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## THE IMPACT OF IMPLEMENTING TOURISM DEVELOPMENT PLANS ON THE ENVIRONMENT (CASE STUDY OF NATURAL RESERVES IN NAJAF GOVERNORATE)

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### ABSTRACT

The research aims to know the impact of implementing tourism development plans on the natural reserve environment in Najaf Governorate. The tourism industry is one of the most important economic activities in the contemporary world, and it is one of the sources of income and a strong driver of its economic dimensions. It represents one of the tributaries of increasing economic growth, providing job opportunities, and solving the unemployment problem that most countries suffer from, including Iraq. Therefore, building foundations for comprehensive spatial development in unexploited natural areas is necessary, which helps develop plans for future tourism development to invest them environmentally and touristically. The city of Najaf has elements of tourist attractions, such as natural geographical phenomena. Still, it has yet to receive the required and appropriate attention, and tourism development faces many challenges. Based on all of this, the research problem emerged to determine the type of relationship between the research variables, which are tourism development plans, which are the independent variable, and the extent of their impact on the environment of natural reserves in Najaf Governorate, which is the dependent variable. Natural reserves are essential for preserving biological diversity, reducing the risk of extinction of threatened species, and ensuring ecosystem services. The researcher followed a methodology based on repeated field visits to the reserve and conducting personal interviews with its officials. The research sample included officials from the Ministry of Agriculture and Environment and several officials from Najaf Governorate. Among the most prominent results reached by the research is the importance of implementing tourism development plans as a

mechanism through which the potential of the natural region can be exploited, contributing to its environmental and tourist development. The researcher reached a set of results and recommendations that would contribute to improving the environmental performance of the reserve.

## KEYWORDS

Tourism Development Plans, tourism industry, increasing economic growth, providing job opportunities.

## INTRODUCTION

The tourist industry is one of the world's most important. Because it helps diversify income sources and employs a vast workforce, it is a tributary of economic development, making it the most civilized and least polluted. As a result, we need to get the tourist industry going and give some real consideration to creating well-defined strategies for the industry's future growth. Promising national nature reserves in the study region can be established by highlighting the essential natural sites. Humans can reap numerous benefits from these regions. Due mainly to human activities like deforestation, intensified agriculture, hunting, etc., the planet is presently experiencing the sixth stage of species extinction. Protected places are crucial for halting or at least slowing down these degradations. Preserving genetic resources for present and future generations is another benefit of protecting biodiversity. The process involves designating areas as protected landmarks and bestowing formal and legal protection on them. These places also require suitable management strategies to maximize their environmental and developmental benefits. This

improves our chances of preventing the extinction of ecosystems and biodiversity and using them to our advantage by creating new strains with enhanced immunological resistance. The study's secondary objectives include promoting the reserves in the study area as ecotourism hotspots and elucidating the key factors that have impeded the creation of natural reserves in the region over the last several decades.

Additionally, by scientific principles, it seeks to determine the environmental reality and development status of reserves in Najaf Governorate. On which they were established and methods of conserving their sustainability according to international standards, discovering species of plant and animal life, archaeological and geological components, and striving to maintain them. Because they influence biological processes that aim to conserve biodiversity, nature reserves help keep the ecosystem stable.

### The First Section

#### The Theoretical Framework of the Research

First: Research problem

Najaf Governorate lacks well-studied plans for tourism development, despite the diversity of natural environments such as the desert in the western plateau and the Najaf Sea area and the diversity of vegetation cover and other natural resources that have an enormous potential energy that can be developed with little effort compared to the rest of the areas in Najaf, which qualifies it to be one of the most suitable sites for establishing natural reserves.

Therefore, the research problem is determined by the following questions:

- 1- Are there plans for tourism development regarding the natural reserves of Najaf Governorate?
- 2- What are the most critical distinctive natural sites that can contribute to preserving biodiversity?
- 3- What is the relationship between tourism development plans in establishing, developing, and preserving natural reserves?
- 4- Do tourism development plans impact establishing, developing, and preserving natural reserves?

Second / Research hypotheses: The research hypotheses can be formulated as follows:

- 1- There is a significant correlation between tourism development plans and natural reserves in Najaf Governorate.

- 2- There is a significant influence on the relationship between tourism development plans in natural reserves in Najaf Governorate.

**Third / Importance of the Research:** The Importance of the study is evident in the following:

- 1-Exploiting the research area's natural potential helps develop its tourism activity, as it is not commensurate with the region's enormous natural potential.
- 2- Natural reserves are a natural repository and stock of animals and plants to preserve their presence from deterioration and extinction.
- 3- Natural reserve areas are the basis for ensuring the continuation of biodiversity, preserving the genetic genes of natural wildlife and thus continuing to benefit from plant and animal products
- 4- Reserves provide opportunities for scientific research of wild species in their biosphere, allowing decision-makers and individuals to participate in environmental conservation and optimal use of reserve lands.
- 5-Wildlife is an integral part of the ecosystem. It is an essential indicator of the safety of human interaction with the environment and the sustainability of its giving. Establishing a nature reserve in the research area contributes to preserving the natural environment that has deteriorated due to drought and desertification.

achieve the research objectives, the researcher used the descriptive analytical method and personal interviews using a questionnaire form, as data was collected from a sample of directorate officials (agriculture and environment) in addition to officials of Najaf Governorate.

Fifth / Research Structure: The nature of the research required dividing it into four sections. The first section dealt with the research methodology. In contrast, the second section was devoted to planning and tourism development and natural reserves and their Importance. In contrast, the third section focused on the Najaf Reserve and the proposed reserves in the area where the research was conducted. The fourth and final section analyzed the questionnaire form to diagnose the procrastination in tourism development plans and the problems suffered by natural reserves. The research concluded with conclusions, recommendations, sources, and references.

Sixth / Study Limits:

