

Comparative Study of Environmental Protected Areas Laws and Legislation Between Iraqi and Its Neighbors



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ABSTRACT

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Natural reserves are of great environmental importance as well as being an economic and social resource, as their sites are distinguished as a unique geographical area, those with unique biodiversity, or other unique matters. Countries enact laws, regulations, and legislation regarding these nature reserves to protect them from deterioration, abuse, or over-exploitation of natural resources. From here began the research problem represented by the presence of weaknesses and gaps in the articles of the natural reserve system that negatively affected the management and safety of the reserves compared to regional laws and instructions. The descriptive approach was used in the current study. Accordingly, the most important laws and legislation of some neighbouring and regional countries of Iraq were reviewed, such as the Saudi Executive Regulations for the year 2020, Egyptian Law No. 102 of 1983, and the Jordanian System No. 29 of 2005, as well as Kurdistan Region Regulation No. 9 of 2011. The most important articles of each law and regulation mentioned above were reviewed. The basic subjects were developed for the purpose of comparison, such as requirements, standards, management of the reserve, prohibitions, and activities inside the reserve, as well as the issuance of special instructions for these laws and regulations. The findings show that the instructions for regional countries with sobriety and strength in legislation are stronger than the Iraqi nature reserves system. Also, the study mentioned the most important conditions, standards, and requirements for choosing a reserve.

1. INTRODUCTION

The reserves are among the most important sites of enormous natural significance, as well as an economic and social resource, and their preservation is essential. This will aid in their recovery, safety, and sobriety, as well as be environmentally good. For instance, in Iraq, rules and regulations have been enacted and enacted for the preservation of natural reserves, the primary purpose of which is to manage and protect the reserves from restrictions and to govern their activities. To this end, the primary purpose of this research was to examine these laws, determine their strengths and flaws, and compare them to the legislation of the most important Arab countries bordering Iraq, including the Kingdom of Saudi Arabia, Jordan, and Egypt, as well as the Kurdistan Region. Moreover, strengthening legislation, identifying deficiencies, and filling in gaps to facilitate the implementation of this legislation.

Natural reserves have been defined in various forms, each according to the understanding and adoption of the aforementioned concept. According to The Iraqi Natural Reserve System No. 2 of 2014, a natural reserve is an area of land or coastal or inland waters containing living plant or animal organisms or a natural feature of cultural, scientific, touristic, or aesthetic value that is placed under legal protection to protect its environmental wealth and to sustain its development [1]. Law No. 102 of 1983 Concerning Natural

Reserves in Egypt defines a natural reserve as any area of land or coastal or inland waters that contains living organisms, plants, animals, fish, or natural phenomena of cultural, scientific, touristic, or aesthetic value, and a decision is issued by the Prime Minister based on a proposal from the Environmental Affairs Agency in the Council of Ministers [2]. In addition, the Jordanian regulation of Natural Reserves and National Parks No. 29 of 2005 defines a natural reserve as an area of land, sea, or water bodies that contains distinct ecosystems and natural habitats in which rare organisms live, and the Council of Ministers decides that it is a nature reserve [3]. In the same regard, the Saudi Environmental Regulation stipulated protected areas are land, marine or coastal sites determined by the competent authority and designated for the protection and development of wildlife [4]. It is very important here to mention the definition of the International Union for Conservation of Nature (IUCN) of protected areas. IUCN said that protected areas are defined as "a defined geographical area that is allocated and managed through effective legal means and measures for the long-term conservation of nature, ecosystems, and cultural values" [5].

All of the above definitions focused on the land's location and how special it was, which is why it was important to protect it.

According to the modern concept of sustainability, which is based primarily on the Brundtland Report (1987), the concept of sustainable development has been defined as "development

that meets the needs of the present without compromising the ability of future generations to meet their needs [6]. Through the concept of sustainable development, developments and conferences have been held for the purpose of developing this concept since its inception. Today, many goals and objectives have been set, which include 17 goals and more than 169 targets according to the 2030 vision for sustainable development [7]. It included goals and targets with very important returns for the protection of natural reserves, including the twelfth, fourteenth, and fifteenth goals, and most of their goals relate to the protection of natural reserves. So, the laws and legislation that regulate will include, in the future, the protection and safety of nature reserves.

Sannigrahi et al. [8] measured spatiotemporal Ecosystem Service Value of 17 key Ecosystem Services of Sundarbans Biosphere Reserve (SBR) in India using temporal remote sensing (RS) data.

In the Gutianshan Natural Reserve in Zhejiang, Mingjian et al. [9] described the structure and floristic component of the communities as well as different types of forest vegetation.

Francour [10] managed an investigation to study the fish communities of rocks and *Posidonia oceanica* seagrass beds in Scandola Marine Reserve. The author has shown that the area under consideration is characterized by the fact that the impact of seasonal variations on parameters such as density, biomass, and diversity is considerably lessened.

Golden et al. [11] reported that without an adequate understanding of the socio-political context in which a natural environment is embedded, it is impossible to prevent, mitigate, and adapt to future unwanted changes in the socio-ecological system.

Stankowski [12] discussed the results of geological, geoelectrical, and radiometric investigations of small depressions in the natural reserve "Meteoryt Morasko". The study found that the area of the reserve is unique because it has both meteorites and landforms that were changed by their falls.

The research problem posed by the existence of flaws and omissions in the articles of the natural reserve system had a

detrimental impact on the management and security of the reserves in comparison to regional laws and regulations.

Consequently, the purpose of this research is to shed light on these gaps by examining the legislation of adjacent nations in order to solve them. Additionally, the study identified the most essential factors, criteria, and prerequisites for selecting a reserve.

2. RESEARCH METHODOLOGY

The descriptive method was used in the research with eight laws and legislation to compare them and identify the important variable that affected deficit development in the case study. The study compared the laws and regulations of some countries, including Egypt, Saudi Arabia, and Jordan.

3. NATURE RESERVE AND NATIONAL PARK

In the Iraqi Law of Natural Reserves System No. 2 of 2014, it represents the definition of a natural reserve as well as the definition of a national park: an area of land, water, beaches, oases, or forests that the Council of Ministers decides to declare as national parks for the purpose of preserving the natural ecosystem [13]. As the national park is a form of natural reserve, it maintains the sustainability and development of the economic and cultural activities of the local population. It is a protected area that is managed primarily for ecosystem protection and recreation. In Iraq, for example, a national park was announced within the Central Marshlands in three governorates in the southern regions, namely Basra, Dhi Qar, and Maysan, with an estimated area of 558,616 acres [14]. In the national park, it is eco-tourism and the establishment of activities and events that are within the goals of sustainable development that are managed in a manner that preserves their sustainability. Figure 1 shows location of national park in Iraq.

