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A study on the natural heritage and its importance in the Sumerian civilization in southern Iraq

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ABSTRACT

The geological studies have shown that the depressions in central and southern Iraq were formed due to the effect of tectonic plates and that time factors have led to the branches of the Tigris and Euphrates rivers, which resulted in the change of the final estuary of the two rivers from their ancient place ten thousand years ago to its current location south of Basra and its rush to the valley of Arabian Gulf, this was occurs due to the rise of the sea level to nearly seventy meters because of the melting of the Arctic. As for the waters of the marshes and lakes, they were formed from the great flood that led to their filling with water that came from the south and crossed through the Arabian Gulf Valley, then the water retreated after that and the water settled in the city of Basra, in addition to the floods of the Tigris and Euphrates rivers in southern Iraq resulting from melting ice rocks. This study aims to shed light on these changes, which contributed to the emergence of rare biodiversity and water bodies, which affected the nature of the climate at that time and helped to the emergence of the dawn of the oldest human civilization in history (the Sumerian civilization), which was established in the fifth millennium BC, which considered as the first advanced and developed civilizations that contributed to the world development. This civilization arose in the midst of the marshes, and was discovered after 6000 years from the arising date and its heritage and science were presented to the whole world. Through what has been discovered in the regions of Maysan Governorate in particular and southern Iraq in general, and the observations that have been collected, all confirm that the marshes represent a rare and unique environment globally that qualifies them to be considered natural reserves for human heritage, as the marshes are the ideal environment for the spread of birds of various kinds and the possibility of planting plants such as wheat, barley and herbs in the branches of rivers and all the wet areas.

The marshes are considered an environmental model that helped to form communities due to the availability of water and food, which prompted them to build dwellings from the reed plant which were available in the marshes; very similar to the existing dwellings. Then the Sumerian civilization developed in the marshes and was able to build Ziggurats (and the Ziggurat is a graded temple that was built in Iraq and among the most famous Ziggurats in the world are the Ziggurat of Ur near the city of Nasiriyah, in southern Iraq, and Ziggurat Akarkuf, near Baghdad. The Sumerian civilization has left us with remains that buried under the sediments of the marshes, such as the site of Umm al-Aqrab and some archaeological sites in Maysan Governorate, which must be disclosed and studied because they are a heritage of humanity in addition to the site of Ur, Laksh, Eridu, Al-Warka, and many other archaeological sites near the marshes. This study also focuses and emphasizes on the importance of the tourist aspect in the marshes, because the marshes represent tourist areas with their rare picturesque views, in addition to its being suitable areas for fishing and hiking by boats in the middle of the water.

KEYWORDS: Marshes, Ur, Sumerian, Iraq

I. INTRODUCTION

The marshes are a group of water bodies that cover the lowlands located in the south of the Iraqi sedimentary plain, and are in the shape of a triangle, with the cities of Amara, Nasiriyah, Basra, Dhi Qar and Maysan located above its heads, the area of land covered by water expands at the time of floods in late winter and during the spring, and the days of desertification are reduced. Its area ranges from 35 to 40 thousand square kilometers (the area of the marshes is according to the estimation of the Dr. Ahmed Susa 8780 km²), and the early Arabs called

these areas "Al-Bataih", the plural of Batiha, because the water settled in it, that is, it flowed and expanded in the ground, and reeds were growing in it.



Figure 1: The Ziggurat of Ur in Nasiriyah, southern Iraq

Figure 2 show that the marshes constitute a large proportion of the area of the southern part of Iraq, which is the region that is represented between Maysan Governorate in the north, Basra Governorate in the east and south, and Souq Al Sheikh in the west. The marshes of southern Iraq and the surrounding areas are characterized by the prevalence of the freshwater environment; the areas have been exposed to drought in recent centuries due to the large number of dams on the Tigris and Euphrates, such as the Al-Hindiya dam on the Euphrates and the Kut dam on the Tigris River.



Figure 1: Location of southern Iraq marshes

This study described the importance of the marshes, as the southern marshes areas in Iraq are among the important and promising Iraqi climatic phenomena in terms of tourism, because they include natural, cultural, religious and heritage sites of great importance in Iraq and the world.

