

**ERVATION AND CONSERVATION OF LIBRARY RESOURCES UNDER GIFTED
OLLECTION OF GOA UNIVERSITY LIBRARY FOR NATIONAL POSTERITY**

**DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENT OF THE GOA UNIVERSITY FOR THE
DEGREE OF MASTER OF LIBRARY AND INFORMATION
SCIENCE**

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CERTIFICATE

This is to certify that dissertation entitled **“Preservation and conservation of library resources under gifted collection of Goa university library for national posterity”** submitted by **Sagar Sukdow Gaonkar** in partial fulfilment of the requirement of the degree of Master of Library and Information Science of Goa University is his own work carried out under my guidance and worthy of examination.



Dr. Carlos M. Fernandes

Research Guide

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Science

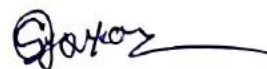
Goa University

Declaration

I state that the present dissertation "**Preservation and conservation of library resources under gifted collection of Goa university library for national posterity**" is my original contribution and the same has not been submitted on any occasion for any other degree or diploma of this university or other university/ institute. To the best of my knowledge, the present study is the first comprehensive work of its kind from the area mentioned. The literature related to the problem investigation has been cited.

Place: Taleigao Plateau

Date: 17-5-22



Sagar Sukdow Gaonkar

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Information Science

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INTRODUCTION

CHAPTER I

PRESERVATION AND CONSERVATION OF LIBRARY RESOURCES UNDER GIFTED COLLECTION OF GOA UNIVERSITY LIBRARY FOR NATIONAL POSTERITY

1.1 Introduction

The conservation and preservation are the process of keeping an object safe from harm or loss damage, demolition and maintaining it in a sensibly sound condition for current and future. Preservation deals with the regular maintenance aspect, whereas conservation deals with restorative treatment. It is the responsibility of the head of the institution and management to draft an appropriate policy to preserve rare or ancient materials in different ways.

1.2 Review of literature

The literature survey reveals the published literature in this field is numerous and scattered it was not possible to record all the literature for this review. so few related studies have been observed before conducting this study.

Meddings Collin (2011) in this context the term digital preservation refers specially to the preservation of electronic scholarly literature with the goal of ensuring materials remains accessible to future scholars.

Manjama, Nathan (2012) this article sought to assess preservation practices at challenges faced by university of Botswana library the aim of the study was to establish the preservation challenges faced by university Botswana library and the measures in place for ensuring the long term preservation of library collection.

Akande (2009) Conservation and preservation of deteriorating information resources in libraries have become global phenomenon to which libraries must aggressively respond if their mission of providing information needs of their patrons would be met.

1.3 Objective of the study

- To ascertain the importance of valuable document for future.
- To streamline the preservation procedure for quick retrieval for searcher.
- Providing protection to “lost “or “dwindling” copies of books and materials in the library collection.

1.4 Scope

- The study has highlighted the latest technology in preservation and conservation of rare and valuable books for national posterity.

1.5 Hypothesis

- The preservation technology available is not known to many libraries professional.
- There is a need to popularize the preservation techniques among library professional.
- The preservation techniques in digital era needs, awareness and implementation.

1.6 Limitation of the study

The proposed study was limited to collection of library resources under gifted collection from library of Goa University.

1.7 Research Methodology

- The researcher has browsed all the literature available on the topic.
- Further researcher has visited all the websites related to the topic.
- The researcher has visited different stakeholders and expects asserting the expert opinion.
- The researcher has conducted interview with all librarians regarding use of mobile technology.

- The investigator has tried to collect different information by using different tools such as questionnaire, interview and personal discussion.
- This investigator has made the use of suitable statistical techniques in finalizing the data with required charts and graphs in presentation to make the interpretation clear and precise.

1.8 Population of the study: The study has covered 50 educational institutes functioning in Goa.

1.9 Organization of the study

Chapter I: Introduction

Chapter II: Review of literature

Chapter III: preservation techniques and its concepts

Chapter IV: preservation and conservation at national and international level

Chapter V: Data analysis and interpretation

Conclusion

The study will benefit the rich collection for preservation and conservation. The study will allow conserving the library materials as per standard maintaining procedure, further the conservation techniques will envisage the resources available at Goa University will be preserved for national posterity

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LITERATURE REVIEW

CHAPTER 2

REVIEW OF LITERATURE

A literature review on the research topic gives an obvious idea about the knowledge. It also helps in establishing the objectives and hypothesis of the study. The literature review was Conducted and reviewed in brief in the following section.

1. **(Bashorum, Idogun & Muhammua, 2022)** The study examined the preservation and conservation of information resources in selected private university libraries in South-west Nigeria. Eight selected private universities in South-west, Nigeria with the population consisted of one hundred thirty-seven respondents which comprised of library professionals and para-professionals.
2. **(Kumar, 2022)** This paper revealed that preservation and conservation of traditional manuscripts is an age old practice. But for the past two decades or so, preserving the endangered manuscripts through digitization has become the prime concern of governments so that such manuscripts can be kept safely for future generations as manuscripts are considered to be an important asset to know our culture and tradition better. The present study primarily highlights the conservation and archival policies adopted by the British Library to digitize the ancient manuscripts of the North-Eastern states of India. The analysis highlights that the state such as Mizoram, Sikkim, Assam and Arunachal Pradesh had adopted projects and have digitized the manuscripts as per their convenience and timeframe concern. The basic purpose of the study is to highlight about the serious concern of the preservation of these heritages as it can be noticed that they are at extinct stage as the future generation would heard only in form of stories. In addition, the study also analyses the quantitative and qualitative aspects of the manuscripts preservation policy of these North-Eastern states by the British Library
3. **(Licher-kutz, 2022)** This paper identifies five major historical periods in the development of preservation knowledge: the early experimental era; era of microfilm experimentation; era of

professionalization; era of digital library research; and the era of digital reformatting and mass digitization; and identifies three major trends in its development: empirical inquiry, standardization and centralization.

4. **(Lone, wahid & shukoor, 2021)** The study is an endeavor to find out the preservation status of rare documents in Srinagar. The rare documents, here, mean the manuscripts and rare books, journals, reports, magazines, archival documents, etc. These resources are available in private libraries of individuals and religious institutions in Srinagar. This study aims to find these private libraries of individuals/families and religious institutions, which are unknown to the scholarly world and observe the preservation status of rare documents. The main focus is to document their present preservation status to give an opportunity to the stakeholders, particularly the government organizations, to take appropriate action before they are lost forever.
5. **(Mubofu & Samzungi, 2021)** This study investigated the factors hindering information resources preservation and the extent to which information services are affected in academic libraries. The population consisted of 170 library staff that was conveniently selected from the seven academic libraries under study. The researchers prepared a well-structured questionnaire for data collection and the responses were subjected into SPSS version 20 and content analysis. Findings revealed that lack of awareness, inappropriate building, and lack of preservation plan and being unsure on how to get started, being unsure on how to protect digital information resources and inadequate funding are the factors hindering effective preservation in academic libraries in Tanzania. The study also revealed that lack of information resources preservation affects library services to a great extent. The study concludes that damage of information resources affected information services.
6. **(Netshakhuma, 2021)** This study assessed the preservation of cultural heritage materials in selected universities in South Africa with a view of recommending the best preservation method. Particularly, it examined the availability of a preservation policy at the University of Witwatersrand, the types and format of cultural heritage materials held by the University, the

major preservation challenges facing the University and to make recommendations for the effective management and preservation of all materials held by the University.

7. **(Siregar, 2022)** This paper tries to examine the condition of regional languages in Indonesia these factors can cause their extinction, the implications of the extinction of these languages from an ethno linguistic perspective, and in the end , want to provide a review of solutions to overcome these problems . this study is intended to provide input for various interested parties, especially speakers of regional languages, to pay more attention to the life and sustainability of their regional languages, the research that forms the basis for their scientific article begins with a literature study with observation. Based on the discussion above, it can be concluded as follows. First, t5he issue of BD extinction in Indonesia based on available data is quite worrying. The conclusions that emerge in this paper are the formulations of strategies, tactics, and models related to the preservation of regional languages
8. **(Adetunla & osunride, 2018)** this paper revealed library security is the most used measure of preservation and conservation practices. Dust and particulate matter are the greatest causes of deterioration to library materials. The findings further revealed that dusting, cleaning and proper shelving are the major techniques adopted by the libraries.
9. **(Zevos, & Alexopulou, 2015)** the main paper conservation methods are presented classified in the following categories: preparation of the intervention, disinfestation and disinfection/sterilization surface/dry cleaning, wet cleaning, chemical stabilization, paper repairs, consolidations and strengthening. Treatment documentation is also discussed. The targets, the historical aspects the general principles, the materials and equipment, the acceptance and criticism pertaining to each method are briefly reviewed and the most important research for their evaluation is presented. Several paper stabilization strategies, such as DE acidification and Iron gall ink stabilization, applicable to paper are elucidated. Specific consolidation and strengthen methods for paper, such as lamination disappear splicing are also discussed. The review mainly focuses on the established methods, but experimental, abundant or insufficiently documented method is also included. Shortcomings limitations of several methods were found in the literature, concerning health issues, limited effectiveness, adverse side-effects on the treated artifacts and restricted applicability.
10. **(Ivishu, Nkanu & Ogar, 2013)** The paper attempts to explain preservation and conservation as measures for achieving sustainability of library materials as long as possible in their

original format. In order to achieve this, causes of deterioration of library materials such as poor paper manufacture, improper storage, rough handling, pests and knowledge of disaster occurrence, electronic means of preservation, challenges and strategies for digital materials preservation have been examined.

11. **(Adetunla & Osunride, 2016)** This paper revealed that library security is the most used measure of preservation and conservation practices. Dust and particulate matter are the greatest causes of deterioration to library materials. The finding further revealed that dusting, cleaning and proper shelving are the major techniques adopted by the libraries.

The study concluded that lack of proper preservation and conservation practices in the universities are the cause of resource loss and deterioration. Therefore, the study recommended that libraries should deploy modern preservation and conservation tools such as technologically enabled ICT devices which will aid adequate storage and enhance the durability and longevity of information materials in the libraries

12. **(Hasnecay, Krtalic & Vitolic, 2010)** This paper says that the word “preservation” is often defined to include all the managerial, administrative, financial, and staffing considerations necessary to safeguard the welfare of library collections. His definition is derived from the IFLA Principles for the Care and Handling of Library Materials. As we can see, there is a lot of seemingly simple terms here, such as managerial, administrative, financial, and staffing. Preservation should also be considered through questions like: who deals with preservation, when we deal with preservation, what are the limits (or frameworks) in conducting preservation, etc.

13. (Akello, 2017) This study was designed to look at the preservation and conservation of Library Resources in All Saints University Library. The objectives were: To find out the techniques and practices of preservation and conservation of library collections being used at ASUL library, to find out the problems faced in preservation and conservation of library collections in ASUL library and to suggest solutions to the problems of preservation and conservation of library collections in ASUL library. A descriptive survey research design was used for the study, and ten (10) librarians were sampled. Questionnaire and Oral interview were used for data collection. 10 copies of questionnaire was distributed and collected, representing the 100% in analyzing the data obtained, frequency counts and simple percentages were used as statistical methods.

The results obtained from the findings, revealed that various types of preservation and observation practices exist in Lira University Library; that despite the preservation and conservation techniques and practices available in this library; that library resources are deplorable in this library; that the academic Librarians agreed with factors necessitating the library in adopting preservation and conservation; that the academic librarians are merely satisfied with the extent under which preservation and conservation are applied to materials in this library; that there are some problems associated with preservation and conservation of library resources in this library; that many solutions were suggested by the academic librarians to reduce the problems faced in the preservation and conservation processes in the library under study.

14. (Deon, 2005) Conservation and Preservation in the Digital Age, a lecture by John Dean, Preservation and Conservation Librarian, Cornell University Library. The lecture was the first in the Brodsky Series for the Advancement of Library Conservation. By digitizing primary source material, libraries can make them widely available through the Internet while minimizing actual handling, and resultant deterioration, of these unique artifacts. Nevertheless, digitization has led to more, not less, emphasis on conservation and preservation as libraries work to prepare materials for scanning. In his talk, Dean will examine the challenges of performing conservation treatments on books, manuscripts, and other library materials not only for the purpose of obtaining the best possible electronic images, but also for preserving their original functional integrity for future scholars.

15. **(Majumdar, 2005)** The Indian culture and civilization dates back to 2300–1750 B.C. when the Indus Valley civilization, also known as the Harappan culture, was discovered in modern-day Punjab, Sind and areas of Rajasthan and Kathiawar. Over a period of time this cultural heritage has undergone massive changes; in the modern context, its preservation and conservation has gained utmost importance. The cultural depiction in the Indian literature has its own importance with uniform terminology used by different Indian languages. The past literary heritage of India is in the form of manuscripts available in palm leaves, cotton, silk, wood, bamboo, and copper plates. The initiative taken by the Indian Government in introducing the National Mission for Manuscripts is the right step towards preserving these culturally significant works. The Indian libraries that have these precious collections have suddenly gained importance and are benefiting financially. The ultimate aim of the Mission is to identify such rich heritage, register them wherever available, preserve them and provide the surrogates for worldwide dissemination. This article attempts to provide details on the entire gamut of issue.
16. **(Mkuwira, 2015)** This paper tells that India has always been rich in knowledge from ancient times which is passed on from one generation to another. The method of passing knowledge is different in different regions of India. Due to huge advancement in ICT, there has been astronomical growth of digital resources. These resources are popular among students and researchers; hence libraries spend so much on them. Unfortunately, accessibility and use of these resources by future generations depends on technology which very rapidly evolves and changes. The fragile nature of digital resources makes its accessibility dependable on technology which is rapidly evolving. Hence, access to such resources for future users is a huge task for libraries. To use this information in daily life, we perform conservation techniques. In this research paper, we are exploring the different preservation and conservation techniques for traditional documents as well as digital resources used in selected libraries of New Delhi, India.
17. **(Yadav & Kumar, 2020)** The primary objective of this paper is to examine various preservation problems, knowledge of which is lacking in some Nigerian libraries. The

researcher is not only concerned with discovering and listing problems, but also, through his research findings, recommending ways of ameliorating those problems.

