, only 3 (7.5%) libraries completely automated in Budgeting and SDI/CAS. (Table 4.4.11, graph 4.15)
- 25.** Areas of Library Automation Vs Category of Colleges. So it is concluded that Constituents College libraries are mostly fully automated. Apart from this the Self Financed College libraries are initially started their work on SDI/CAS Service and as per the chi-square test there is **Level of significance (α) = 0.05, P-Value = 0.000** is

less than level of significance. Hence the hypothesis **“Most of the Constituents College Libraries are fully automated” is Valid.** (Table 4.4.11.1)

- 26.** The Back-end Database of the software it is reveals that out of the total 40 libraries 18 (45%) libraries have MySQL, However 7 (17.5%) libraries have Oracle. It is observed that only 1 (2.5%) library have My Access back end database and It is also shows that 14 (35%) libraries don't have any backend database because they don't have any library management software. (Table 4.4.12 and Fig. 4.16)
- 27.** The No. of Records available in Database. It is reveals that out of the total 40 libraries 14 (35%) libraries have 0 record in the libraries, However 8 (20%) libraries have 1-100 range of record, followed by 6 (15%) libraries have 1001-2000 range of record. It is observed that only 2(5%) libraries have 2001-3000 and 4001-115000 range of record in the Database.(Table 4.4.13 Fig. 4.17)
- 28.** In the Frequency of Updating the Database. It is examined that out of the total 40 libraries 20 (50%) libraries have Always Update; However 3 (7.5%) libraries have Sometime Update and Rarely Update. It is observed that only 14 (35%) libraries have Never Update. (Table 4.4.14)
- 29.** It is found that out of the total 40 libraries 17 (42.5%) libraries have Separate Library Server; However 23 (57.5%) libraries don't have Separate Library Server. As per the P-test there is $p = 0.5$ vs $p < 0.5$.value of Separate Library Server. The parameter value is (0.215). (Table 4.4.15)
- 30.** Out of the total 40 Agricultural College libraries 20 (50%) libraries have LAN Connectivity; However 20 (50%) libraries don't have LAN Connectivity. As per the P-Test it is found that there is $p = 0.5$ vs $p \neq 0.5$.value of Separate Library Server. The parameter value is (1.000). (Table 4.4.16)
- 31.** It is observed that out of the total 40 libraries only 5 (12.5%) libraries have Separate Web Page; However 35 (87.5%) libraries don't have Separate Web Page for the libraries. (Table 4.4.17)

- 32.** As per the P-Test, Test of $p = 0.99$ vs $p < 0.99$ P-Value 0.331. The 99% collages have Internet Facility. Hence the hypothesis is significant. (Table 4.4.18)
- 33.** It is observed that out of the total 40 libraries 32 (80%) libraries used Broadband connectivity; followed by 6 (15%) libraries have used Leased Line connection. however only 1 (2.5%) libraries have used Dial-up connection of Internet Connectivity. (Table 4.4.19 , graph 4.18)
- 34.** In the Internet Connectivity Speed out of the total 40 libraries 9 (22.5%) libraries have 64 kb speed; followed by 7 (17.5%) libraries having 128 kb and 4.2 mbps speed respectively. however only 4 (10%) libraries have 1mbps and 10 mbps speed of the Internet Connectivity. (Table 4.4.20, graph 4.19)
- 35.** It is reveals that out of the total 40 libraries 35 (87.5%) libraries have Used DDC Classification Scheme, However only 1 (2.5%) libraries have used CC Classification Scheme. It is observed that none of the library used UDC Classification Scheme. And only 2 (5%) libraries have used any other or No Any Classification Scheme. (Table 4.4.21, Fig.4.20)
- 36.** It is seen that out of the total 40 libraries 24 (60%) libraries have Used AACR-II Cataloguing Scheme, However only 6 (15%) libraries have used CCC Cataloguing Scheme. It is observed that 10 (25%) libraries have used other Cataloguing Scheme.(Table 4.4.22, Fig.4.21)

6.2.5 LIBRARY COLLECTION

- 37.** Out of the total 40 libraries 6 (15%) library's collection having in the range of 1-1000; however 14 (35%) library's collection 1001-2000 in this range. While 5001-7000 collection of not any Library's. Only 1(2.5%) Library has 7001-8000 range collection. It is observed that only 2 (5%) library's having total collection in the range of 10001-60000. (Table 4.5.1.1)
- 38.** It is reveals that out of the total 40 libraries 14 (12.5%) library's collection has 0 No. of collection; however 15 (21.25%) library's collection has 1-100 in this range. It is

observed that 1 only 2 (10%) library's collection has 1001-50000 in this range. While 301-1000 collection of not any (0%) Library, Only 1(2.5%) Library has 5001-10000 range of collection.(Table 4.5.2.1)

