

# DIGITIZING THE BALINESE LONTAR MANUSCRIPT: A CASE STUDY OF PURI KAUHAN UBUD, BALI

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**ABSTRACT:** The preservation of the Balinese Lontar Manuscript can be done by digitizing the physical manuscript. This study aims to determine the preservation of the Balinese Lontar manuscript through the digitization process at Puri Kauhan Ubud. This study uses descriptive qualitative research methods. Research data were obtained through interviews with three people (Chairman of the Puri Kauhan Foundation, Ubud, Coordinator of Balinese Language Extension, Gianyar Regency, Librarian of the Center for Lontar Studies, Udayana University). In addition, data were also obtained through documentation, observation and literature study. Data processing and analysis techniques through stages, data collection, data reduction, data presentation and drawing conclusions. The results showed that Puri Kauhan Ubud has 64 *cangkep* lontar manuscripts, the lontar manuscripts are passed down every *Saniscara Umanis Wuku Watugunung* precisely during Saraswati Day, at that time the preservation and maintenance of the lontar manuscripts at Puri Kauhan Ubud was carried out as a form of devotion to *Bhatara Kawitan* because he had bequeathed a source of knowledge in the form of the Balinese Lontar Manuscript. Preservation at Puri Kauhan Ubud is done by digitizing the lontar manuscripts. Do it process The purpose of digitizing the lontar manuscripts at Puri Kauhan Ubud is so that the original physical form of the lontar manuscripts inherited from the Puri Kauhan Ubud family can be preserved and the information contained in them can be saved. All lontar manuscripts belonging to Puri Kauhan Ubud were digitized but not all were transliterated, what was transcribed was a distinctive and unique lontar script. Currently, there are 18 digital lontar manuscripts that have been *published* on *the website* special of Puri Kauhan Ubud.

Keywords: *Digitization, Lontar Manuscript, Puri Kauhan Ubud*

## Introduction

Preservation is a process in an effort to protect library materials against damage and keep library materials intact. Preservation of library materials is a very important thing if the library materials contain important information. Collections of library materials include printed collections and non-printed collections. Printed collections are collections whose physical form is printed, printed collections such as books (textbooks, reference books, and physical books) and serial publications (newspapers, magazines, and reports). Non-printed collections are collections whose physical form is not in print, for example in the form of sound recordings, video recordings and pictures.

In addition, there are examples of printed collections known as Balinese ancestral cultural heritage, namely the collection of lontar manuscripts.

Preserving Balinese culture in the current era of globalization is very important, the current generation is required to keep up with technology that is developing faster. The preservation of lontar manuscripts in which there are scripts and Balinese language as a part of Balinese culture cannot be underestimated because in the lontar manuscripts, almost all the activities of the ancient Balinese people are presented and can be traced from the lontar records. Technology in the current era of globalization is developing rapidly and of course it can be utilized, it is better if the papyrus manuscript is archived also using technological advances, namely by digitizing the manuscript.

The lontar manuscript is part of the Indonesian manuscript which is the object of cultural promotion as stated in the Republic of Indonesia Law no. 5 of 2017 concerning the Advancement of Culture. Article 5 of the Law for the Advancement of Culture states that 10 objects of cultural promotion include: oral traditions, manuscripts, customs, rites, traditional knowledge, traditional technology, arts, languages, folk games, and traditional sports. The lontar manuscripts contain mantras, traditional medicine, science, songs (*kakawin*, *kidung*, *geguritan*), history and other things. Puri Kauhan Ubud stores 64 lontar manuscripts which testify to the history of Puri Kauhan Ubud and contain flashes of the history of Ubud, stories of the daily lives of the people of Ubud and Bali.

Based on the observations made by the author, the phenomenon that occurs in the lontar manuscripts is that they suffer some damage because the lontar manuscripts are hundreds of years old. Considering the lontar sheets as manuscripts derived from palm leaves which have the risk of being easily damaged such as cracks and even breaking during use, so it is necessary to preserve the lontar manuscripts that are good and accessible to the wider community without having to look at the physical form of the lontar manuscripts. There are many lontars at Puri Kauhan Ubud to maintain the information value and physical condition of the lontars, Puri Kauhan Ubud conducts digitalization activities. This was done to make a copy of the lontar in Puri Kauhan Ubud. The purpose of this paper is to determine the preservation of the Balinese Lontar manuscript through the digitization process at Puri Kauhan Ubud.

