

# **UNDERWATER CULTURAL HERITAGE MANAGEMENT AND MARINE TOURISM IN INDONESIA: Potentials and Challenges**

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# UNDERWATER CULTURAL HERITAGE MANAGEMENT AND MARINE TOURISM IN INDONESIA

## Potentials dan Challenges

### Abstract

*Indonesia's territorial waters has under water cultural heritage in large quantities, but the conditions of the heritage are endangered because of looting and exploration. In general, underwater archaeological sites that have significant values from the perspectives of history, science, and culture, didn't have the chance to be used for the public interest because they are sold as a commodity items. Government seemed ambiguous in addressing this problem. In the one hand seeks to protect, but on the other hand supporting the commercialization effort. If no serious efforts from the government to preserve underwater cultural heritage, the public desire to use it as a marine tourism object will only stay as a hope. Various models of the utilization of underwater cultural heritage for marine tourism can be proposed as a solution to stop the destruction of the sites and illegal or legal commercialization.*

Geographically, the State of Indonesia inherited a vast archipelagic region compared to other countries in the world. It should be understood that the territorial waters of Indonesia only covers 100,000 km<sup>2</sup> when Indonesia declared independence in 1945 (calculated along 3 miles from baselines). In 1957 the government of Indonesia developed the concept of *archipelagic state* which calculate the territorial waters along the 12 miles from the baselines. When this idea was then recognized internationally in 1982 (UNCLOS 1982), the territorial waters of Indonesia became more greater, which is 3 million km<sup>2</sup>. In addition, Indonesia also have sovereign rights over natural resources outside of the territorial waters as far as 200 miles from the baseline, which is in the Exclusive Economic Zone and Continental Shelf. Since then the sovereignty of Indonesia to the sea area increase again to about 3,000,000 km<sup>2</sup>. If the water areas are added to the land areas, which is an area of more than 2,000,000 miles, then the total areas increase again to around 8 million km<sup>2</sup> (Djalal 2008, Martindas et al. 2007). Indonesian territory consists of over 17 thousand islands stretching from west to east along the 6400 km and from north to south along the 2,500 km. If compared with Europe, its length is equal to Europe drawn from Ireland in the west to Kazakhstan in the East, and from Latvia in the north to Turkey in the south.

From the point of view of culture, Indonesian archipelago is the home to hundreds of ethnic groups that developed their own distinctive traditions, much of which remains to develop a maritime traditions, including the boatbuilding technology that are still practiced today in various parts of the archipelago (Gibson, 1990; Sukendar 1998/1999). Under the vast waters and on land areas of this archipelagic state, there are very heterogenous natural resources and cultural richness that has long been the attraction of foreign nations to come to Indonesia, whether originating from East Asia, South Asia, West Asia and Europe. Experiences of interacting with foreign nations in the long time periods, either through peaceful and violent processes, have an effect on the dynamics of society and culture of Indonesia (Groeneveldt, 1960; Meiling-Roelofs, 1962; Manguin, 1985; Lombard 1996).

Maritime tradition of the archipelagic nations has been implanted in about 5000 years ago by the ancestors of Indonesia, known as Austronesia speaking people. Cultural heritage of the ancestors, to some extent, still can be traced in the form of archaeological evidence (especially from the megalithic period), and the tradition of people who still live today (cf. Tanudirdjo 2010, Sopher 1965). The peaks of achievements in the past have been associated with the emergence and growth of the largest maritime kingdoms in the archipelago, namely Sriwijaya and Majapahit. Unfortunately, these great maritime tradition then decrease during the western colonial period in the end of the 17th century (Tri Sulistiyono 2007), although the tradition is not entirely extinct, but still survived until now in a number of ethnic groups in the archipelago.