6.2.6 ICT INFRASTRUCTURE

39. Out of 6 Constituents College Libraries all have good ICT Infrastructure but out of 34 Self Financed College Libraries 18 libraries have only 1 to 2 Computers and One library don't have till any desktop in the library, Most of the Self Financed College Libraries don't have separate Library servers, and CCTV cameras for the Security Purpose. Hence the **Hypothesis There is Significant Difference in ICT Infrastructure Facility in Self Financed and Constituents Agricultural College Libraries is Valid.** (Table no. 4.6.1)

40. In the use of Library automation software 19 (47.5%) libraries used only commercial software, followed by 3 (7.5%) libraries have In House Software and only 1 Library have open source as well as commercial software for the library Automation, and it is observed that 14 (35%) libraries don't have any Library Automation software and all the 14 Libraries are the Self Financed College Libraries. (Table 4.6.2 Fig. 4.23)

41. The Availability of Digital Library Software's. It is seen that out of the total 40 libraries 6 (15%) libraries used commercial Digital library software, followed by 2 (5%) libraries have In House Software and Commercial as well as Open Source Software. And it is observed that 30 (75%) libraries don't have any digital library software. (Table 4.6.3, Fig.4.24)

42. Availability of Institutional Repository Software. It reveals that out of the total 40 libraries 3 (7.5%) libraries have only commercial digital library software, however only 1 (2.5%) libraries used In House software and Commercial as well as Open source software. It is observed that 34 (85%) libraries don't have any digital library software. (Table 4.6.4, Fig. 4.25)

43. The Use of E-Learning Software. It is found that out of the total 40 libraries only 2 (5%) libraries used commercial software as well as Open Source Software for the E-

Learning purpose, and 35(87.5%) libraries don't used any e-learning software in their libraries. (Table 4.6.5, Fig. 4.26)

44. Use of Office Automation Software, It is evaluated that out of the total 40 libraries 2 (5%) libraries have only commercial software, followed by only 2 (5%) libraries have Open source office automation software. It is observed that 35 (87.5%) libraries not used any office automation software. (Table 4.6.6 and Fig. 4.27)

6.2.7 LIBRARY SERVICES

45. Manual Library Services Vs Categories of the Colleges. It is observed that out of the total 6 Constituents college libraries All 6 (100%) libraries have provided circulation of books, reference and information service and Newspaper Clipping service, followed by 5 (83.33%) libraries have provided Referral services, Catalogue Service and User Education/Library Orientation/ Library Literacy, It is also observed that the out of the total 34 Self financed libraries all 34 (100%) libraries have provided circulation of books, reference and information service, However only 2 (5.88%) libraries have provided Translation service. As per the chi-square test **hypothesis No.2 that there is a significant difference in manual library services among the libraries of 'constituents ', and 'self-financing' institutions. Level of significance (α) = 0.05, P-Value = 0.001 is less than level of significance. Hence the hypothesis is Valid.** (Table 4.7.1.1)

46. Computerized Services VS Categories of the Colleges. It is found that out of the total 6 Constituents college libraries all 6 (100%) libraries have provided circulation and OPAC service through computers, followed by 5 (83.33%) libraries have provided Bulletin Board Service and 4 (66.67%) provide Current Awareness Service and alerting service to the users. It is also observed that the out of 34 libraries 14 (41.18%) libraries have provided circulation of books and 20 (58.82%) libraries have not provided, However only 3 (8.82%) libraries have provided Alerting Service and Bulletin Board service and 31 (91.18%) libraries have not provided. As per the chi-square test **hypothesis No.2 that there is a significant difference in computerized library services among the libraries of 'constituents ', and 'self-financing'**

institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. Hence the hypothesis is Valid. (Table 4.7.2.1)

47. ICT Based Services VS Categories of the Colleges. It is found that out of all 6 constituents college libraries 6 (100%) libraries have provided Digital Library service and Internet Browsing Service, followed by 5 (83.33%) libraries have provided Web OPAC and E-mail/ List Forum, 4 (66.67%) libraries provide IR, Retrieval of CD ROM Database, News Paper Clipping and Ask A Librarian Service to the Users. It is also observed that the out of the total 34 self Financed college libraries 2 (5.88%) libraries provide Digital Library Services, Only 1 (2.94%) library provide IR Service, 3 (8.82%) libraries provide Retrieval of CD ROM Database as well Ask A librarian Service , 16 (47.06%) libraries have provided Internet Browsing and 18 (52.94%) libraries have not provided this service, The chi-square test is also administered to test the **hypothesis No.2 that there is a significant difference in ICT Based library services among the libraries of ‘constituents ’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. Hence the hypothesis is Valid. (Table 4.7.3.1)**

48. In the above table 4.7.4 and graph 4.31 seen the Ad on services provide to the users. Out of the total 40 libraries 11 (27.5%) libraries have provided Wi-Fi Services and 29 (72.5%) libraries have not provided this service, followed by 3 (7.5%) libraries have provided Mobile Based service and 37 (92.5%) libraries have not provided this service, however only 2 (5%) libraries have Library Portal service and 38(95%) libraries don't provided mobile based services to the users.

