The Touristic Development of the Archaeological and Heritage Areas in Alexandria City, Egypt

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Abstract—Alexandria city is one of the greatest cities in the world. It confronted different civilizations throughout the ages due to its special geographical location and climate which left many archaeological areas of great heritage (Ptolemaic, Greek, Romanian, especially sunken monuments, Coptic, Islamic, and finally, the Modern). Also, Alexandria city contains areas with different patterns of urban planning, both Hellenistic and compacted planning which merited the diversity in planning. Despite the magnitude of this city, which contains all the elements of tourism, the city was not included in the tourism map of Egypt properly comparing with similar cities in Egypt. This paper discusses the importance of heritage areas in Alexandria and the relationship between heritage areas and modern buildings. It highlights the absence of a methodology to deal with heritage areas as touristic areas. Also, the paper aims to develop multiple touristic routes to visit archaeological areas and other sights of significance in Alexandria. The research methodology is divided into two main frameworks. The first framework is a historical study of the urban development of Alexandria and the most important remaining monuments throughout the ages, as well as an analytical study of sunken monuments and their importance in increasing the rate of tourism. Moreover, it covers a study of the importance of the Library of Alexandria and its effect on the international focus of the city. The second framework focuses on the proposal of some tourism routes to visit the heritage areas, archaeological monuments, sunken monuments and the sights of Alexandria. The study concludes with the proposal of three tourism routes. The first route, which is the longest one, passes by all the famous monuments of the city as well as its modern sights. The second route passes through the heritage areas, sunken monuments, and Library of Alexandria. The third route includes the sunken monuments and Library of Alexandria. These three tourism routes will ensures the touristic development of the city which leads to the economic growth of the city and the country.

Keywords—Archeological buildings, heritage buildings, heritage tourism, planning of Islamic cities.

I. INTRODUCTION

ALEXANDRIA is the main Mediterranean port of Egypt and its second largest city. It lies on a thin segment of land between the coast and a lagoon known as Lake Mariut.

Alexandria City was built by Alexander the Great in 332 BC. He established Alexandria in the small port town of Rhakotis by the sea and set the mission of transforming it into an extraordinary capital. It became the capital of Egypt for more than 1000 years, and it contains many ancient Greek, Roman and Islamic monuments.

Alexandria City has many beaches used for swimming, picnicking and sports, along with other tourist attractions such as museums and monuments. Moreover, the creation of this magnificent structure, "the new Library of Alexandria", has introduced a new kind of tourism to the city, which is the architecture and scientific tourism.

Due to the touristic and historical importance of the city, Alexandria attracted the peoples of the Mediterranean Basin. However, after Egypt political instability of 25 January 2011, international tourism has almost vanished, and the internal tourism is limited to the beaches.

This research will study the region's heritage, archeological and modern areas. It will conduct a detailed study about the Eastern Port which contains underwater monuments. These underwater monuments are not given enough attention within the tourist map of the city. Although these underwater monuments are considered a global attraction site and can be used to revive international and internal tourism in Alexandria. This research will propose different touristic routes to link the underwater monuments by the other archeological sites throughout the city.

II. HISTORICAL STUDY OF THE URBAN AND ARCHITECTURAL DEVELOPMENT AND HERITAGE AREAS OF THE CITY OF ALEXANDRIA

A. The Origins of Alexandria City

Alexander the Great established Alexandria City in Egypt in 332 BC. Alexandria was established near the ancient village of Rhakotis, along the coast of the Mediterranean Sea in north Egypt [1].

B. Urban and Architectural Development and Heritage Areas of Alexandria

1. Ptolemaic Era

As shown in Fig. 1, the planning of the city was Grid Plan. Two main streets were located in the city plan. Nowadays, the horizontal street is known as Al-Horeya Road, while the vertical street is known as Prophet Daniel Street.

The most famous remaining monuments of the Ptolemaic era are:

1. The Serapeum of Alexandria: The Serapeum was built during the rule of Ptolemy III (246–221 BCE) on a hill toward the west of the city.
2. Mustafa Kamel Necropolis: The Mustafa Kamel Necropolis dates back to the early 2nd century BC and is comprised of five tombs cut into the rock.