## **Literature Review**

### **Preservation of Library Materials**

As one of the information managers, the library is responsible for collecting, processing, presenting and maintaining collections for use by users in an effective and efficient manner. For this reason, collections need to be cared for and preserved so that the science and technology contained therein can be passed on to future generations (Rahayuningsih, 2007).

Preservation is the main task of every library where the librarian manages library materials, one of which is maintenance and care, this activity is carried out to maintain the quality of library materials so that they can still be used effectively for users (Sutarno, 2006).

### **Media Transfer of Library Materials**

Media transfer is the transfer of media to *micro film* and other non-paper media with high security, such as CD-ROM and *Worm* (Government Regulation No. 88/1999). Media transfer or transfer of form is one of the conservation business models carried out by changing the form or information media from paper (printed) into other forms such as micro or video disks or other forms of magnetic tape (Sulistyo-Basuki 1991).

## **Digitization of Library Materials**

Digitization is a conversion process from analog media to digital form (Lee, 2001). Digitization is the process of converting printed form into electronic form through scanning (*scan*) to create electronic pages in accordance with the storage, information retrieval, and transmission of computer (Mulyadi, 2016). Digitization is the process of transferring information in printed form into digital form. Digitizing library materials through stages or procedures in its implementation. the stages of digitization planning are, pre-digitalization, digitization process, human resource needs, *hardware* and *software* requirements (Arba'I 2010). Then the digitization process is divided into three main activities, namely, *scanning*, *editing*, *uploading* (Pendit, 2007).

## **The Manuscript**

Great Indonesian Dictionary states that the lontar manuscript is interpreted as an essay that is still written by hand, someone's composition as an original work, news materials ready to be set. Ancient manuscripts or manuscripts are documents of various types that are written by hand but specialize in the original form before being printed (Primadesi, 2010).

## **The Balinese Lontar**

Manuscript is an ancient manuscript which can now be called a manuscript. The lontar manuscript is a valuable and very important ancestral cultural heritage because in the manuscript there is knowledge and historical records of antiquity. Lontar is a means of writing in the past in Bali before the existence of paper. Lontar which became a means of writing was taken from the leaves of the palm tree. In Bali it is known as ental leaf.

The Balinese Lontar Manuscript is made from palm tree leaves which were used as a writing medium in his era. Lontar in Bali uses Balinese and Balinese script. The contents contained in the Balinese Lontar are about mantras, knowledge, traditional medicine, songs (*kakawin* and *kidung*), history, stories about religion, and other things. In daily life, Balinese people are guided by the teachings contained in the lontar.

## **Research Methods**

type of research used in this research is descriptive with a qualitative approach. The data sources used in this study consisted of primary data sources and secondary data sources. The data sources used in this study consisted of primary data sources and secondary data sources. Data collection techniques are techniques or methods used by researchers in their research to obtain the data needed in research. data collection "obtained from the results of observations, interviews, documentation, and combination or triangulation" (Sugiyono 2013). The data analysis technique used was through stages, data collection, data reduction, data presentation and drawing conclusions (Miles and Huberman in Satori 2013).

This research was conducted from 01 February to 01 March 2021. The location of this research is in Puri Kauhan Ubud, Jalan Raya Ubud No. 35, Ubud District, Gianyar Regency, Bali. In collecting data, the data sources were obtained from interviews with the three informants, namely: the Chairperson of the Puri Kauhan Ubud Foundation, the Coordinator of the Balinese Language Extension Officer, Gianyar Regency, and the Librarian of the Center for Lontar Studies, Udayana University. In addition, data were also obtained through documentation, observation and literature study.

## Results and Discussion

### Collection of Manuscripts of The Puri Kauhan Ubud

collection of manuscripts of Manuscripts of Puri Kauhan Ubud is a legacy from the ancestors of the Puri family. The Puri lontar manuscripts are hundreds of years old. This lontar manuscript contains family history and the history of the people of Ubud and Bali. Puri Kauhan Ubud stores as many as 64 *cakep* lontar manuscripts.

*“We have 64 lontar palms stored in Puri Kauhan Ubud, of course the lontars are very intact lontars in a single shell. There are lontars that are indeed in a cake, but there are also small lontars that are separated and we have made them in the form of Penapes”* (AAGN Ari Dwipayana, Chairperson of the Puri Kauhan Ubud Foundation).



