

INVENTORY, PRESERVATION AND DIGITALIZATION OF MANUSCRIPTS AS A HISTORICAL SOURCE IN JAMBI

Hendra Gunawan, Sri Sudiarti

Universitas Islam Negeri Sulthan Thaha Saifuddin Jambi, Indonesia

Abstract

Inventory, preservation and digitization activities at the Jambi City Museum are activities motivated by information on the large number of manuscript collections at the Jambi Museum which have not been preserved and digitized. Therefore, the purpose of this service is to analyze and describe inventory, preservation and digitization activities at the Jambi City Museum. This community service uses a Community Based Participatory Research (CBPR) approach. The results of this dedication show that many of the manuscripts that are in the Jambi City Museum and which are still in the private collection of the community are historical sources for Jambi City. To record these manuscripts, an inventory was carried out. Meanwhile, to maintain the preservation of manuscripts at the Jambi City Museum, physical and non-physical preservation activities as well as digitization of manuscripts were carried out. This article argues that there are still some deficiencies which are considered for evaluation by the Jambi City Museum regarding the preservation of manuscripts as historical sources in Jambi. Both related to improving the quality of human resources, the availability of tools and equipment for preservation, as well as the involvement of various parties in the process of preserving manuscripts.

Keywords: Inventory; Preservation; Digitalization; Manuscripts; Museums.

INTRODUCTION

Manuscripts as cultural assets contain many important explanations that need to be disseminated and communicated to the public (Khafidlin, 2021). However, manuscripts that are generally scattered in the province of Jambi are written in non-Latin scripts and in the local language, and some even use foreign languages, not unlike manuscripts in other places (Lubis, 1996). This poses a problem in interpreting the manuscripts themselves. Ancient manuscripts have various scripts and local languages written on materials such as lontar leaves, rattan, bamboo, horn, nipah leaves, bone, wood bark, European paper, animal skin, luwang, cloth, and other materials (Suprihati, 2004, p. 4). Considering this, the preservation of manuscripts needs to be done quickly because manuscripts are more prone to damage compared to other cultural heritage objects. They can be damaged by factors such as water and humidity (high moisture and water content), damage caused by rodents (rats, insects, and rodents), lack of knowledge by the owner of the manuscript, fires, natural disasters, theft, general trade, or collectors (Pudjiastuti, 2020).

Rahim Yunus, in his book states that there are four characteristics of classical Islamic historiography, namely the use of the isnad method, the delivery of news separately, the presentation of historical news in the form of stories or tales, the use of *sya'ir* in writing history (Yunus, 2011, p. 99). Early Muslim historians wrote history based on history as well as the method used by hadith writers at that time (Rosental, 1968; Salim, 1986, p. 75). In addition, the use of the *hawliyat* method is also a feature of the early period of Classical Islamic historiography. The *hawliyat* method is a method used in writing history by looking at the series of years in which a historical event occurred or commonly known as *al-Tarikh al-Hawli* or *al-Tarikh 'ala al-Sinin*.

According to the explanation from the Jambi State Museum, only a small portion of the many manuscripts are stored and recorded in the museum, while the majority are still in the

*Correspondance Author: hendragunawan@uinjambi.ac.id

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hands of the public. There are still many research findings related to manuscripts in the province of Jambi that have not been published, as it is difficult to access or borrow manuscripts from their owners. The owners believe that the manuscripts cannot be owned by the government because they are inheritances. Over time, many manuscripts owned by heirs cannot be saved due to their age and lack of proper care.

Based on Law No. 43 of 2007, Article 7, paragraph 1, point d, the government is obliged to ensure the diversity of library ownership through translation, transliteration, voice-to-text conversion, and media transfer. Furthermore, Article 7, paragraph 1, point f states that the government is obligated to improve the quality and quantity of library collections. Additionally, manuscripts are also the most valuable part of the national cultural heritage (Sahoo & Mohanty, 2008). In line with this, concrete efforts need to be made to ensure that manuscripts remain safe and well-preserved. One of the measures that can be taken is to provide training in the process of inventorying, preserving, and digitizing manuscripts, particularly at the Jambi Museum.