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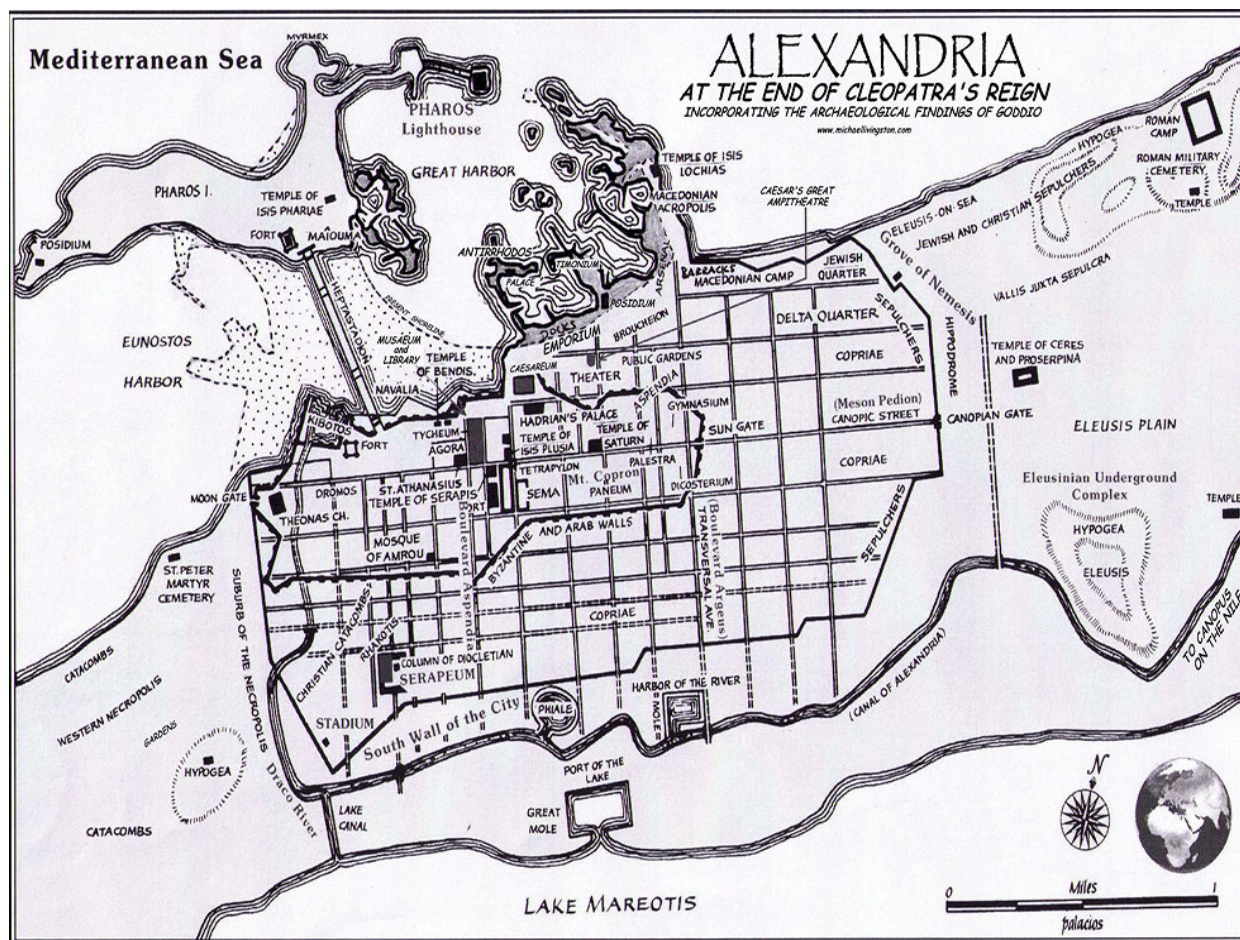Vol:13, No:2, 2019

Fig. 1 Planning of Alexandria city in Ptolemaic Era

3. Necropolis of Anfushi: It was established at the end of the Ptolemaic era. It lies to the west of the eastern harbor (Fig. 2) [2].

Fig. 2 The Necropolis of Alanfoshi

2. Roman Era

The planning of the city did not change in this era. The city expanded in the eastern side along the street of Canope until Gate of the Sun, while it expanded until the Gate of the Moon on the western side.

The most famous Roman Era monuments are:

1. Pompey's Pillar: The Corinthian column was built in 292 AD in the Serapeum of Alexandria to commemorate the victory of Roman Emperor Diocletian (Fig. 3) [2].
2. Catacombs of Kom El Shoqafa: The Catacombs of Kom El Shoqafa were constructed at the beginning of the 2nd century CE. The structure was part of a Necropolis that was constructed on the western edge of the town. Kom el Shoqafa was started as a tomb for a single, wealthy family, but was expanded into a larger burial site used as a public cemetery.
3. Ras El Soda Temple: It dates back to the 2nd century AD. It was built as a thank giving for Isis, goddess of magic in ancient Egypt (Fig. 4) [3].

Fig. 3 Pompey's Pillar

World Academy of Science, Engineering and Technology
International Journal of Social and Business Sciences
Vol:13, No:2, 2019

Fig. 4 Ras El Soda Temple

4. Roman Theatre in Kom El Dekka Area: The Roman Theatre was situated in the central region of Alexandria city at Kom el-Dikka. It was constructed in the 3rd century AD to host musical ceremonies and political meetings. In the year 535 AD, most of the theatre was destroyed due to earthquake (Fig. 5).

Fig. 5 Roman Theatre in Kom El Dekka Area

5. Roman Bath House: Bathing had a significant influence in ancient Roman culture and society. It was one of the daily activities in Roman culture. The Roman bath house usually consists of three rooms in one row, beginning with the cold room then the warm room and lastly the steam room.

3 Byzantine Era

Christianity spread rapidly but not easily in Alexandria. There was a religious and political conflict between the Coptic of Egypt and Byzantium. However, many Christian churches were built in this era [4].

4. Islamic Era

i. From the Beginning of the Islamic Era until the End of the Mamluk Period (909–1517)

In 641, the Arabs under General Amr Ibn Alas captured Alexandria after 14-month siege.

The most famous remaining monuments of this period (909–1171) are:

1. The Western Tower: It was built in the Ayyubid period. This tower was part of the eastern fence of Alexandria in the Islamic era. It was located to the north of Rashid gate [1].

2. Eastern Wall: It was built in the Mamluk period. This wall remained valid until the year 1885. A small part of this wall still exists in the Tribal Waterfalls Garden.

