

PRESERVATION OF MARITIME ARCHAEOLOGY AND UNDERWATER CULTURAL HERITAGE IN MALAYSIA: A REVIEW

PEMELIHARAAN ARKEOLOGI MARITIM DAN WARISAN BUDAYA BAWAH AIR DI MALAYSIA: SEBUAH ULASAN

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Abstract

Maritime archaeology and underwater cultural heritage are crucial for revealing a valuable collection of historical, and cultural importance submerged beneath Malaysia's coastal waters. This paper comprehensively reviews the preservation efforts concerning Malaysia's maritime archaeology and underwater cultural heritage. Malaysia has a vast coastline and a significant historical background in the maritime trade, resulting in a wide range of submerged archaeological sites dating back several centuries. Furthermore, the paper discusses the terms of maritime archaeology and underwater cultural heritage, the element of the term underwater cultural heritage, the law in Malaysia related to underwater cultural heritage, and the process of excavation of shipwrecks also artifacts in Malaysia's Waters. This review seeks to educate policymakers, academicians, researchers, and heritage practitioners about the significance of conserving Malaysia's maritime archaeology and underwater cultural heritage by combining the existing research and practical experiences. It promotes increased awareness, funding, and coordinated actions to protect these invaluable connections to Malaysia's maritime history for future generations.

Keywords: Maritime archaeology, underwater cultural heritage, shipwrecks, national heritage

Abstrak

Arkeologi maritim dan warisan kebudayaan bawah air adalah penting untuk mendedahkan koleksi berharga dan bernilai sejarah, serta mempunyai kepentingan budaya yang tenggelam di bawah perairan Malaysia. Makalah ini mengkaji secara menyeluruh usaha pemeliharaan berkaitan arkeologi maritim Malaysia dan warisan kebudayaan bawah air. Malaysia mempunyai garis pantai yang luas dan latar belakang sejarah yang ketara dalam perdagangan maritim, menghasilkan pelbagai tapak arkeologi yang tenggelam sejak beberapa abad lalu. Tambahan pula, makalah membincangkan terma arkeologi maritim dan warisan kebudayaan bawah air, unsur istilah warisan kebudayaan bawah air, undang-undang di Malaysia berkaitan warisan kebudayaan bawah air dan proses penggalian bangkai kapal juga artifak di Perairan Malaysia. Kajian ini bertujuan untuk mendidik penggubal dasar, ahli akademik, penyelidik dan pengamal warisan tentang kepentingan memelihara arkeologi maritim dan warisan kebudayaan bawah air Malaysia dengan menggabungkan penyelidikan dan pengalaman praktikal sedia ada. Ia menggalakkan peningkatan kesedaran, pembiayaan

dan tindakan yang diselaraskan untuk melindungi hubungan yang tidak ternilai ini dengan sejarah maritim Malaysia untuk generasi akan datang.

Kata kunci: *Arkeologi maritim, warisan kebudayaan bawah air, bangkai kapal, artifak, warisan negara*

INTRODUCTION

The term "maritime archaeology" refers to two branches that combine, underwater archaeology focusing on submerged sites, and nautical archaeology concentrating on the study of ships and seafaring. As a result, it covers all geographical types of freshwaters, such as rivers, lakes, and wetlands (Taha 1986). This information is consistent with Bowens (2009) fundamental knowledge of maritime archaeology. However, according to Muhamad (2018) the word "maritime archaeology" refers to the study of human history and Bee (2012) mentions that maritime archaeology is the study of the remains of maritime culture and one of its main focuses is shipwreck sites. The phrase, which is derived from the Greek word *arkhailogia*, which means a conversation about old things, was first used by Jacques Spon in the 17th century (Atar 2019). Various views on the definition of maritime archaeology from the neighboring country of Indonesia. Indonesia's geographical profile is closely related to the problems with natural disasters (Simanjuntak & Ririmasse 2021). For instance, in Indonesia, maritime archaeology is regarded to be the study of how people interact with natural environments including the sea, rivers, and lakes. When research is conducted on historical artifacts, shipwrecks, cargo holds, and other undersea phenomena, this relationship emerges. Besides researching relationships at sea, Mundardjito, (2007) states that it can also occur at coastal and ship burial locations such as the Sutton Hoo ship and the Khufu ship.

Malaysia has adopted the methodology from Muckelroy (1978), according to which the study of maritime archaeology encompasses not only the underwater preservation of historical artifacts and shipwrecks but also the preservation of maritime cultures that preserve a variety of historical, social, religious, and economic traces. As a result, these factors contribute to the growth of maritime archaeology in Southeast Asia. Based on the perspectives of the archaeologists above, maritime archaeology is a field concerned with ships and other items that have been submerged for a long time and have historical significance, revealing the culture and way of life of former societies.

