Healthy living behavior of residents of The Muarajambi Temple Compound in The 7th To 11th Centuries AD

Praktik hidup sehat Pemukim Percandian Muarajambi pada abad Ke-7 hingga abad ke-11 M

Asyhadi Mufsi Sadzali[1], Agus Aris Munandar[2], Ali Akbar[3], Retno Purwanti[4], Wahyu Rizky Andhifani[5]
Departemen Arkeologi, Universitas Indonesia[123], PR Arkeologi Prasejarah dan Sejarah, BRIN, Jakarta[45]
asyhadi.mufsi@ui.ac.id

Keywords:
Temple; Muarajambi; practice; healthy, treatment, residents

ABSTRACT
Archaeological research in the Muarajambi temple area has indicated its past function as a place for learning Buddhist teachings, inhabited by settlers between the 7th and 12th centuries AD. Its location near the Batanghari River and tropical forests made the settlers vulnerable to health disturbances. Starting with this phenomenon, the question arises: what was the picture of healthy living practices of the settlers in the Muarajambi Temple Complex between the 7th and 12th centuries AD? This research uses K. Dark's archaeological method with Ian Hodder's entanglement theory analysis to examine the relationship between excavation data from Candi Koto Mahligai and Kedaton, I-Tsing's records, and the surrounding environment. There is a possibility that 1) the implementation of the Mahavihara Muarajambi settlers' regulations not only trained spirituality but also physical and mental health; 2) from the pollen data of medicinal plants, it is possible that the students developed medical knowledge; 3) pollen data and the analysis of the functions of medicinal plants provide an overview of the types of diseases suffered by the settlers; and 4) the discovery of artifacts and features at the Muarajambi Temple strengthens the similarity of hypotesa with the narrative of healthy living practices in the I-Tsing text.

Kata Kunci:
Candi, Muarajambi, praktik, sehat, pengobatan, pemukim

ABSTRAK
Penelitian arkeologi di Kawasan Candi Muarajambi telah mengindikasikan fungsi masa lalunya sebagai tempat pembelajaran ajaran buddha yang dihuni pemukim antara abad ke-7 sampai 12 M. Keberadaannya di dekat aliran Sungai Batanghari, dan hutan tropis mengakibatkan pemukim rentan terhadap gangguan kesehatan. Berangkat dari fenomena ini muncul pertanyaan; bagaimana gambaran praktik hidup sehat pemukim di Percandian Muarajambi antara abad ke-7 sampai 12 M? Penelitian ini menggunakan metode arkeologi K. Dark dengan analisis entanglement theory oleh Ian Hodder untuk melihat keterkaitan antara data hasil ekskavasi di Candi Koto Mahligai, Candi Kedaton, catatan I-Tsing, serta lingkungan sekitar. Terdapat kemungkinan bahwa; 1) Penerapan tata tertib pemukim di Mahavihara Muarajambi tidak hanya melatih spritual, namun juga kesehatan fisik dan mental; 2) dari data temuan polen tanaman obat, kemungkinan para pelajar mengembangakan ilmu pengobatan; 3) data polen dan analisis fungsi tanaman obat memberikan gambaran jenis penyakit yang diderita pemukim; 4) temuan artefak, dan fitur di percandian Muarajambi menguatkan hipotesa kemiripan narasi ptaktik hidup sehat dalam teks catatan It-Sing.

Artikel Masuk **03-03-2025**
Artikel Diterima **28-07-2025**
Artikel Diterbitkan **17-11-2025**

BERKALA ARKEOLOGI

VOLUME : 45 No.2, November 2025, 171-186
DOI : https://doi.org. 10.55981/jba.2025.9189
VERSION : Indonesian (original)
WEBSITE : https://ejournal.brin.go.id/berkalaarkeologi