3. Citadel of Qaitbay: It was built in the Mamluk period. It was one of the greatest defensive facilities in Alexandria. It was found by the Sultan Al-Ashraf Abu Al-Nasr Qaitbay in 1480 AD. It was situated on the eastern side of the northern tip of Pharos Island (Fig. 6) [4].

Fig. 6 Citadel of Qaitbay

2. Ottoman Period (1517-1798)

In the Ottoman period, the planning of Alexandria became organic compacted planning with twisted streets, unlike the city of Alexandria in the Middle Ages. The original city was called the Western City, and it was deserted [5].

The most famous remaining monuments in this period are:

1. The Agency and Mosque of Al-Shorbaji: It was established on Ottoman style in 1758. It is considered an outstanding suspended mosque (Fig. 7) [6].

Fig. 7 The Agency and Mosque of Al-Shorbaji

2. Islamic Model Houses: It was characterized by the presence of the inner courtyard which was used as a climatic and social regulator (Fig. 8).

Fig. 8 Islamic Model House

World Academy of Science, Engineering and Technology
International Journal of Social and Business Sciences
Vol:13, No:2, 2019

3. The First Half of the 19th Century (1805-1855)

Since Muhammad Ali took power in 1805, he brought a large number of Europeans experts and engineers, especially the French. As a result, buildings in the European style appeared and spread in the city [5].

The most famous remaining monuments in this period are:

1. Ras Al-Tin Palace: It was built in a European style, and was designed by Italian architects Romeo & Lowing in 1818 (Fig. 9)
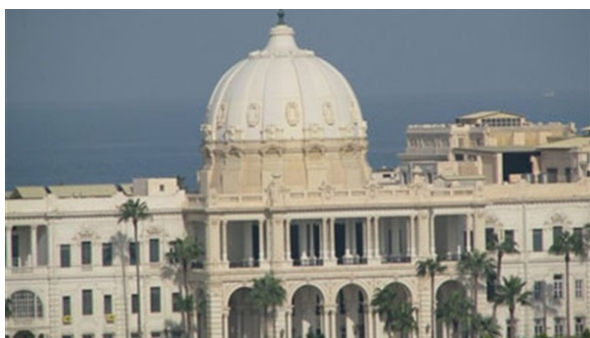

Fig. 9 Ras Al-Tin Palace

2. Residential houses: A group of residential houses in front of the eastern port, which were designed in a European style (Fig. 10).
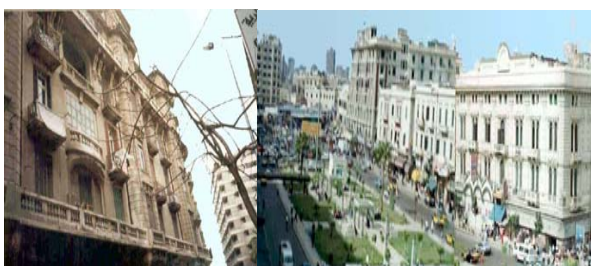

Fig. 10 Residential House

4. The Second Half of the 19th Century (1805-1900)

In the second half of the 19th century, Alexandria became similar to European cities. The planners began to use the networking pattern [7].

The most famous remaining monuments in this period are:

1. Antoniadis Gardens: Paul Richard planned the space in the style of the gardens of Versailles in 1860 [4].
2. Manshia Square: The Italian architect Francesco Mancini planned Manshia Square in 1863 based on the European style [5].

5. Modern Era (1900 until Now)

The most famous remaining monuments in this period are:

1. The Mosque of Abu Al-Abbas Al-Mursi: It was built on the Andalusian style by the architect Mario Rossi in 1945.
2. Egypt Train Station: Egypt Train Station was designed and built in 1915 by Italian engineer Antonio Lashiak.

III. THE STUDY AREA OF THE SUNKEN MONUMENTS

Here, the importance of the sunken monuments will be described as well as the drilling history of different regions. Also, the most important complications facing the development process will be explained.

A. Alexandria's Eastern Port Area

The eastern port area is located in the area from Almanshia to Citadel of Qaitbay. This region is important as it witnessed the establishment of ancient Alexander in 331 BC and also contained one of the Seven Wonders of the World, Alexandria's old lighthouse. Alexandria's old lighthouse was established by Ptolemy II in the 3rd century BC. The height of the lighthouse was about 100 meters, and it was destroyed because of earthquakes (Fig. 11) [8]. The Mamluk Sultan, Al-Ashraf Qaitbay, built his famous castle on the ruins of the old lighthouse, and used its stones in the construction of the castle. Some of the lighthouse's stones remained as a witness to this monument but under the surface of the water. Figs. 12 and 13 show the maps of this area formerly and recently.
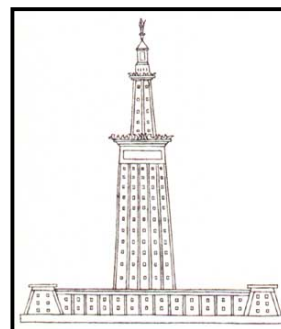

Fig. 11 Alexandria's Old Lighthouse

B. The Importance of the Monuments of the Study Area

The sunken monuments are considered an Egyptian treasure in the Mediterranean Sea. The number of sunken monuments exceeds one million pieces, which call for a plan to take advantage of them through Tourism of snorkeling which became of great importance worldwide. The most important sunken monuments were those submerged by the earthquake in 365 AD. This earthquake submerged whole areas at a distance of 2 km east of the Citadel of Qaitbay (Fig. 14).

