

## Review

# Microfilming, as a tool for preservation and access in selected libraries of Bangladesh

Tahmina Akter

Programming Officer, National Library of Bangladesh. E-mail: [tani.nlb@gmail.com](mailto:tani.nlb@gmail.com). Tel: +880-2-9124070, +880-2-9129992. Fax: +880-2-9118704.

Accepted 16 June, 2011

Scientific preservation has been recognized as one of the urgent challenges in our modern information society. It is the current trends in all modern libraries and recognized as a vital part of managing information in scientific format. A number of libraries of Bangladesh have thus started to invest intensive research and development to provide solutions that allow us to maintain scientific objects accessible. Most of these solutions, however, are aimed at larger institutions who have a dedicated mandate, and thus can build up expertise, resources and systems. Yet, we increasingly find that many libraries are faced with the challenge to preserve their materials. The present age is very aptly called the age of Information Technology (IT). In fact IT has revolutionized every aspect of life. As such library education cannot remain aloof and unchanged. This article compiles some crucial recent developments in preservation of recorded knowledge in Bangladesh. The topic exclusively discusses microfilming technology for libraries. Hopefully, the present study will cast new light on the subject library and information experts in the field will benefit from this.

**Key words:** Digital preservation, microfilm, microfiche, microforms, information technology.

## INTRODUCTION

Preservation of library materials is an important concern for all libraries. All acquired materials should be preserved properly for use. This is the age of information academicians and readers are engaged in collecting, storing, retrieving, emending and disseminating information as part of their study and research. Library is a place where they can find the information they want. Readers use electronic resources to complete their work. But there are many users, who prefer to read physically the printed material. To provide them required information they need, the library should be able to preserve the material for both present and future user groups. Its value will continually increase as time passes. Microfilms and microfiche are produced from the original material belonging to the library as duplicate of that material. The microfilm and microfiche themselves need to be preserved well in libraries.

## MANAGEMENT AND ORGANIZATION OF MICROFORMS

Libraries select printed materials such as old maps, rare manuscripts, valuable newspapers and serial publications

etc. for preservation. Data pagination is undertaken and content of the documents are recorded in preparation. After that the correct type of microfilm is chosen and exposed in the camera. The master copy is made from the original film. An ethylene blue test is done on processed film edits both bibliographically and technically, that is, page reading of microfilm reel using microfilm reader, resolution and density checking, which reviews the edited microfilm and microfiche. Lastly the duplicate inspection of precautionary measures used to produce good quality copies are completed. After the completion of all these processing stages, the resultant negative needs to be handled with great care. From this master copy, duplicate or distribution copies are produced. The first duplicate copy may be used to produce distribution copies, while the master stored in a separate place. All materials are kept safely in the proper place and preserved for use in the library (Baker, 2009) (Figures 1 to 3).

## HISTORY OF MICROFORM

History records that the microfilming of library material



Figure 1. Microfilm roll.

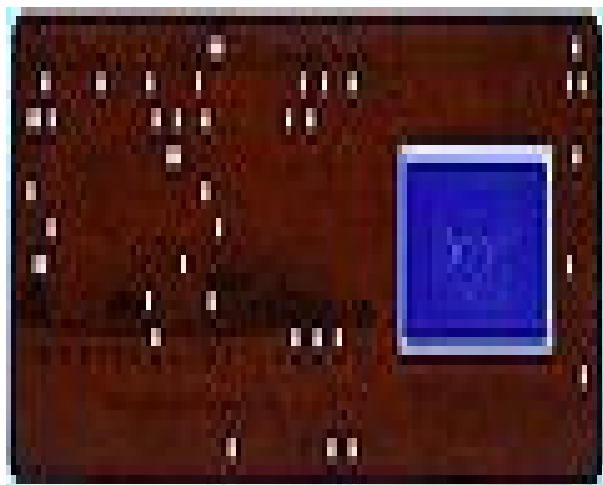


Figure 2. Aperture card with hollerith info.

