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STRENGTHS AND WEAKNESSES TO MAINSTREAM MARINE ARCHAEOLOGY IN PAKISTAN

Kanwar Muhammad Javed Iqbal¹, Abdul Aleem², Naureen Fatima³, Sadia Abdullah⁴

^{1,2,3,4} National Institute of Maritime Affairs, Bahria University, Islamabad, Pakistan

² Vice Admiral (Retired), Pakistan Navy and HI(M)

Email: kanwar.javediqbal@gmail.com

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ABSTRACT

World has now focused on maritime heritage on account of its cultural, historic, archaeological, and scientific values. So far, most of the research is done on the land based (on-shore) component and lesser on water based (off-shore) or UCH. Worldwide, UCH still remains unsung while in the case of Pakistan, it is almost totally neglected. In the context, this paper was meant to explore the prospects of marine archaeology in Pakistan by examining the tapped, un-tapped and un-mapped potential viz-a-viz existing governance framework. Based on the overall assessment of existing gaps through SWOT analysis for the current state and future prospects of Pakistan's marine archaeology, this paper suggests way forward for good and sustainable governance to mainstream the agenda of marine archaeology in Pakistan. Considering the potential and possible prospects based on SWOT analysis, Pakistan has a greater likelihood for the presence of rich marine archaeological resources both on-shore and off-shore. The off-shore archaeological component is still un-mapped and un-tapped in Pakistan for which a number of gaps are quite visible including the non-existent policy, vision, capacity, financial resources and the governance framework in the context of 18th amendment in national constitution of Pakistan which is particularly important for policy and legal arrangements for Shipwrecks and other UCH. These policy and legal arrangements must ensure maritime heritage protection through rewards and penalty system for effective implantation of laws and regulations, and should acknowledge the efforts for archaeological and technological advancements in underwater cultural heritage protection.

INTRODUCTION

World has now focused on maritime heritage on account of its cultural, historic, archaeological, and scientific values. Although, water-borne transport system has eased the exploration of the globe to a great extent but most of the research is done on the land based (on-shore) component and lesser on water based (off-shore) or Underwater Cultural Heritage (UCH) worldwide. Although, the UCH presents rich historical and cultural heritage but still remain unsung and needs much consideration at global level (Petriaggi *et al.*, 2018), while in the case of Pakistan, it is almost totally neglected.

Considering the potential and possible prospects for Pakistan, the geographical location of the country on ancient silk trade route has historic relationship with Arabian Peninsula; as being the oldest trade route for spices and other products. This is an indicative of a greater likelihood for the presence of rich marine archaeological resources both on-shore and off-shore in Pakistan. The existence of civilization of port city Bhanbhore dating to the 1st century BCE (Scytho-Parthian era), Metallic Chest Armor and Shield (having Kalima written in Kufic script) of Muhammad Bin Qasim's troops found on the coast of Ormara dating to the 8th Century AD (as shown in figure 1 and 2, preserved at Pakistan Navy Museum Karachi), and reported two shipwrecks adjacent to Manora Island (dating to Anthropocene era) show a great potential yet to be explored; particularly in marine waters of Pakistan.

The presence of UCH and shipwrecks in territorial waters add value in the field of education and research. It is obvious that the cultural and historic values would likely generate revenue and certainly have economic opportunities. However, achievement of Blue Growth from the promotion of UCH and their preservation is still a question mark. Moreover, obsolete or costly preservation methods and harnessing techniques, lack of financial resources and funding gaps for research and protection of UCH sites in Pakistan are the factors which hinder the opulence of maritime archaeology. Absence of Legal Arrangements for UCH and profit-making approach by compromising the archaeological standards are the serious threats to the maritime archaeological prosperity. Nevertheless, with the technological advancements in underwater archaeology, the access to UCH for salvors and divers has become easier now (Jing, 2017).

For several millennia waters have separated but also allied civilizations. They have been the possessors of innumerable human adventures. Various traces of the warriors, travelers and merchants are resting on the lowest of oceans, rivers and lakes. Around the planet, there are plenty of shipwrecks spread across oceans. Some of the wrecks are more than thousand years old hiding valuable historical information. Naturally, ship wreck is authentication to trade as well as cultural dialogue among people. Historic shipwrecks are generally believed to be as time-capsules. These historic cache store rich UCH, which provide information about the ships, cargo, onboard people, the wrecking event, and the reflection of the society in a particular time period. Historic wrecks are not only information source but they also show museum displays and other modes of sharing information to the general public. These insightful and rich cultural resources also add value in the field of education and research (Hutchinson, 1996). Deadly events of World War I & II have also left

us with different important historical and factual evidence in the form of UCH (shipwrecks, war artifacts, submerged artifacts) sunken at the bottom of Mediterranean Sea (Argyropoulos & Stratigea, 2019).