These monuments include the monuments of Egypt's former queen, Cleopatra, her palaces and the palaces of three Ptolemaic kings. Multi-national archeological missions (French, Greek, American and Italian) and the mission of the Department of Sunken Archeology of Alexandrite City are working in discovering these monuments hoping that they can discover the full picture of old Alexandria (Figs. 15-17) [9].

C. The Rise of the Sunken Area Region

During a series of fierce earthquakes from the 9th to 14th century, in addition to about 17 wars, the northern part of the city was razed and sunk into the adjacent sea. Also, because of wars, the city was completely destroyed six times. In general, these factors led to the presence of the enormous treasure of

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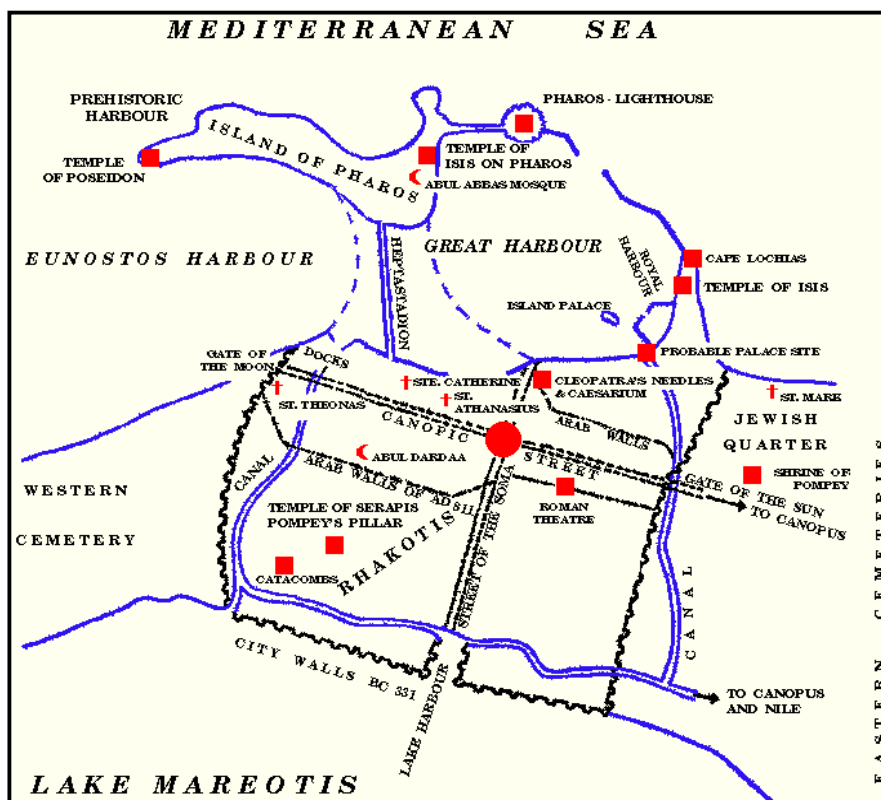Vol:13, No:2, 2019
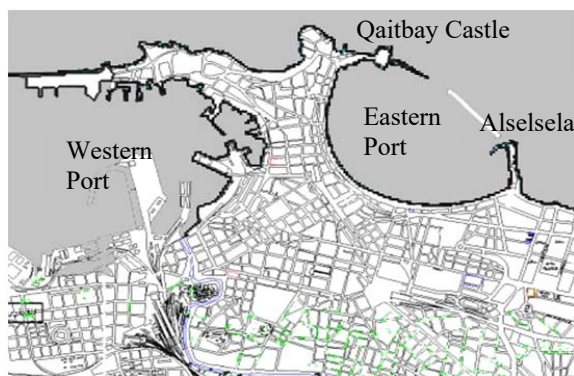
the sunken heritage.

Fig. 12 Map of Old Alexandria

Fig. 13 Recent Map of Alexandria

D.The History of the Archaeological Excavations in the Area

Marine archeology is considered relatively new. Before more than 50 years, it had been difficult for scientists to carry out their excursions mission. However, through advances in modern technology [10] and safe diving, the explorations by scientists became possible.

The detection and gathering the sunken monuments in Abu Kir Bay began in 1933. However, the actual work of identification of the sunken monuments of the Eastern Port (Royal District) started in 1961, when the late diver Kamel Abu Al Saadat informed about watching blocks of sunken monuments in the region of the eastern port before Citadel of Qaitbay. In June 1962, he assisted the Department of Antiquities and Marine Forces in pulling a 170 cm granite statue of a man dressed in the cloak from the Hellenistic era. In November 1962, the team pulled a statue of Isis from the land adjacent to the Citadel of Qaitbay [11].

In 1968, UNESCO published a report which contained some graphics and special panels that illustrate the importance of this place [12]. So, with the exception of some simple discoveries by amateur divers [13], the area remained neglected as a result of the Second World War.

In the past 20 years, the shores of Egypt on the Mediterranean Sea have become open to underwater drilling activity. According to the request of the Ministry of Antiquities in Egypt, the French missions carried out surveys near the Citadel of Qaitbay, and found many of the discoveries around the lighthouse of Alexandria. Another French mission headed by Frank Godio found the important remains in the Eastern Port. In October 1995, the mission of the French Center for Studies in Alexandria surveyed the sea depths. This mission was composed of 30 Egyptian and French divers specialized in undersea surveying and photography (Fig. 18) [14].

