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Investigation of Preventive Conservation of Library Materials in National Library of India

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Abstract

Preventive Conservation being interdisciplinary in nature has been implemented by libraries from the time when libraries were considered merely as storehouses of knowledge. Since inception, libraries have taken the responsibility to preserve the library materials for a prolonged life. The present study is undertaken to survey the preventive conservation activities in National Library of India. For this purpose, a well structured questionnaire was designed and distributed to the head of the library and concerned library professionals who are directly engaged in preventive conservation activities of the library. Results of the study show that all the basic methods of preventive conservation like pest management, climate control, access system, proper storage, binding, disaster planning, digitization and digital preservation are taken up by National Library in an effective way. It is however suggested that the library should work towards filling up the vacant positions of the library, specially of the Biding division- where books are immune against deterioration to survive a long life..

Keywords: Preventive Conservation, Digitization, Digital Preservation, Library, National Library, India

Introduction

There is no record of when or how libraries came into existence, but it can be inferred, from the scattered and incomplete documentation that has survived, that early libraries were largely archival storage sites for the preservation of records stored in temples, churches or state from destruction (Khanna, 1985). For years, the library has buried itself in and behind collections of written records that it organises and makes available for use. But the case is not the same today. Libraries are more than just book archives. These provide access to a range of resources, such as books, newspapers, journals, manuscripts, videos, maps, print records, microforms, CDs, cassettes, videotapes, DVDs, e-books, audio books, databases, etc., both physical and digital. But all library materials have inherent issues with storage and need to be properly preserved and used if they are not to die prematurely. The collections of countless libraries have been destroyed by fires, floods, earthquakes, and conflicts, permanently losing much of the known history of human society. In addition, there are universal problems with the slow decomposition of library materials caused by acid content in paper, insect infestation, improper storage or handling, and excessive heat, mildew, moisture, and air pollution (Kademani, 2003). Libraries managed to conserve this rich heritage for specialised scholars and for the general public in the relatively stable world of printing, hand-written and mechanically reproduced material. Libraries have given core institutional priority to preservation and

have set up systematic preservation and conservation systems for both conventional and digital resources in recent decades (Butdisuwan and Babu, 2014). This study focuses primarily on preventive conservation in the National Library of Kolkata, India.

Preventive Conservation

Preventive Conservation is a method in which efforts are taken to reduce the loss due to deterioration and damage to library materials by formulating and implementing policies and procedures for suitable environment conditions, handling and maintenance, procedures of storage, integrated pest control measures, disaster preparedness etc. Library materials need preventive conservation throughout their life. Therefore it can be said that Preventive Conservation is a continuous process (Ziad-al-Saad,n.d.) which include all indirect actions that do not disturb the structure and materials of the object being preserved, i.e. the appearance of the object is not modified under preventive conservation. (Wirinlander, 2012) Various institutions across the globe are realising that besides curative conservation regular preventive conservation activities are required for the preservation of important records for posterity. Especially the developing countries where exists a plenty of heritage materials to look with the limited available resources. (Usture and Jain, 2008)

National Library, Kolkata

An apex institution of library system in India National Library, Kolkata is a public library serving as a pre-eminent repository of all documents published in India. It is the largest library in India with the status of National Importance under the Ministry of Culture, Government of India. The designated functions of the library include collecting, disseminating and preserving the documents produced in the country, (National library, n.d.)

Preservation and Conservation Activities at National Library, India

Preserving the documents for posterity is one of the basic function of National Library, India. To carry out this function effectively, different divisions of the library work in collaboration to each other.

These include:-

1. Preservation Division (Binding).
2. Laboratory Division
3. Reprographic Preservation

Research Questions

1. What kind of library materials are housed at National Library, Kolkata?
2. What preventive measures are adopted by the library for the preservation of its library materials?
3. What strategies are used by the library for digital preservation?
4. What problems are faced in implementing preventive conservation by the library?

