



Department of Archaeology
Thesis Research Project

How effectively are current heritage management strategies for
maritime archaeology in the Red Sea contributing to the Saudi
Arabian vision of 2030?

Using the Umluj Shipwreck and Jeddah port as case studies

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A thesis handed down in partial fulfilment of the Master of Archaeology and Heritage
Management degree requirements.

Declaration

I confirm that this work contains no content that has previously been applied for a degree or certificate at any institution without recognition and that it contains no material that has previously been written or published by another author, save where correct references have been provided in the document.

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A handwritten signature in blue ink, consisting of stylized, overlapping lines that form a cursive-like shape, likely representing the author's name.

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Abstract

Archaeological heritage management is a strategic practice that influences a nation's archaeological, human, and economic destiny. Management strategies are not limited to the protection and preservation of archaeological sites and findings, but also aim to emphasize archaeological heritage internationally so that it is identified and safeguarded as a global cultural asset and protected by the nation. Heritage management is also a means to develop and create opportunities for researchers and the new generation of the Kingdom of Saudi Arabia to be talents in the field of archaeology. Furthermore, developing specialty centers through world class museums embraces the human cultural legacy and ensures the best archaeological approaches for a bright future.

This research reviews the effectiveness of the archaeological strategies applied in the Kingdom of Saudi Arabia to maritime heritage, specifically the Umluj shipwreck and the Jeddah port sites. It evaluates these strategies against the goals articulated in Vision 2030 in terms of more than doubling the number of Saudi archaeological sites registered with the United Nations Education, Scientific and Cultural Organisation (UNESCO) as World Heritage. Furthermore, displaying the best cultural solutions requires raising economic returns by attracting the attention of individuals and families, locally and internationally. Lowering the percentage of unemployed people can be achieved by providing employment and training that prepares a generation to lead future development and the management of heritage.

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List of Abbreviations

ARC-WH	Arab Regional Centre for World Heritage
AH	The year of Hijrah in Islamic calendar
EIF	Events Investment Fund
ICOMOS	International Organization on Monuments and Sites
INA	Institute of Nautical Archaeology
KSA	Kingdom of Saudi Arabia
PIF	Public Investment Fund
SCA	Supreme Antiquities Council
SCTA	Saudi Commission for Tourism and Antiquities
SCTH	Saudi Commission of Tourism and Heritage
SCTNH	Saudi Commission of Tourism and National Heritage
TRSDC	The Red Sea Development Company
UNESCO	United Nations Education, Scientific and Cultural Organisation
UNIOR	University of Napoli "L'Orientale"
UNO	University

Chapter 1: Introduction

Many countries seek to develop and preserve their cultural heritage to ensure its sustainability by engaging with local communities and economically benefiting from their heritage in a manner worthy of its archaeological and historical status. The Kingdom of Saudi Arabia (KSA), through the 2030 Vision (hereinafter "the Vision") (Vision 2030 2016), aims to improve society at all levels including religiously, scientifically, and culturally, by working to develop the government sector and promoting investment locally and internationally to establish strategic partnerships that seek to achieve the elements of the Vision.

Cultural heritage supports the Vision by focusing on the future development of the heritage sector, specifically by focusing on the restoration of national, Arab, Islamic, and ancient cultural sites, striving to have them registered internationally to make them accessible to everyone, and, in the process, creating cultural events and building world class museums that will attract visitors from near and far, creating a living witness to the Kingdom's ancient heritage and showcasing our prominent place in history as well as on the map of civilizations (Vision 2030 2016:21-44).

This thesis deals with the effectiveness of strategies for managing heritage in light of the goals of the Vision. It focusses on underwater cultural heritage in the Red Sea, specifically the Umluj shipwreck and the Jeddah port sites (see Figure 1), both of which are currently managed in partnership with government institutions to achieve the elements of the Vision.

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Figure 1: A map showing the case study sites on eastern side of the Red Sea.

Located between 12° N and 32° N, the Red Sea spans nearly 2,000 kilometres from north to south. Its breadth varies from around 145 kilometers in the north to 362 kilometres in the south, where the Bab El-Mandab Strait, connecting the Red Sea to the Gulf of Aden, is approximately 32 kilometres wide. Saudi Arabia, Egypt, Eritrea, Sudan, Djibouti, Jordan, Yemen, and Palestine all have coastlines on the Red Sea, with Saudi Arabia's alone stretching for more than 1,500 kilometres. Saudi Arabia also has a coastline that spans more than 500 kilometres along the Arabian Gulf (Khalil 2017:350). Maritime heritage and archaeology, both on land and in the water, are therefore crucial components of the heritage of Saudi Arabia, although the precise nature and scope of the maritime heritage resource still needs to be discovered and

remains largely uninvestigated. Up until 2016, only four sites in the KSA were listed on the UNESCO World Heritage List. These sites are Al-Hijr Madain Salih, listed in 2008, At Turaif District, listed in 2010, Historic Jeddah, listed in 2014, and the Rock art in the Hail region, listed in 2015. Since then, two more have been added: the Al-Ahsa Oasis, listed in 2018 and Hima Cultural Area, listed in 2021. These two sites will be discussed in further detail in Chapter 6 (Heritage Centre n.d.).

This thesis discusses strategies for managing underwater heritage in the Red Sea and links to aspects of the Vision 2030. Thus, a framework can be developed that includes the latest developments in monitoring maritime sites and ways to document them in order to serve their registration as UNESCO World Heritage Sites. Also important are the areas of training and employment at the selected archaeological sites and their role in achieving the Vision, identifying crafts and traditional industries and ways to benefit and invest in them, and lastly, the importance of increasing understanding of selected sites through field reports and establishing a maritime museum that achieves the Vision, especially the goal of increasing family spending on cultural aspects (Vision 2030 2016:17).

1.1 Aims

This thesis has five aims:

- 1- To discuss the effectiveness of the practices currently used in the KSA in relation to maritime heritage on land and underwater compared to best practices identified by the UNESCO Convention. As a result, chosen sites in the Kingdom of Saudi Arabia, notably the Umluj shipwreck and the old port of Jeddah, are discussed as case studies. Recent initiatives that support

aspects of selecting underwater monument sites and working on them will also be reviewed.

- 2- To develop and encourage maritime archaeological fieldwork in the KSA to reach the goals of 2030 Vision by describing the archaeological practices for dealing with sites and artefacts.
- 3- To help answer several questions that are not answered by fieldwork, like the importance of archaeological maritime sites and sources to add new historical knowledge and to create tourism destinations.
- 4- To draw a general picture of the nature, distribution, and condition of KSA underwater archaeological sites and historical relationships with contemporary civilizations far away from Arabia.
- 5- To establish local awareness about underwater archaeology in KSA and develop tourism in the maritime archaeology of Arabia.

Significance

This thesis is significant in a number of ways. First is the presentation of an overview of maritime sites that have been subjected to archaeological investigation, the problems and difficulties they have encountered as a result of human or natural influences, and how they have been addressed. Following that is a description of the most critical commerce traded via the Red Sea, which have vanished at archaeological sites due to marine species, if they are organic goods, and being looted by treasure hunters if they are metals that can be moulded and sold. This thesis also provides suitable scientific procedures, as supplied by competent organisations in the global cultural fields, to deal with underwater monuments in order to guarantee the preservation of the archaeological record and the sequence of layers. Additionally, the

maritime strategies are linked to the cultural vision and the support of goal achievement through quarterly results by opening career opportunities and creating environments and historical sites that can be protected globally as world heritage, as well as economic opportunities that support development at all cultural levels.

1.2 Limitations

The main difficulty encountered in this research was the collection of information on selected study sites. This difficulty arose due to limited research and dissemination of results as well as limitations on providing data to researchers by responsible commissions of cultural heritage. Instead, this research had to rely on publicly available data rather than analytical reports, which diminishes the researchers' efforts to link information and give recent results.

1.3 Background of the case study sites

1.3.1 Tabuk Umluj's Shipwreck

The Tabuk region, located in the northern part of the Arabian Peninsula, is the northern gateway of KSA and is famous for its historical heritage. Research conducted in 2016 proves the region's historical depth through archaeological evidence discovered. One of the most prominent discoveries was evidence of human presence in the region dating back 120,000 years (H. C. Tabuk 2021:10).

The archaeological evidence in the Tabuk region illustrates the historical depth of the region through the type of cultural settlements that existed. The monuments and rock art have the effect of creating a cultural map to show past ways of living, economic situations, trade routes, hunting, grazing, war and travel that date back to the Paleolithic era through until the early Islamic period (H. C. Tabuk 2021:10).

The most significant ports on the both sides of the Red Sea were the Safaga, Wadi Gawasis, and Quseir Al-Qadim (Myos Hormos) on the western side of the Red Sea, in Egypt, and the ports of Umluj, Rabigh, and Jeddah on the eastern side of the Red Sea, in Saudi Arabia. These bays served as the primary anchorages and harbours along the Red Sea coast (Khalil 2017:351).

1.3.2 Historical view of the Umluj shipwreck

Classical literary sources mentioned the most important historic ports in the Tabuk region on the Red Sea coast belonging to the Nabataean period, which were famous for their prosperity. The well-known Leuke Kome (White Village) located near Aynunah was described as a huge store that housed south Arabian and Asian goods which were transported to Petra, the capital of the Nabataean Kingdom. In contrast, the well-known port of Egra Kome (Egra village) was mentioned as a mysterious place near the Umluj and Al-Wajh because of a lack of research. The port was used for unloading Arabian goods and transporting them by road (Fiema et al. 2020:83).

A survey undertaken by the Università degli Studi di Napoli and the Ministry of Tourism in Saudi Arabia over two seasons, in 2015 and 2016, in the area between Yanbu' al-Bar and Umluj on the Red Sea coast of Saudi Arabia, was intended to find and conduct preliminary research on a shipwreck that had already been found off the coast of Umluj, including exposed hull portions and cargo. A pile of around 1,000 jars was discovered in the stern region, while the midship was distinguished by large storage jars as well as several white and blue Chinese porcelain mugs discovered in the starboard quarter side (Zazzaro et al. 2020:77).

Based on the Chinese porcelain, the ship was dated to the mid-eighteenth century. The wreckage was most likely a commercial ship, comparable to others

discovered on Sadana Island and Sharm el Shekh in Egypt (Zazzaro et al. 2020:77). Among the cargo were scattered parts of basins, glass bottles, and coconut husks, as well as suspected personal items like ceramic pipes. The cargo, as well as the ship, constitute one of the final vestiges of the Egyptian-Arabic trading cycle before European penetration into the Red Sea. As a result, the Umluj shipwreck has historical significance as well as enormous potential for long-term scientific enquiry and the underwater excavation training of archaeologists and students (Zazzaro et al. 2020:77).

1.3.3 Jeddah port

The history of Jeddah is significant through time, but the early Islamic era witnessed a significant turning point when Caliph Uthman ibn Affan (may Allah be pleased with him) took it as the port of Mecca in the year 26 AH/647 AD. Since that period, Jeddah has acquired its Islamic historical dimension, which has made it one of the most important cities on the coast of the Red Sea and a gateway to the Two Holy Mosques (H. C. Jeddah 2021:7).

