Preservation and Conservation of Information Resources in University Libraries in Karnataka: A Study

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ABSTRACT

The study mainly focused on preservation and conservation of information resources in university libraries in Karnataka. This study evaluates types of information resources available in the library, equipments in the library building used for preservation of library resources, extent of various types of preservation and conservation practices adopted by the libraries, disaster detection devices at the library, extent of preservation activities carried out at the library and other issues related to preservation and conservation of information resources. For this purpose the researchers prepared a well structured questionnaire as a tool for data collection and the collected questionnaire has been analyzed and presented in the form of suitable tables. The article concludes with appropriate suggestions.

KEYWORDS: Preservation, Conservation, University Libraries, Print Resources, Digital Resources, Karnataka.

1. INTRODUCTION

A library is a repository of wisdom of great thinkers of the past, present and the future. Any loss to such materials is simply irreplaceable; therefore, preserving this intellectual, cultural heritage becomes not only the academic commitment but also the moral responsibility of the librarians, who are in charge of these repositories. Conservation activities include bookbinding, book repairs, conservation treatment and emergency preparedness and response. Damaged materials in need of repair and materials that need binding or protective enclosures are treated in the conservation department. The library houses the document by considering the long-term preservation of the items while still allowing the end user to access the material easily. Printed and digital materials suffer damage or deterioration because of several groups of factors, some inherent in the materials and others beyond the control of the library. Library holdings may begin to deteriorate because of the organic materials from which they are made. Each type of material paper, glue, plastic, etc. that goes into the manufacture of a book, recording or optical media has its own combination of physical and chemical properties, and a life span. Preservation is the task of minimizing

or reducing the physical and chemical deterioration of documents. Conservation is the maintenance of documents in a usable condition through treatment and repairs of individual items to slow the process of decay or to restore them to a usable state. The present study was conducted to assess the preservation and conservation of information resources in university libraries in Karnataka.

2. LITERATURE REVIEW

Hulley and Rankin (2018) analyzed the preservation and conservation methodologies made for the nineteenth Century French Sheet Music Collection at the Marvin Duchow Music Library, McGill University. Many pieces in the collection were stuck to acidic cardboard support by the first gatherer, which both hurt the printed music and clouded significant information. Subsequently, before digitizing the collection, these sponsorships should have been eliminated without harming the delicate things themselves. Drawing on applicable preservation and conservation university libraries, literature we present the preservation work methodology (specifically, two watery cleaning techniques) created an interview with an external master in the field of preservation.

Boice et al. (2017) stated that Colorado State University Libraries have embraced another technique for treating harmed books from the flowing collections. Provoked by hierarchical change and the craving for preservation and conservation methodology to reflect collection advancement needs, the technique has developed north quite a while in a work process that consolidates fix, withdrawal, and print or electronic substitution. This interaction empowers the university library to settle on essential choices about the preservation and conservation of its print collections, improve its electronic collections, and to all the more effectively utilize restricted resources.

Shameenda and Kanyengo (2012) discussed on preservation and conservation, university libraries the management utilizing a contextual analysis, strategic methodology directed in the 3 university libraries at the University of Zambia. The discoveries uncovered that 20 (57%) of the library staff had not gotten conventional preparing in preservation and preservation of university library materials. The concentrate additionally settled that a portion of the significant obstructions to the turn of events and organization of preservation and conservation programs in the university libraries were absence of resources and essential abilities and capabilities in preservation and conservation techniques and practices.

Mead, R. A., and Baird, B. J. (2003) conducted a random study of the state of the University of Kansas Law Library collection was directed. The outcomes were contrasted and the state of the other University of Kansas libraries to decide if law libraries have comparable preservation and conservation of university libraries needs with respect to the weakness and acridity of paper, mutilation, and binding deterioration as broad university libraries.

