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Preservation of Library Materials in Select University Libraries of Haryana: A Study

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Modern libraries offer diverse collections in both print and digital formats, each of these formatsrequiring appropriate physicalconditions for usewhich is broadly known aspreservation activity. It is a vital activity to save cultural heritage and valuable resources for future generations well known as legacy. The study investigated the preservation activities in select university libraries in Haryana. A well-structured questionnaire was designed and distributed to these libraries. The results reveal that the condition of library interiors like walls, ceilings, floors, windows and ventilation, was at least good in all libraries. There was no written policy for preservation in any library. All the libraries used DDC to organize the library materials and OPAC for information retrieval. Dust particles, temperature, humidity, and insects were the main causes of deterioration in print materials, while technical obsolescence and viruses created problems in non-print materials. Most of the libraries mainly used digitization, cleaning, and stain removal techniques to protect the print materials. Theyconfronted a variety of problems, such as, shortage of trained staff, a national or state level policy for preservation, and users' unawareness.

Keywords: *Preservation Practices, Library Material, Print Material, Non-print Material, University Libraries*

0 INTRODUCTION

A modern library has its collection in a variety of formats, each having its unique attributes. Most of the libraries have print as well as digital collections. A printed document consists of two major components-information or knowledge and its physical carrier paper or other material. In order to use the

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document its physical conditionneeds to be good.

The libraries are required to take care of the intellectual content as well as the physical document. The physical document has a tendency to deteriorate over a period of time and become unusable due to a large number offactors.The factors responsible for deterioration of library materials are broadly considered under two categories- internal and external. Internal factors cause weakness in the chemical or physical make-up of an object introduced during its manufacture while external factors include environmental (light, heat, humidity & moisture, dust & dirt, water), biological (insects, rodents), chemical, human factors and disasters. Libraries with various environmental and other conditions face different reasons of deterioration.

The libraries have to take a variety of stringent measures to protect the documents from deterioration, so that the documents and their intellectual content is preserved for future use.The preservation and conservation are the terms frequently used together, to represent the task of minimizing or reducing the physical and chemical deterioration of documents. Preservation is defined, in the IFLA Principles for the Care and Handling of Library Material, to include "all the managerial and financial considerations, including storage and accommodation provisions, staffing levels, policies, techniques, and methods involved in preserving library and archival material and information contained in them"[1] while conservation refers to "specific practices taken to slow deterioration and prolong the life of an object by directly intervening in its physical or chemical make-up"[2].

Similar views are presented by Jordan, who states that "activities currently defining the realm of preservation of library materials include conservation (general collections repair and special collections), reformatting (microfilming, photocopying, and digitization), selection for preservation, environmental monitoring and control, care and handling of materials, disaster preparedness and recovery, set-standards relating to materials, practice, and techniques, commercial binding, and preservation education and training"[3]. Thus, broadly conservation is concerned with restoring the physical material and shape of the library document, whereas preservation is the broader area that encompasses all the activities related to preserving the content (including digital preservation) and material that carries the content.

1 LITERATURE REVIEW

A large number of studies have been conducted abroad in recent past, especially in Nigeria, on preservation and conservation of library materials. In the Indian context, very few studies are available. Most of the studies are concernedwith causes of deteriorationand techniques of preservation. Some later studies have also included digital preservation in their domain, while others

exclusively deal with digital preservation.Rathinam and Jesudoss[4] conducted a study of the perception of college librarians on preservation of library material in the colleges affiliated to the Madurai Kamaraj University, Tamil Nadu. The major factors responsible for the deterioration were environmental (40%) & biological (36%), whereas chemical factors and natural disasters harmed the materials in a minimal manner. The college librarians had complete awareness regarding dusting & cleaning, shelving, pest control, binding, and copying techniques at a moderate level while they were highly trained for simple repairing of damaged material. On the traditional conservation methods, 64% of respondents said that they were involved in shelving and 44% in dusting & cleaning. The study found the barriers to their preservation efforts such as lack of funding, incompetent employees, inadequate infrastructure, intellectual property rights & lack of technical devices.

