

# The Potential of Underwater Cultural Heritage in Tanzania: Recent Discoveries in Mafia Archipelago

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## Abstract

Studies have shown that the east African coast has been settled since the Neolithic period. Research has also shown that the ancient communities of this coast played an active role in ancient international maritime trading. Maritime commerce networks connected this coast and the Persian Gulf, the Red Sea, India, Southeast Asia, and the Mediterranean world to lands as far as China. The African hinterland was also an integral part of this network, as it was a source of some merchandise for international trading. Research undertaken in the region has confirmed that the Tanzania coast bears evidence of the most ancient interactions between the east African coast and regions across the Indian Ocean seaboard. While initially this evidence came from terrestrial archaeological sites, recent maritime studies in the Mafia archipelago, on the central coast of Tanzania, have recovered submerged archaeological sites dating to the 1st millennium CE. This paper examines these findings and concludes that there is immense potential for underwater cultural heritage in Tanzania that calls for research and conservation for posterity

## Introduction

Tanzania has one of the longest coastlines on the mainland of east Africa, after Somalia and Mozambique. Like her northern neighbour Kenya, Tanzania has witnessed increased archaeological research since the beginning of the 20th century. While much of these early studies focused on terrestrial archaeology, there were no efforts directed at maritime or underwater archaeological research. As such, maritime and underwater archaeology have not been investigative tools in the country. This continued despite records by ancient Greek and Roman sailors, traders, and cartographers, including the *Periplus of the Erythraean Sea* and *The Geography* by Claudio Ptolemy, mentioning regions on this coast as early as at turn of the BCE/CE changeover. As will be demonstrated below, previous scholars on the Tanzanian coast have recovered terrestrial archaeological data that indicates a strong interaction between communities on the mainland and the offshore islands. These interactions left behind material traces of the past in the form of artefacts, shipwrecks, and even settlements that are today submerged in the waters of this coast. Studies in the Mafia and Rufiji areas of the central Tanzanian coast have shown that the region was part of the ancient Greco-Roman transoceanic trade network (Allen 1949; Chami 1998, 1999a, 1999b, 2000, 2006, 2009, 2017; Chami and Msemwa 1997; Tomber 2004; Kwekason and Walz 2015).

The Mafia Archipelago (7° 37' 8" 10' S; 39° 30' 39" 55' E) is located on the central coast of Tanzania, about 120 km south of Dar es Salaam city and 21 km offshore of the Rufiji Delta (Horrill *et al.* 1996; Christie 2011). It is approximately 100 km north of the ancient settlement and UNESCO-inscribed world heritage site of Kilwa. It is the fifth largest island on the coast of east Africa after Madagascar, Zanzibar, Pemba, and Lamu (Fig. 1). The

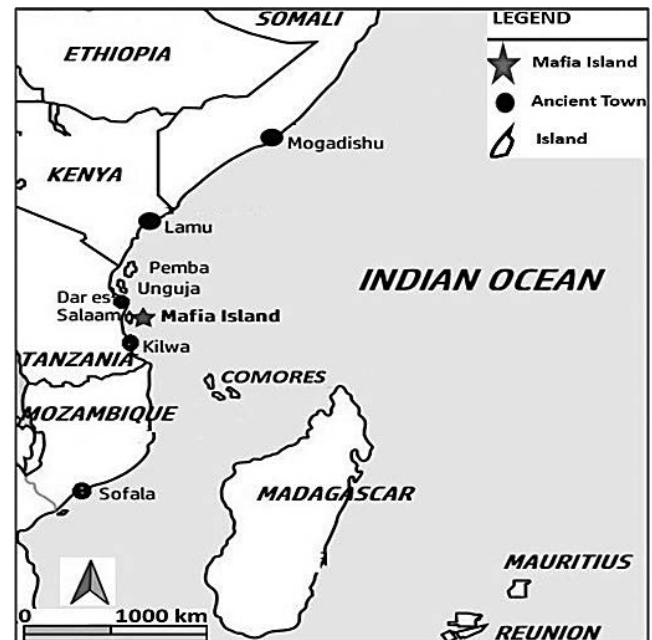


Fig. 1: The East African coast with location of Mafia Archipelago (after Bita *et al.* 2023)

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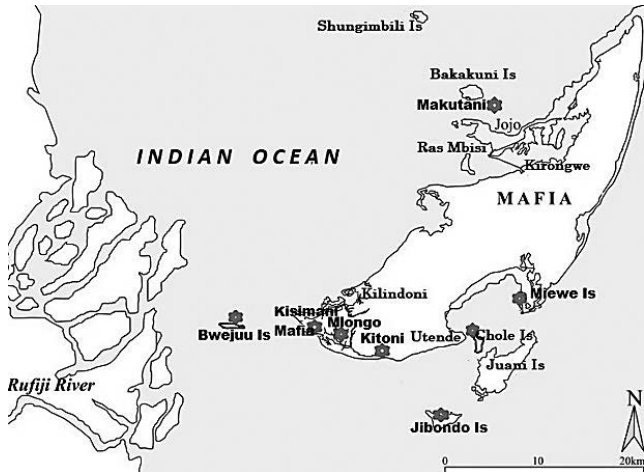