If maritime archaeology is used as a parent term to define archaeological research done on the seabed, then it falls under the umbrella term of underwater archaeology, which encompasses three subfields: maritime archaeology, ocean archaeology and terrestrial water archaeology. Maritime archaeology is a subset of nautical archaeology, shipwreck archaeology, architectural archaeology of ships, heritage ships, and boats, and naval archaeology.

Overview of Maritime Archaeology

Shipwrecks are one of the main topics of maritime archaeology, which is a systematic investigation of all kinds of cultural artifacts and the underwater environment to reconstruct the past. The aim of terrestrial and underwater archaeological investigations was similar, except how different equipment was used, which was dependent on the environment of the site or area being examined. Refers to Figure 1, a model of the scope of maritime archeology by Muckelroy (1978), which describes the remains of shipwrecks in different areas. Part A consists of shipwreck remnants unrelated to maritime culture and is located on the land site studied by nautical archaeology. Shipwreck debris found on the beach and in embankment regions is classified as Part B. While any form of underwater shipwreck site is within the scope of maritime archaeology, the relics in Part C are not shipwrecks. The part within the circle of maritime archaeology is maritime cultural remains and any cultural remains that are not maritime cultural remains underwater are outside the context of maritime archaeology.

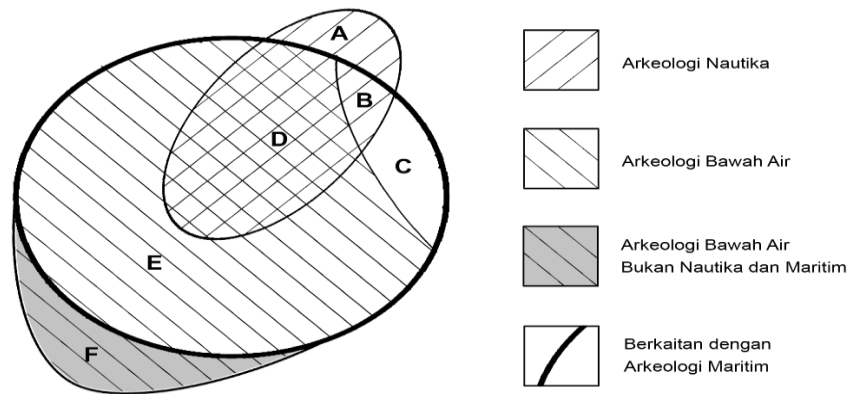


Figure 1. The scope model of maritime archaeology.
(Muckelroy 1978)

According to Baco & Chia (2020) Malaysian maritime archaeology slowly developed from 1979 to 2000 due to internal challenges. Among these include the fact that Malaysia lacks competence in rescuing historic artifacts at shipwreck sites and must seek aid from foreign rescue agencies, a lack of funding, insufficient equipment, and a lack of awareness of the importance of underwater cultural property. Although maritime archaeology began in Malaysia in 1979, it still lacks expertise in archaeological excavation, particularly in the area of salvaging historical artifacts at the shipwreck site, and has to be completely developed so that all of the shipwreck's legacy treasures can be examined and recorded as thoroughly as possible. The salvage project or maritime salvage archaeology applies the salvage principles to underwater archaeological sites, recovering artifacts and archaeological information threatened by environmental factors, construction, or development. This is because the theft of shipwreck artifacts is a major global issue discussed by The United Nations Educational, Scientific, and Cultural Organization (UNESCO) on the loss of priceless heritage treasures and buried historical narratives as a result of human greed to destroy, steal, and sell such treasures (Nishikawa 2021).

The differences between the salvage project and the scientific studies carried out in Malaysia include the Risdam wreck and the Bidong wreck. The salvage project aims to recover the valuable cargo or ship for commercial gain. The term value is based on Kjølseth Jernæs (2021) the assessment of value involves reasoned and verifiable. However, scientific studies, focus on gaining knowledge about the shipwrecks, their history and also their impact on the marine environment. Scientific studies on the Bidong wreck were undertaken by the Universiti Malaysia Terengganu (UMT) starting in 2013 (Mustapa et al. 2023). The activities under scientific studies are more detailed to archaeological surveys, analyzing recovered artifacts, and researching shipwrecks historical documents.