Hypothesis, problem, and aim of research

The hypothesis of the research

The ingredients are available to serve the natural heritage, and there is no interest by government institutions and the private sector in natural heritage projects.

Research problem: The research problem is shown as follows: Are there qualifications and components to serve the natural heritage, is there interest in developing the natural heritage by governmental institutions and private sectors, and has the archaeological component been employed in the natural heritage of the study area for the development of tourism, and the study also indicated a decrease in the value of the environmental situation as a result of drying processes.

The aim of the research : The aim of this review is to study the archaeological component of the marshes area, and study the change of time sequence, and to find a solution to provide tourism service to the natural heritage.

Research location (site)

The group of marshes is located between latitude (15' 31 °) and (45' 31 °) and (45' 30 °) north and the longitude arc (45' 47 °) and (15' 47 °) and (45' 46 °) to the east, geographically. According to table 1 and figure 1.

Table 1: The marshes in the southern part of Iraq, the governorates that occupy them, and the surface area of each marsh

Name of the marshes	Governorate	Area in (km ²)
Hammar	Basra, and Di Qar	2441
Hawizeh	Maysan	2863
Middle Marshes	Maysan and Di Qar	3476

Natural heritage and its importance: Natural heritage is defined in the World Heritage Convention as natural monuments of geological and physiographic formations and natural sites, and it is a heritage of outstanding universal value and included in the UNESCO World Heritage List in 1972. It was approved and adopted in the Convention for the Protection of the World Cultural and Natural Heritage at the seventeenth session of the UNESCO International General Conference in 1972. The UNESCO Convention aims to preserve, protect and transmit the cultural and natural heritage to future generations. Containing the natural heritage helps to address some of the main environmental issues in the present, in addition to the increasing number of threatened and extinct plant and animal species, and this may affect the decline of environmental diversity. In 2016, the marshes were included in the World Heritage List, because the marshes areas in Iraq are unique and have artistic and aesthetic importance and are considered one of the rare areas on the surface of the planet, so they must be taken care of and managed as protected areas, illustrated in Figure 2.

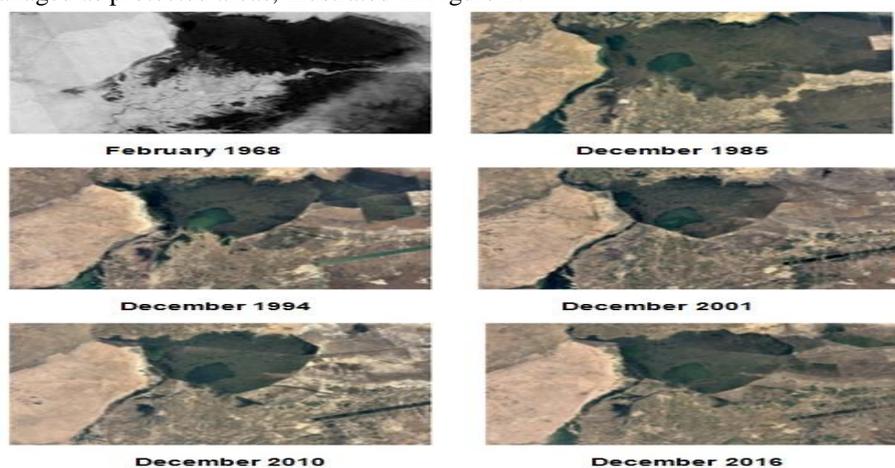


Figure 2: Decreasing of the Marshes area in the last 40 years

Heritage concept : Heritage is defined as a set of legacies that have been transferred from the previous generation - parents and grandparents - to the present generation, and these legacies vary between material legacies such as tools and equipment and their method of manufacture, and moral such as customs and traditions in force, and without heritage it will not be a presence of the civilization that distinguishes Peoples from each other, giving them an entity, and protecting their legacies from loss and displacement in the event of exposure to threats and political pressures such as wars that displace individuals and groups from each other. The cultural heritage includes historical places that reflect the civilizations that have passed through the place, as the cultural heritage is related to the place in which it is located, and the process of preserving these legacies is a major challenge in light of the urban development and modernity that the world is witnessing in recent times.