However, increasing interest in shipwrecks and exploitative actions are quite worrisome. Increased use of technology regarding shipwrecks' commercial exploitation, lack of cognizance about the cultural prospective and complacency concerning size of the underwater reserves have brought UCH at greater risk. During nineteenth and twentieth centuries, better navigation and safety at ship had been assumed to lessen the number of vessels that sunk. The shipwrecks were also countered due to the progress in sea warfare (Hutchinson, 1996). On the other hand, the shipwreck's activities in UCH were not covered under part XIII of UNCLOS (UN Convention on the Law of the Sea) in 1982. Therefore, these activities did not contribute in marine scientific research for many years. However, after the UNESCO Convention on the UCH protection in 2001, the protection of UCH gained widespread support at least in maritime states and got serious consideration about potential mechanisms for regulation of salvage activities in compliance with global archaeological standards (Dromgoole, 2010).

Moving ahead, imagination of the people has been captured by stories of the old Silk Road globally. A trade routes network linking East and West Asia has connected ancient China with the world for trading spices, silks and other goods in the past. These trade routes traversed through Central Asia, India and what is now Pakistan. At present, a new Silk Road is beginning to open its way from China down through Pakistan down to the Arabian Sea while the western corridor wind-up at Gwadar and in Karachi. A maritime Silk Road was established between Chinese owned Giaoch (nearby Hanoi which is modern Vietnam now) during the first century. It stretched through coastal ports of India and Sri Lanka to Roman owned Egyptian ports and Nabataean terrains on the coast of Red Sea. With rich cultural history, long serene coastline with many internal waters, China has considered to be one of the most culturally blessed country in respect to UCH. With the strong maritime power, China is also taking actions for the preservation of its UCH resources. There are numerous submerged UCH resources in Bohai, the East China Sea, and the South China Sea along with thousands of shipwrecks (Jing, 2017).

Touching the other side of the world, in recent years, a huge number of archaeological resources in North Sea have been discovered, starting from prehistoric landscapes to hidden archaeological artifacts paleontological relics. (Maikel). It has been observed in South Asia that maritime archaeology is still in its infancy stage, despite the fact that Asia region has been blessed with sufficient shipwreck concentrations and a rich maritime past back in thousands of years. East Malaysia, Indonesia, and the Philippines develop a huge archipelago on the coasts of Thailand, Vietnam, & West Malaysia (Flecker, 2002).

In India, marine archaeology was evolved in 1970s when Dr. S. R. Rao, a retired archeologist of the Archaeological Survey of India discovered man-made structures of 3rd to 4th B. C at DWARKA off Gujrat on the western coast of India. Later, the Chola structures were found at Poompuhar off Tamilnadu

on the eastern coast of India. This pioneer work of underwater archaeology was done in the National Institute of Oceanography, India. In 2000, the National Institute of Ocean Technology (NIOT) of Chennai accidentally detected a huge site at a depth of 30m in the Khambhat Gulf, Cambay, which included large man-made artifacts i.e., irrigation tanks, check dams (Ganghadharam, 2004).

While discussing the case of Pakistan, it is of great importance to discuss the current available information about archaeological underwater heritage in the country. Lam Geotechnics Ltd. conducted an assessment of 'Pakistan Deep Water Container Port' (PDWCP) Project area whose report mapped the underwater sites inclusive of two shipwrecks adjacent to Manora. Furthermore, reservoirs and dams immersed thousands of human communities within the country. In 1960s, around 250 settlements immersed into Mangla Dam inclusive of Dadial where there was Sikh dominance and Old Mirpur which was a Hindu town. There are around 600 archaeological sites as per personal observation. Topographic sheet of the region exposes several archaeological locations belonging to Hindu period to Dogra era (Ahmed, 2019).

Although marine or under water archaeology is one of the most auspicious and instructive branches of archaeology, but Pakistan lacks proficiency in the domain of archaeological research and underwater legacy which is also not yet recorded. Pakistan is also blessed with on-shore archaeological resources as well as underwater archaeological resources on more than 1000km serene and sandy coastline in the provinces of Sindh and Balochistan. In the past, off-shore marine component had strong ties with freshwater channels through river Indus in Pakistan. Excavation of Steamer Indus was conducted by the underwater archaeologists from India and Sri Lanka which was recognized for being full of antiquity mainly from ancient Gandhara civilization. Although efforts were being made to make Pakistan a potential part of the project but weak underwater expertise in Pakistan continued to be the main obstacle in the efficient participation of country's archaeologists in the aforementioned under sea project (Ahmed, 2019). However, on-shore archaeological resources have been found; particularly in Bhanbhore in Sindh and Ormara in Balochistan.