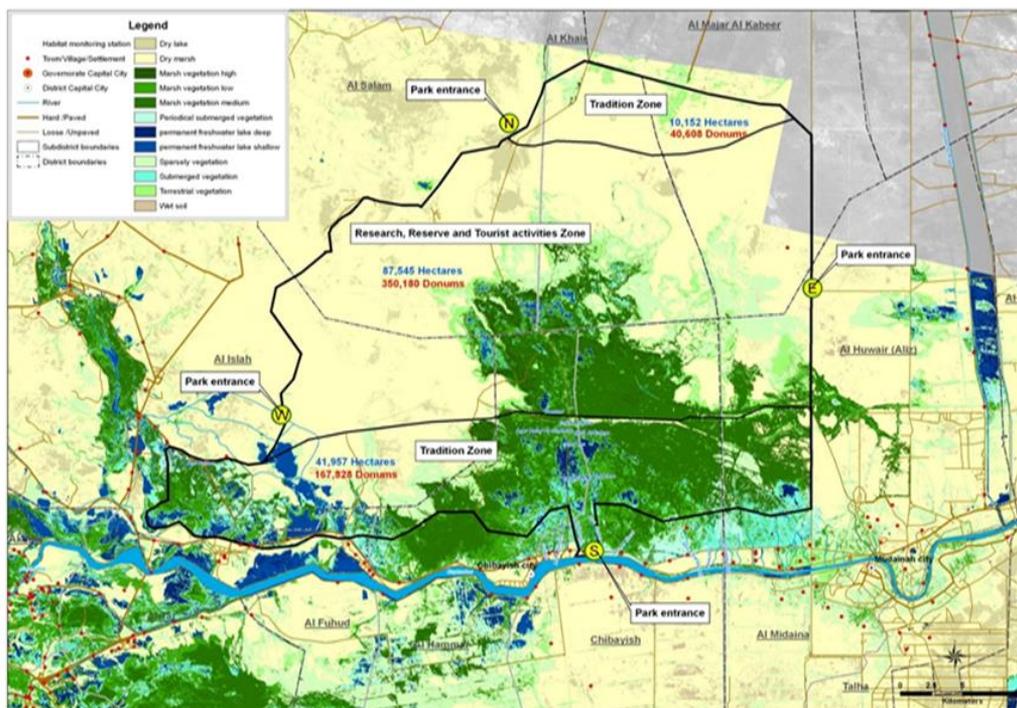


Figure 1. The location of national park in Iraq [14]

3.1 Iraqi nature reserve regulation No. 2 of 2014

This system was enacted by the Iraqi Council of Ministers and published in the Official Gazette of Iraq, the Iraqi Gazette, on March 24, 2014, edition number 4316, with thirteen articles. The first article featured numerous definitions of the subject's most essential terms, including natural reserve and national park, ecotourism, biodiversity, geological variety, habitats, endangered species, natural heritage, the center region, the neighboring region, and site management. Regarding the second item, it detailed the procedure for forming a committee and its members. While the third item describes the committee's duties, which included advocating the inclusion and classification of the reserves, recommending the selection and classification of the reserve's character, and developing strategies. The fourth article included the Ministry of Environment's recommendation to designate natural areas as protected areas. The fifth article included the necessary requirements for establishing these reserves, the most important of which are defining their borders, preparing a management plan, conducting research and studies, treating environmental deterioration, determining the necessary materials, and defining policies and objectives. Article sixth included the most important criteria for the establishment of reserves.

The seventh article included the most important criteria for selecting a protected area, the most important of which is the distinct richness of the components of biological diversity, the availability of a significant number of individual endemic species for the components of biodiversity, the distinctiveness and uniqueness of habitats, the geological significance, a land form with scientific value or Historic or aesthetic, social, and cultural richness linked to the components of biological diversity. The eighth article addresses the responsibility of managing the reserve by an individual or group, as well as their most important responsibilities, which include preparing and implementing a plan, developing a protection plan, implementing environmental, economic, and social monitoring programs, and compiling a database of wild and aquatic plant and animal species. The ninth article prohibits certain actions or activities within the reserve, including setting up camps without a permit, conducting military maneuvers and activities, introducing or settling any plant or animal species, constructing facilities, roads, or railways, entering vehicles of all types, altering the land's use, and engaging in agricultural, economic, or commercial activities without a permit from the site management. Article ten addresses the requirement that The Ministry's clearance be obtained prior to establishing camps, reintroducing or resettling native plant or animal species, or introducing vehicles for site administration into the reserve. As for the punitive provisions, the Environmental Protection and Improvement Law No. 27 of 2009 mentioned the eleventh article, and the twelfth article granted the authorities. It is the responsibility of both the Minister of Health and the Minister of Agriculture to give directives to facilitate the implementation of this system. Consequently, twenty natural reserves [15] have been designated.

3.2 Regulation No. 9 of 2011 for the establishment and management of nature reserves in the Kurdistan region of Iraq

This system consists of six articles and was enacted by the

Council of Ministers of the Kurdistan Regional Government of Iraq. As for the fourth article, it is concerned with the fulfillment of site conditions when selecting a protected area. The fifth article addresses the prevention of behavior within the natural reserve, as well as the authorization to engage in certain necessary activities. The sixth article includes the implementation of the provisions of this system [16].

3.3 Saudi Environmental regulation

Environmental policy and policies in Saudi Arabia have gone through numerous stages. The system of natural protected areas for wildlife was initially established in 1995 with Act No. 12 and consisted of eighteen articles. Then, the Environmental Law No. 165 of 2020 was passed, which included the establishment of natural reserves in its twenty-ninth article of its sixth chapter on protected areas. Article Thirty prohibits any activity within the boundaries of protected areas, whereas Article Thirty-one regulates access to the natural reserve, and Article Thirty-two prohibits anybody who would damage protected areas or upset the natural equilibrium. Then, in 2021, an execution regulation was issued. The first article featured descriptions of the most essential environmental terms pertaining to natural and environmental reserves, with the National Wildlife Development Center being the most significant.

The third item specified the scope of work for protected areas, whilst the fourth article outlined the establishment of protected areas and outlined the fundamental regulations for reserves. Additionally, this page outlined the procedures for defining protected zones. As for the fifth item, it dealt with the administration of protected areas; the sixth article featured rules for entering and leaving protected areas; and the seventh article addressed permits and licenses linked to activities within protected areas. The natural equilibrium of natural regions. Attached to the executive regulations of the tenth article was a particular schedule detailing the control of violators and the imposition of fines [17]. Taking into account that there will be roughly 100 natural reserves in the Kingdom of Saudi Arabia by 2019 including the royal reserves [18].

3.4 Egyptian Law No. 102 of 1983 regarding natural reserves

This system, which was passed by the People's Assembly, is among the earliest regulations pertaining to natural reserves. This statute contains eleven articles. The initial article just defines nature reserves. The second article restricts the execution of numerous works, actions, and procedures. Regarding the third item, it was stipulated not to engage in any actions, behaviors, works, or experiments, and the fourth article addressed the administrative authority and its wide-ranging responsibilities. The fifth item addressed the permissibility of environmental protection associations with reference to the protection of natural reserves. Article six, concerning the establishment of a fund, is one of the most significant provisions. pertaining to finances, gifts, and subsidies. The seventh item discusses fines, whereas the eighth discusses the system for collecting fines. The ninth article of this statute describes the status of judicial control officers [19]. It is noteworthy that Egypt has constructed twenty-four protected areas and suggested the establishment of sixteen protected areas [20]. Figure 2 shows the location and number of natural reserves in Egypt.