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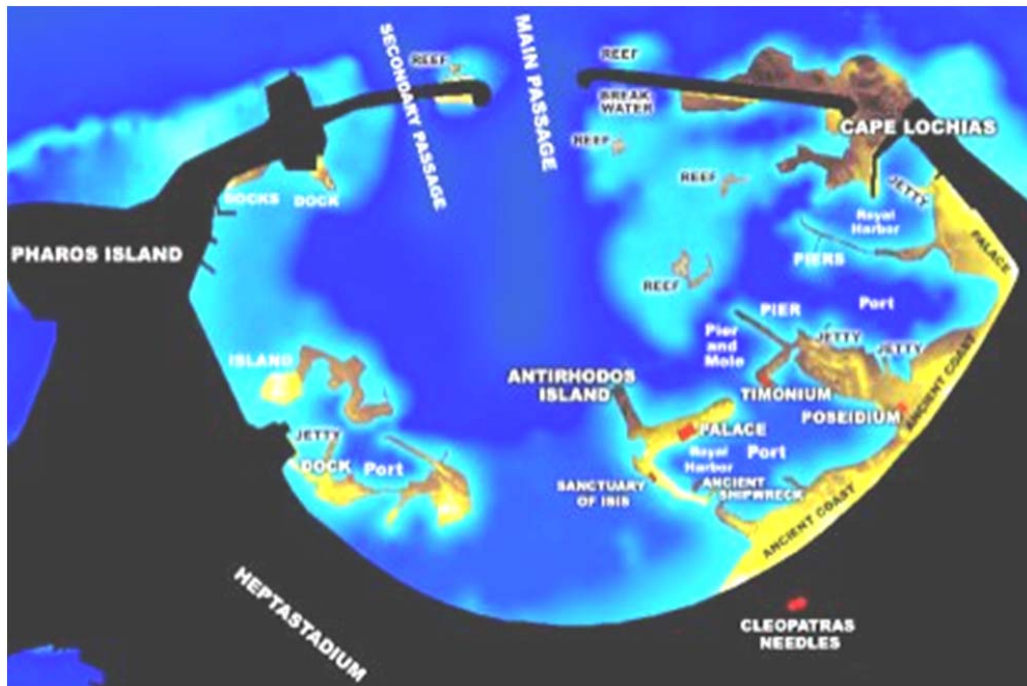Vol:13, No:2, 2019

Fig. 14 Perspective of discovered sunken monuments

Fig. 15 The Monuments of the Study Area

This mission discovered many of the monuments in the Poseidon Peninsula, the site of the temple of the God Poseidon. The Poseidon Peninsula is the site of monuments from the palace of Mark Antony; it is where he retired after his defeat in year 30 BC by Octafios (Fig. 19) [15].

In the autumn of 1996, about 350 meters north of the Citadel of Qaitbay, the mission found about 40 sunken ships dating back to the Greek and Romanian era from the 4th century BC to the 7th century [16]. One of these ships, measuring 35 m long and 8 meters wide, was found in good condition and dating back to the 1st century BC. Also, they found six papyrus pillars dating from the 19th century to 6th century BC. One of these carries a reference to Ramses II [17]. As well, the mission found four compartments; three of them due to the age of City I. They found a large number of statues of the Sphinx, which dates back to Sezosteris III, City I, Ramses II and Basmatik II [18].

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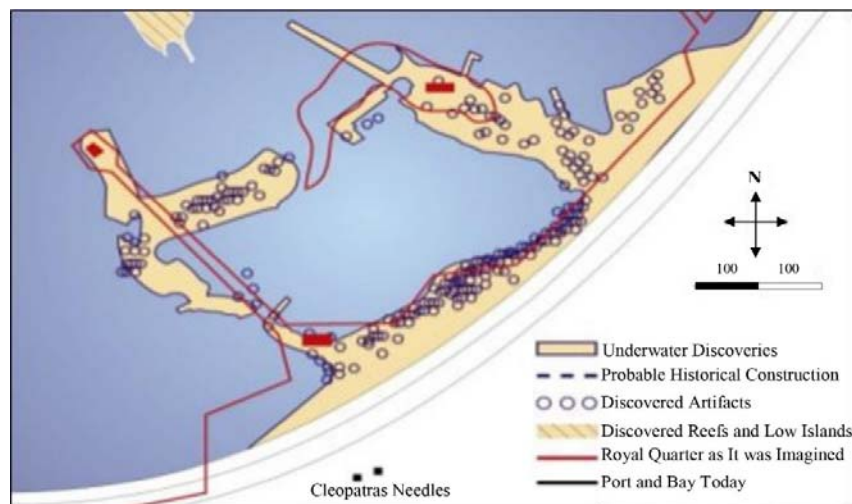Vol:13, No:2, 2019

Fig. 16 The Royal District

Fig. 17 The Sunken Monuments of the Royal District
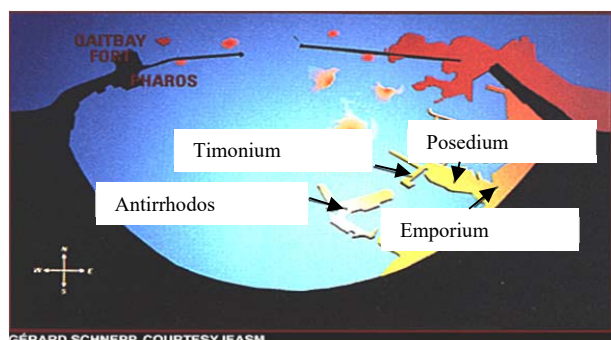

