# Underwater Archaeological Museum: Utilization of Karimunjawa Sites

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**Abstract**

Indonesia is located in a strategic location between Indian and Pacific Ocean. Indonesia has water territory more than land territory with approximately 3:2 in ratio. In that vast area, there are many cultural heritages from old history, both in land and underwater. Cultural heritages found in both locations have a connection.
Until recently, the government has attempted to reveal the past from underwater cultural heritage through survey and exploration. Many invaluable cargoes were salvaged from the underwater wreckages. Exploration and salvage are done by private company with the permit from the National Committee for Salvage and Utilization of the Valuable Object of the Sunken Ship (PANNAS BMKT). However, illegal exploration and salvage persists in the practice. Conservation efforts that include protection, development and utilization to the underwater cultural heritage had not been maximal; therefore, salvage, pilferage, and vandalism still occur.
This paper would try to give an alternative for the utilization of underwater cultural heritage through a maritime museum in its natural state (in-site conservation). Museum is one institution that protects, develops and utilizes cultural heritages, and communicates them to the visitor.

**Keywords:** museum, cultural heritage, underwater archaeology, cultural property

## 1. Introduction

Indonesia is located in a strategic location of trade route, between the Asian and Australian Continent, also Indian and Pacific Ocean. Indonesian water contains many underwater cultural heritages that served major roles in shaping the Indonesian culture. These cultural heritages contain information connected to the history and the culture of Indonesian people.

Underwater archaeology is one of archaeology study that focuses on material culture in water. The UNESCO Convention on the Protection of the Underwater Cultural Heritage Article 1 defined underwater heritage as:

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Cultural heritage usually undergoes changes in shapes and locations. Some were buried in land, and some sunk to the bottom of the sea. Cultural heritage are resources that are finite,

un-renewable, fragile, irreversible, and unique (Green & Moore, 2010, p. 108). Therefore, it needs proper management to preserve it, especially for underwater cultural heritage[1] (UCH).

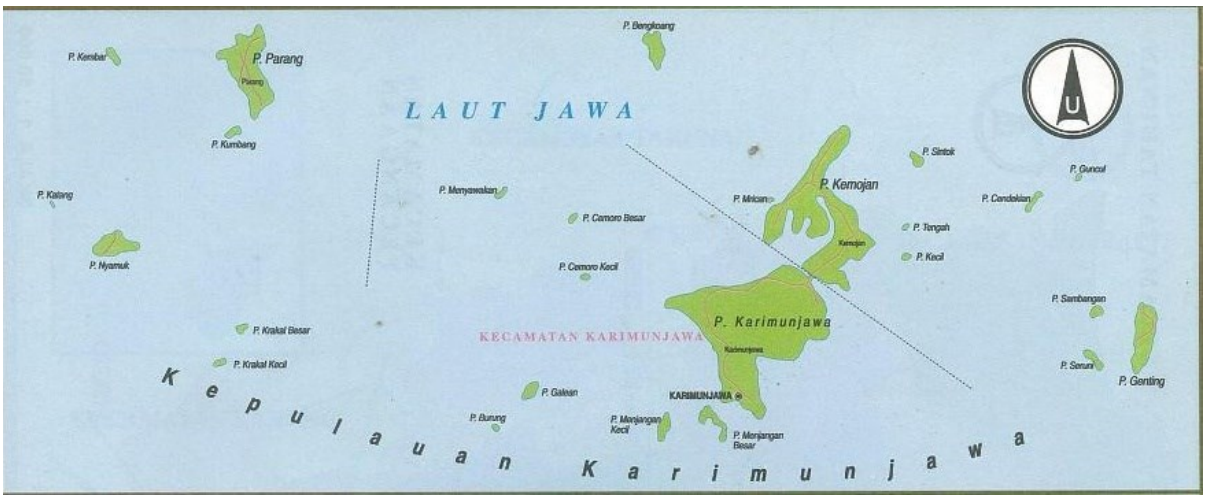
The preservation of UCH is mostly done by the government. Until recently, the government has attempted to reveal the past from underwater cultural heritage through survey and exploration. Many invaluable cargoes were salvaged from the underwater wreckage. Exploration and salvage are done by private company with the permit from the National Committee for Salvage and Utilization of the Valuable Object of the Sunken Ship (PANNAS BMKT). However, illegal exploration and salvage persists in the practice.