Figure 1 Manuscripts Lontar Puri Kauhan Ubud  
(Source: Instagram Puri Kauhan Ubud)

Lontar manuscripts have various types in general ranging from *wariga*, *usada*, *itihasa*, *chronicle*, *tantri*, *lelampahan* and *lontar prasi*. This type of is determined depending on the information contained in the lontar manuscript. Lontar Puri Kauhan Ubud has various types. Lontar Puri Kauhan Ubud has various types.

*“So the lontars in Puri have various themes ranging from chronicle, said then there is also the theme of usadha and also other lontars, indeed, kakawin, whose titles vary and we have cataloged related to the lontar- the lontar”* (AAGN Ari Dwipayana, Chairperson of the Puri Kauhan Ubud Foundation).

Whereas the lontars owned by Puri Kauhan Ubud have various types such as *chronicle*, *speech*, *usadha*, *kakawin*, *wariga* and so on. The lontar manuscripts belonging to Puri Kauhan Ubud have been cataloged.

### Preservation of the Lontar Manuscripts of The Puri Kauhan Ubud

preservation of the lontar manuscripts is an attempt to protect the lontar manuscripts and the information contained in them from damage and preserve the cultural heritage of Balinese ancestors through the lontar manuscripts which have sacred values. The preservation of lontar manuscripts is a form of devotion to the ancestors of Puri Kauhan Ubud.

*“Yes, of course, this is part of our form of devotion to our ancestors, what is the name of our Bhatara Kawitan who has bequeathed extraordinary treasures, not only in the form of keris heirlooms, but we also have a source of knowledge that we call lontar. Our obligation is as a dutiful successor to inherit, take care of this but not just take care of it, we want to know*

*and then use all these sources of knowledge for the benefit of the family and also the Balinese people and also the universe. So I think this should have a contribution to all of humanity, that's what motivates us to take care of lontar” (AAGN Ari Dwipayana, Chairperson of the Puri Kauhan Ubud Foundation).*

The preservation of the lontar manuscripts at Puri Kauhan Ubud is carried out as a form of devotion to the ancestors and an obligation for the next generation of Puri Kauhan Ubud to take care of the lontar manuscripts that have been passed down, so that in the future the lontar manuscripts can be fully utilized for the benefit of the family and the wider community

The Balinese Lontar Manuscript is a document in handwritten form which is written on lental leaves so that in caring for the lontar manuscript special attention is needed because the physical nature of the lontar manuscript is very vulnerable to damage, especially if the lontar manuscript is hundreds of years old. Several lontar manuscripts at Puri Kauhan Ubud suffered some damage.

*"The damage to the lontars stored in Kauhan Castle is of course the first, there are some lontars which do not have a lontar or penkep so that the lontar will most likely break. Then there are some lontars that are eaten by insects, now for age than those stored in Puri Kauhan Ubud, I estimate that they are around a hundred years old because there are many lontars that contain the name Anak Agung Gede Oka, who is none other than the grandfather of Mr. Ari Dwipayana" (Ida Bagus Oka Manobhawa, Bali Language Extension Coordinator, Gianyar Regency).*



Figure.2 Condition of the Lontar Manuscripts of Puri Kauhan Ubud  
(Source: <https://purikauhanubud.org/lontar-33-panca-aksara/>) The

Damage to the lontar manuscripts that occurred at Puri Kauhan Ubud was because there were several lontar manuscripts that did not have *Penapes* or *Penakep* and were eaten by insects. The age of the papyrus manuscript owned by Puri Kauhan Ubud is estimated to be one hundred years because it contains the name of the grandfather of Mr. Ari Dwipayana.

### **The Process of Preserving the Lontar Manuscripts of Puri Kauhan Ubud**

Hindu Belief in Bali on Saraswati Day, which is the anniversary of the decline of knowledge which is celebrated every six months. Books and lontars are media for worship during Saraswati Day because books and lontars are symbols of places for storing knowledge. Therefore, the Hindu community on that day sent down books, lontar and other sacred literature to be given offerings of offerings of Saraswati as a form of devotion to *Sang Hyang Aji Saraswati* as a manifestation of God as the creator and maintainer of knowledge. The lontar manuscripts located at Puri Kauhan Ubud were taken down from storage on Saraswati Day.