Fig. 2: Mafia Archipelago showing ancient settlement sites (after Bitá *et al.* 2021-22)

main Mafia Island is elliptically-shaped, lying in a NE-SW orientation and narrowing to the northeast (Fig. 2). At its longest, the island measures approximately 47 km from the SW end to the NE tip, and at its widest point measures 17 km (Bitá *et al.* 2023). It is also an archipelago composed of a number of islands, including Miewe, Chole, Juani, Jibondo, and Bwejuu, to the south of the main Mafia Island, and the main one by the same name, Mafia. There are also several smaller islets, Mbarakuni, Shungimbili, and Nyongoro, found to the north of the main Mafia island.

The Mafia Archipelago has some of the most ancient settlements on the east African coast that are believed to have had long-standing ancient global maritime trading links (Chittick 1957, 1961, 1982; Chami 1994, 1999a, 2006, 2021; Christie 2011; Bitá *et al.* 2021-22, 2023). The archipelago appears in ancient Roman scripts as the location of the Roman southernmost trade post, the Rhapta emporium and metropolis (Freeman-Grenville 1962, 1975; Casson 1989; McLaughlin 2018).

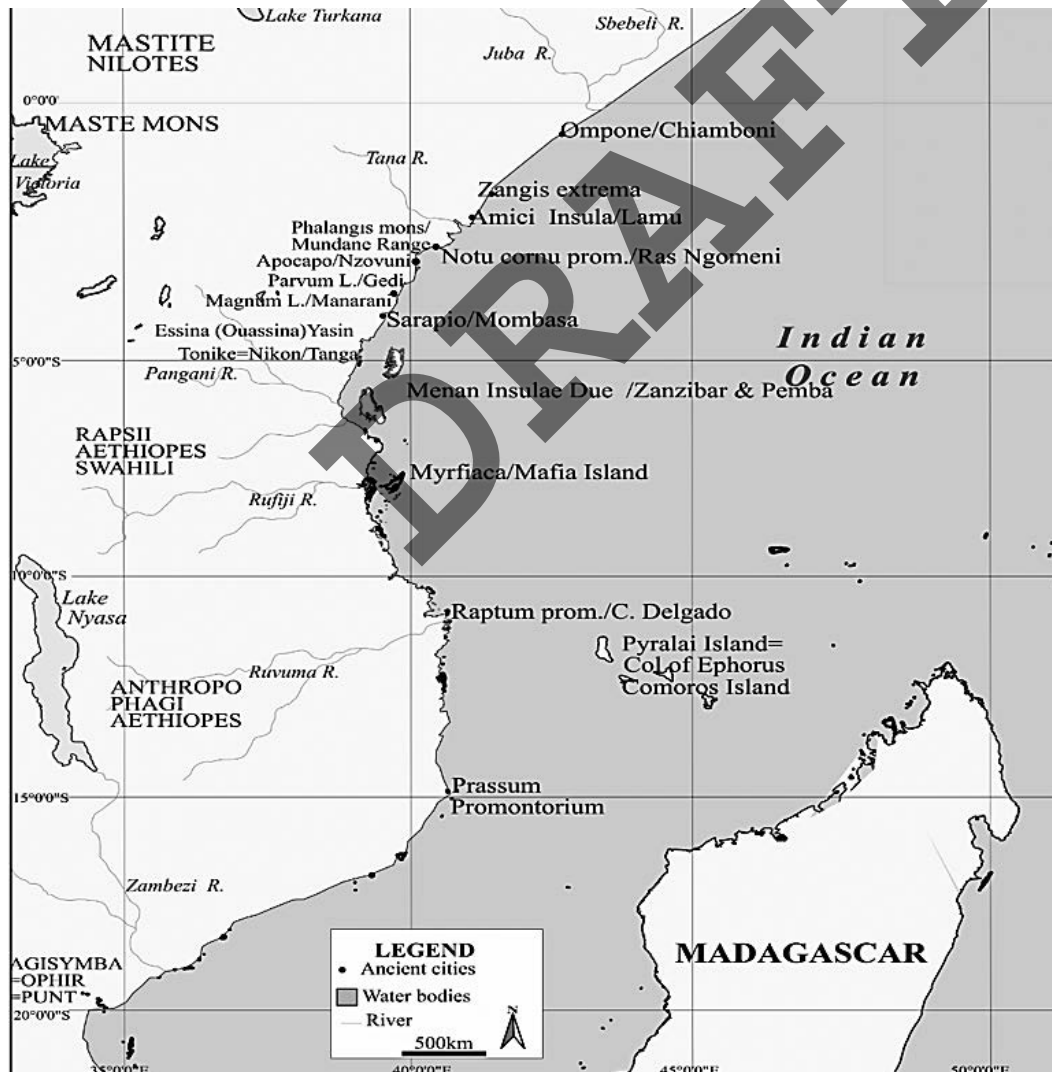


Fig. 3: Places on Tanzanian coast of east mentioned in ancient Roman written accounts (Adapted from Casson 1989; Lacroix 1998)