RESEARCH METHOD

This community engagement utilizes a Community-Based Participatory Research (CBPR) approach. In this article, the community refers to the partner community. Community is defined as a natural entity that embodies affective, emotional, and traditional relationships among its members. In its development, community is understood as a manifestation of social construction in which individuals within it share a common identity that sets them apart from the general public outside the community (Mohammad Hanafi: 12). The partner in this community engagement is the Jambi Museum, which includes three museums in the city of Jambi: the Siginjei Museum, the Gentala Arasy Museum, and the Museum of Struggle. In the CBPR approach, the key focus is community or partner involvement throughout the entire engagement process. Therefore, researchers always involve the Jambi Museum in the implementation of the community engagement activities.

RESULT AND DISCUSSION

This activity aims to enhance the understanding of the staff at the Jambi Museum regarding manuscript inventory, particularly those held in various regions as part of the community's collection. It is well known that not all manuscript owners understand how to care for manuscripts to prevent them from deteriorating due to age and other factors. Therefore, the inventory process is necessary to map the locations of manuscripts that are still part of the community's collection.

The initial stage before conducting the inventory is to plan what the museum staff will do in the field. Training in inventorying is necessary to ensure that the identification of community-owned manuscripts is carried out accurately. The stages involved are first understanding the extent of the museum staff's knowledge. After assessing the museum staff's understanding of inventorying, training is provided to deepen their knowledge. Once they are deemed to have a good understanding, the museum staff, along with the researchers, embark on fieldwork to search for the manuscripts that are part of the community's collection. The implementation of the inventory at the Jambi Museum is as follows:

Inventory Training

Inventorying is one of the steps in philology research. Philology is the study of ancient manuscripts, which are then researched, studied, understood, and interpreted. According to Djamaris (1977: 23), the steps in philology research include manuscript inventory; describing the manuscripts; comparing texts; determining which manuscripts to transliterate; summarizing the manuscripts; and conducting transliteration. These working steps are then followed by textual editing, criticism, and translation.

Inventorying, which is the initial step in philological research, is carried out by recording or listing all selected manuscripts of the same kind that are chosen as research sources, along with

their types. The types of manuscripts can be determined based on catalogs and collections of manuscripts, whether they are personal, owned by the state, or private institutions. The manuscript inventory should cover all manuscripts.

Manuscript inventory can be conducted in two ways: field study and catalog study. Inventorying through field study involves visiting places suspected to store manuscripts, whether owned by individuals or private or state institutions. On the other hand, inventorying through catalogs can be done by exploring various available catalogs, both online and printed catalogs. A catalog is a book or document that contains brief descriptions and related information about manuscripts or scripts that are part of an institution's or organization's collection.

Searching and recording manuscripts owned by the community

After conducting the training, the search for manuscripts is carried out in three stages: observation, interviews, and collaboration. Observation is conducted in areas where it is believed that many manuscripts are collected by the community. The museum staff, along with the researchers, directly conduct observations in the Seberang Kota Jambi area to determine the locations where the manuscripts are stored. The search for manuscripts is conducted in the houses of religious scholars and in several traditional Islamic educational institutions, such as Madrasah Nurul Iman, Madrasah al Jauharen, Madrasah Sa'adatuddaren, and Madrasah As'ad.

In addition to observation, interviews are also used as a method to gather information about other locations where manuscripts are stored and still held by the community. Interviews are conducted with the religious scholars in Seberang Kota Jambi. After obtaining information about the presence of manuscripts, the museum staff and researchers will confirm the ownership of the manuscripts within the community.

If the inventorying process through observation and interviews is considered insufficient, the final stage is to collaborate with specific individuals or groups to ensure that the manuscripts in the community are either entrusted to the museum or at least undergo a digitization process to preserve their content.