*"So we in our family have a tradition like the Balinese people, every time we perform a Saraswati ceremony of worshiping Sang Hyang Aji Saraswati at the Saniscara Umanis Wuku Watugunung, and at that time the lontars in Puri are taken down and then a cleaning effort is also carried out, so during that time Indeed, there is a storage process in a special place in a cupboard and in 2017 we put it in a container in a place that we specifically made. In addition, we did regular cleaning of the palm trees, we used to do it by treating it with*

*candlenut and then cleaning it. Then in 2017 the younger brothers from the Balinese language instructor took part in the maintenance and that was the standard for lontar conservation that was already owned by the Balinese language” instructor(AAGN Ari Dwipayana, Chairperson of the Puri Kauhan Ubud Foundation).*



Figure 3. Ceremony Procession of Asking for Permission to Ancestors for Preserving the Lontar Manuscripts of Puri Kauhan Ubud  
(Source: Instagram of Puri Kauhan Ubud)

In addition, the manuscripts at Puri Kauhan Ubud before digitizing the manuscript have been taken care of by the Balinese Language Extension Officer, Gianyar Regency.

*"Well, before the process of digitizing the lontar manuscripts, of course, the lontars stored at Puri Kauhan Ubud have been treated or conserved by the Balinese Language Extension Officer, Gianyar Regency. Because previously, before the treatment was carried out, the manuscript was rarely opened and when the treatment was carried out there were several drugs used, such as lemongrass extract mixed with alcohol with levels above 96%, the drug was used to preserve the papyrus script so that will not be eaten by termites or other rodents. Now the cleaning process was carried out at Puri Kauhan Ubud by a team of Balinese Language ExtensionGianyar Regency” Officers in(AAGN Ari Dwipayana, Chairperson of the Puri Kauhan Ubud Foundation).*



Figure 4. The Cleaning of the Lontar Manuscripts of Puri Kauhan Ubud by the Balinese Language Extension Team Kab. Gianyar  
(Source: Instagram Puri Kauhan Ubud)

### Digitization of the Lontar Manuscripts of Puri Kauhan Ubud

Lontar manuscripts that are hundreds of years old are easily fragile and digitization can be done on the lontar manuscripts as an effort to save the contents contained in the lontar manuscripts. Puri Kauhan Ubud has 64 *cangkep* lontar and all lontar manuscripts go through a digitalization process, but the lontar manuscripts that are transliterated are only scripts that are considered unique and unique from Puri Kauhan Ubud.

*"What we have digitized are all the lontars but the ones that are transliterated are the typical lontars, unique from Puri Kauhan Ubud and we have exposed them as a preview form of 18 lontars"* (AAGN Ari Dwipayana, Chairperson of the Puri Kauhan Ubud Foundation).

The process of digitizing Balinese lontar manuscripts at Puri Kauhan Ubud is still using simple tools.

*"Now for the preservation of the lontar manuscripts, especially in the digitization process carried out at Puri Kauhan Ubud, the equipment used here is of course still very simple, namely by using a camera and then there are supporting lights as lighting instead of the lontar when carrying out the digitization process"* (Ida Bagus Oka Manobhawa, Coordinator of Balinese Language Extension for Gianyar Regency).



Figure 5 The process of digitalisation of manuscripts Lontar Puri Kauhan Ubud

(Source: Webinar Perpunas 1 Data Scrolls Digital Nusantara)



Figure 6 Process Preservation of Manuscripts Lontar Puri Kauhan Ubud In the Form Digitization

(Source: Webinar Perpunas 1 Data Scrolls Digital Nusantara)

All ejection owned Castle in digitization , only the lontar which is considered unique and typical of Puri Kauhan Ubud which is transliterated. The process of digitizing the papyrus manuscript of Puri Kauhan Ubud is as follows:

1. Previously, the digitized lontar manuscripts were cleaned first so that the resulting images were good.
2. After conservation, the lontar manuscripts are cataloged
3. Furthermore, the process of taking pictures by preparing tools for digitizing the lontar manuscripts such as ancamera *SLR*, *tripod*, black cloth as the basis for taking pictures of the lontar script, the code of the lontar script and additional lights for lighting.
4. Then the lontar manuscript is opened from its *pen* and placed on a black cloth with a code in a flat position on the table.
5. Then taking pictures of the manuscript using an *SLRcamera*
6. After that, the papyrus script data is stored in the database and editing is carried out such as scripting, for the language transfer has not been carried out, it is still in the process of translation
7. The lontar manuscript that has gone through the editing process, and *published* on the *website* *Purikauhanubud.org*

## Lontar Manuscript on the Puri Kauhan Ubud Website

Family of Puri Kauhan Ubud has opened a website <https://purikauhanubud.org/> to preserve history and ancestral heritage so that what is passed down does not end in one generation. Ancestral heritage can continue to grow and keep him alive. The website was specifically created so that the wider community would know more about Puri Kauhan Ubud and the history that has happened.

