

# The environmental environmental sustainability of the marshes of southern Iraq and its role in reducing pollution

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## **Abstract**

Tourism has characteristics that make it part of economic activity and is an effective tool to achieve sustainable development by pushing the wheel of economic growth and community promotion in order to achieve tourism development in a sustainable manner to ensure the needs of current and future generations depending on the economic potential of the country in light of the presence of tourism capabilities in the region to protect the environment from pollution And ensuring the sustainability and type of its natural resources.

The marshes of southern Iraq possess many natural and human ingredients that qualify them for the establishment of tourism projects in light of a unique environment in the world through the presence of water, civilized and archaeological monuments, biological diversity (plant and animal) and lands suitable for cultivating rice, barley, and corn crops, as well as industrial diversity represented by handicrafts Like furniture, hosts, huts, etc., the field survey was used for the area, collecting samples of marsh waters, analyzing them, and visiting the relevant departments as a center for reviving the marshes in Nasiriyah and Basra to obtain numbers of tourists for these areas, and from the results reached by Al-Durr Ace that the marshes environment has natural conditions that qualify them to establish eco-tourism, the most important of which is the climate and waters that attract tourists to practice fishing and swimming hobbies.

## **Introduction**

The environment is strongly linked with tourism, as the development of tourism should not be at the expense of the environmental system, but rather be supportive to it. If the level of the environment rises in any tourist country, it makes it a tourist attraction and an encouraging motive for tourism investors to advance the reality of this industry by setting plans to preserve The environment should be protected from sources of pollution, and attention should be paid to raising the level of environmental awareness among tourists and visitors to these areas through cultural interaction with tourism institutions.

The pollution problem is the most important environmental problem that took on serious economic and social dimensions after the industrial revolution and the use of technology in various areas of life to reflect its effects on environmental tourism.

Research terms (ecotourism, environmental pollution, sustainable tourism, marsh environment)

**Research problem**

The research problem was represented by the following question: What is the role of sustainable environmental tourism in reducing pollution in the marshes environment?

As for secondary problems, they are derived from the main problem, including:

What are the causes of environmental pollution? What are its effects on the ecosystem?

-What are the areas achieved by ecotourism in light of the development witnessed by the world?

Does sustainable environmental tourism have an impact in reducing pollution?

**Research hypothesis**

The research hypothesis was formulated that the environmental tourism witnessed in the marshes region has a clear role in limiting the phenomenon of environmental pollution, as it maintains an environmental balance by protecting natural life, especially vulnerable to extinction, from human-caused pollution through the technological development that the world has witnessed and the contaminants left behind. Atmosphere, water, or land, it still suffers from problems that reduce its environmental importance, be it economic, political, or service.

**research importance**

At a time in which the marshes regions suffer from mismanagement and lack of attention, including environmental capabilities unparalleled in the world, they entered the list of the World Heritage to revive eco-tourism because of its natural landscapes that attract tourists to it and because it contributes to reducing environmental pollution by intensifying The governmental efforts, ministries and related organizations, and here lies the importance of this research, as it provides a service to those concerned in this aspect represented by the possibility of employing ecotourism in the process of limiting the manifestations of pollution that have taken us around from all sides.

**Research objective**

This research seeks to achieve several things, most notably:

- 1) Knowing the role of ecotourism in reducing environmental pollution.
- 2) Knowing closely about environmental pollution, its causes, types, and its impact on eco-tourism.
- 3) Shedding light on what is ecotourism and its types, and how it can be a factor in reducing environmental pollution.
- 4) Setting a set of proposals or perceptions that may contribute to assisting those in charge of the tourism side in adopting eco-tourism as a new entry point in reducing the problem of environmental pollution.

### Research Methodology

The researcher relied on achieving the goals of the research on two important approaches, descriptive and analytical.

### Search Plan

The researcher section discussed her four axes preceded by a general introduction, the first axis focused on environmental tourism in terms of its concept, types and importance, while the second axis highlighted the sustainable tourism in terms of its concept and importance, and the third axis revealed the role of sustainable environmental tourism in the marshes in reducing environmental pollution , And concluded the research with a set of results and proposals and a list of sources and references.