In 1970s and 1990s, tens of thousands of persons were displaced by two major hydropower projects namely, Tarbela and Ghazi Brarotha. Evidences of underwater cultural resources are reported under lakes, rivers, and Indus Deltas. Moreover, at a spot inside Tarbela dam pump house, a Japan origin sculpture was found which Kurita (the founder of the sculpture) published. It was estimated that the construction of Tarbela dam would submerge 400 square miles comprising several archaeological locations. The underwater archaeology has direct linkage with maritime/coastal tourism segment in blue economy of Pakistan. With different underwater maritime tourism activities including snorkeling through which underwater cultural resources can be explored.

It is important to enhance the expertise of Pakistan in underwater archaeology as this ignorance is a threat to national security viz-a-viz contribution in GDP

through promotion of archaeological resources for the purpose of maritime tourism. However, India and Sri Lanka are prospering in this field of underwater archaeological research. Due to lack of awareness about the cultural and economic value of UCH among general public, non-existent vision and policy, poor governance issues, lack of funding for marine archeology, the underwater archaeology study is still at its nascent stage in Pakistan (Ahmed, 2019).

Aforesaid in view, the objective of this paper is to explore the prospects of marine archaeology in Pakistan by examining the tapped, un-tapped and un-mapped potential viz-a-viz existing governance framework. Based on the overall assessment of existing gaps through SWOT analysis for the current state and future prospects of Pakistan's marine archaeology, this paper suggests way forward for good and sustainable governance to mainstream the agenda of marine archaeology in Pakistan.

METHODOLOGY

This paper employed a qualitative research method with standard Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis for overall evaluation; content analysis for scrutiny of secondary sources; and a semi-structured questionnaire-based expert's interviews for primary data techniques to enrich discussion of SWOT factors, and analyses the current state and future prospects of Pakistan's marine archaeology. The SWOT analysis has also been frequently used in business spheres (Valentin, 2011). It was also used by Freire-Gibb *et al.* (2014) for analysing the implementation status of marine strategy framework directive in European Waters. Alhuseen and Kozová (2014) also applied the SWOT analysis technique for the examination of climate change institutional arrangement and policy mainstreaming in Sudan.

Primary qualitative research included content analysis of relevant documents for preliminary screening, questionnaire development and subsequent cross-analysis. Semi-structured qualitative questionnaire based 15 Key Informant Interviews (KIIs) were conducted by including experts and other stakeholders' representatives from academia/think tanks, relevant civil society organizations and government departments. Interviews were conducted face-to-face as well as through electronic means to cover different Territories/Provinces and also taking care of COVID. The questionnaire covered key challenges and shortcomings towards mainstreaming marine archaeology, particularly in the nexus of underwater heritage, the 18th amendment in the constitution of Pakistan viz provincial coordination, various aspects of policies remained under discussion particularly for the Ship-wrecks. Widely practiced Problem Tree / Situational Analysis technique (Hovland, 2005) was employed prior to examining through a single table SWOT analysis technique due to a number of interdependent issues.

SWOT ANALYSIS

The results below present the findings of the SWOT analysis employed for the purpose of the study. The analysis below (Table 1) sums up the current conditions for the advancement and mainstreaming of the agenda of Marine Archaeology in Pakistan. Each SWOT factor is carefully explained below to

understand the current status of marine archaeology and deciphers a way forward to mainstream it in Pakistan.

Table 1: SWOT Analysis to Mainstream Marine Archaeology in Pakistan

<p>Strengths</p> <p>S1: Geographical location on ancient silk trade route</p> <p>S2: Dedicated Government's department for archaeological and cultural heritage at federal and provincial level</p> <p>S3: Explored existence of ancient civilizations in many parts of Pakistan</p> <p>S4: Willingness for Marine Archaeology</p>	<p>Weaknesses</p> <p>W1: Lack of awareness and understanding</p> <p>W2: Issue in definition for maritime heritage</p> <p>W3: Overlaps in Governance Mechanism - Federal vs Provincial Arrangements</p> <p>W4: Accessibility of underwater sites</p> <p>W5. Obsolete or costly preservation methods and harnessing techniques</p> <p>W6: Capacity gap (Skilled Human Resource, Technical, Technological etc.)</p> <p>W7: Lack of Financial Resources and Funding gap</p> <p>W8: Loss of precious past records and information</p>
<p>Opportunities</p> <p>O1: Rich resource of knowledge with historic cultural value</p> <p>O2: Presence of UCH and Ship Wrecks in Territorial Waters</p> <p>O3: Attraction for the promotion of Maritime Tourism</p> <p>O4: Economic Value</p> <p>O5: Global Dynamics for Conservation Need</p> <p>O6: Un-tapped and Un-mapped UCH in territorial waters of Pakistan</p>	<p>Threats</p> <p>T1: Absence of Legal Arrangements for UCH</p> <p>T2: Looting and destruction threats</p> <p>T3: Regional pressure in Indian Ocean Region (IOR)</p> <p>T4: Negative Impact of poorly designed technological applications on marine ecosystem in exploiting UCH.</p> <p>T5: Negative impacts of marine and coastal infrastructure projects on UCH preservation</p> <p>T6: Profit making approach by compromising the archaeological standards</p> <p>T7: Dwindling of fragile and finite UCH due to natural and anthropogenic processes</p> <p>T8: Lack of accurate picture and un-surveyed area of Pakistan's marine archaeological sites - a serious hindrance in planning of UCH expedition</p> <p>T9: Security of UCH</p>