18. **(Ezennia, 1994)** Digital Preservation has been recognized as one of the urgent challenges in our digital information society. It is the current trends in all modern libraries and a recognized as a vital part of managing information in digital format. A number of libraries have thus started to invest intensive research and development to provide solutions that allow us to maintain digital objects accessible. Most of these solutions, however, are aimed at larger institutions who have a dedicated mandate, and thus can build up expertise, resources and systems. Yet, we increasingly find that many libraries are faced with the challenge to preserve their materials. This paper will present the goal is to automatic digital preservation activities, and to be handled as a fully digital preservation background process and also discuss why digital preservation is required?
19. **(Akter, 2013)** Discusses the necessity of preservation and conservation activities in school libraries to save materials such as school newspapers, programs of events, censorship records, board activities, yearbooks, and student projects. Topics discussed include brittle, deteriorating paper; monitoring the physical environment, including heat, light, humidity, and dirt; storage methods; and photocopying. (LRW)
20. **(Sedinger, 1992)** The article offers information about the Association of Research Libraries (ARL), a leading force in advocating for the preservation of library materials. It provides leadership and guidance through the development of the Preservation Planning Program, metrics to information preservation decision making, and documentation of early practices and procedures for collections conservation, commercial binding, and program management.
21. **(Tepper, 2007)** Preservation is the most important building block in ensuring the long term preservation and accessibility of documentary heritage. This article sought to assess preservation practices at the University of Botswana Library. The aim of the study was to establish the preservation challenges faced by the University of Botswana Library and the

measures in place for ensuring the long term preservation of library collections. Data for the study was collected through questionnaires, interviews, observation and content analysis.

The findings of the study indicate that while the Library is housed in a magnificent building and holds vast collections of printed materials as well as electronic resources, there is need to implement the draft preservation and conservation policy, improve the house keeping practices and supervision of users using the collections, develop a disaster preparedness plan and develop a strategy for the long term preservation of its electronic resources.

22. **(Segaetsho & mnjama, 2012)** This paper discusses the importance and need of conservation and preservation of information resources in libraries, factors that affect degradation and deterioration of library materials and methods of tackling them. Libraries particularly, it examined the overview of preservation and conservation of library resources. It also studied the causes of deterioration of library information resources, among which are: natural aging process, level of use of library materials, inherent chemical content used in the process of paper making, high temperature and fluctuating relative humidity, improper handling of library materials among many others were equally discussed. Various preventive measures were equally discussed. Different challenges facing preservation and conservation of library resources in Sri Lankan Libraries were presented. Useful suggestions were also made to ameliorate the situation.

23. **(Dilrukshi & Dayananda, 2017)** The study investigated roles of librarians in preservation and conservation of information resources in the Nigerian university libraries. The design adopted for the study was a survey design. The population for the study consisted of all librarians working in academic libraries which were expected to attend the 56th Nigerian Library Association Conference and Annual General meeting in Lagos

Findings of the study revealed that that preservation is as the totality of measures for maintaining the integrity of document and the information contained in them which includes all the managerial and financial considerations, storage and accommodation provisions, staffing level policies, techniques and methods involved in safeguarding documentary materials and that maintaining suitable environment for library information materials will prolong their life span and enhance long term accessibility. It was concluded that Academic

librarians perform such preservative roles as maintenance of the integrity of document, managerial information, financial information, storage and accommodation provisions, and staffing level policies. One of the recommendations was that records and information resources should be preserved and conserved digitally as it would enhance the usability of the records.

24. **(Cloonan, 2009)** Conservation awareness has grown from virtual professional indifference at the beginning of the 1980s to a high degree of commitment. Neither the disaster in Florence nor the impending crisis of the embrittled book seemed to have stirred the conservation conscience of British librarians, and it was not until the full implications of the British Library's problems were revealed that the library community seriously began to take note. The Cambridge Preservation Project, sponsored by the British Library, showed that the problem was nationwide. As a result of the Project Report, the National Preservation Office came into being as an independent body in the British Library. Since then, preservation has achieved a high profile. The achievements and prospects of the National Preservation Office, its creative use of existing cooperative agencies, are described in the context of today's professional attitudes and the continuing crisis.
25. **(Ratcliffe, 1989)** This paper survey was conducted to study preservation and conservation practices in academic libraries in Mumbai. This study revealed that there is no written policy on preservation and conservation in nearly all libraries .in addition lack of written preservation policy, trained manpower and funding were the main constrains to preservation and conservation practices higher authority and policy makers needs to be convinced to make budget not for present but also for long term survival of libraries Libraries in Mumbai
26. **(Iyishu, Nkanu & Ogar, 2013)**The paper attempts to explain preservation and conservation as measures for achieving sustainability of library materials as long as possible in their original format. In order to achieve this, causes of deterioration of library materials such as poor paper manufacture, improper storage, rough handling, pests and knowledge of disaster occurrence, electronic means of preservation, challenges and strategies for digital materials preservation have been examined.

27. **(Sawant, 2014)** Srivastava and Kumar says that conservation and preservation are two words that have different implications though they are related to each other. Preservation by definition are activities associated with maintaining library and archival materials for use either in their original physical form or in some other usable way, while conservation is one aspect of preservation activity as it implies the active use of preventive measures or processes to repair damaged materials and ensure continued existence of materials.

Conservation and Preservation are the processes of keeping an object safe from harm or loss, damage, destruction and maintaining it in a reasonably sound condition for present and future use, preservation deals with the regular maintenance aspect whereas conservation deals with the curative treatment.

28. **(Jordan, 2003)** This paper revealed that term 'Conservation' has been defined in the International Records Management Trust (1999) as the intrusive protection of archival material, by the minimal physical and chemical treatments necessary to resist further deterioration, which will not adversely affect the integrity of the original. It was further explained that it is specific work to protect materials and improve the environment in which they are kept. Conservation is preservation at the item level. It embraces those activities that improve the condition of the physical object or protect it from damage (Jordan, 2003).

29. **(Ovowoh &Iwhiwhu, 2010)** The study revealed that there was no written policy in the institutions studied, and decisions on preservation and conservation were arbitrary and inconsistent. Further, the findings revealed that all respondents confirmed that there was need to have such a policy and that the policy should spell out the percentage of the budget to be used for preservation and conservation programme. The findings also showed that there were no personnel trained in preservation and conservation of library materials, but all the libraries accepted that non-professionals had received some training in general librarianship.

30. **(Ogbodo, 2011)** This paper found out that the problem of preservation of information sources in the polytechnic libraries are dust and disintegration of books and that the library did not adopt the use of modern technology. The results showed among others that there were problems of preservation of information sources in polytechnic libraries in Nigeria. It was

reported that the polytechnic libraries adopted repairs, the use of firefighting equipment, binding, fumigation, air conditioning, proper storage, photocopying/duplication, use of insecticides and the storage of book away from light to preserve their information source. The findings revealed inadequate funding, harsh environmental condition, lack of good preservation policy and lack of competent manpower as constraints to use of preservation and conservation techniques.

31. **(Shameenda, 2011)** This paper highlighted preservation and conservation issues which included managerial and financial considerations including storage and accommodation, staffing levels, policies, techniques and practices in preserving and conserving library materials and the information contained in them in order to ensure long term access to them. The research findings revealed that although the University of Zambia libraries were involved in the long-term preservation of library materials, they did not provide a well-planned preservation and conservation care because preservation was given least priority and conservation programmes were addressed in varying degrees in the libraries. The study further identified lack of preservation and conservation planning, policies and weak commitment from the University of Zambia management on funding of libraries at the University of Zambia. Also inadequate programmes and limited preservation and conservation education and training among librarians were the other forms of obstacles to effective preservation and conservation of library materials in the university libraries. Also revealed was the lack of awareness concerning preventive preservation measures, poor handling and use of library materials. Njeze (2012) carried out a research on Preservation and Conservation Issues in Selected Private Universities in South-West Nigeria

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PRESERVATION CONCEPT AND ITS TECHNIQUES

CHAPTER 3

PRESERVATION CONCEPT AND ITS TECHNIQUES

3.1 Introduction:

The present world is fast changing from the industrial world to the information world. It requires speedy, accurate, ready and reliable information. A large amount of information is being generated every moment. The information has become a strategic raw material and a dominating factor in decision making and execution. Information is and will be a primordial need for each individual in this world. Information is regarded as “lifeblood of society” and a vital resource for national development.

Knowledge is becoming multi-dimensional, multidisciplinary and it is growing fast because of the information revolution. This revolution is spinning around the computing and communication tools which form the backbone of information technology (IT). Knowledge and information coexist to complement and supplement each other with the support of I.T. this scenario has given rise to the new dimensions of knowledge that not only accelerates its growth but has also transformed the nature of its resources from the printed form to electronic/digital form such as magnetic tapes, floppy disks, CD-ROM, etc. with the emergence of INTERNET era a rapid phase of growth such as online database, list serves, discussion groups, electronic journals, etc. has enriched the accessibility of information. The development of digital libraries, virtual libraries have further promoted library activities and have taken them beyond four walls.

However there are libraries with rare collections which are the treasures of local heritage, they reflect the heritage and culture of the society. The information in these libraries is in a variety of forms such as palm leaves, manuscripts, printed books, etc. preservation requirements of these library holdings are obviously different from those of libraries established during the recent past. These libraries have the special responsibility of preserving heritage and culture as it is the duty of all library staff, from the head of the library down to the last worker at the bottom to safeguard, protect and preserve the holdings in their libraries. Preservation measures have to be endorsed supported and encouraged from the most senior level to the most junior in the library.

Those who are responsible for managing the library and maintaining the external and internal fabric of the building need to work closely with those who are responsible for the preservation of the collections. Preservation needs of library have to be considered in line with the social and political climate in which the social and political climate in which the organization operates. The organizations purpose, collecting policies, and available resources also matter in preserving this wealth of resources.

Efforts have been made by some of these libraries to convert few rare materials in microforms and in digital materials in microforms and in digital form. This kind of enormous shift in information storage and dissemination technology has called for dual responsibilities on the part of librarians. Firstly, to accept the change and adapt the concept of access to information rather than owning such information. This calls for developing a technology base and digital library resources and facilitate users with access to information electronically. Secondly, take necessary steps not only to preserve existing print and non-print materials for further use but also promote easy access to such information

3.2 Historical background:

During Minoan civilization, writing has not been observed for any use other than accounting. Tablets serving as labels, with the impression of the side of a wicker basket on the back, and tablets showing yearly summaries, suggest a sophisticated accounting system. In this cultural region the tablets were never fired deliberately, as the clay was recycled on an annual basis. However, some of the tablets were "fired" as a result of uncontrolled fires in the buildings where they were stored. To rest are still tablets of unfired clay, and extremely fragile; some modern scholars are investigating the possibility of firing them now, as an aid to preservation.

In the ancient near east, clay tablets were used as a writing medium, especially for writing in cuneiform, throughout the Bronze Age and well into the Iron Age.

Cuneiform characters were imprinted on a wet tablet with a stylus often made of reed. Once written upon, many tablets were dried in the sun or air, remaining fragile. Later, these unfired clay tablets could be soaked in water and recycled into new clean tablets. Other tablets, once written, were grilled in a kennel or fired in kilns (or inadvertently, when buildings were burnt down by accident or during conflict) making them hard and durable. Collections of these clay

documents made up the very first archives. They were root of first libraries. Tens of thousands of written tablets, including many fragments, have been found in the Middle East

The Tartaria tablets, thought to be from the Danubian civilization, may be older still, having been carbon dated to before 4000 BCE, and possibly dating from as long as go

Although preservation as a formal profession in libraries and archives dates from the twentieth century, its philosophy and practice has roots in many earlier traditions. In many ancient societies, appeals to heavenly protectors were used preserve books, scrolls and manuscripts from insects, fire and decay.

To the ancient Egyptians, the scarab or dung beetle was a protector of written products. The scarab was also used as a holder or medium for personal name seals. A figurine of a scarab would be carved of stone, and then on the smooth stomach of the scarab, the engraving of seal was made. Later, this vital oval image was used for the representation of the cartouche, or name/ title seals

In ancient Babylon, nabu is the heavenly patron of books and protector of clay tablets. Nabu is the Babylonian god of wisdom and writing, and is patron of the scribes, librarians and archives nabu's symbols are the clay writing tablet with the cuneiform writing stylus. He usually wears a horned cap, and often stands with his hands clasped together, in the ancient gestures of priesthood, nabu engraves the destiny of each person, as the gods have decided, on the tables of sacred record. Thus nabu has the power to increase or diminish, at will, the length of human life

In Arabic and other societies, sometimes a traditional method to protect books and scrolls was a metaphysical appeal to "kabi:kaj," the "king of the cockroaches." By appealing to the king to protect a manuscript, cockroaches of less nobility would refrain from intruding on documents which could be eaten by the king only. Since many manuscripts were made fish-glue, starch-paste, leather and other tasty substances, insect appetites were a constant and ending problem to Arabic books and scrolls. A similar technique from Syria was to name the first and last page of document or manuscript "the page of the king of the cockroaches", in the hope that the cockroach king will control all other insects. Translated appeals include "O Kabi:kaj, save his book from the worms!" and "O Kabi:kaj, do not eat this Paper!" In maghribi manuscripts, the word appears in its evidently corrupt form, "kaykataj" and is clearly used as a talisman... and

mentions, after a certain Muhammad al-samiri, that when one writes "kaytataj" on the first and last folio of the book, one can be sure that worms will not attack it."

In some Christian monasteries, prayers and curses were placed at the end of books to prevent theft, or to damn the thieves. Frequently called a "book curse", these were placed in the book to deter theft. "For him that stealth a book from this library, may it change into a serpent in his hand and rend him. May he be struck with palsy, and all his members' blasted. May bookworms gnaw his entrails, in token of the worm which dieth not. And when at last he goeth to his final perdition, let the flames of hell consume him forever and aye. "Another example of Christian curse is this medieval jingle placed at the end of work: "Christ's curse upon the crook who takes away this book." Or in the latin: "Sit maledictus per christum, Qui librum subtraxerit istum."

In hindu beliefs, ganesh (Ganeshva or Ganpati) is the elephant-headed God of learning and new enterprises. As the god of wisdom, he knows all. Since he has the head of an elephant, he also has the reputed memory of the elephant, and thus does not forget anything. His statue is placed over the doors of and entrances of many buildings in India and Sri Lanka, including most libraries.

