

EVALUATION OF THE UNDERWATER DIVING TOURISM POTENTIAL OF ULUBURUN SHIPWRECK UNDERWATER EXPERIMENTAL ARCHEOLOGICAL SITE

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Abstract. The potential to use underwater archeoparks created within the scope of experimental archeology for diving tourism is evaluated in this study. In this compilation study, the underwater diving tourism potential of Uluburun Shipwreck in Kaş region of Turkey was investigated in the context of experimental archeology and underwater archeopark. It is observed that the Uluburun III shipwreck is one of the most popular diving sites in Kaş region and contributes to the region culturally and economically. However, it has been determined that diving demands for this the site are not sufficient considering the number of tourists visiting the region. It is foreseen that the demand will increase with the marketing activities focusing on the diver's niche markets.

Keywords: Uluburun Shipwreck, Experimental Archeology, Diving Tourism, Underwater Archeology

INTRODUCTION

Turkey with a rich underwater flora and fauna, is surrounded by seas and has the potential to dive in all seasons. Turkey has very rich historical and cultural remains because of its location on the maritime trade routes of the ancient times and the shipwrecks left from the wars on its shores. The first scientific underwater excavation in the world was on carried out on the Gelidonya Shipwreck discovered off the coast of Antalya /Turkey in 1960 (Özdaş, Hirschfeld, Bass, Pulak, 2010, p. 116). This discovery attracted the attention of archeologists and Turkey has positioned an important role in the field of underwater archeology. Uluburun Wreck, which is the focus of our study and known as the "oldest known open sea ship" worldwide (Erkurt, 2011) has attracted the attention of academics from all over the world. In the scientific archaeological underwater excavations, the method of experimental archeopark was preferred to learn how the ship construction technique and the life of sailors in ancient period. The replicas of the Uluburun Shipwreck and its cargo were faithfully reproduced and sunk off the coast of Kaş. While creating a diving point in the project, it was also aimed to create an archaeological training site, to enrich the diversity of underwater life and to increase the demand for diving tourism in Kaş. In this compilation study, diving tourism potential of Uluburun Shipwreck was examined.

DIVING TOURISM, EXPERIMENTAL ARCHEOLOGY AND UNDERWATER ARCHEOPARK

The Genesis Project activated in 1962 by the American Navy which inspired by inflated animal posts contributed a lot to professional diving (Avcı and Demir, 2015, p. 113). Deep diving systems have transformed to present form now (Avcı et al., 2015, p. 114). Today with the changes in which it shows during this project (Avcı et al., 2015, p. 114). Diving which was performed commercial (Casson, 2002), military (Avcı et al., 2015) and the scientific purposes (Demir, Demirel, Aslan, 2015) at the first stage are performed as sport as well after the establishments of diving schools.

Two options are available in diving: free style diving and scuba diving. Free diving is performed without equipment and divers use only the submersible pallet and the mask to dive up to the depth he wants by holding his breath (World record is 202 m.). The equipment diving is referred to as scuba diving (Self-Contained Underwater Breathing Apparatus). in condition of properly received sufficient education and equipment, scuba diving is very safe and a pleasure-oriented tourism activity that attracts people from all over the world (Dimmock, 2007). People may have opportunity to see the flora and fauna in the most natural form on diving. Turkey is a major diving destination due to the geographical location and ancient trade routes (Yarmacı, Keleş, Ergil, 2017, p. 69). Afkule in Fethiye, Ilyosta in Ayvalık, Samandag in Hatay, the small reef and big reef are the diving sites with in Bodrum and the great rest in Turkey is the well-known spots with the live diversity of the submarine.

Besides natural beauties, man-made remains are also attractive for tourists. Dimitri wreck in the Canyon of Kaş and the battleships wrecks in Dardanelles and Saros Gulf of Canakkale, especially the 188-

ton Lundy wreck, have been attracting many tourist diving groups. The Airbus A330 plane in Saros Bay, Pinar 1 wreck and Coastguard boat wreck in Bodrum are sample reefs to increase the demand among tourist (Ministry of Culture and Tourism, 2021a).

