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Marine Archaeology and It's Importance

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Abstract
Marine archaeology, also known as maritime, nautical or underwater archaeology deals with the 'scientific study of the material remains of man and past activities on the sea'. Marine archaeology has made tremendous progress in India. Over the years, the National Institute of Oceanography, Goa, in collaboration with other Government agencies has undertake the exploration and excavation of submerged ports and shipwrecks at Dwarka, Bet Somnath,Vijaydurg, Goa and Lakshadweep on the west coast; and Poompuhar and Mahabalipuram on the east cost of India. Further, exploration have also beat various places along both coasts carried out of India to locate ports, trading centered stars and structures related to maritime activities. These finding from various sites in India, confirm her rich submerged cultural heritage, conservation of which is a prime necessity. A modest beginning has been made in this direction and more thrust is required before this submerged heritage is destroyed owing to intense activity along the coast, resulting from globalization and rapid industrialization. The article provides an overview of developments in Indian marine archaeology, and describes a few important sites and their archaeological significance.

Keywords: Maritime, Nautical, Tremendous, Poompuhar, Exploration, Submerged.

Introduction

Marine or maritime archaeology, otherwise known as nautical and underwater archaeology; is a distinct and emerging field within the broader discipline of archaeology. Marine archaeology is primarily concerned with the documentations, investigation and recovery of material remains and physical traces of maritime communities, technologies and practices. The material remains of the activities of men can be traced in and alongside seas, lakes and rivers. Sunken ships, cargo, tools and anchors lost in voyages are important source of information. Maritime archaeology is defined as "the scientific study of the material remains of man and his activities on the sea". (Mucklory 1978). The main objective of 'nautical archaeology' is to study different types of seagoing vessels; whereas marine archaeology encompasses all kinds of maritime actives, which includes trade, seafaring, coastal settlement water transport technology, seafaring coastal settlement, ports and harbors. Much of the work of maritime archaeologists is not related to excavation but involves surveying maritime sites, assessing their archaeological potential, making management recommendations and interpreting these sites to the wider community All underwater antiquities and ships must be explored, preserved and analyzed in order to reconstruct the maritime history of mankind.[i]

WHAT IS THE MARINE ARCHAEOLOGY?

Maritime archaeology is the scientific study of past seafaring from the material remains of man and his activities on the sea. It is an interdisciplinary study, which acts as a bridge between humans and the sciences. Maritime archaeology is a discipline that studies human interaction with seas, lakes and rivers through the study of ships and boats, port installation, cargoes, material remains and submerged landscapes. It is a distinct and emerging tiled within the border discipline of archaeology. Maritime archaeology investigations are also carried out in seas, rivers and lake and its discoveries are sometimes associated with historical events.[ii]

WHAT ARE OTHER NAMES OF MARITIME ARCHAEOLOGY?

Maritime archaeology is also known as 'underwater' "Marine" and "nautical" archaeology. There is often a confusion over the use of the terms 'maritime' 'underwater' 'Maritime' and nautical. All are valid terms for differed aspects. One aspect of underwater archaeology is the study of the past the new nomenclature 'hydro—archaeology' has been coined to include all aspect of maritime archaeology where water plays a great role.

DEFINITION Various archaeologists define it in various ways but it is difficult to give a definition applicable to all such studies. Colin Martin rightly says: "The underwater applicable to archaeology describes an environmentally imposed technique rather than a subject in its own right. Convention of protection of

[i] Gaur A.S and sundaresh (marine archaeology in India) p.28
[ii] Tripati Sila (maririme archaeology for beginners) p.20

underwater cultural Heritage adopted by UNESCO in November 2001 has define "underwater cultural heritage" as "all traces of human existence having a cultural, historical or archaeological character which have been partially or totally underwater, periodically or continuously for at least 100 years, such as sites, structures, buildings artifacts and human remains, together with their archaeological and natural context, and objects of prehistoric character.[iii]

Area and Scope

Water covers over seventy percent area of our planet, which makes the area of underwater archaeology very vast. Though, most of the sites and remains are found and studied in shallow water but they can also not limited to the ancient ships and coastal sites which are only two among many other aims of underwater archaeology. Underwater studies also generate data of scientific value, besides their usual cultural and educational values. For example study of datable archaeology finds may also help in better understanding of some of the complicated scientific phenomena like sea level fluctuation, coastal erosion, damaging effects of marine environment, bio-deterioration, etc. The process of underwater archaeological studies is similar to the process adopted by any archaeologist on the land. However there are some difference in the methods used for them. Various steps in the search, study and preservation of underwater cultural heritage are described here, in brief, to give an idea of the complex task involved in underwater archaeology.[iv]

HOW WAS MARITIME ARCHAEOLOGY STARTED IN WORLD?