The first axis (the importance of environmental tourism and its relationship to pollution)

Environmental tourism is a new phenomenon that aims to research, study and reflect on nature, plants and animals and provide comfort for people, and that its application requires linking investment and production projects with environmental protection and biological diversity in tourist areas according to the preparation of tourism programs that depend on directing tourism towards environmentally distinct sites without compromising the quality of the environment ( 1).

Eco-tourism is defined as (traveling to natural areas where pollution was not affected and its natural balance is not subject to imbalance in order to enjoy its scenery, flora and fauna) (2), and this tourism depends on the elements of attraction and natural ingredients or the combination of natural and cultural elements Linked to this with natural and cultural tourism, and ecotourism is compatible with sustainable tourism to achieve prosperity for current generations without compromising the share of future generations (3).

Ecotourism is based on the principle of not disturbing the environmental balance resulting from human (tourist) behaviors, and the pollution it causes that affects its impact on them, considering that ecotourism aims to highlight the aesthetic features of any environment in the world, so the more the environment is clean and sound, tourism flourishes and the economy thrives Despite the positive aspects of ecotourism, it may constitute a source of human-made environmental pollution, which requires striking a balance between tourism and the environment on the one hand, and between it and economic and social interests on the other

To reduce the impact of environmental pollution, several countries were keen to stimulate environmental tourism, as several conferences in this regard were held in Canada in cooperation with the United Nations Environmental Tourism Organization (UIVEP) in 2002 and the Society for Environmental Tourism (TIES) to stimulate researchers and specialists to conduct a set of research and studies in the field of environmental tourism To reach management, planning and use of modern technologies to spread long-term environmental awareness, exchange experiences and acquire skills with a view to finding mechanisms for marketing the tourism product to control the sources of degradation, environmental

pollution and the protection of nature and civilized wealth, for the ability of these activities to stop the Estanza The source of the environment and preserving historical, archaeological and heritage monuments. UNESCO also sought the governments of countries to revitalize tourist resorts by providing basic services such as transportation, electricity, and sewage networks for a number of countries, including Asian countries such as Malaysia, Thailand, and African countries such as Tanzania and Kenya, which led to improving the lives of the .(population. And the development of tourism there (4

Ecotourism is of particular importance as it works to achieve an integrated set of goals :and derives its importance from itself. The importance lies in the following aspects

First - The economic importance of eco-tourism

This importance is represented by achieving a safe economic field, as it is considered places to practice this tourism, which is one of the most scarce resources in the world, as tourism develops international economic relations and knowledge exchange, as it helps to achieve sustainable development through returns and profits, providing job opportunities for the unemployed, and diversifying sources of income, Tourism also pushes the establishment of infrastructure and tourist facilities that lead to the reconstruction of the environment, such as hotels, restaurants, rest houses, etc. On the other hand, environmental tourism helps in the growth of distinctive and endangered industries and handicrafts through the exploitation of resources and skilled labor such as prison D hand .(embroidery (5

**Second - the social importance of eco-tourism**

Ecotourism is friendly to society, as it works to develop social relations, and transfer isolated societies to another open in order to keep the community in a permanent working condition, as it represents areas where people and civilizations converge to develop customs and traditions, and environmental tourism seeks to provide an easy and simple life away .from the hassle Stress, annoyance, and noise avoidance are directly related to nature

**Third - the cultural importance of eco-tourism**

It works to spread knowledge and increase its impact on its development and the provision of tourism programs and the spread of culture to preserve the environment and on the heritage, cultural heritage and historical sites, as it calls for the preservation of the environmental balance in order to protect natural wild, marine and air life from pollution, .(and this type of tourism encourages folk arts and fashion Customs and traditions (6

**Fourth - The political importance of environmental tourism**

**It aims to achieve environmental security through the non-exposure of countries to disturbances as a result of the spread of environmental pollution, so that environmental tourism is corrected. It also calls for attention to the preservation and preservation of antiquities, which are the most important elements of the tourism environment. For example, the Arab region has unique tourism capabilities that are not available in the rest of the tourist regions in the world Such as the geographical location and the presence of**

beaches that extend along the Mediterranean and Red Sea, the Arabian Sea and the Persian Gulf with coral reefs, as well as the cultural and civilizational stock represented by historical monuments, while the religious side made it a landing place for different religions, but it displays areas S from the world to events as in September 2001 and the wars that followed on the people of the Arab regions deprived the Middle East of its appearance on the global tourism map through attacks on foreign tourists

**The second axis (sustainable tourism / its concept and importance)**

It is a new expression that has emerged in the world, and the most prominent meanings of sustainability in tourism is the ability of the tourist place to stay in the competition arena towards any new in the field of tourism, which has an attractive force to stay for a longer period to preserve its advantages and balanced with the environment.