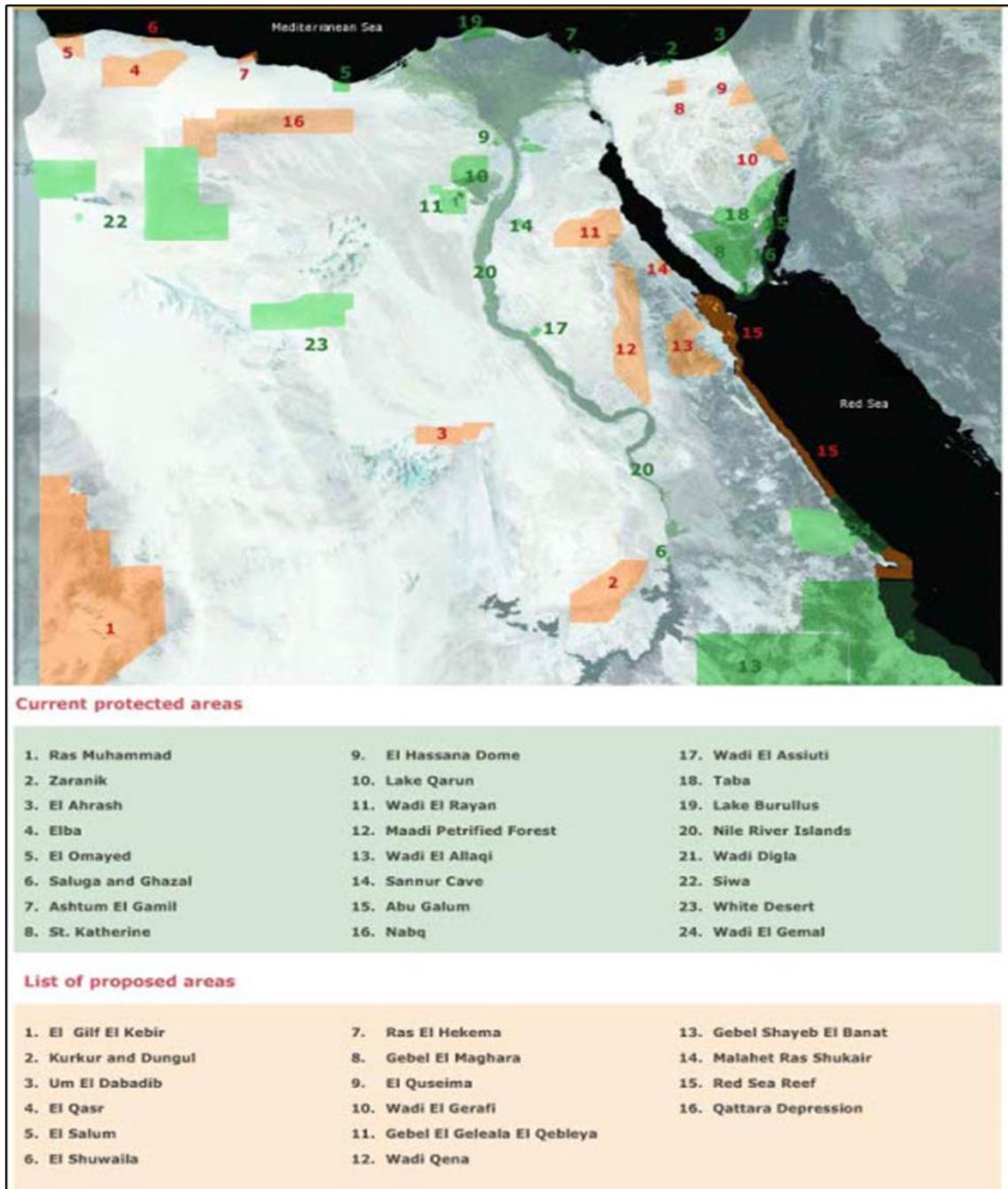


Figure 2. The location and number of natural reserves in Egypt [20]

3.5 The Jordanian regulation of Natural Reserves and National Parks No. 29 of 2005

The rules for natural reserves and national parks in Jordan are made up of ten articles. The second article, like in other laws and rules, has one of the most basic definitions of the most important environmental terms. The third article addressed the mechanism for submitting a request to establish the reserve and the formation of a committee to examine the request. The fourth article addressed the boundaries of the natural reserve or national park. In the two parts of Article 5, the committee was told what to do to make a detailed management plan for the nature reserve, what this plan should include, and when it should be done. The sixth point is about making sure that the relevant ministry and any other important parties work together to buy, rent, or own land inside the national reserve's boundaries. The eighth article granted the

minister the authority to select any habitat site for rare plant, animal, or aesthetic resurgences, and in 2013, special instructions were issued to safeguard and maintain the regions with particular protection. The ninth article said that you couldn't do anything in a natural reserve or national park, and the tenth article said that the minister in charge of this system had to make rules for it [21]. In accordance with the eighth article of the National Reserves and Parks Law No. 29 of 2005, instructions for the conservation and administration of sites with exceptional protection were given for 2013. These instructions include thirteen articles and two appendices, with the first appendix containing a table of land use assignments within special protected areas. The special protection and the second appendix featured a template for the special protection zone's declaration file's contents [22]. It is very important to note that Figure 3 depicts ten constructed protected areas and five projected protected areas.

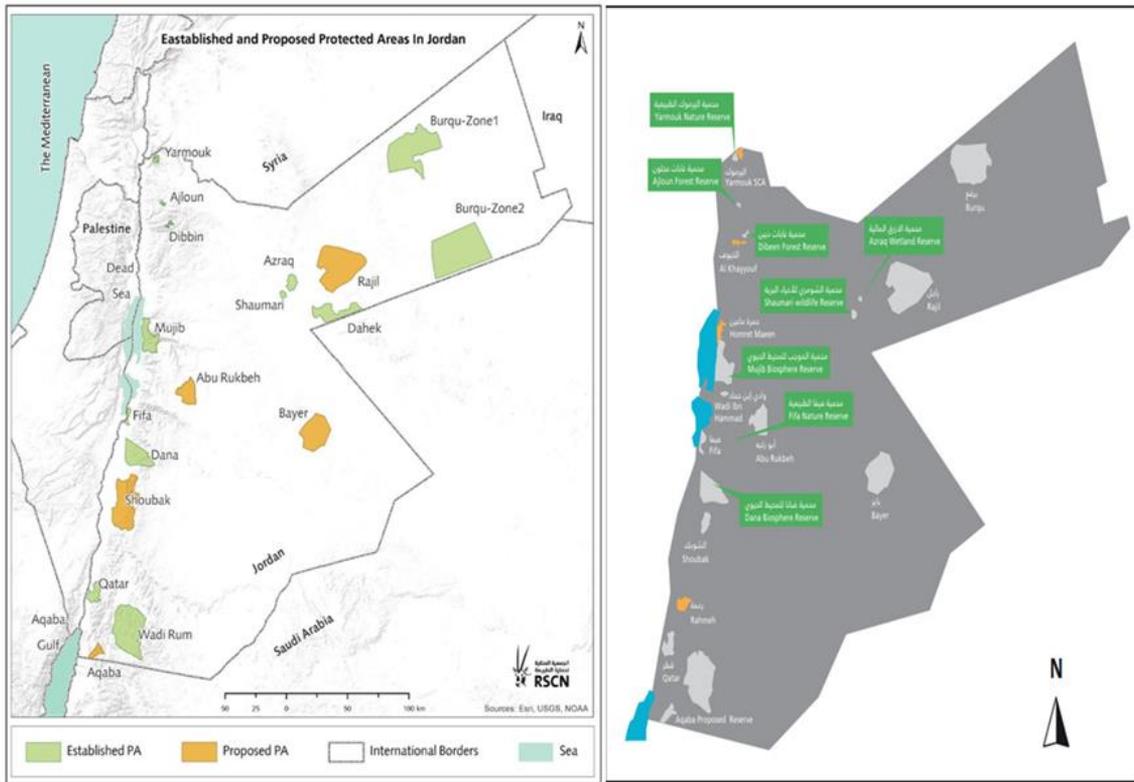


Figure 3. The location of constructed and proposed protected area in kingdom of Jordan [23]