Baquee and Raza[5] reported a study of the preservation measures of library of Aligarh Muslim University, Aligarh in India. It was found that Silica Gel, Thymol Gel, Naphthalene ball &Paradichlorobenzenechemicals were used to preserve the manuscripts from deterioration. The documents in the library were extremely old and these manuscripts were damaged due to high temperature, bacteria, fungus, dust and mishandling. In order to conserve the manuscripts, Ph. Testing, de-acidification, fumigation, washing, lamination and restoration were used as preservation techniques.Khan[6] studied the preservation & conservation of manuscripts at National Library and Rampur Raza Library. Both these libraries have a rich collection of rare books and manuscripts. The major causes of deterioration in these libraries were water stains, yellowing, deteriorated ink, and insect infestation. Both libraries used preventive (anti-light strategy and pest control) and curative (oiling, cleaning, de-acidification, lining, lamination, and fumigation) treatment for the preservation and conservation of manuscripts.However, presently most of the libraries possess both print as well as digital collection. Therefore, several studies cover preservation practices regarding both print and digital material. Eniekebi[7] conducted a study of preservation and conservation of library materials in the digital age in Nigeria. There are several factors, such as, poor quality of paper, shortage of storage, mishandling, poor disaster planning that became major causes for the deterioration of library materials. There is urgent requirement to preserve the library material in their digital form.

Fatima and Fatima[8] investigating the preservation activities at the National Library of India found that the library possessed a rich collection of books, rare books, manuscripts, microfilm rolls, microfiches, digitized books, and bound volumes of periodicals. The manuscripts and audiovisuals were in closed access, and other resources were in open access. The library used air conditioning, a humidifier, and pest control for the protection of library materials. The study found the problem of a written policy for disasters and a shortage

of staff, especially for the binding section. The library used some techniques for digital preservation, such as refreshing, replication, migration, and metadata attachment.Krishnappa and Kumbar[9] studied the preservation and conservation techniques used in university libraries in Karnataka. Some of the major causes of the deterioration of print materials were bad shelving, high acidity, dust, temperature, and humidity. For non-print materials, dust, frequent use, humidity, and oxidation were the main causes of deterioration. The frequently used preservation techniques were cleaning and dusting (54.69%), binding (46.88%), air conditioning (46.88%), lamination (45.31%), photocopying (43.75%), and digitization (42.31%) for print library materials. For digital materials, major techniques were refreshing, migration, technology preservation, and emulation. The study strongly recommended a preservation policy for all university libraries in Karnataka.Mangayarkarasi and Sarangapani[10] investigated the preservation and conservation techniques used for digital materials in college libraries in Tamil Nadu. The study found that there was no written preservation policy, and most libraries did not use any type of preservation or conservation techniques for digital materials.Anyaoku, Echedom and Baro[11] examined the digital preservation strategies employed in institutional repositories across Africa. DSpace was the most extensively utilized software and a majority of the information repositories had a policy in place for digital preservation.Ilo, Nkiko, Izugbe and Furfuri[12] aimed to observe the perception of librarians towards disaster preparedness and its impact on the appropriate preservation practices in the South West geo-political zone of Nigeria. Most of the respondents affirmed that disaster preparedness had a very positive effect to preserve library materials with a Mean Score (MS) of 3.65 on a 4-point scale. The responses of participants show that "Good Housekeeping Practices" had the highest MS value of 3.56 whereas "Maintenance of Conducive Temperature" rated last (MS=3.39). It has been observed that that the core digital preservation operations were performed the least, such as, "Migration" (MS=2.91) & "Emulation" (MS=2.83); while "Uploading of research outputs on institutional repository" was highest among libraries (MS=3.11).