Increased understanding of Indonesia's glorious maritime history and awareness of the great economic potentials of Indonesian waters among the wider community, encouraging various community groups, mainly among high-ranking Navy, to rebuild the maritime spirit for future Indonesia. Even appear a strong wish to built the new Indonesia by using the "sea paradigm" as its foundation (Soeparno, 2010). In academics circle also appears an increasing awareness of the incompleteness of the reconstruction of cultural history of Indonesia because it is too dominated by the perspective of land due to the data mainly comes from the land. Research on the findings of underwater archeology in the number of Indonesian waters produce some new knowledge that led the researchers sought to assess the image of cultural history of Indonesia in a more comprehensive manner (Budi Utomo 2008). Meanwhile in the tourism industry a new discourse emerged which emphasizes the importance of marine tourism for the future of Indonesia tourism by stating "The future of Indonesia Tourism is Marine Tourism" (Junaedi 2007). The facts mention above confirms that the maritime nature of the State of Indonesia had an impact on aspects of political, academic and economic affairs.

## II. ACTUAL ISSUES: Endangered Underwater Cultural Heritage

In terms of underwater cultural heritage relics, Indonesia may be one of the richest countries in Asia. Unfortunately, its management still has not done in an effective and integrated manner so that their utilization was not optimal. If improvements of the management are not taken immediately then the underwater cultural heritage will be endangered. For more understanding of the problem of the management of the underwater cultural heritage in Indonesia, the following list of issues should be noted.

### 1. *Limited access of underwater cultural heritage for the benefit of general public.*

Maritime history sources provide information about the possible existence of thousands of sunken ships in the Indonesian waters. Provisional data recorded by Marine and Fisheries Research Agency (BRKP) in 2005 mentions the existence of 463 sites of the sunken ships. Other data mentioned the 254 VOC (East India Company) ships that sank in Indonesian waters. Of this amount, only partially located precisely known by the public, even fewer that can be accessed for various uses, including for tourism. The exact number was unknown because the data has not been managed in an integrated way. Many of the identified sites are not accessible for public interest due to the restriction of utilization allowed by government regulation.

### 2. *Underwater cultural sites in Indonesia are critically endangered.*

This phenomenon is not only due to various illegal activities, but also legal activities that can not be supervised effectively, such as exploration of valuable objects from the sunken ships (VOS) that has been done since 1989. This legal exploration is marked by the issuance of Presidential Decree which provide investors to conduct commercial utilization of VOS.

### 3. *The drive of economic interest is stronger than the interests of culture.*

The findings of VOS that has important value for the history, science and culture in general also have high economic value, therefore these items are highly vulnerable to the possibility of commercial use, whether done legally or illegally. In fact more exploration activities conducted for commercial purposes rather than for cultural development (Handayani et al, 2010; Kalim et al 2010).

### 4. *The ambiguity of the government in the management and utilization of underwater cultural heritage.*

In one hand the government intended to protect, but on the other hand intended to commercialized it. Both can run with the different direction and often colored by conflict situation without significant solution, because each has a legal basis to carry out its functions. Government's commitment to preserve supported by State Law no. 5/1992 (then renewed by State Law No. 11/2010). While the attitude of the government for commercial purposes is

facilitated by the Presidential Decree Concerning The National Committee for Salvage and Utilization of Valuable Objects from Sunken Ship) which have been issued since 1989 and updated several times.

5. *The government has not been firm in addressing the UNESCO convention on the protection of underwater cultural heritage (PUH).*

Until now, Indonesia has not been able to decide whether the UNESCO convention should immediately be ratified or not. This decision will bring far-reaching consequences, because this document is clearly prohibited underwater cultural heritage for trade, and requires member states to set up a viable system of protection of underwater cultural heritage. A number of reasons put forward as to why Indonesia did not ratify, such as Indonesia have not been able to control the widespread's underwater cultural heritage site that potentially of being stolen by illegal treasure hunters; the national law that has not been harmonized; and the need to increase state revenues to alleviate poverty. In contrast there are some good reasons to immediately ratify because of the commercialization of underwater cultural heritage is valued only momentarily economic or profit-oriented, and in terms of culture it can eliminate the important information and physical evidence of the national maritime history (Rahardjo 2010; Ghautama 2011).