4. RESULTS AND DISCUSSION

4.1 A comparative study between the Iraqi laws and regulations and other countries laws and regulations

After reviewing the most important regulations and laws for natural reserves, whether in Iraq or neighboring countries, and in light of the articles for each system or law and their main contents, the researchers relied on the investigation of the main

factors in the contents of the laws for the purposes of comparison and analysis, as shown below:

The Table 1 demonstrates the main differences between major significant subjects and demonstrates the Iraqi laws and legislation in greater detail and sobriety, which are more applicable in execution for authorities. The main difference between them is that there are no penalties in Kurdistan law by comparison with Iraqi law.

Table 1. The details of articles of laws and legislation of Iraqi and Kurdistan region

Legislation	System No. 2 for the year 2014 Iraqi	Regulation No. 9 of 2011
Definitions, Title and Legislation	Several definitions of the most important environmental concepts in detail in the first article Title of the legislation (Natural Reserve System) - enacted by the Iraqi Council of Ministers	There is only one definition in the first article, natural reserves Legislation name: The system of establishing and managing nature reserves in the Kurdistan Region-legislated by the Council of Ministers of the Kurdistan Region of Iraq
Composition and duties of the committee	The second article specified the formation of a committee by the Iraqi Ministry of Environment headed by it and the membership of representatives from 8 main ministries. As for the third article, it clarified the most important tasks of the committee, such as listing and classifying areas and preparing programs for environmental awareness and with sixteen tasks	The third article stipulated the formation of a higher committee for supervision from a number of concerned authorities, such as the Ministry of Agriculture, the Interior and Finance, the Environmental Protection and Improvement Authority, as well as experts. It defined the tasks of this committee with six main tasks, including the nomination and classification of reserves, the preparation of awareness programs, coordination with international organizations, and coordination with the management of the natural reserve by establishing Alternative projects for the residents of the neighboring area, this article gave the authority to the head of the committee to form sub-committees
Requirements	Article five specified eleven points, including defining policies and objectives, demarcating the boundaries of the reserve and dividing it into a central and buffer area.	Incorporated into the conditionalities under Article four
Standard	The article six defines three natural, social and regional criteria	Incorporated into the requirements under Article four
Stipulations	Article seven stipulates those one of the seven conditions must be met in order for it to be selected as a nature reserve	Article 4 defines the conditions for nature reserves with six main requirements, such as the distinct richness of clear components of biological diversity, the availability of a significant number of

		individual endemic species, the availability of one or more rare or endangered species, areas within nature reserves...
Management of the reserve	The eighth article gave the management of the reserve to a person or group of people, and as for their tasks, they were summed up by thirteen tasks for example, setting a management and protection plan and implementing environmental monitoring programs...	The third article stipulated the formation of a higher committee for supervision, as mentioned earlier in the paragraph of forming the committee and its tasks
Prohibitions	Article Nine prohibits fourteen activities, including setting up camps without a license, introducing or settling any plant or animal species, transporting rocks or soil, cutting, uprooting, destroying or removing plants, entering vehicles of all kinds.	Article 5 prohibits actions inside the reserve in fifteen paragraphs, the most important of which are damage or alteration of physical or geological formations, cutting, destroying or removing plants, hunting, killing, transporting, harming or disturbing any of the terrestrial or aquatic creatures, any activity or experiments. Lead to soil or air pollution, rock extraction and transportation, change of land use
Activities inside the reserves	Article ten allowed some activities, provided that the approval of the Ministry of Environment is obtained, such as setting up camps, re-entering or resettling and entering vehicles for site management.	Secondly, Article 5 stipulates that the committee supervising the reserves may authorize the practice of some necessary activities inside the reserve, in a manner that does not conflict with the nature of the reserves.
Penalties	Article Eleven confirms the implementation of the punitive provisions of the Environmental Protection and Improvement Law No. 27 of 2009, which includes a warning and a fine.	No article provides for the imposition of penalties
Issuing instructions	No instructions have been issued regarding this system so far	No instructions were issued, while Article VI stipulates that ministries and other bodies must implement this system

Table 2. The comparative between the Iraqi laws and legislation with Egyptian laws and legislation

Legislation	Egyptian Law No. 102 of 1983	System No. 2 for the year 2014 Iraqi
Definitions, Title and Legislation	The first article was a single definition of nature reserves Legislation Title: Law No. 102 of 1983 in the matter of nature reserves Legislated by the People's Assembly	Several definitions of the most important environmental concepts in detail in the first article Title of the legislation (Natural Reserve System) - enacted by the Iraqi Council of Ministers
Composition and duties of the committee	Article 4 entrusts the administrative body that is issued by the Prime Minister the goal of preserving and protecting reserves. Its tasks are summarized by six tasks, including preparing programs and studies, monitoring environmental phenomena, managing and coordinating related activities, informing and educating the public, exchanging information and experiences with countries, and managing the Fund's funds.	The second article specified the formation of a committee by the Iraqi Ministry of Environment headed by it and the membership of representatives from 8 main ministries. As for the third article, it clarified the most important tasks of the committee, such as listing and classifying areas and preparing programs for environmental awareness and with sixteen tasks
Requirements	Not within the law	Article five specified eleven points, including defining policies and objectives, demarcating the boundaries of the reserve and dividing it into a central and buffer area.
Standard	Not within the law	The article six defines three natural, social and regional criteria
Stipulations	Not within the law	Article seven stipulates those one of the seven conditions must be met in order for it to be selected as a nature reserve
Management of the reserve	The same is mentioned in Article four, in the paragraph of the committee and its tasks	The eighth article gave the management of the reserve to a person or group of people, and as for their tasks, they were summed up by thirteen tasks for example, setting a management and protection plan and implementing environmental monitoring programs...
Prohibitions	The second article stipulates the prohibition of carrying out any actions, behaviors or activities that would destroy, damage or deteriorate the environment in general and in particular with six prohibited actions such as fishing, transporting, damaging or polluting soil or water..., also the third article prohibits any activities, experiments or actions or behaviors	Article Nine prohibits fourteen activities, including setting up camps without a license, introducing or settling any plant or animal species, transporting rocks or soil, cutting, uprooting, destroying or removing plants, entering vehicles of all kinds.
Activities inside the reserves	No permit was issued for activities within the law	Article ten allowed some activities, provided that the approval of the Ministry of Environment is obtained, such as setting up camps, re-entering or resettling and entering vehicles for site management.
Penalties	Article seven imposes penalties, including fines, as well as imprisonment	Article Eleven confirms the implementation of the punitive provisions of the Environmental Protection and Improvement Law No. 27 of 2009, which includes a warning and a fine.
Issuing instructions	No instructions or implementing regulations were issued	No instructions have been issued regarding this system so far

From the Table 2, it shows that Iraqi law has more details in its subjects than Egyptian law. For example, there are no requirements or stipulations or standards or activities in Egyptian law in comparison with Iraqi law.