Fig. 18 Discovering Sunken Monuments, 1995

Fig. 19 Sunken Islands of the study area

Five years ago, the Greek mission headed by Harry Tsalas,

Chairman of the Greek Institute of Preserving the Maritime Heritage, began exploration of the sunken monuments. They found 107 monuments as wells as the remains of huge pillars. Also, they found some monuments in shallow water near the coast in front of the library of Alexandria. Two huge granite seats believed to be old throne and remains of granite bath had been explored in Selsela region. The trips taken by the mission in the Abrahamic beach area uncovered stone anchors. In the Sporting area, they found remains of the biggest archaeological cemetery. The mission found indications of some of the huge buildings close to the Selsela area at a depth of 7-9 meters.

E. The Region Divisions According to Archaeological Sites

According to the monuments that were discovered by the various missions in the region, the region is divided into three areas:

1. Qaitbay Area which divided into:
- Qaitbay Area I is an area neighboring the Citadel of Qaitbay. The water depth in this area is ranging from 8 to 10 meters. It has about 4000 Ptolemaic, Greek and Romanian monuments.
- Qaitbay Area II is located about 200 meters to the north of the Citadel of Qaitbay.
- Qaitbay Area III is located about 650 meters to the north-west of Citadel of Qaitbay at a depth of 16 to 18 meters below the surface of the sea. This site contains remains from the 3rd century BC.
2. The Eastern Port Area: This area is located inside the Eastern Port with a water depth of about 8 meters. The site many statues of Sphinx, as well as many columns and statues.
3. Lesan El Selsela Area: This area contains the ruins of an Italian aircraft which crashed during the Second World War. Also, it has a lot of archaeological columns and statues.

World Academy of Science, Engineering and Technology
International Journal of Social and Business Sciences
Vol:13, No:2, 2019

F. The Problems Facing the Development Process of the Sunken Monuments

1. Media and Advertising Problems:
- The basic problem is how to make the discovered monuments available for the specialist as well as non-specialists.
- The lack of advertising and promotion of the sunken archaeological areas in Alexandria worldwide, especially for diving enthusiasts.
- The sunken monuments are not listed on the tourist map of the city.

2. Political and Administrative Problems:
- The Egyptian Forces Army occupies Lesan El Selsela area which obstructs the development in the sunken monuments area, especially due to the close proximity of a large number of these monuments to this area.
- The shortcomings in the application of legal sanctions on the assaults on the monument.

3. Environmental Problems:
- High levels of pollution in the sunken monuments areas due to sewage water as well as agricultural and industrial wastewater [19].
- All sewage outlets on the Eastern Port area were closed in 2002; however, the environment impact of the sewage and wastewater from these outlets, which amounted to about 200,000 cubic meters a day in this semi-enclosed bay, remains high which lead to the increase in pollution rate than the permitted rates for diving [20].
- Despite the great importance of the sunken monuments of Alexandria, they have been exposed to continual abuse and neglect, in particular in the Eastern Port of Alexandria [21].

4. The Technical Problems:
- The sunken monuments need to address particular methods to withdraw salt from them. Usually, withdrawing salt from them is done in an unspecialized labs and basins of restoration in Romanian Theater.
- Weak technical, management and scientific expertise of the authorities responsible for the preservation of the monuments.
- Lack of specialists in the restoration of sunken monuments.
- Insufficient number of trained Egyptian specialists, along with the lack of modern equipment made the discoveries depend only on the foreign missions.

G. The Proposed Projects to Introduce the Sunken Monuments Within the Tourist Route in Alexandria City

- The provision of glass-bottom boats with strong lighting that allow visitors to view the sunken monuments.
- Develop a new tourist route of the city that includes a visit to the sunken monuments in the Eastern Port area.
- The establishment of a water museum, which allows visitors to view the monuments where they lie under the water by constructing a transparent fiberglass tunnel. An example is a tunnel constructed near Naples, Italy, where visitors can walk under water to view sunken monuments.

The appropriate location for the proposed water museum is started from Observatory of the Library of Alexandria and extended to the sea. The financing of this project is through UNESCO, and under the supervision of the Library of Alexandria.

IV. THE CULTURAL SIGNIFICANCE OF THE NEW LIBRARY OF ALEXANDRIA, AND THE HONORING OF THE CITY IN TERMS OF ITS TOURISM AND GLOBAL IMPORTANCE

Constructing new outstanding modern buildings could have an impact on the city as well as the country. One example of a world-famous modern building is the Sydney Opera House. The building transformed the image of an entire nation [22]. Another example is the Guggenheim Museum Bilbao, which is a museum of modern art. It was designed by architect Frank Gerry, and is situated in Bilbao, Spain. The museum was opened as a component of a rejuvenation exertion for the city of Bilbao. Instantly after its opening, the Guggenheim Bilbao turned into a well-known touristic destination, drawing visitors from around the world.

Now, the future of Alexandria city and the Library of Alexandria are linked, and from here comes the importance of the library in the evolution and growth of the city.

