

A study on preservation and conservation practices in academic libraries in Mumbai

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A survey using a structured questionnaire was conducted to study preservation and conservation practices in academic libraries in Mumbai. The study revealed that there was no written policy on preservation and conservation in nearly all libraries. In addition to the lack of written preservation policy, the lack of trained manpower and lack of funding were the main constraints to preservation and conservation practices. Higher authorities and policy makers need to be convinced to make provision of staff and budget not just for preservation but seemingly for the long term survival of libraries.

Keywords: Academic libraries; Preservation & conservation of print material; Digital preservation; Mumbai

Introduction

Preservation, by definition, is: "*activities associated with maintaining library and archival materials for use either in their original physical form or in some other usable way.*"

Preservation tends to include conservation, but also comprehends techniques of partial preservation of the physical object (e.g., a new binding), as well as procedures for the substitution of the original artifact by materials conversion, whereby the intellectual content of the original is at least partially preserved¹.

Conservation is one aspect of preservation activity. It implies the active use of preventative measures, or processes to repair damaged material, and ensure the continued existence of individual items².

According to Srivastava & Kumar³ conservation and preservation are used synonymously. Technically these two words have different implications though they are related to each other. The conservation and preservation are the processes of keeping an object safe from harm or loss, damage, destruction or decay 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.

The present paper attempts to study preservation and conservation practices carried out by academic libraries in Mumbai, India.

Review of literature

Preventive measures can considerably extend the useful life of collections, and are usually much more cost-effective than interventive measures taken to remedy damage after deterioration has taken place. The external causes of deterioration of collections include: poor handling or storage, theft or vandalism, fire and flood, pests, pollution, light, incorrect temperature and relative humidity (RH).

Preservation of paper based documents

Preservation of paper based documents means preserving the paper-based collection of the library for example - books, journals, maps etc.

There are two principal methods for the preservation of paper based documents. The first is preservation in original format by number of techniques, such as good care and handling, combined with sound protective storage; cold storage for selected materials conservation and restoration treatment; and mass deacidification⁴.

The second method of preservation is reformatting where complete conversion of the material into another format is done to preserve the library's collections. It includes microfilming & digitization. According to Chapman et al⁵ a hybrid approach can also be used for preservation of print materials, combining the usefulness of both the methods at the same time. It is the best preservation reformatting option to choose if fund is not a problem for the libraries. But Scott⁶ argued that, "preservation of a document in its original form, an enormously expensive and time consuming proposition, may be reserved for those very few documents selected for their intrinsic value".

Ovowoh and Iwhiwhu⁷ in their study of preservation of print materials gave recommendations on handling, preservation policy and budget etc.

Preservation of digital documents

Digital document preservation is a process by which digital data is preserved in digital form in order to ensure the usability, durability and intellectual integrity of the information contained therein⁸.

Sawant⁹ discussed four approaches or strategies that are currently advocated for preserving digital resources. These strategies include amongst others: refreshing (periodic copying from one physical medium to another), technology preservation (replicating any old configuration of hardware and software), encapsulation and migration.

Elaturoti¹⁰ and Senapti & Nagta¹¹ in their study identified the need for preventive measures in conservation and preservation of library materials and records. Whereas Osifoh¹² in a study on preservation and conservation practices and techniques in Nigerian university libraries identified causes of deterioration as wear and tear, high acidity and temperature level etc.

Objectives of the study

- To investigate the causes and nature of deterioration of print materials generally occurring in libraries;
- To find out whether dedicated staff is available for managing and implementing a library

preservation programme or any possibility of outsourcing preservation activities;

- To identify the preservation and conservation techniques of print materials and electronic materials practiced in libraries;
- To know whether libraries have a written disaster preparedness and recovery plan in case of fire, flood, or other disaster;
- To find out whether fire detection/suppression systems are available in libraries or not; and
- To identify which are the main reasons of hindrance to effective preservation and conservation of library materials.

Method

A structured questionnaire was prepared and copies were distributed among 80 librarians belonging to as many randomly selected arts, commerce and science colleges in Mumbai district of Maharashtra state, India. There are approximately 140 such colleges in Mumbai city. Out of the sample population of 80 librarians, we received 41 responses which were analysed.

Analysis

It was observed that 43.90% libraries were established during 1976-2000. Majority of libraries (75.60%) were government funded. More than 50% librarians (56.09%) had between 1-10 years of experience. followed by 41.46% had between 11-20 years of experience. All libraries had professional staff. In addition, some of the libraries had non professional librarians(85.36%).

About 13 libraries had collections between 26,000 to 50,000. An equal number of libraries (31.70) had collections of between 11,000 to 25,000. Very few 4.86% libraries had upto 100 e books.

It was observed that 58.33% libraries had a rare books/archival collection.