Sustainable tourism is defined as (the meeting point between the needs of visitors and the region hosting them, which leads to the protection and support of opportunities for future development within the framework of preserving civilized reality, the necessary environmental pattern, biological diversity and all requirements of life) (7.)

**The importance of sustainable tourism**

Tourism is an important economic sector to serve the economy and society. Therefore, its goals must be determined as it determines the path of tourism. Through it, the strategic plan for tourism development is being prepared to raise the level of performance and avoid crises and achieve sustainable development. Each country must define its goals necessary to advance the wheel of tourism growth and thus economic growth to Imam, the importance of sustainable tourism is highlighted in the following points:

**First - The economic importance of sustainable tourism**

It is an important economic sector to pump hard currencies and attract foreign investments as it provides job opportunities for groups of young people, and sustainable tourism seeks to achieve optimal exploitation of the available natural, human and cultural resources, as well as achieving economic development for countries through investments directed to the tourism sector, and this tourism is to provide job opportunities New, whether financing these projects with foreign or national capital, which leads to reducing the unemployment problem for millions of people and improving their level. On the other hand, tourism works through its revenues to provide hard currency in order to improve the standard of living and quality Community life and support comprehensive development at the local level.

**Second - the social importance of sustainable tourism**

This consideration is one of the components of the tourism product in the tourist countries, as it is considered an essential element in tourism development, and the importance is highlighted in:

- 1Tourism contributes to creating new opportunities for employment in countries receiving tourists, as it has the ability to absorb unemployment as it is a labor-intensive industry, as it is the first industry in terms of employment, and has become a primary role in economic and social development, as tourism investment in developing countries is a way out The unemployment crisis and an incentive to expand employment to improve the standard of living.

- 2Creating a social movement is the flow of foreign tourists to the countries of the globe or the movement of tourists from one region to another for rest and recreation, as this movement leads to generalizing relations between tourists and citizens in countries receiving tourists and encouraging social borrowing and cultural exchange (8.)

#### The environmental importance of sustainable tourism

The establishment of sustainable tourism development entails the preservation of the diversity of existing environmental systems as the basis for this activity, as tourism is in its essence a change process in which there is exploitation of resources and a destination for technological development, as it is a tool to link the present with the future to meet the needs of tourists, which leaves its impact on The environment, and hence the relationship between the environment and sustainable tourism development is considered one of the most important factors in the tourism movement as it is linked to the expansion of services and facilities provided to foreign tourists.

The interest in the relationship between tourism and the environment has appeared for a long time. The clean environment is considered one of the most important factors for the success of the tourism industry and reaching a high level of balanced tourism development, which is the good climate in which tourism patterns grow, and those that are important in applying the policy of sustainable development to Tourism in order to protect some archaeological or scenic areas that this industry depends on.

The third axis: pollution reduction is a sustainability of the southern Iraqi marshes environment