From the Table 3, we noticed that the Jordanian laws did not mention any requirements, standards, or stipulations in comparison with Iraqi law. Jordanian law has a specific law for private natural reserves. The Jordanian law didn't mention

any penalties for violent activities, whereas the Iraqi law stipulated that.

Besides, from the analysis in the Table 4, we noticed that the Saudi law has more details in its articles and the law has executive regulations were issued, whereas the Iraqi law doesn't have any executive regulations. The Saudi law is similar to Iraqi law in most of its contents, such as penalties or requirements or standards.

Table 3. The comparative between the Iraqi laws and legislation with Jordanian laws and legislation

Legislation	Jordanian Regulation of Natural Reserves and National Parks No. 29 of 2005	System No. 2 for the Year 2014 Iraqi
Definitions, Title and Legislation	The second article included many definitions, including the natural reserve and the protected land Legislative title: Nature Reserves and National Parks Regulations 2005 Issuing body: The Jordanian Council of Ministers	Several definitions of the most important environmental concepts in detail in the first article Title of the legislation (Natural Reserve System) - enacted by the Iraqi Council of Ministers
Composition and duties of the committee	Article Three (B) included the Minister of Environment with the power to issue a decision to form a technical committee to study the request to establish a reserve or a national park	The second article specified the formation of a committee by the Iraqi Ministry of Environment headed by it and the membership of representatives from 8 main ministries. As for the third article, it clarified the most important tasks of the committee, such as listing and classifying areas and preparing programs for environmental awareness and with sixteen tasks
Requirements	There are no requirements within this system, but only included in the instructions issued regarding the management and protection of special protected areas	Article five specified eleven points, including defining policies and objectives, demarcating the boundaries of the reserve and dividing it into a central and buffer area.
Standard	There are no standards for nature reserves, but there were only private nature reserves	The article six defines three natural, social and regional criteria
Stipulations	There are no requirements within the system materials	Article seven stipulates those one of the seven conditions must be met in order for it to be selected as a nature reserve
Management of the reserve	Article five stipulates that the competent authority must develop a detailed management plan for the natural reserve within a period of more than one and a half years. In addition, it stipulated some main paragraphs, the most important of which are a detailed description of the reserve, assessment of the components of the reserve, challenging site management objectives, preparing a detailed budget, and regulating grazing and eco-tourism	The eighth article gave the management of the reserve to a person or group of people, and as for their tasks, they were summed up by thirteen tasks for example, setting a management and protection plan and implementing environmental monitoring programs...
Prohibitions	The ninth article stipulates, in addition to the instructions of the reserves, not to carry out any activities within the boundaries of the reserve or the natural park except after the approval of the competent authority in the management of the reserve.	Article Nine prohibits fourteen activities, including setting up camps without a license, introducing or settling any plant or animal species, transporting rocks or soil, cutting, uprooting, destroying or removing plants, entering vehicles of all kinds.
Activities inside the reserves	No specific activities were mentioned within this system, except for some appendices that were included within the instructions issued with regard to private nature reserves.	Article ten allowed some activities, provided that the approval of the Ministry of Environment is obtained, such as setting up camps, re-entering or resettling and entering vehicles for site management.
Penalties	No penalties were mentioned within this system, and the eleventh article of the instructions for the private reserves specified what penalties were enacted in the law or any other legislation.	Article Eleven confirms the implementation of the punitive provisions of the Environmental Protection and Improvement Law No. 27 of 2009, which includes a warning and a fine.
Issuing instructions	No general instructions were issued regarding nature reserves, but instructions were issued regarding private nature reserves	No instructions have been issued regarding this system so far

Table 4. The comparative between the Iraqi laws and legislation with Saudi laws and legislation

Legislation	Executive Regulations for Protected Areas of the Environmental System	System No. 2 for the Year 2014 Iraqi
Definitions, Title and Legislation	The first article provided many definitions, including the definition of a nature reserve. Legislative body: royal decree.	Several definitions of the most important environmental concepts in detail in the first article. Title of the legislation (Natural Reserve System).
Composition and duties of the committee	The third article includes the scope of work of a national center on protected areas, and its most important tasks are to propose protected areas, plan protected areas, protect, grow, multiply and monitor the condition of living organisms, monitor and monitor wildlife, and issue licenses...	The second article specified the formation of a committee by the Iraqi Ministry of Environment headed by it and the membership of representatives from 8 main ministries. As for the third article, it clarified the most important tasks of the committee, such as listing and classifying areas and preparing programs for environmental awareness and with sixteen tasks

Requirements	The fourth article included first regarding the general controls related to the establishment of protected areas, including that the proposed protected area be on non-owned land.	Article five specified eleven points, including defining policies and objectives, demarcating the boundaries of the reserve and dividing it into a central and buffer area.
Standard	Secondly, the fourth article included procedures for defining protected areas, including environmental characteristics and types of wildlife, including corridors of wildlife and migration paths	The article six defines three natural, social and regional criteria
Stipulations	Incorporated into Article four in the second paragraph	Article seven stipulates those one of the seven conditions must be met in order for it to be selected as a nature reserve
Management of the reserve	Article five of the executive regulations defines the management of protected areas in detail	The eighth article gave the management of the reserve to a person or group of people, and as for their tasks, they were summed up by thirteen tasks for example, setting a management and protection plan and implementing environmental monitoring programs...
Prohibitions	The ninth article specified the prohibitions in twenty-one paragraphs, which included prohibiting anyone who would damage or disturb the natural balance of the protected areas.	Article Nine prohibits fourteen activities, including setting up camps without a license, introducing or settling any plant or animal species, transporting rocks or soil, cutting, uprooting, destroying or removing plants, entering vehicles of all kinds.
Activities inside the reserves	Article seven and eight specify the permits and licenses related to activities in protected areas, consisting of nine main paragraphs	Article ten allowed some activities, provided that the approval of the Ministry of Environment is obtained, such as setting up camps, re-entering or resettling and entering vehicles for site management.
Penalties	The tenth article specified the detection of violations and the imposition of penalties, as it was specified in a complete and detailed annex for each activity and its financial fines	Article Eleven confirms the implementation of the punitive provisions of the Environmental Protection and Improvement Law No. 27 of 2009, which includes a warning and a fine.
Issuing instructions	The executive regulations were issued in accordance with the decision of the Minister of Environment, Water and Agriculture, approving it No. 67867/45/2023	No instructions have been issued regarding this system so far

Table 5. The application of laws and legislation on national park

Seq.	Subject	Iraq	Iraq/Kurdistan region	Egypt	Jordan	Saudi Arabia
1	Composition and duties of the committee	✓	✓	✓	✓	✓
2	Standard	✓	×	×	×	✓
3	Requirements	✓	×	×	×	✓
4	Stipulation	✓	✓	×	×	✓
5	Management	×	×	×	×	×
6	Prohibition	×	×	×	×	×
7	Activities inside the reserve	×	×	×	×	×
8	Penalties	×	×	×	×	×

4.2 Application the overall laws and legislation on study area (National Park)

As we mentioned before about national park, and its location on Dhi Qar province, we will apply the law and legislation subjects, which selected for comparison between them, we mentioned before on our case study, shown in the table below, the symbol (✓) shows to meet subject in the law on case study whereas the symbol (×) shows doesn't meet subject in law on the case study.