ISSN: 0216-1419 | E-ISSN: 2548-7132

INTRODUCTION

The Muarajambi Temple Area is an archaeological monument covering 3,981 hectares, located among seven villages in the subdistricts Maro Sebo and Taman Rajo. Buddha statues, inscribed metal plates, carbon dating analyses, and further supporting data from the Tang to the Song Dynasty indicate the development of the Muarajambi archaeological site from the 7th to the 12th century AD. Archaeological excavations have continued since S.C. Crooks first documented the region in 1820. The Gumpung I and II temples, Tinggi I and II temples, Kembar Batu temple, Astano temple, Gedong I and II temples, Teluk I and II temples, Kedaton temple, Koto Mahligai temple, Sialang temple, Parit Duku temple, and Menapo Alun-Alun temple have been successfully restored. This extensive research process results in two perspectives on the historical function of the Muarajambi Temple Area: as a centre for Buddhist teachings, or Mahavihara, and as a river port city that included settlements, educational activities, religion, trade, and governance (Atmodjo, 2001, 2017; Widiatmoko, 2015; Sadzali, 2020).
The two perspectives have evolved alongside the latest data findings. The designation of Mahavihara as a National Cultural Heritage Area under Decree Number 259/M/2013 and its inclusion in the tentative world heritage list with number 5465 present it as a hub of ancient Malay civilization. The Indonesian Archaeological Experts Association, South Sumatra Regional Committee, first articulated the view of Mahavihara as a centre of education during the Archaeological Scientific Discussion in 2012. Experts studied this discourse in depth using the latest archaeological data, examining its relationship with Nalanda. This included references from Takakusu's (1896) translations of I-Tsing's records, Majumdar's (1926) translations of Nalanda inscriptions, Lama Chimpa and Chattopadhyaya's (1967) translations of Atisha Dipamkara's notes, Skilling's (1997) interpretations of the Durbodhaloka text, Widiatmoko (2015), and Purwanti's (1995–2021) and Sadzali's (2020) contextual interpretations. All of these These findings suggest a correlation between Muarajambi's educational role and that of Nalanda in India. Mbi Temple is currently viewed as a Mahavihara or educational centre, similar to the Nalanda site in India (Takakusu, 1896; Majumdar, 1926; Majumdar, 1937; Alaka Chattopadhyaya, 1967; R.C. Skilling, 1997; Purwanti, 2006; Mundardjito et al., 2009; Widiatmoko, 2015; Sadzali, 2020; Fitriaty et al., 2023).

Researchers think that Mahavihara Muarajambi, like Nalanda in Bihar, India, had an "ashram" system of learning where students lived with teachers and learned Buddhist teachings. This was done because Mahavihara Muarajambi was a place for education and the growth of Buddhist teachings. Monastery Number 1 of the Nalanda Site, based on the Nalanda inscription, was a dormitory for students from Swarnadwipa built by King Balaputradewa of Srivijaya. King Balaputradewa of Srivijaya built Monastery Number 1 of the Nalanda Site, a dormitory for students from Swarnadwipa. Purwanti from the South Sumatra Archaeological Centre conducted excavations at the Kedaton Temple from 2008 to 2014, revealing a significant number of everyday life tools, particularly porcelain bowls, clay jugs, and large earthenware pots. The discovery of a 100-cm-diameter bronze vessel further strengthens the Kedaton Temple's existence as a dormitory (Purwanti, 2008, 2010, 2011b, 2011a, 2012b, 2012a, 2014).

The bronze vessel found at the Kedaton temple reinforces the suspicion of its function as an educational centre with a dormitory life tradition. Some similar comparisons have been found elsewhere and continue to this day, such as in Tibet and Dharmashala, India. Another hypothesis regarding the architectural form of the settlers' dwellings emerged from the discovery of bricks depicting various forms of stilt houses, and it is associated with the culture of the Jambi people, who live in stilt houses near riverbanks. The settlers interact with the surrounding environment, including the river waters and the tropical forests around Muarajambi, which are vulnerable to threats of physical and mental health disturbances. As an effort to address this issue, the settlers actively develop knowledge and rules about healthy living. This phenomenon serves as the basis for research questioning how the healthy living practices of the inhabitants of the Muarajambi Temple Complex in the 7th to 11th centuries AD were depicted based on archaeological data and historical records.

METHODE

This study uses the archaeological method suggested by K. Dark (1995), which includes finding data sources, choosing and sorting specific data about healthy living practices, and then using Ian Hoder's entanglement theory to look at the data (Hodder, 2011). It looks at the connections and interrelationships between the findings from excavations at the Koto Mahligai and Kedaton temple sites and written information from It-sing and other contemporary records as evidence of healthy living practices in the Muarajambi temple complex. The analysis results reveal the depiction of healthy living practices of the inhabitants of the Muarajambi temple complex in the past (Dark, 1995).