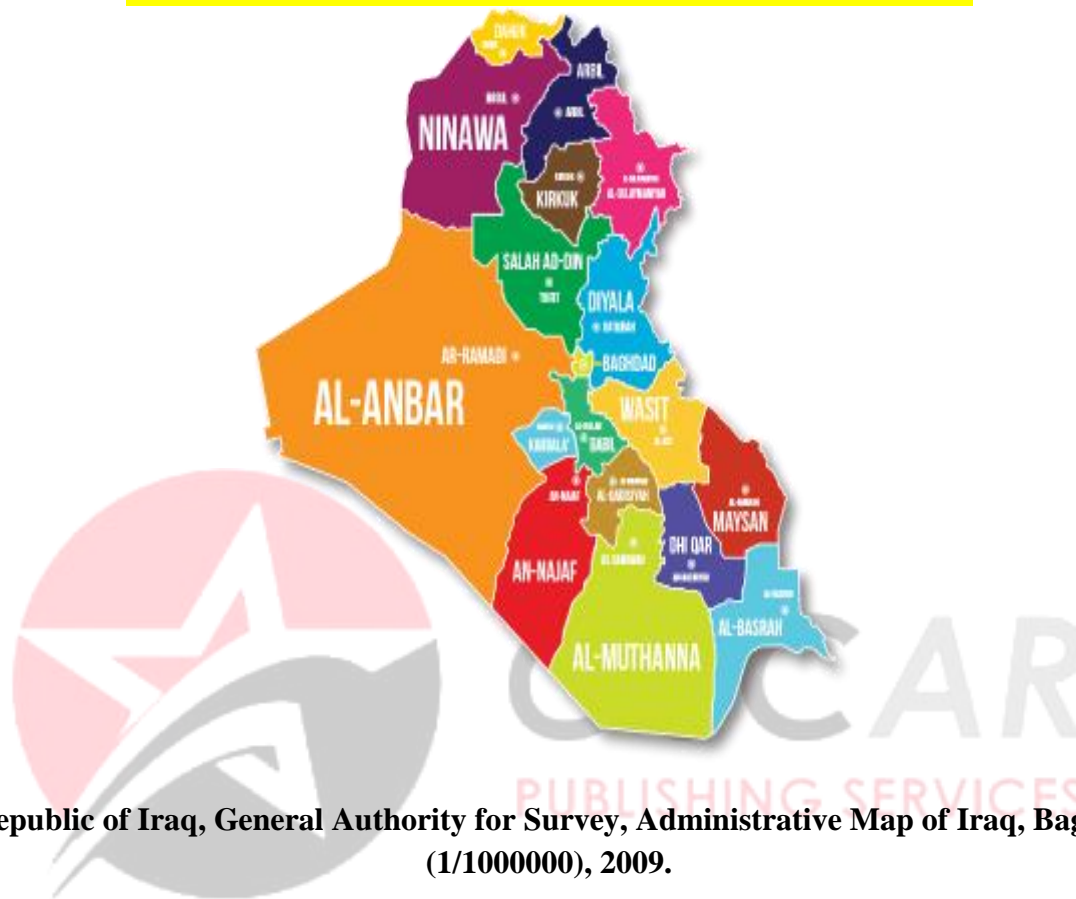
1- Spatial boundaries: Studying the location (astronomical and geographical) is of great importance

for spatial relations, as studying spatial boundaries is of great Importance in determining the spatial relationship between the researched area and neighboring places; Najaf Governorate occupies the southwestern part of the Republic of Iraq and extends between longitudes (45 44-50 42) and latitudes (29 50-32 21 north). Thus, its shape is closer to the rectangle Map No. (1) it is bordered to the north by the governorates of Babylon and Karbala; to the east, it borders the governorates of Qadisiyah and Muthanna. In contrast, to the south and southwest, it borders the Kingdom of Saudi Arabia, while to the west, it borders the Anbar Governorate. The location of the study area extended to two different regions, the alluvial plain region, and the western plateau region, which contributed to the diversity of natural resources. The area of the plain region is approximately (1400 km<sup>2</sup>) at a rate of (5%) of the governorate's area of (28824 km<sup>2</sup>), while the area of the western plateau region occupies (95%) of the governorate's area.

2- Temporal boundaries: It is represented by the period from 9/21/2023 to 9/1/2024

Map No. (1)

The geographical location of Najaf Governorate in Iraq



Source: Republic of Iraq, General Authority for Survey, Administrative Map of Iraq, Baghdad, scale (1/1000000), 2009.

The Second Section

The Theoretical Framework of the Research

Concepts of planning and tourism development and concepts of natural reserves

The emergence of tourism planning, its development, and its importance were linked to the emergence of tourism as a behavioral civilizational phenomenon on the one hand and an economic and social phenomenon on the other. (Samia, 2020)

**First / Tourism planning:** Tourism planning draws an estimated future picture of tourism activity in a particular country and a specific period. This requires limiting tourism resources in the country in order to determine the objectives of the tourism plan and achieve rapid and regular tourism development through the preparation and implementation of a coordinated program characterized by the

comprehensiveness of the branches of tourism activity and the country's tourist areas (Hormes, 2006, p. 14). Tourism planning should be viewed as something other than a field limited to official bodies. However, it should be viewed as a joint work program between government agencies, the private sector, and individuals. Therefore, tourism planning must be a joint process between all the parties organizing the tourism sector, between the government agencies supervising this sector, the providers of tourism services (institutions and business people), the consumers of these services (tourists), and the host community for tourism - starting from the stage of formulating the goals to be achieved and ending with the stage of implementing and applying the tourism plan programs (Abbas, 2023, p. 5). Tourism planning plays a vital role in developing nature reserves, as it is a scientific approach to organizing and managing contemporary tourism activity with all its elements and patterns. It provides a joint framework for making decisions to manage nature reserves by developing a plan to identify the components of the reserve and the possibility of developing it using scientific methods. It also sheds light on the reserve's problems while providing the responsible parties with scientific methods and trends that help them improve and develop their work performance using scientific methods. It also helps unify the efforts of all parties responsible for developing nature reserves and coordinating their work. (Omar, 2017, p. 1)

A- Objectives of tourism planning, in general, aim to achieve comprehensive, integrated, and sustainable tourism development in its economic, environmental, and social dimensions through the optimal exploitation of tourism resources and tourist attractions. The objectives of tourism planning are summarized as follows (Khalaf, 2021, p. 158):

- 1- Finding the required balance between economic benefits and preserving the environment of natural, religious, cultural, and other resources. Well-studied and correct tourism planning determines the capacity of tourist attraction sites and cities.
- 2- Achieving coordination between sectors directly or indirectly related to tourism.
- 3- Developing infrastructure and providing all facilities for visitors, tourists, and the local community.

1-One important goal of tourism planning is to preserve the values, customs, and traditions of the communities hosting tourists through a development tourism program that is consistent with the social and cultural conditions of the communities receiving tourists.

2- Determining the short-, medium-, and long-term tourism development goals and methods of implementing them.

B- The importance of planning is summarized in the following (Ghadban, 2014, p. 138)

- Controlling and controlling tourism management over available resources and employing them correctly.
- Putting an end to environmental, social, and economic problems and finding appropriate solutions if they occur.
- Developing abandoned or poorly planned tourist areas and establishing new tourist areas.
- Providing trained workers (competencies) that can be used in tourism.
- Ensuring all sectors related to tourism activity, whether industrial, agricultural, commercial, transportation, and tourism services, and developing and developing them to serve tourism and related activities.

**Second, the development of the tourist industry** is one of the most important and relatively new processes because of the unique and crucial role that the tourist industry plays in expanding national economies worldwide. This is because it helps to improve the balance of payments and gives people more disposable income. It plays a significant role in developing areas and cities with tourism potential by providing infrastructure facilities and essential services to accommodate tourists. Still, it also helps alleviate economic problems such as unemployment in these countries (Bakri, 2021, p. 1). Thus, growth in the tourist

industry is a collection of initiatives that aim to increase tourism resources in a sustainable and balanced manner while also improving and streamlining business operations. There are many moving parts in this intricate process. Still, ultimately, it all comes down to an applied and scientific effort to maximize the use of tourism production while protecting the environment and training people to be effective agents of change (Al-Bakri, 2020, p. 9). Developing tourism is essential since it helps bring in more money from outside, creates jobs, lowers the unemployment rate, and entices domestic and international investors. Additionally, it aids in the revitalization of both traditional and popular sectors by making use of local resources, which in turn improves infrastructure and tourist services of various types. It also helps activate the movement of tourist transportation and lodging (Al-Naimi, 2018).