3. OBJECTIVES OF THE STUDY

The objectives behind conducting the present study are:

1. To identify the various types of information resources available in the university libraries.

2. To identify the preservation and conservation techniques and practices adopted in university libraries.

3. To identify the challenges to effective preservation and conservation of library materials in the universities.

4. To assess the preservation activities carried out at university libraries.

5. To identify the equipments used in the library for preservation of library resources.

6. To know the availability of disaster detection devices at the library and opinion of library towards preservation and conservation of library resources.

4. METHODOLOGY

The scope of the study is restricted to preservation and conservation of information resources in university libraries in Karnataka. At present Karnataka state has a total of 64 universities and all the university are covered under the study. The survey method was adopted, using questionnaire as a tool for data collection. A structured questionnaire was designed and distributed among all the university librarians in Karnataka. A total of 64 questionnaire were distributed among the persons who hold the position as University Librarian in Karnataka State, Of which 64 filled-up questionnaires were received back consisting of 100.00% responses. In addition to questionnaire method, interview schedule and observation method were also used to collect required information as a supplement to the questionnaire method to bring more clarity to the data which are essential and use for analysis and interpretation of data.

5. DATA ANALYSIS

The data was collected by different methods were analyzed and interpreted and the same is presented in the following tables.

5.1. Designation Wise Distribution of Respondents

Designation implies nature of the job of a person. There are various designations like University Librarian/ Chief Librarian, Deputy Librarian and Assistant Librarian holding the post of Head of the University Libraries in Karnataka. The designation wise distribution of respondents has been shown in Table-1. About 51 (79.68%) of respondents are designated as 'University Librarian / Chief Librarian', followed by 04 (06.25%) 'Deputy Librarian' and 09 (14.06%) 'Assistant Librarian'. The table also shows State, Deemed and Private University wise designation in detail.

Table-1: Designation Wise Distribution of Respondents

Designation	State Govt. University (N=32)	Deemed University (N=13)	Private University (N= 19)	Total (N=64)
University Librarian / Chief Librarian	24 (75.00)	10 (76.92)	17 (89.47)	51 (79.68)
Deputy Librarian	02 (06.25)	02 (15.38)	00 (00.00)	04 (06.25)
Assistant Librarian	06 (18.75)	01 (07.69)	02 (10.52)	09 (14.06)
Note: Figures in parentheses indicate percentage				

5.2. Gender Wise Distribution of Respondents

The gender wise distribution of the respondents under the study is shown in Table-2. Out of the 64 total respondents, 47 (73.44%) are 'Male' and the remaining 17 (26.56%) are 'Female'.

Table-2: Gender Wise Distribution of Respondents

Gender	State Govt. University (N=32)	Deemed University (N=13)	Private University (N= 19)	Total (N=64)
Male	26 (81.25)	05 (38.46)	16 (84.21)	47 (73.44)
Female	06 (18.75)	08 (61.54)	03 (15.79)	17 (26.56)
Note: Figures in parentheses indicate percentage				
χ2=10.284, df=2, P=0.00584599				

The Table-2 also depicts that 26 (81.25%) of respondents from 'State Government Universities', 05 (38.46%) of respondents from 'Deemed Universities' and 16 (81.21%) of respondents from 'Private Universities' are 'Male' and 06 (18.75%) of respondents from 'State Government Universities', 08 (61.54%) of respondents from 'Deemed Universities' and 03 (15.79%) of respondents from 'Private Universities' are 'Female'

5.3. Types of Information Resources available in the Library

The type's information resources available in the library have been summarized in Table-3. About 64 (100.00%) of respondents opine that all the libraries are having print resources with mean value 1.7968 and SD 0.8692, followed by 62 (96.88%) of respondents opine their libraries have electronic resources with mean value 1.8225 and SD 0.8711, 62 (96.88%) of respondents opine that their libraries have digital resources with mean value 1.8225 and SD 0.8711 and 59 (92.19%) of respondents opine that their libraries have non print resources with mean value 1.8225 and SD 0.8711. It is clear from the table that all the state government universities, Deemed Universities, Private Universities are having print information resources and even digital, electronic and non-print resources to fair extent.