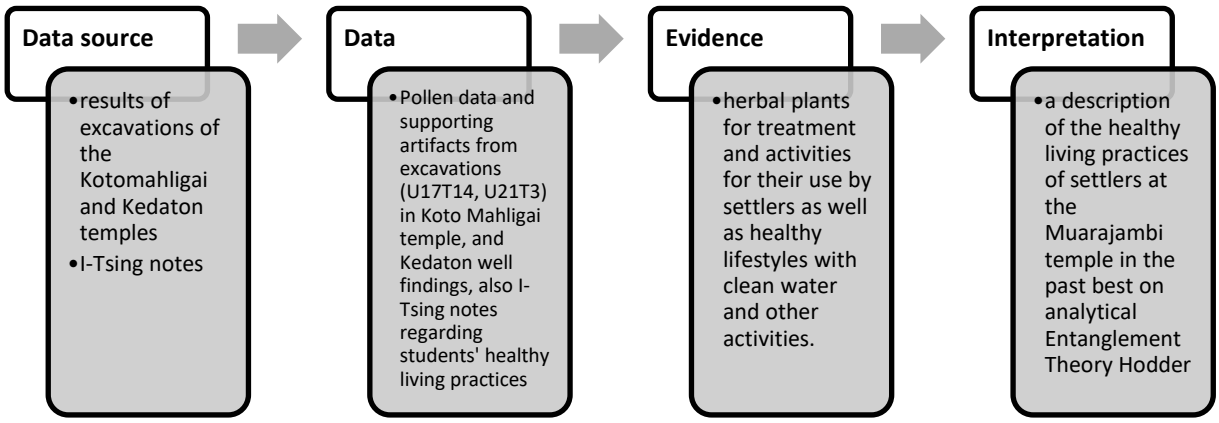
The first step is to choose the data sources. These include the excavation boxes (U17T14, U21T3) from the Candi Koto Mahligai site from the 2021 study, the Candi Kedaton site from the 2012–2014 period, and the Menapo Ujungtanjung II site from the 2018–2019 period, all of which were done by the South Sumatra Archaeological Centre. Other sources include I-Tsing's travel records from the 7th century AD and Xuanzang's records from the same time period. These records show what people were doing in Mahavihara Muarajambi and Nalanda, Bihar, India.

The second stage involves selecting relevant data related to the medicine and healthy living activities of the settlers. Pollen analysis from soil samples 1 and 2 found at spit 2 or in ±25 to 50 cm under surface soil, each weighing 500 grams, found 22 pollen grains and 16 spores. Pollen analysis from soil sample 2, also weighing 500 grams, found 98 pollen grains and 36 spores from LIPI and BATAN test plants in the lab. Other things that were found include pieces of pottery and porcelain from the Menapo Ujungtanjung II site and the Candi Koto Mahligai. These pieces are thought to be medicine containers.

Other data includes wells inside the Kedaton temple with clean water quality reaching a pH of 7, as well as information on medicine and healthy living practices of the settlers in Muarajambi found in the records of It-Sing and Xuanzang. The results of the investigation reveal an overview of the healthy living

practices of the settlers in the temple, which are schematically illustrated in the following Chart 1.

Chart 1. Research Method



RESEARCH RESULTS

The South Sumatra Archaeological Centre (now National Research and Innovation Agency) conducted research at the Menapo Ujungtanjung II site in 2019 and the Koto Mahligai Temple (figure 1) in 2021, involving several relevant stakeholders and local communities, including the Balai Pelestarian Kebudayaan Wilayah V Jambi, and the Archaeology Department at Jambi University. This research took place from July 1 to 18, 2021, using archaeological methods that included a review of previous studies, surface surveys, analysis for determining excavation box locations, execution of excavations, identification of findings, analysis of excavation data, interpretation of data, and publication of research reports (Purwanti, 2021).

Figure 1. Koto mahligai Temple, and Kedaton Temple (Source. Sadzali, 2024)

The research conducted in 2021 by the South Sumatra Archaeological Centre is a response and continuation of the study results by Balai Pelestarian Kebudayaan Wilayah V or Cultural Preservation Centre of Region V Jambi and Bengkulu Jambi Since 2001 has conducted archaeological research at the Koto Mahligai Temple Site in the form of a feasibility study for the continuation of restoration plans. The feasibility study results revealed the presence of several brick building structures as well as two layers of surrounding walls made of brick, where the outer wall is square-shaped measuring 166 x 9 m with a wall thickness of 0.90 m and a remaining height of 1.2 m. The inner wall is also square-shaped, measuring 71 x 52 m. We know that the Koto Mahligai Temple features a gate on its northern side, indicating its northward orientation. The study concludes that comprehensive research is necessary to identify the architectural forms and interpret the historical functions of the Koto Mahligai temple (Tim Studi Kelayakan, 2001).

Cultural Preservation Centre of Region V Jambi and Bengkulu, as well as following up on the findings of Agus Widiatmoko's dissertation (2015), which indicated that the Muarajambi temple in the past served as a Mahavihara, a place for the development of learning and education of Mahayana Buddhist teachings between the 7th and 12th centuries AD. The feasibility study conducted in 2001 and Widiatmoko's dissertation did not specifically interpret the function of the Koto Mahligai Temple based on excavation data, thus necessitating further investigation (Widiatmoko, 2015; Purwanti, 2021).