Elements of the Term Underwater Cultural Heritage

One of the most complicated tasks during the UNESCO Convention drafting process is to comprehensively define the term 'underwater cultural heritage' (Debarbieux & Munz 2019). According to Perez-Alvaro (2019) in his book *Underwater Cultural Heritage: Ethical Concepts and Practical Challenges*, the terms "underwater," "culture," and "heritage" have remarkable interpretations when combined. The term's definition was agreed upon in Council of Europe Recommendation 848 (1978) and later brought to the Draft European Convention on the Protection of Underwater Cultural Heritage (1985), which was never adopted by the negotiating party (Francioni & Vrdoljak 2020). The final text adopted in the 2001 UNESCO Convention, on the other hand, represents a more significant final definition from the European Draft Convention by introducing a more comprehensive approach to defining the definition of protection, namely the protection of

historic sites or shipwreck sites, rather than just 'objects' as defined in UNCLOS. The 1995 UNESCO Feasibility Study identified "historic shipwrecks" as the "main body of material" that comprises "underwater cultural heritage," narrowing the scope of the UNESCO Convention 2001 Underwater Cultural Heritage protects historic shipwrecks from being stolen by treasure hunters; while the number of historic shipwrecks is smaller, their importance is equal to that of any other heritage that must be protected. The reason given in the Feasibility Study for not including other categories of underwater cultural heritage is that there are only a few cases and these are already covered by national legislation.

According to a report based on the UNESCO Expert Meeting on October 31, 2001, some countries believed that focusing on underwater cultural heritage to obtain information on culture and history, particularly from shipwrecks and historical objects, was more effective (Aikawa 2004). According to O'Keefe (2006), historical, cultural, and archaeological expressions do not add to or subtract from the temporary scope of the 2001 Convention. According to O'Keefe (2006) and Roberts (2018), such expressions provide flexibility in interpretation while still adhering to the 2001 Convention's boundaries -bonafide limits. According to Argyropoulos & Stratigea (2019), when determining broader protection, a maximalist approach should prioritize all cultural values, whereas a selective or minimalist approach will prioritize objects of exceptional value or importance.

As a discussion, the UNESCO Convention 2001 Underwater Cultural Heritage was developed and implemented to ensure our underwater cultural heritage will be protected and safe. When focusing on underwater cultural heritage, the information and history will be more secure to share with the next generations. It also recognizes the value of submerged vestiges as a witness to our common memory.

Cultural Heritage and Human Cultural Heritage

The 2001 UNESCO Convention on Cultural Heritage is not the first law focusing on cultural heritage, but it is the most recent convention in protecting cultural heritage, particularly underwater cultural heritage. With the UNESCO Convention 2001, countries around the world, including Malaysia, Cambodia, United Kingdom, and Australia, have become more aware of the issue of underwater cultural heritage protection.

Over time, the term "cultural property" has given way to "cultural heritage" as a legal governing tool that regulates the movement of objects of historical and cultural significance or not. (Dromgoole 2017) . Because it does not cover all aspects of underwater historic objects, the term "property" is less appealing in the field of cultural heritage protection. Meanwhile, the concept of 'heritage' is preferable because it incorporates the duty to preserve and protect historic shipwrecks and historic objects underwater. According to O'Keefe, (2006) if culture is defined as ways of behaving that are educated and socially transmitted from one generation to the next and from one society to the next, then cultural heritage is defined as a large number of activities and objects that provide evidence of the past's history and heritage. The term heritage is constantly evolving; it was previously referred to as a cultural monument relic. However, it is clear from the UNESCO Convention 2001 that the term heritage is more appropriate. There are two types of heritage: tangible cultural heritage and intangible cultural heritage. The task of determining the economic and historical value of such heritage and the level of importance of cultural heritage in society, such as national heritage, local heritage, general cultural heritage, and regional cultural heritage, is more difficult.

Weiss & Connelly, (2019) contends that 'human cultural heritage' is an abstract concept as opposed to a more concrete 'cultural property,' and that it tends to lead to abstract interpretations because the ultimate goal of protecting cultural heritage will be achieved through material protection and authentic evidence (historical objects). By the definition of 'cultural heritage,' the 2001 Convention recognizes that underwater cultural heritage is an interconnected part of human cultural heritage and is a critical component of history, race, and relationships. The term "common heritage" appears frequently in the Moon Treaty of 1979 and the UN Convention on the Law of the Sea 1982.

Environmentalists use this term to refer to all living and non-living natural resources as ecological entities, as well as the global environment (Perez-Alvaro 2019). The 1982 Convention on the Law of the Sea effectively extended the concept of "common heritage of mankind" to underwater cultural heritage. The phrase "common heritage" implies the "common interest" of human beings as inheritors.