Table-3: Information Resources available in the Library

Information Resources Available	State Govt. University (N=32)	Deemed University (N=13)	Private University (N= 19)	Total (N=64)	Mean	SD
Print Resources	32 (100.00)	13 (100.00)	19 (100.00)	64 (100.00)	1.7968	0.8692
Non-Print Resources	27 (84.38)	13 (100.00)	19 (100.00)	59 (92.19)	1.8644	0.8725
Electronic Resources	30 (93.75)	13 (100.00)	19 (100.00)	62 (96.88)	1.8225	0.8711
Digital Resources	30 (93.75)	13 (100.00)	19 (100.00)	62 (96.88)	1.8225	0.8711
Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.						

5.4 Age of Library Building

The information gathered from the respondents towards how old is their library building has been tabulated in Table-4. About 23 (35.94%) of respondents informed that their library building is '1-10 years old' with mean value 1.7391 and SD 0.8453, followed by 18 (28.13%) of respondents informed that their library building is '10-20 years old' with mean value 2.2222 and SD 0.9162, 09 (14.06%) of respondents informed that their library building is '20-30 years old' with mean value 1.6666 and SD 0.8164, 06 (09.38%) of respondents informed that their library building is '50 years and above' with mean value 1.1666 and SD 0.3726, 05 (07.81%) of respondents informed that their library building is '30-40 years old' with mean value 1.8 and SD 0.7483 and 03 (04.69%) of respondents informed that their library building is '40-50 years old' with mean value 1.3333 and SD 0.4714.

Table-4: Age of Library Building

Building Age	State Govt. University (N=32)	Deemed University (N=13)	Private University (N= 19)	Total (N=64)	Mean	SD
01 to 10 years old	12 (37.50)	05 (38.46)	06 (31.58)	23 (35.94)	1.7391	0.8453
10 to 20 years old	06 (18.75)	02 (15.38)	10 (52.63)	18 (28.13)	2.2222	0.9162
20 to 30 years old	05 (15.63)	02 (15.38)	02 (10.53)	09 (14.06)	1.6666	0.8164
30 to 40 years old	02 (06.25)	02 (15.38)	01 (05.26)	05 (07.81)	1.8	0.7483
40 to 50 years old	02 (06.25)	01 (07.69)	00 (00.00)	03 (04.69)	1.3333	0.4714
50 years and above	05 (15.63)	01 (07.69)	00 (00.00)	06 (09.38)	1.1666	0.3726
Note: Figures in parentheses indicate percentage						

The above Table-4 also depicts that 12 (37.50%) of respondents from the libraries of State Government University opine that their library is '01-10 years old', followed by 05 (38.46%) of respondents from the libraries of Deemed University opine that their library is '01-10 years old' and 10 (52.63%) of respondents from the libraries of Private University opine that their library is '10-20 years old'.

5.5 Equipments in the Library Building Used for Preservation of Library Resources

The information about the equipments in the library building used for preservation of library resources has been summarized in the Table-5. About 58 (90.63%) of respondents opine that their libraries have Computers, Heating Machines and Fire Detection System for preservation of library resources, followed by 56 (87.50%) have Humidifiers, 50 (78.13%) have Dehumidifiers, 34 (53.13%) have Air-Filtering Machines, 24 (37.50%) have Thermal Isolation, 20 (31.25%) have Central air-conditioning, 10 (15.63%) have Individual air-conditioning per room and 09 (14.06%) of respondents opine that their libraries have Windowless walls. The table also provide in

detail information about equipments in the library building used for preservation of library resources in the State Government Universities, Deemed Universities and Private Universities. It is clear from the table that the various categories of university libraries are equipped to some extent with the equipments for preservation of library resources.