Strengths

In 1921, first civilization was identified at Harappa in the Punjab province and then at Mohenjo-daro in the year 1922 nearby river Indus located in Sindh. In 1980, the remains of Mohenjo-daro were labelled as “UNESCO World Heritage Site” as it is considered as one of the most ancient cities worldwide. Gandhara civilization comprises of famous cities; Taxila, Peshawar and Mardan where the remains are still found. Moreover, Pakistan is a “treasure-house” with regards to Muslim architecture. All major monuments like Wazir Khan Masjid, the Royal Fort, Tombs of Asaf Khan, Jehangir, Noor Jehan and the Shalimar Gardens, Hiran Minar are all situated in Lahore. While, masjids, shrines and fortes which are the masterworks of Muslim architecture are located in and around Bahawalpur and Multan (S3).

Currently, the Department of Antiquities, Government of Sindh in Karachi is working for the protection of archaeological resources in the Sindh province. At federal level, the Taxila Institute of Ancient Civilizations Quaid-e-Azam University, Islamabad has also included Underwater Archaeology course in its Masters Programme curriculum as Arch - 332. Pakistan Maritime Museum (PMM) by Pakistan Navy is the knowledge hub for underwater archaeology in Pakistan. This shows the dedication and interest of the government for archaeological and cultural heritage at federal and provincial level in Pakistan (S2).

The maritime silk route was originated from China, Hanoi, and modern Vietnam in the first century. It passes through ports on the Indian and Sri Lanka's coast to roman controlled territories of the Nabataean and Egypt on the north-eastern coast of the Red sea. In 2015, a new silk road unfolded originating from China run through Pakistan via western corridor at Gwadar in Balochistan coast and the eastern part in Karachi ending towards the Arabian Sea. The China Pakistan Economic Corridor (CPEC) is being developed at an expense of US\$ 46 billion. CPEC, being network of roads, railways, and pipelines will shorten the long distance between China & Europe by cutting the transshipment cost of different goods including oil and gas to the western provinces of China. For Pakistan, CPEC is a game changer if it is managed properly (Mckay, 2016). Therefore, Pakistan has historic relationship with Arabian Peninsula; as being the oldest trade route for spices and other products (S1).

In recent years, a huge number of archaeological resources in North Sea have been discovered, starting from prehistoric landscapes to hidden archaeological artifacts paleontological relics. In view of rising pressure of commercial anthropogenic activities at sea, it is the right time to map these UCH resources before their larger parts will be permanently lost. Belgium developed some potential maps exhibiting marine areas sensitivity to human settlements. These maps were developed by the integration of paleogeographical information with already existing historical and archaeological information. It resulted into 3D Geo-archaeological Preserving Models which can then be translated into potential archaeological maps that identified key potential archaeological zones in Belgium part of North Sea (Vos. 2015). So far, Pakistan has also

explored the existence of ancient civilization in many parts of Pakistan and its experiences may be used for planning UCH expedition (S3).

Considering the country's capability in marine archaeology, UNESCO underwater archaeological courses were completed by Amjad Ali and Atiqueur-Rehman who later on proposed two projects to funding agencies related to underwater archaeology. Underwater surveys on archaeology are now a prerequisite for conducting pre-operational valuation projects. LAM Geotechnics conducted an assessment of Pakistan Deep Water Container Port (PDWCP) area whose report mapped the underwater sites inclusive of two ship wrecks adjacent to Manora. Furthermore, reservoirs and dams immersed thousands of human communities within the country (Ahmed, 2019) (S5).

Weaknesses

The UNESCO definition for underwater cultural heritage only covers all maritime heritage under the ocean, which narrows down the scope of maritime heritage. However, maritime heritage exists not only under ocean but also exists on the offshore (Jinliang, 2012). There is need to widen the definition of maritime heritage by the inclusion of other essential components, which will ensure effective implementation of laws, policies, and regulations for the recognition for the vital maritime heritage in different countries accumulated over the centuries (W2).

