

## **Identification of the factors that deteriorated historically valuable library resources(Library of the University of Sri Jayewardenepura and the library of the Department of National Museum)**

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**Abstract:** The resources of the library had been in clay tabled at the beginning of its concepts. Later, papyrus rolls were added to the library resources followed by leaves of some trees grown in the South Asian countries aware that began using for writing (Palmyra leaves), and that palm leaf manuscripts were also added to library resources collection. With the advent of the papermaking, the character of library resources has been changed. Now, these library resources can be divided mainly into two parts. That is to say as printed and non-printed library resources. Books, journals, pamphlets, newspapers, leaflets, maps, ordinances, annual reports, gazettes, etc. are included under the printed library resources. E-books, e-data base, e-journal, scholar bank etc. are included under non-print library resources.

Two libraries were taken on to identify the historically valuable resources of the libraries; one is the Library of the University of Sri Jayewardenepura and another one in the library of the Department of National Museum.

**Key words:** Department of National Museum, Deterioration factors, Library resources, Treatment, University of Sri Jayewardenepura,

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### **I. INTRODUCTION AND BACKGROUND**

Two libraries with a long history were used for this research. The two libraries used for this purpose: the Library of the University of Sri Jayewardenepura commenced with small book collections in the Maligakanda Pirivena in 1959. After that it was installed in the Sri Sumangala building of the University in 1961 and 1979 (Dorakumbura, 1984, p.77), Universities Act No 16 of 1978 it became "the Library of the University of Sri Jayewardenepura" nowadays it is one of the leading libraries of the universities in Sri Lanka.

The Library of the Department of National Museum, which was founded in 1877 has a very long history. In 1870, the Government Oriental library was combined into Colombo National Museum Library. This library facilitated as the midpoint collection of the native publications during the past 129 years. Museum library has been functioning as a formal national library in Sri Lanka. It's become the first Legal Deposit library on the Island. At the beginning museum library gave superior consideration for building up of a collection connected to Sri Lanka, Orientation and Natural Science (The Centenary of the Colombo Museum, 1877-1977, p.77). This library has become the largest historically valuable library that accumulated library resources in Sri Lanka.

Various library resources are available in both types of libraries, and the Library of the University of Sri Jayewardenepura has printed and non-printed library resources. Books, journals, pamphlet, gazettes, maps, ordinances, palm-leaf manuscripts, thesis, dissertations can be found among the printed library resources. Also, there are e-books, e-journals, e-database, and scholar bank available as non-printed library resources. At present, the library houses more than two hundred and fifty thousand (250,000) book titles and large number of rare books, periodicals and palm leaf manuscripts.

The Library of the Department of National Museum has a large number of printed library resources. It consists of books, encyclopedias, dictionaries, annual reports, ordinances, ancient documents, Statistical yearbooks, Trade catalogues, Law Reports, Maps and Drawings, Stamps and postcards and the library also has a large collection of palm leaf manuscripts. At present, the library houses over 12 million titles including a large number of rare books, periodicals and palm-leaf manuscripts. The major collection of palm-leaf manuscripts is obtainable in Sri Lanka the Colombo Museum Library (Bulathsinghala, 2012, p. 85). There are over 4,000 manuscripts (6,000 manuscripts) counting the copy of the oldest so far discovered namely the "Cullavagga" text of the Vinaya Pitaka of the 13th century deposited in this library (Amarakoon, 1996). This library has not been visible in non-printed library resources.

Deterioration of library resources produced by natural rudiments, such as temperature and humidity extremes, light, airborne pollutants, mold and pests, is usually gradual and cumulative, and is continuously irreversible (Mahmood and Mari, 2013, p. 773). The resources of both of these libraries should be protected from destruction. There are different types of deterioration of the historically valuable library resources. Those are:

1. Physical deterioration factors
2. Biological deterioration factors
3. Chemical deterioration factors

Physical deterioration factors of library resources can be described as environmental factors, temperature, humidity, fire, water, air, heat, light, and deterioration of manipulation by human beings etc. Improper storage, rough handling, deliberate abuse, folding the fore-edges of pages as a mark of reading, underlining, highlighting, mutilation, vandalism are all examples of deterioration of books by human beings (Mahmood and Mari, 2013, p. 777). Natural disasters, such as floods or fires, and building problems, such as leaking roofs or dysfunctional HVAC systems, may cause more immediate deterioration factors for historically valuable library resources. Biological deterioration instigated by insect attack or fungal growth, and the other form of deterioration is caused by detrimental environmental conditions such as excesses of humidity or wide differences in relative humidity in day and night temperatures, light and impressive pollutants. These two forms of deterioration are consistent because moist circumstances favor the growth of fungi and buildups of dust and dirt which attract insects (Maravilla, 2008).

Biological factors affecting the destruction of historically valuable library resources consist mainly of two parts.

- Mold and fungus
- Insects and humans

The damage caused by insects and human to library resources is stronger than molds and fungus. The insects, which badly damaged the historically valuable library resources, are Termite, Silverfish, Bookworm, Moth, and Powder post beetles, Deathwatch beetles, Carpet beetles and Cockroach.