Deterioration of print materials

A Likert type scale was used to obtain responses (Great extent = 3; Moderate extent =2; Some extent =1). The response scores were summed and it

was observed that deterioration of print materials generally occurred due to books becoming torn (60), followed by broken spine of library books (49), brittleness (40), mutilation (38) and vandalizing (22).

Causes of deterioration of print materials

In the context of books, deterioration means downgrading of physical characteristics such as colour, consistency and odor. Biological agents, environmental factors and human activities are responsible for deterioration of print materials in library.

It was observed that dust and particulate matters (77.5%) were found to be the main causes of deterioration of print materials. Particulate matter or PM is the term for a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. *Primary particles* are emitted directly from a source, such as construction sites, unpaved roads which is very common in Mumbai city¹³.

This was followed by biological agents (termite, spiders, cockroaches etc.)(62.5%) & wear and tear due to excessive photocopying (62.5%). One respondent commented that books become wet when

students travel in rainy season and suggested that if the library is totally air conditioned then the temperature, humidity, dust pollution etc can be controlled (Table 2).

It was found that only 4 libraries had written policy statement on preservation mainly focusing on use of library materials.

Staff for preservation

It was observed that 48.7% libraries did not have dedicated staff and 51.3% libraries did not have dedicated staff but the existing library staff was managing the preservation activities. It was observed that majority of librarians i.e. 65.9% felt that outsourcing of preservation activities could be possible.

Conservation techniques

Library stacks, circulation counter and storage areas must be kept clean of debris and dust. When dust collects on books, it absorbs and holds moisture that accelerates deterioration by acid hydrolysis. A continuing program of cleaning shelves and library materials help to control the amount of airborne dirt¹⁷. And good air circulation in the library helps to reduce

Table 1—Deterioration of print materials

Sl. no.	Deterioration of print materials	Score	Rank
1	Books becoming torn	60	1
2	Broken spine of library material	49	2
3	Brittle library materials	40	3
4	Mutilation of library material	38	4
5	Vandalizing of library material	22	5

Table 2—Causes of deterioration of print materials

Causes of deterioration of print materials	Response (%)	Response count
High acidity levels	10.0%	4
Wear and tear due to excessive photocopying	62.5%	25
Air pollution	30.0%	12
High temperature level	22.5%	9
Relative humidity	55.0%	22
Excessive light	5.0%	2
Dusts and particulate matters	77.5%	31
Biological agents (termite, spiders, cockroaches etc.)	62.5%	25
Bad shelving	35.0%	14
Other (Please specify)	7.5	3

mould growth¹⁸. It was found in the present study that cleaning and dusting of library materials (92.3%) and shelving library materials to allow for free flow of air (80.6%) was the most common practice exercised by the libraries (Table 3).

Digital preservation techniques

It was found that refreshing (39.1%) was the most commonly followed preservation method. It was also observed that occasionally libraries do migration (70.6%) followed by technology preservation (64.7%). It also was observed that 81.7% libraries never do microfilming and 17 libraries did not follow any of the digital preservation techniques. Two respondents commented in others that they backed up information on CD-ROMs everyday (Table 4).

Disaster preparedness and recovery plan in case of fire, flood, or other disaster

A library or archives disaster is an unexpected event which puts collections at risk. Disaster could be natural or man-made. No institution can be excluded from or is immune to the possibility. Disaster planning is a matter of basic security for libraries and

archives, staff and the collections itself. It is considered to be a crucial part of any preservation programme to be implemented by any kind of library or archives¹⁴. A formal written plan enables an institution to respond efficiently and quickly to an emergency, and to minimize damage to the building and its resources.

It was observed that most of the libraries do not have written disaster preparedness and recovery plan.

Fire detection/suppression systems

Fires in libraries cause two types of damage: material loss of the collections and perhaps the building; and, social damage. The most common causes of fires in libraries are due to violations of fire safety rules as they relate to the maintenance of the structure itself or personnel operations within the buildings. Older buildings which have been adapted for use as libraries are particularly susceptible to structural problems which leave them at risk to fire¹⁵.

It was observed that most of the libraries have Fire extinguishers. Only one library had a smoke detector (Table 5).