2 OBJECTIVES

Within the broad purpose of knowing the preservation practices of library materials in select university libraries of Haryana, the specific objectives of the study are as following:

- To know the present state of availability of different types of media in libraries.
- To know the nature and causes of deterioration of library materials.
- To know the preservation practices used by libraries to protect the library materials; and

- To know the barriers faced by libraries in preservation of library materials.

3 SCOPE

The study covers the libraries of four government universities of Haryana state: Maharishi Dayanand University (MDU); Bhagat Phool Singh Mahila Vishwavidyalaya (BPSMV); Chaudhary Bansi Lal University (CBLU); and Chaudhary Ranbir Singh University (CRSU). It was conducted as a pilot study for testing the questionnaire.

4 METHODOLOGY

The study adopteda survey research design. A structured questionnaire was designed and administered to the librarians of the four universities of Haryana. The population for this study was restricted to the library heads who in turn assigned the task of filling the questionnaire to the persons dealing with the task.The collection work of the data was performed by personally visiting and observing the practices in person, of the following libraries included in the study:

TABLE-1

41 Universities Included in the Study

Bhagat Phool Singh Mahila Vishwavidyalaya (BPSMV)	Sonipat	2006
Chaudhary Bansi Lal University (CBLU)	Bhiwani	2014
Chaudhary Ranbir Singh University (CRSU)	Jind	2014

5 ANALYSIS AND DISCUSSION

STATUS AND CONDITION OF THE LIBRARY BUILDING AND FACILITIES

The condition of building interiors like walls, ceilings, floors, windows and ventilation in the university libraries, is good or very good. With the exception of light control system, rest of the factors like heating, ventilation & air conditioning (HVAC), integrated pest management (IPM) and fire safety was found to be satisfactory. In BPSMV, there was no protection against fire. In CBLU, there were no facilities or measures for light control system, IPM and HVAC to protect library materials from problematic weather conditions.

Two universities (MDU, BPSMV)measured the temperature very often, while the other two of the other universities did not measure the temperature. The rest of the factors, like air quality & humidity were never measured in these university libraries, which shows the poor conditions prevailing there.

None of the university libraries was keeping any record of these factors related to climatic conditions.

TABLE-2

51 Availability of Library Material

Type of Library Materials	Formats of Library Materials			
	MDU	BPSMV	CBLU	CRSU
Books	Both	Print	Print	Print
Journals/periodicals	Both	Print	Print	Print
Rare collection	Print	Print	NA	NA
Govt. publications	Print	Print	NA	NA
Reports	Print	Print	NA	NA
Theses and dissertations	Print	Print	NA	NA
Maps	Print	NA	NA	NA
Manuscripts	Print	Print	NA	NA
Drawings	Print	NA	NA	NA
Photographs	Print	NA	NA	NA
Audio & video	Digital	NA	NA	NA

Note: Both: print and digital, NA: Not Answered

MDU had print as well as digital materials; the rest of the universities had mainly print material. CBLU and CRSU had only books and journals in print form, not in digital form. Other materials in the CBLU and CRSU, like rare collections, government. publications, reports, theses and dissertations, maps, manuscripts, drawings, photographs, bibliographic, audio, and video, were not available, neither in print nor in digital form. The BPSMV had a collection of books, journals and periodicals, rare collections, reports, theses and dissertations, and manuscripts only in print form. MDU was the richest library in terms of library resources and information, as it was the oldest universityamong the four university libraries.

MDU and BPSMV were having manuscripts, while the other two universities were nothaving any kind of manuscript. BPSMV had two palm leave manuscripts, and MDU had 120 manuscripts (handwritten on paper).

None of the libraries was having filmstrips, slides, cinefilm, microform, magnetic tape, magnetic discs & cloud storage. There were very few items were available with these universities; as MDU hada server, while CD/DVD was available in every university library.

CLASSIFICATION AND CATALOGUING OF LIBRARY MATERIALS

All the universities used the Dewey Decimal Classification to classify the printed materials.All the universities used the Online Public Access Catalog (OPAC) as a physical form of cataloging to retrieve the printed library materials. None of the university libraries had any public catalogue to retrieve the microform, CD/DVD, and pictures/drawings, Only MDU had registered for the cataloging of the manuscripts.

