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Preservation and Conservation of Manuscripts and Rare Documents in Libraries : Issues and Perspectives

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1. INTRODUCTION:

The role of librarians and libraries are redefined by ICT application in libraries. Provision of new tools and techniques to preserve documents and to conserve and manuscripts and rare documents and to disseminate information content is great facilitated by ICT. Rare documents and manuscripts contain precious information and they are rarely found elsewhere. Many of the manuscripts and rare books related with ancient period helps to preserve national heritage of country. Many libraries have preserved their nation's heritage through qualitative and quantitative collection of the manuscripts and rare documents. They adopt traditional as well as modern methods for its preservation. In ICT environment, preservation and conservation of rare documents and manuscripts through digitization has added new dimensions for its storage, however, there is need to offer systematic knowledge about how to information retrieval and dissemination. Preserve and conserve the manuscripts and rare documents.

Conservation of manuscripts and rare materials is both a science as well as an art of librarianship. Many LIS professionals are not aware about the systematic process to conserve and preserve this cultural heritage of a nation. The well developed and well equipped conservation laboratories have not been developed in Libraries and Information Centre's (LICs) because development of such laboratories requires specific knowledge about conservation and preservation process. It is a complicated and time consuming task and requires skilled manpower with proper training to preserve the documents. The world knowledge system have passed down from generation to generation through oral and written traditions and now have entered a new era of virtual atmosphere Old manuscripts can add as a new dimension to research and development because it contains the primary information useful for research.

2. OBJECTIVES:

- 2.1. To create awareness about causes of damage, preservation and conservation of rare documents and manuscripts.
- 2.2. To explain conservation process for rare documents and Manuscripts.
- 2.3. To help preserve collection of rare materials and manuscripts in LICs as an epitome of national identity.

3. DEFINITION OF PRESERVATION AND CONSERVATION:

Library archive and rare materials can be stored for a longer duration effectively through the process of conservation. The longevity and durability of the paper and other components are ensured through the process of conservation. The term preservation and conservation are often used interchangeably to mean the process of keeping an object safe from harm or loss, damage and maintaining it in sound condition for its present and future use.

Conservation has three aspects viz. careful examination of an object (rare document/ manuscript) to determine its condition ;preservation through adoption of appropriate measures to maintain object in good condition and to prolong its life to extend it as much possible and restoration through appropriate remedial treatment of already affected object.

Thus, conservation is an activity of which preservation is one aspect. In common practice, preservation deals with maintenance and conservation deals with remedial treatment and restoration of the already damaged specimen. Conservation is mainly concerned with manuscripts and other rare documents.

4. WHAT IS MANUSCRIPT AND RARE BOOK?

“The word ‘Manuscript’ is derived from the Latin term ‘manuscriptum’ which means hand-written documents. Manuscript is “a document of any kind which is written by hand, or the text of a music or literary composition in handwritten or typescript form, and which, in that form, has not been reproduced in multiple copies.” (Ray,1990.)

Rare book collection exists either as private collections owned by individuals or as institutional collections which are rarely available.

4.1 Need to preserve and conserve manuscripts and rare documents:

- 4.1.1. To fulfill the objective as stated in ‘Constitution of India - 1950 ’ In Part IV-A under fundamental Duties in article 51A “It shall be the duty of every citizen of India- (F) to value and preserve the rich heritage of our composite culture.”(Govt. of India,2015.)
- 4.1.2. To help preserve memories of human progress from the ancient past available in rare collections and manuscripts and to facilitate its transfer for more and more generations to come.
- 4.1.3. To maintain the precious thoughts and experiences of eminent personalities and philosophers in writings over a long period of time.
- 4.1.4. To provide the best way to offers historical footprints to our next generations as all rare documents and manuscripts have historical significance.
- 4.1.5. To preserve emotional values and faith of a person who donates manuscripts to libraries to look after their precious heritage.