Table-5: Equipments in the Library Building Used for Preservation of Library Resources

Types resources	State Govt. University (N=32)	Deemed University (N=13)	Private University (N= 19)	Total (N=64)
Central air-conditioning	05 (15.63)	09 (69.23)	06 (31.58)	20 (31.25)
Individual air-conditioning per room	07 (21.88)	03 (23.08)	00 (00.00)	10 (15.63)
Heating	26 (81.25)	13 (100.00)	19 (100.00)	58 (90.63)
Dehumidifiers	18 (56.25)	13 (100.00)	19 (100.00)	50 (78.13)
Humidifiers	24 (75.00)	13 (100.00)	19 (100.00)	56 (87.50)
Air-filtering	04 (12.50)	13 (100.00)	17 (89.47)	34 (53.13)
Windowless walls	03 09.38)	00 (00.00)	06 (31.58)	09 (14.06)
Thermal isolation	07 (21.88)	13 (100.00)	04 (21.05)	24 (37.50)
Fire detection system	32 (100.00)	13 (100.00)	13 (68.42)	58 (90.63)
Computer	31 (96.88)	13 (100.00)	14 (73.68)	58 (90.63)
Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.				
$\chi2$=46.723, df=18, P=0.00023251				

5.6 Collection that the Library Staff think that there is needs for Conservation at the Library.

The opinion about the collection that the library staff thinks that there is needs for conservation at the library has been summarized in Table-6. About 64 (100.00%) of respondents opined there is need for conservation of reference books, followed by 62 (96.88%) of respondents opined there is need for conservation of resources like text books, encyclopedias and subject journals, 61 (95.31%) of respondents opined there is need for conservation of current periodicals, 60 (93.75%) of respondents opined there is need for conservation of back volumes of periodicals and popular magazines, 59 (92.19%) of respondents opined there is need for conservation of dictionaries and general

books, 58 (90.63%) of respondents opined there is need for conservation of Journals, 56 (87.50%) of respondents opined there is need for conservation of prescribed newspapers, 55 (85.94%) of respondents opined there is need for conservation of dissertations, 54 (84.38%) of respondents opined there is need for conservation of thesis, 52 (81.25%) of respondents opined there is need for conservation of atlases, prescribed text books (in syllabus), question papers of previous year each. About 48 (75.00%) of respondents opined there is need for conservation of projects, 46 (71.88%) of respondents opined there is need for conservation of government publications, 44 (68.75%) of respondents opined there is need for conservation of conference proceedings and maps. About 38 (59.38%) of respondents opined there is need for conservation of other than prescribed text books. It is also clear from the table that all the State Government, Deemed and Private Universities opined there is need for conservation of reference books and the opinion about other collections to be conserved by State Government, Deemed and Private Universities is shown in below in detail.

Table-6: Collection that the Library Staff think that there is needs for Conservation at the Library.

Collection	State Govt. University (N=32)	Deemed University (N=13)	Private University (N= 19)	Total (N=64)
General books	28 (87.50)	12 (92.31)	19 (100.00)	59 (92.19)
Reference books	32 (100.00)	13 (100.00)	19 (100.00)	64 (100.00)
Encyclopedia	30 (93.75)	13 (100.00)	19 (100.00)	62 (96.88)
Dictionaries	28 (87.50)	12 (92.31)	19 (100.00)	59 (92.19)
Maps	26 (81.25)	3 (23.08)	15 (78.95)	44 (68.75)
Atlases	25 (78.13)	11 (84.62)	16 (84.21)	52 (81.25)
Journals	29 (90.63)	10 (76.92)	19 (100.00)	58 (90.63)
Text books	30 (93.75)	13 (100.00)	19 (100.00)	62 (96.88)
Popular magazines	30 (93.75)	12 (92.31)	18 (94.74)	60 (93.75)
Subject journals	30 (93.75)	13 (100.00)	19 (100.00)	62 (96.88)
Newspapers	28 (87.50)	09 (69.23)	19 (100.00)	56 (87.50)
Prescribed text books (in	28 (87.50)	13 (100.00)	11 (57.89)	52 (81.25)