The identified manuscripts are then examined according to philological methods. Completing the philological work in the field naturally takes a considerable amount of time. Therefore, the museum staff and researchers only record a few identified manuscripts. Further activities are needed to address the recording of manuscripts that are part of the community's collection.

The process of manuscript inventorying conducted at the Museum Jambi begins with training on inventorying, including how to search for manuscripts through catalogs and field studies, or directly searching and recording manuscripts in the field. The museum staff's ability to read and understand catalogs is not much of an issue. However, when the inventorying process involves visiting several manuscript owners who are part of the community's collection, several challenges arise that eventually can be resolved.

The challenges that arise include the owners' lack of understanding in preserving and caring for manuscripts, resulting in the discovered manuscripts being heavily damaged, with some pages even becoming illegible. Another challenge is that some community members believe that manuscripts are sacred objects that should only be accessed and opened through rituals, requiring certain costs. There are also owners who prohibit the museum staff from opening and examining the manuscripts, as they fear that the manuscripts will be taken by the government or the museum.

In response to the findings in the field, it is necessary to conduct socialization to the community, especially to the manuscript owners, regarding the understanding of manuscripts. This includes raising awareness about the importance of the manuscript content as a cultural heritage that needs to be protected and promoting knowledge about how to physically preserve the manuscripts to prevent damage. The information contained within the manuscripts holds cultural value that should be safeguarded and passed on to the general public and future generations.

Ideal manuscript preservation involves the preservation of both the physical form of the manuscripts and the preservation of their content to ensure that the information within remains intact. The preservation activities at the Museum Jambi will begin with planning the activities and conducting training on manuscript preservation for the staff members responsible for the manuscript collection and for students involved in Field Experience Practice (*Praktik Pengalaman Lapangan, PPL*). The training aims to equip the staff members assigned to the manuscript collection department with expertise in manuscript preservation. The training themes align with the needs of the Museum Jambi, focusing on physical maintenance using the available resources at the museum and transliteration training for manuscripts written in Jawi or Arab-Malay script and Incung script.

After completing the training and considering the participants capable of independent preservation, the next step is to proceed with simple preservation and transliteration of selected manuscripts. This independent manuscript preservation activity is also participated by students from UIN Sulthan Thaha Saifuddin Jambi. In practice, manuscript preservation at the Museum Jambi is carried out with great care. As explained by the Head of Collections at the Museum Jambi, this preservation activity carries certain risks due to the limited abilities and novice experience of the staff members and students in manuscript preservation. Improper handling and lack of proper preservation knowledge can potentially damage the manuscripts. The main objective of preservation is to conserve and care for the manuscripts, extending their lifespan, rather than causing damage or shortening their lifespan.

The preservation process at the Museum Jambi is divided into two stages: physical preservation and non-physical preservation. Physical preservation includes the Examination, Maintenance, and Restoration stages, while non-physical preservation involves transliteration activities to preserve the information contained within the manuscripts. Before undertaking both physical and non-physical preservation activities, training is conducted to enhance the knowledge and understanding of the museum staff, particularly those involved in the manuscript collection department.

The stages of physical preservation for manuscripts at the Museum Jambi are as follows:

Examination Stage

The examination process is a crucial procedure carried out in the preservation stage to determine the original structure and materials comprising a manuscript. The purpose of this process is to identify any damages, changes, or losses present in a manuscript.

In the Museum Jambi, the majority of the manuscript collection is made of daluang paper, while others are written on bamboo surfaces, leaves, animal skins, and other materials. The preservation process varies accordingly, taking into account the material and condition of the manuscript. Based on the examination of the manuscript conditions at the Museum Jambi, the manuscripts made of paper require significant attention. Some manuscripts are torn, and others have incomplete paper. If the condition of a manuscript is severely deteriorated with extensive physical damage, the necessary action would be restoration or repair.