In addition to high temperature and humidity, man's carelessness also favors the growth and propagation of insects. The following manifests such negligence:

- accumulations of dirt and dust from poor or careless housekeeping practices
- introduction of foodstuff to storage and exhibit areas
- the entry of insect-infested items into the collection
- open windows, air vents or poorly sealed windows and doors
- unattended roof leaks and cracks in a deteriorated museum building
- poor ventilation

The notable chemical deterioration factors for the historically valuable library resources are the acidic effect, environmental pollution, stains and chemical substances etc. In the paper industry sometimes fibers are used with low cellulose contents and some chemical mixes like alum, rosin etc. are used for sizing of paper which causes acidic effect that facilitates the chemical deterioration of the paper, some library materials deteriorate faster than others become bad to worse as they are made from integrally unstable materials, such as acidic paper (Mahmood and Mari, 2013, p. 773). Because of the absorption of the chemicals due to the moisture absorbed by the paper, the historically valuable library resources get affected. The notable deleterious substances for the library materials are sculpture dioxides, oxides of nitrogen and ozone. Sculpture dioxide is a hazard to cellulose materials like paper and cloth (Jeyraj, 1995).

### **Objective**

The specific objectives of this study are to identify the deterioration factors and treatments to preserve historically valuable library resources of both of these libraries.

## **II. METHODOLOGY**

The study is qualitative and it adopts the scientific observation method and investigates the information that is issued systematically, while primary and secondary data are also used. The main research tools were a record sheet, a self-administered questionnaire followed by interviews. 10% of each collection was selected as samples of the study and a simple random sampling method was applied.

## **III. RESULTS**

Throughout these investigations, various deterioration factors can be identified within these two libraries.

Table 01 presents a list of the selected historically valuable library resources of Library of the University of Sri Jayewardenepura

**Table 01:**

historically valuable library resources	Physical deterioration factors	Biological deterioration factors	Chemical deterioration factors
Collection of murals	Broken pages	Insect damages(Silverfish &Bookworm)	Discolored
Epigraphy Collection	Good condition	Good condition	Good condition
Bell Reports	Good condition	Good condition	Some are good, others are being discolored
Archeological Survey reports	Broken pages	Small parts were damagedd by Bookworm	Some are good, others are being discolored
Map Collection	Good condition	Good condition	Good condition
Buddhist Collection	Good condition	Good condition	Some books are discoloring
Collection of palm leaf manuscripts	Good condition (Preserved)	Good condition (Preserved)	Good condition (Preserved)
Dutch Plates Collection	Good condition	Good condition	Discolored
Old newspapers Collection	Edges are being damaged	Insect damages (Silverfish &Bookworm)	Discolored& acidic effects
Government Publication	Good condition	Good condition	Good condition
Rare Book collection	Good condition	Small parts are being Damaged by Bookworms	Some books are Discolored

Table 02 presents a list of the selectedhistorically valuable library resources of library of the Department of National Museum.

**Table 02:**

historically valuable library resources	Physical deterioration factors	Biological deterioration factors	Chemical deterioration factors
Map and Drawings	Good condition	Good condition	Discolored
Government Publication	Broken pages	Good condition	Good condition
Bell Reports	Good condition	Good condition	Some are good, others are being discolored
Archeological Survey reports	Broken pages & caver pages are being removed	Small parts were damagedd by Bookworm	Some are good, others are being discolored
Law Reports	Good condition	Good condition	Good condition
Stamp and Postcards	Good condition	Good condition	Some are discolored
Collection of palm leaf manuscripts	Good condition (Preserved)	Good condition (Preserved)	Good condition (Preserved)
Sinhala Periodicals	Broken pages	Insect damages (Silverfish &Bookworm)	Some periodicals are Discolored
Old newspapers Collection	Edges are being damaged	Insect damages (Silverfish &Bookworm)	Discolored& acidic effects

The collection of historically valuable library resources at Library of the University of Sri Jayewardenepura is in perfect condition and the physical deterioration factorscould not be identified. The fire extinguishing equipment also has been installed for implementation in case of emergency fires. Among the biological deterioration factors, the damage done by readers is higher than that of insects. Book stolen, broken pages, the mark of reading as underlining, highlighting are all examples of deterioration of books by human beings. As a remedy, it was found that historically valuable library resources have been protected by the

implementation of CCTV system and the security gates were installed. Moreover, the palm leaf manuscripts collection has been damaged by insects, and it appears that presently that conservation of the collection has begun. There is a lack of chemical deterioration factors for the collection of these historically valuable library resources. Accordingly, the collection of historically valuable library resources in the Library of the University of Sri Jayewardenepura is in the very best condition.

There are no physical deterioration factors for the historically valuable library resources of the Library of the Department of National Museum, and fire extinguishers have been set up and the members of the staff of the library have been trained for that. It is difficult to identify the damage done by readers who are among the biological deterioration factors for the library resources. But the damages of insects such as Silverfish, Termite, Bookworm and Cockroach were identified. For this purpose, anti-insect treatments like as vapors have been implemented. The effect of chemical deterioration factors on this historically valuable library collection is very low. But old documents are decaying over time and are being micro-filmed and Microfiches using modern technological equipment. The large collection of palm-leaf manuscripts in the library and they are prepared as suitable to use by the reader. Modern conservation methods have been utilized for this.

#### **IV. RECOMMENDATIONS**

In the study of the current library resources of the two libraries, it is clear that two very good collections are historically valuable.

##### **Suggestions**

In both of these two collections, the protection of printed historically valuable library resources from the insect can be preserved by laying cotton wool pillows filled with citronella oil in between racks. Important books and manuscripts should keep in specially prepared cupboards. Always care should be taken while moving rare, valuable and delicate books. Instructions for conservation resources from conservation officers are necessary and suggest to established preservation and conservation unit in the library. Conducting awareness programs for readers, leaflet campaigns, etc. can help to minimize the harmful effects of using the historically valuable library resources. Microfilm and Microfiches old documents which are decaying over time using modern technology.

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