In library science preservation is treated as an active and intentional process, as opposed to the passive sense of preservation that might be applied to paleontological or archaeological finds. The survival of these items is a matter of chance, from information science preservation, while the preservation of them after their discovery is a matter of intentional activity

Human record keeping arguably dates back to the cave painting boom of the upper palaeolithic, some 32,000-40,000 years ago. More direct antecedents are the writing systems that developed in the 4th millennium B.C. Written record keeping and information sharing practices, along with oral tradition, sustain and transmit information from one group to another. This level of preservation has been supplemented over the last century with the professional practice of preservation and conservation in the cultural heritage community.

3.3 Definition:

Preservation can be defined as “all managerial, technical and financial consideration applied to retard deterioration and extend the useful life of materials to ensure their continued availability”.

Broadly, preservation includes the following four functions

1. Planning and policy making.
2. The development and application library wide of preservation procedures, including selection, housing, storage, disaster response and staff and user education, to prolong the useful life of library resources by minimizing harmful effects.
3. The treatment of library materials by:
 - I. Minor repair-of material which is moderately damaged or deteriorated, in order to preserve and/ or further extend its use;
 - II. Conservation-those activity which involve physical treatment of individual items by professional conservators;
 - III. Restoration-conservation treatments designed to return an item to a condition as close to possible to original;
 - IV. Substitution-the production of copy or surrogate.

Wikipedia defines preservation as “a branch of library and information science concerned with maintaining or restoring access to artefacts, documents and records through the study, diagnosis, treatment and prevention of decay and damage”

It should be distinguished from conservation and restoration which refers to the treatment and repair of individual items to slow decay or restore them to a usable state. Conservation is occasionally used interchangeably with preservation, particularly outside the professional literature.

3.4 Concept:

Preservation and conservation are used synonymously. Technically speaking these two word have different connotations through they are related to each other. Preservation generally means keeping an object from harmful effects such as loss damage, destruction or decay and the like and maintaining it in a reasonable sound condition for present and future.

Conservation is not a single function or treatment but it is composed of five elements which are as follows:

- I. **Examination:** it is similar to the activities of a doctor towards the patient. Before prescribing any medications and treatment, doctor will examine the patient with an object to find the disease and its causes. Same way examination is carried out before a document or art piece is subjected for any chemical treatment and also at the storage level. Examination at storage level is aimed at to make note of any adverse development on repository and also to ensure appropriate storage norms guaranteeing physical defense of documentary wealth.
- II. **Preventive conservation:** this is aid to keep the documentary material safe and sound because of decay and biological attacks and it involves mainly scientific storage conditions and also prevention against theft fire and intrinsic damages.
- III. **Curative conservation:** when micro and macro organism damage record adversely, then it requires chemical treatment and fumigation of documents and storage materials, as an annihilative measure to those agencies. However, nowadays non-chemical means as a curative measures have come up as effective tool.
- IV. **Restoration conservation or restoration:** fragile and damaged documents put into the category of restoration, which require appropriate remedial treatment, in order to bring in usable form.
- V. **Micro and macro-reproduction:** to ensure preservation and safety of documents, it is judicious not to supply documents in original instead of these copies of these should be supplied. This ideology, today, has gained impetus world over and therefore reproduction techniques has come up in a big way as an effective tool for conservation of documentary wealth.

One of the most important steps in procedure of conservation treatment is examination of library materials. The examination of object will determine the type of defects and the extent of deterioration present in the document, and subsequently this observation will lead to prescribing the required treatment. Based on examination results, the conservation treatment is given. There are various steps in conservation but it is not necessary that all type of treatment is given to particular object. It depend on the need of each case, no, other treatment except cleaning is

required others may have to be repaired. Repairs also may be a major or minor depending upon the condition of the documents.

3.5 Need:

Librarian plays a vital role in providing knowledge and information; it acts as storehouses of knowledge and information. As such preservation and knowledge contained in various forms of documents, need to be cared, maintained and preserved properly to full fill the knowledge thirst for the future generation. It is one of the primary task of the libraries and the duty of the custodian to adapt adequate preventive measures to save the library documents from early decay and preserve conserve for the future generation

3.6 Causes of deterioration of paper:

Library and archive collection are composed, namely paper, parchment, palm leaves, brich bark, leather and adhesives used in bookbinding, are susceptible to two main forms of deterioration, one is biological deterioration caused by insect attack and / or fungal growth, and the other form of deterioration is caused by adverse environmental conditions such as extremes of dampness or wide fluctuations in relative humidity associated with large variations in day and night temperatures, light and atmospheric pollutants. These two forms of deterioration are interconnected because humid conditions favor the growth of fungi and accumulations of dust and dirt will attack insects

3.7 Biological factors

Where there is moisture due to high humidity, there is always the presence of biological growths such as molds or fungi, insects and rodents causing infestation. Biological agents attack paper and other organic materials when both temperature and humidity are uncontrolled. Molds spores remain suspended in the air until they find suitable conditions for their growth. If molds is observed in the collection yet environmental conditions are not altered to halt its proliferation, the mold will digest material on which it has begun to grow. This results in the staining and deterioration of materials attacked and in rapid loss of strength of organic materials. The growth of fungi is revealed by the formation of whitish patches on book covers and documents, which

later may become brownish or greenish on color. It is common experience to note this mold growth occurs more readily on items made of organic materials that are tightly packed, and this is due to the fact that a thin, stagnant pocket of moist air is formed which favors mold growth

In addition to high temperature and humidity, man's negligence also favors the growth and proliferation of insects. The following manifests such negligence

- I. Assemblage of dirt and dust from poor or careless housekeeping practices;
- II. Introduction of foodstuff to storage and exhibit areas;
- III. Entry of insect-infested items into the collection;
- IV. Air vents, open windows or poorly sealed windows and doors
- V. Unattended roof leaks and cracks in a deteriorated museum building; and.
- VI. Poor ventilation

Worst enemies of books and other organic materials that are cellulose in nature are rodents and insects. Proteins and carbohydrates in the form of sizing, paste or starches, and other organic substances present in the material attract the insect. The nature and extent of damage depend not only on the insect and material, but also on how promptly the infestation is discovered and controlled. Damage may vary from a few holes to complete destruction.

3.8 Deterioration of paper caused by insects

The most common types of insects that attack paper objects are:

1. Termites are small, yellowish or whitish social insects that live in wood and under the ground. They live under conditions in which humidity within the colony is maintained at high level. in books they produce deep, crater-shaped holes or deep, irregularly shaped erosions; this leads to almost total destruction of the volume and bring about irreparable loss or damage
2. Silverfish are wingless insects with long antennae and usually with three long, tails like appendages that are of silver gray color. They mostly found in moist locations, that is, under stones and boards, cracks and crevices or in dark places where humidity is greater than 55%. These insect cause superficial damage to paper of irregular outline, but much smaller than that caused by the cockroaches, especially the glossy type, books and

documents, and wallpaper, and, eats away glue, paste, etc.; also attacks photographic plates and gelatin

3. Cockroaches are nocturnal insects that have reddish brown color and fetid odor. Cockroaches hide in warm, damp and dark places like the bathroom, floors of kitchen, under the sink, near water pipes, cabinets, cupboards etc. they cause superficial erosion of irregular outline; a blackish "comma" shape mark on paper is a positive indication of the presence of cockroach.
4. Booklice are small soft-bodied insects that have relatively large heads, fairly long antennae and strong-toothed mandibles. Booklice cause tiny superficial erosions of irregular outline to paper, leather, gelatin of photographic plates, watercolors, parchment, glue and gum of bookbinding.
5. Case bearing clothes moth thrives in undisturbed and unventilated areas that destroy bookbinding.
6. Powder post beetles have leathery front wings forming a sheath for the membranous underwings . They have long antennae of various shapes, 2 to 5 mm long and dark red to black in color. They bore holes into books and other organic materials.
7. Deathwatch beetles winding, circular tunnels which generally extend from the edges to the books center; the mixture of eroded material and feces that fills that tunnels is known as "frass".
8. Carpet beetles cause irregular perforations and sometimes surface tunnels containing powdery excrement and cast-off larval skins on books and other paper organic materials.

3.9 Temperature and Relative Humidity

Temperature and relative humidity have been shown to be interdependent. Hygroscopic materials that normally contain moisture are the most sensitive to over-drying. These hygroscopic materials are those of organic origin and of fibrous or cellular structure, such as paper, parchment, papyrus, leather and notably the adhesives used in bookbinding. Paper and related materials, on the other hand, deteriorate rapidly with temperature and relative humidity changes.

The greatest danger that can arise from an excessively high relative humidity is the tendency for molds to grow on any material that can provide nutriment, such as glue, leather and paper. The presence of mold growth is a warning that the atmospheric relative humidity is above the limit of

safety. If too high, humidity hastens acid deterioration. When conditions are favorable to mold growth, for example, in a library, a gray dusty bloom is observed in the first instance on the darker bindings, and it soon becomes fluffy with a tendency to be organized in circular patches.

There is some evidence that regular changes in temperature and relative humidity can lead to weakening of paper and related materials, as a result of internal stresses set up in them in response to these changes. There are no firm data to indicate how serious this effect may be, but scientist do not believe that it results in measurable damage to these materials if such changes in temperature and relative humidity can be held to less than 10 degrees and and 15%

3.10 Light

Apart from other causes earlier discussed, light can, to a large extent, be regarded as an independent and prime cause of deterioration of museum objects. The type of materials forming part of the museum collection that are subject to a damage by light are pigments and dyestuff, including inks; and, various other organic materials.

Pigments and dyestuff fade when exposed to light and this is very noticeable in water colors. Unfortunately, colors fade selectively, some disappearing while other remain unchanged, which means that the color relationships of a painting can be grossly distorted.

Rapid and serious deterioration of paper is caused by the oxidation of cellulose brought about by the ultraviolet rays in sunlight and fluorescent light. There are two effects of light on paper that result in its ultimate embrittlement and deterioration. First, it has a bleaching action that causes some whitening of paper and fading of colored papers and certain inks. Second, it causes any lignin, which may be present in the paper, to react with other compounds and turns it yellow or brownish. It is this reaction that results in newspapers turning yellow on exposure to light. Certain invisible changes also occur at the same time when these visible effects of light are taking place. Fibers in the paper are broken into smaller and smaller units they are so short they can no longer maintain the bonds necessary to hold the paper together. Some woods bleach under the action of light continues after the source of the damaged has been removed.

3.11 Atmospheric pollutants

Materials of organic origin such as leather, parchment and artifacts in which cellulose fibers such as paper products form the support are likely to be soiled and stained by solid particles of carbon, tarry matters and other solid contaminants. The worse contaminants for this group of materials are sulfurous and sulfuric acids resulting from the combustion of fuels and from other industrial processes. The effects are severe with cellulose materials such as paper and leather. There is a close correlation between the loss of strength of paper and its acidity resulting from sulfuric acid contamination. Dust and dirt particles in the air not only carry with them the adsorbed pollutants mentioned above but may exert an abrasive action on books and paper

3.12 IMPORTANCE OF PRESERVATION AND CONSERVATION

The processes of preservation, conservation and restoration are applied to safeguard the library materials from further decay and deterioration. Preservation is the process in which all actions are taken to check and retard deterioration whereas conservation includes proper diagnosis of the decayed material, timely curative treatment and appropriate prevention from further decay. Moreover there are two aspects of preservation of library materials

- i) The preventive measure which includes all forms of indirect actions aimed at increasing the life expectancy of undamaged or damaged elements of cultural property. It comprises all the methods of good house-keeping, caretaking, dusting, periodical supervision and prevention of any possibility of damage by physical, chemical, biological and other factors.
- ii) The Curative measures consist of all forms of direct actions aimed at increasing the life expectancy of undamaged or damaged elements of cultural property. It includes repairing, mending, fumigation, DE acidification, lamination, and other jobs which are required considering the physical condition of the individual document. Preventive conservation plays a vital role and has assumed much importance in our country because a large number of institutions do not have proper conservation facilities. In fact if diagnosis in time is followed by proper preventive measures many problems can be solved. Here in this paper in

accordance with the principles of preventive conservation some measures have been suggested to control the library materials from the effect of various deteriorating factors.

3.13 PREVENTIVE MEASURES FOR ENVIRONMENTAL FACTORS

- Control of environmental factors partially begins from selection of site, the planning and the construction of the library building and also the soil on which it will be constructed because these elements have greater impact over the environmental control inside the library building. It is very important to choose the best architectural design for the library having cross ventilation facilities for free air circulation within the building. If there is a need to use wooden materials, the wood selected should be well seasoned and must be treated chemically to avoid insects. Growth of plants near the building must be avoided, as the roots will damage the building foundation. It is always better to construct the building away from traffic to avoid dust and dirt. Provision of adequate number of electric fans and few exhaust fans will facilitate air circulation inside the library.
- Sunlight should be prevented from falling directly on papers because the sun is great emitter of ultraviolet rays. The windows must be provided with colored curtains, which will prevent falling of direct light as well as absorb ultraviolet rays. Lemon yellow or green coloured glass panes should be fitted in window panes as these are more effective in blocking ultraviolet rays. It is extremely good to fit acrylic plastic sheet in the panes of window because it filters out UV rays to a greater extent than coloured glass. The UV rays of fluorescent tubes should be filtered by covering the tubes.
- As high humidity and high temperature are more hazardous for library materials it is advisable to maintain ideal room temperature (20-25°C) and relative humidity of (RH45- 55%) for preservation of documents. Air conditioning of the stack area round the clock is an ideal example of maintaining optimum temperature & humidity for the storage of documents. But it is practically not possible for all the libraries to afford for air conditioning for 24 hours. So it is useful to adopt local control measures like use of humidifiers in dry climate to increase required level of moisture content and

- dehumidifiers to remove moisture in wet seasons. These may be operated whenever necessary for which proper monitoring of relative humidity is highly essential.
- High humidity could also be minimized by the use of de-hydrating agents like silicagel. The requisite quantities of silica gel may be spread in dishes and kept in different places in the room. After the use for 3-4 hours the silica gel may get saturated and may need replacement with fresh gels, while the saturated gel can be reactivated for further use after heating it in open pans.
 - During the summer months when the temperature is high the windows should be kept closed. If the windows are to be kept open wet curtain should be used. High speed air circulators also are used for free air circulation. Floors can be cleaned by wet dusters. As accumulation of dust and dirt accelerate the physical damage of books, a cleaning schedule should be made considering the sequence of operations following daily and weekly routines. Specific instructions should be given to clean remote corners of the book shelves, behind cabinets, under desks, chairs, and all surfaces accumulating dust. The best way is to use a vacuum cleaner because it sucks the dust and cannot resettle on the surfaces.