A- Objectives of tourism development: Tourism development begins when people begin to appreciate the importance of tourism and the benefits that accrue from it at all social, economic, and cultural levels, which can be divided as follows: (Kamla, 2018).

- Economic objectives: Tourism is a source of attracting foreign currency and achieving development by providing new job opportunities in the tourism sector and sectors supporting tourism. Its economic benefits include providing infrastructure services and increasing income levels for individuals or the state.

• Social objectives: Social objectives are of great importance as they provide recreation and entertainment for tourists and residents and help to

**Third / Natural Reserves:** There is no doubt that natural reserves of various types are essential to life on planet Earth, given their great importance in preserving nature, wildlife, and the landmarks and monuments of ancient civilizations that generations are proud of. In light of this, countries have paid great attention to preserving their environment and the biological diversity necessary for the fabric of life and the ecosystem and to making them a source of income for governments and their people. (Qader, 2017, p. 1). Thus, a natural reserve can be defined as a large area of land characterized by a diversity of natural wildlife patterns and represents a means of protecting rare species of animals and plants from extinction due to their genetic value and their contribution to developing the production of local breeds, their reproduction and benefit from them (Al-Kalabi, Geographical Analysis of Natural Reserves and Their Protection). Protection is imposed on them under special laws and includes the following landforms: mountains, rock formations, caves, waterfalls, rivers, springs, mineral waters, and sea coasts. In addition to everything mentioned, they include archaeological, religious, and cultural areas. (Hanady Rizqa, Natural Reserves, Their Importance, and Where They Are Located, p. 6), The objectives of establishing natural

reserves go beyond merely maintaining natural resources to being economic and commercial projects that bring in a reasonable financial return so that the resources of these reserves can at least cover their expenses. These reserves also have educational and pedagogical benefits that hasty and ill-considered economic projects will not be able to achieve. Suppose they compete with the reserves to use the land available to them. In that case, they will not be able to compete with them in their social benefits for improving the conditions of society. This means that the doors of the reserves should be open to the public and that their multiple benefits should flow to them continuously and in diversity so that the public realizes their benefits and defends their survival, continuity, and development (Mohamed Ibrahim, Natural Reserves and Biological Pollution in Egypt, p. 82). A- Conditions for selecting natural reserve areas: Reserve areas must have a distinct ecosystem with a rare or endangered species of animals or plants necessary for scientific research purposes and have an excellent geographical location, easy to access, in addition to a unique terrestrial diversity (distinctive rock formations, springs, waterfalls, caves, and caverns, areas of tourist and cultural importance (lakes, beaches, forests near the coasts of the seas (Hanady Rizqa, previous source)). B- Objectives of establishing natural reserves: Natural reserves do not necessarily mean closed and prohibited places; instead, their goal is to prevent human harm to rare natural components while



maintaining a balance between traditional practices and preserving the advantage of the sites. One of the main motives for establishing reserves lies in an attempt to change and alter negative human behavior towards nature and change his view and vision of natural beauty and feeling it and coexisting with it in harmony and harmony, and that his behavior towards the environment and its exploitation be rational in a way that does not cause an imbalance in the environmental balance that negatively affects human survival. The same, (Al-Dulaimi, Jassim, 2020, p. 427)

Thus, the objectives of establishing natural reserves are: (Salman, 2019, p. 270)

1- Understanding the nature of the biosphere and supporting the balanced relationship between humans and their biosphere through continuous work to change the behaviors and attitudes of individuals towards this environment in the right direction in a way that helps protect the natural revival (plant and animal) to continue the biological diversity that is indispensable in the course of life.

2- Achieving a degree of continuous environmental monitoring of wildlife and working to protect and maintain it and avoid any harm by recording the impact of water and air pollution or any over-exploitation of this revival to prevent their deterioration and extinction.

3—Conduct more ecological and biological studies and research and train environmental cadres capable of managing and exploiting reserves to help protect and develop wildlife.

4—Supporting environmental awareness through visual, written, and audio media creates an effective environmental conscience that protects these reserves.

Another key objective is to encourage and motivate local residents to actively participate in protecting natural reserves. It is important to instill in them the understanding that protecting these reserves is not just a responsibility, but also in their best interest. Their active involvement can significantly contribute to the preservation of these vital ecosystems.

C- Obstacles to establishing natural reserves There are several obstacles to establishing (natural reserves) despite their multiple types and actual presence. The most important of these obstacles are the absence of applicable legislation to protect (natural reserves) and the absence of human cadres who have the competence to manage reserves, the lack of research and studies in the field of biodiversity, in addition to overgrazing, as well as random hunting of birds that the reserve cares for. The lack of financial allocations to complete some of the reserve's activities (Hadi, 2020), and finally, desertification, which arises due to various factors (such as climate and human activities



Desertification is not the same as the natural expansion of existing deserts; this is crucial to keep in mind. Desertification has worsened in recent decades, impacting the ecological, social, and economic aspects of numerous nations across the globe. Desertification is a problem in Iraq because of many things, such as global warming, drought, overgrazing, unsustainable farming practices, and the unlawful development of cities on farmland. Areas that were once among the world's most fertile agricultural regions have now been engulfed by desertification, a consequence of the deterioration of Iraqi rivers caused by upstream dams and the use of antiquated irrigation methods (Sixth National Report to the Convention on Biological Diversity, 2018).

### The Third Section

#### Reserves of the Area where the Research was conducted

First / Najaf Al-Ashraf Reserve

Najaf Governorate has some places that meet the necessary criteria for establishing natural reserves, so a fenced nature reserve project was established in the governorate, which is considered one of Iraq's largest reserves. The Najaf Governorate Agriculture Directorate began documenting it in 2007. It is located west of Najaf Governorate in the desert area in the Al-Shabaka district and 50 km from the center of Najaf District. Its location is estimated at 1300 dunums, 500

of which are fenced. The stages of its completion have been completed, and it is considered one of the projects that aim to develop the cultivation of endangered wild plants and provide a plant cover in addition to protecting rare birds and animals such as (oryx gazelle, Awassi sheep, and white camels). It also contributes to protecting the surrounding soil from erosion and desertification and resisting dust storms, in addition to classifying desert plants into (pastoral, medicinal, toxic, aromatic) as well as establishing A 7-acre lake in the reserve to attract migratory birds and create a suitable environment for breeding. The reserve is considered a tourist resort, containing more than 450 gazelles and 30 ostriches, a water surface, and about 60 thousand trees.