In 2021, archaeological research successfully opened 12 excavation boxes (Box U20T6, Box U21T17, Box U14T15, Box 21T8, Box U21T9, Box U17TT10, Box U19T15, Box U20T14, Box U14T6, Box U21T5, Box U21T3, Box U17T14) in the inner wall section of the Koto Mahligai Temple site. The excavation process has successfully uncovered several important pieces of information about the past architecture and function of the Koto Mahligai Temple.

Based on the analysis of the architectural data findings, it is known that the Koto Mahligai Temple Site consists of five units of mandapa structures made of brick with a square layout, comprising one main building and four accompanying structures that surround the main building. Archaeological data from excavations surrounding the main building mandapa 1, revealing fragments of bowls, porcelain plates, and pottery, and considering their shapes and sizes, suggest that these structures functioned as primary meeting places. We suspect Mandapa 2, with its smaller size and similar findings, to fulfill the same function. Mandapa 3, which is smaller in size and features a level platform with steps, is believed to serve as a location for a statue (?) during religious ceremonies. The discovery of four fragments of metal percussion instruments implies that this location served as a bell-placing site, marking time and activity cycles. What does the discovery of a pollen concentration, suggesting the potential use of herbal plants for treatment, processing, or drug production, mean?(Purwanti, 2021).

The research results from the Koto Mahligai Temple site in 2021 are not yet detailed enough to make a final interpretation, but they do give us a good idea of what the mandapa, which is a structure mostly made of bricks, might have been used for. In particular, they show that mandapa 5 had a lot of medicinal plant pollen, which is shown in the table below.

Table 1. Pollen and Spore Data for Box U21T3 Koto Mahligai Temple.

Texa Polen	Item %	Texa Spora	Item %
rutaceae	3.55	drynaria sparsisore	2.07
acalypha sp	11.36	lycapadium cernuum	0.23
blumeodendran sp	0.71	Blechnum serrulatum	2.99
castanopsis sp	0.71	-	-
elaeocarpus	18.48	-	-
rubiaceae	18.48	-	-
Liliacea	0.71	-	-
lasianthus	1.42	-	-
nymphaeceae	1.42	-	-
Hibiscus tiliaceus	0.71	-	-
hyptage	0.71	-	-
Ficus sp	9.32	-	-
=	71		23

Source: research report by the Palembang Archaeological Center at the Koto Mahligai temple site, Muarajambi, in 2019.

The pollen data identification results show various herbal plant species that have been utilized in Muarajambi, particularly at the Koto Mahligai Temple site, as described in the pollen findings in table 1. Some pollen, such as those from gramineae, ficus sp., acalypha sp., and rutaceae, are still commonly used by local communities as herbal remedies for various ailments like fever, cough, and infections. In table 2, the pollen data will be analyzed for its function as a medicinal concoction, and it will be contextually linked to related artifacts found around the pollen site (Box U21T3), as follows.

Table 2. Identify pollen found in box U21T3

No	Taxonomy of Pollen species/Spora	Local name	function as medicine
1	Acalypha hispidia	Ekor kucing	Anti-inflammatory, toothache, and anti-infection
2	Canarium indicum	Kenari	The drug lowers blood, and cholesterol levels,
3	Castanopsis sp	Berangan	antioxidant
4	Rutaceae	Jeruk	Source of vitamin C
5	elaeocarpus	Ganitri	analgesic and antidepressant drugs (also as prayer beads)
6	Eugenia sp	Dewandaru	Diarrhea medicine, and vitamin
7	Rubiaceae- uncaria?	Gambir	Medicine for bruises
8	Liliacea	Bunga Lili	Medicine for coughs, burns, and boils
9	Lasianthus	Kehitutan	Antibacterial
10	Nymphaeceae	Teratai	Overcoming diarrhea, inflammation, and bleeding
11	Hibiscus tiliaceus	Pohon Waru/Baru	Fever and cough medicine, and anti-inflammatory
12	Drynaria sparsisore	Akar kusu	Medicine for eye pain, vomiting, swelling, and boils.
13	Lycapadium cernuum	Rumput Kawat	Poisoning medicine, and bruising medicine
14	Hyptage	Biji bersayap	Malaria medicine, and inflammation

Source: research report by the Palembang Archaeological Center at the Koto Mahligai temple site, Muarajambi, in 2019

Meanwhile, archaeological data in the form of various artefacts findings were also found in archaeological excavations in Box U21T3, which were assessed to be contextually related to various medicinal plant pollens in table 3 below.