3.14 Preventive measures for human factors

- There are certain things which library staff should follow to increase the longevity of the library resources. These are among others
- Important books and manuscript should kept in specially prepared containers
- For carrying large number of books trolleys should be used. Utmost care should be taken while transporting rare , valuable and delicate books
- Care should be taken while photocopying the books at that time considerable stress is imposed on the material and the bindings suffer most and also the spine damages
- Use bookends to support books when shelves are not full. Books should not be shelved too tightly or too loosely.
- Pages should never be folded otherwise creases will be formed and they may be torn at the folds. Corner of pages should not be folded to mark pages

- Avoid licking of fingers as an aid to turn pages
- Underlining must be avoided
- Books should not be left open on the reading table, face downwards
- Leaning on an open book should be avoided since this can damage the spine and binding
- Never allow a book to stand on its fore edge
- When a book is displayed open, never use metal clips or pins to hold book pages open

3.15 Preservation techniques

Some of the techniques used to preserve rare materials are:

Chemical De-acidification

De-acidification merely arrests deterioration for a while, but if the book is already fragile, it remains so. From a collaborative perspective, if there are multiple copies of an old book scattered around library, it is likely to be cheaper to film or scan the best available copy once and then reproduce it, than to de-acidify all the copies. In addition microfilming creates a copying master and a bibliographic entry that provide broad access to the information. De-acidification can be done on an item-by-item basis at individual libraries. The cost of page-by-page paper treatment, by spraying a chemical fog on the page, is more than the cost of copying, even for one copy. The costs of these more elaborate preservation techniques which require disassembly and rebinding of each item are basically prohibitive for books that do not have high value as artifacts. Paper preservation and individual book conservation, however, are the only technologies that preserve the original book itself.

Microfilming

Microfilming normally involves producing a roll film master, even if the final version of the book will be on fiche. Microfiche are not considered a preservation format, but can be produced from preservation roll film as an access medium. Microfiche can provide random access to a particular frame faster than roll film, and micro fiche reading machines are cheaper than

microfilm reading machines. Microfiche are accepted a medium of choice for a microform book catalogue. However, many readers dislike both micro film and microfiche.

Digital Imagery

In digital imagery books are scanned into computer storage, which is a promising alternative process. Storing page images of books permits rapid transfer of books from library to library. The images can be displayed or printed, much as film images, although with greater cost today. Additionally, digital imagery permits considerable reprocessing: adjustment of contrast, adjustment of image size, and so on. Handling of these images requires special skills and equipment few libraries possess, but there is rapid technological progress in the design of disk drives, displays, and printing devices.

ASCII (non-image)

ASCII storage is much more compact; a page of text that will use a few hundred Kbytes in image form will contain only one to two thousand bytes of ASCII, or 1/100th of the space. Other advantages of ASCII storage include the ability to reformat and reprint whole or partial documents easily; the ability to extract quotations or other subsections of the documents and include them in newer papers; and the ability to mechanically compare texts. Editing texts for later publication also needs ASCII rather than image storage. More applications such as feeding the texts to speech synthesizers to be read aloud are also possible; ASCII text can also be displayed on a wider variety of equipment and on cheaper equipment. ASCII displays can be formatted for the particular screen size or programme environment preferred by the user. The image quality shown does not reflect any fading or discoloration of the original. Jyotshna (2004)

**PRESERVATION AND CONSERVATION AT NATIONAL AND
INTERNATIONAL LEVEL**

CHAPTER 4

PRESERVATION AND CONSERVATION AT NATIONAL AND INTERNATIONAL LEVEL

4.1 Connemara Public Library

The Connemara Public Library at Egmore in Chennai, Tamil Nadu, India, is one of the four National Depository Libraries which receive a copy of all books, newspapers and periodicals published in India. Established in 1896, the library is a repository of century-old publications, wherein lie some of the most respected works and collections in the history of the country. It also serves as a depository library for the United Nations.[citation needed] It is located in the Government Museum Complex on Pantheon Road, Egmore, which also houses the Government Museum and the National Art Gallery.

Collections

The library, along with the Madras museum, benefited greatly from the effects of the Madras Literary Society, the Oriental Manuscripts Library and the Records Office. Under the provision of Delivery of Books and Newspapers (Public Libraries) Act 1954, every publisher in India has to compulsorily send a copy of each publication to the library. Apart from this a good number of publications and periodicals of UN and its specialized organs and Asian Development Bank were also received. Furthermore, several books were added every year by purchasing from the funds made available by the state government budget. The collection includes rare books including a 1608 Bible.

Heritage and cultural document preservation

Heritage and cultural documents are the priceless and irreplaceable assets for each nation. The loss through deterioration or disappearance of these cultural and heritage documents leads to preservation. The heritage and cultural documents tells us about the traditions, the beliefs and achievements of any country and its people. The heritage documents can be preserved by many methods including 3D Scanning, Photogrammetry, Natural and Artificial preservatives...etc. The heritage documents are much preferred to collect the historical information. Effective heritage

documentation practice relies on the availability of public data sources and assessment tools to convey information to investigators, conservators, and the general public. Emerging communication technologies on the Internet can provide, with higher level of quality, new analysis and visualization tools for Cultural Heritage Preservation. Open-source software provides the opportunity to build low-cost information systems allowing conservation and documentation departments with modest resources access to modern data analysis and visualization tools.

4.2 Goa State Central Library

Krishnadas Shama Goa State Central Library, Panjim takes special efforts to conserve old and rare books that are on the verge of getting destroyed. Café stops by the book preservation laboratory at the library to find out more

Considered to be one of the best public libraries in the world, not only by the book lovers of Goa but also by experts and librarians from around the world, Krishnadas Shama Goa State Central Library, located at Patto-Panjim, is indeed a great example of the modern face of the age-old institution. However, along with keeping in pace with the world of digitisation, the library also seeks to preserve and maintain the old and rare books in its treasure chest by setting up a one-of-its-kind in-house book preservation laboratory. One of the very few book preservation centres in India, the library might probably be the only public library in our country that has a special in-house lab for book conservation.

The laboratory began functioning one and a half years ago, after a long period of preparation during which, people were trained, conservation labs across India were visited and all the necessary material was acquired. "These old books that we have are the treasure of our nation and it's our responsibility to preserve them so that even the next generation has the opportunity to benefit from them,". Library is making an attempt to digitize all the rare books, it's still necessary to preserve the original copies.. Preserving the books also helps in preserving the naturality of the document." Till now, the laboratory has successfully conserved around 10,000 pages of books on different subjects.

The process of book conservation is a tedious one. "The process begins with separating each page of the book that has to be conserved. Each page is then covered in marinex sheets, and cleaned and de-acidified in distilled water and lime water." In-charge of the fumigation section, continues with the demonstration. "Once the pages are clean, the actual process of conservation starts. Two marinex sheets are placed adjacent to each other on a blotting paper. A special kind of tissue paper that is imported for the purpose of preservation is then placed firmly on both the sheets and a paste of the starch of 'Maida' is applied onto it. The page to be preserved is then placed on this tissue paper, and is covered with the other marinex sheet that also has a tissue hold on to the page. A piece of handmade paper is attached to one side of the page for the purpose of binding. The page is then kept on a Terylene cloth to dry for a whole day. The marinex sheets are then removed and the dry pages encased in tissue paper are sent for binding once the process of preserving all the pages of the books is complete,"

If the book is in a relatively good condition, it's possible to preserve around 40 to 45 pages per day. But if the pages are too fragile or torn, the work gets difficult and slower. "Right now library is just focusing on preserving the books from our library's old collection. They also plan on starting the conservation of our old newspapers and gazettes. The process of preserving newspapers is very different from that of books and we will be acquiring special training for that,"

Preservation technique is a risky process and it also comes with difficulties. "Getting stationery required for the process is very difficult as we have to import most of it and buy in bulk. Only the experts can carry out the process as it's a very delicate and tedious job; even a single mistake can cost us a valuable book," . The library also trains university students who are interested in learning this technique, on request. A unique practice adopted by the central library's preservation lab is the use of glass-top tables. "Almost all the other labs we visited used tables with sunmica tops.

It's safe to say that Goa's state library has definitely given the concept of library a new face; becoming a place that not just stores books but preserves them. This is something more libraries need to do in the coming future.

4.3 Asiatic society Mumbai

The monumental task of keeping the books and manuscripts in good condition and prolonging their life-one of the central tasks of the Society -has been given a fillip since the 1990s. This is due in the first place, to the bifurcation of the Society from the Central Library, freeing much-needed space in the Town Hall to accommodate the Society's own teeming book population. Further, processes of microfilming and de-acidification and tissue papering of valuable books and manuscripts have been initiated by the setting up of two laboratories. A project for putting the books and manuscripts into CDROM is under consideration.

preserving and conserving

Through 'Adopt a Book' scheme, individuals and institutions are approached for help in conservation and preservation. For example, Mumbai Port Trust responded to this scheme by financing the microfilming and conservation of a good number of books on ports, maritime history, maritime trade and development, and now there is a Mumbai Port Trust Corner so named on the mezzanine floor of the library.

Microfilming laboratory

This was inaugurated in 1995, through donations from Industrial Credit and Investment Corporation of India, Bombay Municipal Corporation, and Government of Maharashtra. Two copies of the selected book or manuscript are made on microfilm, one for the use of readers on the premises and the other is housed in the Indira Gandhi National Centre for the Arts, New Delhi. Books and manuscripts in a delicate condition, being thus available to readers on microfilm, are spared direct lending and reference.

Conservation laboratory

The Asiatic Society of Mumbai (formerly Asiatic Society of Bombay) is a learned society in the field of Asian studies based in Mumbai, India. It can trace its origin to the Literary Society of

Bombay which first met in Mumbai on 26 November 1804, and was founded by Sir James Mackintosh. It was formed with the intention of "promoting useful knowledge, particularly such as is now immediately connected with India". After the Royal Asiatic Society of Great Britain and Ireland was established in London in 1823, the Literary Society of Bombay became affiliated with it and was known as the Bombay Branch of the Royal Asiatic Society (BBRAS) since 1830. The Bombay Geographical Society merged with it in 1873, followed by the Anthropological Society of Bombay in 1896. In 1954, it was separated from the Royal Asiatic Society and renamed the Asiatic Society of Bombay. In 2002, it acquired its present name. It is funded by an annual grant from the Central Government of India.

Opened in 1991, through donations from Sir Dorab Tata Trust and Tata group of companies. The following processes are carried out. Acid layer from the selected book or manuscript is removed; it is fumigated, treated chemically, covered with tissue paper and rebound. Priority is given to damaged or fragile books. The Society's Library is one of the few libraries in India undertaking this task.

Compact Book Shelving System

Since 1999, additional space has been created in the renovated basement, by installing a Compact Book Shelving System, in which mobile steel racks store books in a dust-free, pilfer-free environment. Over a lakhs of books and periodicals have been shifted to the mobile racks. The project was made possible by a donation from State Bank of India, Associated Cement Companies and Industrial Development Bank of India.

Special Collections Room

To house the rarest of the rare books, an air conditioned room in the basement was inaugurated in 1999 through a donation from Hindustan Lever Limited. The Special Collections Room has mobile racks as well as special cupboards to house extra-large books. Over 10,000 books have been selected and accommodated here

4.4 National library Kolkata

The National Library, foremost among the libraries in India, is one of the four designated libraries entitled to receive under the Delivery of Books and Newspapers (Public Libraries) Act,

1954 a copy of every publication published anywhere in the country. The library is a permanent depository of all reading and printed materials produced in India, or written by any foreigner, wherever published and in whatever language.

The origin of the National Library is traced to the former Calcutta Public Library, established in the first half of the 19th century. The Calcutta Public Library was established largely at the initiative of Mr. J. H. Stoqueler, the Editor of the Englishman. The library was opened to the public on the 21st March, 1936 on the ground floor in the residence of Dr. F.P. Strong, Civil Surgeon.

It was Lord Curzon who first conceived the idea of opening a library for use of the public. He took note of two libraries with rich collections of book - the Imperial Library formed in 1891 by amalgamating a number of Secretariat libraries and the Calcutta Public Library. The Imperial Library (Indentures Validation) Act was passed in 1902 and the reconstituted Imperial Library was formally opened to the public at the Metcalfe Hall on the 30th January, 1903 by Lord Curzon with the intention that it should be a library of reference, a working place for students, and a repository of materials for the future historians of India, in which, so far as possible, every work written about India at any time can be seen and read.

The Bengal Government offered the library, from the very beginning the privilege to ask for any book free of cost, received by the Government under the provisions of the Press and Registration of Books Act, 1867. The first step towards the enlargement of the collection of the Imperial Library through exchange of publications with institutions of foreign countries was taken when the library received 2,333 volumes from the Library of Congress in 1907. In April 1947, the Imperial Library had a total collection of about 3, 50,000 volumes.

After Independence of India, the NATIONAL LIBRARY came into being in place of Imperial Library by the "Imperial Library (Change of Name) Act" in 1948. It was accorded a special status of an institution of national importance in Article 62 in the 7th Schedule of the Union list of the Constitution of India and Maulana Abul Kalam Azad, the then Union Minister of Education opened the Library to Public on 1st February 1953.

Preservation activities

One of the basic functions of the National Library, India is to preserve the printed documents for future generations. For this purpose, the Library has separate Divisions for physical, chemical, reprographic and digital preservation of documents.

Preservation Division (Binding)

This Division undertakes mending (repairing) and physical preservation of documents damaged due to wear and tear by their proper mending and binding. The full-fledged Preservation Division was set up in September 1959.

Laboratory Division

This Division of the Library, established in 1968, undertakes various chemical conservation treatment of books, eradication of brittle and insect-infested books by applying suitable methods and materials for enhancement of their longevity. Apart from these, this Division also performs conservation of maps, various types of manuscripts and illustrated paintings on paper.

This Division is also concerned with extending its service to the nation by providing suitable advice on the problem of conservation of documents to other institutions in India and imparting training on conservation to various other institutions, as a part of awareness programme.