Maritime archaeology is not really a case of sudden invention, but a gradual development in standards of excavation. The invention of scuba diving enabled it to be practiced under water. Prior to scuba diving helmeted salvers salvaging modern shipwrecks and sponge divers collecting sponges occasionally came across ancient artifacts. This attracted interest among archaeologists and amateur diving, two separate developments took place in the 1950s which changed the future of marine archaeology. The archaeology took more interest I diving and learned to divan; simultaneous a large number of divers who were interested in doing archaeology under water became archaeologists.[v]

HOW WAS MARITIM E ARCHAEOLOGY STARTED IN AUSTRALIA?

The discovery of two 17th century shipwrecks in 1963 laid the foundation of maritime archaeology in Australia. At the same time the significance of shipwreck archaeology was included in the museum act and later amended to the maritime archaeology act of 1973 to protect ship wrecks prior to 1900. The western Australian maritime museum (XVAMM) was given the responsibility for administering the act. Maritime archaeology explorations were started in 1970 with the survey of the east INDIA company ship trial (1622) the oldest known shipwreck in Australia. Subsequently Virgule. Dares (1656) and Batavia (1629) were excavated. The western Australian state maritime archaeology act 1973 is still in operation and deals with maritime archaeological sites including remains of ships, relics or combined efforts of state agencies and state maritime archaeological associations (AIMA) developed in 1970. In the year 1981 the universities of Australia and (WAMM) initiated graduate diplomas in maritime archeology including courses in maritime archaeology conservation, material science, oceanography marine survey. Afterwards, the AIMA started publishing annual bulletins quarterly news letters' and occasionally special publications of marine archaeology.

HOW DID MARINE ARCHAEOLOGY START IN CHINA AND SOUTHEST ASIA?

From the perspective of maritime archaeology these geographical regions have suffered much from treasure hunts. Among other wrecks artifacts' were salvaged from the geldermalsen (1747) in Indonesian waters and sold for a high price. The Philippines national Museum undertakes maritime archaeological research in the Philippines. The government grants permission to treasure hunters to undertake surveys. Over a period of time, the San Diego (1600) and the Griffin (171) shipwrecks have been excavated by the National Museums I collaboration with worldwide, first a non- commercial organization. Besides boats. The Bhutan boats are of lashedlug construction similar to archaeological finds in Malaysia and Sumatra. With regard to the maritime archaeology of China. The majority of publications are in Chinese and only a few are in English. The Guangzhou ship has been excavated and a buried ship of the Song Dynasty found at Ningbo.[vi]

HOW DID MARITIME ARCHAEOLOGY START IN EGYPT?

Underwater exploration in Egypt was begun in the 1960s by an officer of the Egyptian Navy and the 1980s with the search for Napoleon's fleet of sunken ships at Abukir. Jean Yves continued to work on terrestrial sites and moved offshore in the early 1990s with the study of the pharos remains and finds of amphorae near Alexandria. At this time France Goodie obtained permission for his team to map the harbor looking for remains of the pharos of Alexandria. It was continued by the Franco- Egyptian expedition under Jean Yves

[iii] Trapthi Alok (marine archaeology) pagen.-2,3
[iv] Behera K.S (maritime Heritage of India) page n.-20
[v] Tripati Sila (maririme archaeology for beginners) page n.-29
[vi] Tripati Sila (maririme archaeology for beginners) page n.-30-32

Emperor in and city remains east of the pharos. With seed money provided by the Amoco Foundation, Cheryl Ward and Douglas Haldane of the Institute of Nautical Archaeology (INA) established in 1993 a branch office in Egypt.

In addition to organizing a shipwreck survey in the Red sea, they explored the paranoiac anchorage at Marsha Gawain, medical and early modern Quseir, Sudan Islands, Hugged and Ras Mohamed National Park in Sinai. They collaborated with the Supreme Council of Antiquities (SCA) of Egypt and storage facility in Alexandria. Laboratory and conservation work continues under INA until 2002. Several Mediterranean coastal archaeology surveys were directed by Douglas Haldane and the excavation of the mid-18th century sadana Island shipwreck was carried out by Cheryl Ward. Much of the Funding came from other projects although the INA Egypt office closed in 2001.

Many Egyptian student archaeologists of SCA worked with Haldane and Ward ovr the years and have continued of Alexandria. Haldane and Ward's intention was to build a partnership focused on scientific maritime archaeology. It was a great pleasure for Cheryl Ward to see that idea carried forward by the people they have had the privilege of working with.

HOW DID MARITIME ARCHAEOLOGY START IN ITALY?