6. *Various government institution have proposed to build maritime museum.*

This enthusiasm does not only arise from the central government, but also from the local governments. Indonesia has made plans on the establishment of a national maritime museum, but not yet have a clear blueprint of how this maritime museum will be built, either in its philosophy; the material that should be presented; the choice of the location where the museum will be erected, sources of funding and schedules implementation.

### III. MANAGEMENT OF UNDERWATER CULTURAL HERITAGE: Conservation vs. Commercialization

The exact number of archaeological sites recorded in Indonesia is uncertain. Based on information compiled by BRKP, Ministry of Marine Affairs and Fisheries (2005) showed the following figures (Directorate General of Marine, Coastal and Small Islands 2005:2-3):

No.	Area of distribution	Qt of spot
1	Bangka strait	7
2	Belitung	9
3	Gaspar straits, South Sumatera	5
4	Karimata strait	3
5	Riau Waters	17
6	Malaka Strait	37
7	Seribu Islands	18
8	Jawa Tengah Waters	9
9	Karimun Jawa, Jepara	14
10	Madura Strait	5
11	NTB / NTT	8
12	Pelabuhan Ratu	134
13	Makassar Strait	8
14	Cilacap Waters, Central Java	51
15	Arafuru-Maluku Waters	57

No.	Area of distribution	Qt of spot
16	Ambon-Buru Waters	13
17	Halmahera-Tidore Waters	16
18	Morotai Waters	7
19	Tomini Bay, Sulawesi Utara	3
20	Irian Jaya	31
21	Enggano Islands	11
Total:		463

Institutionally there are two parties under the Indonesian government of Indonesia that has a great concern in the management of underwater cultural heritage. The first party is the Ministry of Culture and Tourism through the Directorate General of History and Archaeology, and technically co-ordinated by subordinate institution, eg. Directorate of Underwater Heritage. In some provincial areas that have water areas, there are local agencies known as Office for Protection of Archaeological Heritage, which perform tasks such as conducting management (protection, development, and utilization) of archaeological heritage at a local level (on land and underwater). Directorate of Underwater Heritage is actually still very young, newly established in 2005. Therefore it is still in the initial stage and still face many obstacles, especially in terms of equipment, and human resource. This institution works on the basis of The State Law No. 11/2010 Concerning the Cultural Property. This law is a product of new legislation which replace the previous State Law No. 5/1992 that are considered no longer suitable for present conditions. Although this new law contains many changes from the previous one, but the underlying spirit remains the same, which is conducting preservation of archaeological heritage.

The second party that has a great attention to underwater cultural heritage is a committee known as the National Committee for Salvage and Utilization of Valuable Objects from Sunken ship (VOS), known as PANNAS-BMKT (NCSU-VOS). Initially this committee was established by Presidential Decree No. 43/1989 then replaced several times by new presidential decrees, ie. No. 107/2000, then No. 19/2007, and finally no. 12/2009. The NCSU-VOS is chaired by the Minister of Marine Affairs and Fisheries and designed as a cross-departmental organization involving no fewer than 15 related-government institution, including the Ministry of Culture and Tourism. It should be kept in mind that the spirit of the government to utilization of underwater cultural heritage is inseparable from the bitter experience of illegal exploration in the Riau archipelago in the early 1980's. The exploration result from two shipwreck sites was successfully auctioned at a price of over U.S. \$ 2 million and U.S. \$ 15 million (Handayani 2010: 60-61). Seeing the huge economic potential, it finally issued the Presidential Decree.