Reprographic Preservation

Most of the 19th century newspapers, Arabic, Persian and Sanskrit manuscripts have already been microfilmed 6801 rolls of microfilms are already produced so far by the Reprography division & also total no of microfilms are 18422 available in Reprography Division.

delhi public library

Culture plays an important role in the development agenda of any nation. It represents a set of shared attitudes, values, goals and practices. Culture and creativity manifest themselves in almost all economic, social and other activities. A country as diverse as India is symbolized by the plurality of its culture. The mandate of the Ministry of Culture revolves around the functions like preservation and conservation of our cultural heritage and promotion of all forms of art and culture, both tangible and intangible. The Ministry's task is to develop and sustain ways and means through which the creative and aesthetic sensibilities of the people remain active and

dynamic. The functional spectrum of this Ministry is wide, ranging from generating cultural awareness at grassroots level to promoting cultural exchanges at international level. In order to achieve these objectives, the Ministry undertakes various activities that flow from subjects allocated under the Govt. of India's Allocation of Business Rules.

4.5 International

4.5 National library congress

Conservation

The Conservation Division ensures the preservation of the Library's paper-based general and special collections handling more than 100 million rare books, works on paper, and photographic materials. A team of conservators and preservation specialists undertake condition surveys, rehouse collections, perform basic stabilization and full treatments, conduct conservation research, and participate in the management of collections storage, collection emergencies, exhibitions, loans, and digitization.

Beyond the Library, the Conservation Division furthers the field of conservation by hosting internships and through published research. The Conservation Division also shares its Digital Imaging Workflow for Treatment Documentation which is an instructional manual for conservation photo documentation.

Digital preservation

Digital preservation efforts are distributed throughout many units at the Library of Congress and includes programs related to digital content packaging and ingest, monitoring and reporting of digital storage, sustainable digital file formats, metadata and more.

Reports and Events

Sustainability of Digital Formats website provides in-depth descriptions of over 440 formats sorted into content categories including: still image, sound, textual, moving image, Web archive, datasets, geospatial and generic formats with more to come. Important features of the format descriptions includes documenting relationships between formats and factors to consider when evaluating formats including sustainability factors and quality and functionality factors.

Federal Agencies Digital Guidelines Initiative (FADGI) Established in 2007, FADGI is a collaborative effort of 20 federal agencies to articulate common sustainable practices and guidelines for digitized and born digital historical, archival and cultural content. Two working groups study issues specific to two major areas, Still Image and Audio-Visual.

Recommended Formats Statement identifies hierarchies of the physical and technical characteristics of creative formats, both analog and digital, which will best meet the needs of all concerned, maximizing the chances for survival and continued accessibility of creative content well into the future.

Tools and Open Source Software

BagIt File Packaging Format External Link specification documentation from IETF for the hierarchical file packaging format for storage and transfer of arbitrary digital content.

Bagger External Link open source application that packages data files according to the BagIt specification.

BagIt-Python External Link open source Python library and command line utility for working with BagIt style packages.

BWF MetaEdit External Link open source tools developed by FADGI which permits embedding, validating, and exporting of metadata in Broadcast WAVE Format (BWF) files.

PREMIS Data Dictionary for Preservation Metadata is the international standard for metadata to support the preservation of digital objects and ensure their long-term usability.

Preservation Science

National Preservation Research Agenda

The Library of Congress pursues preservation research with the aim to forward the National Preservation Research Agenda, which was developed by the Library's Preservation Directorate in consultation with leading scientific laboratories. This matrix (MS Excel) of preservation science projects undertaken by libraries, archives, and museums worldwide illustrates the wide range of preservation research, from scientific and forensic characterization studies to the development of

conservation treatments. At the Library of Congress, Preservation Directorate staff members have published extensively on a wide range of research topics, including the effects of solvents on paper, treatment of mold, definitions of artifactual value, energy sustainability, iron gall ink treatment protocols, and other preservation questions.

Research Projects

Current and past research projects (including mass deacidification) at the Library, detailing project background, description, and results.

Analytical Projects

The Preservation Research and Testing Division analyzes the material composition of the Library's collection items to further scholarly research, conservation treatment, and the preservation of the collections. Analytical tests can characterize the chemical composition and condition of a range of materials, including paints, inks, and pigments, coatings, and substrates such as paper, parchment, and papyrus.

Quality Assurance

The Preservation Research and Testing Division conducts quality assurance on the housing and storage materials used at the Library to ensure that they meet the rigorous performance and composition requirements stipulated in Library of Congress specifications.

Instrumentation

The Preservation Research and Testing laboratories include equipment and instruments for microscopy, imaging, general spectroscopy, elemental spectroscopy, mass spectrometry, chromatography, other analytical chemical techniques, physical measurements, and audio signal processing analysis, as well as other general equipment.

4.6 National library UK

At the heart of the library are the collections in all physical and digital formats. THEIR conservation team cares for the physical collections, which number some 150 million items, from all cultures dating from 3000 BCE to the present day. The collections include a wide array

of material types including paper, parchment, photographs, leather, papyrus, wood, textile, ceramic, metal.

Conservation experts allows the collection to be used and preserves it for as long as possible. We do this with preventive techniques, hands on treatment of individual items, assessing and preparing items for digitisation, non-destructive scientific analysis and imaging techniques.

Read our position paper and strategic direction 2017-20 (PDF format) for more details on our conservation methods and activities. You can also come on a tour of our conservation studios to find out more.

Prevention is always better than cure. Our preventive conservators work across all areas of the Library to protect the collections from harm, inhibit the progress of existing damage or deterioration, and prevent new damage from occurring.

Setting and measuring environmental standards

The environmental conditions in which items are used, stored and exhibited are a critical factor in the reactions that cause items to deteriorate. Working with the science team in interpreting and applying environmental standards and guidelines we provide advice on optimum conditions for different material types and we are responsible for monitoring levels of light, temperature, relative humidity and pollution to ensure that they are within acceptable or beneficial levels and are stable.

Collections disaster and salvage

We are responsible for establishing, maintaining and developing collections disaster and salvage procedures. Working closely with our own Estates department, we train dedicated response teams and volunteers from across the Library and provide 24-hour emergency response all year round to any incident that adversely affects, or has the potential to adversely affect the collections.

Integrated pest management

We are responsible for providing integrated pest management across the library, working with our Estates department to keep the collections and storage areas free from pests. We respond to

any incident involving pests, providing identification and advice. We also offer a quarantine service in our dedicated quarantine room.

Handling and use

Our collection is a working collection, and handling and use pose one of the greatest risks to its physical condition. It's our job to advocate best practice when handling and using collection items, within the Library and externally. We provide training for our own staff and all users, and written guidelines and support information.

TREATMENT

The conservation and treatment of collection items is the key that unlocks access to the items themselves or to a representation of them or their content.

They treat and conserve items at different levels, in different ways and for different reasons. They do this onsite in St Pancras and at Boston Spa and externally through procured contracts.

their teams of conservators specialise in a variety of book- and paper-based disciplines as well as parchment and vellum, photographs and textiles. We undertake a wide range of treatments as required, keeping intervention to a minimum. As part of this process, we also carry out research into formats, structures, sewing and binding styles, as well as the use and deterioration patterns of substrates and media.

Exhibition items

Preparation of items for exhibition and loan is another key role of the Conservation department. We are responsible for treating and documenting an object before it is displayed. If an item is going to be loaned to another public institution, there are additional risks to be considered and managed and we make recommendations for the safe transport, handling and display of objects, as well as the re-housing of items on their return to the collections.

Conservation for digitisation

With more and more of the Library's content being opened up by digitisation, they have developed a dedicated team specialising in conservation for digitisation.

- When dealing with items for digitisation, our team will:
- Make initial condition assessments of items to be digitised
- Recommend any treatments to stabilise or repair items
- Advise on handling and transport, camera equipment, lighting and book cradles.

These conservators work with imaging specialists, curators, project managers and procurement managers to ensure successful and safe digitisation of our collections within an agreed schedule.

DATA ANALYSIS AND INTERPRITATION

CHAPTER 5

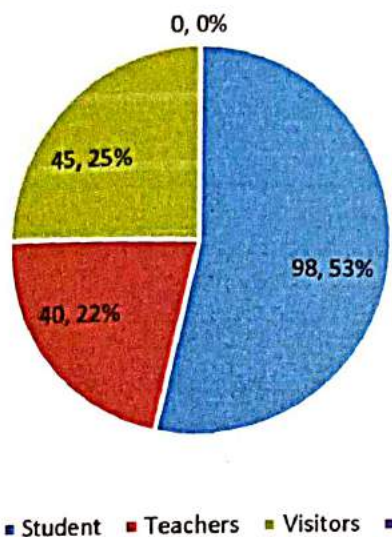
DATA ANALYSIS AND INTERPRITATION

5.1 Data analysis:

The data collected from the students of Goa University is based on the responses received from 200 users and 10 librarians, this data is appropriately analyzed in this chapter using tables, charts and graphs.

5.2 Designation status

Figure 1: designation of respondent

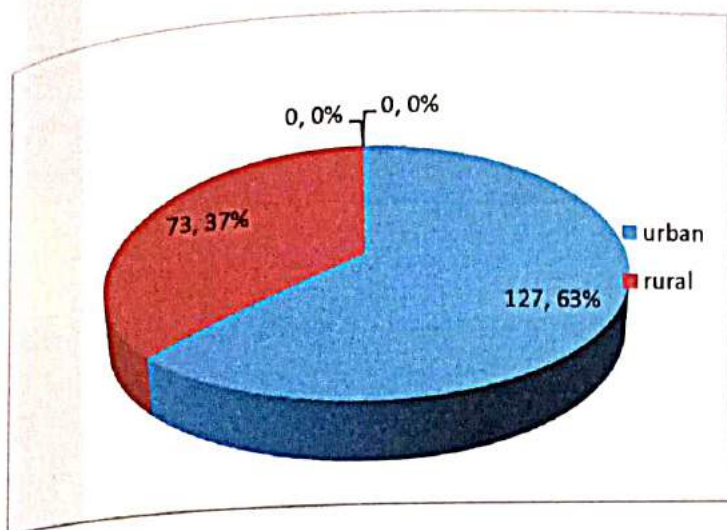


Education qualification

The above bar graph shows that out of 200 respondent. 98.53% were student , 40.22% were teacher and 45.25% were visitors.

5.3 Resident

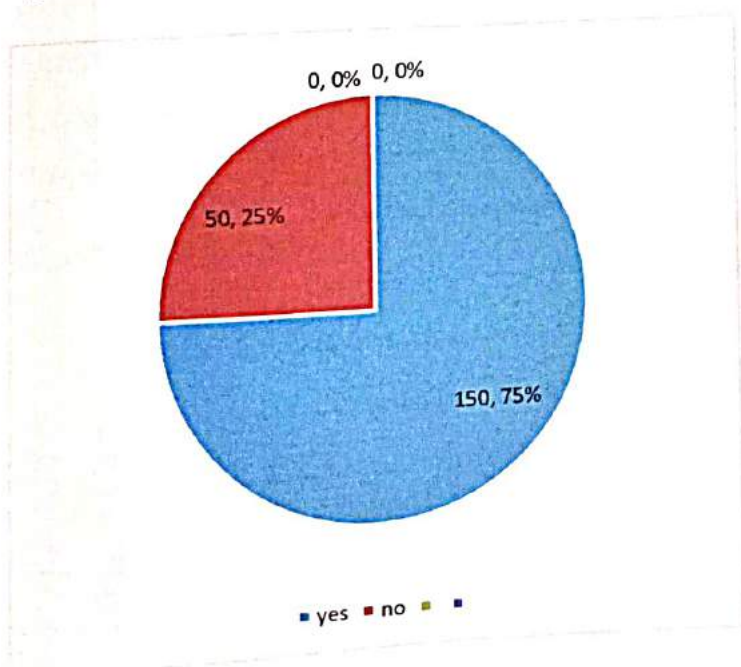
Figure 2: User resident



The above bar graph shows that majority of the library users / respondent are from urban areas. From urban 127,63% and from rural 73,37%. Which shows library users are mostly from urban areas and not from rural areas, it doesn't mean that rural people are not user of library, even rural people are having the interest of reading

5.4 Are you member of this library?

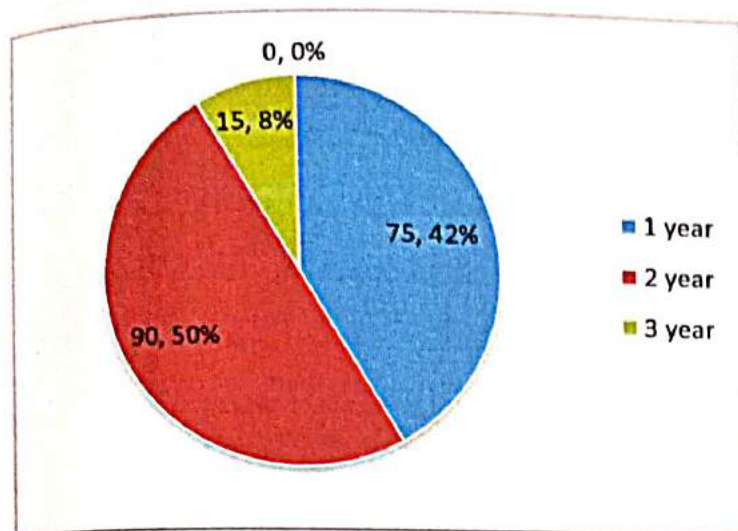
Figure3: member and not member of the library



Above graph is showing whether respondent are library members or not? Majority of the respondent are members of these library, which shows positive sign about 150,75% respondent are member of this library and 50,25% are not member of this library

5.5 Since how long?

Figure4: Period of being the member



The next question was, if yes since how long? The users respond proves that most of the respondent are member of this library .90,50% are the member of this library since 2 years , 75,42% are the member of this library since 1 year and 15.8% are the member of this library since 3 years.