syllabus)				
Other than prescribed text books	15 (46.88)	13 (100.00)	10 (52.63)	38 (59.38)
Current periodicals	29 (90.63)	13 (100.00)	19 (100.00)	61 (95.31)
Back volumes of periodicals	29 (90.63)	13 (100.00)	18 (94.74)	60 (93.75)
Project	27 (84.38)	06 (46.15)	15 (78.95)	48 (75.00)
Dissertation	28 (87.50)	11 (84.62)	16 (84.21)	55 (85.94)
Thesis	27 (84.38)	11 (84.62)	16 (84.21)	54 (84.38)
Government publication	29 (90.63)	0 (00.00)	17 (89.47)	46 (71.88)
Conference proceedings	29 (90.63)	0 (00.00)	15 (78.95)	44 (68.75)
Question papers of previous years	26 (81.25)	13 (100.00)	13 (68.42)	52 (81.25)
Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.				

5.7 Opinion about when they Library Collections are Binded.

The opinion gathered about when they library collections are binded has been summarized in Table-7. About 58 (90.63%) of respondents opine that library collections are binded when 'Damaged inner joints' with mean value 1.7586 and SD 0.8572. About 57 (89.06%) of respondents opine that library collections are binded when 'Loose joints' with mean value 1.7719 and SD 0.8587. About 57 (89.06%) of respondents opine that library collections are binded when 'Damaged paper cover' with mean value 1.7543 and SD 0.8641. About 53 (82.81%) of respondents opine that library collections are binded when 'Drought' with mean value 1.9056 and SD 0.8744. About 52 (81.25%) of respondents opine that library collections are binded when 'Insect damage' with mean value 1.9038 and SD 0.8827. About 46 (71.88%) of respondents opine that library collections are binded when 'Damage caused due to variation in relative humidity/ temperature' with mean value 1.8478 and SD 0.9081. About 44 (68.75%) of respondents opine that library collections are binded when 'Title labels Missing/damaged' with mean value 1.75 and SD 0.8012. About 44 (68.75%) of respondents opine that library collections are binded when 'Damaged Spine' with mean value 1.8636 and SD 0.8684. About 40 (62.50%) of respondents opine that library collections are binded when 'Humidity' with mean value 2.2 and SD 0.8124.About 38 (59.38%) of respondents opine that library collections are binded when 'Title Worn Off' with mean value 1.7631 and SD 0.8089. About 31 (48.44%) of respondents opine that library collections are binded when 'In Good Condition' with mean value 2.2258 and SD 0.8312. About 19 (29.69%) of respondents opine that library collections are binded when damaged due to Winds, pollution, etc. with

mean value 1.4210 and SD 0.4937. The Table also highlights the opinion gathered about when they library collections are at the libraries of State Government, Deemed and Private Universities are shown in below in detail.

Table-7: Opinion about when they Library Collections are Binded.

Condition of Library collection	State Govt. University (N=32)	Deemed University (N=13)	Private University (N= 19)	Total (N=64)	Mean	SD
In good condition	08 (25.00)	08 (61.54)	15 (78.95)	31 (48.44)	2.2258	0.8312
Damaged spine	20 (62.50)	10 (76.92)	14 (73.68)	44 (68.75)	1.8636	0.8684
Loose joints	29 (90.63)	12 (92.31)	16 (84.21)	57 (89.06)	1.7719	0.8587
Damaged inner joints	30 (93.75)	12 (92.31)	16 (84.21)	58 (90.63)	1.7586	0.8572
Damaged paper cover	30 (93.75)	11 (84.62)	16 (84.21)	57 (89.06)	1.7543	0.8641
Title worn off	18 (56.25)	11 (84.62)	09 (47.37)	38 (59.38)	1.7631	0.8089
Title label missing/damaged	21 (65.63)	13 (100.00)	10 (52.63)	44 (68.75)	1.75	0.8012
Insect damage	23 (71.88)	11 (84.62)	18 (94.74)	52 (81.25)	1.9038	0.8827
Drought	23 (71.88)	12 (92.31)	18 (94.74)	53 (82.81)	1.9056	0.8744
Humidity	10 (31.25)	12 (92.31)	18 (94.74)	40 (62.50)	2.2	0.8124
Damage caused due to variation in relative humidity/ temperature	23 (71.88)	07 (53.85)	16 (84.21)	46 (71.88)	1.8478	0.9081
Winds (particles, pollution, etc.)	11 (34.38)	08 (61.54)	00 (00.00)	19 (29.69)	1.4210	0.4937
Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.						