While there is immense terrestrial archaeological data from Mafia and Rufiji supporting the vibrancy of ancient international connections, no maritime or underwater archaeological studies before this research had been done in the region to gather more data to corroborate the terrestrial archaeological evidence. Recent maritime studies by Chami (2021) and Bitá (Bitá *et al.* 2021-22, 2023) have recovered submerged ancient settlements in the Mafia Archipelago, suggesting an immense potential for underwater archaeology and/or underwater cultural heritage (UCH).

### **Underwater Archaeological Potential of the Tanzanian Coast**

Several historical sources make reference to ancient seafaring on the east African coast and mention places visited by early sailors (Fig. 3). Some of these places have been found to be on the Tanzanian coast (Chami 2021; Bitá *et al.* 2012-22, 2023). The *Periplus of the Erythraean Sea* of the mid-1st century CE describes the travel route to the coast of east Africa as far as what was then recognised as an emporium of Rhapta (Carry and Warrington 1963; Dato 1970; Freeman-Grenville 1975; Huntingford 1980; Casson 1989; Horton 1990; Whitehouse 2001; Chami 2006; McLaughlin 2018). Rhapta was the southernmost ancient Azanian trading city. The *Periplus* describes the city as located near a large river and mentions an island offshore the river as Mafiaco, which is similar to modern-day Mafia Island (Freeman-Grenville 1962; Lacroix 1998). The same account also describes Mafiaco people as being recognised as Rafiji, which is very similar to the modern-day Rufiji people (Freeman-Grenville 1962, 1975; Casson 1989; Lacroix 1998; McLaughlin 2018). Recent research has confirmed that the river and island mentioned in the *Periplus* are Rufiji and Mafia, respectively, on the central coast of Tanzania (Chami 1999a, 1999b, 2021; Bitá *et al.* 2021-22, 2023).

The *Periplus* mentions that Rhapta was the nerve centre from where foreign traders came to obtain locally available goods in exchange for foreign goods (Kirwan 1986; Casson 1989; Horton 1990; Chami 1999a, 1999b; Lacroix 1998; McLaughlin 2018). Exported materials included coconut oil, ivory, and rhinoceros' horns. Spices, gold, and iron have also been mentioned as exports from the port of Azania (Horton 1996; Lacroix 1998; Chami 1999b). Other exports were the large tusks of bush elephants, which had become in high demand in the north following near extinction due to overhunting of North African elephants (Freeman-Grenville 1975; Sheriff 2002; McLaughlin 2018). Imported goods included lances, hatches, daggers, awls, glass materials, wine, assorted grains, and decorative materials such as kohl (Oldfather 1961; Huntingford 1980; Casson 1989).

Another ancient Roman written account is *The Geography* from the third Century CE by Claudio Ptolemy.

This account corroborates the events in the *Periplus of the Erythraean Sea*. Claudio illustrated areas on the Tanzanian coast visited by Roman traders, including Menuthias (Zanzibar/Pemba), Myrfiaca/Mafiaco (Mafia Island), and Rhapta (Oldfather 1961; Freeman-Grenville 1962, 1975; Dato 1970; Huntingford 1980; Casson 1989; Lacroix 1998; Chami 1994). Further, he provided coordinates for most of the places mentioned in the *Periplus of the Erythraean Sea*. For instance, he describes the location of Rhapta as being on latitude 8° south at a navigable river, which lies on Mafia Island in Tanzania. Other records are of Arab geographers of mid-900 CE that allude to thriving maritime communities along this coast (Hourani 1963; Matthew 1963; Kirkman 1964; Dato 1970; Freeman-Grenville 1975; Horton 1990; Hall 1996). The many ports and Islamic structures in close proximity to the sea along the entire east African coast attest to this (Kirkman 1964; Sheriff 2002; Chami 2006). These ancient towns were important port towns of call for merchant shipping, as they were strategically situated along busy sea lanes (Bitá 2013b). Further, the abundance of Sassanian pottery in many archaeological sites from southern Somalia to Comoro and Mozambique indicates ancient east African coast global trade connections with the Persian Gulf (Chami 1994, 2006, 2009; Kusimba 1999; Whitehouse 2001; Pollard and Bitá 2017). On the Tanzanian coast, these port cities include Pangani, Bagamoyo, Kilwa, Zanzibar, Pemba, and several in the Mafia Archipelago, such as Kua and Kisimani Mafia (Freeman-Grenville 1962; Chittick 1982). Maritime and underwater archaeological studies in these towns have recovered submerged artefacts and shipwrecks, confirming the potential of underwater archaeology in the region (Piercy 1977, 1978; Sassoon 1980; McConkey and McErlean 2007; Bitá 2013a, 2013b, 2015a, 2015b; Pollard *et al.* 2016).