In addition to the shipwrecks, the sunken ancient sites are other attractions for tourist divers. Kekova (Dolichiste) known as the sunken city, welcomes thousands of tourists for diving every year (Antalya Provincial Directorate of Culture and Tourism, 2021). During the underwater archaeological excavations, touristic diving was prohibited and only boats with glass bottoms were offered to tourists. But Kekova became a popular diving point after the excavations were completed.

Archeology sciences benefits from different disciplines because it is a very comprehensive science. In addition, many sub-disciplines have emerged throughout the historical development of archeology as a result of divergences between archaeologists, such as differences in areas of expertise, research methods, interpretive approaches or theoretical perspectives (Gamble, 2014, pp. 21-23). The radical changes in the field of archeology in 1960s (Renfrew and Bahn, 2017, p. 40) helped the process of existence of experimental archeology (Türkoğlu, 2019, p. 66). According to some researchers (Özdoğan, 2011, p. 150), the beginning of experimental archeology goes back to when a collector named A. Rhode started to make copies of ancient tools made out of flint. Experimental studies continued with people working in different countries and fields. Experimental archeology gains momentum as a result of experimental analysis of S. A. Semenov on the stone tools from the Paleolithic Period and similar experiments were applied on different objects from small finds such as figurines, stone beads or ceramics to architectural building elements (Özdoğan, 2011, p. 151).

Archaeologists working in the field of experimental archaeology try to imitate the behaviors, lifestyles or any materials of people who lived in the past. They benefit from the finding by previous researches (Coles, 1968, p. 2). Therefore, experimental archeology can be expressed as an applied sub-discipline that tries to understand the people with the materials and technologies they used in their time. Among the approaches for the purpose of experimental archeology, Experimental archeology also has features such as functioning as an educational tool, strengthening sociological ties, providing a critical perspective on the field of application, material, and method selection (Türkoğlu, 2019, p. 67).

It is seen that researches on prehistoric people are more intense in experimental archeology studies (Coles, 1968, p. 1). Aşıklı Höyük, known as the first village of Cappadocia and Bursa/Aktopraklık Höyük Projects can be good samples of the works belonging prehistoric period (Özbaşaran, Duru, Teksöz, Omacan, 2010, p. 215; Karul, 2015, p. 14).

Experimental archeology, which enables finding the unknown or determining the misunderstandings through experience, is also used in underwater archeology. Within the scope of the project carried out by the 360 Degrees History Research Association (Erkurt and Fertan, 2012), the navigation techniques used by the ancient people in maritime, the emergence of these techniques, the development process and the tools used to determine the time and location-direction were examined with experimental archeology methods.

Another project which was researched by applying experimental archeology methods in underwater archeology is the Cycladic Boats Revitalization Project in Ankara and it was carried out by Ankara University Underwater Archaeological Research and Application Center (ANKÜSAM). In order to understand better the maritime trade network within the scope of the project, a copy of the Cycladic Boat was made by adhering to the ancient technology and it was launched by oil sledge (Erkurt, 2012, p. 76).

The main goal in experimental archeology studies is to understand the people of the past and to train students in the subject. However, the results obtained in the studies reflect positively on tourism. Experimental archeology studies carried out within the scope of the Maritime Center and Ship Museum Project have reconstructed boats and tools based on the originals (Bircan, Bircan, Erkurt, 2012) like Ottoman boat "Çekevele" from the 16th century, Pazar Kayak, which is the most frequently used boat type in the Bosphorus after 1453 and some tools used in maritime (wooden shipbuilding tools, ancient anchors, primitive navigation tools, etc.). The project aiming to increase the interest of young students in archeology, maritime, maritime history and underwater archeology, has also a very positive impact in the field of tourism (Bircan et al., 2012, p. 52). Boats and nautical tools made with experimental archeology methods are exhibited in several different areas; when the exhibition was just opened, 46 thousand tourists visited only the shipyard section during the summer season in 2012 (Bircan et al., 2012, p. 57).