Review of Related Literature

In modern librarianship, the concept of preservation is becoming the central focus under which preventive conservation plays a key role in preserving the documentary heritage housed in the libraries (Sahoo, n.d.). Preventive conservation consists of indirect actions to retard deterioration and prevent damage by creating condition optimal for the preservation of library materials (Olatokun, 2008). Further, Kademani: (2003) explains that preservation is a general term what is related to the maintenance of information resources. He focused on environment and storage methods and discussed its influence on preservation of documents. He stated that the best preventive measures are to provide good environment and storage conditions. In his study, Butdisuwan (2014) highlighted other measures of preventive conservation methods which includes managerial a financial considerations, staffing levels, policies, etc. Similarly, Ogden (2004)¹³, addresses library building design as a preventive measure which helps to protect the collection against catastrophe loss. Moreover, Edwords (2000) uses the term preservation surrogacy as a means of preventive conservation. He defines surrogate as “a copy that is offered to the user in lieu of the original, normally to protect the original”. Lastly, Walker (2013) has rightly put that preventive measures are usually much more cost-effective than interventive measures which are taken after the deterioration has taken place.

Need and Significance of the Study

Considerable amount of researches are available on preservation and conservation in libraries but these are limited to specific library materials, basically, manuscripts or rare library materials. Therefore, the present study aims to cover preventive conservation of all the library materials housed in the National Library of India.

The study extends an important contribution in profiling the current situation of preventive conservation activities including collection storage and housing, binding, pest management, environment control measures, security, disaster planning, digitization and digital preservation of both print and non-print materials. Moreover, to ameliorate the present condition of the library materials housed in the library, the study will conclude with findings-based suggestions which will help the library to overcome the shortcomings in the preventive conservation programme implementation.

Research Methodology

The method of research used for the present study is the Survey Method. The method will help in determining the extent to which the library is successful in implementing preventive conservation. The investigator personally visited the library to observe the preventive conservation activities and administered questionnaire to the Head of the Library, In-charge of Binding Division and In-charge of Reprography Division. Moreover, the investigator conducted informal interviews with the professionals to enrich the data with relevant information.

Results and Discussion

Preventive Conservation in any library very strongly depend on its building, budget, collection and staff of the library. An effective and efficient preventive conservation programme need a purposely built library building meeting all preservation standards, sufficient amount of budget, stable condition of collection and sufficient professionals of the field. Table 1 to Table 3 highlight the library building and establishment, budget, collection and staff of National Library, Kolkata.

Table 1 Library Construction and Establishment

S.No.	National Library	Years
1.	Year of Library Establishment	1836 (Calcutta Public Library) 1903(Imperial Library) 1953 (National Library)
2.	Year of Construction(Old Building)	1760's
3.	Year of Construction (Present/New Building)	2004

Table 2 Total Staff (as on 01-01-2020)

S.No.	Staff Positions	Number of Positions
1.	Sanctioned Positions	432
2.	Existing Positions	286
3.	Vacant Positions	146

Table 3 Staff of Preservation Division (as on 01-01-2020)

S.No.	Name of the Post	Sanctioned Strength	Existing position
1.	Assistant Library and Information Officer (Preservation)	1	1
2.	Library and Information Assistant (RPreservation)	1	1
3.	Library and Information Assistant (General)	Nil	1
4.	Library Clerk (Binding)	8	Nil
5.	Library Clerk (Mending)	9	2
6.	Lower Division Clerk	1	Nil
7.	Gold Finisher	2	Nil
8.	Multi-Tasking Staff	2	2
9.	Trainee	Nil	1

Table 4 Staff of Reprography Division (as on 01-01-2020)

S.No.	Name of the Post	Sanctioned Strength	Existing position
1.	Assistant Library and Information Officer (Reprography/Microphotography)	2	1
2.	Library and Information Assistant (Reprography)	4	3
3.	Library and Information Assistant (General)	Nil	1
4.	Senior Assistant	1	Nil
5.	Library Clerk (Reprography)	3	Nil
6.	Multi-Tasking Staff	3	1

Table 5 Library Collection

S.No.	Library Materials	Quantity
1.	Books	26,41,615
2.	Rare Books	6495
3.	Manuscripts	6623
4.	Bound Printed Periodical Titles	1,47,331
5.	Foreign Print Journals	598
6.	Newspaper Titles	905
7.	Microfilm Rolls	1,04,388
8.	Maps	88,162
9.	Microfiches	97000
10.	E-Books	1,25,000
11.	E- Journals	7000
12.	Digitized Books	21,425

Access System

The preservation policy of a library can be assessed by the type of access system used by the libraries for their collection. In closed access system, the staff have better control on the collection as compared to open access system. Table 4 and Table 5 shows the access system used by National Library, Kolkata for its various library materials.