Sumerian civilization : Sumer is the earliest known civilization in the historical region of southern Mesopotamia (now southern Iraq), emerging during the Chalcolithic and early Bronze Ages between the sixth and fifth millennium BC. It is also one of the first civilizations in the world, along with Ancient Egypt, Norte Chico, Minoan civilization, Ancient China, Mesoamerica and the Indus Valley. Living along the valleys of the Tigris and Euphrates, Sumerian farmers grew an abundance of grain and other crops, the surplus from which enabled them to form urban settlements. Prehistoric proto-writing dates back before 3000 BC. The earliest texts come from the cities of Uruk and Jemdet Nasr, and date to between c. 3500 and 3000 BC.

National Documentary Heritage : The history of peoples and nations in the world in a collective way is what is known as national heritage, and it is a global gateway through which we can narrate the history of ancient civilizations, such as clay tablets, museums, national archives, and photographs. UNESCO has worked to establish a program aimed at preserving the memory of the world in all libraries in 1992.

Methodology : This study included carrying out surveys and site visits, making models and a study of the water characteristics in the marshlands, an assessment of the needs of the infrastructure, doing some work such as printing on the computer, visiting the Antiquities and Heritage Authority to see the maps of the study area, identifying the sources, and analyzing the primary soil characteristics.

Results : In 2016, the marshes of Iraq were included in the World Heritage List, because they are unique, because of their artistic and aesthetic importance, and because they are one of the rare areas on the surface of the planet. And through laboratory tests, study tours and training, a strategy was formed for international aid to donor countries, government institutions and the private sector in natural heritage projects. The results were obtained below.

Change in the nature of the marshes : Due to the development of planet Earth over time, mankind was able to reach an engineering that leads to controlling the water of rivers and was distinguished in the 20th century in building a huge of engineering projects on the Tigris and Euphrates rivers and huge artificial channels to divert the flowing water into large lands and areas for the production of wheat and barley, but in a way that is not appropriate for the environment that leads to dry up the waters of the marshes. The operations of diverting water into pools have contributed to evaporation of water in them or to drain them into canals to the Shatt al-Arab. By the end of the 21st century, only the marshes that were remained is al-Hawizeh in the governorate of Maysan and the regions of al-Hammar and the marshes of al-Wasat, as shown according to satellite Map 1, where less than 7% of the marshes remain as shown in Figure 3.