As a result, considering underwater cultural heritage to be the "common heritage of mankind" in the same context as the exploitation of resources on the seabed and the moon would be an unfavorable approach, because, for example, underwater cultural heritage is part of a State's territorial sovereignty and cannot be null and void or communist. The non-existent elements and consequences of the concept of "humanity's common heritage" are as follows:

the intersection of contested histories with the concept of humanity's common heritage complicates the pursuit of sustainable peace, as competing narratives and political agendas can undermine the organization's mission and principles. - (Huttunen 2024)

It appears impossible to combine the element of 'indivisibility of heritage' with the preservation of underwater cultural heritage in the context of the discovery of 'archaeological or historical' objects as defined by UNCLOS 1982. As a result, the legislation that most states the state's obligation to protect underwater cultural heritage is based on UNCLOS 1982 as well as the UNESCO 2001 Convention. However, in Malaysia, the National Heritage Act of 2005 is still in place to protect our underwater heritage (Sani & Zolkifeli 2020).

Law in Malaysia Related to Underwater Cultural Heritage

The National Heritage Act of 2005 (Act 645) is a piece of legislation that addresses the preservation and conservation of national heritage, tangible cultural heritage, intangible cultural heritage, and natural heritage. It also establishes a foundation, a method, and regulations for heritage protection and management, as well as the establishment of a National Heritage Register. Similarly, The National Heritage Act of 2005 (Act 645) expresses his responsibility and role in heritage conservation and preservation. Dato Sri Tiong King Sing is now the Minister of Tourism, Arts, and Culture in Malaysia. The Minister is in charge of the policies necessary for heritage conservation and preservation. In addition to policies, the Minister is responsible for any statements or directives related to the same in any matter, business, strategy, or conduct.

The National Heritage Act 2005 (Act 645) has the advantage of including a section on conservation areas to protect heritage sites from trespassing and illegal entry. Section 45(1)(2) specifies the appropriate location of the site. Heritage areas must be preserved and preserved by the management plan conservation by establishing a buffer zone around a main center or a heritage site. Local governments have been given conservation areas to identify heritage sites that fall under their jurisdiction. The National Heritage Act 2005's main function is to ensure that every national cultural heritage is protected to preserve the treasures found on Malaysian soil. The National Heritage Act of 2005 is a comprehensive heritage law whose major purpose is to preserve and protect the country's cultural heritage; however, it is time to modify and modernize the cultural heritage (Mustafa & Abdullah 2013).

According to Soon, (2017); Verma & Martynenka, (2019), underwater cultural heritage was abandoned before the existence of a specific protection act because there was no provision for supervision and monitoring. When national waters are not supervised, they are frequently invaded by treasure hunters and enthusiasts of historical objects buried at the bottom of the sea. The Treasure Trove Act (Act 542) dealt with the discovery of treasure troves, but its implementation fell under the purview of the state government, and only the Antiquities Act 1976 (Act 168) was adopted for the conservation and preservation of national heritage relating to treasure troves, monuments, and cultural heritage in Malaysia (Mustafa & Abdullah 2013). The government improved the scope of

protection and preservation by enacting the National Heritage Act 2005, Sections 61 to 66 contain provisions for the protection of underwater cultural heritage.

However, there are still weaknesses in terms of enforcement and supervision (Hariry 2024). Strictness in enforcement is very important to make individuals and groups aware of the government's concern for heritage property. Strict fines and prison sentences are some of the measures taken to prevent illegal acts or to protect inherited property. Society needs to realize how important heritage is to the country and future generations to form culture and identity. Strictness is required to protect historic objects and shipwrecks before they are rescued or salvaged. It is critical to protect underwater cultural heritage for the sake of universal interest and to keep information from being invaded by foreigners.

According to the National Heritage Act of 2005, the Commissioner is responsible for declaring any object to be culturally significant. The Commissioner is given the authority to publish in the gazette any heritage object of cultural significance. The Commissioner is empowered to include in the Register any heritage object with cultural heritage significance. The Commissioner also has the authority to have it published in the Gazette and a local newspaper. Except that consent must be given by the owner of that specific object, the Commissioner under the National Heritage Act of 2005 has jurisdiction in this matter. It should be emphasized that the Commissioner's broad discretion should not be abused.

Former Minister of Information, Communication and Culture, Datuk Seri Dr. Rais Yatim stated that "A total of 75 shipwreck discovery reports have been recorded in Malaysia to date. All information and records of artifacts and shipwrecks found in Malaysian waters are difficult because the knowledge can invite the enthusiasm of treasure hunters or pirates. If it is left to irresponsible individuals, then the country's maritime history will be destroyed and extinct."