Jeddah's historical depth is characterized by what is currently called Historic Jeddah, which includes several monuments and heritage buildings. Moreover, its urban heritage is also reflected in its historic neighborhoods, which are home to many stories and events, and its markets, characterized by their exceptional character, which has made them different from similar markets in other cities (H. C. Jeddah 2021:7). Consequently, the city was fortified with castles, towers, and military equipment to make it an impenetrable fortress that protects it from attacks by warships that invade the city from the sea (H. C. Jeddah 2021:7).

1.3.4 Historical view of Jeddah port

Jeddah is strategically located and serves as a gateway for the people of Mecca. The Persian Emperor occupied it in the second half of the 6th century B.C. Due to its importance in maritime trade, it was subjected to Habashi (Ethiopian) occupation as well as Portuguese threats and invasions in 948 of the Hijrah (AH)/1541 AD (Elfadaly et al. 2019:3). Trade, and the extraordinary riches this generated for the Persian commercial community who established themselves there, contributed to Jeddah's thriving commerce (Ilias 2007:439).

Jeddah has undergone a significant historical transition since it was initially taken by Othman bin Affan, the Third Rashid Caliph, and became a Mecca port instead of the port of Shuaiba, which was utilised by Roman commercial boats in commerce with Mecca (Bagader 2014:367).

The significance of the Jeddah region in the Mamluk era in the fifteenth century A.D. is shown in the Mamluk rulers' worries about protecting both Holy Mosques and ensuring pilgrimage routes. Thus, Jeddah is one of the essential and vital commercial ports along the Red Sea coast (Elfadaly et al. 2019:3).

Jeddah port is an important and strategic location as a significant naval port for the provision of water, as well as fishing vessels. The port was under Ottoman control in 1517, and has since reclaimed its ancient Islamic status, which has elevated it to one of the most significant cities on the coast of the Red Sea (Elfadaly et al. 2019:3).

Furthermore, the architectural heritage of Jeddah defines the city's historical depth, which comprises a distinct collection of noteworthy historical and heritage structures. The ancient wall of Jeddah, which ringed the city, is one of its most historically important structures, sections of which still survive and were erected about

911 AH/1505 AD during the reign of Qansoh Ghuri who was one of the Mamluk Sultans (Guzmán et al. 2017:197).

In addition to the barrier, an army garrison was constructed to secure the wall and the town from the external dangers and invasions presented by the Portuguese. The barrier had six entrances to defend the Holy Land as well as the Red Sea region. Each door had sixteen arms, and a new gate was erected at the turn of the twenty-first century, after the wall had been demolished in 1947 (Elfadaly et al. 2019:3).

Moreover, in Jeddah, the architectural designs of residences have a distinct identity. They include elements of the Hijaz region's architectural style, which are features distinguished by their strength, longevity, and hardness. The homes were made of skeleton stone (Darwish 2016:376). The wooden sections, particularly the doors, were embellished with various ornamental features, including plant, animal, and engineering designs. These beautiful patterns incorporated foreign art from Egypt, Europe, India, and Syria (Elfadaly et al. 2019:3).

Additionally, by Jeddah being a marine gate to Mecca, it became the route by which mocha coffee from India was most often shipped. Originally, it was taken to Aden in 1466 and then to Mecca in 1500. It expanded along the hajj highways in India and across the Middle East, with its usage mostly trickling down from hajjis as well as the court to the urban middle classes. However, unlike in the Ottoman and subsequently Persian, Middle East, the coffeehouse did not become an institution in India because coffee was less connected with "urbanity" than in the East, and India's middle class was less concentrated in cities than in the Middle East. Thus, by 1680 A.D., coffee had become a commodity traded in the Arabian seas in large quantities and constituted a considerable investment (Barendse 2000:221).

1.4 Vision 2030

It is well-known that Saudi Arabia is a financial powerhouse, the center of the Arab as well as Islamic worlds, and the link between three continents. The Kingdom of Saudi Arabia (KSA) is also endowed with a wealth of valuable resources. Because of its cultural, social, geographic, demographic, and economic advantages, the Kingdom of Saudi Arabia has become a global leader.

KSA has therefore produced a Vision for its future centered on three pillars. The pillars affecting cultural heritage are two that emphasize the Kingdom's distinct competitive advantages to create a positive future for the nation. The pillars serve as the foundation for the Vision. They are:

- A Thriving Economy
- A Vital Society

To accomplish the Kingdom's goals, these pillars work together (Vision 2030 2016:14-34-62). In addition, the Kingdom will use its investing strength to build a more varied and sustainable economy and to use its strategic location to link the three continents of Africa, Asia, and Europe. The KSA's regional standing and stature enable it to play a leading role as the "heart" of Arab and Islamic nations.

1.4.1 Vibrant Society definition and aims

As a solid basis for economic growth, Vision 2030 emphasizes the significance of a vibrant society where everyone leads a prosperous, happy, and meaningful life. Strong roots and solid foundations with an emphasis on moderate Islam, national pride, Saudi heritage, and Islamic culture define our thriving society. A vibrant society also provides world class entertainment options, care for the local community, encourages

sustainable living, and creates effective social and health care systems (Vision 2030 2016:14).

There are many goals in the vibrant society pillar of the vision, but two relate most clearly to the historic, archaeological, and heritage side of KSA. These are:

1. To more than double the number of KSA heritage sites on the UNESCO register.
2. To increase household spending on entertainment and cultural activities from the current level of 2.9 % to 6 % (Vision 2030 2016).

1.4.2 Thriving Economy definition and its aim

The creation of an environment that opens business possibilities, expands the economic base, as well as generates jobs for Saudis is a significant focus throughout the Vision's pillar of a thriving economy. This will be accomplished through utilizing Saudi Arabia's special position and potential, attracting top talent, and increasing international investment (Vision 2030 2016:34).

There are several aims as part of the thriving economy pillar of the Vision. The aim most closely connected to the potential benefits of heritage is:

1. To lower the level of unemployment from 11.6 % to 7 %.

1.4.3 Most significant company aiming to realize KSA vision 2030

- The Red Sea Development Company

The Saudi Arabian Public Investment Fund (PIF) owns the closed joint-stock corporation known as The Red Sea Development Company (TRSDC). TRSDC was formed to promote the construction of The Red Sea Project, a premium, regenerative

tourism attraction that would set new benchmarks in sustainable development and put Saudi Arabia on the map of world tourism (Red Sea Global 2022).

The project encompasses 28,000 square kilometers of pristine lands and waters along Saudi Arabia's west coast, as well as a huge archipelago of more than 90 unspoiled islands. There are also desert dunes, dormant volcanoes, mountain canyons, and a variety of cultural heritage monuments in the area (Red Sea Global 2022).

Various heritage management strategies designed for maritime archaeology sites along the Red Sea were approved at the end of 2021, when The Ministry of Culture and Museums Commission signed two memoranda of collaboration with TRSDC to strengthen and deepen cooperation in shared areas linked to museums and national heritage (Saudi Press Agency 2021).

The memorandum of cooperation between the Heritage Commission and TRSDC contained five tracks (Saudi Press Agency 2021):

1. Protecting and preserving archaeological and heritage sites and registering sites on the World Heritage List through the exchange of information by both parties on archaeological and heritage sites, sites of maritime archaeology that have been identified within the scope of the project, and new sites to be discovered in the future. All of the above will be under the supervision of the Commission specialists to ensure that all development work will be in areas free of archaeological finds or evidence.
2. Supporting archaeological research, survey, and exploration work. The company will support existing and future archaeological research and exploration work within the project's scope after obtaining the Commission's approval to carry out these works. The Commission will notify the company in advance and accept its permission regarding the existing archaeological survey and excavation work that will be conducted in the

future; within the scope of the project, it shall follow the procedures for environmental protection and any other procedures established by the company before starting the archaeological survey and excavation work. The Commission has the right to prepare the scientific content of the results of the archaeological fieldwork carried out in the project and publish the results, if necessary, after coordinating with the company. In addition to carrying out archaeological excavations within the scope of the project, diving works will be necessary for archaeological exploration of underwater cultural heritage, as well the provision of specialized human resources to complete these tasks after notifying the company. The Commission also supervises the protection of monuments that are revealed and provides the necessary recommendations for dealing with archaeological sites, in addition to carrying out restoration and strengthening of architectural elements of the project.

3. On the urban heritage side, both parties will work to preserve the adjacent urban and industrial heritage sites within the project's scope and cooperate in the restoration, rehabilitation, reuse, operation and investment of urban heritage buildings and industrial heritage sites. Moreover, they will share in supervising the restoration work, exchanging survey and architectural documentation, and cooperating in classifying urban heritage buildings by updating the National Urban Heritage Register.

4. The reconstruction of historical mosques so that both parties participate in the inventory, documentation, and preservation of historical mosques. The Commission completes the procedures for approving the issuance of licenses for restoration and rehabilitation projects of historical mosques under the company's supervision.

5. The two parties will cooperate in establishing craft production centres (production incubators) concerned with rehabilitation, production, marketing and presentation to

visitors, qualifying associations specialized in developing these fields, exchanging information and studies in all areas related to this field, and developing technical, economic, and scientific cooperation. In addition to involving artisans in handicraft festivals, exhibitions, and events, organizing annual joint conferences, and providing training courses and workshops in various fields of crafts and handicrafts. The Commission adopts these programs and shares training guides, designs, programs, and experiences.

The memorandum of cooperation between the Museum commission and TRSDC contained two tracks (Saudi Press Agency 2021):

1. A focus on the Maritime Museum and Underwater Archaeology Center, through which both parties will prepare a development plan for the construction and operation of the first maritime museum and underwater archaeology centre in KSA.
2. Identify potential opportunities in the field of museum and gallery development. Both parties will understand how to identify potential opportunities for developing museums, galleries and facilities related to each party's activities.

1.5 The main problems in underwater archaeological practices

The KSA, although possessed of a rich maritime archaeological legacy both on land and underwater, needs to be aware of instituting a robust and standardised approach to finding, recording, interpreting, and managing its maritime heritage to avoid common issues.

Firstly, documentation of underwater archaeological sites is a critical step to preserving the identity of the civilizations to which the shipwrecks belong. Nowadays, the number of wrecks discovered has increased significantly, but an essential problem

remains. Some educational catalogues that carry valuable information about maritime archaeology need to be edited, and even the more recent ones need a substantial supplement because of the growth of maritime archaeology worldwide. At the same time, it is a worrying indication that the resources needed for proper investigation, post-excavation work and site protection are currently insufficient. These concerns are especially acute when new areas, such as the Black Sea, are opened up to intensive investigation, and increasingly affordable technologies allow access to deep waters beyond territorial limits and outside protective legislation (Gibbins and Adams 2001:284).

Secondly, adherence to the ethics of archaeological work means that ethics is not about declaring one's point of view or proclaiming how matters have always been done. Being explicit and upfront about what it meant to be a professional, what it means to be an archaeologist, is unquestionably a crucial step. It is critical to establish the profession's ethics and demonstrate how someone who desires to be a member of that professional organization acts in a broader ethical and political discourse (Maarleveld 2011:919).