Implementation of the Presidential Decree of NCSU-VOS is often marred by internal conflicts between the two main representatives in this organization, namely representatives of the Ministry of Culture and Tourism (cq. Directorate General of History and Archaeology), and representatives of the Ministry of Marine Affairs and Fisheries (cq. Directorate General of Marine, Coastal and Small Islands). Revision of the Decree can not be separated from the internal atmosphere of conflict between the two institutions that dominate NCSU-VOS. Although this Presidential Decree undergone several revisions, but the spirit of the law does not change significantly from the original design, namely as a legal instrument to commercialization of underwater cultural heritage.

The main task of NCSU-VOS in accordance with Presidential Decree is to coordinate the management of VOS. The term "management" refers to three main activities, namely surveys, removal, and utilization. The ultimate and main goal of this management is to sale

VOS to third parties. It means very clear that the committee was basically treat underwater cultural heritage as "an economic good" that can be sold as a commodity in trading affairs. In contrast, the Directorate General of History and Archaeology treat underwater cultural heritage as "cultural objects" that must be protected from possible damage or missing from the territory of Indonesia. The term "utilization" from the standpoint of this institution, in accordance with the mandate of State Law no. 11/2010, is for the interest of religious, social, education, science, technology, culture and tourism (Article 85). In fact the exploration of underwater cultural heritage is mostly done by NCSU-VOS, especially toward shipwreck sites of high economic potential. It is common sense that most VOS of high economic value is also of significance in terms of history, science and culture. But because it is done by those who run the activities of utilization for commercial purposes, then the function of preservation becomes less attention. The main drawback of the work of NCSU-VOS is the lack of efforts to protect the wreck which was very important in terms of science, and the lack of efforts aimed at conservation, especially of objects that are considered less valuable economically.

In its function as an institution of underwater cultural heritage conservationists. Directorate General of History and Archaeology also conducts exploration activities, especially survey and mapping archaeological sites under water. Unlike the NCSU-VOS, this institution did not conduct an intensive intervention of cultural objects under water, but more emphasis on mapping the location and identification of potential findings from the standpoint of history, science and culture. So far this institution has mapped about 50 sites in various regions in Indonesia. Yet these institutions face obstacles that can not be overcome effectively, namely in terms of securing the site in a large area with a limited number of human resources (Ghautama 2011). Therefore, it can still be found cases of a number of sites that were damaged or stolen by looters who knew the spot location of these sites. Thus the function of this institution faces two problems from different sides, firstly is facing thefts or looters at the sites that have been mapped on the one hand, and secondly is facing the commercial exploration legally by other the government agency (NCSU-VOS).

Because of the strong funding support from investors, NCSU-VOS can move more rapidly in VOS exploration than what can be done by the Directorate General of History and Archaeology. Data from the years 2001-2010 mention as many as 80 shipwreck sites has obtained a license for commercial utilization, as many as 71 sites have been surveyed and the remaining nine sites have been removed from underwater (PANNAS-BMKT 2010). This data confirms the potential loss of the 80 wreck sites in the near future. The question then is "is there any alternative approach that could unite the conservation interests with the commercial interest?" The answer to that question is "yes". The eloquent solution is by placing underwater cultural heritage equal as to other cultural heritage in the world, namely as an object of tourism attraction. Through this approach all the parties concerned shall establish standards of ethics and shared responsibility in using and managing this common property resources (cf. Mather, I.R. et.al, 2002: 598-599; cf. Ardiwidjaja 2009). Thus the interests of all parties can be met because of this cultural heritage is not just limited to academic interest such as object for research for example, but also accessible to those who love of diving recreation, marine tourism enterprise, and local communities.

#### IV. UNDERWATER CULTURAL HERITAGE FOR MARINE TOURISM.

Underwater cultural heritage has some possibilities to be developed for marine tourism depending on the types. Operational definition of underwater cultural heritage was formulated in the UNESCO Convention on underwater cultural heritage (UCH). The formulation of the Convention stated as follows:

"All traces of human existence having a cultural, historical or Archaeological character the which have been partially or totally under water, periodically or continuously, for at least 100 years Such as:

- (i) sites, structures, buildings, artefacts and human remains, together with Their Archaeological and natural context;
- (ii) vessels, aircraft, other vehicles or any part thereof, their cargo or other contents, together with their archaeological and natural context; and
- (iii) objects of Prehistoric character".