The purpose of its establishment was to preserve the environment and conduct scientific experiments. As for the reason for choosing the current site, the idea began as a proposal by the Ministry of Agriculture to establish a group of reserves in the governorates of Iraq, including the governorate of Najaf Al-Ashraf. The sites for the project were chosen by joint committees between the directorate and the cadres of the Environment Department, including this current site, for the contexts followed in choosing such projects, including being at least 50 km away from the city, its proximity to a paved road, which is the road of the Iraqi Oil Company, in addition to providing types of animals that are to be propagated and preserved from

extinction, and its abundance in healthy water suitable for agriculture, in addition to the presence of many natural pastoral and medicinal herbs and grasses at the time. As for the tests for drilling wells, they proved that all wells drilled in the reserve are suitable. For agriculture, at the beginning of the establishment of the reserve, there was a group of natural pastoral fodder plants, and the total number of them reached about 80 species. These species remained present for a period, but due to the lack of fodder during the financial crisis and the lack of financial allocation, which led to the animals turned to feed on these plants to meet their fodder needs. There is a plant cover in reserve consisting of a group of trees that were planted and can withstand the harsh desert conditions of heat, lack of rain, and fluctuating climatic conditions, including eucalyptus, jujube, olive trees, in addition to tamarisk, thorns of the Levant and palm trees. These trees are present in the form of oases. The project, at the beginning of its establishment, contains integrated irrigation systems that include basins, pumps, generators, wells, pipes (16 mm), and drippers so that

each tree receives water through the drippers and is basin-like so that it can absorb the amount of water during the operating period. An integrated irrigation system helped plant thousands of trees and their continuous growth in the project. However, at present, the staff is doing this work continuously due to the damage to the existing irrigation system due to the end of its life span in the project, which is considered worn. Part of this system was replaced with a new one, and hundreds of eucalyptus seedlings were planted in places that were provided with water through solar cells (Directorate of Agriculture in Najaf Governorate, Investment Plan, Nature Reserve Project)

Objectives of the Najaf Reserve Project: (Interview with Eng. Nawal Radi Muhammad, Najaf Agriculture Directorate

1. Providing vegetation cover and developing the cultivation of wild plants and preserving desert plants with their various classifications (pastoral, medicinal, toxic, aromatic)



Project location	Start date	Expiry date	Project area
Project location Start date End date Project area Najaf/Al-Shabaka district	2007/1/2	2015/12/31	Plot /1 District /1 Desert area 1300 dunums with the added area
Types of animals	: gazelles/ostriches/horses/camels/goats/ducks/sheep		
The goal of the project	The goal of the project is to provide vegetation cover and preserve endangered animal species in a studies and research center and tourist area, and invest in groundwater and an environmental project to protect the environment		
Description Project	Description Project )Infrastructure) External and internal fence of BRC + circle building + 4 strategic line ferry and guard room + 2 warehouses + car shed + repair workshop containing (shed and room) + 2 rooms for workers with their accessories and irrigation wells consisting of basins each site contains (generator + pump number 2) 6 Cretan basins for watering animals + 3 watchtowers + 3 and 6 concrete shade caravans + water surface + plastic house (note the length is 1500 m and width is 850 m(		
Type of exploitation			
Agricultural - animal - research - service			

2. Preserving some endangered animals such as (ostriches) and improving species such as (Awassi sheep) in addition to resettling rare animals such as (gazelle)

3. Studies and research center and tourist area

4. Investing in groundwater with different irrigation systems such as (sprinklers drip) of all kinds

5. Settling migratory wild birds

6. A model of the biosphere in the Najaf desert, and it is a model for those who want to invest

7. Protecting the soil from erosion and the surrounding lands from desertification



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Table (1) Najaf Ashraf Reserve

Project location Start date End date Project area	2007/1/2	2015/12/31	Plot /1 District /1 Desert area 1300 dunums with the added area
Project area	Najaf/Al-Shabaka district		
Types of animals	: gazelles/ostriches/horses/camels/goats/ducks/sheep		
The goal of the project	The goal of the project is to provide vegetation cover and preserve endangered animal species in a studies and research center and tourist area, and invest in groundwater and an environmental project to protect the environment		
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Type of exploitation			
Agricultural - animal - research - service			

## Source / Researcher based on the Directorate of Agriculture in NajafSecond / Proposed reserves to be established in Najaf Governorate

A notable geological feature in the Najaf Governorate and the alluvial plain area is the Najaf Sea Depression Reserve (Jasb Kazim, 2014). Its astronomical coordinates are (43.30 - 44.30) east longitude and (31.30 - 32.10) north latitude. It stretches along the western plateau's edge and to the west of the Euphrates River in central Iraq's Najaf Governorate (Al-Khafaji, 2014). According to Ayed Jassim Al-Zamili, the alluvial plain is like a tongue that reaches out into the western plateau. From Najaf, it is around 7 miles away. From its elevated position, the city offers a panoramic view of the depression. A picturesque panorama unfolds before them as one stands atop the plateau: a verdant carpet of fields, palm trees, and orchards (Al-Shadidi, 2020). There are 6,696.9 hectares of land on the property. At the depression, the alluvial plain meets the western plateau. It is a geographical feature that stretches parallel to the Euphrates River and is not more than fifteen kilometers away from the river. Its width varies; in its southeast, it is sixteen kilometers wide, but in the middle, it narrows to ten kilometers, and it cuts forty kilometers across the desert, from Najaf in the northwest to Al-Hirah in the southwest, along the route that connects the two cities. Also, the strategic line forms its western boundary, and the Najaf-Mishkhab road is its eastern one (Salman, 2019). Its very essence is that of a watery swamp. The Najaf

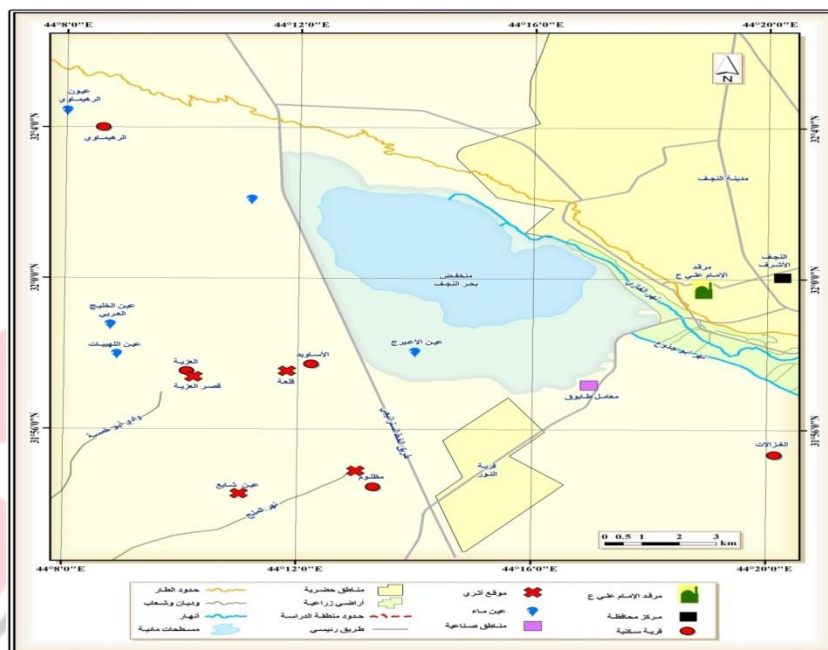
Sea depression ranks high among the governorate's most significant natural occurrences.