Before the creation of a maritime archaeology research unit by the government, several excavation had been conducted by Italian archaeologists and other international organization, such as INA of America, Oxford University MARE of the UK, the University of Haifa, Israel, together with individual scholars, such as Peter Throckmorton, Honor Frost, Gerhard Capitan A. J. Parker Maritime archaeology in Italy has witnessed a significant development since 1980. After underwater archaeology was recognize by the Ministry of Culture in 1986 it provided assistance for maritime archaeology research programmers.

Under Italy's current law underwater find must be reported immediately to the relevant organization and any individual may be granted permission to undertake excavation provided archaeological methodologies and rules are followed. Among important finds, the recovery of Caligula's pleasure barges from Lake Noemi; the retrieval of 11000 wine amphorae from a Roman cargo ship wrecked at Albania off the Liguria coast and the discovery of numerous amphorae, anchor stocks, and Classical bronze statues are evidence of long distance maritime trade in the Mediterranean.

HOW WAS MARITIME ARCHAEOLOGY STARTED IN THE USA?

In the United States, the salvage of treasure from shipwrecks by commercial divers led from the early 1960s a classical archaeologist, George F. Bass who was working on ancient shipwreck in the Mediterranean Sea, provided motivation and opportunities to students for the development of maritime archaeology. The National Park service, which is the primary historic preservation agency in the USA, carried out several underwater surveys by archaeologists from 1968 onwards. Prior to this some societies and institutes Had conducted underwater explorations.

For example, the Peabody Museum sponsored the excavation of the Chechen Itza connote (sacred well) in Mexico as early as 1905 from 1973 onwards the Institute of nautical Archaeology. Maritime archaeological sites in America were found in the sea and in fresh water, and the extensive also contributed to the resource base for underwater archaeological research.

BEGNNING INDIA?

Before the beginning of maritime archaeological studies at NIO in 1981 as a project, the Department of Archaeology, Government of Tamil Nadu had approached to NIO to undertake offshore explorations of Poompuhar to locate any the submerged habitation remains of the port of kaveripatnam. Accordingly, scientists of NIO, namely K. H. Vora and L. V. Subbaraju conducted a geophysical survey off Poompuhar in 1981 and recorded some conspicuous features such as peak and pinnacles of 2 to 5 m height in echograms, and geometric shapes on sonograms in 18 tap 19 m water depth. The results of the offshore survey suggested that those features could be explorations off Poompuhar yielded submerged structures and a shipwreck.

Who founded maritime archaeological studies in India?

Marine archaeology stared in the 1981 and underwater works, particularly at DWARKA, generated a lot of popularity to this discipline, not only among archaeologists and historians but also in public. Unfortunately during last more than two decades this country, as it should have been. Establishment of the underwater. Archaeology wing in the Archaeology Survey of INDIA is a major step towards the development of the subject. It is clear that without bringing awareness in public, protection of underwater cultural heritage is not possible. Unless all the departments of archaeology in all the coastal states of INDIA actively participate in marine archaeology not much can be expected from one or two canters in the country. Similarly universities teaching archaeology should also include marine archaeology in their syllabus. S.R. Rao (Shikaripur, Ranganatha, Rao, b.1922) was the founder of maritime archaeological studies in India at NIO, Goa in 1981 after his retirement from the Archaeological Survey of India (ASI).

The projects he dealt with were submerged Dwarka on the Gujarat coast and Poompuhar, the submerged port town of early Chola Period on the Tamil Nadu coast. In addition to Dwarka and Poompuhar, Dr. Rao undertook underwater explorations and coastal surveys at Bet Dwarka, Somnath, Goa and Lakshadweep on the west coast and Tranquebar on the east cost of India. He also carried out onshore explorations along the coast of Tamil Nadu, Orissa and Maharashtra. Dr Rao has put India on the maritime archaeological map of the world. To promote maritime archaeology on India he founded the Society for maritime archaeology (SMA) at NIO and organized several conferences and seminars on maritime archaeology of India and ocean countries. Dr. Rao left NIO in 1997 after his active involvement in underwater explorations of India cease.

How and when did maritime archaeological explorations start in India?

In India, maritime archaeological research was initiated in 1981 by establishment of the Marine Archaeology unit (MAU) in the National Institute of Oceanography (NIO), Goa with financial assistance from the Indian National Science Academy (INSA) to undertake studies off Dwarka. Subsequently, the Department of Ocean Development (DOD) funded project for undertaking exploration of shipwrecks on the west coast of India and explorations off Dwarka, Bet Dwarka and somnath. In the year 1990 the Marine archaeology Center (MAC). The emergence of maritime archaeology has added a new chapter to Indian oceanographic studies. Though maritime archaeology developed late, it has made excellent progress and is a fast developing in India. The centre at NIO, Goa is foremost in maritime archaeology studies in India.

