



DIGITAL PRESERVATION OF ARCHIVAL MATERIALS IN WEST BENGAL WITH SPECIAL REFERENCE TO THE STATE ARCHIVES OF WEST BENGAL

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Abstract: This study highlights archival materials, especially State Archives of West Bengal as the primary source of historical importance, consisting of our glorious past. But the problem remains in deterioration of all old hard documents. In order to keep all heritage records well-preserved, digital preservation method is coming up. In this paper, a brief discussion has been made how to protect our heritage for the future through digitized mode. In India, the West Bengal State Archive takes an excellent initiative for protecting the historical evidence. This paper here reflects some of the newly made efforts to preserve the historical records.

Index Terms: Archival materials, Digitization, State Archives of West Bengal.

Introduction:

The term – ‘archives’ comes from the Greek concept ‘archeion’. Arche means the beginning or origin. The original Latin term is “archium or archivum”. It is believed that the term has been used/ as English term during 17th century. The origin of the term can also be traced back to the Dutch word “ARCHIEF” meaning “the whole of the written documents, drawings or printed matter, officially received or produced by an administrative body or one of the officials, in so far as these documents were intended to remain in the custody of that body or of that official” (Trio of the Dutch Archivists, S Muller, J.H. Feith and Pruda). It can be said that archives are the storehouse of historical records having great value. These are the primary source of information of any organization or individual.

Archival Records can be created at different stages-

- a) **Currency stage-** in this stage, records are originally created and used for day-to-day administrative purpose;
 - b) **Semi-currency stage-** in this stage, records are either very active or comparatively non-active;
 - c) **Non-currency stage -** in this period the semi-current records become mostly non-active for administrative purpose. And it is said that archives are store house of non-current records.
- If we see back to the origin of archival institutions, it is observed that the Athenians preserved their valuable records in the temples. But the national archives were first established in France after 1789. In 1838, a central archival institution was also established in England. The National Archives of America was established in 1934. The national archive of India, formerly known as Imperial Record Room, was established in March, 1891.

There are different kinds of archives:

- a) **Academic:** archival materials of different academic institutions, like colleges, universities, research institutions are usually kept in library. The records are mainly administrative materials of the concerned institution, historical records of the teachers of the colleges/universities, rare books, theses and dissertations etc.
- b) **Business:** archival materials of different corporate organizations containing records of their history, past administrative records of the companies etc. fall under this type. These are highly informative for the company’s staff.
- c) **Government:** different administrative records maintained by the state or national level government organizations are usually filed under government archives.

- d) **Church:** mainly Church: mainly historical records, drawings (architectural), historical records, drawings (architectural), manuscripts etc. related to the church are archived in church archives. These are informative for the Christian community.
- e) **Film:** historical documents related to films, negatives etc. are recorded under this category.
- f) **Non-profit:** the collection of historical records of particular person or places of different non-profit organizations, historical societies is preserved as archival materials fall under this category.
- g) **Web-archives:** collection of records or data from the World Wide Web are usually preserved as archival materials, such as blogs, news archives etc.
- h) **Sound:** collection of records concerning recorded sound recordings

All types of archival materials and different kinds of archives as discussed above are more or less found in West Bengal. Here a brief idea regarding digital preservation activities of State Archives of West Bengal is discussed which is responsible for storing, organizing and preserving government archival materials, i.e. administrative records of this state.

What is Digital Preservation?

“Digital preservation is the set of processes, activities and management of digital information over time to ensure its long term accessibility. The goal of digital preservation is to preserve materials resulting from digital reformatting, and particularly information that is born-digital with no analog counterpart. Because of the relatively short lifecycle of digital information, preservation is an ongoing process.”[Wikipedia retrieved on 05.02.2013]

Digital preservation means access, retrieval and interpretation of information as long as these are required. The concept of long term ensures providing support to survive, to maintain the content in the world of continuous technological changes.

Digital materials may be of two kinds:

- a) Born digital
- b) Converted digital

The term ‘digital’ includes both types of materials. Normally, archival materials as a kind of cultural heritage are always preserved in a proper manner- by controlling humidity, temperature, using folders/boxes etc. but we cannot avoid the ageing or decay of papers and other materials. In order to avoid such kind of deterioration, as preventive measure to preserve these materials, the following are generally followed:

- Routine-wise house-keeping measures for cleaning and protecting the archival materials
- Adopting security measures for controlling disaster/disaster management
- Following the conservation method for repairing the damaged materials
- Using the protection method like ‘boxing’ [keeping materials in proper boxes], wrapping, binding etc.
- Reproduction of original documents like photocopying, microfilming, digitizing.
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Archival materials are usually recorded in paper, film and glass negatives, microfilm/fiche etc. Sound images are generally recorded in audiocassettes, videotape, film etc.

In case of digitization, CDs /DVDs are the common storage media. The digitization of cultural heritage collection has multifarious advantages for the custodians as well as users. The most important one is that it helps develop a digital substitute to protect the originality of rare and important documents. Not only that, it creates longevity of those fragile documents by making images of those heritage records. Even it helps access faster and promotes the possibility of resource sharing.

