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# The Role of the information technique in Sustainable Strategic Planning \_ Najaf Provenance as case study

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**Abstract.** The Spatial Analysis of the Potential Development in Al Najaf province by using modern techniques as one of the planning methods that helps taking the planning decision by depending on the Planning indicators that reclaimed from the Strategic analysis and the digital Spatial interaction as real indicators for the current and subsequent stage to nominate the development substitute which achieve the strategic capacity of the development elements and its capability to exploit it better towards achieving the set goals by choosing a model of Strategic Spatial based on the development planning decisions and future forecast in maximize and exploit the opportunities also reducing the weakness points as well as using the strength points to reach the Balance, Efficiency and Justice achievement in distributing the fruits of development which contribute in achieving Sustainable development depending on the indicators of the Sustainable Strategic Planning and sustainable indicators.

## 1. Introduction

The average location of Iraq between the ancient continents (Asia, Africa and Europe) is of historical, civilizational and human importance. It is the connector between east and west through its roads and transportations, and this importance goes back to ancient times and still remains. The Sea of Najaf, which is located in the province of Najaf is one of the most important ways that linked Iraq to the outside world, it connects the Arabian Gulf, then India, China, The Arabian Peninsula, The Levant and the holy lands, and the trip Nibor marked out in 1176 AH / 1765 to (Bab Al-Sham) one of gates of wall of Najaf, and The French Orientalist (Massignon) identified the road starting from the city of Najaf to Taqtaqanah to Amman and Suez. The origin of the name and location of the Sea of Najaf were mentioned in the historical sources: (Bahr al-Hira), (Bannakia Sea) and (Salt Sea).

The research will identify the developmental potentials and the resources available in Al- Najaf province and the method of working on these possibilities to benefit from them and classify them according to approved planning principles, analyze these possibilities and draw the planning indicators to find places of focus and clarify it on digital maps by using modern methods based on geographic information technology (GIS), Spatial Analysis and interaction of development elements, to facilitate knowledge of the direction of the development process and access to the sustainable strategy required for spatial urban development, to serve the population of the city and neighboring cities.

### 1.1. The Problem:

Lie in connecting operation between the Sustainable Strategic model, Interaction and Digital Spatial Analysis with the modern methods of the developing potential to reach the planning indicators which help in taking the planning decision.



### *1.2. The Aim:*

Take the necessary Planning Decision for the Sustainable development operation through the Strategic Model, Spatial interaction, and development potential analysis by using modern information technique methods.

### *1.3. Hypotheses:*

Adopting Spatial Interaction Matrix, Sustainable Strategic Model, and Digital Spatial Analysis with modern methods for the development potential to make the Sustainable development Planning Decision.

### *1.4. Research Approach:*

The Research depended on the analytical descriptive approach by using the modern Spatial Information Technique (GIS) to achieve the goal in the induction of the development reality of the developing Spatial to Al- Najaf province and deduction of the Sustainable Strategic orientation for the Spatial Development Substitute.

## **2. Spatial information technology and decision-making process (conceptual framework)**

### *2.1. Planning strategic process and geographic information systems (GIS):*

The planning process begins by identifying a problem and ending with a strategy to reveal the future situation, the models and planning methods in the field of Urban and Regional Planning help to identify different results of the alternatives that help the planner to make the planning decision on a conscious basis to choose between these alternatives. [1] The decision is in fact a set of comprehensive and sequential steps aimed at finding a solution to a particular problem or to achieve aimed objectives as the decision is a fundamental unit in the analysis towards the proper planning because it takes the circumstances surrounding the decision-making, it is the most appropriate means to achieve the goal or development goals that the decision maker looking forward. [2]. Geographic information systems (GIS) are the decision-making systems by integrating and modeling spatial information to serve the solution of environmental issues, which aims to transform basic information on natural and human resources on analytical basis into modern systems as a planning analytical tool. The main objective is to support planners in making balanced decisions.