49. As per the chi-square test is also administered that the hypothesis **No.2 that there is a significant difference in Ad-On-library services among the libraries of ‘constituents ’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. Hence the hypothesis is Valid.**

6.2.8 LIBRARY BUDGET:-

- 50.** Library Budget for the year 2014-2015 in Rs. It is concluded that out of the total 40 libraries only 1 (2.5%) libraries Budget has in the range Rs.1000-50000, followed by 12 (30%) libraries Budget have in the range of Rs.50001-100000. It is also shows that 6 (15%) libraries Budget have in the range of Rs. 150001-200000, 2 (5%) libraries have total budget in between Rs. 600001-650000, only 3 (7.5%) libraries have budget of current year on above Rs.650001.(Table 4.8.1)
- 51.** Total budgets spent on the print resources in the year of 2011-14. And it is found that out of the all 40 libraries all the libraries spent their budgets on the Text books as well as on the on the Current Periodicals. (Table no. 4.8.2)
- 52.** Library Budget in Lacks on Print Resources in the year of 2011-2014.It is reveals that out of the total 40 libraries 14 (3.5%) libraries Budget has in the range of Rs.1to 2 lacks, followed by 6 (15%) libraries Budget have in the range of Rs. 3 to 4 lacks. It is also shows that 3 (7.5%) libraries Budget have in the range of Rs.6 to 7 lacks. (Table 4.8.2.1)
- 53.** The researcher it is investigated that library budgets spent on E-Resources that is E-Books, E-Journals, CD/DVD ROM Databases and Educational CD's and DVD's. And it is found that only Constituents College Libraries (Code A to F) spent their budgets on the purchasing of E-Resources in the year of 2011-14. And only one self financed library spent their budget on purchasing of the Educational CD'S and DVS's, and other 33 self financed libraries have 0 budgets in the year of 2011-14 under the head of E-Resources. (Table No. 4.8.3)
- 54.** The researcher it is evaluated library budgets under the head of Academic Activities i.e Conference, Seminar, Workshop, Trainings etc.. For attending as well as organizing. And it is found that out of 40 Agricultural College Libraries only 7 (17.5%) libraries have provision and 33 (82.5%) don't have budgets on academic activities in the year of 2011-14.(Table No.4.8.4)

55. Library budgets on Hardware, Software and Information Communication Technology, and it is found that out of 40 Agricultural College Libraries only 15 (37.5%) libraries have provision and 25 (62.5%) don't have spent budgets on purchasing of the Hardware, Software and ICT Infrastructure in the year of 2011-14. (Table No.4.8.5)

6.2.9 LIBRARY NETWORK

56. It is reveals that out of the total 40 libraries 6(15%) libraries having membership of OCLC, CeRA of ICAR, J-Gate Plus, INFLIBNET-NLIST and 34 (85%) have not members of this networks, However only 1(2.5%) libraries have membership of JCCC HELINET and 39 (97.5%) libraries have not members of this network. (Table 4.9.1, fig. 4.33)

57. As per the chi-square result it is found that **“There is a significant difference in membership of library networks among the libraries of ‘constituents ’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance.Hence hypothesis is valid.** (Table 4.9.1.1)

58. Reasons for joining library network VS Categories of the Colleges. It is reveals that out of the total 6 libraries Constituents college libraries all 6(100%) libraries have joined library network for Access of Union Catalogue, ILL Service, Consortium usage, save the time of users as well as staff, professional communication, access of IR, and Trainings. Followed by 100% self financed college libraries joined library network of access of union catalogue, followed by 32 (94.12%) joined for ILL service, 31 (91.18%) joined for save the time of users as well as staff. As per the chi-square test hypothesis that **“There is a significant difference in reasons for joining library networks among the libraries of ‘constituents ’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.004 is less than level of significance. Hence hypothesis is valid.** (Table 4.9.2.1)

6.2.10 RESOURCE SHARING & NETWORKING

59. Researcher study the Opinion on Resource Sharing & Networking programme. It is reveals that out of the total 40 libraries 30(75%) respondents says Resource sharing models are adequate for Libraries, 38 (95%) librarians agree on the opinion of Resource sharing and Network activity in increasing becoming important into next Generation Libraries and 39 (97.5%) respondents like to share Resources under Networking Programme. (Table 4.10.1)
60. In the Opinion on resource sharing & Networking programme VS Categories of the Colleges. It is reveals that All 6 (100%) constituents college libraries said Resource Sharing and Network activity in increasing becoming important into next Generation Libraries and they would like to share Resources under Networking Programme. It is also shows that 5 (83.33%) libraries say Resource sharing models are adequate for Libraries, and out of the total 34 self financed colleges 25 (73.53%) libraries agree with Resource sharing models are adequate for Libraries and 9 (26.47%) libraries not agree, However 32 (94.12%) libraries said Resource sharing and Network activity in increasing becoming important into next Generation Libraries and 8(5.58%) said it's not helpful to the next generation libraries. As per the chi-square test the hypothesis that **“There is a significant difference in opinion of resource sharing activities among the libraries of ‘constituents ’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.435 is greater than level of significance. Hence the hypothesis is Invalid.**(Table 4.10.1.1)
61. In the Wiliness to share print resources. The ‘Strongly Disagree’ total 25 and ‘Strongly Agree’ total 135 have been divided by number of respondents (N: 25) and Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree value has been calculated. The ratio between Strongly Agree: Agree: Neutral: Disagree: Strongly Disagree works out to 5.4:3.44:1.4:1.56:1 the strongly disagree ratio (1) is negligible. Therefore it seems that the most of librarians prefer for sharing of resources in networking of libraries. (Table 4.10.2)