STATUS OF THE HUMAN RESOURCE DEVELOPMENT AND TRAINING

Only MDU had a staff development policy. None of the universities responded to the query regarding the staff's engagement to preserve and digitize library materials. Furthermore, it was observed that no library staff member had completed any new certificate, degree, or short-term training programs or courses related to the preservation and digitization in the last five years (2017–2022). It was further noticed that two of the four universities, i.e., MDU and BPSMV, had outsourced preservation activities.

None of the libraries in these universities had collaborated with agencies, like archives, museums, academic libraries, public libraries, and special libraries. Only BPSMV had collaborated with an institute to digitize the library materials.

PRESERVATION POLICY AND GUIDELINES

None of the university libraries had a written preservation policy, but they framed some guidelines with regard to the same. The details show that MDU, CRSU, and BPSMV had guidelines with regard to the cleaning of library materials. None of the university libraries had guidelines for the preservation of library materials or the handling and use of library materials. Only MDU had guidelines regarding digitization of library materials, security of library materials, and photocopying of printed library materials. Only MDUpossessed the technology for digitizing library materials.

DETERIORATION OF THE PRINTED MATERIALS

On the question of the preservation of library printed materials, all four universities agreed that the documents got damaged, though the extent of damage varied.

TABLE-3

52 Nature of Deterioration for Print Library Materials

Nature of Degradation	Print Materials				Manuscripts	
	MDU	BPSMV	CBLU	CRSU	MDU	BPSMV
Brittleness	4	2	2	2	4	NA
Torn	4	2	2	3	5	NA
Soiling (Wet)	2	2	2	1	4	NA
Eaten by Insects	2	2	3	2	4	NA
Folded Pages	2	2	2	2	5	NA
Broken Spine	2	4	4	4	2	NA
Water Stain	2	1	1	1	2	NA
Discolorations	2	1	1	1	2	NA
Deteriorated Ink	2	1	1	1	3	NA
Stuck Pages	3	2	2	2	2	NA

Note: Great Extent 5, Very Extent 4, Moderate Extent 3, Little Extent 2, No Extent 1, NA- Not Answered

NATURE OF DEGRADATION FOR PRINT LIBRARY MATERIALS

MDU library's response shows that print material deteriorated due to a significant amount of brittleness and torn to 'Very Extent'. It was mainly because MDU is older than all other universities. BPSMV, CBLU, and CRSU found these two causes affected their collectionto a 'Little Extent'. In MDU, BPSMV, and CBLU, soiling was found to 'Little Extent', and only CRSU found it to 'No Extent'. Insect infestation was a minor issue for MDU, BPSMV, and CRSU, while it was a moderate issue for CBLU. Water stains, discoloration, and degraded ink did not pose a problem in BPSMV, CBLU, and CRSU, only MDU faced these problems to a 'Little Extent'. The stuck page was found to affect the books to a 'Little Extent' in BPSMV, CBLU, and CRSU, and only MDU faced it to a 'Moderate Extent'.

NATURE OF DEGRADATION FOR MANUSCRIPTS

The manuscripts in the MDU library were found to be torn and brittle to a great extent. On the other hand, brittleness, soiling, and eating by insects were founded at a level of 'Very Extent'. Broken spines, water stains, discolorations, and stuck pages were the causes of degradation at a level of 'Little Extent'. BPSMV library did not respond.

NATURE OF DEGRADATION FOR DIGITAL MATERIALS

MDU and CRSU libraries found the non-printed materials cracking, scratching in optical discs, sound problems, and file corruption to a 'Little Extent'. In CRSU, files corrupted to 'Great Extent' and in BPSMV it was to 'Very Extent'. CBLU and BPSMV faced the problem of bending and warping CDs and DVDs to 'Moderate Extent', and MDU faced it to a 'Little Extent'. The CRSU library did not respond.