A similar work was done on a shipwreck named "Yenikapı 12" and found during Yenikapı Archaeological Excavations (Özsait-Kocabaş, 2010; Özsait-Kocabaş, 2018). It is a reconstruction of the 9th century shipwreck within the scope of experimental archeology in order to understand the construction technology. The project was completed after the replica of ship was constructed and launched and then the

ship was placed in the Rahmi M. Koç Museum for display. Nearly 400 thousand tourists visited the replica of Yenikapı 12 in a year (Ak and Kocabaş, 2019).

Uluburun Shipwreck, one of the most important discoveries of underwater archeology, dates back to 14th century B.C. (Yalçın, Pulak, Slotta, 2006). This merchant ship listed as "the oldest known open sea shipwreck" in the literature was investigated using experimental archeology methods (Erkurt, 2011). The harmony between underwater archeology, experimental archeology and tourism is clearly visible on Uluburun III Project.

Not only the lands but also the waters of Turkey are very important. The excavation of the Gelidonya Shipwreck, located off Antalya/Beşadalar, was started in 1960 by George Bass and his team (Bass, 1961). The excavation of the Bronze Age shipwreck (Bass, Throckmorton, Hennessy, Shulman, Buchholz, 1967), which is approximately 26 to 28 meters deep, was recorded in the literature as the "world's first scientific underwater excavation" (Özdaş et al., 2010, p. 116). Then, in chronological order, Yassıada Byzantine Shipwreck (1961-1964), Roman Shipwreck (1967-1974), Yassıada 16th century A.C. Shipwreck (1967-1969), Gökova Satanderesi Shipwreck (1975), 11th century B.C. Serçe Harbor Wreck (1977-1979), Serçe Harbor Hellenistic Wreck (1978-1980), Uluburun Wreck (1984-1995), Bozburun Byzantine Wreck (1995-1998), Çamaltı Cape 1 Wreck (1998-2004), Tektaş Wreck (1999) -2001), Pabuçburnu Shipwreck (2002-2004), 37 Yenikapı Shipwrecks (2005-2008), Kızıllburun Shipwreck (2005-2011) and Kızılan Shipwreck (2020) archaeological underwater excavations were carried out (Erkaya, 2018, pp. 297- 298; Mahsereci, 2013; Ministry of Culture and Tourism, 2021b; INA, 2021). Apart from the shipwreck excavations, underwater excavations have also been initiated for movable and immovable cultural assets such as ancient cities, ports, architectural elements and sculptures. These archaeological excavations include Limantepe in İzmir (ANKÜSAM, 2021) and Kekova Ancient City in Kas/ Antalya (Aslan, Kılıç, Göçer, Boran, Orhan 2016), the basilica in İznik Lake (Onur, 2019) and the Leto Sanctuary in Muğla/Sultaniye/Turkey (Akerdem, 2015) can be counted as an example. The number of archaeological finds discovered during underwater surveys is increasing (Okan, Bilir, Bilir, 2015; Öniz and Karademir, 2016; Gündüz, 2021). The new ones were added to the shipwrecks collection that have already been discovered in the Dardanelles Strait, which is in the field of recent war archeology (İlgar 2011; Özalp, 2010).

The concept of an archeopark can be defined as an open-air museum where archaeological assets are exhibited in the most general sense. Cultural heritage items in archeoparks reflecting the lifestyles of people in past are preserved in their natural environments and have the opportunity to integrate with the society. Since there are 3D animations obtained as a result of the studies, cultural assets come to a more understandable level for visitors (Keskin and Zeren, 2018, p. 111). One of the purposes of archeoparks is to create an awareness by succeeding in creating this perception on visitors. Therefore, archeoparks also have an educational aspect in terms of increasing people's knowledge of archeology and awareness of protecting archaeological assets (Keskin et al., 2018).