- 62.** In the chi-square test result it is found that the hypothesis “**There is a significant difference in willingness to share print resources among the libraries of ‘constituents ’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.278 is greater than level of significance. Hence the hypothesis is Invalid.** (Table 4.10.2.1)
- 63.** In the Willingness to share E- resources calculate the ratio between the ‘Strongly Disagree’ total 14 and ‘Strongly Agree’ total 156 have been divided by number of respondents (N: 14) and Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree value has been calculated. The ratio between Strongly Agree: Agree: Neutral: Disagree: Strongly Disagree works out to 11.14:4.93:6.64:2: 1 the strongly disagree ratio (1) is negligible. Therefore it seems that the most of librarians prefer for sharing of e-resources in networking of libraries, the hypothesis that “**There is a significant difference in willingness to share e-resources among the libraries of ‘constituents ’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. Hence the hypothesis is valid.** (Table No. 4.10.3, and Table 4.10.3.1)
- 64.** The Willingness to share Academic Activities. It is seen that out of the total 40 libraries 31 (77.50%) libraries strongly agree to share Staff Training, followed by 6 (15%) libraries agree, 2(5%) libraries with Neutral and 1 (1.50%) libraries with disagree. However 27 (67.50%) libraries strongly agree to share Workshop/Seminar/Conferences, followed by 5 (12.50%) libraries only agree, 7 (17.50%) libraries Neutral and 1(2.50%) libraries with Disagree. As per the chi-square test is also administered that “**There is a significant difference in willingness to share academic activities among the libraries of ‘constituents ’, and ‘self-financing’ institutions. Level of significance (α) =0.05, P-Value=0.000 is less than level of significance. Hence hypothesis is valid.** (Table 4.10.4,graph 4.34 and Table 4.10.4.1)
- 65.** Out of the total 40 libraries only 7 (17.5%) libraries have preferred Face to Face method and 25 (62.5%) libraries have preferred Postal and Currier and while 24

(60%) libraries have preferred Web Based resource sharing method for sharing resources among each others. (Table 4.10.5 and graph 4.35)

66. Methods for Resource Sharing VS Categories of the Colleges. It is reveals that out of the total 6 libraries only 1(16.67%) library preferred Face to Face method and 5(83.33%) libraries have not preferred this method, 3 (50%) libraries preferred postal/ currier method and 6 (100%) libraries preferred web based method for the resource sharing. It is also found that all out of the 34 self financed college libraries 6 (17.65%) preferred face to face method, 22 (64.71%) preferred Postal/ Currier methods and 18 (52.94%) preferred web based method for the sharing of the resources. The chi-square test is also administered to test the hypothesis that **“There is a significant difference in resource sharing methods among the libraries of ‘constituents ’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.004 is less than level of significance. Hence hypothesis is Invalid** (Table 4.10.5.1)

67. Attitude towards library networking. It is reveals that the calculate ratio between the ‘Strongly Disagree’ total 14 and ‘Strongly Agree’ total 156 have been divided by number of respondents (N: 14) and Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree value has been calculated. The ratio between Strongly Agree: Agree: Neutral: Disagree: Strongly Disagree works out to 11.14:4.93:6.64:2: 1 the strongly disagree ratio (1) is negligible. **Hence hypothesis no. 3 there is a positive attitude among the library and information science professionals in agricultural Colleges towards Networking and Resource Sharing is valid.** (Table no. 4.10.6 and fig. no.4.36)

68. In the attitude towards library networking and Resource Sharing VS Categories of the Colleges. It is reveals that out of the total constituents college libraries 6 (100%) are strongly agree on it provide up to date information, followed by 5 (83.33%) libraries are strongly agree on It increase research output in libraries and It creates positive attitude among users towards libraries, 4 (66.67%) libraries have strongly agree on Its support to increase of library usage, Improvement in the library services, Its support

to the fulfillment of users need, it is also seen that 5 (83.33%) constituents libraries are strongly disagree on it is difficult to implement in libraries as well as it is difficult to maintain. Hence out of the 34 self financed agricultural college libraries 26 (76.47%) are strongly agree on It increase of library usage followed by 25 (73.53%) libraries strongly agree on its helpful to improvement of library services, only 4 (11.76%) libraries said it is difficult to maintain and 3 (8.82%) respondents are strongly agree on It is difficult to Maintain in libraries. **Hence hypothesis no. 3 there is a positive attitude among the library and information science professionals in agricultural Colleges towards Networking and Resource Sharing is valid.**(Table 4.10.6.1)