Thirdly, the significance of keeping archaeological materials in situ means that when archaeological work is correctly done and recorded, it advances scientific and cultural understanding of the human species. One of archaeology's fundamental ideas is "superposition," which enables archaeologists to infer time relationships between archaeological objects based on their spatial relationships. Thus, archaeologists examine things in their natural environments to understand ancient societies. It is critical to consider the quality of the evidence. Knowledgeable and discriminating personnel must recover and record data in a suitable manner. When cultural artifacts

are relocated from their original locations, they lose their archaeological integrity, and information may be lost when archaeological material is compromised during transport (Cohan 2003:359).

Finally, and nearly unanimously, archaeologists oppose the commercial sale of archaeological objects. Indeed, some archaeologists adopt the extreme viewpoint that artifacts should never be taken from their original locations, even if they are being added to museum collections. According to the Society of American Archaeology's Principles, purchasing and selling artifacts from archaeological settings contributes to the erosion of the archaeological record and obliterates contextual information (Cohan 2003:361).

Chapter 2: Literature Review

2.1 Introduction

Previous studies have played a significant role in reviewing essential research points on archaeological sites through fieldwork or developing questions and trying to solve them through results. They also have a role in comparing the views of researchers, reviewing their opinions, the cultural relationship, field and laboratory results. Moreover, recording discussion in a way that serves the interests of the researchers and answers their research question. Therefore, the significant studies that have looked at the historical significance of maritime trade on the Red Sea and its most crucial eras are listed below. They include fieldwork, both positive and negative outcomes, and how much they have contributed to our understanding of underwater cultural heritage.

2.2 Previous and current KSA maritime archaeological surveys

Maritime archaeology is clearly defined as the study of human contact with the sea, lakes, and rivers through the archaeological study of cultural history. This includes ships and their devices, cargoes, as well as maritime facilities like anchorages, harbours, and lighthouses. This also includes research on maritime landscapes and traditional coastal communities. Underwater archaeology, on the other hand, is concerned with the investigation and study of underwater cultural heritage, which UNESCO defines as "...all traces of human existence having a cultural, historical, or archaeological character that has been partially or completely submerged, periodically or continuously, for at least 100 years" (Khalil 2017:350), such as shipwrecks, underwater structures, prehistoric landscape and material culture, human remains, and aircraft (Khalil 2017:349-350).

Significant advances in the strategies and processes used in submerged surveys and excavations have occurred worldwide over the last two decades, allowing for the exploration of more significant areas of the seabed. On the other hand, cultural heritage organizations such as UNESCO and the International Organization on Monuments and Sites (ICOMOS) promote the preservation and public presentation of maritime cultural heritage and emphasize the importance of schooling and capacity building in that field. Despite the uniqueness of maritime heritage, Arab countries have shown little interest in exploring, preserving, and presenting underwater cultural heritage (Khalil 2017:348).

However, more than 50 shipwreck sites have been discovered along the Red Sea coast of Saudi Arabia (KSA) as a result of archaeological surveys and underwater excavations. These have been initiated by the Heritage Commission in collaboration with universities and international research centres. These sites range in historical and archaeological importance and date range. The ancient trade and economic ties between the Kingdom's coasts and neighbouring civilisations, as well as their activity and connections to culture, are highlighted (Cultural/The Heritage commission n.d.).

Consequently, this chapter will provide a list of archaeological surveys to illustrate the diversity of maritime archaeological sites, their survey dates, and their significance.

- The investigation of the underwater ancient environment around the Farasan Islands in southern Saudi Arabia in 2006, deployed multiple archaeological methods including acoustic surveys, coring, and diving (Bailey et al., 2007:149). This study represents one of the most well documented efforts conducted along the Saudi shoreline (Bailey et al. 2007:149). The multinational initiative was led by the University of York in conjunction with many other academic institutions. Its goals included analysing the local ecology and

climatic conditions that may have existed at a lower sea level and investigating ancient archaeological material in the region. Traces of coastal habitation connected with palaeoshorelines on the Farasan Islands were interpreted by dating and analysing Holocene shell mounds along the coast. The palaeoarchaeology of the southern Red Sea coast was the focus of the study performed in the Farasan Islands (Khalil 2017:358).

- Remnants of a 56-meter-long Ottoman warship from the early 20th century were discovered in 2011 and partially salvaged by the local government (Khalil 2017:358). The ship is said to have been one of several that Italian troops sank in 1906. The location has not been thoroughly inspected, and the finding has not been published in a scientific journal (Khalil 2017:358).

- In 2012, the Saudi Commission for Tourism and Cultural Heritage collaborated with Philipps-Universität Marburg. The study focused on probable locations between Al-Sho'iba and Rabigh, about 200 km north of Jeddah. The project's objective was to produce early finds that may show the region's archaeological promise and provide the groundwork for protracted research. The study, accordingly, explored probable port locations along the shoreline and potential underwater sites that might have posed a threat to ancient ships. The diving methods used for the underwater survey depended on the visual identification of the artefacts. A coral-built jetty and numerous submerged amphora sherds that date to the 3rd and 4th century AD were found as a consequence of the survey (Khalil 2017:357-358).

Consequently, the joint Saudi-German survey team conducted its fieldwork of submerged heritage sites on the west coast of Saudi Arabia from 2012 to 2017, beginning with the remains of a Roman shipwreck in the Red Sea. To date, it remains the most ancient shipwreck discovered along the Saudi coast, along with another shipwreck dating back to the early Islamic era of the seventh century. It confirms that the Kingdom's shores are rich in this cumulative heritage, which has made the Commission redouble its efforts in discovering these treasures using high-level international specialists (Cultural/The Heritage commission n.d.).

- A combined Saudi-Italian expedition excavated a shipwreck near Umluj in 2015 and 2016. A portion of the ship's boards, constructed of oak and pine wood, were included. The cargo consisted of a collection of ceramic pots, Chinese porcelain cups, shattered glass bottles, and metal containers from the middle of the eighteenth century. It is described in detail in Chapter 4 (Cultural/The Heritage commission n.d.).
- The Heritage Commission declared an excavation effort headed by five Saudi divers in its employ successful at the end of 2022 after discovering the wreck of a sunken ship in the Red Sea on the coast of the Haql governorate and discovering hundreds of items that were a part of the ship's cargo. The wreckage, which is 300 metres from the beach, was found by the crew that specialised in assessing submerged heritage in the Red Sea. A series of 3D images were used to record the survey and to pinpoint the location of the buried monuments (Cultural/The Heritage commission n.d.).

According to analyses of the ship's contents by the Heritage Commission specialists, the ship's journey took place in the late eighteenth-century AD, a time renowned for regular maritime commerce journeys in the Red Sea. Most of this pottery was of the "amphora" kind, produced in towns across the Mediterranean basin (Cultural/The Heritage commission n.d.).

- A representative of the Heritage Commission, Afnan Khoj, stated that work in the archaeological port of Al-Sarien, including surveying, excavation, and diving, had been carried out over the previous three seasons. Work is being done on a fourth season in 2023, as the ancient city and its port are 248 km from Jeddah port. Al-Sarien was known in the past as the village of Bani Kabri, the Factory, the Manufacturer (Al-Thenayan 2022:230-242).

In addition, laboratory analysis of two discovered pots of Chinese porcelain "celadon" identified that the paste made from the pieces was free of impurities and, though the colour had oxidated leading to a change in colour to grey or oily, this allowed the period to be evaluated to the tenth or eleventh centuries AD, which was a period of prosperity for the archaeological area of Al-Sarien (Al-Thenayan 2022:230).

There is no doubt that uncovering and exploring underwater archaeological sites of the Red Sea is worth a great deal that may result in adding new knowledge, proving or clarifying archaeological or historical theories and, moreover; may result in new ways of understanding human interaction with the Red Sea water across history. Previous and current excavations held on the eastern side of the Red Sea show us a variety of finds related to different periods of time. This piques people's interest in the history of maritime archaeology along Saudi Arabia's Red Sea coast.

Nevertheless, despite the widespread interest in archaeological and cultural aspects, Saudi maritime archaeological fieldwork only commenced as recently as 2000 AD, making it a relatively new interest compared to others nations worldwide. KSA had a focus on achieving priorities such as infrastructure and development at all levels, which relied on oil resources, with lesser focus on the optimal use of human, cultural, economic, and environmental resources, as stated in the Vision (Vision 2030 2016:39-41-61-67).

2.3 History of maritime trade in the Arabian seas

Marine activity in the Red Sea is thought to have been present as early as the Middle Stone Age, along with human settlements on the coast of Eritrea. Furthermore, the Ancient Egyptians, Arabs, Phoenicians, Greeks, and Indians sailed the Red Sea in the third millennium BC (Khalil 2017:351).

Furthermore, during the time of the Ancient Egyptians, the Red Sea served as a nautical thoroughfare to link the areas that flanked its shore. The Red Sea participated in one of the largest maritime commerce networks in antiquity throughout the Hellenistic and Roman eras, which entailed travelling to Arabia, East Africa, and India. Ptolemaic rulers established harbours, villages, and coastal cities along the Red Sea's African and Arabian coasts. Throughout the second to fourth Ptolemies, many voyages to the southern Red Sea beaches were made. Under the Romans, commerce with Africa, Arabia, and India was very significant economically for the Roman Empire, giving the populace of Rome access to luxury goods like ivory, pearls, and silk in addition to daily essentials like incense and spices. Eastern commerce rapidly increased under Augustus and his successors in the first and second centuries to suit the expanding demands of the Roman market (Khalil 2017:352).

Additionally, sailing the Red Sea acquired a new dimension with the rise and spread of Islam in the seventh century. Numerous anchorages and harbours were developed during the Islamic period, especially along the eastern coast of the Red Sea, as a consequence of the yearly pilgrimage to Mecca and substantial economic activity (Khalil 2017:353).

Consequently, in the late fifteenth century, trade in the Arabian seas was mainly dependent on Indian exports, which supplied the Middle East with textiles, pepper, sugar, timber, and rice. These commodities were mainly exchanged for silver, copper, gold, and quasi-currencies like cowry and badam (Barendse 2000:175).

The Swahili coast served as the primary trade route between Africa and the Middle East, where goods like gold, ivory, rice, slaves, and timber were traded for fabrics, weaponry, and porcelain from India, the Arab peninsula, and, to a much lesser degree, the Persian Gulf (Barendse 2000:176).

Egyptian gold dinar, as well as fulus coins, were the primary exports from the Red Sea ports in the fourteenth century. The gold from sub-Saharan Africa also carried Venetian commerce to the Levant in both the fourteenth and seventeenth centuries (Barendse 2000:179).

The sixteenth century is more often characterised by sustained growth than by a fundamental change in many other continental overland commerce routes. Gold "shipments" over the Sahara from western Africa did not stop in the sixteenth century; they may have even grown in the seventeenth century. In the late 16th century, as Egypt's trade imbalance with Yemen and India expanded as a result of the enormous coffee purchases, the demand for gold also increased, attracting additional gold imports from Sudan and Ethiopia. The price of gold seems principally responsible for the periodic swings in the direction of commerce from the Middle East towards India

between the Red Sea and the Persian Gulf. Gold dominated the shipments of bullion from Egypt and Yemen, and South Indian currencies were naturally based on gold. Again, all of this was largely dependent on imports from Ethiopia (Barendse 2000:179). Africanists and world historians alike seem to believe that East Africa performed a passive role in oriental trade and was, therefore, "destined" to undergo development. This dismissal of Africa as unimportant to global trade is regrettable because it obscures much of the structure of early world trade (Barendse 2000:179).