CAUSES OF DETERIORATION OF LIBRARY MATERIALS

The causes of deterioration of the print materials, manuscripts and non-print materials were analyzed in these universities. Excessive use, dust particles, temperature, excessive light and problem of insects are the major causes of deterioration.

TABLE-4

53 Causes of Deterioration for Print Materials

Causes of Degradation	Print Materials				Manuscripts	
	MDU	BPSMV	CBLU	CRSU	MDU	BPSMV
Excessive Use	4	5	3	4	2	NA
Mishandling by Staff/ Users	2	2	2	2	2	NA
Dust Particles	5	4	2	5	4	NA
High/ Low Temperature	2	3	2	4	5	NA
High/ Low Humidity	2	3	1	3	2	NA
Excessive Light	1	3	3	3	2	NA
Negligence at the Time of Conservation Treatment (untrained staff)	1	1	1	1	1	NA
Insects (silverfish, termites, cockroaches)	4	4	4	4	5	NA
Fungus	3	2	1	2	3	NA
Rodents	2	2	2	3	3	NA
Natural Disaster (fire, water, earthquake)	2	2	2	2	2	NA

CAUSES OF DEGRADATION OF PRINT MATERIALS

In MDU and CRSU, print materials deteriorated due to excessive use to 'Very Extent', and in BPSMV to 'GreatExtent'. CDLU library found excessive use toaffect the collection to a 'Moderate Extent'. All the university libraries came across the problem of mishandling by staff and users, rodents, and natural disasters to a 'Little Extent', and the problem of insects was met to a 'Very Extent'. MDU and CRSU libraries confronted the problem of dust particles to a 'Great Extent' and BPSMV faced the same problem to 'Moderate Extent'. The CBLU library dust particles turned out to a 'Little Extent'. MDU and CBLU confronted the problem of temperature to 'Little Extent' and CBLU and CRSU faced this problem to 'Moderate Extent' and 'Very Extent' respectively. Humidity was faced by BPSMV and CRSU to a 'Moderate Extent'. CBLU had no problem with humidity, and MDU has this problem to a 'Little Extent'.

All the university libraries except MDU faced the problem of excessive light to a 'Moderate Extent'. All of the university libraries did not suffer from the problem of untrained staff. MDU faced the problem of fungus to a 'Moderate Extent'. BPMSV and CRSU had this problem to a 'Little Extent' and CBLU had no problems due to fungus.

CAUSES OF DEGRADATION FOR MANUSCRIPTS

In MDU and BPSMV, manuscript usage and mishandling were not the great causes, but dust particles were the major cause of deterioration of

manuscripts. Temperature is also a big cause of deterioration in BPSMV, while high/low humidity in MDU was faced to a 'Little Extent'. In both universities, insects (like silverfish, termites, and cockroaches), rodents, and fungi were also causes of the deterioration of manuscripts. Due to natural disasters (fire, water, and earthquake), manuscripts deteriorate to 'Little Extent'. While analyzing the causes of the deterioration of digital materials, it was observed that dust particles, viruses, high/low temperature, relative humidity, fluctuations in power supply and system breakdown are the major causes of deterioration.

TABLE-5

54 Causes of Deterioration of Digital Materials

Causes of Deterioration	**University**			
	MDU	**BPSMV**	**CBLU**	**CRSU**
Oxidation	2	NA	2	NA
Technical obsolescence (software/ hardware)	2	NA	3	NA
Dust particles	2	4	3	2
Excessive light	1	2	2	1
High/low temperature	2	2	1	2
Relative humidity	2	3	4	1
Viruses	1	5	2	4
System breakdown	2	4	2	4
Biological agents	2	2	3	1

Note: 5- Great Extent, 4- Very Extent, 3- Moderate Extent, 2- Little Extent, 1-No Extent, NA- Not Answered