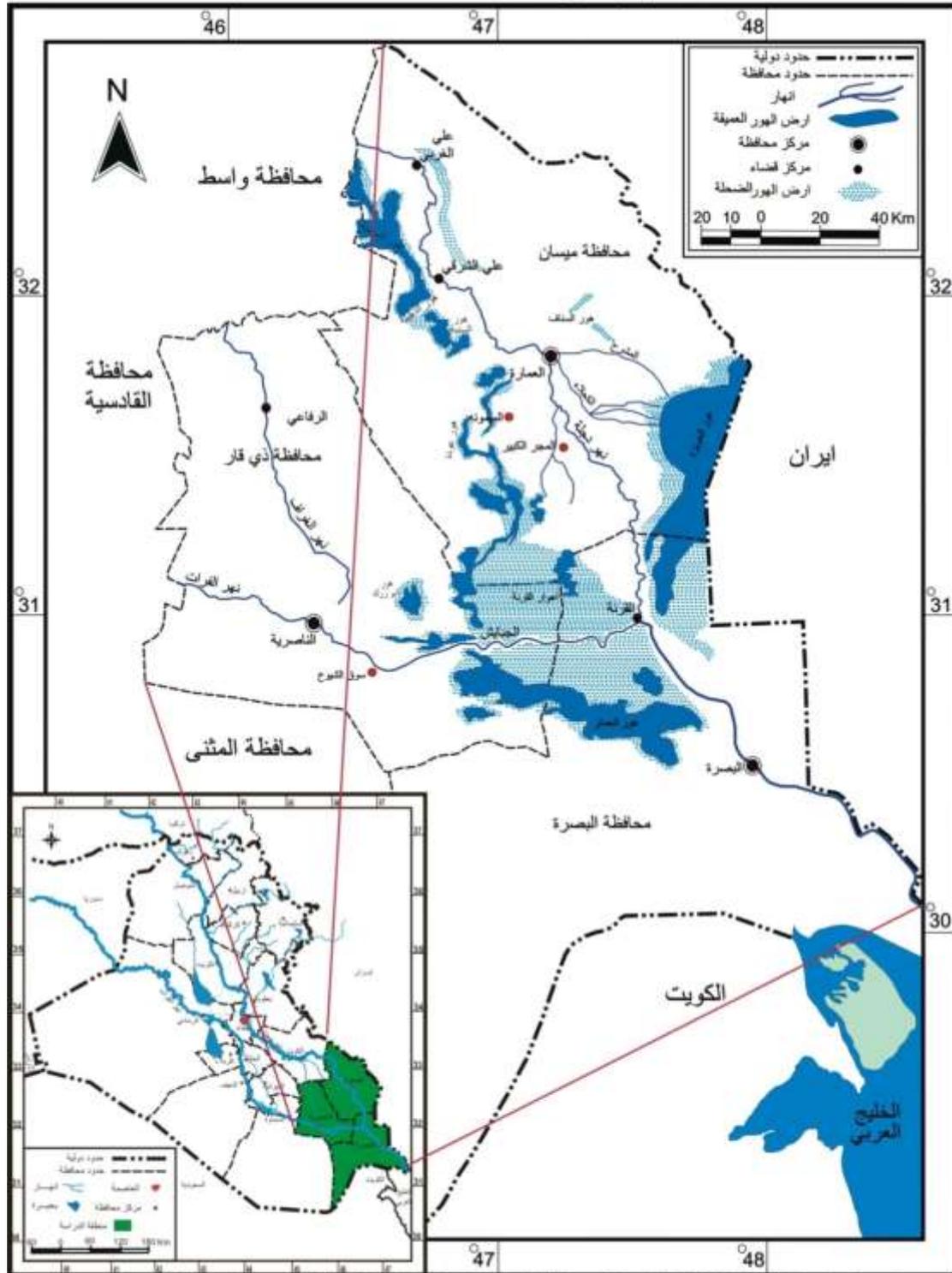
There are many types of environmental tourism in Iraq, due to the diversity of climatic and topographical conditions between elevated regions represented by the northern highlands and flat ones that extend south through permanently flat and temporary water bodies represented by marshlands whose borders lie between the governorates of Amarah, Nasiriyah and Basra, which made them natural environments that are less similar in the world in terms of biological diversity Water and land, as environmental authorities, in cooperation with governments, sought to establish natural reserves with the aim of preserving ecosystems and biological diversity from extinction, and the marshland environment is unique because of its plant diversity and vitality I am (wild and water) and can invest this wealth in different ways because it constitutes an economic pillar if it is not optimally invested.

The marshes areas were exposed to environmental problems during the past thirty years to changes in their ecosystem as a result of drying and re-flooding after 2003, represented