Table 2. Contextual analysis of artefacts around pollen finds

No	artefacts (<20 item)	Contextual analysis with pollen findings
1	Brick structure and Glazed roof tiles	The brick structure where the pollen was found is indicated to be a building with a glazed tile roof which is thought to be a warehouse for storing medicinal ingredients
2	Clay pot (Kendi with a lid)	serves as a container for storing and cooking medicinal herbs
3	Porcelain bowl	Functioned as a container for processing medicinal herbs
4	Pap porcelain	Functioned as a storage container for medicinal herbs
5	Clay container with lid	Used as a medicine storage container
6	Medium and large sized crocks	Functions as a storage container for clean water

Based on data from archaeological research at the Koto Mahligai Temple site, it shows that there are practices or activities for processing medicines which can be seen from the type of pollen dominated by plants with medicinal functions and benefits. Apart from that, artifacts were found in the excavation boxes around the pollen, and objects made from porcelain and soil in various shapes were found which functioned as storage and processing containers for plant-based medicines.

Quoting from I-Tsing's travel notes to Nalanda, India and stopping for 6 months in Muarajambi studying sabdawidya or Sanskrit grammar, it describes several habits and daily activities of students in Indian monasteries and on the southern sea islands, including Muarajambi, which are considered the same.

These notes can be used as reinforcement for the analysis of pollen and artifact findings in the U21T3 excavation box at the Koto Mahligai Temple Site which are thought to be material objects used by students in the past (Takakusu, 1896).

To strengthen the identification of healthy living behavior of Muarajambi temple settlers in the past, the artifacts and structures of the brick temples and their spaces were also analyzed contextually with archaeological data, both artifacts and structures at the Kedaton and Koto Mahligai temple sites, sourced from various research reports from 2008, 2011, 2012 , 2014, and 2021 (Purwanti, 2008, 2010, 2011a, 2011b, 2012a, 2012b, 2014), as further elaborated in table 4.

Table 4: Analysis of Contextual Data from Archaeology with Information on Healthy Living Practices from Text

No	Information from I-Tsing Records	Context of Archaeological Data around
1	The obligation to wash hands and mouth with clean water before and after eating using a water jug and a hand washing container.	The site includes the well and clean water pool in Keadton, the reservoir pool of Telago Rajo near the Tinggi temple, fragments of jars, and the findings from the site of Koto Mahligai, as well as Kedaton. This is one of the data for practicing a healthy lifestyle by washing hands before eating from a pitcher. Also, wash hands after urinating or defecating.
2	Eat on time according to the designated schedule, such as in the morning, afternoon, and evening.	The Koto Mahligai site yielded metal bell fragments, while the Kembar Batu temple site, situated on the eastern side of the Kedaton temple, revealed a bronze gong.
3	The person is consuming clean water from a water storage jug.	The ancient well at the Kedaton temple, along with medium-sized fragments of a jar and a gourd-shaped pitcher with a small hole and lid, is indicated as a storage place for drinking water for the daily needs of the students.
4	In the morning, I inspect the clean water reservoir from insects.	The discovery of fragments of jars and medium to large-sized water storage vessels at the Kedaton and Koto Mahligai temple sites.
5	Brushing teeth with a cleaning stick. (dantakhastha)	No material evidence
6	Six times a day, performing paradaksina (circumambulating a revered object) maintains mental and spiritual health.	Ritual activities surrounding objects of reverence, such as stupas, involve offering prayers and worship to the Buddha and the teachers for their merits and kindness. Monks and residents at several temples, including Tinggi Temple and Gumpung II, carry out this ritual.
7	Use a small room with running water and clean yourself with lerak seed powder.	Muarajambi has not yet yielded any archaeological evidence pertaining to toilets, and no data has been found regarding soap or natural materials used in its construction.
8	Buddhist teachings advocate for regular morning and evening bathing, the use of a cover cloth before meals, and the observance of etiquette both before and after bathing.	In Muarajambi Temple Compound, there are many water reservoirs connected to canals both directly and indirectly, and some still feature brick reinforcement structures from previous research, such as at the Telago Rajo Pool site near Candi Tinggi II. The water reservoir is also a place that must be free from insects, and the method of cleaning it is

		outlined in the Vinaya-sangraha scripture. This is one of the practices of healthy living.
9	Sleep and rest should follow the established time and rules, including consistently maintaining the cleanliness of the room and wearing fabric coverings for sleep.	Muarajambi has not yet yielded any archaeological evidence
10	Regularly exercising by walking in the morning (before 11 AM) and in the evening around the corridor (a long porch surrounded by walls) to maintain physical and mental health.	The Kedaton Temple site, identified as a monastery or residence for students or monks, features a structure with an open hall made of brick as well as a circular area that serves as an ideal place for activities in the morning and evening while enjoying the fresh air.
11	To avoid heart disease and arrogance, always show respect to teachers and elders to avoid the sickness of the heart and feelings of arrogance.	Muarajambi has not yet yielded any archaeological evidence

DISCUSSION

The following analysis table details (Table 5) how Ian Hodder's theory of human-thing entanglement, with its framework of "Human defines Thing, Thing defines Human, Human defines Human," examines the formation of healthy living behaviours and their connections with existing material and non-material cultures (Hodder, 2016).