Table 6 Access to Library Materials

S.No.	Library Materials	Access System		
		Open Access	Closed Access	Both
1.	Books	-	-	✓
2.	Periodicals	✓	-	-
3.	Newspapers	✓	-	-
4.	Manuscripts	-	✓	-
5.	Audio-Visuals	-	✓	-

Table 7 Access to Critically Damaged Library Materials

S.NO.	Access to Library Materials	N.L
1.	Kept non-circulating	✓
2.	Access allowed with permission only	✓
3.	Access allowed under supervision	✓
4.	Access to such library materials is not allowed in any condition/situation	✗

Collection Storage

Good storage significantly prolongs the preservation of documents in the libraries. Therefore, to ensure long term preservation, libraries should select the most suitable storage units for its various type of documents. Table 6 and Table 7 shows the storage units used by the libraries along with its selection criteria.

Table 8 Storage Units

S.No.	Library Materials	Storage Units		
		Archival Boxes	Closed Shelves	Open Shelves
1.	Books	✗	✓	✓
2.	Periodicals	✗	✓	✗
3.	Newspapers	✗	✗	✓
4.	Manuscripts	✓	✓	✗
5.	Audio/Visual Materials	✓	✓	✗

Table 9 Selection of Storage Units

S.No.	Methods	National Library			
		Always	Sometimes	Rarely	Never
1.	Based on storage capacity	✗	✓	✗	✗
2.	Based on look	✗	✓	✗	✗
3.	Based on space available in the library	✗	✓	✗	✗
4.	Based on the size of the document	✓	✗	✗	✗
5.	Based on type of document	✓	✗	✗	✗
6.	Based on the condition of the document	✓	✗	✗	✗
7.	Based on preventive specifications against damage	✓	✗	✗	✗
8.	Any Other	✗	✗	✗	✗

Environmental Control Measures

Undetermined levels of temperature and relative humidity and exposure of library materials to light accelerates the deterioration level and can result in severe breakdown of library materials. Table 8 to Table 10 shows the efforts of National Library in controlling the light, heat, temperature and humidity in the collection storage area of the library.

Table 10 Protection Methods against Light and Heat

S.No.	Protection Methods	N.L
1.	Shades, curtains, or blinds are kept shut to protect collection from direct sunlight.	✓
2.	Lights are kept off when collection storage areas are not in use	✓
3.	Use ultra violet absorbing filters at the glass panes	✗
4.	Manuscripts are kept covered when not used	✓

Table 11 Measurement of Light Exposure

S.No.	Instrument Used	N.L
1.	Light Meter	✓
2.	UV Meter	✓
3.	No Instrument Used	✗
4.	Any Other	✗

Table 12 Temperature and Humidity Control Measures

S.NO.	Measures	Tick
1.	Air Conditioning	✓
2.	System Humidification	✓
3.	System Dehumidification	✓
4.	Portable Humidifiers	✗
5.	Portable Dehumidifiers	✗
6.	Any Other	✗

Pest Management

Insects and pests are very dangerous for library materials as their attack can result in severe damage to documents. Therefore, there should be a proper strategy for pest control available with the librarians and preservation professionals either performed in-house or out-sourced to an agency. Table 11 and 12 shows pest management by National Library of India.

Table 13 Frequency of Pest Control

S.NO.	Pest Control	Tick
1.	In-house	✓
2.	Outsourced	✓

Table 14 Frequency of Pest Control

S.No.	Frequency of Pest Control	Tick
1.	Every month	×
2.	Every six months	×
3.	Every year	×
4.	No fixed time interval	✓
5.	Any Other	×

Disaster Planning

The most important aspect of library management and preservation management is disaster management which in practice is unfortunately not given much importance by the libraries. Table 13 highlights the preparation of the National Library for any potential disaster which may occur anytime.