5. TYPES OF CONSERVATION:

There are mainly two types of conservation viz. Preventive conservation that includes reducing future risks. e.g. Regular inspection of condition of collection and Curative conservation that involves remedial treatment of damaged documents. e.g. Fumigation of manuscripts that has live insects in it.

6. BASIC CAUSES OF DAMAGE TO RARE COLLECTION AND MANUSCRIPTS:

- 6.1. Human Factors: Careless handling by human being of books with brittle pages is major cause to damage rare books and manuscripts.
- 6.2. Natural Factors: Fire, water, attack of insects, dust, pollution, humidity, etc. are natural factors that affect the life of the rare books and manuscripts.
- 6.3. Inherent Factors: Condition of rare book(s), manuscript(s), quality of ink and paints used in it. If it is not of durable nature, it causes damage to that specific collection.

Generally, deterioration of paper is caused through damage made by fire, flood, theft, microbial and insect attack as well as by vermin. Acid –catalysed hydrolysis and oxidation are the main two reasons that damage the quality of paper.

7. STEPS INVOLVED IN CONSERVATION PROCESS OF RARE DOCUMENTS AND MANUSCRIPTS:

The various steps involved in the conservation of rare books and manuscripts are described below.

7.1. Document Verification: Document verification is related with assessing the bibliographical details of the documents. These details need to be recorded on a separate sheet especially prepared to maintain its record. It further facilitates creation of a catalogue and /or bibliography of rare collection.

7.2. Fumigation: It is a method of pest control, process of destroying germs and insects with fumes of chemical. We use thymol vapors for this process. Thymol is common name of the 2-isopropyl-5methylphenol is a phenol. Its vapor kills the fungus without any effect on papers.

7.3. Condition Report: It is related condition of collection and its storage. The condition report is prepared by maintaining record of photography.

7.4. Pagination: For conservation process, we need to separate all the pages, and at last, again we rebind it. At this stage, we put page number to all the pages from beginning to end before its binding.

7.5. Dry brushing: Some documents may contain dust / dirt on their surface .We clean it with soft, natural fiber brush. As the paper is made by a process involving separation of fibers into a suspension with subsequent formation into a sheet, it can be cleaned easily by dry brushing.

7.6. Test: The following tests are used for testing acidity of paper:

7.6.1. pH Test: The surface test of the paper is conducted by using pH strips, on pH strip-Blue indicate alkalinity, Yellow indicate acidity and Green indicate that it is neutral.

“The pH is defined as $pH = \log_{10} [H^+]$ where $[H^+]$ is the hydrogen ion concentration. On this scale, pH7 is neutral, pH1 is extremely acid and pH14 is extremely alkaline. Each pH decrease of 1.0 represents a 10 times increase in hydrogen ion concentration. For example, there is 10 times more active acid at pH4 than pH5.” (Daniels,2006.)

7.6.2. INK Solubility test: This test is used to determine quality of ink and paints used in Manuscript. This test enables us to take decision to keep ink secured on the paper after de-acidification process.

7.7. De-acidification: It is the process of washing documents in plain and lime water (Calcium Hydroxide solution) to reduce acidity. Some times to remove adhesives, de-acidification is carried out. For de-acidification, various chemicals used may include magnesium hydrogen carbonate, barium, magnesium methoxide, calcium hydroxide or magnesium oxide, diethyl zinc, Cyclohexylamine carbonate, morpholine, amines and ammonia etc. Many of these are in

liquid forms with considerable degree of vapour pressure or are gases, to make them useful for mass processes of conservation of manuscripts and rare documents.

7.8. Drying Process: After de-acidification process, Blotting paper is used to dry de-acidified pages. This process is used to absorb moisture.

7.9. Making of Anti-fungal Pest/ Gluten free Starch Pest: Anti-fungal Glue and Gluten free starch pest are the two adhesives used in book repairing process. Recipe for preparing the pest includes taking 100gm of plain flour, 1/2 liter cold water and 2 drops of thymol mixed together. Starch pest should be gluten free because insects are attracted to the gluten.