### **Previous Underwater Archaeology Studies in Tanzania**

The earliest underwater archaeological study on the east African coast and, by extension, the sub-Saharan region was done in Kenya in the late 1970s during excavations of the 17th-century Santo Antonio de Tanna shipwreck in Mombasa (Boxer 1960; Piercy 1977, 1978; Sassoon 1980; Lynch 1991). Since then, underwater archaeological research in the region has progressively concentrated on the Kenya coast (McConkey and McErlean 2007; Bitá 2015a, 2015b, 2018a, 2019b, 2019d; Tripathi and Bitá 2015).

In Tanzania, there have been very few underwater archaeological surveys. Except for Patience (2006), who did many commercial salvage operations on the east African coast and documented numerous shipwrecks, not many surveys have been undertaken off the Tanzanian waters. The few cases involved mostly documentation of maritime practices, exploitation of marine resources, development of marine features such as harbours,

and economic, socioeconomic, cultural, and political conditions. Ichumbaki and others (Ichumbaki 2015; Ichumbaki *et al.* 2022) have undertaken documentation of maritime cultural heritage, including marine crafts in Bagamoyo. Christie and Rhodes carried out studies on maritime ethnoarchaeology and architecture in the Mafia Archipelago (Rhodes 2008, 2010; Christie 2011). While Christie focused on fishing practices to demonstrate differences in access to maritime resources between members of different categories of the community on Juani Island (Christie 2011), Rhodes studied Chole Island, focusing on archaeology and architectural history after colonial rule (Rhodes 2008, 2010). Wynne-Jones (2006) and Crowther and team (2014) looked at the long-term history and long-distance trade. Whereas their studies had a component of maritime history, no attempts were made at underwater archaeology to record the submerged data. Although not of an underwater archaeological approach, Pollard (2008a, 2008b, 2011) carried out maritime investigations on the southeast Tanzanian coast and documented nautical infrastructure, including boat landing places, jetties, lighthouses, and navigational guides related to the marine economy. He also recorded exploitation of marine resources and social and religious manifestations of maritime cultural traditions (Lane 2012; Pollard *et al.* 2012).

The potential of underwater cultural heritage in Tanzania, however, began to emerge in the mid-1970s when local fishermen and divers recovered brass canons, anchors, fragments of cannon balls, and a bronze bell off Juani Island (Lane 2005, 2012; Government of Tanzania 1980:9). However, it was not until much later in 2016 that the only detailed underwater archaeological survey in Tanzania was done of the ancient port of Kilwa, one of the most important ancient ports in southeast Tanzania. The study discovered an array of artefacts, including a stone anchor and an assortment of imported pottery and glass jars (Fig. 4), suggesting a rich submerged heritage (Pollard *et al.* 2016). Stone anchors are known to have been in use for a long time, extending to about 3,000 BCE (Vosmer 1999). As such, their recovery in the east African waters is an indication of a rich submerged heritage that is evident in international maritime connections. However, the recent discovery of a submerged settlement in the Mafia



**Fig. 4:** A shipwreck site with a stone anchor and pottery in Kilwa, Tanzania (after Pollard *et al.* 2016)

Archipelago has shown Tanzania is endowed with a rich underwater cultural heritage (Bitá *et al.* 2023).