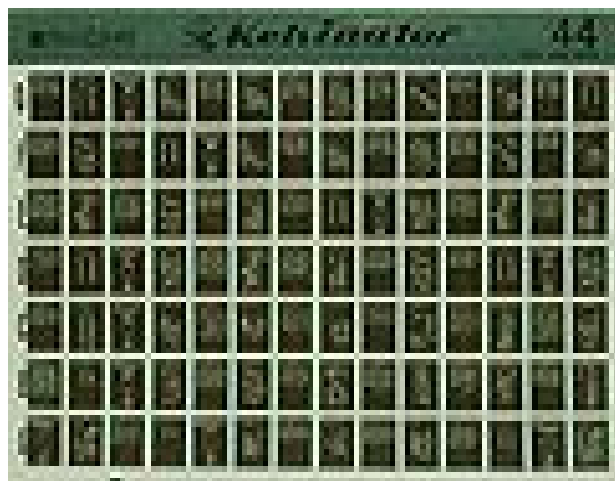


Figure 3. A duped jacket fiche.

began in 1930s. Between 1927 and 1935, the Library of Congress microfilmed more than three million pages of books and manuscripts in the British Library. In 1929 the Social Science Research Council and the American Council of Learned Societies jointed to create a Joint Committee on Material Research, which looked closely at microform's potential to serve small print runs of academic or technical materials (Marcell, 1976). In 1934 the United States National Agriculture Library implemented the first microform print-on-demand service (Ashby, 1979).

In 1935, Kodak's Recorder division began filming and publishing "The New York Times" on reels of 35 mm microfilm, ushering in the era of newspaper preservation on film. This method of information storage received the sanction of the American Library Association at its annual meeting in 1936, when it officially endorsed microforms (Ashby, 1979). Harvard University Library was the first major institution to realize the potential of microfilm to preserved broadsheets printed on high-acid newsprint and it launched its "Foreign Newspaper Project" to preserve such ephemeral publications in 1938 (Ashby, 1979). This technology was used by the Philadelphia Bibliographical Center in 1941 (Marcell 1976). The center published union list of microfilms of the Union Library Catalogue.

The effort to film rare or deteriorating materials was given tremendous impetus by World War II, which saw the whole destruction of libraries, archives and private collections in Europe, Asia and the United States. Librarian felt that it was their duty to find and preserve the written artifact of culture and civilization in anticipation of a time when source documents might no longer be available. Thus, started storing the library materials in microforms for preservation (Bajpai, 1999). In Bangladesh, there are no rules and regulations regarding the preservation of libraries. Various documents are available in the National Archives and National Library of Bangladesh. But microfilming preservation method began being used by the country's archives/libraries only recently. The very few libraries in Bangladesh that have adopted this technology are:

- a. The national archives
- b. The national library
- c. Bangladesh national scientific and documentation centre (BANSDOC) and
- d. Dhaka University library

**Utility of microforms**

Microforms are many form, either films or paper, containing micro reproductions of documents for transmission, storage, reading, and printing. Microform images are commonly reduced about 25 times from the original document size. For special purpose, greater

optical reductions may be used. A single reel of film or single microfiche can contain several documents and store them conveniently. Readers can search for titles of documents on microfilm readers comfortably and have them printed if needed. All microform images may be provided as positives or negatives, more often than latter (Ganguli, 2007). So far as libraries are concerned microforms are useful in many ways:

1. Space saves: Records on microfilm reduce the space occupied by the same records on paper by as much as 98%.
2. Speed and convenience of retrieval: As information can be stored compatibly, searching time is reduced.
3. Security: Duplicates can be kept at different locations.
4. Permanent record: Silver halide microfilm is generally accepted as being suitable for archival purposes.
5. Suitable for conservation: Rare and costly original material can be kept safe and secure. Photo reproduction of it being what is used.
6. Microforms are safe from mutilation unlike books.
7. Dimensional uniformity: Original material is reduced to fit standard format images which facilitates handling.

### **Care of microforms**

Transparencies, particularly microfilms are susceptible to certain types of physical damage. Among the types of damage along with the measures to prevent them are:

### **Scratches and abrasions**

These are caused mechanically during some stage of exposing or processing by contact with abrasive surfaces, dust particles or sharp objects. The following steps should be taken to avoid such elements:

- (i) Every piece of equipment through which the film is to pass, starting from the camera and ending with the reader should be carefully examined to see that it is free from dust and other abrasive material and so also is clean and well polished.
- (ii) The film should be carefully handled; violent jerks should be avoided. It should be tightly spooled.
- (iii) Sharp pointed objects should not be allowed to come in contact with the film.

### **Cracking, duckling and peeling of emulsion**

To save the film from cracking, buckling and peeling of emulsion the following measures are suggested:

- (i) Microfilm should be stored in an air-conditioned dust

free environment.