69. In the positive Attitude towards library networking and resource sharing programme. It is reveals that the calculate ratio between the ‘Strongly Disagree’ total 2 and ‘Strongly Agree’ total 194 have been divided by number of respondents (N: 2) and Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree value has been calculated. The ratio between Strongly Agree: Agree: Neutral: Disagree: Strongly Disagree works out to 97: 48: 11.50: 2.50: 1. In the ratio output it is seen that the ratio have been decrees from strongly agree to strongly disagree. And Strongly Disagree ratio (1) is negligible. **Hence hypothesis no. 3 there is a positive attitude among the library and information science professionals in agricultural Colleges towards Networking and Resource Sharing is valid.** (Table No. 4.10.6.2)

70. Negative Attitude towards library networking and resource sharing programme. It is found that the calculate ratio between the ‘Strongly Disagree’ total 14 and ‘Strongly Agree’ total 156 have been divided by number of respondents (N:14) and Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree value has been calculated. And it works out to 0.93: 1: 0.57: 2.21: 1. In the ratio output it is seen that the ration have been increase towards strongly agree to strongly disagree. And Disagree ratio (2.21) and strongly disagree ratio (1) is greater than strongly agree ration is negligible. **Hence hypothesis no. 3 there is a positive attitude among the library and information science professionals in agricultural Colleges towards Networking and Resource Sharing is valid.** (Table 4.10.6.3)

71. The Barriers of Resource Sharing. It is reveals that out of the total 40 libraries only 21(52.5%) respondents faced the barrier competitiveness of institutions convert move for centralization, 31(77.5%) libraries faced Urgency of user's requirement, 17 (42.5%) libraries have Discouragement from past experience and 23 (57.5%) libraries have not, While 24 (60%) libraries faced the barriers of discouragement from past experience. (Table 4.10.7)
72. In the Barriers of Resource Sharing Vs Category of Colleges. It is found that out of the total 6 constituents college libraries only 4 (66.67%) libraries have faced the barrier like Competitiveness of institutions convert move for centralization, Urgency of user's requirement, Autonomy of actions desired by librarians and Size and status consciousness of established libraries. It is also shows that out of the 34 self financed libraries 17 (50%) libraries have feel the barrier i.e Competitiveness of institutions convert move for centralization, and Psychological and egoistic barriers from users, librarians and staff. The chi-square test is also administered to test the hypothesis that **“There is a significant difference in barriers towards resource sharing among the libraries of ‘constituents’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.141 is greater than level of significance. Hence hypothesis is Invalid** (Table 4.10.7.1)
73. In the Barriers towards Networking. Out of the total 40 libraries 28(70%) libraries faced the barriers like Lack of ICT Infrastructure, and lack of budget, 12 (30%) libraries have not faced this problem, and 30(75%) libraries face the Lack of Trained staff, 17 (42.5%) libraries have Lack of co-operation & Co-ordination, While 28 (70%) libraries have Lack of Legislative measures towards networking in the libraries. (Table 4.10.8)
74. The Barriers of Networking VS Category of Colleges. It is reveals that out of the total 6 constituents college libraries only 2 (33.337%) libraries faced the barriers like lack of legislative measures and followed by 1 (16.67%) libraries have faced Lack of ICT Infrastructure otherwise all the libraries don't faced the barriers of the networking like lack of budget, lack of trained staff, lack of training, lack of management support and

etc. In this table It is also shows that out of the 34 self financed libraries 30 (88.24%) libraries faced the Lack of trained staff, followed by 29 (85.29%) faced Lack of ICT applications training and lack of awareness of the networking technologies, it is also seen that 28 (82.35%) respondents faced Lack of budgets and lack of legislative measures barriers also 27 (79.41%) libraries have lack of ICT Infrastructure problems for the implementation of the Networking. The chi-square test is also administered to test the hypothesis that **“There is a significant difference in barriers towards networking among the libraries of ‘constituents ’, and ‘self-financing’ institutions. Level of significance (α) = 0.05, P-Value = 0.000 is less than level of significance. Hence hypothesis is valid** (Table 4.10.8.1)

6.3 IMPLICATIONS:

Keeping in view the data analysis and interpretation, the following implications made;

1. The qualified library and information science professionals should be appointed in the colleges particularly in self-finance Agricultural colleges.
2. The self finance agricultural libraries should develop the collections, services and ICT infrastructure facilities to provide effective services to the users.
3. The libraries should be allocated sufficient finance in order to introduce new services and also to improve the existing services.
4. It is very important that the success of any new system or service is based on the adequate knowledge, skills of staff members. Therefore, the librarians and library staff should be properly trained when a new service or technology is introduced in the libraries.
5. It is suggested that the librarians should develop their attitudes to share the library resources among other libraries in a systematic way.
6. The senior librarians working in constituent’s colleges should have more commitment and interest in taking new initiative for providing better library services and products.