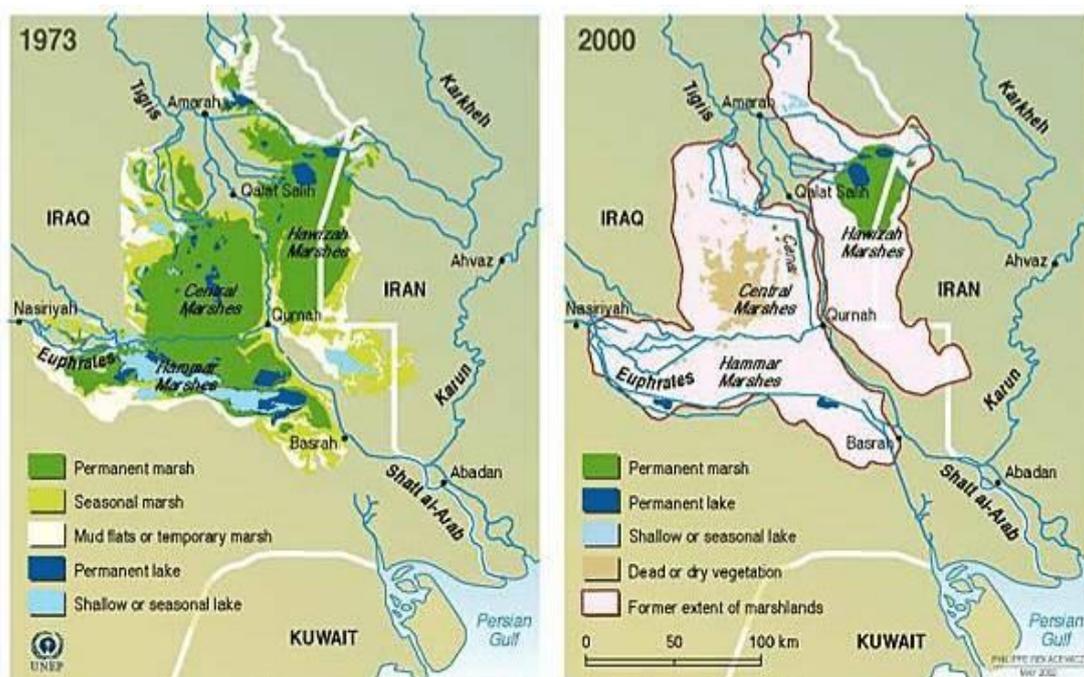


Figure 3: The changes in the marshes between (1973-2000)

The earth's crust is exposed to great pressures and movements in the tectonic plates

(From the United Nations Environmental Programme, Vital Water Graphics at (UNDP, 2001)

Located in the northern region of Iraq, which lead to the instability of the region, and the surface factors affecting the formation of the topography of the marshes may be the result of the disappearance of the ice cover (Dr. Muthanna Ma'an Al Mazroui). The reason for the increase in the water that led to the formation of the marshes dates back to the Ice Age in terms of physical and thermal weathering factors that produced the factors of expansion and contraction of the rock components as the effect of ice led to the fragmentation of rocks, the study showed that an increase in the volume of ice by 9.5%, which led to the formation of a great pressure on the rock.

History of the formation of the marshes and the Sumerian civilization : Archaeological investigations confirm that when the marshes were present in their full health, large parts of the marshes of the provinces of Nasiriyah and Maysan were dry land exploited by agriculture, and there were some permanent swamps confined, especially in the governorate of Maysan, and the evidence for this is the spread of archaeological sites in them. In Hor Al-Hammar, whose area is estimated at 2,441 km², 122 archaeological sites have been established, between small and large, and the history of some sites dates back to the era of the dawn of the Sumerian dynasties, i.e. up to 2800-2350 BC. These sites are distributed among the following regions: Chibayish, Al-Islah, Al-Akikah, Al-Sedinawiyah, Karma Bani Said, and these sites were either submerged in foals surrounded by water according to their height, but in Maysan Governorate there are 48 open archaeological sites, some of which date back to the first millennium BC. These sites are spread in the Hawizeh Marsh, al-Wadi, al-Sahin, and Buraidah, which resembles the Hawizeh Marsh, the rest of the marshes in Nasiriyah, either submerged in the marshes or surrounded by its water (Beatna Magazine, Issue 136).

The marshes are characterized as rare areas in the world in that they are the main root of the historical extension, and since these bodies of water and the nature of the climate helped in the emergence of the dawn of the oldest human civilization in history, the Sumerian civilization which established the first advanced civilizations to develop in the world amid these marshes, despite the great development that happened to the humanity in the world surrounding the marshes, but the primitive life that has its roots going back 6000 years continues, such as building boats (Al-Mashhoof) from using materials from the marshes, as well as paving roads and making weapons such as Megwar. The archaeologist, Taha Baqer, proved that the people who lived in a certain part of the Mesopotamian valley in the prehistoric era then settled in the sedimentary plain thereof within the boundaries of six thousand BC when this plain became habitable are the Sumerians, and the great archaeologist Taha Baqer indicated that the origin of the word "Maadan" is Sumerian, which is a word derived from the name of the Prophet Aad, and the Babylonians called them that name "Midano". The scholars have concluded that the first text in which the marsh was mentioned is the Epic of Gilgamesh, written five thousand years ago in the Sumerian language and Gilgamesh is the king of Warka, which the epic describes as one-third of it is god and one-third of it is human. He sought immortality after he built the city of Uruk, which is located in Warka, and after the death of his friend Enkidu, and for this reason he ventured on a trip to his grandfather Utanebishtim who lives in the high waters of Sumer, which is the marsh areas near Ur, the capital of the Sumerians, confirmed by the biblical texts on building Gilgamesh a boat from papyrus cane and coating it with tar, which is the same boat that is still used by the inhabitants of the marshes and is known as al-Mashuf. Information has been concluded in the Sumerian text confirming that the Sumerians split streams as well as reclaiming some lands from the salinity that appeared within the year 2600 BC and continued for a long time after that, as it is known in central and southern Iraq.