Preservation Stage

The preservation stage involves efforts to inhibit and mitigate the transition or damage to the cultural properties of a material caused by environmental conditions and treatment, ensuring that its preservation closely resembles its original state. Environmental conditions that impact changes or damage to a material can stem from natural factors, biological factors, and chemical/physical factors.

The preservation stage includes vacuum sealing, freezing, drying, and dusting. Vacuum sealing is performed using a packaging machine that serves two functions: removing oxygen from the packaging bag and sealing the bag itself. The vacuum sealing process is carried out to remove oxygen from the bag enclosing the manuscript and to seal the packaging bag tightly, ensuring that no air or ice crystals enter the bag and thereby preserving the physical condition of the manuscript

during the freezing process. This step is also crucial in preventing condensation inside the bag, as any remaining oxygen would otherwise turn into water or condensation, potentially dampening the manuscript.

The next step in the preservation process is freezing, which involves placing wet paper in a room with a temperature below freezing point and allowing it to freeze for a certain period. Freezing is done to eliminate insects, eggs, and larvae that may be present in the manuscript. At temperatures below freezing point, mold cannot grow, while the manuscript material remains frozen. By eliminating insects, eggs, and larvae present in the manuscript, the physical integrity of the manuscript is preserved, protecting it from damage. Freezing inhibits the damage caused by these insects and ensures the manuscript remains intact.

After the freezing stage, the next step is the drying process using air. Air drying can only be done in a consistent environment to inhibit the growth of mold. Air drying can be done naturally or with the help of equipment, with the aim of preventing mold growth on the paper material. Drying is performed after the manuscript has been kept in the refrigerator for 20 days and after the ice crystals surrounding it have melted. It is then dried using air for approximately one day and one night. Next, it is cleaned again using a dry cloth to remove any remaining moisture, and the bag enclosing the manuscript is opened.

The last stage in the preservation process is dusting or removing dust from the manuscript. This process requires patience and perseverance, as it can take a considerable amount of time. This final stage is carried out to ensure that after the preservation process, the manuscript remains clean and can be safely stored in glass shelves or boxes.

The preservation of manuscripts at Museum Jambi is carried out according to the physical condition of the manuscripts. Generally, the preservation of manuscripts at Museum Jambi involves cleaning the manuscripts from dust and covering each page with special paper to prevent ink from smudging. After the manuscripts are cleaned and covered with special paper, they are stored in dedicated manuscript cabinets. Manuscripts with physical damage require different treatment, such as restoration or repair.

Restoration

Restoration or repair is an effort to restore a material from a damaged or deteriorated state to its original condition as closely as possible, including its original color and function, while minimizing the loss of aesthetic factors and historical integrity.

After examining the manuscript, appropriate actions are taken based on its physical condition. If the manuscript is damaged, restoration or repair is necessary. Restoration at Museum Jambi is typically performed on paper-based manuscripts. Damaged manuscripts are covered with paper or Japanese tissue and coated with JMC adhesive. If multiple pages of the manuscript are detached, rebinding is carried out. After restoration, non-physical preservation activities such as digitization, transliteration, and cataloging can be conducted. All these measures are taken to preserve the content of the manuscript, protect important information contained within it, and preserve its historical value.

The challenges in performing physical preservation include the lack of expert personnel at Museum Jambi who can handle problematic manuscripts. This includes examining the manuscripts, carrying out maintenance, and performing physical repairs. Additionally, the preservation equipment and supplies at Museum Jambi are not fully equipped. Typically, preservation is done using Japanese tissue and JMC adhesive. The majority of the manuscripts at Museum Jambi are made of *daluang*, a fragile material that requires careful handling and appropriate repairs. Consequently, there are still some manuscripts that have not been restored due to the limited availability of materials and expert personnel for manuscript preservation.