A fracture line in the earth's crust has led to its subsidence, indicating the high eastern edges (Al-Ansari, 2008, p. 331). Three main streams branching from the Al-Jahhat stream branching from the Euphrates River run in the lands of the depression, which are the Al-Sudair streams. Al-Naamani and Al-Hirah, in addition to the fourth table, are bordered on the eastern side by the Dasm table. It can also be noted that the depression enjoys natural and human features and data that can be invested in tourism, the most important of which is that the region enjoys a large area of water bodies in addition to agricultural lands and palm groves that add a picturesque beauty to the region. The depression also surrounds the Tarat area, which is characterized by geomorphic land features resulting from wind erosion. It has striking and attractive shapes. As for the location, the Najaf Sea depression enjoys locational advantages resulting from its proximity to the city of Najaf, which gives it a unique view and attractive views, in addition to its proximity to the shrine of Imam Ali (peace be upon him). The depression is also characterized by the ease of access after being linked to paved roads, the most important of which is the circular road facilitating the

process of reaching the depression. One of the essential natural potentials that can be invested in the region is the biodiversity that the depression is rich in, including birds, fish, and wild and aquatic plants, which

can be invested in establishing natural reserves that encourage people to visit. Tourists o (Al-Shadidi, 2020, p. 166).

Map (2) Najaf Sea Depression\



Source: Researcher's work based on the Ministry of Planning and Development Cooperation, Geographic Information Systems Division, using Arc Map 10.8.

Biodiversity in the Najaf Sea: It is considered one of the important sites for biodiversity in the Najaf Governorate due to the aquatic environment that distinguishes it. It is located within a semi-desert environmental region surrounding it from many sides. Many site studies have been conducted that indicate the richness of this region in the biodiversity present in it, in addition to the survey conducted by the work

team to monitor the biological species present in the early fall of 2018 (the beginning of the bird migration season). A biodiversity survey was conducted in the Najaf Sea region, where the list of biodiversity of the Najaf Sea depression included (104) vertebrates, including two species of fish, (14) species of reptiles, two of which are listed on the International Union for Conservation of Nature's Red List as endangered



species, namely (Euphrates kingfisher and Egyptian lizard), in addition to one of the gecko species (the semi-endemic Iranian short-toed gecko, whose largest range of spread is in Iraq). It also recorded (73) species of resident or migratory birds dating back to (30) Families that include several species of local importance and others that are vulnerable or threatened with extinction according to the International Union for Conservation of Nature Red List, such as (flamingos, red-bellied hyenas, veined hyenas, Egyptian vultures, Iraqi partridges, grey hyenas, and Iraqi warblers), and 15 species of mammals, one of which is considered close to threatened with extinction, which is the striped hyena. Twenty-nine species of plants were recorded, and they were well adapted to the desert conditions prevailing in the region. There were also a few examples of aquatic plants. Nine species of reptiles were recorded, the most important of which are (Egyptian lizards and Iranian short-toed geckos). They conducted a study of birds present during the year's four seasons for both the aquatic area and the surrounding desert area, where 168 species were recorded during the study period. The list included two species of endangered birds, namely (the Egyptian vulture and Basra reed warbler), four species at risk of extinction, namely (the veined harrier, greater spotted eagle, gazelle falcon, and Asian bustard, and five species near threatened, namely the pallid harrier, white-eyed harrier, black-tailed harrier, and European semi-collared flycatcher).

During the current survey, which was conducted at the beginning of the fall season of 2018, the aquatic bird populations in the depression were studied, where (31) species of aquatic birds were recorded belonging to (14) families, including one species near threatened with extinction, namely (Black-tailed gull) Since the area is an aquatic environment, it provides a suitable place for birds to gather, as we noticed the presence of large gatherings of resident and migratory birds. The species observed in large gatherings were (Slender-billed gulls, Little oviparous gulls, Bearded marsh terns, and Black-tailed gulls). The dominant plant communities within the areas of the banks of the water bodies are the communities of (reeds, asl, and papyrus) plants, which are abundant in the eastern part of the water body, and (tamarisk and eucalyptus shrubs) are spread in a few areas near farms and orchards, or (zur plants) within the sides of the salt marshes on the dry banks of the Najaf Sea, and drought-tolerant plants prevail in the dry semi-desert areas that represent the belt surrounding the Najaf Sea, where (Aqoul, Ramth, and Tarti' plants prevail (There is still a need to study the plants in the region, especially during the spring season, to assess the richness of the region in annual and perennial plants. Several animals, such as the striped hyena, jackal, and honey badger, have been exposed to the threat of extinction in this region due to hunting. Other species have been successfully reintroduced regionally, such as the endangered Arabian oryx and the sand gazelle. Overgrazing of

livestock, off-road driving, and human destruction of habitats are considered the main threats to this environmental region Desert. Because of these threats, this ecosystem is classified as threatened/critical, according to the World Wildlife Fund (WWF). The severity of these threats is still low in Iraq, especially population expansion and off-road driving, but hunting and overgrazing are more influential on animal and plant diversity. There is still a need to declare several natural areas as reserves in this environmental region for Iraq to preserve the environmental pattern that distinguishes it and its biodiversity. As for the endemic plants in the region, there is still a need for field surveys in the spring seasons to document the important species at the national level. As for animal diversity, (16) species have been documented; the threat status varies from threatened to near-threatened for each of the birds, mammals, and reptiles. Birds include (12) species, and mammals have lost two species close to threat: the striped hyena and the sand cat, recorded for the first

time in Iraq in the Najaf desert. There are two reptile species, one at risk of extinction and the other threatened (Ministry of Environment, Marshlands Department). Sustainable Management of Natural Ecosystems, World Heritage (Section, Dalal Ali Qais et al., 2018).

## Section Four

### Field Study

The questionnaire form is one of the practical methods that most researchers resort to collect and investigate information related to the research topic and reach results.

Section One: This section includes the statistical distribution of the research sample and includes a group of agriculture and environment officials in addition to officials of Najaf Governorate, where the sample consisting of 50 individuals was distributed and their demographic characteristics are shown in the figures below.