7.10. Lining, Mending and Filling: Torn out pages of rare book can be repaired with pest alone but edges torn out needs mending and filling it with banana paper. Lamination is done to strengthen fragile document with Japanese tissue.

7.11. Drying: The laminated papers are put in drying rack specially designed for this purpose.

7.12. Cutting: Cutting all pages in proper equal size is necessary to give uniform size of all pages separated and is to be tied after carrying out all necessary processes mentioned above.

7.13. Sequence of Pages: Arrangement of all pages in sequence should be done carefully according to the page number assigned at step number 4 above.

7.14. Archival Binding: We can bind these pages according to their suitability.

7.15. Pressing of rebound book: In order to avoid bending of rare book after binding, it should be kept under weight for some time so that it should not bend.

8. REQUIREMENTS FOR CONSERVATION LABORATORY:

8.1. Space:

There should be a floor area of at least 500 sq ft. with a water connection and outlet, the arrangement of appropriate lighting, and electric points inclusive of 15 amp power points.

8.2. Trained and Motivated Staff:

At least one full trained staff to take care of rare documents more efficiently in conservation process is required who will initiate and complete the process of conservation of rare materials as stated above as also to execute preventive conservation.

8.3. Furniture:

Laboratory should be well furnished with availability of tables with matt finish sunmica top preferably of an off-white color on which pages can be put and removed as per need, One light on table for heating the de-acidified paper and to maintain required temperature, one or more drying rack(s) on which de-acidified pages can be put in sequence after de-acidification process is over. These papers may remain wet for maximum one or two days depending on climatic conditions, cupboards with adjustable shelves to keep dried de-acidified papers with different sizes, provision of open as well as close shelves for keeping chemicals safely as per

their contents and nature. This can also be used to arrange various tools used in conservation process.

8.4. Tools and Equipment:

The provision of following tools and equipments in the conservation laboratory is essential:

8.4.1. Flat and round brushes: sable hair, hog hair, synthetic brushes of various sizes to be used for applying pest or glue to the surface of paper, board, cloth or other material.

8.4.2. Electric heater to provide heat or to maintain required temperature at the laboratory.

8.4.3. Double boiler pan to prepare gluten free pest used for keeping documents anti-fungal.

8.4.4. Enamel and plastic trays of different sizes in which plain water in one tray and lime water in another tray can be kept for de-acidification process.

8.4.5. Glass or polycarbonate beakers to measure quantity of chemicals, water etc. to take it in proper quantity along with glass rods, test tubes and holders for testing and pouring chemicals from containers to pan.

8.4.6. Vacuum cleaner to suck dust from documents before de-acidification.

8.4.7. Other requirements include conservation tool kit with scalpels, cutters, swab sticks, pH indicator materials as well as melinex, polythene etc.

8.5. Conservation Materials:

Handmade paper of various thickness, textures and colors as required for the respective collections, Japanese repair tissue which is made from vegetable fiber and comes in various weights (also called rice paper), blotter paper which is a completely unsized sheet of paper made of rag or cotton Linters and is generally used to absorb moisture, lens tissue, Nepalese tissue, banana tissue etc., binding materials, acid free mount board, flour, gelatin, eraser powders are the conservation materials required in the process of conservation of rare materials and manuscripts.

8.6. Chemicals:

Anti-fungal agents such as thymol, solvents which are methanol, ethanol, insecticidal powders such as borax etc. are the required chemicals for this process.

9. CONCLUSION:

Conservation and preservation of manuscripts and rare documents require innermost feelings of LIS professionals with skills to preserve it and a positive attitude towards this work since it is a time consuming and challenging task. Manuscripts contain knowledge, thoughts and experiences of millennium generations and thousands of manuscripts and rare documents lie neglected at home, institutions, libraries, and many other places all around the world. To save these cultural, historical and significant collections, library professionals have the best role to play in the storage, preservation and dissemination of the knowledge contained in it.

The overall knowledge of conservation with advanced applications through digitization will really help for conservation of cultural heritage of many countries.

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