From the Table 5, we showed that the subjects of (management, prohibition, activities inside the research, and penalties) by applying them to the laws and legislation mentioned before, we conclude that the case study didn't meet the article on all of it. While the subject of composition and duties meets the articles in the laws and legislation, the Figure 4 shows the important village in the case study, which would be developed.

4.3 Future visions for study area (National Park) by application of laws and legislation

If we apply the articles of law and legislation mentioned before to our case study, we expect the development of it by choosing some economic, social, tourism, and educational

activities that develop the human settlements and, in the same way, protect and protect the environment. For example, if we want to apply the articles of Iraqi law, we suppose some activities such as reed gathering, agriculture, handicrafts, and tourism sites, which correspond to the articles eight and nine. The Figure 5 below shows the spatial implied activities.

If we apply the Kurdistan region regulation, the activities we are supposed to apply in the area of study, such as milk factories, fish canning, paper mills, and other social activities within the boundary of the study area or outside of the study area that meet with the fifth article. The Figure 6 below shows the sites of supposed activities.

We can assume activities based on what the study area has in developmental potential based on the hypothesis of research of deficit on social and economic development in the study area, as shown in Figure 7 below, which shows the spatial economic potentials in the study area, such as agriculture, fishing, buffalo, and handicraft.

The study implied the sites in the study area in relation to the archeological sites and tourism potentials discovered in the study area. Figure 8 shows the spatial distribution in the study area.

From what was mentioned above about the developmental potential, we can suppose the overall spatial development for the study area is shown in the Figure 9.

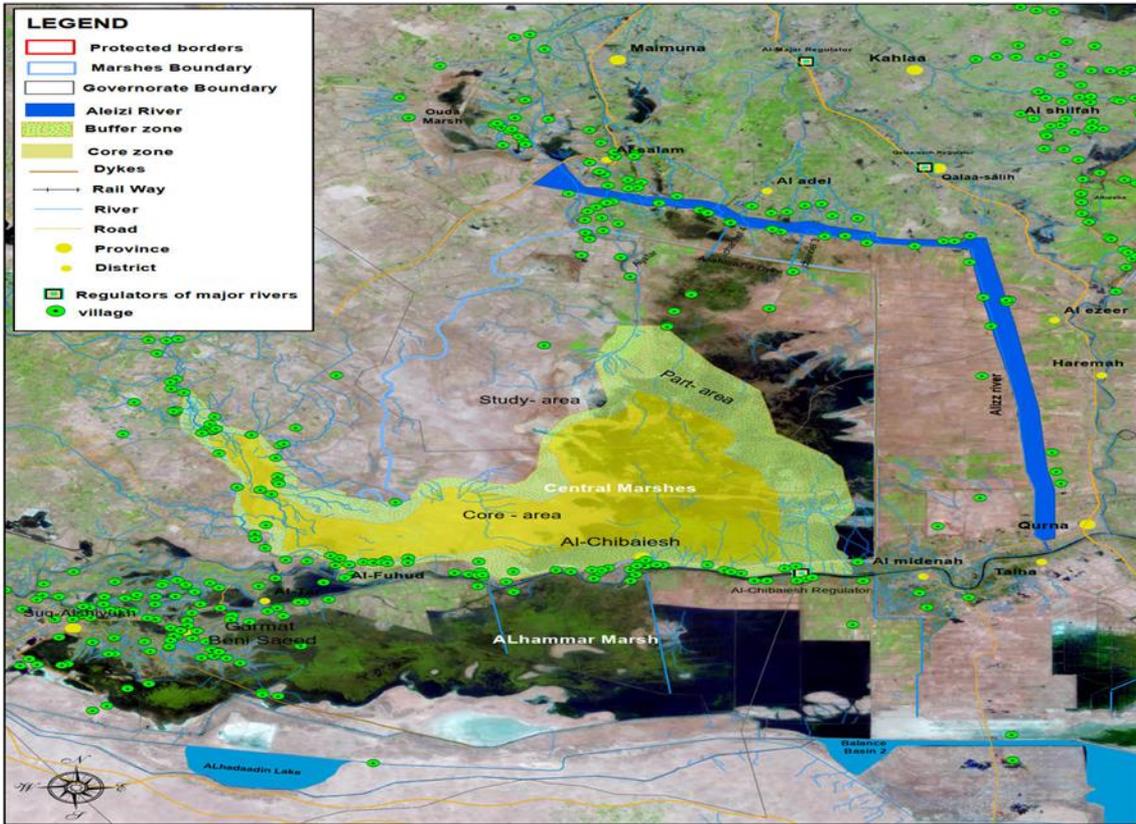


Figure 4. The spatial distribution of villages in case study

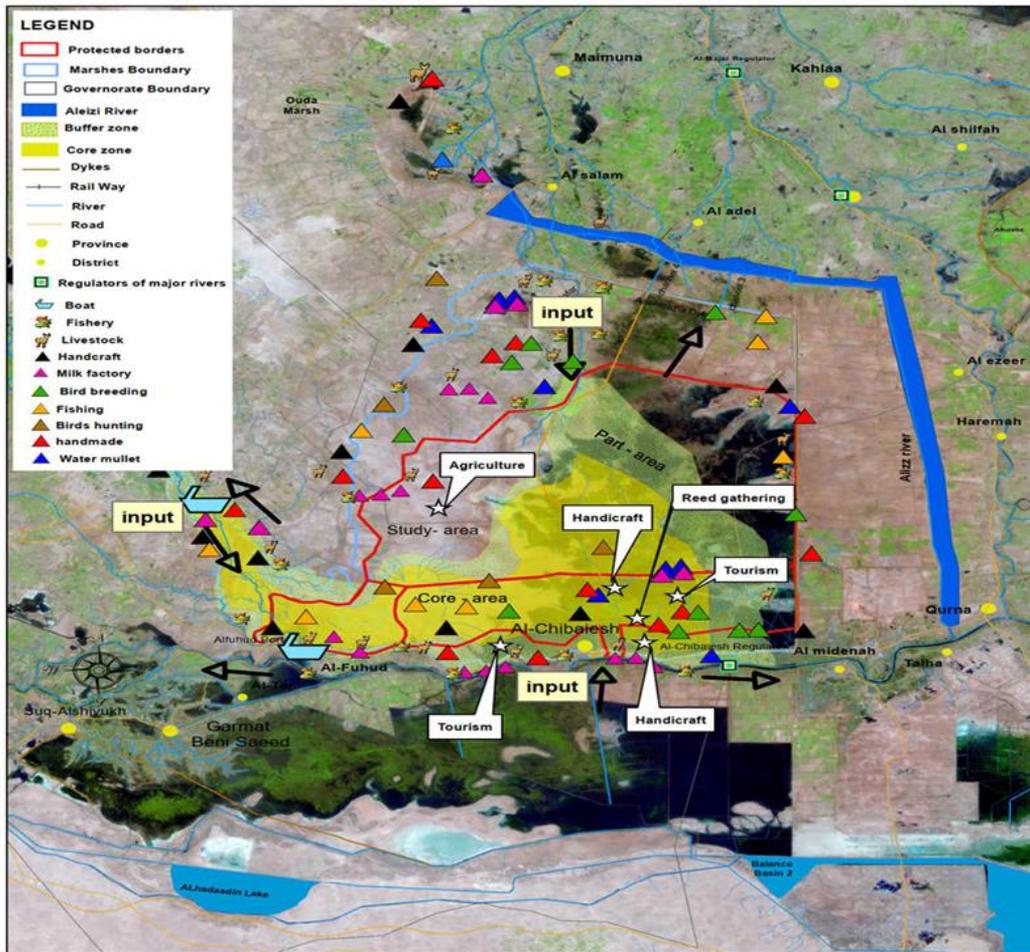


Figure 5. The supposed activities on national park (Iraqi law)