Table 5: Analisis Human-Thing Entanglement Healthy Living Behaviours Residents of Muarajambi Temple

Theoretical Framework	Humans defend Thing	Thing defends Humans	Humans defend humans	Thing defends Thing
Implementation of Data in Theory	The daily activities of the residents (monks and students) are influenced by Mahayana Buddhist teachings. (source: I-Tsing note).	The diseases commonly suffered by the residents of Mahavihara Muarajambi influence the development of herbal medicine formulations. (Source: Findings of medicinal plant pollen, related artefacts (I-Tsing note)	The general rules in place at other Mahaviharas, like Nalanda, influence the rules Mahavihara Muarajambi applies to its residents.	The river's water landscape and the tropical climate during the rainy and dry seasons influence the structure of the facilities that support a healthy life at Mahavihara Muarajambi.

Analysis Results	The implementation of regulations for the residents of Mahavihara is not only to train spiritually towards enlightenment, but also for physical and mental health.	Buddhist monks study and develop medical knowledge; there are already experts in medicine.	There are similarities in healthy living practices between Mahavihara Muarajambi and Nalanda, but there are also differences, particularly in the types of medicine and the prevention and treatment techniques.	The architectural form and layout pattern of the Mahavihara Muarajambi's infrastructure and facilities are specific and distinctive to support spiritual achievement as well as physical and mental health.

The environmental conditions of the Muarajambi Temple Area, which stretches from the eastern side of the Batanghari River, are a back swamp region, while to the north lies a brackish swamp (Payo Gajah Mati), surrounded by swamp forests with various endemic and non-endemic flora and fauna, forming part of the unique biodiversity of the Muarajambi Temple Area. Buddhist cosmology views this environmental condition as ideal, with water flowing and circulating like chakras. During the high water season, the temple structures built on the dry land will appear like lotuses floating on giant ponds (Sadzali, Bahar, et al., 2023; Sadzali et al., 2022).

The rise in water levels usually occurs during the rainy season, specifically in December and April, causing the Batanghari River to overflow and inundate the canals and ditches surrounding the mandapa structures in Muarajambi. Conversely, during the dry season, the canals and ditches around the mandapa structures shrink, with some even drying up completely. This environmental condition is very vulnerable to several types of disease attacks, especially those caused by insects and bacteria in water, which can lead to various illnesses such as fever, malaria, diarrhea, itching, infections, nausea, poisoning, and inflammation.

According to the pollen findings in excavation box U21T3 at the Koto Mahligai temple site, it generally consists of medicinal plants for ailments such as fever, malaria, diarrhea, itching, infections, and inflammation caused by insect bites, bacteria in water, and food. A variety of medicinal plants from the analysis of pollen is supported by the research of Try Susanti and colleagues on the types of plants at the Muarajambi site, which include plants with medicinal properties (Susanti et al., 2020).

This seems to align with the challenges in river and swamp environments, especially during the flood season. The settlers responded by developing beekeeping using herbal mixtures cultivated in the surrounding environment. We can say that the Muarajambi area is fertile for the development of herbal plants. Traditional medicine experts (shamans) have been continuously developing herbal-based healing techniques passed down through generations, even until

now. Recently, it has even become a local cultural tourism attraction in Muarajambi. (Sadzali, Fitrah, et al., 2023).

The practice of a healthy lifestyle, both physically and spiritually, carried out by the inhabitants of the Muarajambi temple area in the past, as described in tables 3 and 4, shows that it not only created a regular healthy living pattern such as exercise, religious ritual practices, and maintaining personal and environmental cleanliness, but also that the development of knowledge became a part of mental health. The results of the excavation and restoration of several supporting facilities are gradually being revealed, such as the walls and floors of the dormitory made of bricks, a clean bamboo well inside the residential dormitory, stupas for religious rituals, a clean water reservoir, water channels, a surrounding moat of the temple, and the discovery of fragments of a boat board. All of these provide a strong illustration of the importance of supporting infrastructure for the healthy quality of life of the residents (Purwanti, 2006; Mundardjito et al, 2009; Sadzali, 2020).