The importance of the lands of the marshes : The marshes represent a unique and rare human community, and the traditional way of life in the marshes continued through its Arab or Ma'dan inhabitants and has remained in this way for thousands of years, as the recorded history of the region is the beginnings of world history as it began with the history of Sumer, which documented the reed houses (the host) and the long boats (Mashuf) have been immortalized for more than 6000 thousand years. The marshes provide a productive environment for the traditional agricultural production of rice and vegetables and are permanent sources of the environment, fishing and grazing livestock, how to manage and benefit from the natural environment of the marsh areas inhabited by nearly a million Iraqi citizens belonging to the ancient Arab tribes. The inhabitants of the marshes depend on fishing, rice cultivation and buffalo breeding, the marsh dwellers build their homes on the surface of the water from the reeds, just as the Sumerian clay tablets depicted them more than 6000 years ago on small islands, the area of which does not exceed the size of the house on which it is built, those islands are called (Ashnan), which is a Sumerian word meaning hill according to (Figure 4).



A



B

Figure 4: A: A clay tablet indicating the Sumerian house and the Marshes of the Sumerian civilization (Gallery, in British Museum; B: Image representing life in the Marshlands today (Gallery, whc.UNESCO.org))

The economic and tourism importance of the Iraqi Marshlands : Tourism is an essential element in the components of the state's revenues, and tourism is considered an exchange of culture between countries. Where the people of the marshes are distinguished by their hospitality, their hosts remain open throughout the day to receive guests, provide water and food and overnight for them, which makes tourism in the marshes area ideal, as we refer on page 3 to the natural heritage and its importance.

- The marshlands are of great importance from the traditional agricultural point of view to the people of the region, as they are used for fishing, hunting birds and livestock.
- It is considered a nursery and hatching area for some types of birds, which are of commercial and environmental importance.
- • The environment of the region filters natural and inorganic pollutants from the water, and the water that flows into the northern region of the Arabian Gulf is more pure.

II. DISCUSSION

The marshes represent a unique and rare human society. The waters of the marshes were formed from the great flood that led to their filling with water after which the water retreated and the water stabilized in the city of Basra and added to the floods of the Tigris and Euphrates rivers in southern Iraq from the melting of the glaciers themselves. These environmental changes formed have contributed to the emergence of rare biological diversity and water bodies, which affected the nature of the climate and arranged the climatic environment at that time and helped the emergence of the dawn of human civilization, the oldest in history, the Sumerian civilization, which established the first advanced civilizations to develop in the world amid these marshes, which waited 6000 years to be discovered. The natural heritage is considered as a global gateway through which we can narrate the history of ancient civilizations, which were written from clay tablets.

Recommendations

Implementing a strategy to restore the marshes, which includes:

- Monitoring the ecosystem,
- Reconstructing water bodies,
- Creating models for studying water characteristics,
- Large-scale agricultural work,
- Hunting,
- Livestock,
- Dairy production, and
- Primary health care.

1. Revitalizing and stimulating interest and preserving biological diversity through the preservation of world heritage.
2. Restoration of the natural heritage sites, and continuous care and maintenance of the site.
3. Maintaining the stability and security of the natural heritage sites and the surrounding cities.
4. Paying attention, protection and rebuilding of archaeological sites.
5. Paying attention to tourist attractions in the region, especially tourists from outside Iraq.
6. Supporting governmental institutions and the private sector in natural heritage projects.
7. Paying attention to the tourism aspect, providing accommodations for tourists and places of entertainment, and providing tourist trips to the natural heritage areas.

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