PROCESS EXCAVATION OF SHIPWRECKS IN MALAYSIAN WATER

Excavation is a critical step in uncovering historical artifacts in underwater cultural heritage. Understanding the process of excavation is essential for uncovering valuable historical insights. The first step is to conduct surveys and historical research to identify potential shipwreck sites. Once a target area has been identified, underwater archaeologists use various methods to locate shipwrecks on the seafloor, such as sonar and magnetometers. For instance, Bidong Shipwrecks High-resolution acoustic sonar systems, including the Klein 4900 Side Scan Sonar (SSS) system, were used during the July 2017 survey to locate the Bidong Shipwreck and identify the position of unidentified surface objects. SSS data were collected by a vehicle towed at a speed of 4 km (1.5 m/s) above the seabed, with a slant range of 50 m and transmitting at frequencies of 100 kHz and 400 kHz (Mustapa et al. 2023).

Another example of an excavation project is the Tanjung Simpang Mengayau wreck (7°2'.467" U, 116°44'.754" T) started the research project on 30 July until 21 August 2004 (Basrah Bee et al., 2004). The research project on the Tanjung Simpang Mengayau Wreck, identified as the site of the oldest shipwreck in Malaysia dating back to the Northern Song Dynasty (960–1127 CE), holds significant importance in efforts to elucidate the history of early trade and foreign relations. In this research project, the archaeologist was analyzed using two methods such as X-ray diffraction (XRD) and X-ray fluorescence (XRF) to identify the chemical composition in the 16 ceramic jar and celadon bowl sherds (Jusoh et al. 2022).

Once a shipwreck has been discovered, archaeologists create a detailed site map. This includes documenting the ship's layout, artifact distribution, and any associated features such as anchors or cannons. For this purpose, high-resolution imaging and mapping technologies are frequently used. The resulting high-resolution data was superior to the commercial acquisition system's enveloped data (Mustapa et al. 2023). The high-resolution method produced data that outperformed the commercial acquisition system, particularly in terms of quality and clarity. This superiority most likely indicates that the high-resolution data provided more detailed and accurate information than the

commercial system's enveloped data, making it the preferred choice for applications requiring precise imaging or analysis.

Following the completion of the mapping, the retrieval of the artifact begins in each excavation. Skilled divers meticulously retrieve artifacts from the shipwreck. The artifacts must be handled with care to avoid damage (McPheters 2024). Suction devices and water dredges, for example, may be used. Each artifact is meticulously documented, including its location within the shipwreck site, its condition, and any relevant information. To preserve the historical context of the artifacts, photographs and detailed records are created. Shipwrecks in Southeast Asia are more difficult to identify than shipwrecks in Western countries because they have been registered. The integration of sub-regional networks, the expansion of marine policies and ports, and advancements in shipbuilding technologies have all contributed to the increase in maritime trade volume (Billé et al. 2022). As a result, it is easily detectable in the event of an accident or shipwreck.

The shipwreck excavation procedure involves recovering artifacts from the shipwreck, which are typically delicate due to being submerged for many years. They are transported to a conservation laboratory, where specialists work to stabilize and preserve them. Cleaning, desalination (deionized water spraying), and other treatments may be required (Zhang et al. 2022). The artifacts, as well as the shipwreck site itself, provide fascinating insights into history, trade, and maritime culture. Researchers examine the recovered items and publish their findings to help us understand the past. Some artifacts may be displayed in museums or exhibitions to educate the public about maritime heritage or maritime archaeology. This contributes to a greater understanding and appreciation of underwater archaeology.

CONCLUSION

This paper has sought to provide a review and establish the shipwreck project focus on maritime archaeology and underwater cultural heritage in Malaysia. Establishing elements of the term underwater cultural heritage was significant of underwater cultural heritage within the UNESCO Convention and to preserve the shipwrecks and artifacts. This paper also contributed to the process of excavation of shipwrecks in Malaysian Water.

According to the review of maritime archaeology and underwater cultural heritage, the paper contributed to exposing the elements of the underwater cultural heritage, the law, and the process of excavation of shipwrecks and artifacts. This also stresses that conducting a detailed or comprehensive process requires an interdisciplinary professional team to provide important information on the projects. Such a multi-disciplinary and interdisciplinary approach can further enhance the decision-making process and consequently the heritage protection within the policies. Discoveries are being made as a result of research and excavation activities, making it critical to strike a balance between exploration and preservation to ensure Malaysia's underwater cultural heritage is preserved for future generations.

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