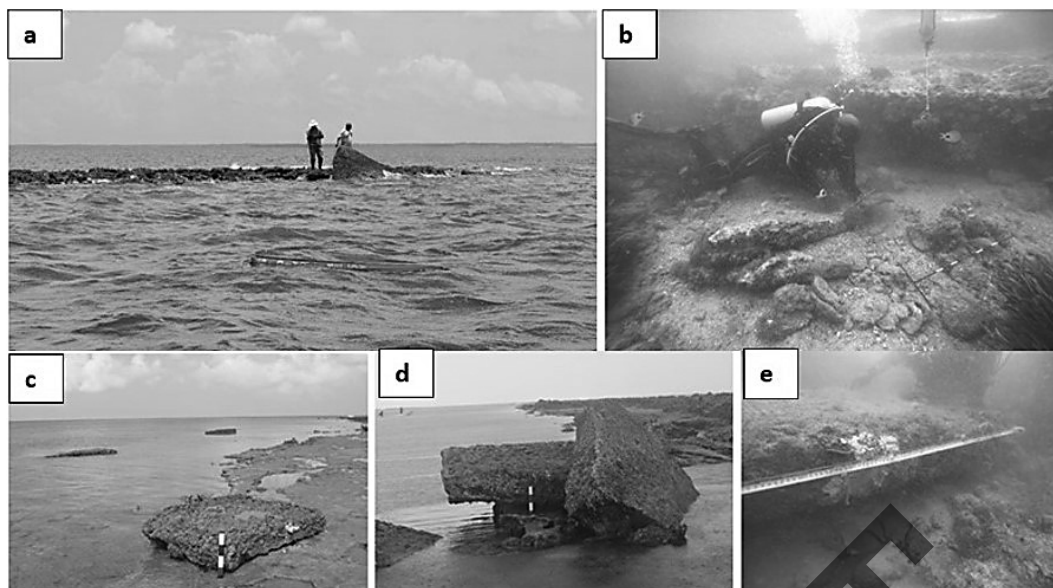
### Methodology

Several methods were employed in the identification of the underwater cultural heritage of the Mafia. These included a review of published literature on the archaeology of the archipelago, foreshore reconnaissance, intertidal, and underwater archaeological surveys. The reconnaissance survey provided a general impression of the area's historic properties. The intensive survey involved a systematic and detailed field inspection of the identified cultural material. Foot walking was done on the foreshores, intertidal, and during low tides at exposed sections of submerged sites at Makutani. Interviews with local people, including fishermen and divers, were conducted to ascertain what is known locally about the coastal settlements and the traditions and stories that live on in the population's collective memory. It was important to gather information on the location of both land and underwater study areas. Interviews were guided by previous surveys of the area (Bitá 2019c; Chami 2021), where locals confirmed having encountered areas with concentrations of archaeological remains.

Following the interviews, underwater visits to the reported areas were done with the locals, and the precise locations of the sites were fixed. An Etrex 22x GPS was used for the precise location of archaeological sites and measurements of features and structures. Underwater archaeological surveys were then followed by divers probing the seabed and recording submerged archaeological data, including ceramics, features, landmarks, and structures. Straight-line and circular search techniques were employed. Underwater archaeological excavation with careful and systematic retrieval and recording of archaeological finds was undertaken.

### Underwater Archaeological Discoveries

Research in Mafia began with the advent of the colonial period in Africa around 1890 with Oscar Baumann, who undertook historical studies of the island (Baumann 1957). He was followed by Neville Chitick and later by Felix Chami and colleagues, all of whom carried out terrestrial archaeological studies. Chami recovered data that showed that the early communities of the Early Iron Age (EIA) were involved in transoceanic trade (Chami and Kwekason 2003; Chami 2004, 2009; Ichumbaki 2017; Ichumbaki and Pollard 2017; Shikoni *et al.* 2019, 2019b). While these studies revealed immense terrestrial archaeological data from Mafia, no underwater archaeological studies were done. This was despite Roman records mentioning Mafia as the likely location of the lost, elusive Roman trading port and metropolis of Rhapta (Oldfather 1961; Freeman-Grenville 1962, 1975; Dato 1970; Huntingford 1980; Casson 1989; Lacroix 1998; McLaughlin 2018).



**Fig. 5:** (a) Makutani exposed at low tides (b) remains of a submerged wall (c-d) collapsed linear boulders/blocks (after Bitá *et al.* 2023)

The Mafia Archipelago has always been perceived as having evidential remains associated with the ancient Western Indian Ocean trade. For instance, Chittick (1957, 1961, 1982), after his failed terrestrial archaeological attempts at locating the metropolis of Rhapta, concluded that this Roman-reported trade capital of Azania was submerged underwater around the Rufiji Delta. This was the nearest Tanzania came to underwater archaeological studies. However, no such studies followed these recommendations until 2019 after locals reported offshore wall-like features submerged on the north-eastern side of the island near the shores of Jojo, a place referred to by locals as Makutani (Shikoni *et al.* 2019; Mandela and Chami 2021; see Fig. 5). Preliminary underwater investigation of the feature revealed these are submerged, collapsed boulders of ancient walls (Bitá 2019c; Shikoni *et al.* 2019; Chami 2021; see Fig. 5). However, it was not until 2021 that a detailed underwater archaeological study of the submerged site was initiated. The surveys noted that the Makutani feature is a submerged, long elliptical wall-like feature with a flat pavement-like top surface ranging in width between 3 and 22 m. It is submerged at depths between 3 and 9 m at high tides, and at low tide, sections of the feature are exposed to heights of between 0.5 and 1 m (Bitá *et al.* 2021-22). The underwater archaeological survey recovered remains of linear collapsed wall boulders, most of them falling in a line (Bitá *et al.* 2023), an indication that they were likely part of a continuous wall (Fig. 5 c-e). Other archaeological finds recovered at the submerged site of Makutani are the remains of standing walls heavily grown with coral but with a straight, sharp edge (Fig. 5b). The survey established that the feature is made of four wall sections with two openings, one to the

north and one to the west. Local fishermen refer to these openings as “gates” since these are the only passages they can access through the inside of the feature at low tides (Bitá *et al.* 2023). The four sections that make Makutani, depending on their size and shape, have been given different names by the locals. Despite being named differently, they are not independent but rather connected, only separated by the two openings in the west and north. In some parts, the sections have been broken and eroded and remain submerged even at low tides, hence creating an imaginary separation. It is this phenomenon that led the locals to give them different names (Bitá *et al.* 2021-22). The different sections of Makutani as identified by the locals are Mwamba Ukuta, Mwamba Kisirani, Mwamba Ukambaa, and Mwamba Msenge (Fig. 6). In addition to the remains of structures, the site contains Mediterranean ceramics (Fig. 7a) and local Early Iron Working (EIW) and Triangular Incised (TIW) pottery (Fig. 7b), with a lot of these encrusted on the heavily concreted submerged wall remains (Bitá *et al.* 2023).