MDU and CBLU were facing the problem of oxidation to 'Little Extent' and CRSU and BPSMV did not respond. Technical obsolescence of software and hardware was found in MDU to a 'Little Extent' and CBLU to a 'Moderate Extent', CRSU and BPSMV did not respond. MDU and CRSU libraries faced the problem of dust particles to a 'Little Extent'. BPMSV faced this problem to 'Very Extent' and CBLU to a 'Moderate Extent'. No excessive light was in MDU and CRSU, while BPSMV and CBLU had excessive light to a 'Little Extent'. All the university libraries except CBLU faced the problem of temperature to a 'Little Extent'. Relative humidity causes deterioration to library materials in the MDU to a 'Little Extent', in BPSMV to a 'Moderate Extent', and CBLU faced this problem to 'Very Extent'. CRSU library did not face the problem of humidity. All the universities except MDU were having problems with viruses as the cause of the deterioration of digital material, as they corrupted the files. BPSMV and CRSU faced this to 'Great Extent' and 'Very Extent' respectively. CBLU faced this problem to a 'Little Extent'. MDU and CBLU faced the problem of system breakdown to a 'Little Extent' and two university libraries, BPSMV and CRSU, faced it to a 'Very Extent'. Biological agents were causing deterioration in CBLU, MDU, and BPSMV to 'Little Extent' and 'Moderate Extent'.

USE OF PRESERVATION TECHNIQUES

The frequency of the use of preservation techniques for the printed materials and manuscripts is provided below.

TABLE-6

55 Preservation Techniques for Print Library Materials

Preservation Techniques	Print Materials				Manuscripts	
	MDU	BPSMV	CBLU	CRSU	MDU	BPSMV
Cleaning and stain removal	5	5	5	5	5	3
Microfilming	1	1	1	1	1	1
Digitization	5	3	4	3	4	2
Wrapping in cloth	1	1	1	1	3	1
Lining (Flattening)	1	1	1	1	1	1
Lamination	4	2	4	1	4	1
De-acidification	1	1	1	1	1	1
Fumigation	1	1	1	1	1	1
Rubbing graphite powder on surface	1	1	1	1	1	1
Use of pant leaf and seeds oil	1	1	1	1	1	1

Note: 5- Always, 4- Often, 3- Sometimes, 2- Rarely, 1- Never, NA- Not Answered

PRESERVATION TECHNIQUES FOR PRINT LIBRARY MATERIALS

All the university libraries ‘Always’ used cleaning & stain removal as a preservation technique for print library materials. MDU ‘Always’ used digitization for preservation of library materials, while BPSMV and CRSU used ‘Sometimes’ and CBLU used it ‘Often’. CRSU ‘Never’ used lamination as a technique, on the other hand MDU and CBLU used it ‘Often’ and BSMV used ‘Rarely’.

All of the university libraries had‘Never’ used some of the preservation techniques like microfilming, wrapping in cloth, lining (flattening), de-acidification, fumigation, rubbing graphite powder on surface and use of plant leaf and seeds oil.

PRESERVATION TECHNIQUES FOR MANUSCRIPTS

MDU‘Sometimes’used plant leaves and seeds oil to conserve palm leaf manuscripts. Both universities MDU & BPSMV ‘Never’ used microfilming, de-acidification & fumigation process to keep manuscripts safely for long time. MDU & BPSMV were cleaning & removing stains from manuscripts from time to time. MDU ‘Often’ laminatedmanuscripts, while BPSMV did

not. MDU 'Often' used digitization process to keep the manuscripts useful for long time. MDU library used as a preservation technique 'rubbing graphite powder' on manuscripts to keep objects and text for long time.