Before and through the sixteenth century, roads from Suez via Anatolia, the Syrian desert, the Caucasus, and the Crimea intricately linked the Arabian seas, Eastern Europe, and the Mediterranean, so they remained connected since the majority of European-Asian trade was done through the Levant. That trade was intimately associated with crossing the Arabian seas until the end of the seventeenth century (Barendse 2000:183).

The significance of pepper to the commercial trade of the Arabian seas from western India to the Levant via the Red Sea or the Persian Gulf to the Levant and thence to Venice has been overstated. In addition to the fact that the vast majority of commerce took place inside the Arabian seas, the European market only accounted for around half of the entire amount of exports of pepper from Kerala to Yemen. The Middle East was the final destination for most of India's pepper exports. In the sixteenth century and perhaps the fifteenth as well, only the surplus that could not be consumed in the Middle Eastern markets was exported to Europe (Barendse 2000:194).

In addition, more goods were traded between Kerala and the Levant than just pepper. It brought textiles, steel, coir, cowry, and coconuts from Kerala, while the Levant and Persia brought horses, tin, carpets, and copper (Barendse 2000:194).

When looking at the historical record of the importance of the Red Sea coasts throughout the ages and the essential raw materials, food, and manufactured goods transported, it can be confirmed that it has had a significant role in shortening distances and cultural exchange. However, one of the most important problems facing the sectors concerned with the conservation of archaeological resources is that sites are exposed to the public and are at risk of being looted, and their archaeological layers are exhumed, making most of their features unclear and unable to be documented in the most appropriate field manner (Khalil 2017:361).

According to Khalid (2017), almost all shipwreck discoveries in the Red Sea were made by accident by casual divers rather than via planned archaeological investigations. As a result, the sites were looted to varying degrees before archaeologists investigated them.

Furthermore, treasure hunting, in general, according to Bass (2012), poses a threat to our search for historical knowledge. As a result, since people make laws, teaching regarding marine archaeology via books, lectures, museum exhibits, and television programmes is critical, particularly for the huge portion of the populace that confuses archaeology with treasure hunting.

Although the human impact on historical sites is addressed in many archaeological reports, the negative impact also comes from marine organisms that take the archaeological materials as shelter. Further, aquatic plants play a role in the concealment or destruction of archaeological objects. Lastly, calcareous formations have an impact by sticking to the surfaces of archaeological object.

2.4 Field issues impact on the archaeological context

In 2016, according to Cocca, fieldwork was imaging the archaeological site of the Umluj shipwreck in an archaeological way. One of the aspects of documentation was 3D imaging, which gives a clear perception of the aspects of artifacts, whether large or small. One of the team's interface problems in classifying images of artefacts was the accumulation of finds, which caused an apparent lack of appearance, which resulted in a misunderstanding of the archaeological record layers.

In terms of the methods used, according to Cocca (2016), the crew was able to map the whole region of the Umluj shipwreck, completing the duties that were planned during the initial visit to the site. Overall, 3D photogrammetry has shown to be an efficient, quick, and precise technology for achieving outstanding outcomes.

However, Cocca (2016) also mentioned that a lack of proper coordination during the diving period resulted in several diver figures appearing in the final general orthophoto. This will be avoided in the future. The absence of sufficient amounts of photographs hampered the clarity of the top section of the qulal hill in the orthophoto, preventing each individual jar from being differentiated. To enhance the visibility of the jars in the orthophoto and facilitate their study, advice on which jars to clean of organic deposits on their surfaces was provided for the following field season. The number of images would be therefore be increased.

As archaeological specialists, previous challenges encountered at maritime sites could be mitigated through preparation and adherence to an archaeological survey plan. Furthermore, archaeological teams at excavation sites along the Red Sea coast have encountered issues resulting from human activities and environmental challenges.

Consequently, one of the most important ways to work in the future is to address environmental problems on the site's floor, including marine plants, which hinder archaeological field excavation. Further, using modern photography tools that result in high-quality clear photos ensures the artefacts and other finds will not be harmed. Finally, working to retrieve the jars systematically after applying treatment, whether on the site or not, ensures that they are not at risk.

2.5 Relationship of environment and archaeological remains in the Red Sea

Many environmental, geographical and structural aspects of the Red Sea indicate that the coasts were once connected. The rift that resulted in the Red Sea created the coastlines along the Arabian Peninsula and Africa. Topographic and geographic maps of the Red Sea show its depth and, thereby, give an indication of likely commercial routes and the areas of potential shipwrecking (see Figure 2) (Rasul 2015:2).

Figure removed due to copyright restriction

Figure 2: Geographic map shows the depths and elevations of the Red Sea (Rasul 2015:2).

From the environmental point of view, the study of the Red Sea gives a glimpse of the type of organisms, the nature of the seabed and its components, what problems the sea faces and the various pollution factors affecting it. This is followed by addressing the climate aspect and its significant role in increasing and decreasing the level of the Red Sea, which affects living organisms and others. However, the transparency of Red Sea water caused by increased salts also prevents the formation of sediments and algae, which helps preserve sunken historical elements for long periods (Rasul 2015:15-17-21).

Therefore, employing environmental methods in the Red Sea could enable archaeological specialists to formulate plans for managing underwater heritage to ensure its preservation and continuity. This includes maintaining and developing marine monuments within the Red Sea either in situ or in facilities like museums, if deemed necessary.

Chapter 3: Methods

First, an archaeological statistical aspect aimed to document as many archaeological sites as possible, whether on land, such as the historic port of Jeddah and its surroundings, or coastal, such as the remains of the Umluj wreck and its relationship to its surroundings and similar shipwrecks sunken on the Red Sea's banks.

Also, the work on the statistical aspect lies in highlighting the importance of selected historical and archaeological sites, why they should be nominated for UNESCO World Heritage listing, and what prominent legislation and ethics for marine monuments must be implemented to ensure the continuity of the work professionally.

Then, partnerships between the Heritage Commission and local educational centers in collaboration with King Abdulaziz University, and an international partnership with the Italian University of Naples implemented a field plan to survey and document underwater archaeology of the Red Sea. Thus, the area surveyed by archaeological methods was the area between Ras Al-Sheikh Hamid, which is north of KSA at the opposite side of Sharm El-Sheikh in Egypt, extending to the sunken wreck of Umluj, located south of the Tabuk region (@MOCHeritage 2022, 16 August, 2:21am. Tweet.).

After that, prominent innovations in the cultural sector were explored in terms of providing educational environments that embrace the unemployed and those who have the talent to train them externally and internally in aspects of culture, thus helping them gain different global experiences. Thus, youth scholarship is also a key role that helps achieve the KSA's Vision 2030, which reduces unemployment and creates leaders in the cultural, tourism, and industrial fields.

Finally, analysis was conducted on deducing the expected benefits of establishing a maritime museum that contains discoveries from along the eastern side

of the Red Sea coast. Such a museum would serve as a facade that maps the historical stages of ports, trade routes, and coastal cities and their importance in communication with other peoples and trade exchange.

The development of exhibitions and museums is a priority requiring the citizens of the KSA to be trained in appropriate competencies by specialists and expertise transferred to the ground to serve Vision 2030. These competencies include the latest methods of construction, operation, modernization, and development and are required to coincide with events globally.

The creation and development of museums and exhibitions is expected to attract local and international visitors in the interest of Vision 2030. Consequently, people will be encouraged to spend internally on cultural sectors, creating sources of income that decrease the dependence on oil, and create job opportunities helping address unemployment.

An extensive collection of published sources, including field reports, scientific research, and national data from the Saudi National Statistics Authority, was reviewed and analyzed to assess the effectiveness of cultural strategies and plans in realizing the objectives of the Vision. It also examines potential challenges, both at the national and global levels, with particular attention to the significant impact of COVID-19 at all levels. This is followed by the global resurgence driven by increased employment and practical achievements at archaeological sites, along with cultural events and their role in promoting national identity and generating economic benefits for the cultural sectors.

Chapter 4: More than double the number of KSA heritage sites on the UNESCO register

4.1 Introduction

Increasing the number of archaeological sites in the UNESCO register from the current six cultural sites (see Figure 3) is an excellent step towards creating a statistical record, conserving the KSA's cultural heritage, and ensuring its continuance. UNESCO's primary method involves conventions that serve as best practice guidelines. These conventions guide countries in dealing with underwater archaeological sites, covering aspects such as maintenance, restoration, rescue, documentation methods, scientific participation, and the prohibition of trafficking and profiting from archaeological sites.

Figure removed due to copyright restriction

Figure 3: Heritage sites of KSA on the UNESCO register (Alqahtany and Aravindakshan 2022:409).

4.2 Overview of the UNESCO's cooperation with Saudi Commission of Tourism and National Heritage (SCTH)

The Kingdom of Saudi Arabia approved the 2001 UNESCO Agreement on the Protection of Underwater Cultural Heritage in 2015, with the assistance of SCTH. This was not only an essential move towards protecting cultural treasures underwater, but it came with a substantial obligation to put this agreement into effect long-term. A series of immediate and long-term activities must be implemented in a country where maritime archaeology remains in its early stages and maritime archaeological sites are especially endangered by looting. Moreover, development efforts may also disturb the archaeological layers in the long run due to transport movements (Reinfeld and Held 2020:163).

Therefore, efforts to preserve these sites involve training archaeologists and other maritime archaeology experts, as well as establishing a comprehensive infrastructure. This infrastructure includes everything from restoration and conservation facilities to museums where maritime artifacts can be displayed to the public. Museums, in particular, are valuable because they improve public awareness and raise general knowledge about the relevance of maritime cultural heritage, while also giving people access to it through published sources or in person.

4.3 Basic principles of UNESCO's 2001 Underwater cultural heritage

The principles of the 2001 Underwater Cultural Heritage Convention consist of 35 Articles and 36 Annex rules concerning activities directed at underwater cultural heritage (UNESCO 2001:19-29).

Thus, the UNESCO 2001 Convention aims to ensure the effective conservation and preservation of maritime cultural heritage for future generations. It also aims to make it easier for states to provide such protection. Its major concepts are as follows:

1. Obligation to preserve marine cultural heritage

States that Parties must make efforts to preserve submerged cultural heritage to benefit humanity. The 2001 Agreement also demands that all human remains in marine waters be treated respectfully (UNESCO 2001:13).

2. No commercial exploitation

Maritime cultural heritage should not be used for commerce or speculation, nor shall it be irreversibly dispersed. This UNESCO Convention adheres to the moral norms that already govern cultural heritage upon land. It is not, of course, intended to obstruct archaeological research or tourist access.

Regarding existing salvage and find laws, the Convention stipulates that these laws should not apply to activities involving underwater cultural heritage unless competent authorities fully comply with the Convention and ensure the highest level of protection for recovered objects (UNESCO 2001:13).