IMPORTANCE OF MARINE ARCHAEOLOGY

The objective of marine archaeology is to research, preserve, restore study, evaluate and present the submerged archaeological wealth. This wealth consists of every kind of edifice, harbor works cities, fortifications etc. that due to geological alterations sank into the sea- as is also the case with commercial craft, warships or even mere fishing vassals that happened to sink along with their cargo. The cargo of the wrecked ship may consist of objects of everyday use – belonging to the passengers or the crew – tools, merchandise,(oil or wineamphore, big jars with salted fish, architectural elements, sarcophagi etc.) or even works of art transported from one place to another, a case common to the Roman period. Underwater archaeology is an especially difficult field, since the scientists and specialists engaged have to operate not under common normal conditions but deep down in the sea, which is quite a dangerous task. Although the first international legislation protecting the submarine activities was introduced in Greece in 1834, it was never fully en.-50 forced.

Preservation

The underwater environment can preserve complex association of cultural material in better condition than they may be preserved on a terrestrial archaeological site. After a period of time an underwater archaeological site may reach approximate state of equilibrium with its environment. As a result certain types of cultural material may remain in a remarkable good state of preservation of considerable periods of time (hundreds, be it mud, wet sand,) or bog.

Regional or Site Inventory

In order to assess and manage underwater archaeological sites it is necessary to undertake a process of regional or site inventory to establish information about what site and cultural material actually exists underwater. Information. About the location, nature, extent and significance of underwater archaeological sites need to be compiled into a database for each nation and or state province. A regional survey may take one of forms-a random sample or a stratified sample. A random sample regional survey would take the form of conducting an intensive visual and or remote sensing survey of a selected percentage (say 10%) of an area for archaeological sites, structure or artifacts. Such a survey methodology may be more suitable for area surveys of anchorages or jetty sites. Increased levels of coverage (or over sampling) in areas with a higher probability of sites, structures or artifacts may be more suitable for area surveys for shipwrecks.[vii]

Site Survey and Recording

Site survey is the process of measuring and recording the site features, spatial arrangements, and relationships between cultural materials on an underwater archeological site. Site survey requires that the accurate location of any item of cultural material must be measured and recorded before it is moved or raised. In addition to physical and/or electronic measurements, a site survey should include the use of underwater photographic recording such as site photographs, a photo mosaic, stereo, and/video recording. Site survey methodology may also employ remote sensing equipment such as metal detectors, magnetometers, and or sub- bottom profilers. A redisturbance survey of every underwater archaeological site must be undertaken before any cultural material is moved or raised.

[vii] Delgado J.P(underwater archaeology)page n.-4-6

Excavation

Excavation is the process of uncovering all or part of an underwater archaeological site by removing the sediment, recording the location, type, size, and amount of cultural material and then removing or recovering all or part of that material. Excavation is a destructive process and will radically change or destroy the archaeological record. Excavation of an underwater archaeological site should only be undertaken when the site and/or artifacts are threatened with disturbance or destruction as a result of human activity, or through environmental processes; or previous research and a written research design have demonstrated that only through excavation can answers be found to specific research questions. Submerged or Inundated Terrestrial Sites Terrestrial prehistoric archaeological sites throughout the world have become submerged as a result of naturally occurring rising sea level, or inundated in human created water storage such as reservoirs and dams. Submerged prehistoric sites with material including litchi artifacts, human remains, and organic cultural material have been found at underwater archaeological sites such as Little Salt Spring(Florida, USA), Warm Mineral Springs (Florida, USA), and Montague Harbor (British Columbia Canada). Other prehistoric and protohistoric sites with submerged remains include Iron Age villages covered by rising water levels in Swiss Lakes, as well as crannogs in Ireland and Scotland. Harbor constructions include wharves, moles, quays, jetties, piers, fortifications, canals or artificial docks that have become submerged by rising se-level, caused by catastrophic events such as earthquakes, or simply as a result of natural site-formation and deterioration processes. Examples of sites studied and/or excavated within the last few decades are: Caesarea Maritime, Coast Dawaraka, Hoff's Store, Pontiac, and Port Royal.

More suggesting Reading Books…..

- Rao, S. R.,2001. Marine Archaeology in India. Publications Division, New Delhi
- Dhavalikar, M.K, 1977-78. An early warehouse on the western cost. Puratattva, Vol. 9
- Green Jaremy. Maritime archaeology, Elsevier London WC1X8RR, UK. Academic Press