The salvage done was focused on the ship's cargo; the ship itself is cast aside. The information about the ship serves only as a complement for the explanation of the cargo. Often, in the attempt to get the cargo, ship hull must be damaged and therefore loses its archaeological value. Meanwhile shipwreck and its cargo are valuable resources to the preservation of UCH.

In the UNESCO Convention on the Protection of the Underwater Cultural Heritage, the *in situ* preservation of underwater cultural heritage shall be considered as the first and preferred option before allowing or engaging in any activities directed at this heritage. The recovery of objects may however be authorized for the purpose of making a significant contribution to the protection of knowledge on the underwater cultural heritage. In certain case, if a shipwreck or an underwater site is in peril, the removal and raise process are done in a documentation procedure according to the archaeological principles.

With many UCH types contained in Indonesia, types of preservations that are appropriate for the site and environmental condition need to be formulated. In order to increase people's awareness about the importance of UCH preservation, the most important thing to do is to provide information about UCH and its efforts to preserve it. This paper would discuss one alternative of UCH preservation, which was through an underwater museum, and the research was conducted in Karimunjawa, Central Java as its case study.

## 2. Underwater Cultural Heritage in Karimunjawa




[1] Hereafter will be referred as UCH

Karimunjawa Archipelago is located northeast of Semarang precisely in 5°40´39" - 5°55'00" S dan 110°05´57" - 110°31´15" E. It is located in the administrative region of District Jepara, consisting of three village, Karimunjawa, Kemujan, and Parang. Its land and water area covers 117.237 Ha, consisting of 27 islands. There are only four inhabited islands, which are Karimunjawa, Kemujan, Parang, and Nyamuk Island.

Karimunjawa Archipelago location is very strategic to the shipping line and trade route of Java Sea. According to the Chinese chronicles, in 1292 A.D, 20000 fleets envoy of Kubilai Khan led by Shih Pi, Kau Sing and Ike Mese sailed to Java to punish King Krtanegara (Singasari Kingdom). These fleets stopped at *Biliton* (Belitung), and then anchored in *Karimon* (Karimunjawa), waiting for the opportunity to enter *Du-bing-zu* (Tuban) (Groeneveldt, 2009: 32). In other Chinese Chronicles, *Shun Feng Hsiang Sung* who made the shipping route between China and Indonesian Archipelago, *Chi Li Wen* or Karimunjawa was depicted as an important place to the shipping between *Wu Yu* near Amoy (China) and *Tu Ping Shu* (Tuban) (Noerwidi, 2008, p. 5).

In the times of Demak Sultanate, when the main harbor shifted from Tuban to Jepara, Karimunjawa was still considered as a strategic location for transit in the Java Sea. The political control of Karimunjawa was managed by the Islamic Sultanate by sending *mubaliq* to convert the island residents to Islam. Among these notable figures who came to the island, one of them was Sunan Nyamplung or Mbah Amir Khasan (Koestoro, 1997, p. 41-43).

In the 17$^{th}$ century, Jepara's role as the main harbor was replaced by Semarang. Even though the main harbor changed again, Karimunjawa was still considered as an important transit harbor. According to the Dutch record, in 18$^{th}$ and 19$^{th}$ Century, furniture craftsmen in Batavia brought in its *sonokeling* wood (Indonesian rosewood) from Karimunjawa. In 1815, Carel Rudolph von Michalovski, a Germany officer was appointed as the first *posthouder* to govern Karimunjawa. At the time of the Dutch Indies, Karimunjawa was administratively under the Resident of Semarang (Anwar, 2004, p. 188-189).