Moreover, sea blindness and lack of awareness to general public about the cultural potential of coastal areas and underwater shipwrecks and the size of UCH sites pose obstacles towards mainstreaming marine archaeology in Pakistan (Hutchinson, 1996). Furthermore, commercial operators generally make money by selling historic ship wrecks from the sites. Commercial salvors only focus on precious metals and artefacts. However, serious challenge is how to achieve Blue Growth from the promotion of UCH and their preservation (Papageorgiou, 2018) (W1).

One of the biggest challenges for underwater cultural heritage protection is inaccessibility of most of the UCH sites. Therefore, it is quite crucial to extract full information from the sunken ships. Therefore, archeologists note down points to make record about associations of the sunken structures and also take samples of those structures which are not valuable to pirates. Some advanced technologies are required for their exploration first in order to preserve these culturally rich maritime heritage sites (Hutchinson, 1996). A new digital 3-D reconstructions introduced by Petriaggi *et al.* (2018) can be applied to facilitate underwater archeologists and to reach this immense underwater archaeological and historical resources. This virtual reconstruction process helps the archeologists through an exclusives visual representation (W4).

Unfortunately, large amount of information about maritime archaeology is being lost throughout Asia on daily basis due to wrong identification and correction (Huang, 2014). In the 17th century, the East India Company lost around 220 ships. Much of the documentation of the East India Company didn't survive despite of being highly bureaucratic one. At the closure of

trading in 1833 and then abolition in 1858, records of 323 tons vanished in the next successive years. Although, ship's logs and pay of records were recovered to some extent. Cargo bills, and account book's details from overseas settlements didn't survive (Hutchinson, 1996) (W8).

However, UCH preservation methods are found to be costly. In Sri Lanka, drawings, videos & photographic documentation, application of GPS and Remote Sensing have been applied for the underwater archaeological investigation in the Eastern coastal states (Dayananda, 2014). Some cost effective and quicker underwater cultural heritage preservation methods including impregnation agents and drying techniques must be introduced in developing countries like Pakistan (Gregory et al., 2012) (W5).

The underwater archaeological studies also require huge financial resources. In Vietnam, maritime archaeology is a new subject for the country and faces lack of financial resources for related projects. However, it has made great progress with the active Ministry of Culture and Prime Minister's support. (Flecker, 2002). There is a strong gap existing between UCH development and the government archaeology departments needing huge investment for research and protection of UCH sites (Jinliang, 2012). Research collaboration of relevant national, regional, and international stakeholders would be helpful in conserving and management of maritime & underwater cultural heritage treasures (Elgidius, 2015). Sufficient Funding is required in order to conduct maritime archaeological studies in Pakistan (W7).

Moreover, since UCH potential is untapped in Pakistan and there is a lack of skilled manpower for the marine archaeology field complemented with the lack of awareness about the significance of this very sector, general public does not develop interest towards UCH exploration as a discipline. Individuals have no attraction in developing expertise in this domain as there would be job placement issues as well. Like in Indonesia, there is need to enhance the capacity building of our human resource, who have the expertise to develop, protect, and utilize the UCH based on the conservation principles defined by UNESCO for the overall welfare of society (Wahjudin, 2011) (W6).

In recent years, many coastal countries have accomplished good governance control on UCH protection in their territories. However, these control actions do not match by international conventions outside national jurisdiction. There is need to find ways to interpret guidelines of article 149 of the UNCLOS, which demands that all archaeological objects be preserved or disposed of for the betterment of mankind (Hutchinson, 1996) (W3).

Jinliang (2012) recommended that maritime heritage protection must also be given equal importance with other modern development sectors of national policy. National policy must ensure maritime heritage protection through rewards and penalty system for effective implantation of laws and regulations National policy should acknowledge the efforts for archaeological and technological advancements in underwater cultural heritage protection.

There is confusion and overlaps in the existing governance mechanism viz-a-viz federal vs provincial arrangements prior to regulate and govern the marine archaeology particularly the UCH component in Pakistan (W1). At time of independence, the Department of Archaeology in Pakistan opted the policy of the “Archaeological Survey of India” (ASI) which was spelled out in the Conservation Manual (1922) of British India. The Antiquities Act 1975 (amended Act VII of 1976) was passed on 14 January 1976 to repeal and re-enact the laws regarding protection and preservation of antiquities. It extends to the whole Pakistan. The Section V.1 ensures custody, protection, and preservation of those antiquities, which are not in the custody of anyone. Section V-A also provides cash awards to individuals, who report any movable antiquity within seven days of its discovery to the Advisory Committee of Archaeology Department for its preservation and protection. Under Section X, the Government can declare any antiquity to a Protected Antiquity under the Antiquities Act, 1968 (XIV of 1968). Under Section XIII-A, the ownership of buried antiquities remains with the Government. The Section XXVI prohibits the export of any antiquity except for the ones, which have licence from the Director General. Section XXIX prohibits all archaeological excavations and explorations without licence by the Government.