3. Preferred Option for In-Situ Preservation

Before allowing or carrying out any actions aimed at this heritage, the in-place preservation of undersea cultural heritage, for example, on the seabed, must be regarded as the first and preferred alternative. However, object recovery may be authorized if it significantly enhances the safety or knowledge of underwater cultural objects. The preference for in situ preservation is prioritized for several reasons:

- It emphasizes the significance of the historical context of the cultural object as well as its scientific value.
- It aims to avoid repeating the mistakes made in the nineteenth century when large-scale cultural objects upon the land were removed from their original locations.
- It recognizes that, under typical circumstances, heritage is well preserved under water due to low deterioration (UNESCO 2001:13).

4. Training and Sharing of Information

States that Parties should encourage information sharing, underwater archaeology training, and technological transfer, as well as improve public awareness about the importance of underwater cultural objects. Further, they collaborate and help each other in managing, as well as protecting, such heritage, including collaborating in research, conservation, investigation studies, and presentation (UNESCO 2001:13).

5. No regulation of heritage ownership

The 2001 Convention is not designed to settle disputes or ownership claims. As a result, it does not govern the ownership of cultural property among the numerous parties involved (UNESCO 2001:13).

4.4 Archaeological fieldwork at the shipwreck of Umluj and the port of Jeddah to meet the UNESCO Convention

4.4.1 Archaeological view of Umluj shipwreck

A team headed by the Tourism Ministry and the University of Napoli "L'Orientale" (UNIOR) undertook an underwater survey in the area between Yanbu al-Bahr and Umluj on KSA's Red Sea coast in 2015 and 2016.

The wreckage was most likely a commerce ship, comparable to others discovered on Sadana Island and Sharm el Shekh in Egypt, which were discovered in the 1990s and 1960s, respectively (ATLALa 2020:78). The shipwreck in Sharm el-Sheik was excavated in 1968 at Sinai's southern edge in an area today known as a military port. The wreck and other artefacts belonged to the second quarter of the 18th century, according to design patterns on several dozen shards of Chinese export porcelain. It sank at the dock following a fire. In addition to porcelain shards, approximately a thousand qulal, or lightweight earthenware flasks, remained onboard, providing a detailed account of the design of artefacts from the same period in the Red Sea (Ward and Baram 2006:145).

The wreck on Sadana Island was excavated from 1995 to 1998 (Ward 2001:368). According to Gâzî 2000, it is an important mini-element of Red Sea trade that fits into the larger framework of East-West international trade. The porcelain cargo aboard the Sadana ship shows it was purchased in broken lots at a secondary market, most likely in Jeddah or Mecca. The existence of huge 30 to 50-metre-long China porcelain-carrying shipwrecks on Sadana Island and Sharm el Sheikh, as well as plundered sites at Hurgada in the northern Red Sea and Jeddah, shows that there was considerable interest in transporting Chinese porcelain and other goods by sea north of Jeddah.

Egyptians dominated internal commerce under Ottoman rule until the late 18th century when European vessels began shipping between Suez and Jeddah. It has been observed that most of the ships that sailed between Suez and Jeddah were constructed at Suez but by the late eighteenth century most Arab vessels in the Red Sea had been built in India (Gâzî 2000:200). Thus, the excavation of the Sadana Island shipwreck presents a potential to link goods to the shipwreck of Umluj in the KSA.

Due to the large dimensions of the frames plus the presence of architectural elements, the design of the Umluj and Sadana ships has no parallels or continuity with modern-day traditional Arab boats.

The Umluj wreck was named after the village of Umluj, which is located 230 nautical miles north of Jeddah port, and 130 km north of Yanbu', Medina's harbour (ATLALa 2020:78). It is located in a section of the Red Sea that consists of many groups of continuous or scattered reefs, 20 nautical miles south-east of the serpentine reef known as Sheibara and the island of Hassani (see Figure 4). A navigational route between the Sheibara and Woghadi reefs was used by native boats but was regarded as too narrow and risky for a "European ship" according to the Red Sea and Gulf of Aden Pilot in 1900 (ATLALa 2020:78). Although the adjacent island of Hassani served as a vital stopover for ships going between Suez and the ports of the Hijaz, supplying sheep, water, and wood from the inland, only a small amount of water was available from wells on the island or could be carried from the mainland, restricting its usefulness as a stopover (ATLALa 2020:78).

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Figure 4: A map showing the Umluj wreck location (Zazzaro et al. 2017:254).

The Umluj ship was most likely going from the southern Red Sea to Egyptian ports in the northern Red Sea, and some of the cargo included Chinese porcelain destined for the Mediterranean markets. The existence of huge quantities of qulal jars, a sort of earthenware drinking jar produced in Egypt but also elsewhere, on the other hand, may indicate southward movement. According to Dr. Ali al-Ghabban, they may have been carried from Egypt to Mecca and sold to pilgrims in exchange for Zamzam, a holy water from the Zamzam Well in Mecca (ATLALa 2020:78).

According to Ward (2001:380) addressing the Sadana wreck, the lack of proof of cannons on board would rule out the possibility that this ship had acquired Chinese porcelain and other Indian Ocean products in direct navigation to the East. The Umluj wreck, as reported in Ottoman sources, most certainly shuttled along the Red Sea from Jeddah to Suez. The porcelain objects may have been carried to the southern Red Sea by Indian traders, and the traders of the Umluj ship may have purchased it in Jeddah. The identification and provenance of the remaining cargo, which includes enormous storage jars that may have carried organic foodstuff or liquid for the crew, metal vessels, glass fragments, ceramic pipes, and coconut, is more problematic.

The discovery along with the project

The Umluj shipwreck was initially discovered by a group of sport divers and had suffered partial looting before the Ministry of Tourism authorities restricted access to the site, permitting access to researchers only. In 2015, the UNESCO asked a university (UNO) team to undertake an underwater survey along a stretch of the Red Sea Saudi coast between Yanbu' and Umluj. The crew concentrated on the only existing evidence in the area, the Umluj shipwreck. Up to seven Saudi divers, archaeologists from the Ministry of Tourism, six Dream Diver crew members, co-directors Chiara

Zazzaro and Romolo Loreto, and four Italian divers, with UNO students and other technicians or photographers were part of the Saudi-Italian team. The crew created thorough video and photographic documentation of the site and mapped the area over the first two seasons of the survey (ATLALa 2020:79).

The crew took basic notes as well as measurements of the cargo and hull using digital photogrammetry, sampled the wood of visible ship components, and educated the Saudi component of the team to do underwater research. The researchers created georeferenced 3D representations of the survey region using a basic underwater camera. The bathymetry of the survey region was calculated using the digital elevation model (DEM) created from the orthorectified image in 3D. During the second field season, a more thorough evaluation of the cargo and the hull was performed, and 3D models of individual items were created. A 2x2-metre test trench was also dug on the site's southwest side, where a significant amount of Chinese porcelain cups appeared (ATLALa 2020:80).

The shipwreck's dimensions

The shipwreck is over 40 metres long and 16 metres wide, encompassing the wreck and scattered cargo components, notably jars, in the zone around the hull. The shipwreck is perpendicular towards the reef and orientated about west-east, with the supposed bow facing the reef. The remains of the wooden hull extend for more than 36 m in length as well as 9 m in width, implying a ship of minimal dimensions. Three massive timbers run along the wreck's centre, above the frame that could be interpreted as a keelson including two sister keelsons that are variously 35 cm wide (the central plank), 22–23 cm wide (the other two), and 16 cm thick (ATLALa 2020:80).

Furthermore, stringers running across the wreck are approximately 35 cm wide (the middle plank) and 22–23 cm wide (the other two), with a thickness of 16 cm. With an overall weight of 900 tonnes (see Figure 5), the Umluj shipwreck was discovered to be somewhat smaller than the Sadana wreck. Rainer Garisch's wood examination found that one of the five samples was oak (*Quercus* sp., deciduous), and the other four were pine (*Pinus* sp.). The oak matched the predicted keelsons, but the pine matched the sampled frames. A comparison of the measurements of the Umluj and Sadana wrecks reveals that the Umluj's original construction was a bit smaller, 40–45 m, compared to the Sadana wreck's 50 m (ATLALa 2020:80).

Figure removed due to copyright restriction

Figure 5: Digital photo show the remains of Umluj wreck (Zazzaro et al. 2017:72).

The cargo contents

The Umluj wreck's most visible feature is a massive mound of hundreds of undamaged jars bonded together by calcium carbonate. The cargo was big ceramic

containers just aft of amidships, with a majority of Chinese porcelain cups as well as coconut husk shards in the forward port quarter (ATLALa 2020:80).

The test trench revealed the presence of more Chinese porcelain cups, metal vessels, glass bottle fragments and personal belongings such as Ottoman-type pipes and goat or sheep bones. Given the lack of other apparent cargo on such a massive ship, it seems likely that a major portion of the cargo was organic. Thus, sediment samples inside jars will be collected for archaeobotanical examination to see if any organic cargo remains have been preserved (ATLALa 2020:81).

Umluj's cargo appears to be organized in a fashion similar to that of the Sadana Island and Sharm el Shekh wrecks, with big storage jars in the centre, qulal jars in the supposed stern section, and porcelain cups in the bow quarter.

Other finds

Other finds on the site surface and in the field test excavation include two pipe bowls with a cylindrical, slightly flared chimney and molded and impressed decoration, recognized as Ottoman pipe bowls for smoking tobacco, and several fragments of coconut husk, as well as one complete coconut (ATLALa 2020:84).

Conclusions

The wreckage and its cargo are reminiscent of the Sadana shipwreck, although, due to a lack of published information, few clear comparisons can be made with the Sharm el Shekh wreck. The porcelain cargo on the Umluj wreck has offered information for dating the ship, which can be placed chronologically between the Sharm el Shekh and the Sadana in the second part of the eighteenth century (ATLALa 2020:84).

Furthermore, official Ottoman archives attest to the continual stream of ships leaving Egypt to supply the Ḥijāz with grain along with other food necessities during this time period. Nothing is known about the cargo carried by these ships on their way back to Egypt, but it is possible that they transported merchandise from the East to be dispatched in Alexandria markets (ATLALa 2020:85).

In addition, it is believed that some of these ships were wrecked and that it was necessary to quickly replace them by purchasing existing Indian ships to ensure supply for the Ḥijāz. Indian ships were available in the ports of Suez and Jeddah and were preferred to locally built ships since they were more economical, "solid and reliable" (Wick 2012: 411-412).

As well, other documents confirm the presence of locally built ships and Indian ships; boatyards were present in the Suez Canal, and Indian ships regularly sailed in the Red Sea transporting commodities from the East, whereas European ships or "European controlled ships" trading to both India and China could only reach the southern Red Sea up to Mocha (Sheikh 2009:84).

4.4.2 Archaeological view of the Coast of Jeddah

Introduction and background

According to Pedersen (2018), Philipps-Universität Marburg initiated a multi-year study of harbours and shipwrecks in 2012, with the cooperation and control of SCTNH, over a 200 km length of Saudi Arabia's coast. The critical search location was the Eliza Shoals, a region of lagoons and reefs on the northern approach of Jeddah, isolated from the mainland by a deep strait. A number of current wrecks recorded on British Admiralty maps show that even with engines and advanced navigation devices, the shoals constitute a threat to ships. Thus, the team built an approach that relied on

winds, currents, and possible dangers on the reefs to restrict a vast search region using information from maps. This method produced quick results, as the researchers uncovered a historic shipwreck and an amphora jar on the second day of the underwater survey. That was the beginning of the encouragement to explore the Jeddah coastline.