In Karimunjawa Archipelago, there are various UCH sites scattered all over the region.[2] These sites are mainly shipwreck, but there are sites that contain fragment of ceramic. Its depth varied from 10 to 50 m deep.

**Table 1.** UCH in Karimunjawa Archipelago

| No | Sites | Age | Coordinate | Distance from nearest island | Depth | Remains | Size (Length, Width, Height) |
|---|---|---|---|---|---|---|---|
| 1. | Geleang | - | 05° 50' 50,0" S, 110° 19' 06,0" E | 2 km from Geleang Island | 48 m | Wooden ship | L 40 m, W 14.17 m H 6 m |
| 2. | Menyawakan | - | 05° 46' 03,4" S, 110° 19' 33,6" E | 1 km from Taka Menyawakan mounds | 3-9 m | Iron Ship | L 47 m, W 22 m, H 7 m |
| 3. | Kumbang | - | 05° 46' 22,2" S, 110° 14' 27,7" E | 400 m from Kumbang Island | 2-13 m | Wooden Cargo Ship | L 29 m, W 5,8 m, H 5 m |
| 4. | Parang | 10 years old (from the time it sunk) | 05° 45' 09,2" S, 110° 13' 34,1" E | 2 km from Parang Island | 34-38 m | Wooden Ship | L 23 m, W 16 m, H 12 m |

[2]Data about the coordinate and description of UCH were acquired from Data Collection Indonesian Underwater Cultural Heritage from the Directorate of Cultural Heritage Preservation and Museums, 2012.

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|---|---|---|---|---|---|---|---|
| 5. | Indonor | 79 years old | 05° 46' 54,7" S, 110° 27' 43,2" E | 300 m from Kemujan Island | 15 m | Iron Ship Indonor | L 99,94 m, W 14,17 m, H 6 m |
| 6. | Genteng | 8 years old (from the time it sunk) | 05° 53' 24,7" S, 110° 24' 08,2" E | - | 28-30 m | A Motorized Sailing Ship Masa Isdah | L 21.97 m W 7.69 m |
| 7. | Seruni | - | 05° 51' 54,4" S, 110° 35' 17,8" E | 300 m from Seruni Island | 10 m | Wooden Ship Remain | - |
| 8. | Genting | - | 05° 51' 12,0" S, 110° 36' 06,0" E | 500 m from Genting Island | 2 m | Ceramic Fragment | - |
| 9. | Kapal Mati | - | 05° 40' 83,7" S, 110° 30' 78.4" E | 3 km from Karimunjawa Island | 53 m | Wooden Ship | - |
| 10. | Nyamuk Island | - | 05° 50' 40" S, 110° 08' 28,1" E | 200 m from Nyamuk Island | 3-4 m | Iron remain | 1 x 1 m |

## 1. Underwater Museum

Museum is a place that contains information about human culture to be presented to the society as a source of knowledge. In general, museum is a building that presents collection and information related to certain theme and contains certain messages. In Indonesia, underwater museum is novel, even though there are many UCH in Indonesia.

In general, underwater museum can be interpreted as a museum that displays collection and information about underwater cultural heritage such as shipwrecks, sunken plane, as well as underwater sites. Many of those heritages are still in their original location which is in-situ, as well as heritage that has been raised from its site or commonly called as ex-situ. According to its collection location, underwater museum can be distinguished into two types: in-situ and ex-situ.

### 1.1. In-Situ Underwater Archaeological Museum

This kind of museum displays UCH in its original context. As the conservation effort is done in-situ, the heritages that are being displayed are in its original site. The main principles of an in-situ presentation among others are:

- Stresses the importance of and respect for the historical context of the cultural objects and its scientific significance;
- Recognizes that, under normal circumstances, heritage is well preserved under water owing to the low deterioration rate and lack of oxygen; and that it is, therefore, not *per se* in danger.