5.6 How often you use library?

Table1: using the library

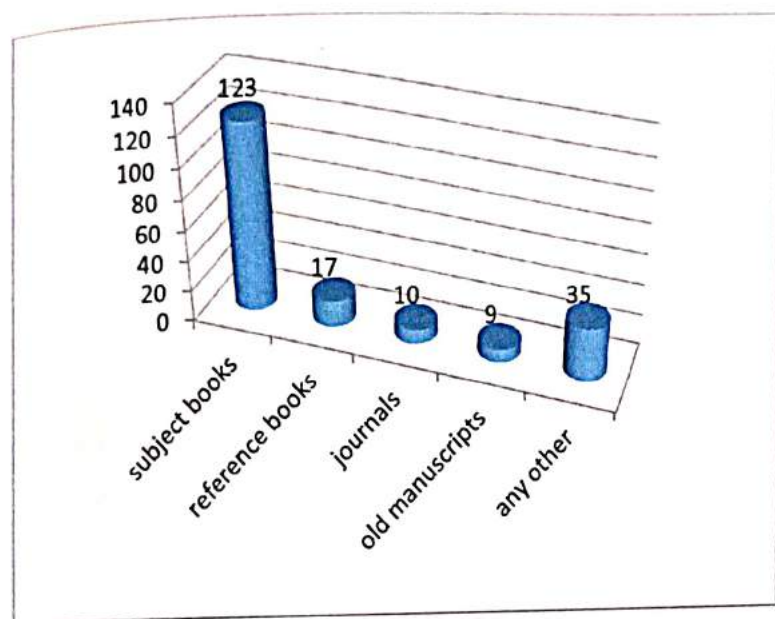
S.N	Time spending(days)	frequency	percentage
1	Daily	20	10%
2	Twice in a week	90	45%
3	Thrice in a week	55	27%
4	rarely	35	18%

Every library user comes to the library as per their comfort, not every user of library is a daily visitor of library. Majority of respondent visit the library twice in a week that is 90,45%,some

visit the library thrice in a week that is 55,27%, and some visit the library rarely that is 35,18%. Few respondent are there who is the regular member of this library that is 20,10%.

5.7 Types of document use in the library

Figure 5: types of documents used by users



Every reader visit the library with their own perspective ,everyone not come for the same resources .to know what readers mostly go for I asked this question and with responses it is clear that the books related to subject are most usable ,about 123.60% users among the respondent go for subject book. About 8% users visit the library for reference books and 5% for journals and old manuscripts.

5. 8 types of information users used in the documents

Table 2: useful information

S.N	information	frequency	percentage
1	Information related to culture and tradition	75	35%
2	Information related to music	23	11.5%
3	Information related to history	54	27%
4	Information related to literature	61	30.5%

To know what type of information users use in in resources I asked this question and with the response of the users it is clear that majority of the respondent of the library users information related to culture and tradition, that is 35%.about 30.5% users for information related to literature, 27% related to history and 11.5% related to music

5.9 Reasons for using information

Table 3: Reasons for using information

Reasons for using information	frequency	percentage
For writing books	7	1%
For translations	11	5%
For research	30	15%
For teaching	45	22%
For assignment	146	73%
Any other	21	10%

To find out for what reason user searches the information I asked this question and majority of respondent replies that, they want this information mostly for assignment purpose about 73%. It shows positive sign that learner are really taking interest in their work. About 22% of respondent using the resources for teaching purpose, because books material is having more value as compared to online data.

5.10 usefulness of information

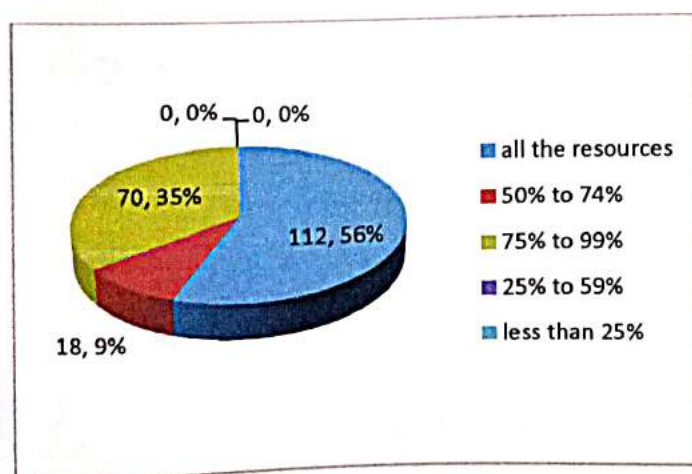
Table 4: useful and worthy to preserve

S.N	Users opinion	frequency	percentage
1	To great extent	167	83%
2	To moderate extent	12	6%
3	To certain extent	21	11%

Majority of the people believes that information resource's in the library is very useful and it should preserve for future. 167, 83% people believes that information resources is useful for present and future at great extent and 21, 11% believes to certain extent .

5.11 Portion of materials need to be preserved

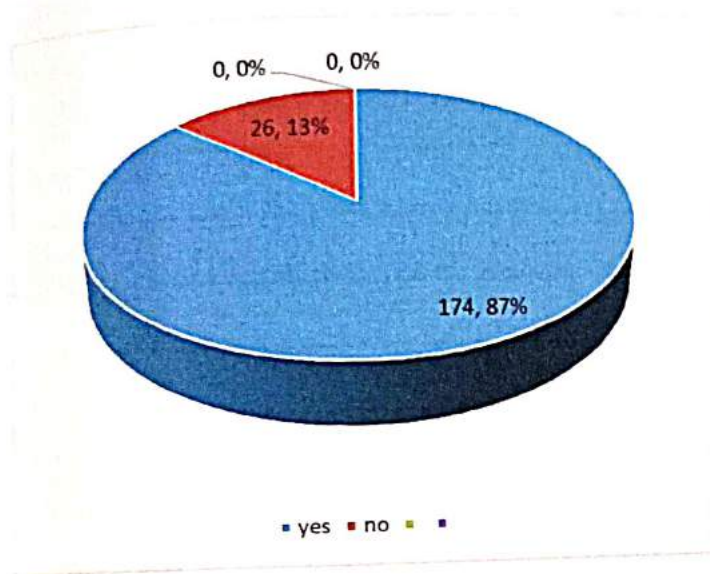
Figure 6: documents need to be preserved



To know the opinion of the user and clarify what user feels I asked this question and their response was really majority of the users that is 112,56% believes that all the resources should be preserved for future generation. About 70,35% believes that only 75% to 99% of total resources we should preserved .because some resources is getting outdated. About 17,9% feels that only 50% to 74% we need to preserve .

5.12 Popularization of materials

Figure 7: Popularization



In order to know if collection if very useful weather library should popularize the availability I asked this question and majority of the people says YES that is 174,87%,only 26,13% says NO.With this it is clear that we should popularize the availability of library resources

5.13 Appropriate method

Table 5: appropriate method

S.N	Necessary steps	frequency	percentage
1	Digitization of entire collection	157	78.5%
2	Digitization of specific collection	43	21.5%
3	Any other	0	0%

Majority of the portion, that is 157,78% says that, in order to preserve library material for future we must digitize the entire collection of library .only 43,21% believes that only specific collection should be taken into consideration while digitizing and saving for future

5.14 user's awareness

Table 6: users aware about following documents need preservation

S.N	Documents	frequency	percentage
1	Palm leaves	22	11%
2	manuscripts	66	33%
3	Old photograph	46	23%
4	Old magazine	167	83.5%
5	Old newspaper clipping	156	78%
6	Religious literature	98	49%

In order to know whether all users of library are knowing that these type of documents needs preservation following question was asked and about 167, 83% users are aware that old magazine need preservation, 156, 78% aware about old newspaper and 49% aware about religious literature

5.15 library resources will help scholars and others

Table 7: help scholars and others

S.N	opinion	frequency	percentage
1	To great extent	179	89.5%
2	To moderate extent	15	7.5%
3	To certain extent	6	3%

Information resources of the library will help scholars and others at a great extent it is clear with the responses of the users, about 89% says that information resources in the library will help scholar's and others at a great extent only 7.5% feels to moderate extent and 6% feels to certain extent

5.16 Data obtained from libraries

5.16 ALL 9 LIBRARIES WITH THEIR YEAR OF ESTABLISHMENT AND ADDRESSES

Table 8: libraries and addresses

SINO	LIBRARY	YEAR OF EASTABLISHMENT	ADRESS
1	GOA STATE CENTRAL LIBRARY	1832	FRVM+H6R, PATTO CENTRE, PANJI, GOA 403001
2	NIRMALA INSTITUTE OF EDUCATION	1963	NIRMALA INSTITUTE OF EDUCATION RAMCHANDRA NAIK RD, ALTINHO, PANJI GOA 403001
3	DCT'S.S .S .DEMPO COLLEGE OF	1966	INTEGRATED EDUCATION

	COMMERCE AND ECONOMIS		COMPLEX, OPP GMC (BAMBOLIM), CUJIRA, ST. CRUZ, IIHAS, BAMBOLIM, GOA 403005
4	VVN'S SHREE DAMODARCOLLEGE OF COMMERECE ECONOMICS	1973	7XF2+MRF, GOVIND RAMNATH KARE ROAD, TANSOR, COMBA, MARGAO, GOA 403601
5	G.R.KARE COLLEGE OF LAW , MARGAO GOA	1979	VIDYA VIKAS MANDAL, TANSOR COMBA, MARGAO, GOA 403601
6	DAYANPRASSARAK MANDALS COLLEGE AND RESEARCH CENTER	1985	GONGUEREM, ASSAGAO, MAPUSA, 403507
7	PES RSN COLLEGE OF ARTS AND SCIENCE	1986	CX7Q+3PC, FARMAGUDI, DONSHIWADO, PONDA, GOA 403401
8	THE CES COLLEGE OF ARTS AND COMMERCE	1987	5XHW+HMF, CUNCOLIM, GOA 403703
9	NARAYAN ZANTYE COLLEGE OF COMMERCE	1984	HXM8+852, POST BICHOLIM INDUSTRIALESTATE, SARVAN VATHADEV,

			BICHOLIM, GOA, 403529
10	GOA UNIVERSITY LIBRARY	1985	FR5J+Q3V, PANJIM, GOA 403206

The above table contains 10 responses received from libraries which are established the year 1832 to 1984 in Goa. Out of that 1 university was established in the 19th century and rest all are established in the year 20th century

5.17 Print resources

Table 9: print resources

S.N	ITEM	FREQUENCY	PERCENTAGE
1	Books	10	100%
2	Current journal	10	100%
3	Journal back volume	10	100%
4	Thesis and dissertation	10	100%
5	Standard patent	2	20%

The data presented in above table shows that 100% library is having a books, current journals, journal back volume thesis and dissertation it is a very important part of every university and education institution. Only 2 libraries are having standard patent, one is goa university library and other is central library

5.18 Electronic resources

Table 10: Electronic resources

S.N	ITEM	FREQUENCY	PERCENTAGE
1	E-Books	10	100%
2	Books with CD	9	90%
3	E-Journals	9	90%
4	CD-Rom	8	80%
5	Online databases	8	80%
6	Multimedia documents	5	50%

5.19 Subscription of journals to the libraries

Table 11: journals

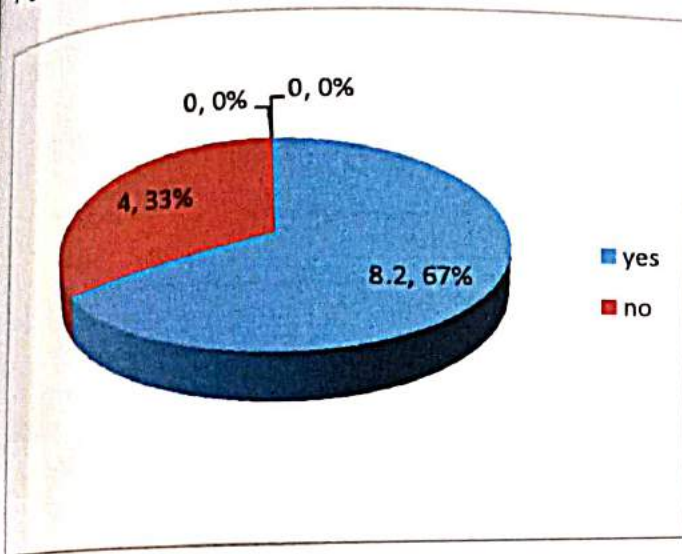
S.N	Activity	Frequency	percentage
1	Direct from publisher	7	70%
2	Through vendor/agent	3	30%
3	Through institutional membership	6	60%
4	Through national and international consortia	3	30%
5	Both direct and vendor	4	40%

Above table shows that 7(70%) of libraries subscribe for journals directly from publisher for their library. 6(60%) subscribe the journal through institutional membership and only 3 (30%)

approaches the vendor and through national and international consortia. And 40% go with both direct and vendor

5.20 Separate gifted collection

Figure 8: Gifted collection



Majority of the library are having separate gifted collection in their library about 67% libraries are having separate gifted collection

5.21 Organized gifted collection

Table 12: Organized gifted collection

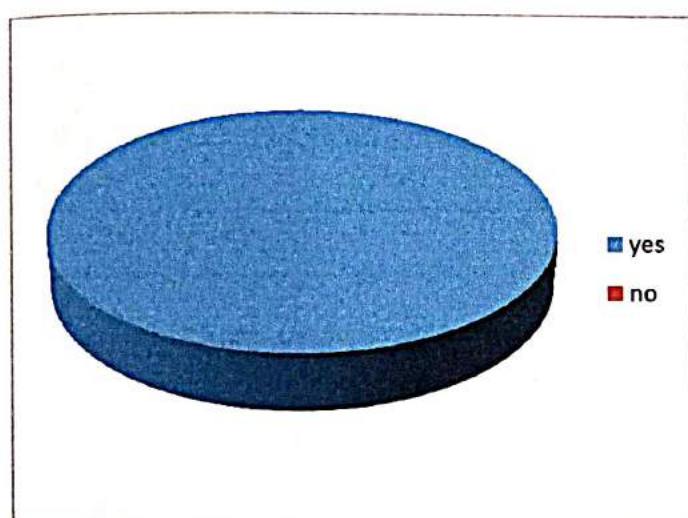
S.N	Order	frequency	percentage
1	Each separately irrespective of subjects	1	10%
2	Subjective irrespective of forms of documents	1	10%

3	Subject wise all forms together	2	20%
4	classified order as per DDC/UDC/CC	2	20%

2(20%) having gifted collection organized their collection as per subject wise all forms together and as per DDC/UDC/CC, 1(10) organized its collection separately irrespective of subjects and subjective irrespective forms of documents. Some libraries are not having any gifted collection and that is 4(40%)