CONCLUSSION

The healthy living practices of the residents, especially the students or monks residing in the Muarajambi Temple Compound, are shaped by three main factors:

a) The influence of Mahayana Buddhist teachings, which emphasize the importance of living a healthy life both physically and mentally—body, mind, and soul—can be achieved by habituating oneself to follow all the teachings written in various texts (medicine, spirituality, cosmology, and health) as well as those recommended by the teachers;
b) The habits and traditions of the people who live in the monastery, as described by It-sing and Xuanzang. In the monastery, there are traditions that have been passed down from generation to generation and are meant to help students and teachers reach the goal of enlightenment according to Buddhist teachings. Both in Muarajambi and Nalanda, there are slight similarities and differences influenced by environmental factors and the cultural traditions of the surrounding communities. In the Muarajambi Temple, the inhabitants were accustomed to bathing in flowing open water (rivers and canals), whereas in Nalanda, it was not the case. In Muarajambi, wells inside the monastery are used for drinking and ritual ceremonies, and there are other differences;
c) The surrounding environmental factors influence the types of diseases that can affect the residents, so the types of medicine and methods of treatment and prevention of these diseases are also different. Based on the analysis of pollen data, it is known In Muarajambi the most common diseases are fevers possibly caused by mosquitoes, allergic diseases, skin itching, and poison from poisonous animals. This can be seen from the medicinal plants that have been found. This is influenced by the swamp and river aquatic environment as well as the tropical forest around the Muarajambi Temple area. In Muarajambi, at least twice a year, the water level rises (floods) from

the Batangahari River, this will inundate the temple's surrounding ditches and canals. Thus, the development of treatments tends to vary and is influenced by the environment and the disease patterns commonly suffered by the residents;

d) In addition to address physical and mental health issues, the settlers engage in various physical activities, as well as meditation and rituals, to achieve happiness and mental health. By the settlers, both seem to be considered important and placed in a balanced position.

SUGGESTIONS

Research related to the daily activities of settlers in the Muarajambi temple area during its occupation from the 7th to the 12th century as a centre for Buddhist teachings has not been extensively conducted. The results of this research are expected to serve as a foundation for further studies, particularly regarding the social relationships between students or monks and the surrounding community, especially local settlers and traders active around Muarajambi temple area. It is crucial to delve deeper into this study, particularly by observing the intersection of healthy living habits and knowledge between the students, who adhere to standard rules in the monastery, and the outside community, which may have different customs and knowledge. Is there a cultural intersection between the two, especially in the healthy living practices of the Muarajambi community in the past?

AUTHOR DECLARATION

The authors are the main contributors and members. The first author is the main contributor, while the second, third, fourth, and fifth authors are members. This article has been read and approved by all authors. The order of the authors' names in this article is based on the agreement of all authors. The authors declare that there are no conflicts of interest related to this article, and there is no funding that affects the content and substance of this article. The authors comply with the Copyright rules set by the Archaeological Journal.

Expression of Gratitude

A heartfelt thank you to all parties who have helped in completing this scientific article. Thank you to the Chair and all members of the Research Team from the South Sumatra Archaeological Centre at the Kotomahligai Temple in 2019, and the Cultural Preservation Centre of Region V Jambi and Bangka Belitung Island.

REFERENCE

Alaka Chattopadhyaya. (1967). Atisa and tibet; life and works of dipamkara srijnana in relation to the history and religion of tibet with tibetan sources translated under professor lama chimpa (1st ed., Vol. 1). *Motilal banarsidass publishers*.

Atmodjo, J. S. (2001). Pengaruh faktor lingkungan terhadap distribusi komoditas perdagangan di kawasan pedalaman dan pesisir jambi abad xi-xii: sebuah tinjauan arkeologi [Tesis]. *Universitas indonesia*.

Atmodjo, J. S. (2017). Lanskap permukiman rawa pesisir masyarakat jambi abad xi-xiii. [Disertasi]. *Universitas indonesia*.

Dark, K. R. (1995). Theoretical archaeology (1st ed., Vol. 1). *Cornell university press.*

Fitriaty, ria, Sadzali, asyhadi mufsi, & Husni, amir. (2023). Buku monograf bukti arkeologi dan sejarah hubungan kerjasama nalanda - india dengan percandian muarajambi abad 7 - 12 masehi (Komarudin, Ed.; 1st ed., Vol. 1). *Green publisher*.