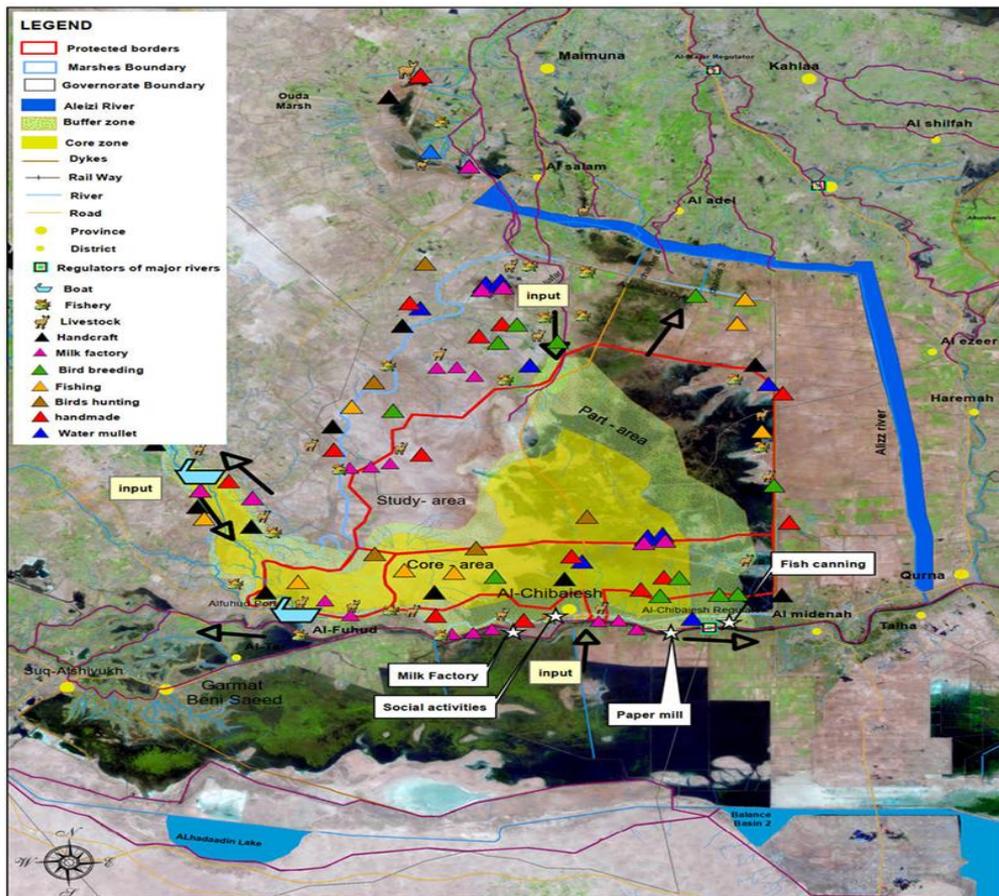


Figure 6. The supposed sites of activities on national park (Kurdistan law)