There are many ways on the explanation of why UCH were drowned under the seabed. If the formation of shipwrecks sites is the case, it may be undergone by storm winds, waves, war, fire or pirate. Airplane could crash at sea for many reasons, human settlement could be drowned due to subduction, shifting of sea plate, or land's shrinkage because of rising sea levels due to the end of the ice age.

If our focus is taken to shipwreck, we have to consider three aspects that need special attention, there are (i) the ship, (ii) the cargo, and (iii) the site. Various categories of ship could be found in Indonesia waters, eg. traditional or Asian ship or boat that sink before the coming of European; European ship before WWII, Various WW II ships from Japan, Dutch, and The USA, and ships from the post WWII period. The second attention is cargo. Included in this category are trading commodities (staple foods, fruits or other basic needs; luxury items such as ceramics, glass, beads, jewelry etc), ritual items (statues or other sacred items), gift for tribute, personal equipment (passengers and crews), ship equipments (kitchen utensils, tools of navigation, armor etc), residual activity in the vessel (garbage etc.), organic remains (human, animals, plant), and war equipment (guns, armored, etc.). In fact those items can not always be present together in one site, often separated from each other.

The last attention is the sites. Underwater cultural heritage sites of interest can be divided into three basic categories: (i) shallow-water, i.e., up to 30 m; (ii) medium depth sites, i.e., between 30 and 60 m; and (iii) deep-water sites, i.e., in depth beyond 60 m. The depth about 30 m is the normal maximum and practical (low-cost) for conventional scuba equipment; the second category is workable, but high cost; and the third category is the depth where remotely operated vehicles (ROV) and unconventional or commercial diving technology would be required (Green 2004: 347).

Archaeologists see shipwrecks as unique, fragile, non-renewable cultural resources that are an important element of underwater heritage. Shipwrecks also offer unique, spectacular and fascinating diving experiences and have considerable aesthetic appeal to divers (Edney 2006:201).

According to various conditions, UCH could be developed as a tourism attraction in several ways, either underwater-based or land-based. We proposed five utilization models as follows:

1. *Site-based model.*

This model is the most ideal for marine tourism. By this model, the object should be placed at the original location, which is under water. The disadvantage of the implementation of this model is that the objects are usually only be enjoyed by limited visitors who have the ability to dive with the diving instrument (SCUBA) that meets the standards. But that limitation can be overcome by using underwater advanced technology that allows non-diver visitors to enjoy it. Utilization of this model can be considered when the shape of the object is a big shipwreck or underwater cultural landscape. The only place in Indonesia that has long been developed into a maritime tourist attraction with this model is a site of USAT Liberty shipwreck in the coastal waters of Tulamben, East Bali. This site is one of the safest wreck dives in the world. This armed cargo ship was built in 1918 and served as a supply ship During World War II. It was torpedoed by Japanese submarine in 1942. It now sits on a black sand shelf that slopes from about 6-30m. The USAT Liberty Shipwreck is vast: originally 120 m (394 ft) long and 16 m (54 ft) beam and 6211 tons. Its visibility is 50-30 m, the depths

of 3-37 m. Underwater topography has large concentration of huge corals, sponges, gentle slopes. The Liberty has become one of Indonesia most beautiful artificial reefs (Delfs 2003). The shipwreck and its surroundings stay as it is for the growth place of coral reefs as well as the location of spawning fish. The site is starting to become a dive spot since the 1980s and later managed by the local community of the village of Tulamben. Viewed from the perspective of community development, the management of USAT Liberty site considered successful because it concretely could create new jobs, increase new income for local community, and improve self confidence of the villagers without much intervention from the government (Bawono 2008). Other places in Indonesia that has the potential to be developed with this model are sites in the Thousand Islands, Karimunjawa Islands, and the Raja Ampat Islands. All three are part of the Marine National Park. Other places that probably have the same potentials and still need to be explored are East Sumatra waters, Bangka Belitung waters, Makassar waters, Morotai waters (North Maluku) and Manokwari waters (Papua) (Bahar, 2009; Ghautama 2011). Included in this category is a wrecksite in the ground that once was underwater. Examples of recently discovered is the site of an ancient boat on the beach of Rembang, Central Java (Siswanto 2010).