Table 15 Disaster Planning

S.NO.	Disaster Planning	Tick	
		Yes	No
1.	Does the library have a written disaster plan	×	✓
2.	Have any staff members received training on disaster recovery?	✓	×
3.	Are basic supplies available with the library for emergencies?	✓	×
4.	Is updated contact information available for potential service providers	✓	×
5.	Is there any off-site location for records that are considered important?	×	✓
6.	Are collections insured against disaster damage?	×	✓

Preservation Awareness

Formal and informal preservation awareness initiatives by libraries are necessary to aware the library users and public about the importance of libraries and the preservation of its valuable collection.. The initiatives of National Library towards Preservation Awareness is shown in Table 14

Table 16 Initiatives towards Preservation Awareness

S.NO.	Initiatives	Tick
1.	Orientation Programmes	✓
2.	Training Programmes	✓
3.	Visual Messages using Posters, Bookmarks and Signs	✓
4.	Library Tours	✓
5.	Online Courses	×
6.	Social Media Tools	✓
7.	Others	×

Security Precautions

Protecting the collection should include ensuring good security to prevent theft and vandalism. Table 15 shows the security precautions taken by National Library for the safety of its library materials.

Table 17 Security Precautions

S.NO.	Security Precautions	Tick
1.	CCTV Camera	✓
2.	Library Staff Duty	✓
3.	RFID Gates	✗
4.	Security Gates	✓
5.	Security Checks	✓
6.	Others	✗

Binding

Books in libraries are to be used by successive groups, whether in a public library or an academic library, and therefore require greater care in handling and storage. The library collection is no longer restricted to paper-printed books, but since the books are still the bulk of the library stock, binding routines need special attention. Table 16 to 19 shows the binding activities of National of India.

Table 18 Binding

S.NO.	Binding	Tick
1.	In-house	✓
2.	Outsourced	✗

Table 19 Number of Volumes Mended and Bound

S.No.	Preservation and Conservation Activities	2018-2019	2019-2020
1.	Number of volumes mended	3952	412
2.	Number of volumes bound	4789	1117

Table 20 Authority to Assist and Supervise Binding Activities

S.NO.	Authority to Supervise Binding	Tick
1.	Librarian	×
2.	Conservation Laboratory In-Charge	✓
3.	In-Charge of the section from where the document is received for binding	✓
4.	Specific library staff authorized for this work	×
5.	No Authority	×
6.	Any Other	×

Table 21 Problems of Binding Section

S.No.	Problems	National Library				
		St.A	Sm.A	N	Sm.D	St.D
1.	Insufficient machines and tools	-	-	-	-	✓
2.	Shortage of modern machines and tools	-	-	-	-	✓
3.	Insufficient staff	-	✓	-	-	-
4.	Insufficient knowledge of the staff about new methods of binding	-	-	-	✓	-

(St.A =Strongly Agree, Sm.A= Somewhat Agree, N= Neither Agree nor Disagree, Sm.D= Somewhat Disagree, St.D= Strongly Disagree)

Reprography

Reprography means, simply to reproduce so as to preserve the original storage media, be it a paper, electronic or microform based storage media. The methods of reprography used by National Library including digitization and digital preservation are highlighted in Table 21 to Table 23.

Table 22 Reformatting of Library Materials

S.No.	Reformatting Methods	Tick
1.	Paper Facsimiles Copies	✓
2.	Photographs	✓
3.	Microfilm/Microfitch	✓
4.	Digitization	✓

Table 23 Purpose of Digitizing Library Materials
(Mark as 1-5, 1 being the first purpose and 5 being the last purpose for selecting the document for digitization)

S.No.	Purpose	Tick
1.	Historical/cultural value	3
2.	Save space	5
3.	Academic importance	4
4.	Preservation	1
5.	Increase access	2

Table 24 File Format of Digital Images

S.No.	File Formats	N.L	
		Access Image	Preservation Image
1.	TIFF	x	✓
2.	JPG/JPEG	✓	x
3.	GIF	x	x
4.	PNG	x	x
5.	PDF	✓	x
6.	Any Other	x	x

Table 25 Digital Preservation Strategies

S.NO.	Libraries	Tick
1.	Refreshing	✓
2.	Migration	✓
3.	Replication	✓
4.	Metadata Attachment	✓
5.	No. Strategy	x
6.	Any Other	x

Findings of the Study

1. National Library of India has a long history in which it was shifted from one building to another, before settling at Belvedere Estate in a historic building in the year 1948. The library shifted from its old historical building to 'Bhasha Bhavan'- a new purposely built building in which all preservation standards for building architecture and design are said to be fulfilled.
2. Collection of National Library include a variety of library materials comprising of general books, rare books, manuscripts, journals, periodicals, newspapers, microfilms and microfiches, maps, e-books, e-journals and digitized books.