5.22 Maintained tool to know availability if of gifted documents

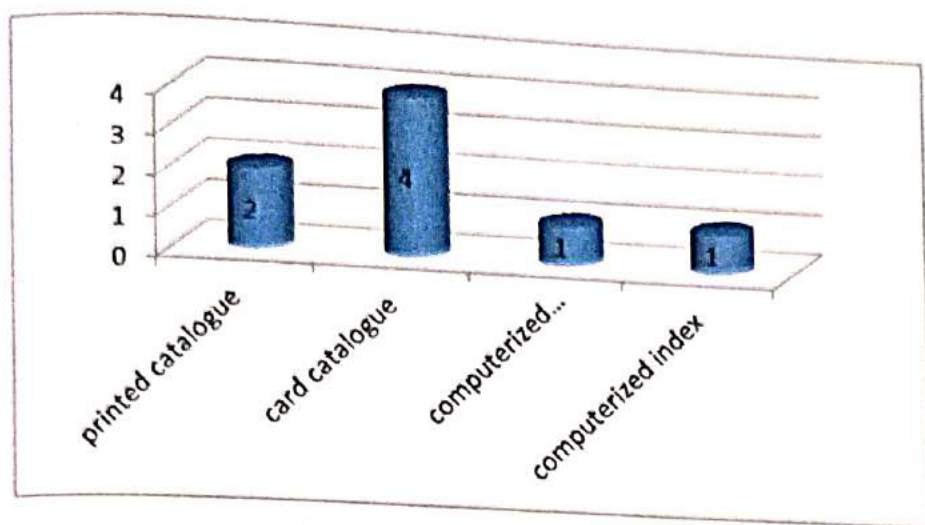
Figure 9: tools maintain by library



6(100%) libraries are maintaining tools to know the availability of gifted documents. it is clear that libraries having gifted collection are mostly maintaining tools in order to know their position of the documents

5.23 Different tools used by libraries for gifted collection

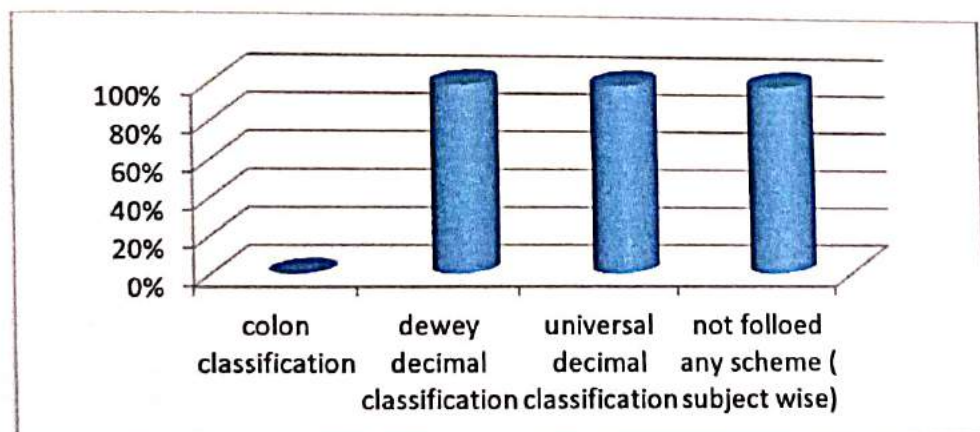
Figure 10: Different tools



4(40%) libraries are using card catalogue to know the availability of gifted documents in their library which is an useful tool and most libraries are using it ,1(10) libraries using computerized index and computerized catalogue,2(20%) libraries are using printed catalogue in order to know the availability of resources

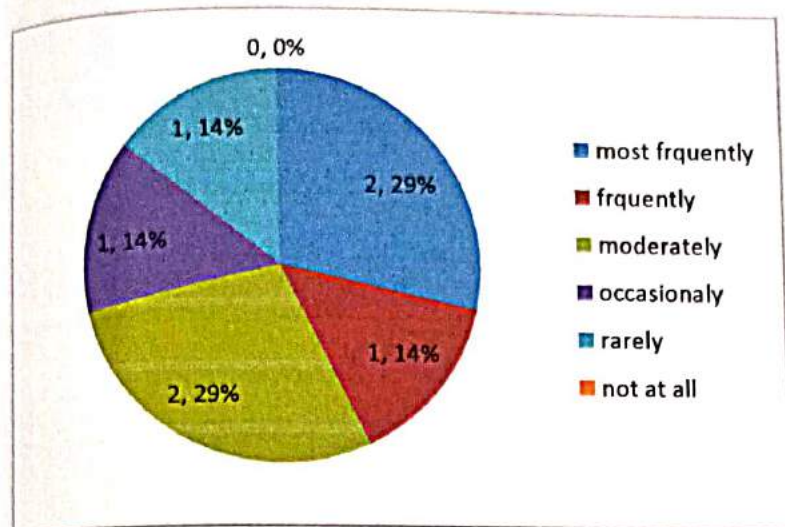
5.24 Tools maintain by libraries for books and other documents other than gifted collection

Figure 11: tools for other documents



5.25 Gifted collection used by the users

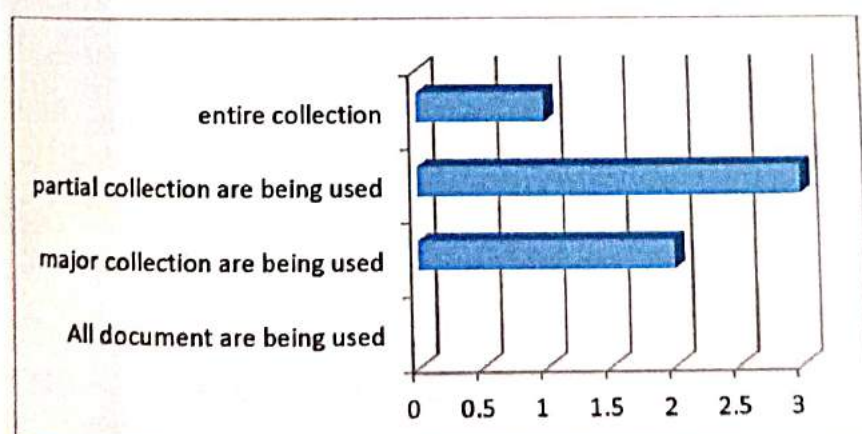
Figure 12: Gifted collection used by the users



Above bar graph shows that gifted collection is not the collection which is used frequently by user it ,it's the collection which attract the user at particular time period.2,29% collection is used most frequently and moderately by users,1,14% of its collection is used occasionally,frequently and rarely by users

5.26 Portion of collection used by readers

Figure 13: Portion of collection used by readers



Majority of the librarian says that partial of the collection is used of their gifted collection which shows that these collection is not a collection which is useful in daily life.in few libraries major collection of gifted collection are being used by readers, only one librarian says that entire gifted collection is used which show that gifted collection are in use occasionally.

5.27 Nature of gifted collection

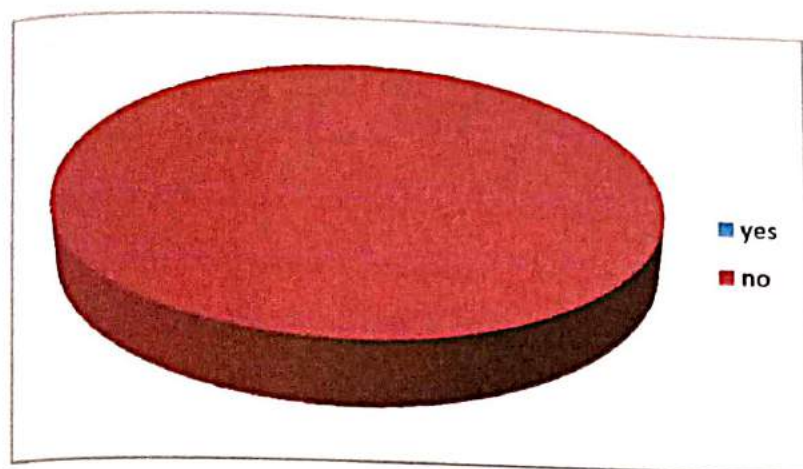
Table 13: Nature of gifted collection

S.N	Nature	Frequency	Percentage
1	These document will be of use to future generation and need to preserved	1	10%
2	These gifted collection have become obsolete and hence not to be preserved for future	1	10%
3	The collection has some documents which are worthy to be maintained for future generations and hence these to be preserved	4	40%

The above table shows that gifted collection is having some documents which are worthy to be maintained for future generations and hence these to be preserve about 4(40%) says this, which shows a good sign towards gifted collection

5.28 gifted collection fully digitize or not

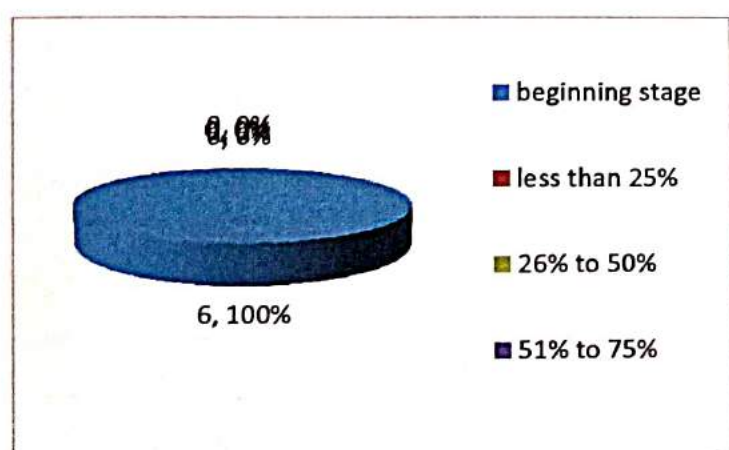
Figure 14: fully digitize libraries



Above diagram shows that even though gifted collection are having some important information ,but still these resources are not digitized fully .no librarian says that5 they had digitize there entire collection

5.29 Digitization of gifted collection

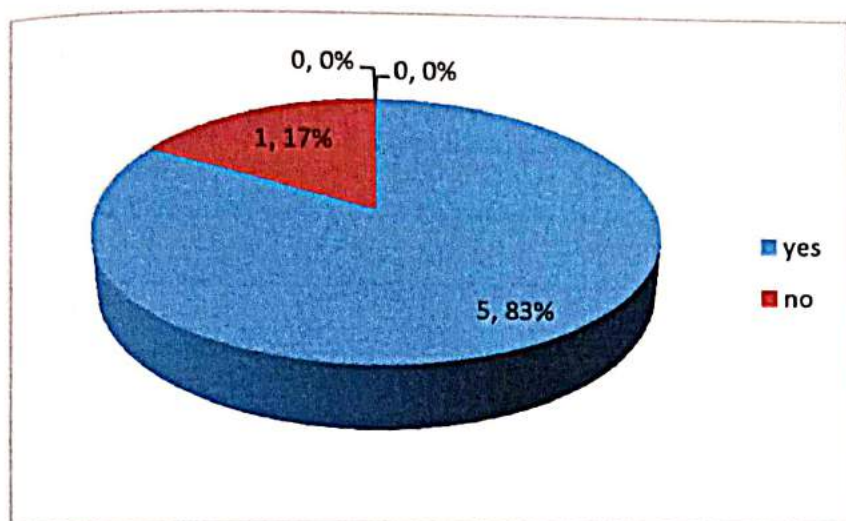
Figure 15: Digitization of gifted collection



With the replies it is clear that gifted collection of library is not fully digitize it is still in beginning stage, libraries must take action against it and digitize the collection which are really having a valuable information in order to preserve it for future

5.30 libraries attracting foreign users

Figure 16: attracting foreign users



Even though libraries are having gifted collection which is having qualitative aspect libraries are fails to attract foreign users it might be because of social media and online services. 5, 83%libraries are not attracting foreign users only 1.17% libraries attracting foreign users.

5.31 Types of users of gifted collection

Table 14: users of gifted collection

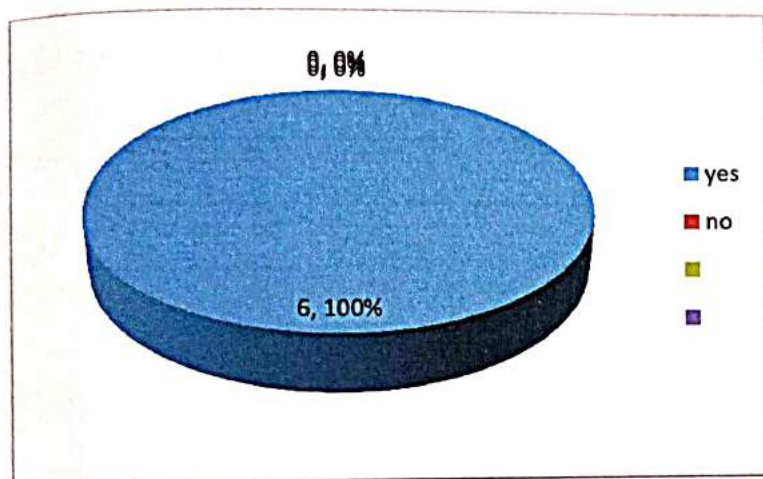
S.N	Profession	Frequency	Percentage
1	Scholars	3	30%
2	Teachers	4	40%
3	Writers	2	20%
4	Students	5	50%

5	Translators	1	10%
6	Librarian	2	20%

With the above table it is clear that gifted collection is very important part of library, almost all users is attracting towards it no matter in profession they are. 30% of gifted collection attracts the scholars, 40% attract teachers, 20% attract writers, and 10% attract translators. About 40% attract student which shows even student shows interest towards it.

5.32 Weather charges apply to foreign users

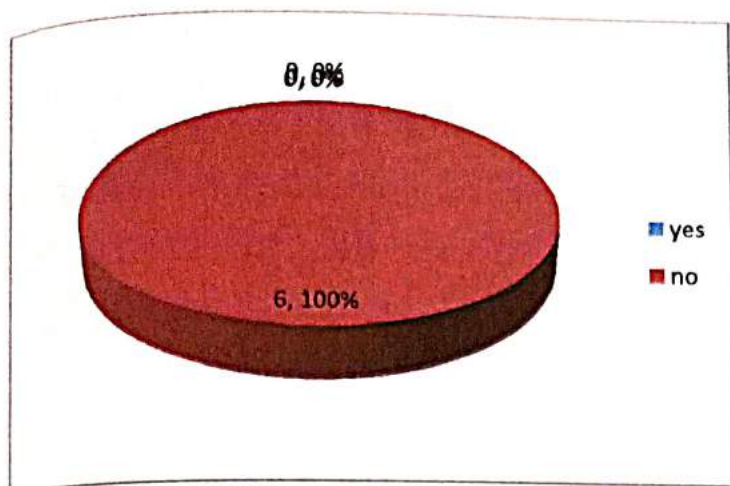
Figure 17: charges apply to foreign users



With the above diagram it is clear that no library is taking fees for their services ,library aim is not to achieve profit its goal is to provide knowledge and make people better person .