The most important difference that distinguishes an archaeopark from a museum is that the archaeological finds in the archaeoparks are repaired and exhibited in situ in a way that is faithful to the original. In this context, the vast majority of underwater archeoparks are ancient cities that have been under water for various reasons. The ancient city of Baiae, located in the Bay of Naples in Italy, was flooded as a result of a coastal collapse due to volcanic movements (Bruno, Lagudi, Gallo, Muzzupappa, Petriaggi, Passaro, 2015). There are many interesting elements in the city such as rich Roman villas, statues, bath structure and floor mosaics. Some inscriptions, sculptures and mosaics found here were moved to the museum and the city was turned into an archaeopark by placing exact copies in the places where they were found. Although making exact copies by staying true to the originals is similar to the experimental archeology method. It can be said that the main purpose here is to attract the attention of tourists and to present the archaeological information to the service of tourists in the most accurate way, rather than a scientific study.

Tourists coming to Baiae Ancient City can visit the region by glass bottoms boats. In addition, it is possible to dive at 7 different points in total with depths ranging from 5 to 13 meters or to pass over structures with a snorkel (Subaia, 2021). The fact that diving organizations are carried out only by local diving centers is very important in terms of providing employment to the local people (Keskin et al., 2018).

Just like in Baiae, the diving organizations in the ancient port city of Caesareia/Kayseri underwater in Israel are carried out only by a local organization called as Gal-Mor Dive (Raban, 1992). The statues and inscriptions from the Roman Period underwater in the Kayserya Underwater Archeopark can be seen on trips by glass-bottomed boat, free style diving or snorkeling.

The depth of the Punta Gavazzi Underwater Archeopark, established near Ustica Island in Sicily, varies between 10 and 24 meters. Since there are so many amphorae in the area, tours are organized in glass-bottomed boats to protect the area. Only photography is allowed and touching anything is prohibited when snorkeling (Pizzinato and Beltrame, 2012, p. 218). The region functions as an underwater archeopark with more than 500 archaeological sites in the Adriatic Sea within the borders of Croatia, (Pizzinato et al., 2012, p. 218). Alexandria located in Egypt is one of the ancient cities that remained in situ around 5-6 meters deep under the water and was turned into an archeopark. Baiheliang Underwater Museum is an archaeological site in China that hosts rare examples of Chinese culture (Pizzinato et al., 2012, p. 219). In addition, Apollonia Underwater Archeopark in Libya is the newest among underwater archeoparks (Pizzinato et al., 2012, p. 217).

KAS UNDERWATER ARCHEOPARK; ULUBURUN SHIPWRECK PROJECT

The first Archeopark studies in Turkey were carried out by the 360 Degree History Association in Antalya/Kaş under the presidency of the Underwater Association Research (Erkurt and Paker, 2014, p. 135). The full name of the project „Kaş Archaeopark Experimental Archeology Project" (Uluburun Shipwreck Experimental Archeology Project) and it was started in 2006. In 2009 another project was initiated by the same association for the construction of the Mordoğan Underwater Archeopark (Erkurt et al, 2014, p. 137). The aim of this project is to understand the scientific value of the region and to revive the tourism movement in the region. Within the scope of the project, a copy of each ships used for trade and war purposes in 600 BC were located in Mordoğan (360 Degree Research Group, 2021a). Amphorae used in the cities around the Aegean Sea were placed around the shipwrecks on the same dates. Thus, the area was transformed into an archaeological site. In addition, by sinking the C-47 aircraft obtained from the Air Command off Mordoğan on 21 May 2011, the artificial reef site was expanded. As a result of the project, the artificial reef site with archaeological elements and an airplane wreck has become the first and only underwater diving destination in Turkey. The ancient city of Kekova which is also known as the "Sunken City" and under water as a result of tectonic movements (Yaşar and Konurhan, 2019, p. 3455) has not been transformed into an underwater archeopark. Kekova sunken ancient site can be visited by glass-bottomed boats and is planned to include diving programs in (360 Degrees Research Group, 2021b). The cargo carried by the shipwreck, which is of great importance for us to obtain data about the Eastern Mediterranean trade, is spread over an inclined area with a depth of 44 to 52 meters. The goods in the cargo consist of a total of 20,000 pieces belonging to different cultures such as Hittite, Syria, Palestine, Greece, Egypt, Canaan, and Israel (Ayvazoğlu, 2015, p. 7). Among these items, there are a complete assemblage of glass finds referred to as 'the oldest known glass ingots' in the literature, Cedar Tree and a type of black tree called ebony by the Ancient Egyptians, cosmetic container made of ivory, hippopotamus teeth, ostrich eggs, lamps produced in Cyprus, lamps from the Canaan region, unique jewelry, stone ceremonial staff, tin, copper and lead ingots, spearheads and various foods (Ayvazoğlu, 2015, pp. 10-12). Nefertiti's golden seal with scarabaeus, the sacred insect of Ancient Egypt among the finds is a very valuable as it is the only example of its kind (Yalçın et al., 2006). The ruins make Uluburun Shipwreck 'the oldest known open sea shipwreck in the world' (Erkurt, 2011; Ayvazoğlu, 2015; Renfrew et al., 2017).