Compared to the understanding of the Mediterranean Sea, seafaring in the Red Sea in ancient times is comparatively understudied. Since its beginning over a half-century ago, maritime archaeology has discovered around 2,000 shipwrecks in the Mediterranean, spanning the Bronze Age to the late Mediaeval era. Most of these shipwrecks originate from the Roman Empire, attesting to the volume of shipping on the Mediterranean and showing the empire's demand for trade and commerce, which affected other civilizations in term of industry and the formation of artefacts (Pedersen 2014:2).

Consequently, in February 2015, a Saudi Arabian-German collaboration project undertook a third campaign to monitor and document two ancient and two modern wreck sites in order to add to the archaeological record of the Red Sea and to train Ministry of Tourism team members (ATLALb 2020:69).

The Philipps-Universität Marburg project "Seafaring and Trade in the Red Sea" involved the comprehensive mapping and documenting of archaeologically and historically significant sites in the area from Rabigh to Al-Shuaibah (see Figure 6), 120 km north and south of Jeddah. These sites include shipwrecks, harbours, anchorages, and villages associated with seafaring. The project's goal is to rebuild Red Sea marine commercial and transit networks using archaeological evidence mixed with literary and epigraphic sources. The preceding three operations focused on underwater archaeological investigation at specific reefs in the Eliza Shoals area north-west of

Jeddah. The reefs studied were chosen based on prospective sailing routes and known or otherwise hypothesised hazardous spots (ATLALb 2020:69).

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Figure 6: A map showing mentioned sites on the Red Sea (Pedersen 2015:126).

Significance of the Project

The eastern shore of the Red Sea is mainly undiscovered archaeologically. Major port facilities like Leuke Kome and Al-Shuaibah have not been discovered yet, and underwater archaeological studies on the Saudi Arabian coast have only lately begun. Because old recorded sources are mute and archaeological work is scarce, nothing is known about the origins of Jeddah, today's most significant port city along the KSA Red Sea coast (ATLALb 2020:69).

Nonetheless, recent discoveries indicate that ships from the Mediterranean reached this section of the Saudi Arabian coast in antiquity. The cargo remains of two ancient shipwrecks along the reef close to the port entrance of Sharm Abhur, north of

Jeddah, are a suitable starting place for exploring the Saudi Arabian coast's commercial and marine history (ATLALb 2020:70).

Underwater Survey Methods

The previous seasons effectively enhanced the practical diving talents of SCTH squad members. To optimize the training impact, the team was separated into two-person groups, each with varied experience and goals. The groups' operation depths ranged from 10 to 30 metres and buoys were positioned at turning locations where the boat reached. The survey crew was tracked using GPS locations, which allowed for extensive scanning and mapping of probable sites. The individual nautical team's dive time and study duration were also considered (ATLALb 2020:70).

In addition, the operation's depth and survey time set by the supervisor for scientific diving according to natural circumstances are the most significant features of the words training, team, survey, diving, and undersea. To maintain the utmost level of safety, the dives were carried out without any decompression breaks. In addition, a rescue diver who could provide quick assistance in an emergency was constantly on board the ship. The Red Sea's high salinity and warm temperatures made it hard to recognise and identify amphorae or other signs of a shipwreck. Fortunately, remote sensing tools like magnetometers, side scan sonar, and sub-bottom profilers are particularly successful in sandy regions (ATLALb 2020:71).

The techniques adopted allowed SCTH colleagues to practice underwater archaeological methods at the locations to ensure a slow as well as accurate visual investigation of the reefs and adjoining sandy regions. The two surveying procedures

were initially used on land in training grounds before being used in underwater areas (ATLALb 2020:71).

The methods employed in the archaeological survey demonstrate that early-stage marine fieldwork had a positive impact on the Saudi team in terms of implementing UNESCO rules No. 20, 21, 22, 23, 28, and 29 for detecting underwater archaeological objects. These rules, in short, consist of setting a schedule, creating an emergency plan for cases of interruption of work for the team in the field, and finally, applying safety policies for the work team and the environment in terms of not harming the seabed and marine life.

The Underwater Survey's Results

Aside from discovering and documenting new sites, the newest campaign focused on a more extensive investigation of the sites "Red Buoy I" and "Red Buoy II," which were discovered in 2012 and 2013 in the Eliza Shoals area. A favorable observation was that neither location had been altered due to suspected ongoing scuba diver activity, and all discoveries remained intact, as observed in earlier expeditions (ATLALb 2020:71).

The Red Buoy I

During the 2012 season, a wreck site was identified in the sandy region of a reef. It was 15 metres deep and made up of dispersed amphorae and basalt stones. The site is thought to have been the location of a late Roman shipwreck, with two big sections found and sent to the National Museum in Riyadh for additional treatment and extensive research. The location is still being investigated, but evidence shows that the amphorae are part of a shipment from the western Mediterranean. Fragments of the

3rd/4th century AD Dressel 20 Amphorae indicate that the ship was delivering a cargo of oil from southern Spain (ATLALb 2020:71).

The Red Buoy II

Red Buoy II contained the remains of Eliza Shoals vessels dispersed across an area of 450 square metres. The discovery of Red Buoy I in 2012 corroborated two groups of amphorae on the reef's eastern edge. The early amphorae were carrot-shaped with consistently horizontal threads, similar to the late Roman Aqaba amphora (ATLALb 2020:72). Archeomaterial examinations found that the sample contained a variety of artifacts that may have been used to convey garum, oil, wine, or other things. The site's ceramic samples will be analyzed for residues. The second vessel form is almost spherical, with the handles and neck scarcely visible due to marine plant cover. The container might be a large pilgrim flask (ATLALb 2020:72).

Procedures for conservation and restoration

The National Museum of Riyadh received an amphora fragment discovered from the "Red Buoy I" site for restoration and conservation. It had been encrusted with seashells and corals after being exposed to saline water for an extended period of time. On the outside and interior of the vessel, a calcareous coating covered the body, rendering any writing or design undetectable. All technologies available in the Ministry of Tourism's laboratories were employed to produce the best results for preserving and purifying such an asset. The vase was desalinated and kept in distilled water to avoid salt crystallization (ATLALb 2020:73).

The calcareous deposits were removed from the surface using scrapers, chisels, a multiple-head electric saw, and a rotary tool. Consequently, the original surface of the object was carefully preserved (ATLALb 2020:73).

Summary

Archaeological evidence for maritime routes along Saudi Arabia's coast is still rare today. This highlights the significance of efforts such as the Saudi Arabian-German research project focused on studying the nautical history of the Red Sea's east coast using underwater archaeology technologies. The current earliest evidence of a maritime route along the KSA coast was obtained after only two operations. We know about the late antique disaster "Red Buoy I" thanks to a few amphorae dating from the third or fourth century AD. As a result, it is the oldest known wreck site discovered and recorded on the Saudi Arabian shore up to this point. It symbolises a commercial route that went from the western Mediterranean to the Red Sea's east coast (ATLALb 2020:74).

Similarly, the supposed wreck site of "Red Buoy II" yields a few scattered findings. It represents a late Roman trade route from the Gulf of Aqaba along the Saudi Arabian coast to Bab el-Mandeb. The destinations of both ships are unknown. However, both sites indicate ships that collided with the reefs while attempting to reach Sharm Abhur. Specialists anticipate that extra research and discoveries in future will give further evidence for reconstructing marine trade routes and the ports, cargo, and people involved (ATLALb 2020:74).

4.5 Extent of application of UNESCO rules

There is no doubt that adding an archaeological site to the UNESCO World Heritage list, such as the Umluj shipwreck or Jeddah port, is significant both locally for KSA and globally because these sites present the first submerged sites that provide a historical impression of the nearby region's ports and coasts especially after acceptance of UNESCO's underwater regulations and rules, allowing the sites to join the context of archaeological maritime navigation with all of its deference objectives.

According to the archaeological view of Umluj shipwreck and Jeddah port, it is claimed that the rules below have been followed by the application of approved field processes:

- Rules 1 to 8 are under the General principles and these are, in brief:
 - As the first option, the protection of marine cultural heritage via in situ preservation.
 - Following that, the commercial use of underwater cultural objects for trade or speculation, as well as its irreversible spread, is fundamentally incompatible with the protection and proper handling of underwater cultural heritage.
 - Then, in lieu of object recovery, activities aimed at undersea cultural assets must employ non-destructive tools and survey methods.
 - Lastly, public access to in situ marine cultural heritage must be encouraged unless such access is inconsistent with protection as well as management.
- Rules 9 to 13 are under the project design that indicates, in short:
 - Prior to any action involving undersea cultural heritage, a project design for the activity must be created and submitted to the proper authorities for authorisation and peer review.

- Underwater cultural heritage activities must conform with the project design accepted by the competent authorities.
 - An evaluation of previous studies, objectives, methodology, funding, timetable, team composition, conservation programme, site management and maintenance policy, documentation, safety, environmental policy, collaboration with museums, report preparation, archive deposition, and publication should all be included in the project design.
 - When unexpected findings or circumstances change, the project design must be examined and updated with the agreement of the appropriate authorities.
 - In cases of urgency or chance discoveries, activities aimed at the underwater cultural heritage, such as conservation measures or short-term activities, such as site stabilisation, may be authorised in the absence of a project design to protect the underwater cultural heritage.
- Rules 14 to 16 have been mentioned before through the other rules as preliminary work, project objective, methodology and technique.
 - Rules 17, 18 and 19 are about dealing with funding:
 - Except in urgent situations to protect marine cultural heritage, an adequate funding base must be ensured prior to any activity, sufficient to complete every step of the project design, including conservation, documentation, and collection of recovered artefacts, as well as report preparation and dissemination.
 - The project design must demonstrate the ability to fund the project to completion, such as by acquiring a bond.
 - If projected funding is interrupted, the project design must contain a contingency plan to ensure the conservation of submerged cultural heritage along with supporting documentation.

- Rules 20 and 21 are about a timetable and contingency plan that should be included in the project design to ensure the conservation of marine cultural heritage in the case of interruption or termination.
- Rules 22 and 23 illustrate the competence and qualifications of those who carry out underwater archaeological activity, which means that underwater cultural heritage activities must be coordinated and controlled by a certified underwater archaeologist with scientific competence adequate for the project. Furthermore, all project team members must be qualified and have proven competency in their respective positions.
- Rules 24 and 25 show that conservation and site management programs must include treatment by a specialist that handles archaeological remains from underwater cultural heritage operations. The conservation program must adhere to current professional standards, including the site management program having to involve public information, site stabilization, monitoring, and interference protection.
- Rules 26 and 27 highlight the importance of documentation including a progress report, a detailed site record and the provenance of marine cultural heritage moved or removed, all of which should be included in the documentation process. It should also include plans, field notes, drawings, sections, photographs, or other media recordings.
- Rules 28 and 29 show the significance of safety and environment policies on fieldwork. A safety policy must be created to safeguard the safety as well as the health of the project team, including third parties, and an environmental policy is required to ensure that the seabed and marine life are not harmed.
- Rules 30 and 31 clarify that interim and final reports must be made available in accordance with the project design timeline and deposited in appropriate public records. In addition, reports must explain the objectives, methods, and techniques used, results

obtained, basic graphic and photographic documentation, recommendations for site conservation and curation, and recommendations for future initiatives.