State Archives of West Bengal:

Established in the year 1910, the State Archives of West Bengal, commonly known as State Archives, has started its digitization programme to preserve the cultural heritage collection in almost two and half years back. The collection of the state Archives contains government heritage materials since the period of East India Co. This storehouse of public records- a state level archival repository, is disseminating information concerning the-then government activities.

Infact, the East India Co., after getting the empowerment of ‘Diwani’ in 1765 [after the defeat of Siraj-UD-Doulah in 1757 and Mir Qasim in 1764] to collect the revenue from Bengal Subah, realized to identify and preserve records for the sake of the rights of the-then public. The Regional Record Commission, the District Record Room and the General Record Office were established for organizing the collection of records. Even for actual preservation and management of the judicial and revenue records, the Presidency Committee of Records at central level was established in May, 1820. It was dissolved in April, 1829. After that a *General Record Office* was constituted in the General Treasury Building. It preserved all records of Secretariat departments.

In 1909, the Home Deptt. took the sole administrative responsibility of the Secretariat Room.

In 1922- a catalogue of pre-mutiny records and in 1935 those of post-mutiny records were published for the researchers.

An evolutionary change was reflected in 1951, when the whole administrative control of the Record Office was transferred from Home Department. to the Education department.

The Record Room was at ground floor of Writers’ Building until 1962. But for proper maintenance and preservation of records in a modernized form, it was decided to transfer the historical records upto 1900 to the State Archives at 6, Bhawani Dutta Lane during 1959-60. In 1962, all written documents of the Secretariat records (1901-1947) were stored and preserved in Writers’ building. The post- independence records are now preserved in the new functional building at Shakespeare Sarani, Kolkata. So now the State Archives of West Bengal is maintaining three buildings at 1) 6, Bhawani Dutta Lane, Kolkata, 2) *Writers’ Building*, Kolkata 3) 43, *Shakespeare Sarani*, Kolkata.

The earliest record dates back to 1756. At present, the current stack area including all the three buildings is approximately 25 kilometres.

Different kinds of records in the State Archives:

According to the *Guide to the Records in the State Archives of West Bengal, Part I: 1758-1858 and Part II: 1859- 1947* (published by the State Archives of West Bengal, Calcutta, 1976-77), the records of following important departments are stored and preserved:

- Revenue department
- Board of revenue
- Board of trade
- Judicial department
- Financial department
- General department
- Ecclesiastical department
- Political department
- Education department
- PWD department.
- Railway department
- Home department
- Agricultural department
- Commerce, labour and industries department
- Forest and excise department
- Local self-government department
- Land and land revenue department

Besides these, the records of the General Committee of Public Instruction, the Fever Hospital, municipal improvements, letters to and from the Court of Directors (Despatches to and from England), etc are preserved.

- Miscellaneous records are-
 - Various govt. departmental Office lists of records
 - Persian, Dutch and Vernacular records
 - Stray Dutch and Danish Records
 - Covenants
 - Election
 - Agreement of IPS officers establishment register
 - Calcutta gazette
 - Confidential reports on national newspaper etc.

The important archival materials are:

- The revenue and judicial consultation (1770-1858)
- The proceedings of the general department (1834-1858)
- The records of the education department (1842-1850)
- The records of the Board of revenue (1786-1858)
- The records of the board of trade-commercial (1774-1858).

Records previous to the year 1770 are mostly fragmentary.

Some important series of records have been kept for archival preservation in this State Archives of West Bengal like, *Letters to and from the Court of Directors* excepting foreign, secret, public and poll letters.

Many irregular series of records in Persian and Bengali languages are preserved as archival materials under the broad heading – “Miscellaneous”:

- Persian Sanads and Perwannas dating back to 1624- 17 vols.
- Dutch Pattas related to Chinsurah (1702-1827) – 10 bundles
- Records of Danish Govt. at Serampore (Fredericksnagar) [1804-1845]- 75 vols

Not only that, there are other vast and rich repository of unexplored records of the Intelligence Branch and also containing a major part of PWD records, Chancellor or Secretariat records, CID Gazettes dating from 1906 to 1950s at the new functional building at 43 Shakespeare Sarani, Kolkata.

Now the necessity of urgent restoration as well as reproduction of records of the new building has been thought of for digital preservation. The total collection of almost 42000 glass slides, film negatives contain photographs, intercepted letters, pamphlets, articles, posters of the political activists of our country as well as of abroad. They are very unique enhancing the cultural wealth of the state. According to the idea of the State Archives, during the second decade of the 20th century, various organizations were set up in Europe to turn out revolutionary literature, pamphlets and journals in English and other foreign languages including Indian languages. These were brought secretly into this country both through land and sea routes, containing literature against the British rule in India. These were obviously intercepted and photographed by the rulers and were finally preserved in the glass and film negatives. Not only that, it was the regular job of the British rulers to intercept also the letters of the political suspects of India.

Digitization process:

The archival custodians have taken the initiative to keep these documents in digitized form.