Another challenge in non-physical preservation is the transliteration process, which aims to preserve the content of the manuscripts even if they become illegible due to age-related

deterioration. Some manuscript collections at Museum Jambi contain Arabic and Incung languages or scripts, requiring specialized skills to read and interpret the manuscripts. Not everyone possesses these skills, including the Museum Jambi staff in the manuscript collection department. Therefore, continuous training and evaluation related to overall manuscript preservation at Museum Jambi are crucial and require special attention, considering the number of manuscripts that still need preservation.

Digitization of manuscripts is one of the efforts to preserve the content of the manuscripts so that important information can be accessed as long as the digital data remains intact and undamaged. The process of digitizing manuscripts at Museum Jambi begins with careful planning. The planning phase involves creating a concept for the digitization activities based on the specific needs of Museum Jambi. Once the needs of Museum Jambi are identified, digitization training is conducted. The digitization training is a response to the limited availability of experts in manuscript digitization at Museum Jambi. The preparation for the digitization training at Museum Jambi involves the participation of students from UIN Sulthan Thaha Saifuddin Jambi who are undergoing Field Practicum (PPL) at Museum Jambi.

The digitization training at Museum Jambi is facilitated by expert technicians in manuscript digitization who possess all the necessary equipment required by Museum Jambi. The trainers share their experience in manuscript digitization through both theoretical and practical training sessions. After the training, the PPL students and Museum Jambi personnel directly engage in digitizing the manuscripts present at Museum Jambi.

The implementation of manuscript digitization at Museum Jambi is divided into three stages: pre-digitization, digitization, and post-digitization. The pre-digitization stage involves preparing the software necessary for digitization, such as scan applications according to the scanning standards used, setting up Google Drive as the storage location, and installing a watermark application. The required equipment is also prepared during the pre-digitization stage, including a professional scanner, a laptop with adequate specifications, an external hard drive, and the manuscripts to be scanned.

The digitization stage is carried out using a professional scanner, specifically the Scansnap SV600 Fujitsu, which is used at Museum Jambi. The scanned manuscripts are automatically saved on the laptop. The final stage is post-digitization, which includes applying a watermark and storing the digitized files on Google Drive and an external hard drive. The watermark applied is the Museum Jambi logo, indicating that the scanned manuscript belongs to the Museum Jambi collection.

In the pre-digitization stage, the lack of experts in the field of digitization hinders the digitization process at Museum Jambi. Additionally, the equipment used, such as DSLR cameras or professional scanners, is not available at the museum, so all the equipment is provided by the trainers. Challenges arise again during the process of digitizing the manuscripts. The absence of high-specification computers or laptops impedes the transfer of digitized data.

The digitization process using a professional scanner requires a laptop or computer with high specifications. Even during the post-digitization stage, storing the manuscripts on Google Drive is hindered by the slow loading of the digitization work on the laptop. Another obstacle occurs during the creation of the watermark to identify the digitized manuscripts as part of the Museum Jambi collection. The watermark application performs slowly due to the high-resolution images of the manuscripts, coupled with the inadequate laptop specifications. These challenges and obstacles serve as lessons for future evaluation when researchers or Museum Jambi wish to undertake digitization processes again in the future.

CONCLUSION

The inventory process begins with inventory training to provide an understanding to museum staff regarding manuscript documentation and retrieval. Once the museum staff receives inventory training, they proceed with the search and recording of manuscripts owned by the

community, directed towards Seberang Kota Jambi. In addition to inventory understanding, museum staff also receive training on manuscript preservation, both physical and non-physical preservation. Physical preservation includes the Examination, Maintenance, and Restoration stages, while non-physical preservation involves transliteration activities to preserve the information contained in the manuscripts. After the inventory and preservation activities are carried out, the service activities at Museum Jambi are concluded with the digitization process, which includes pre-digitization stages (preparing manuscripts, digitization tools, and supporting software), digitization stage (scanning), and post-digitization stage (applying watermarks and storage). The constraints identified as areas for improvement in future activities include the lack of human resources and equipment to preserve the existing manuscripts at the Museum Kota Jambi.

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