7. In view of the heavy demand and the need to sustain the onslaught of electronic and digital information resources, adequate funds be made available to the agricultural libraries.
8. There should be professionally qualified and technologically exposed skilled supporting staff who provides the technology related library and information services.
9. Provision is made to use the standard library software's which can sustain the possible changes from time to time and which can offer back-up services as and when required.
10. As a prerequisite, there should be a union catalogue of library resources of all the Agriculture colleges' libraries.
11. Looking into the national efforts in the formation of consortia in some groups of subjects, there seems to be an immediate need for joining CeRA like national consortia so as to exploit the resources for the benefit of users.
12. State Government provides funds to the self financed Agricultural colleges as well as libraries for the development.
13. Agriculture Universities take initiative regarding development of the self financed affiliated institutions as well as libraries.

6.4 FURTHER AREA OF RESEARCH

The researcher would like to suggest the following topics for further study.

1. A study of Library Networking and resource in Agricultural College libraries affiliated to Vasantnao Naik Marathwada Krishi Vidyapeeth, Parbhani and Dr. Balasaheb Savant Kokan Krishi Vidyapeeth, Dapoli: A Comparative Study.
2. A Comparative study of Resource Sharing and Networking in Agricultural College Libraries in Maharashtra and Karnataka.
3. Resource sharing in Agricultural University Libraries in Maharashtra: A Comparative Study
4. Status of Agricultural College Libraries in Maharashtra: A Study

5. A study of Library Resource Sharing in College Libraries affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

6.5 CONCLUSION

The library professional has never been exposed so much in past to the changing information scenario as it has been done now. In this age of information explosion, the technology has progressively replaced the old method of information collection, storage and retrieval. Today the walls of the library are giving way to electronic environments to establish links with information and virtual libraries that are getting shaped on the resource sharing and networking. Each individual library is acting as a place for storage and services to the users while the trend is to provide shared information to the users. Emphasis is given to access to information rather than owning it.

It is also possible to create their own institutional digital repositories by transforming their institutional publications which are in print. All this needs cooperation and support from the authorities of the colleges and active participation of library professionals.

Academic libraries in India have long desired one-stop shopping for their customers and in this electronic age their customers are demanding it to search from a single point at any physical location, and retrieve information from the library catalogue, citation form journal indexes and full text information electronic resources.

Academic libraries are facing increasing pressures from multiple sources. Libraries can no longer be expected to support research and development from their own resources due to the information explosion, increasing cost of library materials, shrinking library budgets etc. The global computer network providing access to online bibliographic information and full text delivery of request will change the way work is performed in the libraries. The most important advantage of the information age for libraries may be that the information is not limited to the items held by library rather than

user can access any modern library in the world through the World Wide Web. Libraries must provide reliable, cost efficient access to information whether print or multimedia whether held locally or remotely. The need to provide information services that remove the barriers of distance and time become even more important. In earlier times libraries have always acquired and organized material so that the information is accessible more easily.

In view of the above points, it can be concluded that Resource sharing and networking is a great boon which needs to be implemented progressively and professionally in Agricultural Institutions in Maharashtra. This initiative will generate optimum satisfaction among users and also save considerable national resources.

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**NETWORKING AND RESOURCE SHARING OF THE AGRICULTURAL
COLLEGE LIBRARIES IN MAHARASHTRA: A STUDY**

Note: Please tick mark (√) to indicate answers wherever mentioned.

SECTION-I

1. GENERAL INFORMATION

1. Name of the College:-----
2. Address:-----
3. Year of Establishment: 1. College:-----2.Library:-----
4. Type of Management: (Please √)
 - i) University Management [] ii) Private aided []
 - iii) Self financing [] iv) Other-----
5. Is the college Accredited by “Accredited Board of ICAR”: 1) Yes [] 2) No []
 If yes please mention Grade: -----
6. College Website:-----
7. Phone No & Fax:-----e-Mail ID-----
- 8. Type of courses & intake capacity:**

Sr. No	Courses	Name & No. of Programme	Annual Intake Capacity
1	Certificate		
2	Diploma		
3	UG		
4	PG		
5	Ph.D		

2.10 Are you updating your library database regularly?

1. Always [] 2. Sometime [] 3. Rarely [] 4. Never []

2.11 Does your library have separate server?

1. Yes [] 2.No []

2.12 Is your library resources are connected with local area network?

1. Yes [] 2.No []

2.13 Do you have separate webpage for your library?

1. Yes [] 2.No []

2.14 Does the library have internet facility?

1. Yes [] 2.No []

If Yes which type of connectivity do you have?

1. Broadband [] 2. Dial-up [] 3. Leased Line [] 4. Other--

2.15 Internet Connection Speed

1. 64 kb [] 2. 128 kb [] 3. 1 mbps [] 4. 4.2 mbps []
5. 10 mbps [] 6. Any Other.....