It should be kept in mind that not all underwater cultural heritage can be easily exploited for the benefit of the lucrative tourism and meet safety standards. Technical factors such as depth, visibility, current strength and the distance to the beach need to be taken into account. It should also be considered other factors such as the diversity of marine life, landscape of the site, as well as the conditions of the object, such as novelty or characteristic of the feature and also historical background of the object. Another important thing to remember in terms of security is that some kind of underwater cultural heritage is very dangerous when visited by the public, such as shipwrecks containing toxic liquid materials or explosive materials that are still active (cf. Hunter 2001, Ghautama 2011 ).

## *2. Museum-based model.*

According to the presentation of the collection in museum, this model can be divided into two category, namely (1) museums that put the underwater cultural heritage it as the main collection, and (2) museums that put the underwater cultural heritage not as the main collection, but as part of other collections as a whole. Included in the first category is the Maritime Museum (Museum Bahari) in North Jakarta, and the Samudera Raksa Museum at the The Park of Borobudur Temple in Magelang, Central Java. Whereas in the second category is the National Museum of Jakarta and probably several other smaller museums in some provinces of Indonesia. Collections of Museum Bahari consist of some examples of famous traditional boats from several places in Indonesia and also examples of some componen of modern ships. In addition it also showcased examples of marine life found in Indonesia waters. However, no examples of significant findings come from the sunken ship. From the standpoint of the collection, the museum is less raised an overview of maritime history of Indonesia.

The main object in the Samudera Raksa Museum is a replica of the ancient Indonesian ship carved on Borobudur temple. The replica of this ship had successfully tested to sail from Java to Gana in West Africa. Other collections are Chinese ceramics from the Tang Dynasty that were found as shipwreck cargo from Cirebon waters. Several other collections are real most famous commodity of Indonesian archipelago, namely spices (nutmeg, pepper, clove, and cinnamon). Other collection are examples of tradisional shipbuilding technology from Indonesian archipelago. As for the Jakarta National Museum contains a collection of shipwreck cargo, especially chinese ceramics findings from various sites in Indonesia. Some maps also presented as a supporting image for the the reconstruction of ancient trade network between Indonesia and other countries. Several smaller museums in some provinces may also have a collection of the same materials.

In addition, maritime cultural heritage is also displayed through contemporary exhibitions, whether within or outside the museum. This contemporary exhibition activities primarily intended to provide public education and raising awareness of cultural heritage in general.

### 3. *Open-air based model.*

We found these models very rarely in Indonesia. Generally, the main object of this model is a real ship from the past, or model of famous ship or boat from the living tradition. Indonesian well-known example of this model is Submarine Monumen in downtown Surabaya (known by acronym as Monkasel stand for Monumen Kapal Selam). The one and only main object is a former Submarine of Indonesia Navy that have been used during the operation of the liberation of West Papua in the early 1960's. This Russian-made submarine was named Pasupati, the name of powerfull weapon of the Pandawa hero, Arjuna. The main tour guides of this "open museum" are retired Navy who have emotional ties, directly or indirectly, with this ship. Another kind of this model is to put a replica of traditional ship model in the public space, as can be seen in a supermall in Dubai.

### 4. *Combination of Museum base-and open air-base.*

This models usually very attractive because represent comprehensiveness of the story or the mission of the museum. The most famous example of this model is a 17<sup>th</sup> century Swedis warship, Wasa, in Stokholm, Sweden.