- Rules 32, 33, and 34 fall under the curation of project archives. Consequently; before any activity can begin, arrangements for the curation of the project archives must be agreed upon and outlined in the project design. The project archives, comprising any removed undersea cultural assets and a copy of all supporting paperwork, must be stored together and undamaged as a collection in a way that is accessible to professionals and the public. The project archives must be managed in accordance with international professional standards and with the approval of the appropriate authorities.

- Rules 35 and 36 are about the dissemination of the results, which focus on the fact that projects must include public education as well as a popular presentation of outcomes, and a final synthesis must be made public and stored in public records as soon as practicable.

Chapter 5: Previous and current strategies for achieving the Vision's goals

5.1 Introduction

One of the most critical tactics for dealing with crises is to prepare, face, and respond to changes and establish plans that are implemented step by step. Unemployment, especially among individuals with educational qualifications, poses significant challenges to societies.

Thus, this chapter outlines how the archaeological sites chosen for inclusion in this thesis demonstrate important ways for teaching, developing, and raising human skills, as well as becoming present and prospective talent incubators. Furthermore, comment is made about popular investment sources that provide societal and economic benefit and advertising that piques people's interest in learning about submerged archaeological sites in a way that ensures their continuous protection and safety.

5.2 Vision 2030 Goal 1: To lower the level of unemployment from 11.6% to 7%

5.2.1 Introduction

One of the best ways to address unemployment is to develop the scientific level of qualified people in various disciplines currently occupied by other nationalities, as well as preparing facilities to be incubators that help people who acquire scientific and technical skills to be applied in the near future.

5.2.2 View on the cultural scholarship program

According to Badr Bin Abdullah Al Saud, Minister of Culture, education is a catalyst for expanding culture in the Kingdom. Thus, the "cultural scholarship" is part of a more extensive transformation program underway in the Kingdom of Saudi Arabia

based on Vision 2030's three strategic pillars (a thriving economy, building a vibrant society, and creating an ambitious nation) (Cultural scholarship n.d).

Consequently, qualified KSA citizens interested in studying archaeology, museum curation and administration, or other cultural and artistic fields are welcome to apply. As Saudi forms of creativity and expression are exposed to the world via the ambitious Saudi generation, the program will contribute to the path towards a future where all kinds of culture and art will flourish (Cultural scholarship n.d).

- Scholarship in Heritage and Archaeology

The cultural scholarship provides for the study of immovable, movable, and underwater objects, whether built, excavated, adapted, produced, or drawn, including cities, neighborhoods, villages, and buildings, as well as artefacts with urban, historical, scientific, cultural, or archaeological value. Such study may also include research on human interactions with the natural environment, biodiversity, ancient and ongoing cultural practises, and inherited living knowledge and experiences that people identify and value as a reflection as well as expression of their advanced knowledge, beliefs, and traditions. The study will allow students to understand their country's heritage and monuments in a systematic and disciplined manner (Cultural scholarship n.d).

- Library and Museum Scholarships

These allow students to learn about managing libraries and museums, including their development and operations (Cultural scholarship n.d).

5.2.3 Recent development states of the Cultural scholarship program

The cultural scholarship program strives to increase the efficiency of cultural sector workers, offering new cultural sector employees with diverse cultural specialities

who can work to build innovative routes into the cultural field. The Ministry of Culture seeks qualified staff in the following cultural disciplines: literature and linguistics, archaeology and heritage, filmmaking, architecture, culinary arts, visual arts, fashion design, theatre, music, libraries and museums, food science and technology, and design (@MOCSaudi 2021:02 July, 1:10am. Tweet).

Consequently, from the third quarter of 2021 to the third quarter of 2022, seven batches of scholarships were issued to 683 students through the Cultural scholarship program (see Figure 7) that enhance their scientific careers in international institutes, universities, and academies (@MOCSaudi 2022:04 September, 7:10pm. Tweet).

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Figure 7: the seven batches of scholarship decisions by numbers (@MOCSaudi 2022 Tweet).

5.3 Training by experts in maritime archaeology on the Jeddah coast

Regarding acquiring expertise from different Arab specialists in marine archaeology to gain knowledge from various applied scientific schools, the Arab Regional Centre for World Heritage (ARC-WH) recently organized a training course focused on capacity building in marine archaeology and undersea cultural heritage (@ARCWH 2023:12 March, 4:45am. Tweet).

The training course was held in Jeddah, Saudi Arabia, from February 25 to March 9, 2023, in collaboration with the Heritage Commission and the UNESCO Chair on Underwater Cultural Heritage. The training course drew participants from 23 Arab regions (@ARCWH 2023:12 March, 4:45am. Tweet).

Participants came from 11 Arab nations: Algeria, Bahrain, Egypt, Saudi Arabia, Tunisia, Libya, Palestine, Jordan, Oman, Morocco, and Lebanon. They were also from various sectors of marine archaeology and underwater cultural heritage (@ARCWH 2023:10 March, 7:25pm. Tweet).

The theoretical lecture content and practical application introduced participants to the development of underwater archaeology and learning about maritime archaeology and cultural heritage in the Arab region. Participants learned about the history of humanity's relationship with the sea, ancient shipbuilding techniques and their development, underwater ethnography, and ways to manage and preserve maritime cultural heritage in the face of hazards from natural disasters and human practices. Underwater cultural heritage was also addressed from an international standpoint (“Launch of the Arab Regional Course for Capacity Building in the Field of Marine Archaeology and Underwater Cultural Heritage - ARCWH” 5.3.2023).

In the Arab Regional Course for Capacity Building in Marine Archaeology and Underwater Cultural Heritage, participants utilized the practical information they gained underwater over two days doing archaeological surveys and using GIS (@ARCWH 2023:9 March, 10:41pm. Tweet).

Participants in the Arab Regional Course for Capacity Building in Marine Archaeology and Underwater Cultural Heritage worked on several projects to learn about marine archaeology and underwater cultural heritage (@ARCWH 2023:12 March, 2:10am. Tweet).

5.4 The Red Sea Underwater Cultural Heritage Survey from Umluj to Ras AI-Sheikh Hameed

On 15th of August 2022, the KSA Heritage Commission's 'Field Plan Operation for Surveying Maritime Cultural Heritage in the Red Sea' press conference, held in collaboration with King Abdulaziz University and the University of Naples and hosted by King Abdullah University of Science and Technology, addressed the following (@MOCHeritage 2022:15 August, 9:32pm. Tweet):

- 1- The accomplishments of the first section of the survey.
- 2- Scope of fieldwork and regions designated for archaeological investigation.
- 3- Work strategy and methodology, as well as the instruments and devices employed.
- 4- The anticipated project outcomes and the group members.

Furthermore, on 16th of August 2022, the Saudi Heritage Commission initiated a project to survey maritime cultural heritage from Umluj to Ras Sheikh Hamid in the Red Sea in collaboration with King Abdulaziz University with the participation of a group from the University of Naples (@MOCHeritage 2022:16 August, 2:27am. Tweet).

As the expected outcomes of this field survey included the region between Ras Sheikh Hamid and the shipwreck in Umluj, this survey focused on this region. More than 25 sites were to be monitored in the vicinity of Ras Sheikh Hamid, Duba, Al-Wajh, and Umluj in order to accomplish the following:

- 1- 400 kilometres of the northern portion of the Red Sea to be covered.
- 2- Survey and record 25 additional underwater cultural heritage sites.
- 3- Generate mosaic maps, high-quality nautical maps, photographs, and videos for all archaeological sites.

- 4- Document the updated GPS coordinates of maritime heritage sites.
- 5- Recover valuable artefacts and gather samples for analysis.
- 6- Select spots that can be made accessible to scuba divers.

Consequently, operating with universities in the archaeological field and involving them in the documentary and discovery aspects serves the research staff and trains them to confidently work with archaeological techniques. Another benefit of partnerships is contact with scientifically qualified cadres from the archaeological field, which refines and develops talents.

Afnan Khouj on 16th October 2022, who works on data sharing at the heritage commission, confirmed that part of the outcomes of the field survey had been achieved. These outcomes resulted in 25 additional underwater cultural heritage sites over 400 km being recorded and listed in the national archaeological record. Moreover, the press conference highlighted the importance of cooperating with local and international universities and centers for past and recent discoveries of underwater archaeological sites. Furthermore, that work pointed to the necessity for establishing a regional center for underwater cultural heritage in the Red Sea and the Arabian Gulf, which is already underway.

Thus, fifty archaeological shipwreck sites along the Red Sea have been identified and located by GPS devices and included on the national record by members of the heritage commission and locals. Applying archaeology methods towards uncovering 25 of these 50 sites is making significant progress towards achieving the 2030 Vision's aim of doubling the number of archaeological sites on the UNESCO register (@MOCHeritage 2022:25 February, 12:07am. Tweet).

5.5 Vision 2030 Goal 2: To increase household spending on entertainment and cultural activities from the current level of 2.9% to 6%

5.5.1 Introduction

Since 2019, the numerical and quantitative growth in cultural events has been outstanding at the local level in terms of traditional events and national involvement and at the global level by attracting visitors with archaeological, artistic, and other interests (Ministry of Culture 2019:27).

The influence of Vision 2030 on the events and festivals industry is a paradigm change that has increased youth spirit in organizational and administrative components in order to fulfil the requirements of the target group, namely young people locally and globally. The events were not restricted to the traditional form of representing the area in which they were held, nor to the level of Arab culture, but the importation of global events providing a new element to the tourist attraction system, increasing tourism in Saudi Arabia both domestically and abroad.

The level of 2.9 % since the 2030's Vision in the second quarter of 2016 has not been stable but the recent result of the rate of spending reached 3.08 % in the second quarter of 2023 (see Figure 8) (“Consumer Price Index” 2016). The following seven years will provide more data to judge the success of that part of the Vision.

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Figure 8: Rates of Consumer Price Index (“Consumer Price Index” 2016).

Consequently, current strategies for achieving the Vision's goal in 2030 were listed in mid-January 2023, when Crown Prince Mohammed bin Salman Al Saud launched the Events Investment Fund to support infrastructure developments in the culture, tourism, entertainment, and sports sectors (admin 2023).

5.5.2 View on Events Investment Fund (EIF)

The EIF is a fund that aspires to build long-term infrastructure for the KSA's cultural, tourism, sports, and entertainment industries. The fund also intends to form strategic alliances to enhance the local industry, encourage foreign investment, and contribute to Vision 2030's goal of creating a vibrant society.

EIF is a multibillion-dollar program that aims to build more than 35 venues around the Kingdom by 2030, including indoor arenas, art galleries, theatres, conference centers, horse-racing tracks, car racing tracks, and other event facilities. It intends to establish the Kingdom as a worldwide center in these numerous event sectors, to offer world class sustainable infrastructure, and to generate long-term financial benefits to support KSA's economic diversification initiatives. It would also help the Kingdom become a worldwide tourism destination, drawing more than 100 million

tourists by 2030 and making it among the most visited nations in the world (admin 2023).