by water pollution transmitted by the sources of nutrition for the rivers (the Tigris and Euphrates) by reducing water releases from the sources of financing to the upstream countries, especially Turkey and Syria due to the wrong policies of the previous regime in 1996 to accelerate drying operations during the war with Kuwait, which increased pollution rates from lead, cobalt and toxic salt materials to eliminate the biological system in it, and the marshes suffered during that period from the presence of military waste, including prohibited and prohibited and mines used in The period of the eighties and nineties left its traces in the water, whether the marshes or the Shatt al-Arab make its water polluted by radiation, as well as air and soil, destroying the environment of the entire region, including man. It appeared in the appearance of volcanic vents, from which smoke billowed to turn the burning earth into ash despite its clay due to the rise in the heat of the earth and the drying of the earth, but all these pollutants changed their image after dipping and the return of 70% of the marsh water to reduce salinity after increasing water releases to raise levels of data The main for the marshes, and the biodiversity returns to its previous era, and the phenomenon of burning the earth as a result of the inundation disappears. Accordingly, the marshes areas were included in the World Heritage List for the unique aesthetic nature of the region to provide water, biological diversity and green islands floating over the water, which Make it areas of ecotourism (9.(

The area of the water bodies of the marshes is (3770) km<sup>2</sup> distributed between the governorates (Amara, Nasiriyah and Basra), reaching a peak of (13650) km<sup>2</sup> in winter and decreasing to (2400) km<sup>2</sup> in the summer (10). As on the map (1 and 2)

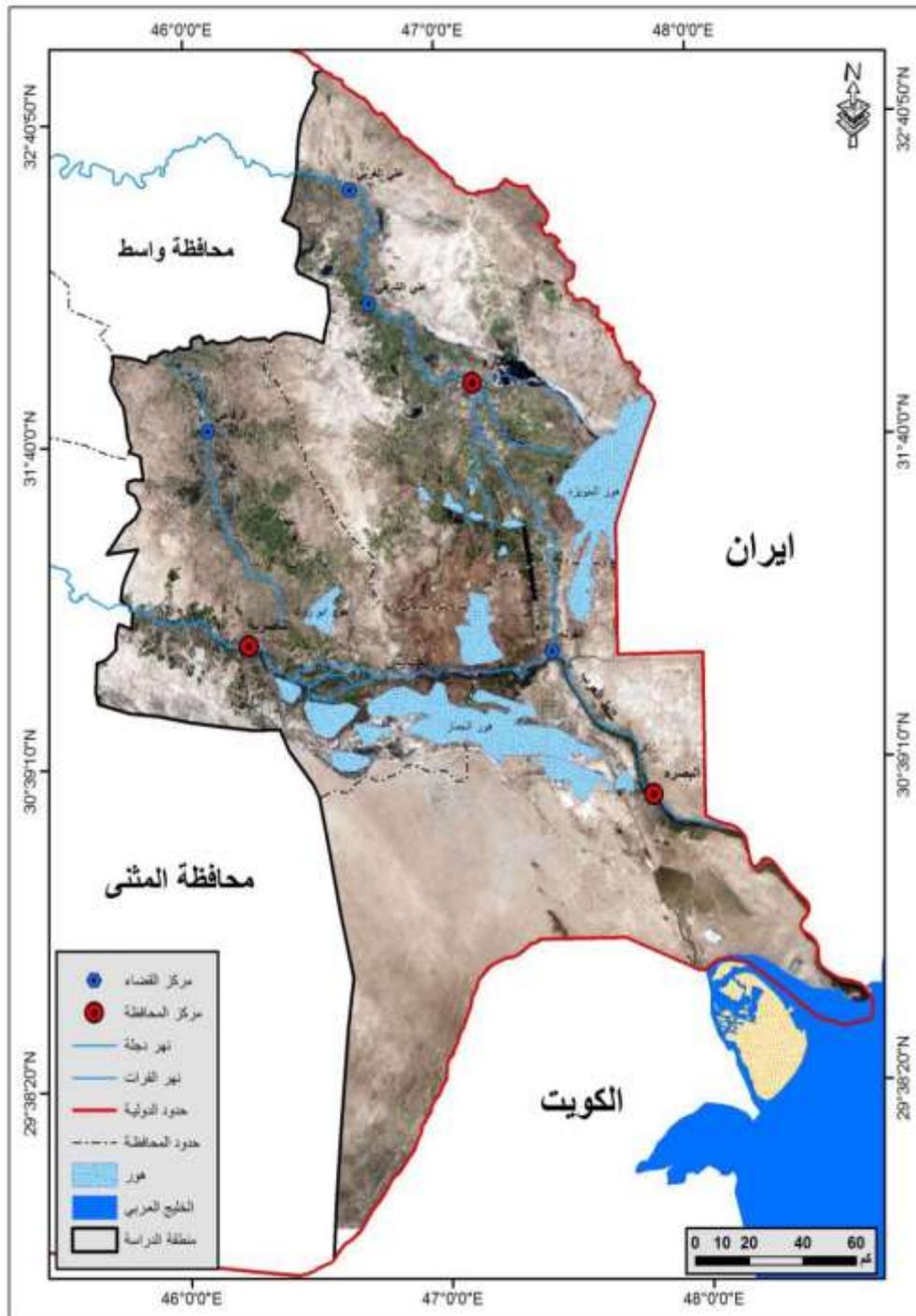
خارطة (1) موقع منطقة الدراسة بالنسبة للعراق