Samples of the remains of the collapsed blocks were taken for petrological analysis, and the results confirmed that these are concrete, made of cement and lime, a known Roman technology (Delate 2001). The composition of the concrete includes lime and different grog fragments to temper the building block and as a cementing material (Fig. 8). The analysis also confirmed that most stones used in the making of concrete are not locally found on Mafia Island (Bitá *et al.* 2023).

Investigations in Chole Bay, south of the Mafia Archipelago, recovered submerged sites with a high concentration of local and imported ceramics, suggesting the likely presence of shipwrecks (Bitá *et al.* 2021-22,

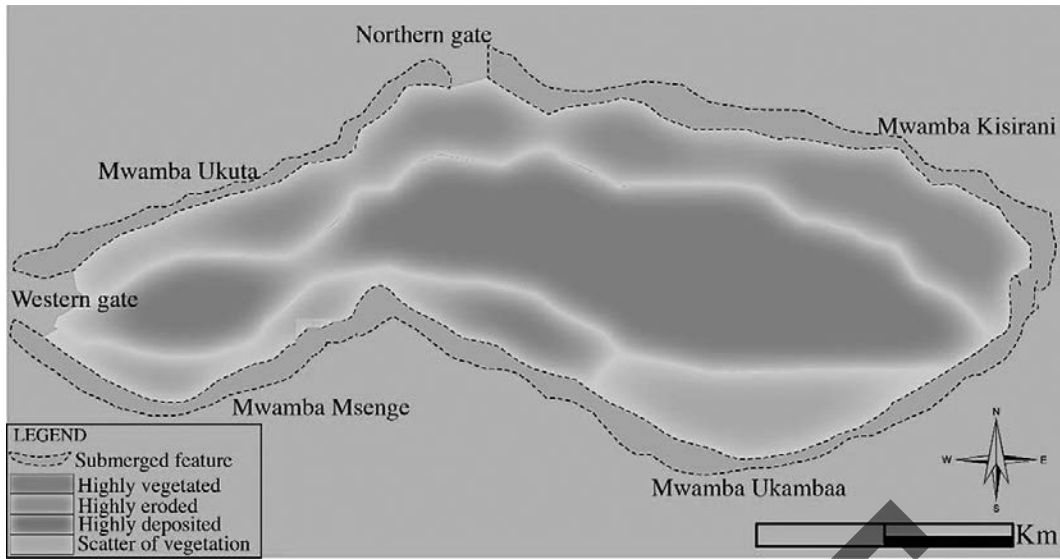


Fig. 6: Showing the submerged wall feature with the four sections (Photo: Hitson Pazza)

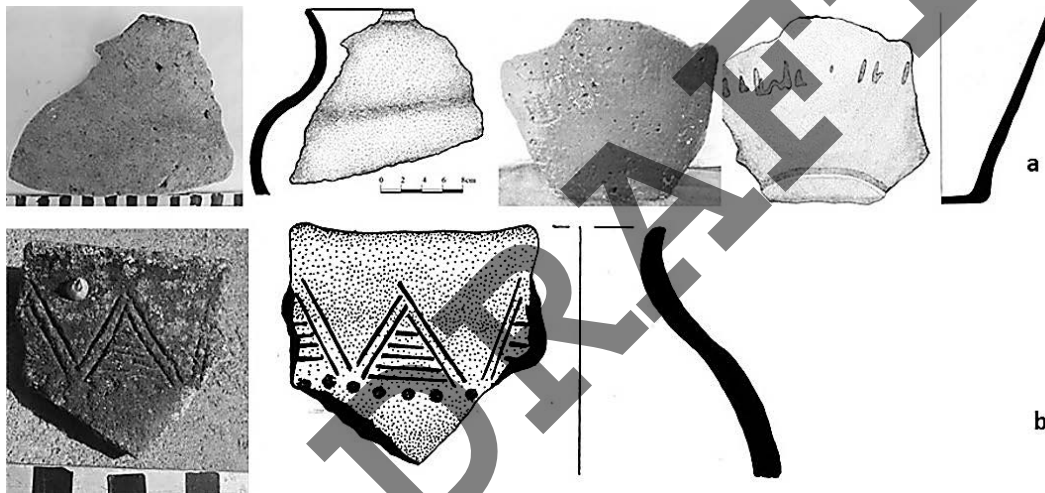


Fig. 7: TIW (expanded form) pottery from the submerged site (after Bitu *et al.* 2023)