Figure (1) Social gender

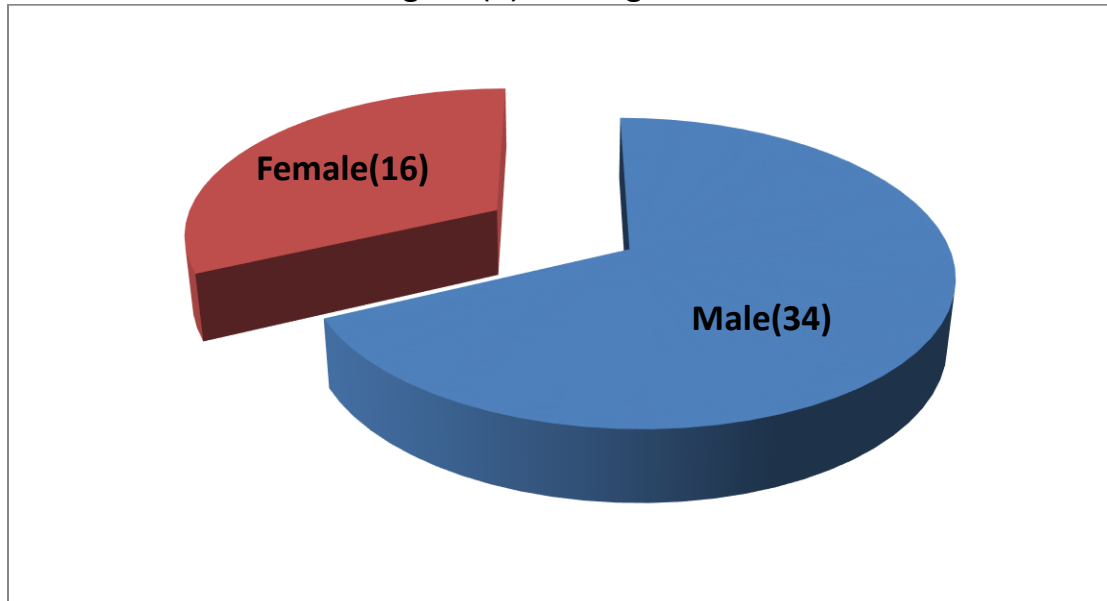


Figure (2) Age Distribution

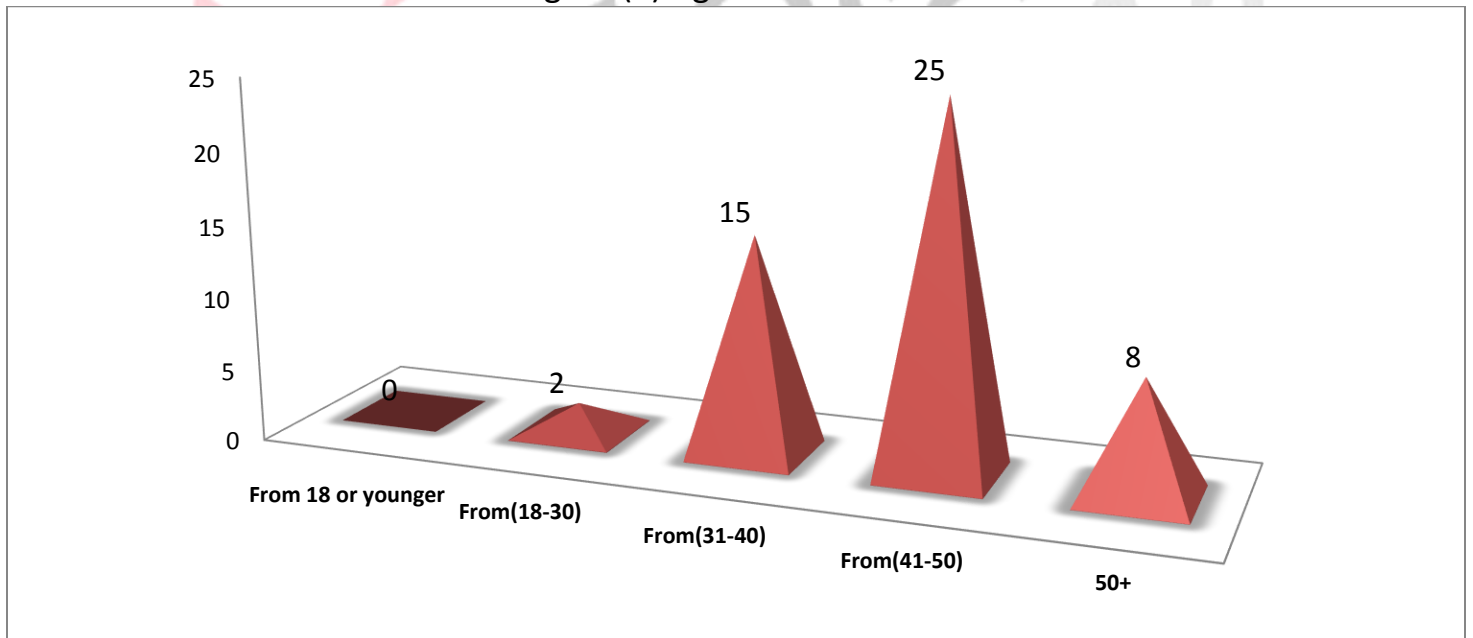
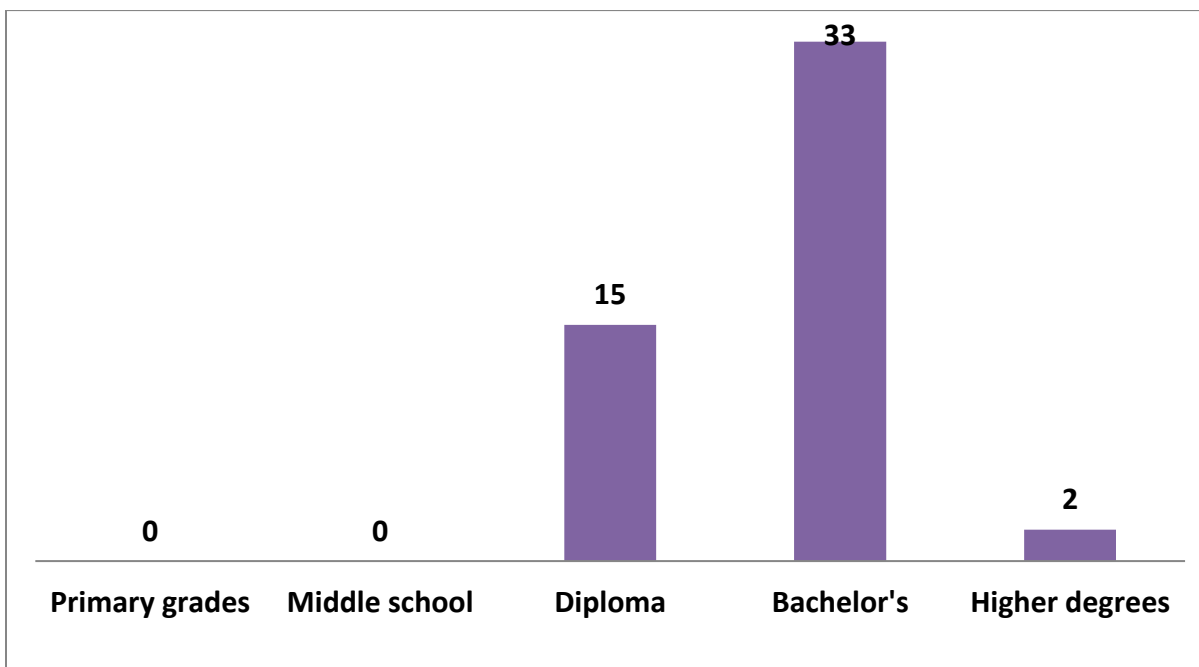


Figure (3) Distribution by educational level



**Section Two:** As it displays the responses of the study sample to the paragraphs of the questionnaire, this portion encompasses the descriptive analysis, which comprises the following:

- Making frequency tables using survey responses.
- Decomposing the responses, sorting the paragraphs by the coefficient of variance, and processing them

based on the mathematical mean and standard deviation.