5.8 Preservation and Conservation Practices Adopted at the Library.

The extent of various types of preservation and conservation practices adopted at the library has been summarized in Table-8. About 42 (65.63%) of respondents opine as 'Very important' towards security of library materials, followed by 15 (23.44%) opine as 'Important', 06 (09.38%) opine as 'Less important' and 01 (01.56%) of

respondents opined as 'Not important'. About 33 (51.56%) of respondents opine as 'Important' towards disaster recovery procedure, followed by 20 (31.25%) opine as 'Very important', 09(14.06%) opine as 'Less important' and 02 (03.13%) of respondents opined as 'Not important'. About 29 (45.31%) of respondents opine as 'Very important' towards environmental control, followed by 28 (43.75%) opine as 'Important', 06 (09.38%) opine as 'Less important' and 01 (01.56%) of respondents opined as 'Not important'. About 33 (51.56%) of respondents opine as 'Important' towards handling of library materials, followed by 25 (39.06%) opine as 'Very important', 05 (07.81%) opine as 'Less important' and 01 (01.56%) of respondents opined as 'Not important'. About 33 (51.56%) of respondents opine as 'Important' towards training of staff on preservation of library materials, followed by 24 (37.50%) opine as 'Very important', 06 (09.38%) opine as 'Less important' and 01 (01.56%) of respondents opined as 'Not important'. About 27 (42.19%) of respondents opine as 'Important' towards restoration of degraded library materials, followed by 25 (39.06%) opine as 'Very important', 11 (017.19%) opine as 'Less important' and 01 (01.56%) of respondents opined as 'Not important'. About 36 (56.25%) of respondents opine as 'Important' towards to make library resources accessible, followed by 21 (32.81%) opine as 'Very important', 06 (09.38%) opine as 'Less important' and 01 (01.56%) of respondents opined as 'Not important'. About 38 (59.38%) of respondents opine as 'Important' towards to for adequate provide means electricity supply, fan and air conditioner in the library, followed by 18 (28.13%) opine as 'Very important', 06 (09.38%) opine as 'Less important' and 02 (03.13%) of respondents opined as 'Not important'. About 28 (43.75%) of respondents opine as 'Important' towards to promote an end to wasteful use of non renewable information resources, followed by 24 (37.50%) opine as 'Very important', 11 (17.19%) opine as 'Less important' and 01 (01.56%) of respondents opined as 'Not important'. About 29 (45.31%) of respondents opine as 'Very important' towards to promote and encourage vest practices in records management, followed by 19 (29.69%) opine as 'Important', 15 (23.44%) opine as 'Less important' and 01 (01.56%) of respondents opined as 'Not important'.