The research of Uluburun Shipwreck in term of experimental archeology methods was carried out under the name of "Uluburun II Project" of 360 Degree Historical Research Association. According to the research, the Uluburun ship was approximately 15 meters long and 5 meters wide (Pulak, 2001, p. 116) and only 3% of the ship survived. With the "Bronze Age Harbor Revitalization and Kaş Underwater Archeopark Project" initiated by 360 Degree History Studies in 2006, it is aimed to introduce Uluburun Shipwreck as a symbol of Kaş to the whole world (360 Degree Research Group, 2021d). First, a Bronze Age Harbor was built in one of the bays of the Bucak Sea using experimental archeology methods. The port in this project is also intended to be the place where the maritime history and underwater science symposiums planned to be held annually on an international scale and it is aimed to give Kaş an international character (360 Degrees Research Group, 2021d).

It is aimed to increase the diving tourism potential in Kaş by building the underwater archeopark. Cooperation was set up with the Underwater Research Association (SAD), a non-governmental organization. Within the scope of the project, a replica of Uluburun Shipwreck called Uluburun III was built by using experimental archeology methods. Uluburun III with its imitation cargo is positioned in situ on Hidayet Bay, just like as the original was found for the first time. It has been possible to use the diving point in Kaş as a training base in order to learn underwater archaeological excavation techniques and to examine the change of

a shipwreck under the water after it has sunk, interm of this project which was the first in the world (360 Degrees Research Group, 2021c). Uluburun Shipwreck Project became focus in international scientific meetings and cooperation was set up with the Nautical Archeology Society (NAS). Diving programs have been started to be organized in Kaş Underwater Archeopark since 2014 through NAS and announced to the whole of Europe (360 Degrees Research Group, 2021c). Uluburun III, apart from the diving programs organized by NAS for academics in the field of archeology (NAS, 2021), has been introduced into tourism as an attraction.

There is a total of 36 diving points in Kaş offshore (Başak, 2012, p. 21). According to the interview with the diving instructors working in Kaş (Yarmacı et al., 2017, p. 75), the most preferred diving spots are the Canyon where the Dimitri Wreck is located, and the Uçanbalık Bank. Uluburun Wreck is located at a depth of 18 meters on Hidayet Bay and 8.5 km to Kaş (Ministry of Culture and Tourism, 2021a). Because of its depth, it can be seen from the top by discovery dives where amateurs dive in company with instructors or free divers with snorkels. In addition, the shipwreck can be visited by divers who have the ability to descend to a depth of 18 meters (at least Open Water Diver, at least One Star in CMAS, etc.) by descending as close as possible to contact the shipwreck. For safety reasons, each dive is planned to be terminated when 50 bar of air remains in one of the divers' cylinders, which was originally 200 bars. Since the consumption time of 150 bar air varies depending on the diver's air consumption, dive times vary between 20 minutes and 40 minutes.

