

PALM LEAF MANUSCRIPTS CONSERVATION-A study

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Abstract – *This note contains information about palm leaf manuscripts, which used in India as one of the common materials for writing. Different types of Damages noticed in palm leaf manuscripts because of many physical, chemical and biological reasons. Suggestions about the treatment of such damages have been provided.*

Introduction :

Since early times various kind of plant materials were used in India for making manuscripts. Before the Introduction of paper the most common material used to write in south and Southeast Asia was palm leaves. Large collections of manuscripts on palm leaves are found in museum and libraries every where in this area. Palm leaf is a generic term. In various regions where the use of palm leaves is alive, people also use the vernacular terms which often imply a particular variety leaf. In Sri Lanka the palm leaf is known as ‘ola’ , in Thailand as ‘Larn’, in Burma as ‘Lontar’ and various parts of India as ‘Tula’, ‘Sritola’ or ‘Karalika’. South and Southeast Asia’s wealth of knowledge had for centuries been written on palm leaves, development of conservation ideas and practices in this sphere has been rather limited. Authoritative literature on palm leaf conservation is scare.

History of use - It is difficult to say exactly when the palm leaf first began to be used for writing. As palm leaves are organic in nature and as susceptible to decay as any other natural material.

Perhaps the earliest known palm leaf manuscript is a fragment of the text of a second century Indian drama discovered in Central Asia. Other than extant fragments and whole palm leaf manuscripts, there are also historical references, principal among these being the records of ‘Hiuen Tsang’ (7th C.A.D) and Alberuni (10th C.A.D) recording the practice of writing on palm leaves in India. However the practice of writing on palm leaves continued until the nineteenth century after which it declined.

Making of Palm leaf manuscripts :

Manuscripts over the ages have been written on leaves from only a few varieties of palm trees, the two most common being the Palmyra Palm (*Borassus flabellifer* Linn) and the Talipot Palm, Fan palm (*Coriypa umbraculifera* Linn).

In different regions, palm leaves are prepared by a variety of methods. Normally, In India the leaves were dried, in a controlled manner, boiled in water for a few hours and then dried again. Then the leaves were cut to size according to need.

Throughout recorded history, palm leaves have been written upon in two ways. These were either written on the surface of the prepared leaf or inside. Palm leaves are long but narrow which is especially useful for illustration.

For writing on palm leaves a pointed metal stylus was used. To bind leaves of a manuscript, holes were punched in the centre of the leaves or on either side of them, and a cord is passed through them to keep the leaves together. The manuscripts were placed between stiff boards, generally of woods, sometimes well-decorated by a carving or painting.

Deterioration of Palm Leaf manuscripts

As time passed, palm leaf manuscript became brittle and got easily broken more or less similarly as Sanchipat Manuscripts viz loss of flexibility damages or losses near the margin, damages around the Central hole, breaking of the sheets into fragments and flaking of paint layer in case of illustrated manuscripts. Deterioration of palm leaves are due to various agencies which may be grouped as

- A. Biological
- B. Physical
- C. Chemical

In tropical countries, biological agents cause great damage of palm leaves manuscripts. The most important biological organisms are fungi, bacteria, algae, yeast and protozoa. Insects such as Cockroaches, Silverfish, Termites damage the manuscripts. Insects inflict heavy damage on palm leaves, probably much more than on paper. Other biological agents of physical deterioration are light, heat, moisture, mishandling and neglect of proper storage. On

account of these factors the manuscripts may become yellow and may get progressively brittle, breaking down by even the slightest touch.

It is very difficult to make a distinction between physical and chemical deterioration of palm leaf manuscripts. Light, heat and humidity have been included under physical deterioration. Agencies also cause chemical action like oxidation, hydrolysis etc.,

Conservation Treatment – There are numbers of traditional measures used to avoid insect attack. For instance, manuscripts were often stored in kitchen lofts where smoke kept insects away; and the boards between which the folios were stored were after made of a hard wood with insect resistant properties such as that of the Neem tree. In India wrapping manuscripts in red or yellow cotton cloth was a common practice, to keep away insects. It has been common practice to keep a variety of insect repellent oils and herbs with the manuscripts. The bark, leaves, seed and wood of Margosa, the Neem tree have been used in India for conserve manuscripts.

In modern chemical formulations insecticide can be used as a fumigant or in the form of a solution. For the use fumigants a fumigation chamber is needed. It can be constructed of wood or steel with tight – setting doors. Naphthalene too became popular and still it is used in manuscripts collections and libraries. Paradichloro benzene (PDCB)/ and thymol / orthophenyl phenol etc. are used extensively as fumigant. The use of carbon tetrachloride is also recorded. All of these chemicals are potentially hazardous and so these are used most casually. To impart flexibility to the leaves oils of citronella is imparted temporarily.

As anti-fungal agent camphor and eucalyptus oils were effective, while citronella and lemon grass oil has limited effect. Traditionally in Orissa manuscripts are kept at the shade especially during the months of August. If fungus occurs it can be removed from the surface with a swab and ethanol while fumigation with thymol vapours is a common practice.

It has been suggested that leaves should be cleaned with distilled warm or cold water with a cotton ball wrapped in fine cloth, additives like a non-ionic detergent, glycerine in water (1:10) or 0.2% sodium salt of orthophenyl phenol . Once done the leaves can be rubbed dry with cloths for cleaning the surface of written or illuminated folios.

In most cases, it is damaged by handling. It is, therefore, necessary that the leaves should be always stored between two stiff boards, slightly larger in size than the leaves, as it

was like custom in ancient times. In order to avoid frequent handling, it is wise to microfilm the manuscripts .All the palm leaves manuscripts which are deteriorated must be conserved properly. Therefore the conservator must understand the nature of the material, as well as of the chemicals.

Reference

1. Agrawal, O.P – Conservation as Manuscripts and Painting of South East Asia, Butterworth – Heinemann, London (1984).
2. Joshi B.R. preservation of palm leaf Manuscripts conservation of Cultural property in India, Vol XXII, New Delhi (1989).
3. Agrawal, O.P, and Barkeshli Mandana – Conservation of Books Manuscripts and paper Documents. INTACH, Lucknow (1997).
4. Agrawal, O.P – Conservation of Books Manuscripts and paper Documents. INTACH, Lucknow.
5. Bhattacharya, B, Palm Leaf Manuscripts and their preservation, Indian Archives, New Delhi (1947).
6. Singh Tej conservation of Cultural Property in India. Indian Association for the Study of conservation of Cultural property, New Delhi (1988).
7. Agrawal O.P, Preservation of Art objects and Library Materials National Book Trust, New Delhi (1993).

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