3. The sanctioned staff of the library is 432 of which 286 positions are filled and 146 are vacant.
4. The two main division of the library working towards preventive conservation, i.e. Preservation Division and Reprography Division have vacant positions which otherwise would contribute to more efficiency in the preservation activities thereby extending the useful life of library materials housed in the library.
5. National Library provide open access to books, periodicals and newspapers. However, for rare books, few important periodicals, some very old historical newspapers and documents that need special care with reference to preservation, like manuscripts collection and audio-visual collections, library follow closed access system.
6. National Library is providing essential storage units to house its general collection on open shelves or almirahs. Special care is taken to accommodate its rare books, manuscripts collection, audio-visuals materials and documents of large size. Special archival boxes are used to store documents that need intensive care. Moreover, specially designed open shelves are used for large size documents like newspapers, maps etc.
7. National Library always consider preventive specifications of shelves and size, type and condition of the documents at the first place while selecting storage units for the library. However, sometimes storage capacity, space available in the library and look of the storage unit are also considered while selecting storage units.
8. For temperature control, National Library is using air conditioners. Moreover for humidity control, humidifiers are used.
9. For Pest Control, National Library do in-house efforts apart from out-sourcing the service. However, there is no fix time interval for its implementation.
10. Basic protection methods against light and heat followed by National Library is done by keeping the shades, curtains, or blinds shut when the sunlight is direct. However, ultraviolet (UV) filters are not used by the library to protect the collection from UV Rays.
11. The library does not have a written disaster plan. The collection is not insured against disaster damage and duplicate records of important documents are not stored at an offsite location. However, the basic supplies for emergency response and updated contact information of potential emergency service providers are available in the library. Moreover, few staff members have received training in disaster planning and/or disaster recovery through workshops and training programmes.
12. Apart from posters, library tours, training programmes etc. library also use electronic media such as social media tools like Facebook, Twitter and YouTube as a medium to disseminate awareness about preservation of library materials.
13. Proper Security measures are adopted by the library including CCTV cameras, security gates and security checks. However, use of RFID and other advance technology still lack in the library.
14. Supervision, assistance and evaluation of the work of the binder is done by the In-charge of Conservation Laboratory and In-Charge of the section from where the document is received for binding.
15. Binding Division of National Library mended 3952 volumes and provided binding to 4789 volumes in 2018-2019. In 2019-2020. The number of volumes mended and received binding decreased to 412 and 1117 respectively.
16. Binding division of National Library face the problem of insufficient staff due to which it has to outsource some staff to carry out the binding activities more effectively and efficiently.

17. Digitization, capturing photographs and creating paper facsimile copies of rare library materials, basically manuscripts, are some of the reformatting methods used by National Library of India.
18. There is a difference in file formats of images for preservation and access. TIFF format is used for preservation images whereas for access images PDF, JPG and JPEG formats are used.
19. Strategies such as 'refreshing' and 'replication', 'Migration' and 'Metadata Attachment' are used for digital preservation. There is no fixed time interval for implementation of digital preservation strategies. The work is done when any kind of damage to data storage medium is noticed or on the arrival of new and better storage medium.
20. The main purpose of digitizing documents by the library is 'preservation', i.e. digitization is used as a tool for preservation of documents, basically manuscripts and rare documents followed by increased access, historical/cultural value, academic importance and save space respectively.

Conclusion

National Library, Kolkata- being at the apex of all libraries in India is found to be very concerned for the long survival of its library materials. For this, the library has set up different divisions and sections like the Conservation Division (for curative conservation), binding, reprography and security division (for preventive conservation). All the divisions of the library work in a collaborative manner to protect its library materials from deterioration. National Library gives importance to preventive conservation in the first place as it believes in the notion 'safety is better than cure'. Despite of various vacant positions, the library undertake various efforts in the form of safe storage, climate control, pest management, disaster management, security measures, preservation awareness programmes, binding, reprography, digitization, digital preservation etc. to ensure the protected and enhanced life of all library materials including both print and non-print library materials.

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