The digitization process has started since last two and half years considering its advantages. Among the, 42000 glass and film negatives, photographs of age-old rare collection, 36000 have been digitized through specially-developed software (tailor-made by the State Archives) named as “*Storage & Retrieval of Archival Data*”.

The task of digitization is normally being done in 3 steps:

- **Selection:** first of all, think of the digitization process as a series of choices balancing the requirements of the objects. At the time of selecting source materials for digitization, it should be remembered – which materials are in need to be converted, whether they can be converted or not, the physical condition of the materials to be selected (fragile or damaged) etc. The selection therefore needs some of the following aspects- value of the selected archival materials, demand among the users as well as administrators, keen interest in its content and also for enhancing the access to those demanded materials. Alongwith it, the selection of digital storage media is to be selected for enhancing access to the users.

Before going into the depth for digitization, initially a sound and solid planning is necessary during selection phase. Proper decision has to be taken in conversion of archival materials into digital one. Therefore, proper planning should be taken into granted in the following matter- about media - whether CD-ROM or DVD, about the server for connecting through LAN system or internet, about the format to be used for data storage, whether PDF (portable document format) or TIFF (tagged image file format) or just word-processing format and also simultaneously the computer hardware and software to be compatible with the selected format. Even the planning for quality of digital reproduction is also needed.

- **Scanning:** This part deals with the conversion of hard copy to soft (electronic) image. Usually, source documents are transformed to bit-mapped images by a scanner or a digital camera
Different kinds of scanners are usually needed for digitization process:

- line scanner
- face up scanner , possessing high quality scan
- face down scanner
- flat base scanner

Even camera is also used for detailed scanning of archival materials.

The state archives, with the help of eminent and expert professional has developed a special scanner named as ‘*Multiphase Lighting System*’ for scanning of both translucent as well as transparent objects. Documents in digitized form can be maintained, preserved and accessed easily. Whereas we need special instruments to use microfilms and other micro documents like microfilm processor, microfilm reader, etc. and these are expensive and needs proper maintenance.

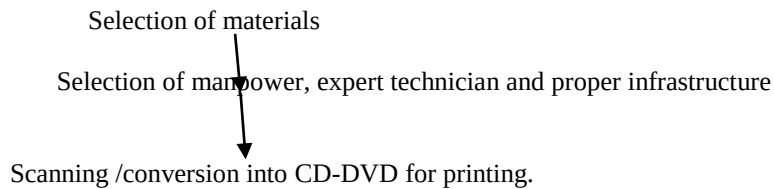
- **Restoration through the software:**
 - *Sorting and arrangement* of those soft images transferred from the hard copies through computer
 - *Format and resizing:* raw data are preserved in 1TB hard disk (for disaster back up) and usable data are sorted and formatted through PDF conversion (ADOBE Professional 8). These data are formatted in single page or combined page PDF as per the necessity of the archival materials.
 - Usually, 300 DPI (DOTS PER INCH) range scan has been done and then from the scanned part, data are converted to PDF format.
 - For high quality formatting, JPG (Joint Expert Group) is used here.

- **Transfer to CD/DVD and also 1TB external hard disk in the server:**

- The state archives of West Bengal has used the CD/DVD and also external
- Hard drive as storage media for preserving the digitized materials.
- The storage space : CD- 700 MB
DVD- 4.7 GB
External hard disk – 1TB (Terra byte)

Rest 6000 glass negatives are yet to be processed for digitization for restoration of decaying condition.

The workflow of digitization process:



Usually, three copies of digitized materials are being created for future preservation- one for disaster copy, one for research scholars and one for administrator. The whole process of preparing reference media is going on by the custodians through the special software in order to enhance the access procedure of the users. The preservation and maintenance of such analog media into the digital one helps create an environment where one can find:

Longevity- though the storage media span must have thought of for maximum 10years, a periodic renewal of storage media into the new digital format is needed for continuous processing for longevity.

Quality

Integrity

High speed access

Sense of originality without distorting the main documents.

The CD-cabinets are used for storing the CDs/DVDs where chronology is maintained. Even according to the principle of Provenance, the digitized forms are also kept just as the original documents come from the creative agency (as for example, here it is IB) and kept by the archivists.

Future plans:

The State archive has in mind to proceed further in the task of digitization in near future. Some of the important aspects are as follows:

1. Digitization of microfilm copies of Ananda Bazar Patrika and Report on Native Newspaper
2. Digitization of 1000 survey maps (regional, district maps of West Bengal prepared by the Survey of India during 19th and 20th centuries)
3. Development of linking the digital images to reference media
4. Keeping view with problems of digital preservation like, software failure, hardware obsolescence, disaster management, virus problems, security measure of the digital format etc.

Alongwith that, to handle the digital media properly, one should be aware of the following:

- ❖ Storage media should be checked at regular interval
- ❖ Proper label should be fixed in the designated area of the media
- ❖ Proper cleaning of the drives
- ❖ Updation of hardware/software.

Conclusion:

The users as well as administrators can access all these digitized records without any trouble. A whole panoramic view of heritage – social, economic as well as political documents can be reflected through digitalized materials.

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