### *2.2. The method of development potential with modern information technique:*

This method is considered as one of the analytical methods used in the extraction of alternatives, it is based on a detailed analysis of the development factors in their spatial dimension by studying the natural, human and economic factors, analyzing and linking them spatially and determining spatial development priorities that can be followed to exploit the place better and benefit of the Mechanism of Action Technique and weights based on the creation of a map of GIS technology[3] which represents the reality of the study area on a specific scale and the division of the map into a square network, the use of digital weights, descriptive, and the weighting based on modern planning standards, to facilitate development potential analysis and derivation of digital spatial indicators underlined by the planners, to create a clear vision to solve planning problems down to making planning decisions. And then develop future plans and effective sustainable development strategy.

### *2.3. Sustainable strategic planning and a dual analysis model:*

Sustainability in strategic planning is a reorientation of development potentials and available resources of all kinds, both material and human, in order to meet the urgent developmental needs of countries, individuals and future generations, and to choose economic and social development patterns that are appropriate to the environmental concern also to prevent negative impacts on the global environment [4]. The strategic planning starts from a comprehensive methodological analysis of the current situation of the development potentials under consideration and through an analysis of the internal environment of weaknesses and strengths and marking the available resources, analyzing the external

environment of the problems, threats and opportunities in Najaf province according to the criteria and indicators adopted in the methodology of the strategic plans of the provincial council. In accordance with the fundamental visions and values for the purposes of sustainable strategic planning, defining the methodology of analysis in strategic analysis, relying on the SWOT matrix figure 1, [5], the spatial interaction matrix of the indicators derived from the developmental potential analysis, in order to gain access to the double analysis model table 1., which helps to reach the matrix of spatial interaction that help in decision-making planning and determine the adopted strategical situation in the planning process, (6) and suggest development alternatives to reach sustainable development.



Figure 1. Quadratic Analysis Matrix (SWOT)

Table 1. Model of Dual Analysis of external environment and internal performance \Second: Evaluation of internal performance

The most important weaknesses	The most important strengths	The most important opportunities	Evaluation of internal Performance
Required: 1- the exploitation of .opportunities 2- Reduce the use of weaknesses (Therapeutic strategy) (W-O)	Required: 1- The exploitation of .opportunities 2- Use bone strengths (Development Strategy) (O-S)		
Required: .1- Reduce threats 2- Reduce the use of .weaknesses (Deflationary strategy) (W-T)	Required: 1- Reduce threats .2- The use of great streng (Defensive strategy) (S-T)	The most important threats	First: Evaluation External environment

### 3. Analysis of the development potential of Al-Najaf province (the practical side)

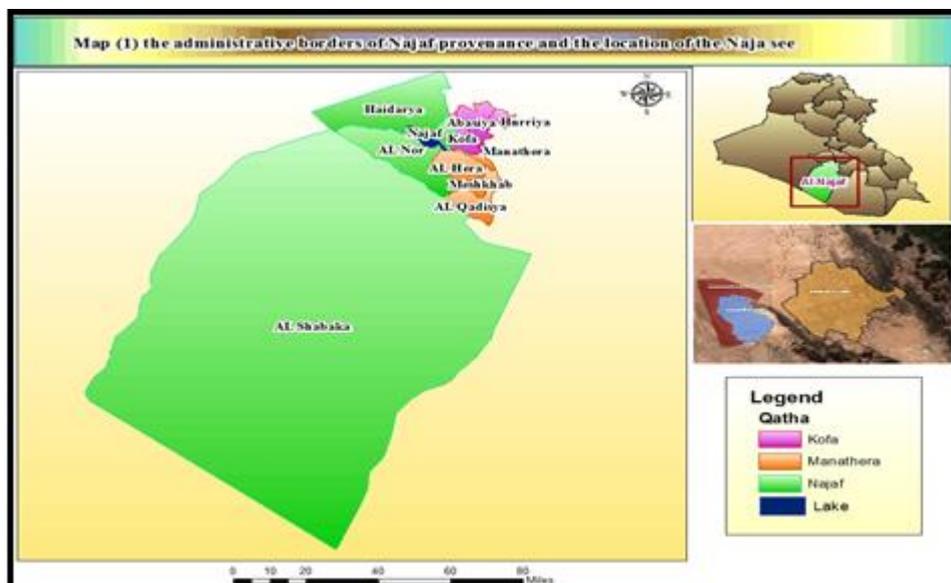
#### 3.1. Method of analysis of development potential:

The mechanism of the method of analysis of development potential depends on the study of the reality of the study area as shown in table 2.

Source: researcher based on the census of Najaf Directorate, the Ministry of Planning, Iraq; Najaf Provincial Council; Ministry of Municipalities and Public Works, Iraq; the Roadmap for Agricultural Development (green economy), the Ministry of Planning, the Central Bureau of Statistics, Iraq 2011.

**Table 2.** The reality Data of the province of Al-Najaf

Location	Al-Najaf is located in the south of Iraq and is located on the edge of the western plateau of Iraq southwest of the capital Baghdad, as in map (1), and is about 161 km. The city rises 70 meters above sea level, bordered to the northeast by Karbala, about 80 km away, and to the south and west by the low sea of Najaf. It includes several administrative divisions, shown in Table (2). The lower part of the Najaf Sea is located next to the Euphrates River, 15 km from the city of Al-Hira, and from the east is the city of Al-Mishkhab, the location of the Astronomer is located between two latitudes (4 32-45 39) north and between the longitudes (44-49-44)
Area	The area of study is about (435 km) The area of agricultural land is about (346493380) acres
Population No.	The population of the urban area (741074) The population of the study area was about (2840) people, the number of buildings (566) buildings



**Map 1.** The administrative border o Najaf provenance and the location of the Najaf sea  
Source: Researcher based on the General Authority for Survey2017

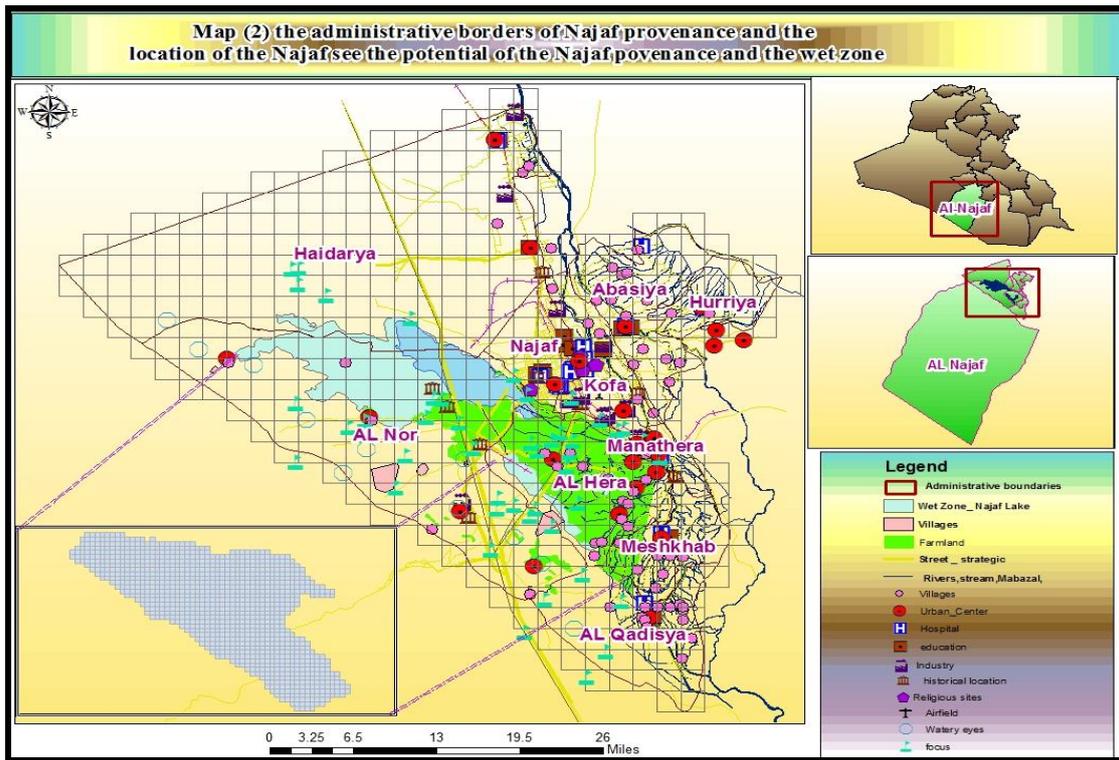
**Table 3.** Administrative divisions of the province of Najaf