SECTION-IV

3. LIBRARY COLLECTION

Sr.No	Type of resources	Name of Resources	Total Number
1	Print Resources	Text Books	
		Reference Books	
		Current Periodicals	
		Back Volumes	
		Thesis/Dissertations	
		Project Reports	
		Preprints/Reprints	
		Patents	
		Standards	
		Annual Reports	
		Other	
2	E-Resources	E-Books	
		E-Journals	
		E- Thesis/Dissertations	
		E- Full text Databases	
		E-Bibliographic Databases	
		Multimedia Audio/ Video equipments	
		Course Material	
		Other	

3.1 Which classification scheme do you follow for classifying documents in your library?

1. DDC [] 2. UDC [] 3. CC [] 4. Other-----

3.2 Which cataloguing code do you follow in your library for cataloguing?

1. AACRII [] 2. CCC [] 3. Other-----

SECTION-V

4. ICT INFRASTRUCTURE

Sr. No	Description	Hardware	Total No
1	Hardware	Computers	
		Laptop / Tablets	
		Server	
		Printer	
		Scanner	
		Barcode –Reader	
		E-Book Reader	
		L.C.D. Projector	
		Television with VCR	
		Photo Copy Machine (Xerox)	
		Audio Visual Equipments	
		CCTV	
		Telephone	
		Fax	
Other			

			In House Software	Commercial	Open Source Software	NA
2	Software	Library Automation				
		Digital Library Software				
		Institutional Repository				
		E-Learning Software				
		Office Automation				

5. SERVICES PROVIDED BY THE LIBRARY

Sr.No	Type of Services	Services	(√)
1	Manual Services	Circulation of Books	
		Reference & Information Service	
		Referral Service	
		CAS	
		Book Bank	
		Catalogue Service	
		Photocopying	
		Inter Library Loan Service	
		User Education/Orientation/Library Literacy	
		News Paper Clipping	
		Translation Services	
Open access			
Any other			
		Circulation of Books	

2	Computerized Services	Reference Service	
		CAS/SDI	
		OPAC	
		Alerting Service	
		Bulletin Board Service	
		Other	
3	ICT / Web Based Services	Digital Library Service	
		Institutional Repository	
		Retrieval of CD ROM database	
		Internet Browsing	
		Online Database Service	
		Web OPAC	
		News Paper Clipping	
		Blog/ Web 2.0/E-Mail/ Forum	
		Ask A Librarian	
4	Add on Services	Library Portal	
		Mobile Based Services	
		Wi-Fi Services	
		Other	

6. LIBRARY BUDGET

1. Total Library Budget for the current year 2014-2015 (in Rs.)-----

2. Library budgets under following heads (in Rs)

Sr.No	Type of Resources	Resources	2011-12	2012-13	2013-14
1	Print Resources	Books			
		Periodicals			
		Back			

10. Please state the resources, services, other academic activities you like to share.

Note: 1) Strongly Agree 2) Agree 3) Neutral 4) Disagree 5) Strongly Disagree

S. N	Type of Resources	Item	Please state your level of wiliness				
			1	2	3	4	5
1	Print Resources	Text Books					
		Reference Sources					
		Current Periodicals					
		Back Volumes					
		Thesis/ Dissertations					
		Reprints/Preprints					
		Patents					
		Standards					
		Other					
2	E- Resources	E-Books					
		E-Journals					
		E- Thesis/ Dissertations					
		CD's/DVD's ROM					
		E-Full text Databases					
		E-Bibliographical Databases					
		E-Learning Services					
		Institutional Repositories					
		E-Project Reports					
		Other					
3	Academic Activities	Library Staff Training					
		Expertise of Library Staff					
		Workshop /Seminar /Conferences					

11. Please state your membership in various library networks/ Consortia

Sr.No	Library Networks	Yes	No
1	OCLC		
2	CeRA of ICAR		
3	J-Gate Plus		
4	AGLINET		
5	INDEST		
6	JCCC HELINET		
7	AGRICAT		
8	INFLIBNET		
9	AGRIS		
10	DELNET		
11	Other		

12. Reasons for joining the library network

S.N	Reasons	Agree	Disagree
1	Access of union catalogue		
2	Inter library loan services		
3	Consortium Usage		
4	Centralized acquisition		
5	To save the time of staff/users		
6	Document delivery service		
7	Professional communication among group		
8	Reduce library budget		
9	Access to institutional repository		
10	Training		
11	To develop library infrastructure facility		
12	Other		

13. Which Method you preferred for Resource Sharing?

Sr. No	Method of Sharing	Yes	No
1	Face to Face		
2	Postal/Currier		
3	Web Based		
4	Other		

14. Please State attitude towards library networking & resource sharing

Note: 1) Strongly Agree 2) Agree 3) Neutral 4) Disagree 5) Strongly Disagree

S.N	Description	1	2	3	4	5
1	It provides up to date information					
2	It provides adequate facility and services					
3	Increase of library usage					
4	Improvement in the library services					
5	It increase the research output in the colleges					
6	It requires more manpower in the library					
7	It increases the workload of library					
8	It supports for the fulfillment of the users need					
9	It creates positive attitude among users toward library					

10	It is difficult to implement in libraries					
11	It is difficult to maintain					
12	It affects library routine work					
13	It increases ICT tools					
14	Other					