There is no data on how many times Uluburun Wreck is visited during the year, as the diving points are determined according to the weather conditions, the diving supervisor of the boat and the wishes of the tourists on diving excursions or diving package tours. Daily diving excursions are consisting of 2 dives and 1 lunch and tourists prefer diving boat with their own equipment's and participate individually. Package tours include a total of 4 dives and 2 lunches and are generally preferred by groups on weekends. During the summer season, 90% of the dives are made by pre-planning with the reservation system; In the off-season, around 40% to 50% of the dives are carried out by convincing the walk-in customers (Başak, 2012, p. 21; Yarmacı et al., 2017, p. 83).

Tourists participating in daily excursion or package diving tours in Kaş spend on accommodation, entertainment and food & beverage sectors in addition to expenses for underwater diving activity. Underwater diving tourism is an important alternative tourism type, as a valuable foreign currency input will be provided for local and national economy if the incoming tourist is foreign.

CONCLUSIONS

Because of its geographical location and maritime trade passageways, Turkey is a destination with serious number of diving spots that appeal to different tourist demands. This situation also reflects positively on tourism revenues. According to the Antalya Branch of the IMEAK Chamber of Shipping (DTO), around 100.000 foreign tourists dived to the shipwrecks annually in Alanya region (Turizmdays, 2017). Therefore, the added value of sea tourism is higher as tourists provide transportation and accommodation with their own means.

Kaş Underwater Archeopark is an important archeopark in Turkey. Due to its geographical location and cultural richness, Turkey can create underwater archeoparks, especially in tourism destinations or close to important destinations. In this way, both diving enthusiasts will be encouraged to come to Turkey and the tourists who have come to the country will be encouraged to participate in diving tourism, which is one of the qualified tourism types.

Scientific archaeological underwater excavation of Kekova Ancient City has been completed. The region with underwater harbor structures, has the potential to serve to diving tourism as an underwater archeopark. Kaş attracts attention with its underwater biodiversity, reefs, shipwrecks, canyons and caves and is among the 50 most interesting diving destinations in the world (Erkurt et al., 2014, p. 134). Because of the high number of diving points in the region and diving opportunity for all seasons, Kaş benefits advantageous in terms of underwater diving tourism. These situations which are advantageous in terms of tourism mobility of Kaş district cause competition among diving boats. For this reason, some of the boats operate only in the summer season starting in mid-April and ending at the end of September (Yarmacı et al., 2017, p. 74). Some diving boats operating throughout the year operate in winter to serve groups affiliated with the university or club, which usually come on weekends (Yarmacı et al., 2017, p. 74).

According to the study investigating the current situation of underwater tourism in Kaş (Yarmacı et al., 2017). Diver's dives twice during the tours (between 10:00 and 17:00); once in the morning and the second in the afternoon. Since the number of divers is constantly changing due to different reasons such as

weather conditions or economic crisis, a fixed number cannot be given, but it is estimated that around 60.000 people dive annually in Kaş (Yarmacı et al., 2017). The majority of the tourists coming to Kaş for diving tourism are aged 25-40 coming from Belgium, Netherlands, Germany and England (Yarmacı et al., 2017). The study also determined that the Turkish people aged between 15 to 20 on average showed interest in diving in Kaş. According to same survey conducted in Kaş, tourist groups arriving in the summer season prefer staying in region between 4 and 7 days and 2 to 4 days in the winter season. It has been observed that individual divers stay in the region longer than drivers in organized groups, especially during the summer season. Another interesting point is individual divers from abroad prefer luxury facilities, while organized diver groups prefer financially affordable accommodation in Kaş region.

According to data of year 2012, the annual income just in Kaş region was calculated as a value between 4 and 5.6 million Turkish Liras, based on the average of one dive as 80 Turkish Liras (Başak, 2012, p. 21). Since the price of a single dive in Kaş today varies between 200-300 Turkish Liras, the income obtained will be almost three times as much as 2012 years data.

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