In-situ underwater museum can be divided in to two based on its way of visit, that is with diving or without diving. Underwater museum with diving requires its visitor to dive in order to see its collections. These museums provide guidance to the visitor in the form of maps and trail information to see the collections, which are usually contained in several locations. Signposts are placed to guide the visiting divers. These types of museum are very supportive of preserving the cultural objects, but the visitor is limited with its ability to dive. Therefore, the effort to socialize UCH becomes limited.

The example of in-situ underwater archaeological museum is Caesarea Old Harbor. This harbor is a huge harbor created by King Herod to honor the Roman Emperor Augustus. It is the biggest harbor in the Roman Empire in the year of 10 BC. It is located in Mediterranean Sea,

coast of Israel. This museum was inaugurated in 2006. Besides visiting an old harbor, the visitors can also see roman shipwreck, remnants of a lighthouse, an old wave breaker, the early foundation of the harbor, and an old anchor. The technology used in making the harbor is quite unique because it uses Roman technology in the form of hydraulic concrete known as *pozzolana*. These hydraulic concretes consist of volcanic ashes, lime, and sand which harden in the sea. In visiting this museum, the visitors are given a waterproof map in details describing 36 UCHs. There are four trails for the visitors. One of that trails can only be accessed by using snorkeling equipment.

Figure 1. Caesarea Underwater Museum

Another example of in-situ museum is the Florida Keys National Marine Sanctuary. On this museum, there are historical shipwrecks scattered along the coral reef on the coast of the Florida Keys. A diver's trail is created in order to educate the visitors about maritime heritage and broader the visitors' viewpoint about the UCH displayed there. Underwater site guide is provided for the nine wreck trails that contain the shipwreck position, history, site map, and information about the natural underwater wildlife in the area. The conditions of the wreck varied from shallow dive to deep dive with more than 30 m deep. The nine shipwrecks in the Florida Keys are The Adelaide Baker, The Amesbury, The Benwood, The City of Washington, Duane, The Eagle, The North America, The San Pedro, and The Thunderbolt.

Figure 2. The Florida Keys National Marine Sanctuary

There is also an in-situ underwater museum, in which the visitors do not need to dive to see the collections. This museum is designed in such a way so that the visitors can see the UCH without diving underwater. This is much easier for the visitors with limited and no diving skill. Within certain depth, the management constructed an aisle or underwater lane or underwater flooring if the site is in shallow-depth water. One example is the Museum Baiheliang, China. Baiheliang is an archaeological site in Fuling, China. This site is underwater in the Three Gorges reservoir. It displayed one of the oldest hydrological inscriptions, which record a 1200 year of changes in water level of the Yangtza River in the northern part of Fuling District, in the town of Chongqing. The underwater site is in a 43 m depth. In this museum, the visitors can see the inscription without diving, by means of entering an underground tunnel and see the inscription through a looking glass.

Figure 3. The inscription through the looking glass in Baiheliang Museum

### 1.2. Ex-Situ Underwater Archaeological Museum

Ex-situ underwater archaeological museum displays UCH which are not in its original contexts and sites. The UCH have gone through a raising process from underwater. The display and conservation of this UCH are done on land.

One of ex-situ underwater museums is Mary Rose Museum in the United Kingdom. It is located in Portsmouth, displaying a Tudor Warship from the 16th century. Mary Rose is one of the main ships in the fleet of King Henry VIII. It was built in 1509-1510, and sunk in 1545 when leading the battle against France. Later, it was discovered in 1971, raised in 1982, and promptly displayed in a museum.

Figure 4. The Mary Rose Museum

Another example is the Vasa Museum in Sweden. This museum displays Vasa, a 17th century warship. At that time, it was the strongest ship ever made. It sunk in 1628, and was raised from the bottom of the sea in 1961 and now was displayed in a museum with the most visitors in the Scandinavian area. The museum exhibition displays the effort of modern technology to prevent more deterioration of the ship from natural causes, and displays the process that the Vasa went through since it sunk in 1628. The museum presented various information suffered by Vasa: what had happened in the bottom of the sea? What happen when the ship was raised? What holds for its future? What do the researchers say about the Vasa Ship?