Table 3—Preservation and conservation techniques

Sl. no.	Preservation and conservation techniques	Very often	Occasionally	Never	Response count
1	Lamination	33.3% (8)	29.2% (7)	33.3% (8)	24
2	Microfilming	0.0% (0)	20.0 % (4)	80.0% (16)	20
3	Deacidification	5.9% (1)	5.9% (1)	88.2% (15)	17
4	Basic mending and minor repairs	60.0% (21)	37.1% (13)	2.9% (1)	35
5	pH testing	11.1% (2)	0.0% (0)	88.9% (16)	18
6	Binding	74.4% (29)	23.1 % (9)	2.6 % (1)	39
7	Encapsulation	6.7% (1)	20.0% (3)	73.3 % (11)	15
8	Cleaning and dusting of library materials	92.3% (36)	7.7% (3)	0.0% (0)	39
9	Photocopying	46.4 % (13)	39.3% (11)	14.3% (4)	28
10	Shelving library materials to allow for free flow of air	80.6 % (25)	16.1% (5)	3.2% (1)	31
11	Installing air-conditioners in your library	27.3% (6)	13.6% (3)	59.1% (13)	22
12	Provision of adequate security to prevent theft, mutilation and defacing of paper-based materials	42.3% (11)	46.2% (12)	11.5% (3)	26
13	Use of insecticide and insect repellent for library materials preservation	70.6% (24)	20.6% (7)	8.8% (3)	34
14	Others pl specify				
				answered question	41
				skipped question	0

Table 4—Digital preservation techniques

Sl. no.	Digital preservation techniques	Very Often	Occasionally	Never	Rating Count
1	Refreshing (Periodic copying from one physical medium to another)	39.1% (9)	47.8 % (11)	13.0 % (3)	23
2	Technology preservation (Replicating any old configuration of hardware and software)	11.8% (2)	64.7% (11)	23.5% (4)	17
3	Migration (Transfer of digital materials from one generation of computer technology to a subsequent generation)	11.8% (2)	70.6% (12)	17.6% (3)	17
4	Emulation (Preserving the original application program)	22.2 % (4)	27.8% (5)	50.0% (9)	18
5	Encapsulation (Creating the original application that was used to create or access the digital object on future computer platforms)	7.1 % (1)	21.4% (3)	71.4 % (10)	14
6	Microfilming	6.3% (1)	12.5% (2)	81.3 % (13)	16
7	None of the above	0.0 % (0)	0.0% (0)	100.0% (17)	17
8	Others			4.86%	2
				answered question	39
				skipped question	2

Table 5—Fire detection/suppression systems

Fire detection/suppression systems	Response percent	Response Count
Smoke detectors	2.9%	1
Fire detectors	17.1%	6
Fire extinguishers	85.7%	30
Wet pipe sprinkler system	11.4%	4
Dry pipe sprinkler system	5.7%	2
	answered question	35
	skipped question	6

Reasons of hindrance to effective preservation and conservation of library materials

It was observed that lack of written preservation policy (28%) and lack of trained manpower (26%) found to be the most important reasons of hindrance to effective preservation and conservation of library materials (Table 6).

Recommendation

Librarians should find out books of archival importance to apply basic conservation techniques such as lamination, minor repairs for saving books before getting further deteriorated. A good policy on preservation and conservation of print as well as electronic materials should be formulated so that the library can work on par with these guidelines. Semi-professional or professional staff have to be recruited

especially for preservation activities. If not then to the existing staff should be given in house training or by allowing them to participate in training and workshops. Libraries should approach the funders like UGC, trusts or welfare associations to raise funds to save their archival collection.

Conclusion

The study investigated the preservation and conservation of library materials in college libraries in Mumbai. The study revealed that there was no written policy on preservation and conservation in nearly all libraries even though it was found that more than half of the libraries were having archival collection and established nearly in 70's and 80's. This makes it impossible to develop the culture of preservation and conservation in such libraries, which places documents at a high risk for extinction.

Table 6—Reasons of hindrance

Reasons of hindrance	Response Percent	Response Count
Lack of funding	62.5%	25
Lack of trained manpower	65.0%	26
Lack of written preservation policy	70.0	28
Administrative problems	52.5%	21
Lack of infrastructure	55.0%	22
Harsh environment conditions	12.5%	5
Outdated hardware & software	20.0%	8
	answered question	40
	skipped question	1

The main constraints to proper preservation and conservation in academic libraries were lack of written preservation policy, lack of trained manpower, and lack of funding. Very few librarians were acquainted with preservation management, thus militating against any comprehensive preservation programmes. The human resource of the library can be utilized in their best way to keep the library in a good shape by giving orientation to them frequently about everyday care & handling, training in regard with preservation and conservation, even organizing fire drill in the library for staff and users too.

According to Olatokun¹⁶ institutional libraries need to adopt the digital method of preservation to enable library materials stay a longer time in meeting information needs of the users. In the present study only one respondent mentioned that digitization of archival collection is in process. Also it was observed that one of the main reasons of effective preservation and conservation was funding. This makes it difficult for librarians to take up such an activity. Also if there is a solo librarian, then it makes highly impossible for librarians to struggle for preservation and conservation activities with core library services. Again for outsourcing of preservation activity such as deacidification, digitization etc budget is required to spend on professional staff, material, scanners, etc. It is also time consuming process to follow government protocol to call for quotations, finalize the quotations and actual start of work consumes time especially in government funded institutions. Eventually higher authorities or policy makers need to be convinced to make provision of staff and budget for long term survival of libraries.

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