V. A STUDY OF DIFFERENT TOURISTIC ROUTES TO VISIT THE MONUMENTS AND SIGHTS OF THE CITY OF ALEXANDRIA

Many cities in developed countries planned and identified cultural and touristic tours to help both residents and visitors of the city to visit the landmarks, monuments, and special buildings of the city to expand tourism in the city.

The duration for these routes ranges from 30 minutes to five hours, and are also divided into bus and car routes or walking routes.

The proposed route is determined by taking into account the following elements:

a. The purpose of the tour (historical; recreational; scientific; cultural; environmental).
b. The method of movement (on foot or by car/bus).
c. The duration of the tour (ranging from half an hour to five hours).
d. Seasonal or whole year routes.
e. Night or day routes.
f. Identification of rest and waiting areas.

The stops along the route path should be marked to be easily identified by visitors. These markings should be placed every 100 meters and at turns or changes in direction to assist in guiding tourists. Some cities pave tourism routes with distinctive colors.

The routes and distinctive markings should appear on printed maps, and audio recordings explaining the history of the city and cultural heritage should be made available at every stop along the route path.

So from this standpoint, three route paths are proposed to help both local residents and tourists in visiting the important landmarks, the heritage areas, the sunken monuments and the Modern Library of Alexandria.

World Academy of Science, Engineering and Technology
International Journal of Social and Business Sciences
Vol:13, No:2, 2019

First Route (Longest route): The tour of this route needs eight hours by a bus. The eight hours includes getting off from the bus and taking souvenir photos for 10 minutes in each stop. Also it includes one hour stop in Sea Gull restaurant for lunch. The tour starts from Al-montazah Palace to Ras Al-Tin palace. It includes visiting various beaches, the sunken monuments and the Library of Alexandria (Fig. 20) [23].

Second Route (Medium route): It takes about five hours on the bus. The five hours include 10 minutes for taking photos and buying souvenir at each stop. Also it includes one hour stop in Sea Gull restaurant for lunch. It starts from

Gilliam area where Jewelry Museum down to the Citadel of Qaitbay , Sunken Monuments and Library of Alexandria. It passes through the sights, cultural, historic and commercial centers of the downtown area (Fig. 21).

Third Route (Shortest route): It takes about three hours by bus. It includes 5 minutes at stop photos from the bus at each stop and 30 minutes snacks stop at Fish Market restaurant**.** It starts with the Roman Theater, passing through the city center via the sunken monuments and the Library of Alexandria and ends at the Citadel of Qaitbay (Fig. 22).
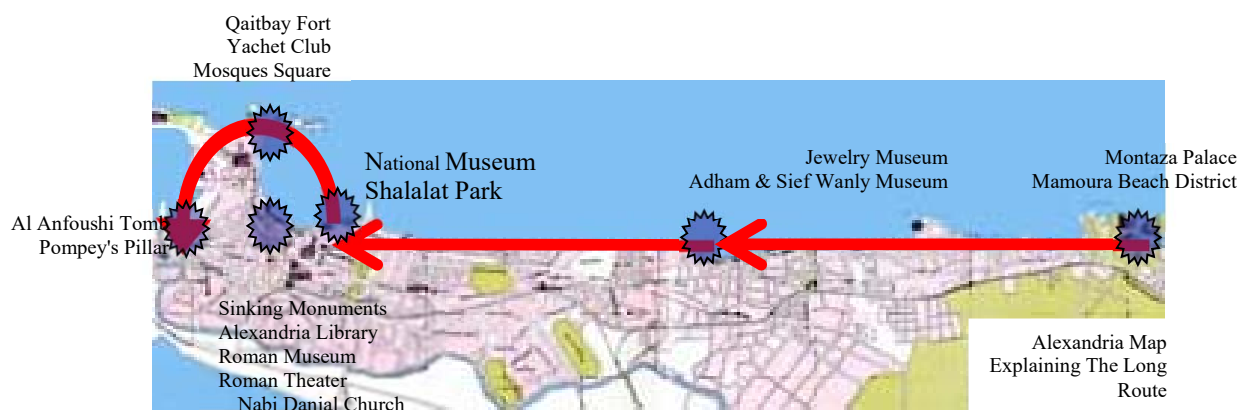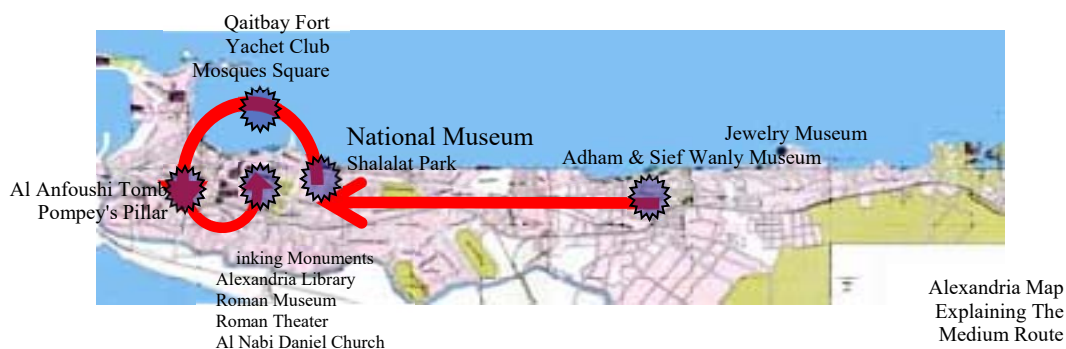