TABLE-7

56 Preservation Techniques for Digital Library Materials

Preservation Techniques for Non-print Materials	University			
	MDU	BPSMV	CBLU	CRSU
Refreshing (copying from one physical medium to another)	4	1	4	4
Migration (transfer of data from one generation of computer to subsequent generation)	4	1	3	2
Replication (Creating duplicate copies of data on one or more system)	5	1	1	2
Encapsulation (grouping together digital object and metadata)	1	1	1	1
Emulation (preservation of the original application program)	1	1	1	1
Microfilming (reformatting methods)	1	1	1	1
Regular backups	5	5	5	4
Use of Institutional Repository	3	1	1	1

Note: 5-Always, 4- Often, 3- Sometimes, 2- Rarely, 1- Never, NA- Not Applied

In MDU, the library staff 'Always' creates duplicate copies of data on one or more systems of non-printed materials. All universities 'Always/Often' do regular backups of their data to keep it for a long time. None of the universities, except MDU, ever used the institutional repository. All university libraries, except BPSMV, 'Often' used refreshing as preservation techniques. MDU library always migrated the data from one generation computer to the next generation, and CBLU and CRSU used this technique to 'Sometimes' and 'Rarely' respectively. The BPSMV library never used this technique.

To preserve the non-printed materials, it is seen that some of the techniques like emulation (preservation of the original application program), encapsulation (grouping together digital objects and metadata), and microfilming (reformatting methods) were 'Never' used by these universities.

DIGITAL PRESERVATION

None of the universities had a written policy for digitization or scanning of library materials. Only one university, that is MDU, used the software known as DSpace to preserve the library material. No other university had acquired any software to preserve the digital library materials. The BPSMV had outsourced the digitization process for theses and dissertations, and MDU library digitized theses and dissertations and old exam papers in library routine

activities. CRSU and CBLU did not respond to the question.

MDU uses the Copyright Act regularly. BPSMV rarely uses this act during preservation of library material, and CRSU and CBLU never use the Copyright Act during preservation of library materials.

To preserve the library materials, scanners, photocopiers, printers, and computers (desktops, laptops) with ICT tools are available in all university libraries. A digital camera is available only in MDU library.

TABLE-8

57 Rating of Basic ICT Skills of Library Professionals

ICT Skills	**University**			
	MDU	**BPSMV**	**CBLU**	**CRSU**
MS Office Skill	5	3	3	4
Storing, Copying, Uploading Skill	5	3	3	4
Digitization	5	2	3	2
Computer Security Knowledge	5	1	3	2
Installation Software Skill	4	3	3	4
Design/Web Publishing Skill	4	1	3	2

Note: 5- Excellent, 4- Above Average, 3- Average, 2- Below Average,1- Very Poor, NA- Not Answered

The library professionals of the universities had 'Average' skills in most of them. Only MDU had 'Excellent' skills in certain areas, such as: a) MS Office skills; b) storing, copying, and uploading skills; c) digitization; and d) computer security. BPSMV had 'Very Poor' capabilities in computer security knowledge, design/web publishing, and skills related to preservation. MDU was attempting its best to preserve their library materials. CBLU had 'Average' skills in all the above-mentioned points. CRSU falls in the 'Above Average' category in some of the skills like MS Office skills, storing, copying, and uploading skills, and installation software skills, and 'Below Average' in digitization, computer security knowledge, and design/web publishing skills.

As regarding ICT training for the library staff so that digital preservation skills are developed, only MDU had provided skills, that is digital preservation, metadata creation and management, digital library software, web programming, and scanning and printing, to their library staff. Most of the universities need to provide ICT training for better results.

TABLE-9

58 Barriers Faced by Libraries in Preserving of Documents

Description	University			
	MDU	BPSMV	CBLU	CRSU
Lack of adequate space for storage of library materials			√	
Lack of Air condition provision			√	
Lack of prescribed storage boxes for manuscripts		√		
Lack of facilities for pest control		√		√
Lack of infrastructure facilities in preservation and conservation		√	√	
Lack of disaster planning management for security of library materials		√	√	√
Lack of initiatives towards digitization		√		
Lack of hardware and software required for digitization		√		√
Lack of adequate trained professional staff in the branch of preservation and conservation	√	√	√	√
Lack of positive attitude by the library staff in undertaking preservation and conservation activities				
Lack of finance / sufficient fund for preservation, conservation and digitization of library materials		√	√	√
Lack of administrative support				
Lack of state / national level policy for the preservation and conservation of library materials	√	√	√	√
Lack of sufficient fund for staff training / extension activities / awareness program		√	√	√
Lack of knowledge of language of manuscripts	√	√		
Users' unawareness towards the use of library collection	√	√	√	√
Inadequate training in use of ICT application		√	√	√