Nahya	Qatha
Najaf	Najaf
Haidarya	
AL Nor	
Kofa	
Abasiy	Kofa
Hurriya	
Manathera	Manathera
AL Hera	
Mishkhab	
AL Qadisya	

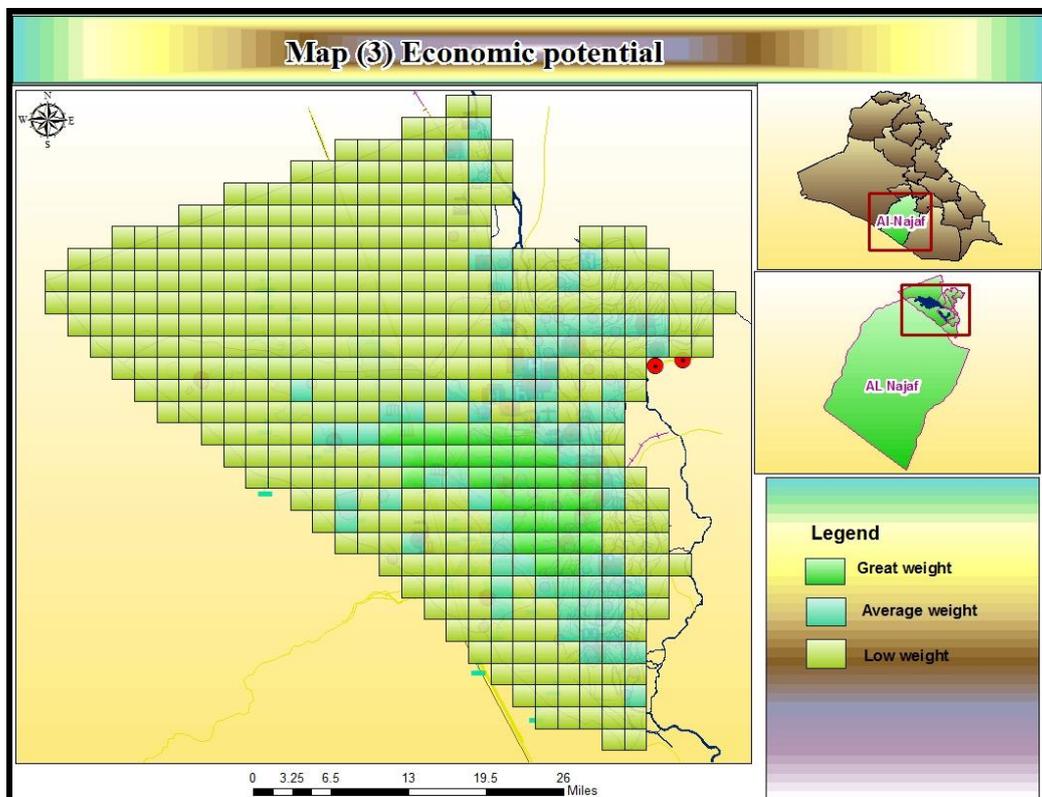
### 3.2. Application of the method of development potential:

The administrative map for the province was prepared with specific drawing scale and divided into grid squares by means of a network of squares with a scale of 2.5 kilometers per square; the squares were numbered with serial numbers, for each square analytical number and the number of squares for the study area reached (461) square meters, that it is so to identify the size of their potentials and to facilitate the focusing of potentials for each which helps to create a database of potentials for each square, is determined by (the coordinates of satellite imagery) and includes: (Population, Economic activities, Services, Rural provinces) depending on (Layers) and representing these indicators with marking them by their spatial coordinate on the map and represent them with cartographic shapes and symbols by using (GIS) program, the main and secondary weights of each development factor are given according to the visions of the planner and depending on the reality of the situation and the nature of the potential viewed on the site and field information that obtained from the office and then a mathematical process is done where the sub- weights are combined and multiply with the main weight to get The weight of the worker.

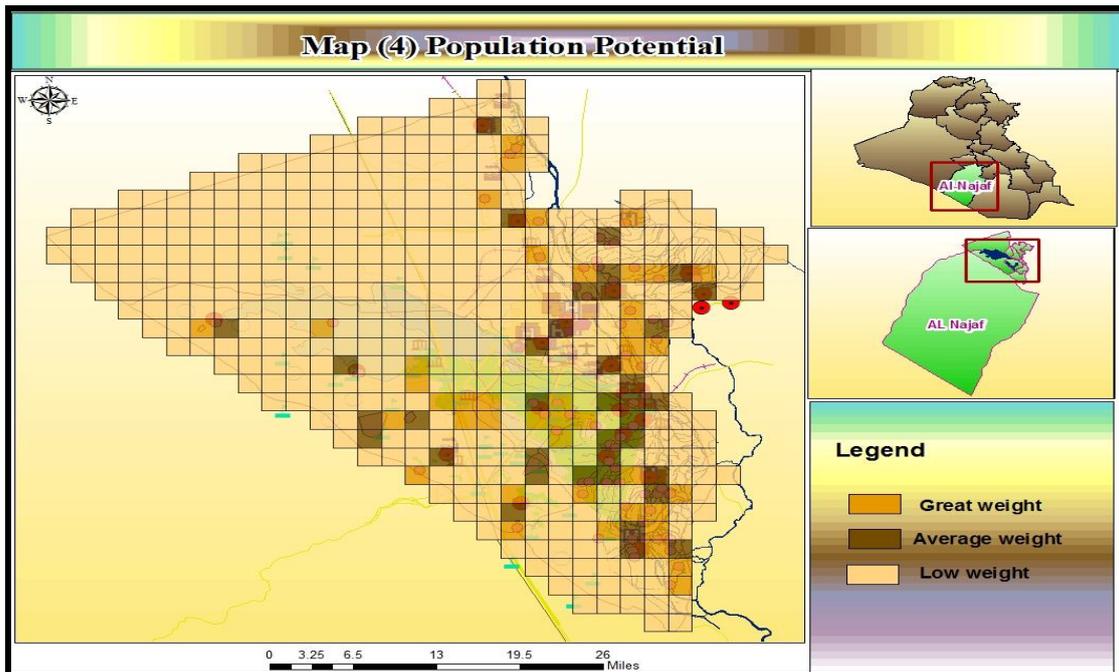
The sub-weights were classified into three categories as shown in map (2, 3, 4, 5), table 4. and the Indicators as shown in Matrix 1.