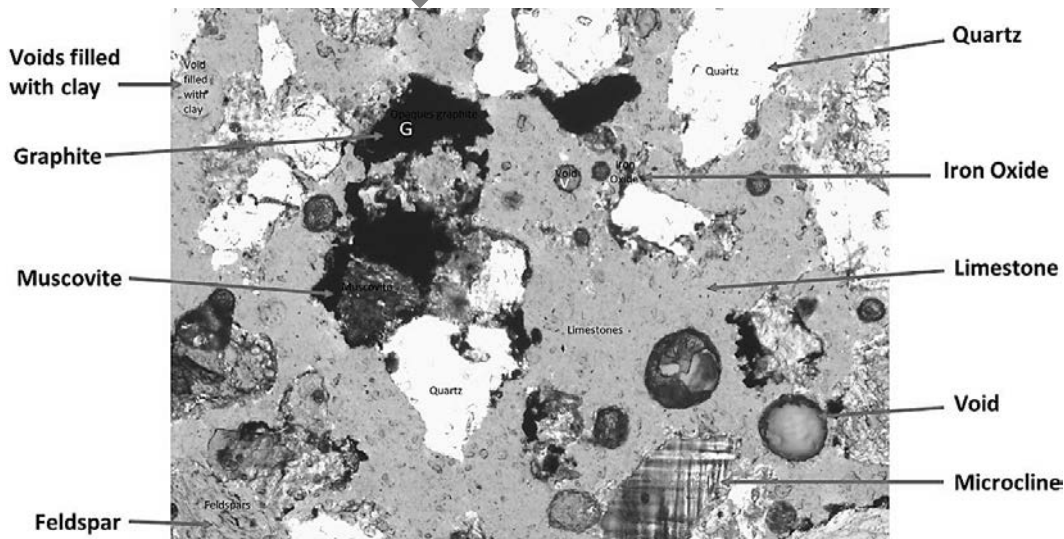


Fig. 8: Composition of analysed concrete from Mwamba Ukuta (after Bitu *et al.* 2023)



Fig. 9: Submerged ceramics at Chole Bay some heavily concreted onto coral (Photo: Caesar Bitu)

2023; see Fig. 9a-c). Previous terrestrial archaeological studies in the nearby islands of Juani, Chole, and Jibondo, and the shores of Kitoni and Kisimani Mafia westwards to Bwejuu island had unearthed transoceanic materials including Indian, Persian, Red Sea, and Mediterranean wares (Chami 1994-95, 1999a; Sutton 1994-95; Chami and Msemwa 1997; Shikoni *et al.* 2019; Mandela and Chami 2021). These indicated the Bay was a likely ancient anchorage and trading area considering its location, which was sheltered from strong winds and waves (see Fig. 4).

#### Significance of the Findings

Underwater Cultural Heritage (UCH) plays an important role in the lives of people. It is a critical element of a country's wellbeing and is part of a people's heritage. In addition to its intrinsic value, it has tourism and economic value. UCH is becoming a major attraction in the global tourism industry, and many coastal countries are developing their UCH sites for visitations. On the east African coast, there is a growing public interest in underwater cultural heritage, as has been witnessed in Kenya, where locals are handing over underwater archaeological artefacts to museums (Bitu 2018b, 2019a, 2021; 2023a; Bitu and Mahumane 2020). Ichumbaki (2011, 2012, 2015, 2020) and his colleague (Ichumbaki and Pollard 2019) have noted the significance, opportunities, future directions, and strategies towards sustainable conservation and management of heritage in Tanzania. As such, governments should endeavour to conserve, protect, and sustainably use this resource to generate income through tourism and the creation of employment opportunities for the ever-expanding populations (Holly *et al.* 2022; Bitu 2021; 2023a). Tanzania has developed some of her terrestrial archaeological heritage sites into income-generating ventures. Historical sites lying along the country's coast, such as Kilwa and Bagamoyo, including the far-flung Olduvai Gorge, are today major tourist attractions (Bushozi 2014; Antiquities Division, Government of Tanzania 1980). Underwater cultural heritage has an equally high economic potential as terrestrial heritage.

The significance of the discovered underwater findings can benefit Tanzania in at least four ways: One

is a commercial approach. The Tanzania's government departments concerned with antiquities and tourism can develop these sites as tourist attractions. This can not only earn the country revenue but also lead to the growth of other tourism-support industries in the less developed Mafia Archipelago and create direct and indirect employment for the locals (Bitu 2018b, 2019a, 2023a, 2023b; Bitu and Mahumane 2020). This study observed that the submerged site is between 4 and 12 m deep. With the warm, clear tropical waters that offer underwater visibility of over 5 metres, these sites can be developed into underwater cultural heritage tourist attractions. Makutani is located near Shungimbili Island, which hosts the 5-Star Thanda Hotel, to whom the site can be marketed. The sites of Chole are within Mafia Island Marine Park, which has many tourist hotels as well as a fully developed diving industry. Above all, these underwater remains have many of their features clearly visible, making them suitable for an underwater cultural heritage trail. The second approach, it can help further archaeological research. These findings can open doors for further underwater archaeological research in the area. Academic and research institutions, including universities, both local and foreign, can use these underwater sites to advance studies in underwater archaeology, underwater cultural heritage management, and marine mapping, among many other disciplines. The third way, these sites can be used by Tanzania's government to justify the country's ratification of the UNESCO 2001 Convention on the Protection of the Underwater Cultural Heritage and attract funding for maritime cultural heritage conservation. And finally, the fourth approach, the recovered artefacts form a rich resource that can be used to enrich the exhibitions in Tanzania's museums (Bitu 2015a; 2021). Further, Tanzania's government stands to benefit in that it can utilise these findings as a case study towards development for the country's underwater cultural heritage.