The EIF's goal relates to the National Transformation Fund's strategy, which His Royal Highness the Crown Prince introduced. It intends to make the fund a key facilitator of Goal 2030's economic and social objectives. Furthermore, the fund will focus on developing and expanding direct foreign investment opportunities for a Saudi Arabian Real (SAR) 28 billion GDP impact by 2045, nurturing collaborations between the public and private sectors, securing a supportive environment for strategic cooperation in the events industry, and raising the number of employment possibilities for citizens (admin 2023).

5.5.3 Museums could make a difference

Museums are one of the most important destinations to learn about the history of regions in all their aspects. It is also one of the means to host events such as cultural theatre, scientific conferences, and recreational events in line with the desires of community members of all ages. Part of the ambition of Vision 2030 is to create a range of museums in the KSA to showcase various elements of local culture, knowledge, and expression. These include the world's largest Islamic museum and the first maritime museum in the KSA.

5.5.3.1 The World's Largest Islamic Museum

The Museum is one of the 2030 Vision's goals and will communicate the initial appearance of Islam by the prophet Mohammed, peace be upon him, via a historical and archaeological journey using the most contemporary means of gathering, preserving, presenting, and recording information (Vision 2030 2016:21).

Furthermore, the Museum will be a key landmark for KSA inhabitants and tourists, where they can learn about Islam's history, engage in interactive activities, and attend cultural events. Visitors to the Museum will be taken on an immersive path through various periods of Islamic civilisation, as well as its science, scholars, and culture. Additionally, it will be a worldwide centre for erudition, with a world class research centre and library (Vision 2030 2016:21).

5.5.3.2 Future First Maritime Museum in KSA

According to the two goals agreed upon by both the Museum Commission and TRSDC, they will collaborate on developing the first museum of maritime archaeology and a centre of underwater archaeology in KSA. This program will be initiated to design and establish the Kingdom's first maritime museum, which will be the first institution to appropriately protect and display maritime archaeology. This elite facility will enable the excavation and preservation of future wrecks discovered as part of the larger maritime archaeology study. Thus, it is believed that it will become a tourist attraction for future international tourists and Saudis interested in learning the fascinating history of maritime activity and trade and the Kingdom's pivotal role in the growth of the region.

Furthermore, strategic cooperation across heritage sites promotes the investigation of previously unknown places of historical value, intending to increase, from the current six sites, the number of Saudi Arabian entries on UNESCO's World Heritage List. Following Vision 2030, the collaboration intends to expand the number of recognised sites on the UNESCO World Heritage List (“Red Sea Global to Deliver Saudi’s First Red Sea Underwater Excavation - Red Sea Corporate” 2023).

Chapter 6: Results, Analysis, and Interpretation

6.1 Introduction

The effectiveness of archaeological strategies towards achieving the 2030 Vision needs to be clarified, examined, and explained, so through this part of the research, the pillars of the Vision will be under investigation.

6.2 Result of adding KSA's heritage sites to the UNESCO register

Since the 2030 Vision was released in 2016, two historical sites have been added to the UNESCO Register bringing the total to six sites (see Figure 9). These new sites were Al-Ahsa Oasis in 2018 and Hima Cultural Area in 2021 (see Table 1) (Heritage Centre n.d.).

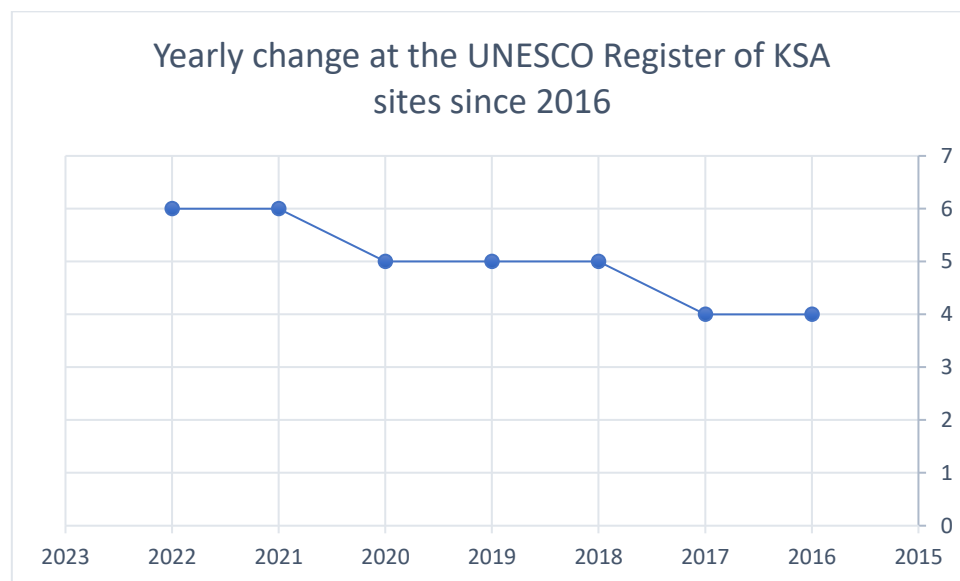


Figure 9: Rate of registered archaeological sites and their rate of increase.

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Table 1: KSA's sites registered on the World Heritage List (Heritage Centre n.d.).

On the other hand, in the second quarter of 2023, the national record of KSA heritage sites reached 11,805 archaeological sites all over KSA (@SaudiVision2030 2023:19 April, 04:30am. Tweet). Most sites have been fenced to protect against natural and human impacts. In contrast, several sites have been under archaeological investigation for several reasons, such as archaeological salvage surveys, preservation and restoration and collecting finds for lab preservation to reduce the risk of losses of heritage sites and objects.

The archaeological sites added to the UNESCO register are land sites. In contrast, the latest and most current work on underwater sites shows the equal importance of maritime archaeological sites in adding and drawing the historical and cultural side of the Red Sea along the KSA coast.

6.3 Current results of the 2030 vision aim of lowering unemployment level to 7%

The government and private sectors support the pillars of the Vision in providing opportunities, whether career or training, for employment, which had

contributed to reducing the unemployment rate to 11.6 % in 2016. Positive results appeared in the second quarter of 2021, and unemployment continued to decrease through 2022. A dramatic increase to 15.4 % in the second quarter of 2020, followed in the third quarter by 14.9 %, and similar in the fourth quarter was a result of the COVID-19 pandemic that affected the economies of most countries in the world (see Figure 10).

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Figure 10: Quarterly change in the unemployment rate of KSA population in total (Labor Force 2016).

Even though the impact of COVID-19 in 2020 was noticeable, a fast decrease in the unemployment level began in the first quarter of 2021, when it dropped to 11.7 %.

The level remained stable for the second and third quarter of 2021 at a rate of 11.3 % and dropped to 11.0 % in the fourth quarter, possibly the result of developing talents and employing people in different sectors. The unemployment level decreased over the first two quarters of 2022, rose slightly in the third, but the fourth quarter result of 2022 achieved a historic low of 8.0 %, which makes it clear that continuing on this path of progress in a variety of sectors and especially in the cultural sector, will result in obtaining a better outcome than even the 2030 Vision aimed to achieve.

6.4 Result of increased household spending on entertainment and cultural activities from the current level of 2.9% to 6%

Historical sites, cultural centres, and festivals are significant sources of income for countries. This coincides with the economic return, whether on the residential side, events, exploration, or many other sources of financial income that can arise in partnership with the private sector. Using historic sites in a way that ensures their safety and makes the community interact positively with them is proof of the success of the ultimate goal of attracting visitors locally and globally and introducing them to the culture of the region.

Consequently, the Cultural Ministry operates archaeologically registered sites such as the underwater archaeology of the Umluj shipwreck and the port of Jeddah. The community is involved in a way that ensures the safety of all parties by establishing laws and official platforms that regulate best practices under the supervision of specialists to explore the underwater heritage. Following appropriate rules helps to reduce sources of danger at the historical and human levels for amateur divers.

The current level of 3.08 % of household spending on entertainment and cultural activities is a significant increase after the multiple decreases observed in the third quarter of 2022 and the first part of 2023. Consequently, the plans of the EIF to establish elite Islamic and maritime museums as facilities that can host events and activities and be a target for investment in developing technologies for presenting museum content will attract a wider range of people to explore the culture.

Chapter 7: Conclusion

7.1 Introduction

This thesis provides the reader with an understanding of the significance of cultural heritage in its various forms, whether underwater or on land, to the goals of the KSA Vision 2030, by describing the current status of two selected historical sites: Umluj shipwreck and Jeddah port. In addition, the effectiveness of underwater sites in achieving a portion of the objectives of KSA's Vision 2030 is explored. The Vision aims to more than double the number of historical sites on the UNESCO World Heritage Register, reduce community unemployment and, as a result, further develop the local economy by catering to the desires of the domestic and international community in terms of entertainment and cultural activities.

The purpose of the thesis was to link archaeological sites by showing their preparedness in terms of research and historical significance to make the KSA an influential element in the UNESCO map of global locations. Additionally, the role of archaeological sites in the exchange of knowledge to serve as training destinations to assist specialists in gaining skills and future generations in understanding the nature of archaeological fieldwork.

7.2 The Importance of the Findings

By discussing the best practices for documentation and discovery in the maritime archaeology field and the part that maritime archaeological sites play in preparing sites to be global attractions, this thesis helps ensure the sites are eligible for inclusion among the world's protected historical sites. It provides insight into the principles and methods of archaeology. Furthermore, this thesis identifies the types of

field practices and guidelines from UNESCO that ensure archaeological site registration and scientific preparation to ensure their continuity. It is a supporting guide to the local methods used in the archaeological detection and registration of sites in the National Register of Archaeology.

The results of this thesis show the unemployment rate since the establishment of Vision 2030, the most prominent stages of transformation, whether positive or negative and the role of the public and private sectors concerned with culture, tourism and heritage and their contribution to changing the rate of career opportunities.

The results reviewed the most important current and future ways that are under construction to raise the rate of community spending on entertainment and cultural events since the beginning of the Vision until the present time, the latest ratios and optimal government plans to ensure that they reach the Vision's ambition and more.

7.3 The Study's Contributions

The thesis contributed to linking historical and archaeological frameworks in terms of importance, scientific methods of archaeological survey, discovery, and dissemination, as well as the historical relations of neighbouring civilisations and their impact on the design and decorative elements of artefacts recovered from the Umluj wreck and other maritime sites. It has also helped to relate the aims of Vision 2030 to present reality by determining the best future techniques to further the cultural vision.

This thesis also selected the most significant current and prospective initiatives that best use maritime archaeological sites to further the goals of the Vision, regardless of whether they stay in their original locations or are relocated to a facility concerned with their protection and preservation.

7.4 Future recommendations

Archaeological strategies for detecting underwater monuments are relatively recent in the KSA, and their results are still in the early stages. This presents an incentive for future researchers to acquire newly discovered data that will enable them to engage in analytical work using the most appropriate methods.

In addition, the cultural sector is working to develop people so that they are ready to take the future roles in promoting culture in KSA. Scholarship programs have been developed to support scholars to build their skills, knowledge, and experience by learning from global archaeological experts.

Moreover, to achieve Vision 2030, we must identify ways to address changes that may make a difference, either positively or negatively. These points are a reference that help overcome difficulties, if any, and a supporter that promotes the positive achievement of goals.

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