Federal and provincial institutional setup was evolved over the years. But, the jurisdiction of Federal Department of Archaeology and Museums (DOAM) became controversial after the 18th amendment in the national constitution of Pakistan in year 2011. In the backdrop of devolution agenda, a battle was quite visible regarding the control and rights of cultural heritage and museums. Provinces have argued that the control and rights were no more with the federation after the devolution and “403 monuments and sites” became part of provinces on the eve of “Federal Legislative List” (Shahid, 2015). Since then, the provinces have promulgated their own laws. Balochistan and Sindh are the two relevant provinces for the agenda of Marine Archaeology in Pakistan. The Balochistan Antiquities Act, 2014 (Act No. XXIV of 2014) was passed on 8th September 2014 by the Provincial Assembly of Balochistan with reference No.PAB/Legis: V(26) /2014. The enactment of Sindh Antiquities bill is long being awaited from Sindh Assembly since submission of its draft in year 2014. It was supposed to replace “the Antiquities Act of 1975”. As per website sources of Sindh Antiquities Department, “129 sites” including the monuments in Sindh province are protected under the umbrella of “the Antiquities Act, 1975”. Whereas; about 1600 heritage sites are being governed by “the Sindh Cultural, Heritage (Preservation) Act 1994” while around 1200 discovered sites are still un-chartered and un-regulated which need to be legally placed in the list of protected ones (Ilyas, 2014). Above all, the UCH component in Pakistan needs clarity and to be mainstreamed viz-a-viz policy, legal and institutional arrangements at federal and provincial level (W1).

Opportunities

The ancient silk trade route, existence of on-shore civilization of port city Bhanbhore dating back to the 1st century BCE (Scytho-Parthian era), Metallic

Chest Armor and Shield (having Kalima written in Kufic script) of Muhammad Bin Qasim's troops found on the coast of Ormara dating to the 8th Century AD (as shown in figure 1 and 2; preserved at Pakistan Navy Museum Karachi) and reported two ship wrecks adjacent to Manora Island show a great potential yet to be explored; particularly in marine waters of Pakistan (O1).



Figure 1: Metallic Chest Armor Used by Troops of Bin Qasim

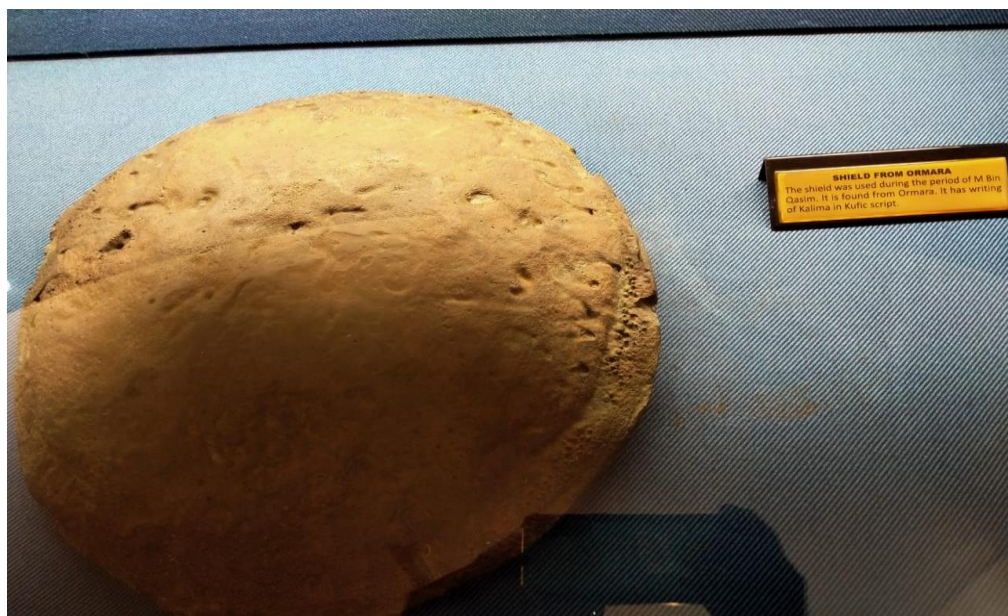


Figure 2: Shield of Bin Qasim's Troops (Having Kalima In Kufic Script)

Pakistan has huge potential of underwater archaeology. However, the underwater cultural resources mostly remained un-tapped and un-mapped in Pakistan. Evidences of such cultural resources are reported under lakes, rivers, and Indus Deltas. At a spot inside Tarbela dam pump house, a Japan origin sculpture was found which Kurita (the founder of the sculpture) published. It

was estimated that the construction of Tarbela dam would submerge 400 square miles comprising several archaeological locations. On-shore archaeological resources have been found in Bhanbhore and metallic chest armor on the coast of Ormara. No doubt, Pakistan is enriched with onshore and underwater cultural resources which are needed to be tapped (Ahmed, 2019) (O6).