For the paragraphs on the tourism development plans variable (n=50), the statistical mean, standard deviation, and coefficient of variation are not just numbers but the essence of our research. They are displayed in Table (2), providing a deeper understanding of the data. Table 2

No.	Sample answers					Arithmetic mean	Deviation %	%Relati	Importance
	Agree completely	agree	neutral	Don't agree	Strong refuse				
1	20	26	2	2	0	4.28	0.730	0.171	3
2	22	24	1	3	0	4.30	0.789	0.183	5
3	18	28	1	3	0	4.22	0.764	0.181	4
4	16	30	1	2	1	4.16	0.817	0.196	7
5	26	20	1	3	0	4.38	0.805	0.184	6
6	19	26	4	1	0	4.26	0.694	0.163	2

7	20	26	0	3	1	4.22	0.887	0.210	8
8	13	33	2	2	0	4.14	0.670	0.162	1
9	24	22	0	3	1	4.30	0.909	0.211	9
<b>Arithmetic mean, standard deviation and total coefficient of variation</b>						4.251	0.621	0.146	

**Source prepared by the researcher based on the results of the questionnaire**

Description of the answers to the variable of tourism development plans

According to Table (2), which displays the statistical mean, standard deviation, and coefficient of variation for each paragraph of the tourism development plans, the researcher can see that the paragraphs vary in terms of how much they differ from one another in the studied area. Paragraphs (6,8) came in first and second place, respectively, suggesting that the respondents agree that training courses and workshops should be held for those carrying out the procedures. The respondents also agreed that there needs to be enough funding to set up and build projects in protected areas. Paragraphs (9,7) ranked eighth and ninth in the tourism development plans, which means

that the respondents agree that local communities' knowledge and involvement in decision-making regarding these projects are less necessary than the other paragraphs in the survey for the projects' success.

In general, it appears that there is an above average level of interest in the variable of tourism development plans, as the variable of tourism development plans obtained a general arithmetic mean of (4.251), a standard deviation of (0.621), and a coefficient of variation of (0.146).

Table (3) shows the arithmetic mean, standard deviation, and coefficient of variation for the paragraphs of the variable of natural reserves (n=50)

**TABLE (3)**

	Sample answers					Arithmetic mean	Deviation %	%Relati	Importance
	Agree completely	agree	neutral	Don't agree	Strong refuse				
1	13	0	0.186	4	0	4.10	0.763	0.186	4
2	22	24	0.189	1	1	4.30	0.814	0.189	5
3	19	0	0.193	4	0	4.22	0.815	0.193	7
4	17	29	0.180	3	0	4.20	0.756	0.180	3

5	13	33	0.162	2	0	4.14	0.670	0.162	2
6	19	27	0.193	4	0	4.22	0.815	0.193	7
7	24	22	0.190	1	1	4.34	0.823	0.190	6
8	21	25	0.144	0	0	4.34	0.626	0.144	1
9	13	33	0.162	2	0	4.14	0.670	0.162	2
<b>Arithmetic mean, standard deviation and total coefficient of variation</b>						4.22	0.586	0.139	

**Source prepared by the researcher based on the results of the questionnaire**

Table (3) measures the variable of natural reserves, which represents nine paragraphs, where it is noted that the degree of presence of these paragraphs in the studied area differs, as paragraph (8) obtained the first rank, which indicates the agreement of the respondents that human activities (agricultural, industrial and residential) contributed to the deterioration of natural reserves. Paragraph (5) also obtained the second rank among the paragraphs of natural reserves, which indicates the agreement of the respondents that interest in natural reserves leads to an increase in the activity of ecotourism and its prosperity, while paragraphs (6,3) obtained the last rank among the paragraphs of the variable of natural reserves, which indicates the agreement of the respondents that the expansion in the establishment of natural reserves and its role in reducing the severity of desertification did not represent the decisive factor among the paragraphs of natural reserves.

In general, it appears that there is a degree at an above-average level of interest in natural reserves in Najaf, as the variable of natural reserves obtained a general arithmetic mean of (4.22), a standard deviation of (0.586) and a coefficient of variation of (0.139).

**Section Three: - Validity and Reliability Tests**

First / Validity of the questionnaire: - The questionnaire's validity was determined using the structural validity approach, which involved calculating the internal consistency index and determining the extent of the correlation between the overall score and each item's score using Pearson's correlation coefficient.

Table (4): The degree of correlation of each paragraph of the variable (tourism development plans) and the total score of the variable (n = 50)

TABLE (4)

Variable	No.	Correlation coefficient
Tourism development plans	1	0.810**
	2	0.793**
	3	0.820**
	4	0.820**
	5	0.875**
	6	0.760**
	7	0.859**
	8	0.768**
	9	0.912**

Source prepared by the researcher based on the results of the questionnaire

The table results show that all paragraphs had positive paragraph and its overall axis and high structural and statistically significant values at the level ( $p \leq 0.01$ ), indicating a strong relationship between each paragraph and its overall axis and high structural validity.

Table (5) The degree of association of each paragraph of the variable (Nature Reserves) and the total degree of the variable (n=50)

TABLE (5)

Variable	No.	Correlation coefficient
Nature Reserves	1	0.880**
	2	0.893**
	3	0.870**
	4	0.830**
	5	0.855**
	6	0.790**
	7	0.889**
	8	0.798**
	9	0.942**

The results from Table (4,3) demonstrate that all paragraphs had positive and statistically significant values at the level ( $p \leq 0.01$ ). This indicates that all paragraphs have a strong and necessary relationship with the total score of the variable and that all paragraphs have high structural validity.

Second, the reliability of the questionnaire:

Using two approaches, the researchers determined the questionnaire's validity. The researchers used

Cronbach's alpha (Alpha) to measure reliability. Table 1 shows the results of calculating the questionnaire reliability using Cronbach's alpha method. This involved calculating the stability coefficient for each questionnaire variable and then calculating the stability coefficient for the entire questionnaire.

Table (6) Values of Cronbach's alpha stability coefficients for the questionnaire variables and the total score of the questionnaire

**Table (6)**

Variables	No.	Cornbrash's alpha reliability coefficient
Tourism development plans	9	0.983
Nature reserves	9	0.921
Complete questionnaire	18	0.990

**Source prepared by the researcher based on computer results**

It is clear from the results of Table (6) that Cronbach's alpha stability values for the questionnaire variables ranged between (0.921 and 0.983) while the stability values for the entire questionnaire were (0.990), which are high and acceptable stability coefficients.

Reliability by split-half method:- (Split-Half)

The questionnaire was divided into two homogeneous groups. The reliability test was used to identify the degree of sample homogeneity. The Spearman-Brown equation was used for the split-half because we can predict the stability coefficient for any scale by knowing its half. The Guttman coefficient was used for the unequal groups, as shown in Table (7).

**Table (7) Correlation Values for Questionnaire Variables**

Variables	No.	Spearman's coefficient	Getman Factor
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Tourism development plans	9	0.971	0.862
Nature reserves	9	0.947	0.924
Complete questionnaire	18	0.979	0.989

Source prepared by the researcher based on computer results

It is clear from Table (7) that the stability coefficient by the split-half method for the values of the Spearman-Brown coefficient were between (0.947 - 0.979) while the values of the Gitman coefficient were between (0.862- (0.989) which are high and acceptable stability coefficients

which states that nature reserves in the Najaf Governorate and tourism development plans are significantly correlated. The following demonstrates:

Table 8 displays the statistical results of the Pearson correlation coefficient that were utilized to investigate the association between the variables of nature reserves and tourist development plans.