Table-8: Preservation and Conservation Practices Adopted at the Library

Preservation and Conservation Practices	1	2	3	4
Security of library materials	42 (65.63)	15 (23.44)	06 (09.38)	01 (01.56)
Disaster recovery procedure	20 (31.25)	33 (51.56)	09 (14.06)	02 (03.13)
Environmental control	29 (45.31)	28 (43.75)	06 (09.38)	01 (01.56)
Handling of library materials	25 (39.06)	33 (51.56)	05 (07.81)	01 (01.56)
Training of staff on preservation of library materials	24 (37.50)	33 (51.56)	06 (09.38)	01 (01.56)
Restoration of degraded library materials	25 (39.06)	27 (42.19)	11 (17.19)	01 (01.56)
To make library resources	21	36	06	01

accessible	(32.81)	(56.25)	(09.38)	(01.56)
To for adequate provide means electricity supply, fan and air conditioner in the library	18 (28.13)	38 (59.38)	06 (09.38)	02 (03.13)
To promote an end to wasteful use of non renewable information resources.	24 (37.50)	28 (43.75)	11 (17.19)	01 (01.56)
To promote and encourage vest practices in records management	29 (45.31)	19 (29.69)	15 (23.44)	01 (01.56)
Note: 1-Very Important; 2-Important; 3-Less Important; 4-Not Important				
Note: Figures in parentheses indicate percentage				
$\chi 2$=45.727, df=27, P=0.01361088				

5.9 Disaster Detection Devices at the Library

The information about disaster detection devices present at the library has been summarized in Table-9. About 62 (96.87%) of respondents of opine that they have fire extinguishers at the library, followed by 35 (54.68%) of respondents have fire detectors and 29 (45.31%) of respondents have smoke detectors installed at the library. The Table-9 also depicts that all the 32 (100.00%) of State Government Universities, 12 (92.30%) of Deemed Universities and 18 (94.73%) of private universities are having fire extinguishers installed at their library.

Table-9: Disaster Detection Devices at the Library

Parameters	State Govt. University (N=32)	Deemed University (N=13)	Private University (N= 19)	Total (N=64)
Smoke detectors	08 (25.00)	11 (84.61)	10 (52.63)	29 (45.31)
Fire detectors	06 (18.75)	12 (92.30)	17 (89.47)	35 (54.68)
Fire extinguishers	32 (100.00)	12 (92.30)	18 (94.73)	62 (96.87)
Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.				
$\chi 2$=13.703, df=4, P=0.00830585				

5.10 Preservation Activities Carried Out at the Library

The extent of preservation activities carried out at the library has been summarized in Table-10 About 22 (34.38%) of respondents opine as 'Very often' they carry by constructing phase boxes, followed by 19 (29.69%) opined as 'Occasionally', 12 (18.75%) opined as 'Never' and 11 (17.19%) of respondents opined as 'Often'. About 25 (39.06%) of respondents opine as 'Often' they carry by making pockets for books, followed by 14 (21.88%) opined

as 'Occasionally', 13 (20.31%) opined as 'Never' and 12 (18.75%) of respondents opined as 'Very often'. About 27 (42.19%) of respondents opine as 'Often' they carry by sewing or stapling pamphlets into pamphlet binders, followed by 21 (32.81%) opined as 'Occasionally', 12 (18.75%) opined as 'Never' and 04 (06.25%) of respondents opined as 'Very often'. About 21 (32.81%) of respondents opine as 'Often' they carry constructing supports or cradles for books in displays, followed by 15 (23.44%) opined as 'Very Often', 14 (21.88%) opined as 'Occasionally' and 14 (21.88%) of respondents opined as 'Never'.

Table-10: Preservation Activities Carried Out at the Library

Parameters	1	2	3	4
Constructing phase boxes	22 (34.38)	11 (17.19)	19 (29.69)	12 (18.75)
Making pockets for books	12 (18.75)	25 (39.06)	14 (21.88)	13 (20.31)
Sewing or stapling pamphlets into pamphlet binders	04 (06.25)	27 (42.19)	21 (32.81)	12 (18.75)
Constructing supports or cradles for books in displays	15 (23.44)	21 (32.81)	14 (21.88)	14 (21.88)
Note: Figures in parentheses indicate percentage				
[1-Very often ; 2- Often; 3-Occasionally; 4-Never]				
χ^2=22.274, df=09, P=0.00804999				