المصدر: 1- وزارة الموارد المائية، الهيئة العامة للمساحة، خارطة العراق الادارية بمقياس 1:1000000، بغداد، 2005.  
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Map (2) of the current areas of the Southern Marshes of 2 Source:

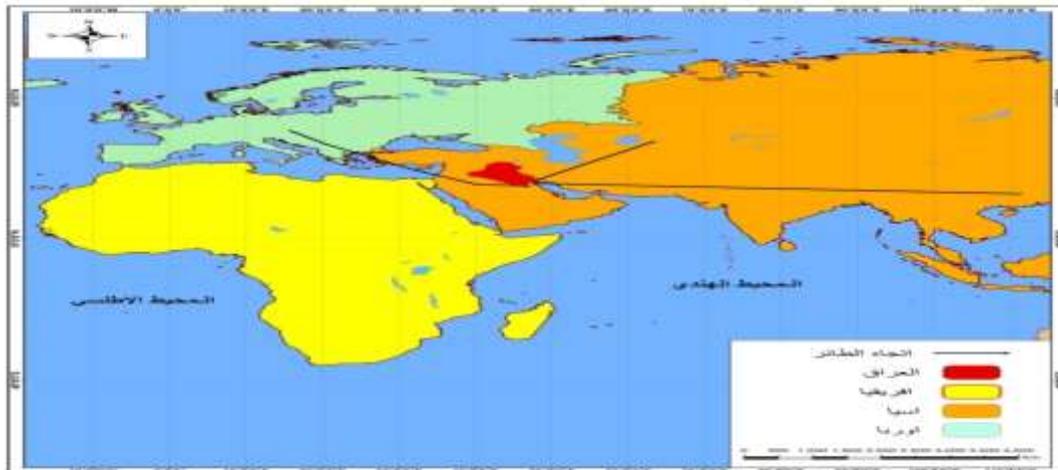
Ministry of Water Resources, Maysan Irrigation Department, South Iraq Marshes Map, scale 1: 100,000 cm, 2016



Al-Hawizeh and Al-Hamar marshes were recovered by receiving tourists coming from inside and outside the country to enjoy the features of these water depressions, including environmental and biological diversity. Of the (285) world species coming from Russia, North

Europe and East Asia (11), see map (3), and the marshes witnessed a rise in their levels to reach (5560) km<sup>2</sup> distributed between the Hawizeh Hawarah (1377) km<sup>2</sup> and Hor Al Hammar (1763) km<sup>2</sup> and the central marshes. (2420) km<sup>2</sup> of 2018.

**Map (3) of the path of migratory birds to the marshes of southern Iraq**



**Source: American Institute of Environmental Sciences and Studies (ESRI), 2016.**

A number of tourists come to the marshes regions in the form of group trips and on a weekly basis, each trip includes between (50-150) tourists as well as the arrival of international organizations and foreign tourists, the purpose of which is the keen desire to get to know what the place contains of a picturesque nature and amazing biological diversity and the simple nature of life for its residents. Depending on natural sources, such as fish, buffalo products, cows, and dwellings that are engineered (such as banking, predecessors, and hosts) made from reed and papyrus, their inhabitants also make professions of making types of transportation such as hospitals, flags, and furniture, which cane is the basis of its work (12).

**The availability of these ingredients made them enjoy ecotourism, but exposed them to problems that limited the development of tourism in the region, including:**

1- Political problems related to the variation of the water share of Iraq and the incoming to the Tigris and Euphrates rivers, whether from Turkey or Assyria, which reflected its impact on the limited area of the marshes and the elimination of biological diversity in it.