Fig. 20 The Longest Route
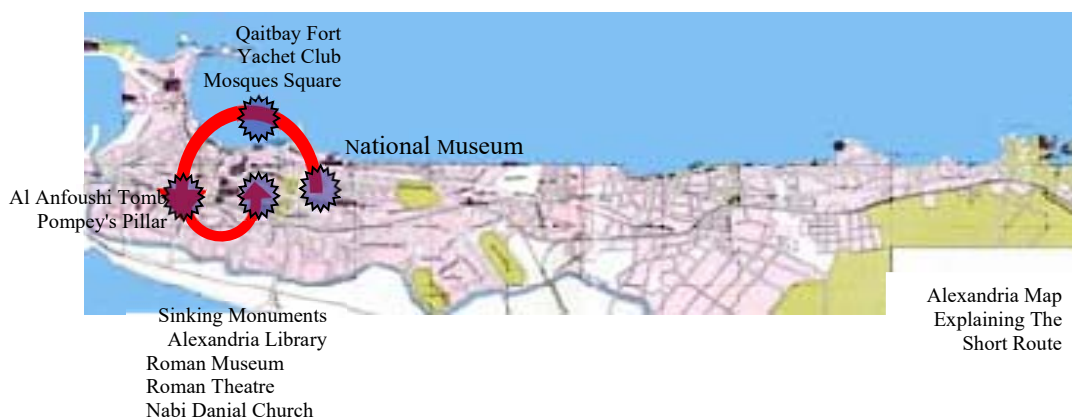

Fig. 21 The Medium Route

Fig. 23 The Shortest Route

World Academy of Science, Engineering and Technology
International Journal of Social and Business Sciences
Vol:13, No:2, 2019

VI. RESULTS AND CONCLUSION

This paper studied an important topic of research aimed at the development of tourism Alexandria City in general and the sunken monuments in the eastern port area in particular. It also included the role of the New Library of Alexandria in this framework. The paper started with the presentation of the most important archaeological areas and the important landmarks in the city. Then, it included a detailed study of the sunken monuments in Alexandria in detail and its importance in increasing the rate of tourism and how they can be linked to the library, as well as the problems facing development in such areas. Also, it included a study of the cultural importance of the Library of Alexandria. In the end, the paper proposed three tourist routes to visit the city's archaeological areas.

VII. RECOMMENDATIONS

A. Proposed Projects for the Development of the Study Area

- The establishment of an integrated project for amateur snorkeling and the sunken monuments. This project must include the establishment of an emergency ambulance unit to serve this visitors. Also, the project must be supported with large global publicity work.
- The establishment of a specialized Museum of Underwater Archeology under the supervision of UNESCO, along the lines of Nubia Museum and the Museum of Egyptian civilization, which will be implemented on the road to Cairo-Fayoum.
- The establishment of the tourist pier along the east Citadel of Qaitbay area. It must have enough lighting so that it can be seen anywhere from the Alexandria Corniche.

B. Increasing the Role of the Library of Alexandria in the Development of Tourism in the City

Alexandria Library plays a key role in the development of tourism in the city. It currently includes the archeological museum which is considered to be one of the most beautiful museums in terms of design. It includes some rare pieces that have been found in the ground and marine excavations conducted within the city, as well as some 1080 pieces from various museums around Egypt. Among these pieces are two mosaics which were found in the location of the Library before its establishment in 1993 and which were likely from the floor of one of the royal palaces of the Greek and Romanian era.

It is essential that the Library of Alexandria plays a greater role in the development of tourism in the city such as:

- It should help in raising awareness of the city's archaeological sites, and in the definition of the importance of the different monuments and especially the sunken monuments.
- Print and publish full records of the monuments for the archeological areas of the city.
- Pay attention to the publicity of the archaeological areas in Alexandria worldwide, by linking it to the library.
- Promote research and special studies of the monuments in general and of the sunken moments in particular, and

forward them to the concerned authorities for implementation.
- The establishment of a specialized library within the Alexandria Library to include all information related to the monuments of the city, including the sunken monuments, in particular the definition, history, modern discoveries, and the means to preserve them.
- The library should adopt a campaign to collect donations from organizations, as well as international and local bodies to be invested in the tourism development of sunken monument areas.

C. Media Recommendations

The Supreme Council of Antiquities, in conjunction with the Ministry of Tourism, add Alexandria city to the Egyptian tourism map and promote the city abroad through worldwide promotional campaigns.

D. Political and Administrative Recommendations

- Increase the financial appropriations for the discovery and preservation of the sunken monuments.
- Implement the existing laws aimed at preserving the archeological sites in the face of any construction projects on the coast.

E. Environmental Recommendations

- The Eastern Port area must be purged by isolating the area from the sea and purge the area by using modern technology.

F. Technical Recommendations

- Establish special restoration laboratories equipped with the latest technologies to raise the efficiency of the process of restoration of the sunken monuments.
- Develop a policy for scientific registration following the global policies in the field of registration of sunken monuments.
- Develop scientific and technical training of personnel in the fields of sunken monuments.
- Publish the records of the sunken monuments. These records must be revised to add new discoveries on a regular bases.
- Develop new regulations for the missions that work in sunken monuments discoveries, so they cannot pick up any piece without the approval of the Supreme Council of Antiquities
- Create new maps for the archeological sites under the sea. These maps can be created through the national project to monitor Egyptian antiquities in cooperation with the Government of Finland.

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