*"So, we created this website specifically for Puri Kauhan Ubud about Puri Kauhan Ubud so that people can find out more about Puri Kauhan Ubud, starting with the history of Puri and then the papyrus owned by the third Puri as well as records related to Puri and Ubud and Also events that occur are recorded via video and news can be exposed, up to date on the Puri website"* (AAGN Ari Dwipayana, Chairperson of the Puri Kauhan Ubud Foundation).



Figure 7 Initial View of the Puri Kauhan Ubud Website  
(Source: <https://purikauhanubud.org/>)

One of them contained on the website is the Lontar Library page. After going through the digitization process, the papyrus manuscript is stored in the form of a *database* and *published* on the website <https://purikauhanubud.org/> this is done so that the wider community knows the collection of lontar manuscripts owned by Puri Kauhan Ubud but not all lontar manuscripts belonging to Puri Kauhan Ubud are *published* on the website.

*"What we are focusing on and so far there are about 18 lontars that have been exposed on the website as a preview, although we, in the preview, of course people will be able to find out what they have but if they want to know more about the lontar they can ask us to transmit digitization. Of course, it is the family's right to decide who to share it with but the point is that we can expose the lontar which are unique and unique to Puri Kauhan Ubud"* (AAGN Ari Dwipayana, Chairperson of the Puri Kauhan Ubud Foundation).

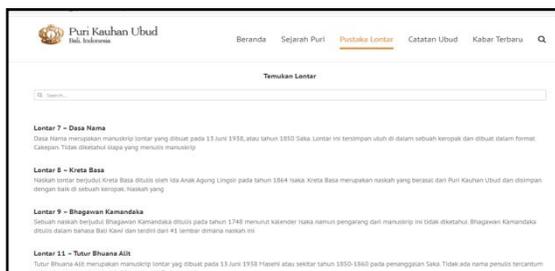


Figure 8 Digital Lontar Manuscripts of Puri Kauhan Ubud  
(Source: <https://purikauhanubud.org/library-lontar/>) A

special website was created to publish the history of Puri Kauhan Ubud, lontar manuscripts owned by Puri Kauhan Ubud, records of Puri Kauhan Ubud, and Ubud as well as events and news of Puri Kauhan Ubud activities. On the papyrus library page, 18 manuscripts of lontar were exposed and there is a preview of the lontar manuscript, if you want to know more about the contents of the lontar manuscript, you can request the form available on the website.

## Conclusion

Based on the results of qualitative research using data collection techniques using observation, interviews conducted at Puri Kauhan Ubud as well as documentation and literature studies on the Digitization of Balinese Lontar Manuscripts, it can be concluded that Anak Agung Gde Oka Krebek inherited lontars starting from the *chronicle*, *said*, *kakawin*, *usadha* and so on. Puri Kauhan Ubud stores 64 *cangkep* lontar manuscripts which are stored in a *keropak*, the lontar manuscripts belonging to Puri Kauhan Ubud are maintained and cared for. The preservation of the lontar manuscripts of Puri Kauhan Ubud is an obligation for the next generation of Puri Kauhan Ubud which is carried out as a form of devotion to the ancestors or *Bhatara Kawitan* to take care of the lontar manuscripts that have been passed down. But not only taking care of the lontar manuscripts, Puri Kauhan Ubud seeks to find out the content of the information contained in the lontar manuscripts by transliteration. The lontar manuscripts of Puri Kauhan Ubud are hundreds of years old, there are several lontar manuscripts eaten by insects. Puri Kauhan Ubud conducts preservation in the form of digitization to treat the lontar manuscripts as knowledge by preserving the physical manuscripts as well as the contents of the knowledge of the lontar manuscripts. The process of digitizing the lontar manuscripts at Puri Kauhan Ubud is first by cleaning the lontar manuscripts before digitizing so that the resulting image is clearer, then the lontar manuscripts are opened from the *pen* and placed on a black cloth and coded, using simple devices such as cameras. and supporting lights.

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