Figure 5. Vasa Museum

## 2. Underwater Archaeological Museum in Karimunjawa Sites

Indonesia has already have a museum that displayed the maritime history of Indonesia which is Maritime Museum in Jakarta and Bintan, while the Maritime Museum in Belitung is still under construction. In these museums, we can see many naval collections such as, boats, ceramics, navigation tools, and weapons, which displayed the maritime history of Nusantara or Indonesian Archipelago. The collections from underwater found in these museums are merely the ceramic collections from the salvage conducted by the PANNAS BMKT.

In Indonesia, there are still many UCHs in the form shipwrecks that have become the location of wreck dive in national and international scope, as in Karimunjawa Archipelago. According to its remains, this location is suitable to become an in-situ underwater museum. However, it needs proper management which should structured by a reliable institution or a legal body, which will organize the information as well. Of course there are many things that need to be prepared such as funding, organization, human resources, and information.

There are many ways to preserve the underwater cultural heritage, but the most important aspect is the main principles of preservation, which are non-destructive effort and maintaining the sustainability for future generation, and be beneficial for the public. Therefore, this type of underwater museum can be one of the options for the preservation of underwater cultural heritage.

UCH management by utilizing the model of underwater museum would have some advantages, as well as some challenges. The utilization of underwater museum for archaeological underwater sites in Karimunjawa would be very potential in some areas. Those potentials are:

1. UCH Preservation
   With its strategic location, Karimunjawa was used as a transit harbor in Java Sea. It was a busy harbor visited by many foreign and local ships. A considerable numbers of UCH in Karimunjawa describe Indonesia as a maritime nation that is capable of roaming the sea and had relation with many foreign nations in the past. By utilizing the sites as museums, we could maintain the preservation of the wreck sites and its environment to last for the future generation to learn.
2. Education and science
   Sites in Karimunjawa could be a place for education and science about history, culture, and nature. People can learn about the importance of the sites and its environment from many points of view.

3. Political
   The preservation of UCH can support the Government's program to make Indonesia as a maritime axis with the concept of Nawa Cita from the President of Indonesia, Joko Widodo.
4. Economy
   Economically, tourism in Karimunjawa is very high. Wreck diving could be the main attraction for visiting tourists. Other than that, indirect economical benefit from tourists can lift the standard of living of the Karimunjawa people.
5. Information Dissemination
   Information about the importance of Karimunjawa sites and its history needs to be developed and packed to be publicized for public consumption. Therefore, it can increase people's awareness to protect and preserve UCH in Karimunjawa and, furthermore, in other regions in Indonesia.

On the other hand, the potential of utilizing UCH as a museum in Karimunjawa would face some challenges since it is a new concept in Indonesia and has not been implemented in any other sites in Indonesia. Those challenges include:

1. Lack of information about UCH sites in Karimunjawa; therefore, it needs more research to discover the data and information behind the sites
2. Lack of knowledge about UCH management among the local government, because UCH management in local area is the responsibility of the local government
3. Vandalism through human activity and natural process would cause some changes or degradation of the UCH sites
4. Lack of access to Karimunjawa; since the transportation from Java (Jepara and Semarang) is very limited, it would cause some difficulties for tourists to visit Karimunjawa
5. Need a big amount of funding and special skills of human resources to manage UCH sites as a museum because it is a very special major.

The degradation of UCH sites in Karimunjawa would continue to increase as time goes. It needs our awareness to protect the sites. The concept of utilizing UCH sites as an underwater museum could considered as one method of preserving sites. Therefore, archaeological sites preservation through museum is very important to be conducted as an identity of Indonesian people and its existence is necessary to be maintained for the education of the next generation.

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