The submerged sites confirm that these are related to the Greco-Roman archaeological material occurring in the other parts of the Mafia Archipelago and the mainland Rufiji area. They form valuable datasets of great significance to Tanzania and the world. The findings can be used in the formulation of research designs for new

investigations. Moreover, they offer ways forward and guidelines for future underwater archaeological research in the region.

As with many nations around the world, underwater archaeology is not an established academic discipline in Tanzanian universities, despite there being archaeology and cultural heritage departments. Significantly, it is gaining attention in sub-Saharan Africa. If it becomes a discipline, it can be along the lines as with current global research and cultural heritage conservation in many countries around the world. With these findings, it is anticipated that demand for underwater archaeological academic programmes in local universities will become critical. A key significance emanating from these findings is that the associated knowledge will enrich archaeological research in the country. The Tanzanian government can utilise these findings to develop underwater archaeology academic programmes in local universities. Ultimately, Tanzania, the east African region, and the world at large will benefit.

With the emerging potential of underwater archaeology, a new research and cultural heritage management perspective is required in Tanzania. Underwater archaeology training and research will lead the way in the management and preservation of this invaluable heritage resource. A legal framework based on international instruments such as the UNESCO 2001 Convention on the Preservation of Underwater Cultural Heritage and the United Nations Convention on the Law of the Sea (UNCLOS) should guide policy and legislative framework in UCH preservation for posterity in Tanzania.

Managing underwater cultural heritage resources is like managing any other resource. It represents a balance among competing forces and is subject to changing political and financial climates. Without proper management, the exploitation of marine environments would result in conflict and endanger resources, of which underwater cultural heritage is part (Bita and Mahumane 2020; Bita 2021). The world over, underwater cultural heritage is under serious threat from treasure hunters, development, climate change, and poor management. This is compounded by rapid industrialization and increasing population density, as experienced by many countries in east Africa (Bita and Mahumane 2020; Bita 2023a; 2023b). With each and every development, the environment is impacted either positively or negatively, and more often than not, cultural heritage is never spared the impact (Bita 2019a). This scenario is no different in Tanzania, where underwater cultural heritage is in real danger from development and climate change.

There is a need to develop a maritime cultural heritage policy by local statutes, an important tool for maritime and underwater cultural heritage management (Bita 2019, 2021; 2023b). In order to ensure the efficacy of the underwater cultural heritage management framework, implementing authorities such as the Tanzanian Antiquities

Department have to establish a strong rapport with the local communities where this cultural heritage is located. The locals should be integrated into the management of these sites. Involvement of local communities has proven to be an effective component in heritage management (Bita 2021; Holly *et al.* 2022). This not only creates awareness but also inculcates a sense of ownership within the communities, enhancing shared responsibilities in heritage management (Bita 2015a, 2021, 2023b). It is important to consider the aspect of cultural heritage impact assessments (CHIA) in all offshore development projects in Mafia. Development of offshore industries like gas and oil exploration and port development are activities with detrimental impacts on underwater archaeological resources, and as such, CHIA should be made mandatory.

Recognizing the limited capacity in underwater cultural heritage management in the country, there is need for a collaborative approach of grouping intellectual and financial resources to address this problem. Efforts should be made towards encouraging relationships and promoting bilateral and multilateral partnerships with countries that have more highly developed coastal and maritime cultural heritage management capabilities (Bita 2021). These would include joint research agreements and partnerships in capacity building and staff training. It is essential that the state department in charge of heritage develop collaborations and partnerships with other governmental institutions and stakeholders, such as those dealing with marine life, forests, police, shipping, ports, the Ministries of Fisheries, Tourism, Education, local universities, and other stakeholders.

### **Conclusions**

This paper has shown that Tanzania has an abundance of underwater cultural heritage. As such, there is need to develop new perspectives for its management such as research and documentation, public awareness and enactment of relevant legislations as guided by UNESCO and UNCLOS. There is a need to involve communities in the management and preservation of these resources, which will ultimately lead to greater community support. The development of underwater cultural heritage trails can create direct and indirect employment for thousands of communities, which in essence can assist in the sustainable management of these underwater cultural heritage resources. These, however, may not be achieved without adequate training in the field of underwater archaeology. The development of academic underwater archaeology and underwater cultural heritage programmes in the local universities will lead to increased capabilities in UCH management. It is only through this that the country will witness effective preservation and management for posterity of this invaluable heritage resource.



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