From cultural perspective, UCH shows an integral component of human culture and people's history and their relationships with each other. Shipwrecks provide an invaluable information source and carry an insightful historic and cultural value (Vadi, 2007). These shipwrecks comprise of rich UCH which provide information about the ships, cargos, onboard people, the wrecking event, and the reflection of the society in a particular time period. The Dutch East India Company lost 246 ships. Similarly, the East India Company lost around 220 ships in the 17th century (Hutchinson, 1996) (O1).

In general, historic shipwrecks are believed to be as time-capsules delivering information about the ships, cargos, onboard people, the wrecking event, and the reflection of the society in a specified time period. Other than being information source, historic wrecks are also shown as museum displays. These useful and rich cultural resources also contribute in the field of education and research (Hutchinson, 1996). PNSC's ship Abasyn sunk within jurisdiction of Karachi Harbour. Besides, there is a greater likelihood of finding more Wrecks of Ships and other historic moving objects including Dhows, fishing vessels and others of civilian and military origin etc. It also supports marine life particularly important for developing the coral-reefs which may be the matter of attraction of underwater sports and maritime tourism. But it needs to be well planned and strategized viz-a-viz its conservation needs (O2).

It is obvious that the cultural and historic value would likely generate revenue and certainly has economic opportunities. It is very tricky in a sense whether all expeditions are required for short-term gains by selling the precious items or long-term revenue earning by showcasing them and promoting maritime tourism in Pakistan. From economic perspective, historic shipwrecks have immense potential to establish cultural heritage industry, tourism, and other economic growth drivers. The World Bank is also providing financial assistance in projects for management of cultural heritage and its conservation along with poverty reduction in society (Vadi, 2007). China also considers income generation from museums and exhibitions. The relevant businesses development can provide economic incentives to investors for investment in excavation industry (Lu *et al.*, 2016) (O4).

Pakistan has immense maritime/coastal tourism potential on more than 1000km serene coastline with diversified religious, cultural, and natural resources. (Ullah *et al.*, 2014 and 2018). Subsequently, Pakistan is blessed with not only off-shore archaeological resources but underwater archaeological resources on sandy coastline in the provinces of Sindh and Balochistan. Off-shore archaeological resources have been found at Bhanbhore port, and metallic chest armor on the coast of Ormara. Underwater cultural resources are also found under lakes, rivers, and Indus Deltas. Pakistan has huge potential of underwater archaeology. However, the

underwater cultural resources remained untapped in Pakistan. Although, the underwater archaeology has direct linkage with maritime/coastal tourism segment in blue economy of Pakistan. With the advancement in technology in different underwater maritime tourism activities including snorkeling, SCUBA diving, cruising etc., our rich underwater cultural resources of Pakistan can be explored (O3).

Threats

There is a continuous increase in interest in shipwrecks and activities to exploit them. But UCH is at risk from the increased use of sophisticated technology for commercial exploitation of shipwreck. There is need to devise environmentally sound technologies for UCH exploration, which won't affect marine ecosystems (T4).

Moreover, it is essential that due weight must be given to the UCH in law, to redress the balance with salvage interests. In recent years many, though by no means coastal states have achieved good controls for underwater cultural heritage in their territorial water. But this is not matched by international conventions beyond the limits of national as well as provincial jurisdiction (Hutchinson, 1996). This should be linked with provincial territorial waters and other rights as also indicated in the weaknesses for the case of Pakistan. It depends either it would be exploited by bringing outside or promoted as maritime tourism place after searching the site and resources. Thus, earning revenue on long-term basis and conservation would need to be discussed as a challenge in that case. There is also need to include UCH in law of any state including Pakistan to maintain balance with the interests of salvages. In addition, courts must play active role to ensure public disclosure of archaeological resources for identification of shipwrecks. Such a legal arrangement is missing link in the existing policy, legal and institutional framework of Pakistan, and this has further worsened in the federal vs provincial perspective after the 18th amendment in national constitution of Pakistan (T1).

In South Asia, majority of shipwreck sites are threatened with outright destruction or looting of artefacts. These looting activities are serious threats towards the security of fragile UCH preservation. There is a need to quantify resources depletion rate and to develop a certain criterion for the assessment of each distinct site's commercial and cultural value. Governments and salvors must realize the significance of proper archaeological documentation. From a practical point of view, the cargo from a well-documented shipwreck site has more financial value than from a cargo from looting site (Flecker, 2002). Such a security arrangement would also be a challenge particularly in the marine waters of Pakistan's EEZ in the Indian Ocean Region (T2).