**Section Four: - Testing Research Hypotheses**

1. Correlation Relationships between Research Variables

Using Pearson's correlation coefficient, the data presented here support the study's null hypothesis,

Table (8) Statistical indicators of the correlation relationship between the variable of tourism development plans and nature reserves (n = 50)

Table (8)

Indicators Axes	Tourism Development Plans		
	Correlation coefficient value	Calculated (t) value	Moral value
Nature reserves	0.985	35.533	0.000

Source: Prepared by the researcher based on computer results

It is evident from the previous table that the variables of natural reserves and tourism development plans are strongly correlated with each other. The results demonstrated a correlation coefficient of 0.985 at a

significance level of  $p \leq 0.01$ , thus supporting the first central hypothesis, which states a significant correlation between the two in Najaf Governorate.

1. Influence relationships between research variables

This part aims to provide evidence supporting the second central research hypothesis, which states that natural reserves in the Najaf Governorate substantially impact tourism development plans. Moreover, the hypotheses that sprang from it, in which the impact of tourist development plans (the independent variable)

on natural reserves (the dependent variable) was demonstrated using a simple linear regression test.

The results of the basic linear regression, which were crucial in confirming the second main hypothesis, are clearly presented in the accompanying table:

Table (9) Statistical indicators of the impact of tourism development plans in nature reserves (n=50)

Table (9)

Indicators Axes	Calculated value of F	Coefficient of determination R2	Value of slope constant (β)	Significance level Sig.
Electronic Transparency	43.212	0.598	0.774	Dal at 1% level

Source: Prepared by the researcher based on computer results

Based on the data in the table, it is evident that natural reserves were positively affected by tourism development plans since the computed value of (F) was (43.212), and this relationship was statistically significant at a level of ( $p \leq 0.01$ ). The coefficient of determination was 0.598, which indicates that the variable of tourism development plans can explain 59.8% of the variation in natural reserves. A change of (1) in the value of the variable of tourism development plans results in a shift of (0.774) in the variable of natural reserves, according to the regression coefficient, which has a value of (0.774). So, we can

accept the second central hypothesis: that this relationship significantly impacts efforts to expand tourism in the natural reserves of Najaf Governorate.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions: Through the research, the researcher concluded the following

- 1.The importance of implementing tourism development plans as a mechanism through which the natural potential of the region can be exploited, which contributes to its environmental and tourism development.

2. The region in which the research was conducted has multiple natural sites, including aquatic and terrestrial sites, and a diversity of wildlife that could become national reserves in the future that preserve the genetic heritage and become natural places suitable for ecotourism and have developmental, environmental and economic importance at the local and national levels

3. One of the most critical threats to the Najaf Sea Depression that will change its ecosystem in the future is low water levels and climate change (high temperatures and low rainfall).

4. Urban expansion, the establishment of service projects, and irregular sewage works threaten the region's ecosystem and biodiversity.

5. Establishing a nature reserve requires significant financial capabilities, in addition to the insufficiency of the planned financial allocations to develop and optimally exploit the sites of nature reserves in the governorate.

6. The loss of biodiversity due to neglect and human behavior through the excessive and irrational use of natural resources has led to the deterioration of many natural resources. Hence, establishing and managing nature reserves is one of the most important ways to preserve biodiversity.

#### Recommendations:

#### The Researcher Recommends

1. Review the established reserves, activate their role, and develop them by developing and implementing new development plans consistent with the Najaf Governorate tourist status.

2. Including nature reserves in tourism development plans and allocating financial amounts to implement their projects and programs.

3. Finding a competent authority to manage the reserves by establishing a central administration and giving all powers to facilitate the management and supervision process and end duplication in management.

4 . The necessity of holding training courses and workshops among individuals working to develop scientific and technical capabilities in biodiversity conservation and developing nature reserves.

5 . Encouraging scientific studies and research from universities and relevant bodies regarding biodiversity conservation, especially endangered species.

6 . Spreading tourism and environmental awareness to reduce human influences that have led to the deterioration of the vegetation cover, such as grazing, hunting, agricultural expansion, logging, pollution, and fires.

7. Work on involving residents in the management of the reserve and not excluding them, and work on educating and training them, as fishermen, farmers, and shepherds' lack of conviction in the objectives of the reserves may undermine the efforts made to establish the reserve.

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**Appendix (1)**

**Questionnaire Form**

Peace be upon you and God's mercy and blessings. The questions presented in this questionnaire form are part of a significant research entitled (The impact of implementing tourism development plans on the environment (a case study of natural reserves in Najaf Governorate). Your accurate responses and unique points of view are crucial to this research's success and the service of Iraqi universities.

With all due respect

Assistant Professor: Shaima Issa Jassim

Department of Tourism Technologies / Najaf Technical Institute / Middle Euphrates University

**First axis / Personal information:**

1	sex	masculine ( 34 ) Faminine( 16 )
2	age	Less than 18 (0) From 18 to 30 (2) From 31-40 (15) From 41-50 (25) 50 and over (8)
3	Academic achievement	Primary school or less (0) Intermediate or preparatory (0) Diploma (15) Bachelor's degree (33) Higher certificate (2)

### The second axis: tourism development plans

ت	Agreement rate	Totally agree	agree	neutral	Not agree	Firmly not agree
		5	4	3	2	1
1	Does tourism development contribute to improving the infrastructure of protected areas?	32	12	6	-	-
2	Do tourism development plans in protected areas enhance job opportunities and reduce unemployment?	30	15	3	2	-
3	Have tourism development plans in protected areas contributed to raising the standard of living of the local population?	20	11	15	4	-
4	Tourism development plans include activating popular and traditional industries using available resources?	10	14	25	1	-
5	Development plans contribute to reducing the deterioration of reserves and combating desertification to improve the tourist environment?	33	12	2	3	-

6	Are the financial allocations sufficient to establish and develop projects in protected areas?	-	-	10	18	22
7	Drawing boundaries for protected areas and granting them formal legal protection contributes to their preservation?	29	12	6	2	1
8	Do you think it is important to hold training courses and workshops for those responsible for implementing the procedures?	25	12	7	4	2
9	The awareness of local communities and their participation in decision-making in tourism development projects is essential for the success of these projects.	34	10	4	2	-

**Axis III: Information about nature reserves**

ت	Agreement rate	Totally agree	agree	neutral	Don't agree	Firmly not agree
		5	4	3	2	1
1	Drought and lack of rainfall are among the most prominent problems threatening nature reserves?	39	10	1	-	-

2	Protected areas have contributed to the preservation of the natural environment, including biodiversity?	25	12	6	4	3
3	Illegal hunting and overgrazing are important factors in the environmental destruction of nature reserves?	23	12	7	6	2
4	Do nature reserves contribute to the preservation of endangered animals and plants ?	32	14	3	1	-
5	Does interest in nature reserves lead to increased ecotourism activity and prosperity?	22	13	5	6	4
6	Does the expansion of the establishment of natural reserves contribute to reducing the severity of desertification?	27	11	8	3	1
7	Reserves have contributed to raising environmental awareness and making people understand the importance of protecting nature in their lives?	32	17	1	-	-
^	Human activities (agricultural, industrial and residential) at the expense of the reserves contributed to their deterioration?	16	7	12	10	5





9	Financial constraints and the provision of financial allocation still constitute major obstacles to the conservation and development of reserves?	40	7	3	-	-
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