15. Barriers toward resource sharing and library networking

S.N	Description	Barriers	Yes	No
1	Resource sharing Barriers	Competitiveness of institutions convert move for centralization		
		Urgency of user requirements		
		Local self-sufficiency goals and ownership paradigma		
		Autonomy of actions desired by librarians		
		Size and status consciousness of established libraries		
		Psychological and egoistic barriers from users, librarians & staff		
		Discouragement from past experience		
		Traditional/ Institutional barriers		
		Physical and geographical barriers		
		Legal, Political, and administrative barriers		
		Other		

2	Networking Barriers	Lack of ICT Infrastructure		
		Lack of Budget		
		Lack of trained staff		
		Lack of management support		
		Lack of ICT application training		
		Lack of awareness of the networking programme		
		Lack of co-operation & Co-Ordination		
		Lack of legislative measures		
		Other		

16. Any other suggestions

Thanking you for your co-operation

Date:

Seal & Signature of Librarian

LIST OF AGRICULTURAL COLLEGES

Sr. No	Name of the College/ Institute	Type of Management	Accreditation Status	Grade	Year of Establishment	Library Code
1	College of Agriculture Pune	University Management	Yes	A	1907	A
2	College of Agriculture Kolhapur	University Management	Yes	A	1968	B
3	Mahatma Phule Krishi Vidyapeeth Rahuri	University Management	Yes	A	1969	C
4	College of Agriculture College, Dhule	University Management	Yes	A	1960	D
5	College of Agriculture Karad	University Management	Yes	A	2013	E
6	College of Agriculture Nandurbar	University Management	Yes	A	2013	F
7	College of Agriculture, Bahubali	Self Finance	Yes	A	2000	G
8	Padmashree Dr.D.Y.Patil College of Agricultural Engineering & Technology,Talsande	Self Finance	--	--	2003	H
9	College of Agricultural Biotechnology,Loni	Self Finance	Yes	A	2003	I
10	Padmashree Dr.D.Y.Patil College of Agricultural Business Management, Akurdi	Self Finance	Yes	A	2003	J
11	College of Agriculture, Sonai	Self Finance	Yes	A	2003	K
12	Krishna College of Agriculture, Rethre(BK)	Self Finance	--	--	2003	L
13	Shreemant Shivajiraje College of Horticulture,Phaltan	Self Finance	--	--	2003	M
14	Loknete Mohanrao Kadam College of Agriculture,Sonsal	Self Finance	Yes	A	2003	N
15	Dr.Ulhas Patil College of Agriculture,Jalgaon	Self Finance	--	--	2003	O
16	Dr.Ulhas Patil College of Agricultural Engineering & Technology,Jalgaon	Self Finance	--	--	2003	P
17	Padmashree Dr. Appasaheb Pawar College of Agriculture, Baramati	Self Finance	Yes	A	2003	Q
18	Dadasaheb Moashi College of Agriculture,Rajmachi	Self Finance	--	--	2004	R
19	K.K.Wagh College of Agriculture,Nashik	Self Finance	--	--	2005	S
20	College of Horticulture,Sonsal	Self Finance	Yes	A	2006	T

Sr. No	Name of the College/ Institute	Type of Management	Accreditation Status	Grade	Year of Establishment	Library Code
21	Padmabhushan. Vasant Dada Patil College of Agriculture,Ambi	Self Finance	Yes	A	2006	U
22	MAEER's MIT College of Food Technology,Loni Kalbhor	Self Finance	--	--	2006	V
23	K.K.Wagh College of Agricultural Biotechnology,Nashik	Self Finance	--	--	2007	W
24	Lokmangal College of Agriculture,Wadala	Self Finance	Yes	B	2008	X
25	Padmashree Dr.D.Y.Patil College of Agriculture, Talsande	Self Finance	--	--	2008	Y
26	Navalbhou College of Agriculture,Amalner	Self Finance	Yes	D	2009	Z
27	Shramshakti College of Agriculture,Maldad	Self Finance	--	--	2009	AA
28	Shramshakti College of Food Technology,Maldad	Self Finance	--	--	2009	AB
29	Sadguru College of Agriculture,Mirajagaon	Self Finance	--	--	2009	AC
30	College of Agriculture,Phaltan	Self Finance	--	--	2009	AD
31	Rajashree Shhatrapati Shahu Maharaj College of Agricultural Business Management,Sangli	Self Finance	--	--	2009	AE
32	College of Agricultural Business Management,Gunjalwadi Pathar	Self Finance	--	--	2010	AF
33	K.K.Wagh College of Agricultural Business Management,Nashik	Self Finance	--	--	2011	AG
34	College of Agricultural Business Management,Loni	Self Finance	--	--	2011	AH
35	College of Agriculture,Loni	Self Finance	--	--	2012	AI
36	College of Agriculture,Babhulgaon	Self Finance	--	--	2012	AJ
37	College of Animal Husbandry, Shradanagar	Self Finance	--	--	2013	AK
38	K.K.Wagh College of Horticulture,Nashik	Self Finance	--	--	2013	AL
39	Sharad College of Agriculture,Jainapur	Self Finance	--	--	2013	AM
40	College of Agricultural Business Management,Shradhanagar	Self Finance	--	--	2014	AN