- (ii) Efforts should be made to maintain a temperature 57 to 58°F and humidity at 40 to 50%.
- (iii) Microfilm should not be used in projectors, which may overheat.
- (iv) Microfilm should not be placed near any source of heat.

### **Stains, deposits and fingerprints**

During the washing and drying process, exposure to fumes and contact with chemicals or greasy fingers can cause these damages. The following are some of the remedial measures:

- (i) Microfilm should be handled by the edges; soft cotton gloves can be used while handling microfilm after they are processed.
- (ii) Processing tanks should be used for automatic processing; and manual processing should be avoided as far as possible.
- (iii) Adhesive tapes and rubber bands that cause stains to microfilms should not be used. The place where microfilm is processed, dried or handled should be free from dust and smoke.

### **Storage**

Microforms are best stored in a locked cabinet in which a constant temperature and humidity are maintained. The ordinary vertical file cabinets are good for reel microfilms stored in containers but are not suitable for strip microfilms or microfiche for which special cabinet like a catalogue card cabinet without a rod should be made.

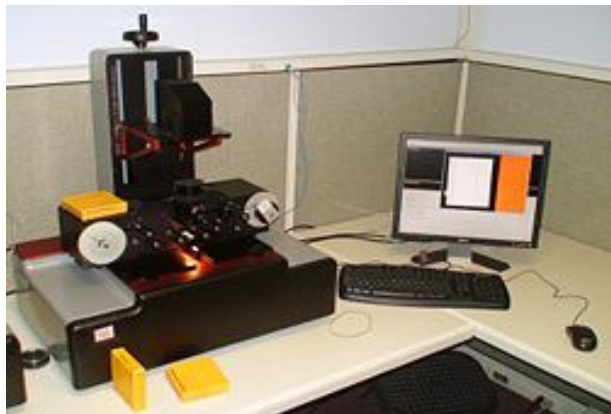
### **MICROFILM PRESERVATION IN FOUR LIBRARIES OF BANGLADESH**

The four major libraries of Bangladesh where material has been microfilm for use and preservation are:

- (i) The National Archives (NAB)
- (ii) The National Library (NLB)
- (iii) Bangladesh National Scientific and Documentation Centre (BANSDOC) and
- (iv) Dhaka University Library (DUL)

### **The national archives**

In the national archives a huge amount of traditional material dating from as early as the 17th century is available and has been preserved. For the protection of these old manuscripts and scattered folios are stacked



**Figure 4.** Scanning microfilm.

together. To separate them from each other some solvent or mechanical method are used. Similarly, all old documents are wrapped with different colored clothes namely red, white or yellow. The whole collection is well protected from dust, dirt and biological threats (e.g. by insecticide treatment). To ensure the original documents, the archives have copied these documents into microfilm. For this work financial support has been provided by the Japan International Cooperation Agency (JICA). Catalogues of the titles microfilmed are available in the national archives. The microfilms are maintained with the aid of air-conditioning system and humidity control. A microfilm service (readers copies) is provided to users.

### **The national library**

The national library is the national library of Bangladesh. The collection of Bangladesh national library is the nation's pride. Library has a special annual budget for the purchase/collections of books on Bangladesh published in Bangladesh and abroad. The principal characteristic of its collection is that it covers all major disciplines and branches of human knowledge that is, Literature, Cultural Heritage, History, Arts, Archeology, Science and Technology, Medical Science, Engineering, Economics, Agriculture, Library and Information Management, Development Administration, Environment, Woman Affairs, HRD, etc and is preserved in scientific manner. In addition to country's almost all the publications in the library has a large collection of foreign representational publications especially on Asian countries and more specific related to South Asian studies. The library enriches its collection by various means that is, acquiring publication under copyright act, purchase, institutional/personal donations, complimentary copies etc. The library policy is to cover the entire written output of the nation, record of culture, knowledge and experiences of both past and current and so to preserve

that national heritage for the use of future generation.

Realizing the value of preserving such material the library made a request to the Bangladesh government through the development project to grant micrographic equipment for microfilming its collected rare documents. On July 1997 this equipment was provided to the library under the development project. It has micro formed rare and valuable materials and these are made available to users for viewing and printing (Figure 4).