Hodder, I. (2011). Human-thing entanglement: towards an integrated archaeological perspective. *Journal of the royal anthropological institute* , 17(1), 154–177. https://doi.org/10.1111/j.1467-9655.2010.01674.x

Hodder, I. (2016). Studies in human-thing entanglement (1st ed., Issue October).

Majumdar, N. G. (1926). Nalanda copper-plate of devapaladeva (1; 1).

Mundardjito, Purwanti, R., Santoso, T. M. S. B., & Siregar, S. M. (2009). Muaro jambi dulu, sekarang, dan esok (Mundardjito, Ed.; 1st ed., Vol. 1). *Kementerian pendidikan dan kebudayaan*.

Purwanti, R. (2006). *Kehidupan keagamaan pada masa klasik di situs muarajambi tahap ii.* In balai arkeologi palembang.

Purwanti, R. (2008*). Pola pemukiman candi kedaton situs muarajambi, kabupaten batanghari provinsi jambi*. In balai arkeologi palembang.

Purwanti, R. (2010). Fungsi halaman candi kedaton situs muarajambi, kabupaten batanghari, provinsi jambi. In balai arkeologi palembang. https://doi.org/10.1145/2505515.2507827

Purwanti, R. (2011a). Fungsi halaman candi kedaton situs muarajambi tahap ii. In balai arkeologi palembang.

Purwanti, R. (2011b). *Laporan penelitian arkeologi: funggsi halaman candi kedaton situs muara jambi tahap ii*.

Purwanti, R. (2012a). *Fungsi halaman candi kedaton situs muarajambi tahap iii*. In balai arkeologi palembang.

Purwanti, R. (2012b). *Laporan penelitian arkeologi: fungsi halaman candi kedaton situs muarajambi tahap iii kabupaten muarojambi, provinsi jambi*.

Purwanti, R. (2014). *Permukiman candi kedaton situs muara jambi kabupaten muarojambi, provinsi jambi tahap ii*. In balai arkeologi palembang.

R.C. Majumdar. (1937). Ancient indian colonies in the far east vol. Ii suvarnadvipa: vol. Ii. *Dacca university*.

Purwanti, R. (2021). *Laporan penelitian arkeologi: candi kotomahligai fungsi dan peranannya di situs kawasan percandian muarajambi*.

Sadzali, A. M. (2020). Identifikasi arkeologi sarana dan prasarana mahavihara muarajambi sebagai pusat pendidikan di asia tenggara pada masa melayu kuno. *Arkeologi papua*, 12(2), 133–151.

Sadzali, A. M., Bahar, M., Rosadi, B., Fazri, A., Wadhah, A., & Emafri, W. (2023). Empowerment and development of biodiversity assets as natural parks and educational tourism destinations at kcbn muarajambi through the mbkm program of universitas jambi. *Proceedings of the 4th green development international conference* (GDIC 2022), 867–875. https://doi.org/10.2991/978-2-38476-110-4_86

Sadzali, A. M., Emafri, W., Wadhah, A., Nabila Huda, R., Alione Sihite, Y., & Alif Zulkifli, M. (2022). Variety of flora and fauna in the muarajambi national cultural heritage area based on archaeological data. *Proceeding international conference on malay identity*, 2022, 3. https://www.conference.unja.ac.id/ICMI/

Sadzali, A. M., Fitrah, Y., Wahid, M., Bintana, R. R., Syabani, W. A., & Adzzikri, H. (2023). Assistance for the muara jambi tourism village community to form a village museum as a space for cultural conservation and tourism. *Proceedings of the 4th green development international conference* (GDIC 2022), 858–866. https://doi.org/10.2991/978-2-38476-110-4_85

Skilling, P. (1997). Dharmakirti's durbodhaloka and the literature of srivijaya. *Journal of the siam society*, 85(1–2), 187–194. https://thesiamsociety.org/wp-content/uploads/1997/03/JSS_085_0a_Front.pdf

Susanti, T., Musyaddad, K., Oryza, D., Utami, W., & Arsyad, M. (2020). Tumbuhan khas di kawasan candi muaro jambi dalam kajian etnobotani dan potensi ekonomi. *Al-kauniyah: jurnal biologi*, 13(2), 192–208. https://doi.org/10.15408/kauniyah.v13i1.13348

Takakusu, J. (1896). A record of the buddhist religion as practised in india and the malay archipelago (A.D. 671-695). By I-Tsing. *Clarendon press*.

Tim Studi Kelayakan. (2001). Naskah laporan studi kelayakan pemugaran candi kotomahligai.

Widiatmoko, A. (2015). Situs muarajambi sebagai mahavihara abad ke-7-12 masehi [Disertasi]. *Universitas indonesia*.