2 -An environmental problem arising from the wrong behavior of the human person is represented by poaching fish by using toxins such as mustard or electric fugitive with the intention of obtaining money. Also included hunting on types of birds, especially migratory ones in the winter, which leads to an imbalance of the ecosystem, such as throwing barley mixed with poison instead. The use of a gun or nets as well as the destruction of this wealth

by hunting enthusiasts by individuals from outside the region.

3- The marshes area was subjected to an environmental problem related to drainage after re-dumping related to shallow water, to some areas reaching high levels of pollution, whether in water or soil, which led to the atrophy of the original plants of the region and creating a very poor health reality because of the high salinity of the lack of water coming to it. What applies to the central marshes, which have completely dried out, and the donkey marsh. As for the Hawizeh marsh, it was not subjected to complete drying except on the Iraqi side. As for the Iranian, it has good drainage and water outlets to feed it, it helped reduce pollution and better biodiversity.

4- While the marshes remained dry for a long time, as they were the scene of military operations and wars and the use of internationally prohibited and prohibited weapons, they suffered from environmental pollution problems after returning them to water in 2003, leaving waste from mines and radioactive or chemical contaminated weapons under water as in Hur Donkey and Iraqi Hawizeh which increased from Cancer diseases, lack of immunity, and distorted births, especially in areas whose inhabitants rely on marsh water for drinking and public life.

5-An environmental problem emerged after the floods represented by the rivers of blindness, which are branched from the main nutrients of the marshes, passing through the agricultural lands, but those rivers did not return as they were and their waters became shallow and polluted, and the agricultural lands did not serve because of the high percentage of salts and the absence of trickles for them, which means that there is no fish wealth in them severely Salinity and lack of fresh water.

6- Large areas of the marshlands were subjected to a natural problem during the drying period, which resulted in the appearance of holes similar to volcanic openings from which vapors and toxic gases rise due to high temperatures and are believed to be a natural product of the presence of oil fields, which left a negative impact on the burning of the soil due to drought after it was greater A water brooder in southern Iraq, which has an effect on tempering temperatures (13.)

7 - Lack of financial allocations in the tourism field to facilitate and encourage Arab and foreign tourists to enjoy the natural scenery of the region such as salutes, hotels, rest houses, paving of roads and providing various means of transportation in order to achieve sustainable development in the region, and the researcher has carried out a field work as a **scientific element that includes examining the place and studying the following aspects- :**

1 -Choosing samples of marsh waters to determine their suitability for swimming and drinking and the amount of pollution in them by laboratory analysis of samples of marsh water, it was found that the salinity in the water has increased and has exceeded the permissible limits and reached between (17872 and 3450) micromos in Hor Al Hammar and Hawizeh, respectively For the year 2018, due to the high sedimentation, high temperature and evaporation (14.)

2- The marshes areas generally enjoy high temperatures, like the rest of the southern regions, in summer to reach (50) ° C and more, which made the tourism activity restricted from September to May, as it becomes encouraging to practice some water tourism activities such as diving, photography and fishing in the water.

3 - Emphasis on an important issue represented in the availability of tiled roads and means of transportation that are the lung from which the tourism industry breathes, and that the public road that serves tourists is land transport to reach the marsh waters, and therefore the development process does not take its proper path unless the site is linked to lengths of length Between (50-60) km 2 (15.(

**Among the measures that must be taken to achieve sustainable development in the field of environmental tourism:**

1 - International agreements must be established between Iraq and the riparian countries with which it shares the headwaters of the Tigris and Euphrates rivers to ensure Iraq's share of the water and thus the high level of the marsh waters and ensure the achievement of the biological diversity that attracts Arab, foreign and local tourists to it.

2-Working to take the necessary measures against fishers and birds of all kinds by forming regiments of so-called (environmental police) that continuously follow up on the fishermen and setting a punitive law for those who practice forbidden hunting, whether by electricity or by placing poison of all kinds, as well as prohibiting hunting in periods of reproduction to ensure that some species are not extinct Rare, and strict measures must be taken on border crossings not to allow the entry of agricultural pesticides imported from abroad through merchants and to authorize the Ministry of Agriculture to do so exclusively.