All the universities wereconfronting three major problems- lack of adequately trained professional staff, lack of state and national level policy for preservation and conservation of library materials and users' lack of awareness towards the use of library collection. BPSMV, CBLU, CRSU were facing the problems of insufficient fund for preservation and staff training, and inadequate training in use of ICT applications. Only CBLU was facing the problem of storage space and air conditioning. BPSMV had lack of prescribed storage boxes for manuscripts. None of the university responded on the attitude of the library staff or the lack of administrative support.

LIBRARY FACILITIES OR EQUIPMENT

The availability of facilities or equipment to preserve and conserve library materials shows that only MDU was having an active bindery section as well as paper lamination equipment. None of the university library had a separate budget for the preservation and conservation of library materials during the last five years (2017-2022). Further, none of the university had received any grant for such activities from any other source or agency. As regards digitization of library materials, only MDU and BPSMV had made provision for this purpose.

TABLE-10

59 Awareness &Perception about Preservation Techniques

Statement	University			
	MDU	BPSMV	CBLU	CRSU
There is need of preservation of library materials	4	5	5	5
Preservation of rare books and manuscripts is beneficial to the academic community	4	4	4	4
Preserved resources provide relevant information for any project/ research	5	3	4	4
Preservation is more expensive	4	4	3	4
Need of written preservation policy in all libraries	4	4	5	5
Preservation help to save the historical and cultural resources	5	5	5	5
There is need to handle the resources with care	4	4	4	5
Digitization is the solution for preservation	5	4	4	4

Note: 5- Strongly Agree, 4- Agree, 3- Neither Agree Nor Disagree, 2- Disagree, 1- Strongly Disagree

The universities make use of certain awareness programs so that library users are made aware of their collection and services. However, none of the universities had started library blogs, library bulletins or the information literacy courses with regard to the proper use of library collections. In this fast-changing academic environment, such activities can have encouraging effect on the users of the libraries.

Awareness of some of this awareness helps in formation of perception about it. The librarians of the responding libraries were of the view that

preservation techniques are more expensive. All the universities 'Agreed' to the statement that preservation of rare books and manuscripts was beneficial to the academic community. All the universities 'Agreed/Strongly Agreed' that there was an essential need of written preservation policy for better results, all the universities also 'Agreed' that preserved resources provided relevant information for any project or academic research. All the universities 'Strongly Agreed' that preservation helps to save the historical and cultural resources. Most of the universities 'Strongly Agreed' with the need of preservation of library materials and 'Agreed' that there was a need to handle the library resources with additional care. Though all the universities were of the view that digitization was the solution for preservation, yet enough steps had not been taken on this aspect.

6 CONCLUSION

Libraries must implement measures to protect documents from deterioration to preserve their intellectual content for future use. To sum up, it is observed that the overall condition of university library interiors is satisfactory, but there are notable areas for improvement, particularly in light control systems and fire safety HVAC to safeguard materials. MDU is the most resource-rich library, offering both printed and digital materials, with a manuscript collection. However, across all universities, issues such as deterioration due to excessive use, climatic conditions, and technical obsolescence are affecting both print and non-print materials. They generally used preservation techniques such as digitization, cleaning, and stain removal for printed library materials, and regular backups and refreshing for non-print library materials. There is a lack of sufficient funds, and trained manpower which pose some of the most significant barriers. Moving forward, addressing these challenges through comprehensive preservation policies, adequate funding, and training initiatives are crucial for ensuring the longevity and accessibility of valuable library resources.

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