5.11 Information about where the Staffs get Training for Preservation and Conservation of Library Resources.

The Information about where the staff gets training for preservation and conservation of library resources has been summarized in Table-11. About 44 (68.75%) of respondents opine that they are trained about preservation and conservation of library resources in the workshop, followed by 33 (51.56%) are trained in main library, 18 (28.13%) trained during previous employment, 17 (26.56%) are trained by university archivist, 16 (25.00%) are trained by other staff members, 04 (06.25%) are trained by library schools and 01 (01.56%) of respondent opine that he has been trained by Ohionet class about preservation and conservation of library resources. The Table-11 also depicts that 18 (56.25%) of respondents of State Government universities are trained about preservation and conservation of library resources in the workshop, followed by 13 (100.00%) of respondents each of Deemed Universities are trained in workshops and in main library. About 15 (78.95%) of respondents each of Private Universities are trained about preservation and conservation of library resources in the main library.

Table-11: Information about where the Staffs get Training for Preservation and Conservation of Library Resources

Parameters	State Govt. University (N=32)	Deemed University (N=13)	Private University (N= 19)	Total (N=64)
From other staff members	04 (12.50)	05 (38.46)	07 (36.84)	16 (25.00)

Previous employment	14 (43.75)	03 (23.08)	01 (05.26)	18 (28.13)
Main library	05 (15.63)	13 (100.00)	15 (78.95)	33 (51.56)
Workshops	18 (56.25)	13 (100.00)	13 (68.42)	44 (68.75)
Library school	00 (00.00)	03 (23.08)	01 (05.26)	04 (06.25)
University archivist	12 (37.50)	03 (23.08)	02 (10.53)	17 (26.56)
Ohionet class	00 (00.00)	00 (00.00)	01 (05.26)	01 (01.56)
Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.				
$\chi 2=35.116$, df=12, P=0.0004488				

SUGGESTIONS

- Based on the above results the following suggestions are made for further improvement in preservation and conservation of information resources in university libraries in Karnataka

- A general policy on preservation and conservation of print and non print materials should be formulated by the government or university level.

- Semi professionals or professionals' staffs have to be deputed / recruited to carry out routine preservation of conservation activities.

- The insects can be controlled by frequent inspection, cleaning and keeping naphthalene balls or camphor cakes or a powder of orrisroot, cinnamon cloves and black pepper in equal proportions. Each ingredient may be taken in equal proportion, dried, powdered and kept in small cloth bags and put on the book shelves. This powder is to be changed at an interval of about 3 months.

- The university library guide and policy formulation that will help against every form disturbing behavior can be displayed at the visible location in every library. Library staffs can make regular watch in between for proper checking of books on shelves; library staff must be made aware about preservation and conservation;

- Orientation on how to effectively preserve library collections can be organized regularly for all library staffs. Digitations technology can be used.

- Institutions should organize seminars, workshops, conferences etc. in order to create awareness among library staffs about the preservation and conservation. Library organizes training courses in project management in preservation and conservation issues, and digitization, to the benefit of library professionals.

- Library budget to be increased for procurement of ICT infrastructure for preservation and conservation of resources.

CONCLUSION

This study provided insight into the preservation and conservation of information resources in university libraries in Karnataka. the comprehensive information was obtained on types of information resources available in the library, age of library building, equipments in the library building used for preservation of library resources, opinion about the collection that the library staff think that there is needs for conservation at the library, extent of various types of preservation and conservation practices adopted at the library, disaster detection devices at the library, extent of preservation activities carried out at the library, information about where the staffs get training for preservation and conservation of library resources. most of the university libraries are suffering from lack of funding, good infrastructure facilities, lack of knowledge about preservation and conservation, practices, techniques, untrained manpower skills to handle the preservation and conservation techniques, no written policy, outdated ICT related hard ware and software etc. There is a need for common policy on preservation and conservation of library materials which should be applicable to all the universities and its affiliated colleges in Karnataka state.

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