3 -The environmental problem related to the marshes water drainage system after flooding should be addressed by increasing the flooded areas, opening feeding channels and increasing the water rations for the marshes by cooperating with the residents of the region by reconnecting the (central) architecture marshes to Nasiriyah as it was before drying and organizing the drainage levels for the Kassara implementers And Al-Swaib in Hor Al-Hawizeh

4- The entire marshes of southern Iraq were exposed to an environmental problem resulting from being the battlefield of the eighties of the last century to 2003, and in order to avoid this problem, health teams must be formed, supervised by specialized committees supervised by specialized committees between the governorates (Amara, Nasiriyah, and Basra) for laboratory examination procedures pertaining to Water and soil, diagnosing the pollution percentage in it and trying to collect the remaining war residues by establishing healthy landfills for military equipment and machinery and treating minefields in some of the Hawizeh areas, especially in the eastern regions bordering Iran.

5 -Solutions must be developed for the problem of the river rivers, which have had negative effects on the biological reality of the marsh areas, which is to open the dirt payment that was established during the drying period to return the water to its previous era and increase the financial allocations for the purpose of establishing and implementing the projects

established in the marsh areas that are headed by experts with certificates. Or use foreign expertise to achieve sustainable development

6- Among the most prominent proposed solutions to avoid the problem of combustion and the evaporation of vapors from several areas of the marshes during drying are the cooling of the land with its water inundation with the abundance of natural minerals in it and working on analyzing some soil samples to know their components and what are the minerals they contain.

7 - Working to set financial allocations for the purpose of developing the marshes areas and achieving sustainability in them by paying attention to infrastructure such as sanitation, hotels and health baths, setting up paved roads and casinos, and providing modern transportation means for delegations coming to them from inside or outside the country for the development of environmental tourism in them.

### Results

- 1) **Environmental pollution is a global problem that does not recognize political borders, which** made the interest in it to be at a global level, because the environmental risks resulting from it are no less dangerous than wars and deadly diseases.
- 2) Environmental tourism is related to the cultural and civilizational aspects of the human being, as it represents a bridge for communication between cultures and human knowledge of peoples, and is the result of developing societies and raising the standard of living.
- 3) The realization of eco-tourism needs progress in several fields (economic, social, environmental, and technological) that many Arab and foreign countries have relied on to adopt tourism in their strategy.
- 4) The marsh environment has the availability of climatic and economic conditions that qualify it for sustainable development, despite its varying area between increase and decrease and its reflection on the biological, agricultural and industrial diversity, which encourages environmental tourism in the region, especially after the marshes entered the World Heritage List.
- 5) The environment of the marshes was subject to problems after dumping, especially those related to environmental pollution resulting from hunting in primitive ways, whether for fish or birds or the burning of lands due to drying and being regions where minerals are present, including oil, as well as the fact that these areas were the scene of military operations, which increased water pollution after flooding.
- 6) The marshes areas receive numbers of tourists, whether internally, in the form of family, school or abroad tourist trips for those coming from abroad, in the form of tourist delegations to enjoy the picturesque areas and get to know the reality of the traditional and primitive life of the population and the nature of eating, drinking and housing that they are accustomed to

### Suggestions

1. The advancement of the reality of environmental tourism calls for the concerned authorities in the governments of countries to put in place mechanisms to preserve natural monuments as the main pillar of attracting Arab and foreign tourists to them according to studied plans.
2. Setting immediate and future solutions to the problems of environmental pollution, the area of which has increased to cast a shadow over the joints of life, including environmental tourism, whether with air, water, or soil, and this is only done with Arab and international cooperation by replacing polluted energy sources with environmentally friendly ones.
3. Strategies must be developed by the eligible countries to contain the elements of environmental tourism, especially in the field of establishing natural reserves to ensure the protection of livestock, the regulation of hunting and the protection of wild animals, bird species and fish from extinction.
4. We should focus on the issue of environmental awareness and education as a cornerstone of the success of eco-tourism, especially tourists heading to tourist areas through knowing the customs and traditions of the local population and setting up internal tourist trips to the future country for tourists according to the tourism program.
5. Environmental tourism should be seen as one of the many activities that help in the development of the local community, and not the only activity, because that would pose a threat to the region in case the numbers of tourists decline for political or economic reasons.

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