In addition, some countries face regional pressure from their surrounding countries for the protection of UCH. China faces extreme pressure from neighboring countries for the preservation of its underwater cultural resources in the South China Sea. Due to its geographic location, the South China has an ideal position in the history of sea travel and shipping between the East and

the West (Lu, 2016). The Indian Ocean Region (IOR) has been the global trade hub due to its strategic location. It provides predominant outlet for the oil shipment from the Persian Gulf to various countries. The Straits of Hormuz and Malacca are critical choke points. Due to strategic location of Pakistan in IOR, it faces severe regional pressure from the surrounding countries for the UCH protection (T3).

In the past few decades, number of infrastructure projects have increased in China, which are causing serious threats to UCH in its territorial water (Lin, 2019). The China Pakistan Economic Corridor (CPEC), flagship project under Belt and Road Initiative (BRI) in Pakistan also focused on energy and different infrastructure development through early harvest projects (Fatima, 2020). As per legislation in place in Pakistan, environmental assessment studies are required for all development projects including the interventions under CPEC in order to eliminate adverse environmental threats to maritime archaeological resources (T5).

Globally, a trend has been observed that some of the commercial salvors express willingness to follow good archaeological practices, but many archeologists are convinced that archaeological standards will inevitably be compromised by the need to make a profit (Hutchinson, 1996). It should not be the case in Pakistan and a clear policy guidance should be made available by having a dialogue between archeologists and commercial salvors and also a widespread awareness of the topic (T6).

The UCH is under serious risk due to excessive use of poorly designed technology in the exploitation of shipwrecks for commercial purposes, lack of awareness about their cultural potential and the size of underwater heritage sites. There is dire need to develop dialogue among archeologists and commercial salvors for worldwide public education about finite UCH cultural potential and their concrete conservation measures (Hutchinson, 1996). The UNESCO convention excludes commercial salvage operators from exploitation of historic wreck sites for the protection of UCH. The reason behind the exclusion of commercial salvors is the selling of cargo in order to fulfill their costs and maximize their profits from these valuable UCH (Flecker, 2002) (T4).

Though presence of two sunken ships have already been reported in territorial waters of Pakistan, there is a likelihood to have nothing more in hand even after spending huge financial resources on UCH expedition in Pakistan's marine jurisdiction (T8).

UCH is subjected to deterioration by natural effects of climate, underwater currents, biodegradation, and anthropogenic activities including fishing, shipping and port operations, and other activities. These cultural resources are finite and will ultimately be lost due to natural and anthropogenic processes due to growing population and urbanization (T7). So, priority expedition of these resources and special conservation measures are required for the case of Pakistan.

There is a high risk of exploitation of UCH with the application of advanced technology for the shipwreck's exploitation. It is due to lack of awareness to general public about the cultural potential of shipwrecks, and size of UCH sites (Hutchinson, 1996). Ultimately, these historic UCH are in danger of deterioration due to traditional and non-traditional threats in Pakistan including anthropogenic means, underwater currents, tsunamis, biodegradation and climate change - the most serious externality of 21st century. (T9).

CONCLUSIONS

World is now focused on maritime heritage on account of its cultural, historic, archaeological, and scientific values. So far, most of the research is done on the land based (on-shore) component and lesser on water based (off-shore). The UCH worldwide remains unsung while in the case of Pakistan, it is almost totally neglected. Considering the potential and possible prospects based on SWOT analysis, Pakistan has a greater likelihood for the presence of rich marine archaeological resources both on-shore and off-shore. The off-shore archaeological component is still un-mapped and un-tapped in Pakistan for which a number of gaps are quite visible including the capacity, financial resources and the governance framework in the context of 18th amendment in national constitution of Pakistan. This is particularly important for policy and legal arrangements for Shipwrecks and other UCH. These policy and legal arrangements must ensure maritime heritage protection through rewards and penalty system for effective implantation of laws and regulations. These should acknowledge the efforts for archaeological and technological advancements in underwater cultural heritage protection. There is also a need to have dialogue among archeologists and commercial salvors and different educational programmes for the widespread awareness to the public in order to overcome the barriers due to sea-blindness. Students should also be involved in protection activities with appreciation and rewards. Quality researchers and technical experts must be promoted and rewarded for their maritime cultural heritage research and preservation activities. There is dire need to actively promote and reward international regional connectivity related to research and maritime heritage sites production activities. Research collaboration of relevant national, regional, and international stakeholders would be helpful in conserving and management of maritime & underwater cultural heritage treasures. This will help all partners in exchange of information, policies, and technologies in order to avoid overlapping surveys and to expedite maritime heritage protection developments; both at national and international level.

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