### 5. *Underwater/Maritime Heritage Trail model.*

This models include more than one sites and usually need more complex organization to managed effectively. This model is very recommended to be developed in Indonesia, because it is very effective to promote public education, and encourage public participation in underwater cultural protection and management. As a public program this models generally attract young generation and involves many stakeholders, particularly in marine tourism sectors. Implementation of this model can be found in many parts of the USA (Watts Jr, Gordon P. and Ian Roderick Mather. 2001).

## V. INTEGRATED MANAGEMENT: conservation and sustainable utilization.

Without any attempt to do the preservation of underwater cultural heritage, this fragile cultural heritage will be endangered in the near future. If this happens, public access to cultural heritage is also difficult to obtain. Commercialization of underwater cultural heritage is a form of marginalization of cultural asset that is very detrimental in terms of public interest, either for the purpose of education, science and recreation. This situation will be worsen if the government did not comitt seriously, especially if the government keep trying to sell them as commodities to increase state revenue in a short time with a reason to overcome poverty. Real economic gains over long term can still be pursued and does not need to sell. This can be done if we developed integrated management system. In this respect, at least we have to consider four key aspects in managing underwater cultural heritage, i.e. (1) exploration, (2) database development, (3) protection, and (4) utilization.

Exploration of underwater cultural heritage, basically can be done on the basis of two considerations, namely the practical and scientific or theoretical. Practical consideration usually involve removal action of underwater site or other intervention carried out in emergency situations, for example for rescue purposes or for the prevention of sites from destroyed or annihilated. Another practical consideration is that action can possibly provide long-term benefits for society at large, e.g., for display in museums as an example of masterpiece that can be enjoyed by the public. The exploration undertaken on the basis of scientific consideration is planned actions intended to address the problems in science that need to be answered. These activities are generally not followed by an intensive intervention of artifacts from the original site. However it is also possible to lift some of the relics from underwater for more in-depth analysis purposes, such as laboratory analysis.

Any exploration activity, both for rescue purposes and scientific research must produce sufficient documentation or data base. Standard forms of data base may include reports of research, audio-visual recording.

Database is an important source to determine the next programs, namely the protection and utilization. Included in the protection aspects are conservation, maintenance, and security. While aspects of utilization include academic (research, and education), ideologic (e.g. planting the values of nationality), economic (as an object of tourist attraction) or a combination of these aspects. It should be emphasized that not all sites of underwater cultural heritage can be utilized because there is a possibility that a number of sites should be closed to public access because it has the potential to harm, such as the shipwreck which contain toxic liquid or explosives materials.

It should be emphasized that economical utilization should not be directed at short-term goals by selling, but directed at the long-term goals with respect to the principle of sustainability. From the perspective of sustainable management, utilization is basically one aspect of preservation. One paradigm that is used as a guide for future management of cultural heritage is to strive for the utilization of cultural heritage for the benefit of the masses while still holding the principle of conservation.

If this principle is applied in the utilization of underwater cultural heritage as a marine tourist attraction, the conservation principle is not only imposed on underwater cultural heritage, but also on the natural heritage around the site, such as coral reef ecosystems .

In order to improve the quality of the utilization of underwater cultural heritage, Indonesia can learn from other countries that have more advanced and experienced in this field, for both scientific and tourism utilization (cf. Broadwater 2001; Cederlund 2001). Successful mission in underwater cultural managements would be more easily achieved if the government of Indonesia has a strong commitment to do two things, namely to ratify the UNESCO convention on the protection of underwater cultural heritage (Rahardjo 2010) and over come the most crucial problems, particularly in improving capacity of human resources, quality standard of equipment, and security sistem for monitoring sites in areas far from the control-bases.

Another effort that could be carried out is to encourage public awareness on the important of our fragile cultural heritage to be protected as long as we could for the benefit of our present and future generation.

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