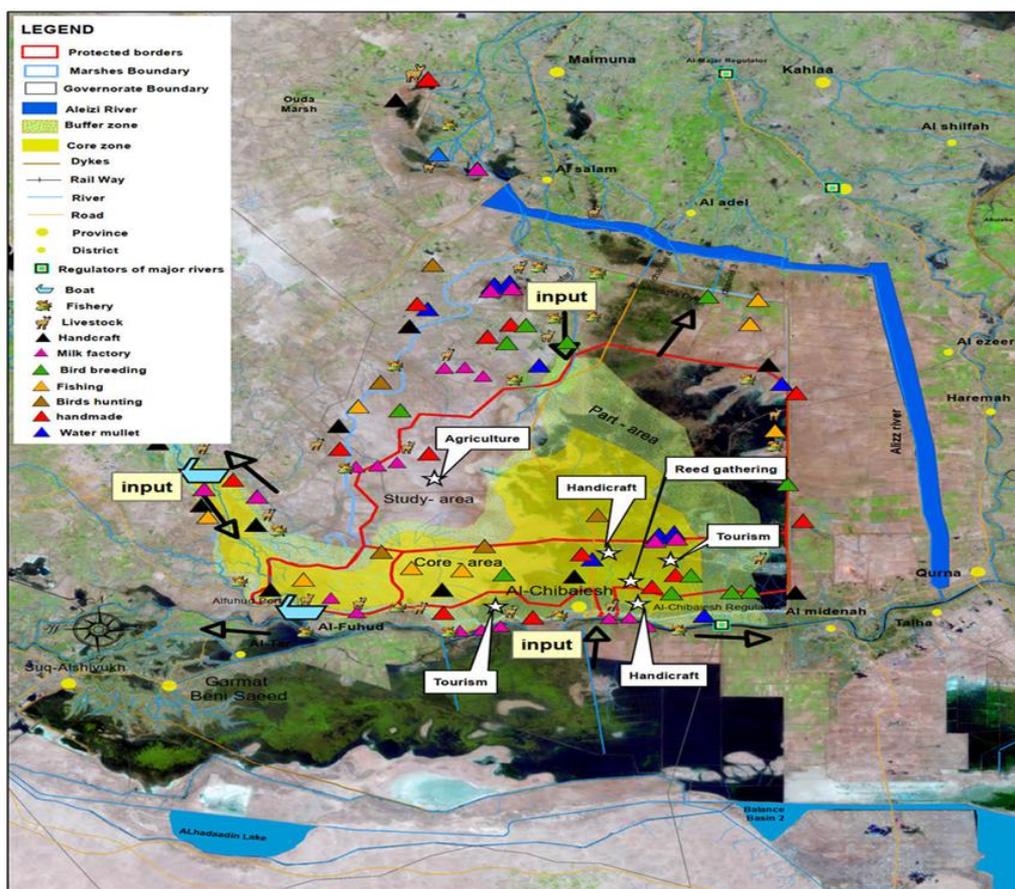


Figure 7. The spatial potential development in the case study

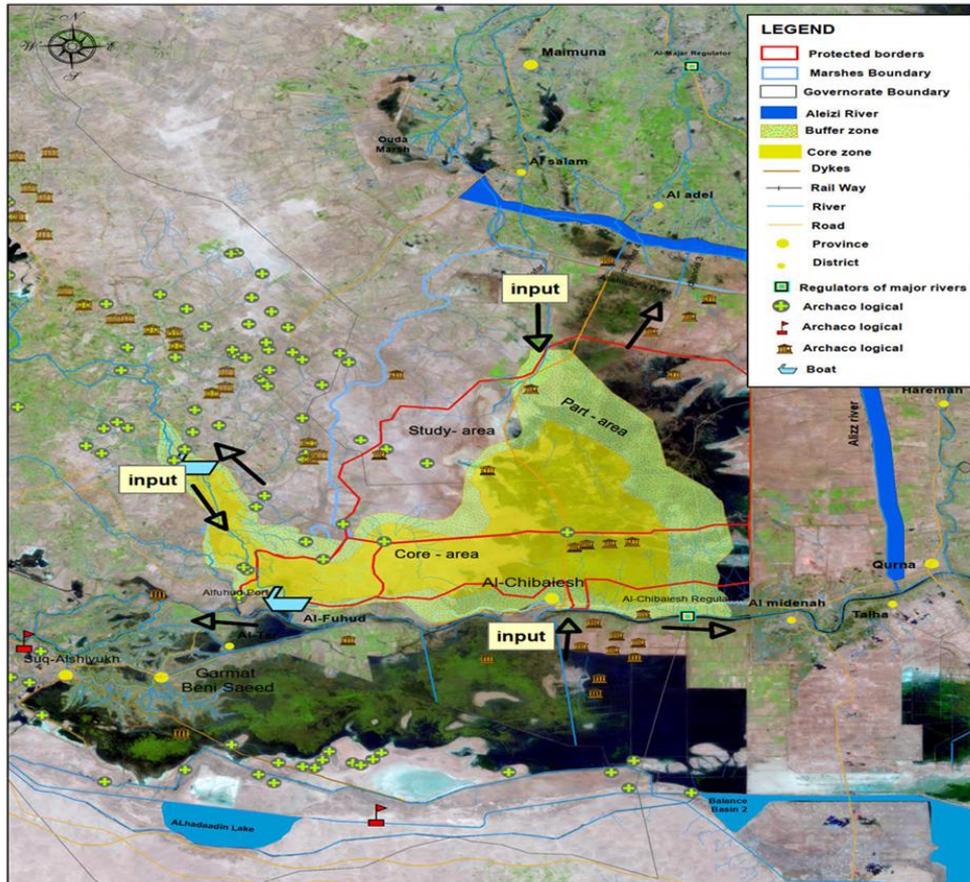


Figure 8. The archeological sites and tourism potentials

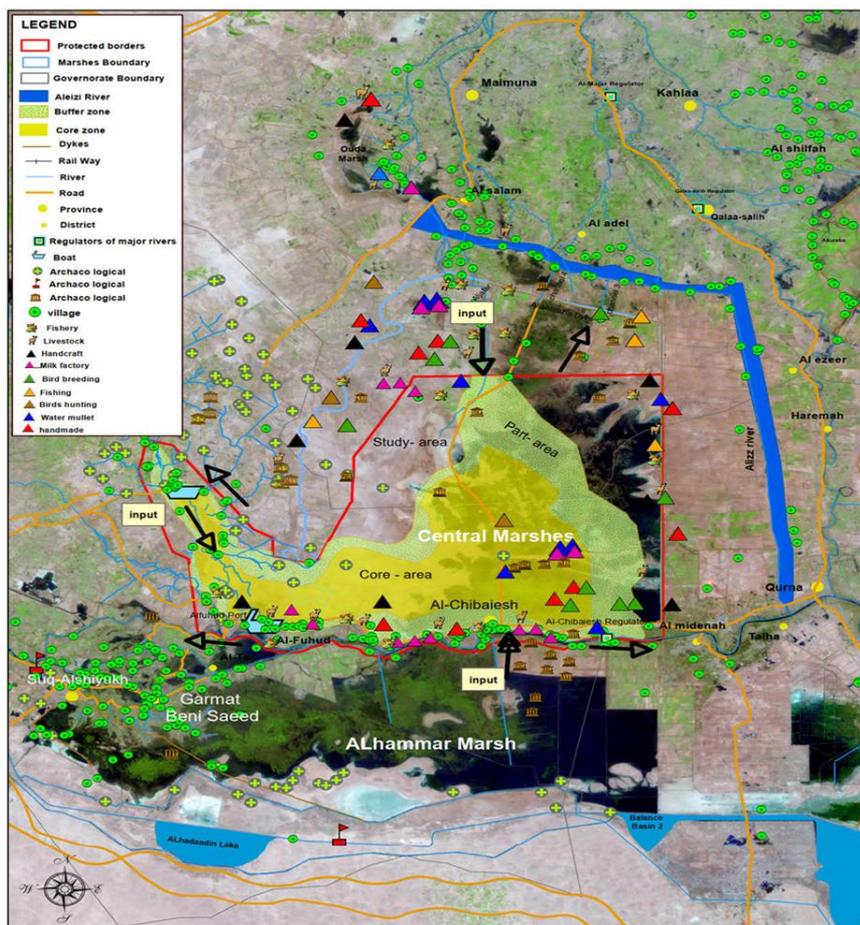


Figure 9. Overall spatial development in study area

5. CONCLUSIONS AND RECOMMENDATIONS

The current study contributed to a range of points, which are listed below:

(1) The Egyptian legislation was the only one in that it was a law and was legislated by the Egyptian People's Assembly, while other legislation were regulations legislated by the Council of Ministers.

(2) It was found that the Iraqi and Saudi regulations were more detailed in their definitions of environmental and other concepts than other regulations and laws.

(3) The Iraqi nature reserves regulation was strong in terms of legislation when compared with other systems, with the exception of the executive regulations of the Saudi environmental system to form a center for natural reserves, which is the best and strongest for implementing the instructions.

(4) When studying the requirements paragraph, it was found that the Iraqi Reserves Law and the Saudi Executive Regulations specified some requirements in some of their articles, even if other Egyptian and Jordanian legislation did not specify these requirements.

(5) The Iraqi legislation was the unique legislation that specified criteria for selecting reserves while partially specifying the Saudi executive regulations for some of these criteria.

(6) In terms of federalism and Kurdistan, the Iraqi laws were a summary of the most important bans within the reserve. However, the Saudi executive regulations were more detailed than other laws for these bans, which would make them easier and better to apply in real life.

(7) The legislation in the Saudi executive regulations was more detailed in the penalties section, as a special annex was devoted to these penalties and financial fines for each case, and this would help in applying them accurately and well. It is worth noting that Egyptian law also mentions some financial fines in its legislation.

(8) The study area has much developmental potential that can be used for the development of the area and improve the residents' lives.

The study recommendations can be summed up as shown below:

- i. Taking advantage of the fact that the appendices of Saudi laws about penalties are very clear.
- ii. Benefiting from the Jordanian legislation with regard to the timings regarding the management of the reserve and the formation of committees and their timings.
- iii. Use the Egyptian law to your advantage by setting up a special fund where the money will go or by changing the Iraqi law about the Environmental Protection Fund. Remember that the money will go to the fund to help support these reserves.
- iv. The necessity of issuing instructions from the Ministry of Environment for the Iraqi Natural Reserves Regulations for the purpose of being able to implement and apply them in an accurate and discreet manner and to avoid future problems,
- v. Benefiting from the legislation of Iraqi Kurdistan regarding Article Three, which includes provisions regarding the establishment of alternative projects as compensation for the residents of the neighboring or

surrounding area as an alternative to the activities that they were doing, as well as the same article mentioned regarding coordination to encourage and develop traditional knowledge for the residents of the neighboring or surrounding area, with the possibility of adding it within the instructions which will be issued in the future.

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