### **Journal collection**

Special arrangements have been made for the maintenance and use of the National and International/Foreign Journal Collection. Journals whether published in Bangladesh or any other countries itself or abroad in one of several languages are housed in it. A content list of these journals has also been prepared. The users can ask the staff for particular articles and will be supplied with the original journals. Rare and back volumes of issues of journals are also here.

Understanding the importance of preserving this large amount of rare materials useful to both national and foreign researcher's the present librarian of NLB requested the government of Bangladesh to provide micrographic equipments for microfilming as early as possible. Two years later the library received approval from the government of Bangladesh under a development project programmed. In 1997 national library purchased microfilm and book binding equipments. The equipment includes one microfilm reader, two cameras, one processor, 600 reels, one duplicator, one microfilm scanner, one printer, one inspector and four microfilms cabinet and book binding equipments. After handing over the equipments the Librarian praised the library objective of employing the micrographic equipments for the preservation of its valuable documents of the library knowing that this will help to promote the cultural, educational and research activities of national library of Bangladesh. The library has started converting the material of the National Collection, Foreign Journals Collection and other collections into microform on a priority basis, for preservation and dissemination.

### **Bangladesh national scientific and documentation centre (BANSDOC)**

BANSDOC is a premier Science and Technology (S&T) information organization under the ministry of Science and Information and Communication Technology. BANSDOC provides the scientists, technologists, technicians, industrialists, planners, and policy-makers with scientific and technological information for the socio-economic uplift of the country. It is the national apex body

in the field of scientific and technological library, information and documentation services in Bangladesh. Presently BANSDOC holds a stock of about 20,000 text and reference books and 442 titles of local and foreign Journals, periodicals and serials on different fields of science and technology.

BANSDOC has a microfilm unit. It has a microfilm machine and microfiche camera. Users on request may avail themselves of the microfilm reader services. But unfortunately orders for microfilm or microfiche have become very rare. It has preserved 150 numbers microfilm roll of very rare documents.

### The Dhaka University library

The University library has a collection of more than 30,000 such books, and manuscripts, dating back to the medieval period, written on palm and banana leaves, books, stone slabs and handmade papers in Sanskrit, Bangla, Arabic, Pali, Urdu, Persian, Maithili, Uriya, Hindi and a few other dialects.

Due to lack of proper preservation, century old "Puthis" and manuscripts newspapers and periodicals printed in Bangladesh during last century, have been decaying at the Dhaka University Central Library. About 300 rare manuscripts and at least 600 microfilmed newspapers have already been damaged. 20,000 among the manuscripts have been identified and 6,500 almost decayed manuscripts have been microfilmed and laminated. The microfilmed newspaper and periodicals have been kept in a room where the air coolers remain active only during office time. A microfilm reader and a microfiche reader have been lying in inoperative for years. The out mode and inefficient air coolers in the manuscripts and microfilm section cannot maintain 18 to 20°C temperature. The level of humidity should also be between 52 and 58% all the time but there is no proper humidity control mechanism.

The Dhaka University library with an enviable collection of rare books, puthis and manuscripts, newspapers and periodicals, maps and other reference materials served teachers, students and researchers from home and abroad. Mentioning manuscripts as the invaluable assets there are many rare manuscripts in the library of Dhaka University, which are not only a matter of pride for the Dhaka University but for the whole nation. Need for preserving those within help of modern technology.

### CONCLUSION

The main focus of this article is to check the role of microfilming in preservation of rare and precious documents in selected libraries of Bangladesh. This is real situation of national library, other library and archives of Bangladesh. The major theme of the article is using

microfilm for preservation of rare and valuable documents and modification of library service methodology for the benefit of our user. Traditionally the role of library and archives was to preserve of human intellectual endeavor. But presently the libraries and archives are the central focal points for preservation of human knowledge, creative art and activities in all respect. A comprehensive preservation approach meant, choosing the most appropriate method of preservation for every item.

Presently the terminology of preservation is fluid, with some terms having multiple meaning and others evolving overtime. Microfilming preservation is been considered as a vital, especially in the developed countries like Bangladesh. Many countries are deeply considered and recognized for microfilm for preservation of rare and old documents emulated specific programs. This is the time to implement the microfilm for preservation strategy, and could be used as benchmarks for the Bangladesh instead of re-inventing the wheel.

In this regard, Institutions like University library, national library and national archives in Bangladesh may start the role by adopting in preservation policies and practices using the current technologies, resources and expertise. Microfilming preservation is initiatives to avoid a possible black out of their libraries information resources.

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