5.33 Libraries having policy of preservation and conservation

Figure 18: Libraries having policy of preservation and conservation



No library is following preservation policy. In their preservation process

5.34 Preservation policy design by specific country known by librarian

Table 15: preservation policies

S.N	Policies	Frequency	Percentage
1	Indian Manuscript Mission	2	20%
2	National Library of New Zealand Preservation Policy	0	0%
3	Conservation policy by WIPO	2	20%
4	Conservation policy by Cheshire archives and local studies	0	0%
5	Preservation policy by university of Texas library	0	0%
6	Digital preservation policy by	0	0%

	northwestern university library		
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Even though library are preserving the library material for future majority of librarian are not aware about any preservation policy in library. Only 2(20%) people aware about Indian manuscript mission and conservation policy by WIPO

OBSERVATION, FINDINGS, SUGGESTION ND CONCLUSION

CHAPTR 6

OBSERVATION, FINDING, SUGESTION AND CONCLUSION

6.1 Observation

From the study it is observed that the most of the library use preservation and conservation techniques .but most of the libraries don't used all the techniques as most of the libraries mostly used "Binding" and "cleaning of materials". Whereas "Lamination", "Microfilming" and Encapsulation is not much employed by the libraries, it is occasionally used.

From the study I observed that Goa State Central Library is the only library which really takes interest in preserving the gifted, rare and other materials. When I visit their library they explain me all the preservation techniques which they are following in order to preserve the library resources, the process of preservation is really interesting.

From the study I also observed that librarian of Goa State Central Library are really too good they treat everyone with open heart. The person handling preservation of resources believes that every library student should know the preservation process to make understand the student how books and other materials are preserved.

I visited one library where I notice that when one student asked for a specific book they said that it is available but when they search for it book was missing, it shows that librarians are not doing their work sincerely. It is also possible that librarian is not aware of proper shelving the books or it may be book lost.

From the study I even observed that gifted collection of the libraries are not in good position almost all resources are full of dirt it might be because maintain-ace of that particular collection is not properly done by library staff. Library staff is not giving importance to that particular collection because it is occasionally used by users

6.2 FINDINGS

User's Responses

- Almost 98% of the respondent are student, 45% respondent are visitors and 40% are teachers it shows that library users are mostly the teachers student and some visitor of the library they may be scholar or researcher etc.
- It can be seen that majority of the respondent are member of the library almost 127,63% are the member it shows that library plays an important role in today's world.
- 90(45%) are the member of the library since 2 years, 75 (37%) are the member of the library since one year and they are mostly 1st year students. 15 (7.5%) are since 3 years .
- Library is an important in today's world majority of the researcher scholar, researcher visit the libraries in order to get adequate date on his /her research 90(45%) visit the library twice in a week in order complete their assignment and read books to gain knowledge, 35(17%) visit the library rarely they mostly visit the library when exams near, 20(10%) visit the library daily and they are mostly librarian and teachers.
- It reveals that majority of the respondent i.e. 123(61.5%) visit the library to read subject related books in order to get better score in exams.17(8%) visit library for reference books,10 (5%) visit library for old journals which help them in research work, 9(4%) visit library old manuscript.
- Majority of the user of the library go for information related to culture and traditional that is i.e. 150(75%) with this it is clear that users are having interest in culture, tradition. 54(27%) users go for information related to history, they are mostly history students, 23(11%) go for information related to music because they are interested in music, 61 (30%) go for other information.
- It can see that majority of users use the library resources for assignment purpose because library document is having accurate date as compared to online data i.e.146(73%) respondent mostly go foe assignment,45(22%) respondent use the library resources for teaching purpose and they are mostly teachers .
- 167(83%) people believes that library resources are having more accurate data as compared to online data and it will help researcher and scholar at great extent in their

work, 21 (10.5%) says that when we have online data then why we need library because of which they said library resources will help scholar at certain extent.

- Library resources are having qualitative data and need to be preserve it for future .112(56%) people says that entire collection of library should be digitize, so that future generation can get the benefit of it. 70(35%) says that only limited document should be digitize.
- Library is having numbers of documents but some users not even about library collection because of which they don't even knows that palm leaves manuscripts etc. need preservation, they only knows that old magazines, old newspaper clipping, old photograph and religious literature needs preservation.

Librarian's Responses

- All the libraries are having books, current journal, journal back volume, thesis and dissertation in their library but not all libraries are having patent only two libraries are having patent that is Goa University Goa State Central Library.
- 10(100%) libraries are having e- books in their library, 9 (90%) libraries are having books with CD and E- journals in their library for their users, 8(80%) libraries are having CD Rom and online databases but only 5(50%) libraries are having multimedia document in their library.
- Journal are important part of the library, majority of the library subscribe journal direct from publisher that is i.e.7 (70%), 3(30%) get the journal through vendor or agent, 6 (60%) through institutional membership subscribe for the journals, 3 (30%) subscribe through national consortia, 4 (40%) libraries get journals from direct vendor
- Almost all libraries is having gifted collection 70% libraries had kept there these collection separately.
- 4(40%) libraries are using card catalogue to know the availability of gifted documents in their library which is an useful tool and most libraries are using it ,1(10%) libraries using computerized index and computerized catalogue,2(20%) libraries are using printed catalogue in order to know the availability of resources.

- All the libraries which are having gifted collection maintain tools to know the availability of gifted collection.
- Majority of the libraries used card catalogue to know its availability.
- Different tools used by different libraries are DDC. Majority of the libraries used DDC, some libraries kept these resources as per subject wise, they don't maintain any tool for that.
- Majority of the librarian says that partial of the collection is used of their gifted collection which shows that these collection is not a collection which is useful in daily life. in few libraries major collection of gifted collection are being used by readers, only one librarian says that entire gifted collection is used which show that gifted collection are in use occasionally.
- Majority of the librarian says that gifted collection has some documents which are worthy to be maintained for future generation and hence should preserve. Only one librarian says that gifted collection has become obsolete and there for no need to preserve for future, because of which they are not giving importance to gifted collection.
- Majority of the librarian says that entire gifted collection should be preserve and they definitely going to do it soon.
- Even though gifted collection are having qualitative data, gifted collection is not fully digitize all libraries are on beginning stage
- Even though gifted collection is not continuously used by users, it attract the foreign users who are interested in research work.
- Gifted collection used many scholars, researcher, teachers, translators etc. for their work
- Every foreign user has to pay fees for library services depend on type of facility user want.
- Majority of the library is not having any policy for preservation and conservation only Goa State Central Library and Goa University Library is having preservation and conservation policy.
- Number of policies is designed by different countries and majority of the librarians are not aware about these policies, only few librarian says that are aware about Indian manuscript mission and conservative policy by WIPO.

6.3 SUGESSTION

- All librarians should give importance to gifted collection even though it is used rarely by users because these documents are having qualitative data and need to be preserved for future.
- Librarian should develop positive attitude towards gifted collection, gifted collection should also give importance in the library.
- All the collection of the gifted collection should be arranged in proper order which is jumbled write now.
- During orientation program gifted collection should also introduced so that users also comes to know the availability of gifted collection.
- Marketing method can also follow in order to popularize the availability of library materials.
- Gifted collection should fully digitize and higher authority should support librarian in this work.
- Some librarian says that theses document is getting obsolete which is also true because users not even aware about these collection and therefore promotion of these document are necessary.

6.4 Conclusion

Library materials are the heart of libraries. They are vital role to learning and studying information. Every library should have the planning for preventive preservation programme. And then, the outlined and guidelines can be used within the library to raise awareness of library education to users and staff. Finally, libraries should not only strive to acquire materials but should ensure that the materials acquired are preserved and conserved in usable condition for generations of users. Thus library materials in damage are unavoidable, but with careful preventive measures, deterioration of the materials may be lessened or prevented "prevention is better than cure".

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Questionnaire

For users'

Project title: Preservation and Conservation of Library Resources Under Gifted Collection of Goa University Library for National Posterity

1. Designation/status:
2. Education qualification:
3. Area of Interest.....
4. Are you member of this library?
 - a) yes ☐
 - b) no ☐
5. If yes since how long.....(years)
6. How often you use this library?
 - a) Dally ☐
 - b) Twice in a week ☐
 - c) Thrice in a week ☐
 - d) Rarely ☐
7. What types of documents you use in this library?
 - a) Subject books ☐
 - b) Reference books ☐
 - c) Journals ☐
 - d) Old manuscripts ☐
 - e) Any other.....
8. What kind of information you normally use in the above said documents/source?
 - a) Information related to culture and tradition ☐
 - b) Information related to music ☐
 - c) Information related history ☐
 - d) Information related to literature ☐
 - e) Any other.....
9. What for you use the Information you have sought?
 - a) For writing books ☐
 - b) For translation ☐
 - c) For research ☐
 - d) For teaching ☐
 - e) for assignment ☐
10. How do you think that the Information resources in this library will be useful and worthy to preserve/ posterity?
 - a) To a great extent ☐
 - b) To moderate extent ☐
 - c) To a certain extent ☐

11. What portion of materials you think will be most important and need to be preserved?

- a) All the resources ☐
- b) 50% to 74% ☐
- c) 75% to 99% ☐
- d) 25% to 49% ☐
- e) Less than 25% ☐

12. If the collection is very useful, do you think that there is a need to popularize the availability of this information?

- a) Yes ☐
- b) No ☐

13. If we want to preserve library material, what do you think would be appropriate?

- a) Digitization of entire collection ☐
- b) Digitization of specific collection ☐
- c) Any other please specify.....

14. Do you aware following documents needs preservation

- a) Palm leaves ☐
- b) Manuscripts ☐
- c) Old photograph ☐
- d) Old magazine ☐
- e) Old newspaper clipping ☐
- f) Religious literature ☐

15. How do you think that the information resources in this library will help scholars and others?

- a) To a great extent ☐
- b) To a moderate extent ☐
- c) To a certain extent ☐

Questionnaire

For librarians'

Project title: Preservation and Conservation of Library Resources Under Gifted Collection of Goa University Library for National Posterity

- 1) Name of the college/Institution.....
.....
- 2) Year of established.....
- 3) Specify the library collection as mentioned in the below table:

Print resources: (please tick)

books	Current journals	Journal back volume	Thesis/dissertation	Standard/patent

4) Electric resources: (please tick)

E-books	Books with CD	E-journals	CD Rom	Online databases	Multimedia documents

5) How do you subscribe journals to your libraries? : (please tick)

Direct from publisher	Through vendor/agent	Through institutional/membership	Through national/international consortia	Both direct and vendor

6) Does your library have separate gifted collection?

Yes ☐

No ☐

7) If yes how you organized these gifted collection?

Each separately irrespective of subjects

☐

Group of form separately irrespective of subjects

☐

Subjective irrespective of forms of documents

☐

Subjective under each form

☐

Subject wise all forms together

☐

Classified order as per DDC/UDC/CC

☐

Any other order:

8) Does your library conserve following collection?

Old novels

☐

Rare books

☐

Manuscripts

☐

Old newspaper

☐

Old magazines

☐

Hand written document

☐

Any other.....

9) Have you maintained any tool to know availability of gifted documents in your library?

Yes ☐

No ☐

10) If yes, which of the tools your library has used to know availability of gifted documents?

a) Printed catalogue

b) Card catalogue

c) Computerized catalogue

d) Computerized index

e) Any other please specify

☐
☐
☐
☐

10) Which of the following tool/tools you have used to organize books and other documents (other than gifted books) in your library?

- a) colon classification ☐
- b) Dewey decimal classification ☐
- c) Universal decimal classification ☐
- d) Special in-house scheme of classification designed for the purpose ☐
- e) Not followed any specify scheme, broadly organized
 - subject wise ☐
 - type wise ☐
 - color wise ☐
 - others (please specify)..... ☐

11) If you have gifted collection, how do you rate usage of gifted documents by the users?

- a) Most frequently
- b) Frequently
- c) Moderately
- d) Occasionally
- e) Rarely
- f) Not at all

☐
☐
☐
☐
☐
☐

12) If these documents are being used frequently state whether:

- a) All document are being used
- b) Major collection of gifted collection are being used
- c) Partial collection of gifted documents are being used
- d) Entire collection of gifted documents are not being used

☐
☐
☐
☐

13) If the gifted collection is not being used or being used rarely by the users, state whether:

- a) These documents documents will be of use to future generation and need to preserved
- b) These gifted document have become obsolete and hence not to be preserved for future
- c) The collection has some documents which are worthy to be maintained for future generations and hence these to be preserved

☐
☐
☐

14) If you have gifted documents which are found to be useful and have to be preserved have you initiated digitization of these gifted documents?

Yes ☐

No ☐

15) If yes, to what extent digitization work is done

- a) Beginning stage
- b) Less than 25%
- c) 26% to 50%
- d) 51% to 75%
- e) More than 75%
- f) Entire gifted document collection

16) Does your library attract users from foreign countries also?

Yes ☐

No ☐

17) If yes please furnish the following details:

Type of users	Country(ies)	Types of institution	No. of days they normally stay
scholars			
teachers			
writers			
students			
translators			
librarians			
Other if any please specify:			

18) If your library facility is provided to foreign users, state whether charges are made for extending facility?

User type	Amount charges	State per year/per visit
Registered outside users from India		
Unregistered outside users from India		
Foreign users		

19) Does your library have the policy for conservation and preservation of library documents?

a) Yes ☐

b) No

☐

20) If yes, please specify.....

21) Do you know any specific policies design by any institute/country please tick?

a) Indian Manuscript mission

☐

b) National library of New Zealand Preservation Policy

☐

c) Preservation policy by WIPO

☐

d) Preservation policy by Cheshire Archives and Local Studies

☐

e) Preservation policy by university of Texas Libraries

☐

f) Digital preservation policy by Northwestern University Library

☐