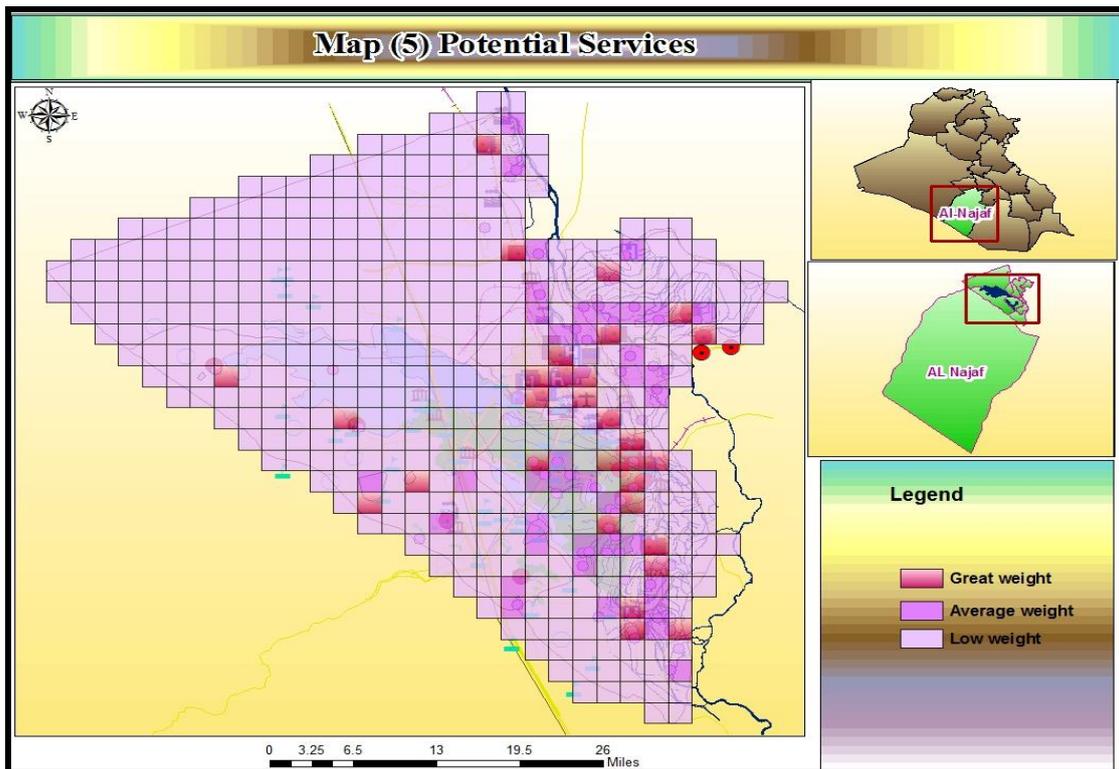
**Map 2.** The administrative border o Najaf provenance and the location of the Najaf sea, the potential of the Najaf provenance and the wet zone



**Map 3.** The Economic Potential



**Map 4.** The Population Potential



**Map 5.** The Potential Services

Source: researcher based on the Arc GIS 10.4 Program, 2017

**Table 4.** The method of development potential (reality of the study area)

Key Factors	Secondary factors	Weight	
Economic 4	Cultivated agricultural land	3 degrees per 11 thousand acres and more 2 degrees per 6_10 thousand acres 1 degree per 1_5 thousand acres	
	Unutilized land	3 degrees for livestock from 10001 and more 2 degrees for livestock between 5001_10000 1 degree for livestock of 1_5000	
	Animal productivity efficiency	3 degrees of production of 101 tons or more 2 degree of production less than 51_100 tons 1 degree of production of 1_50 tons	
	Agricultural productivity	3 degree for large industries 2 degrees for medium industries 1 degree for small industries	
	Industries	3 degrees for sufficient water share and include major rivers 2 degrees of water share include sub-rivers 1 degree for water quota includes wells	
	Water Resources	3 degree of agricultural activity 2 degree of industrial activity 1 degree of service activity	
	Main type of population activity	3 degrees for religious shrines, archeological and tourist sites for every 3 sites and more 2 degrees for archeological and tourist sites for every 2 sites 1 degree for archeological and tourist sites for each 1 site	
	Historical and religious attractions	3 degrees more than 1001 people 2 degrees 251_ 1000 inhabitants 1 degree of 1_250 inhabitants	
	Population 3	Population	3 degree the number of stabilizers is 6_8 and above 2 The number of stabilizers 3_5 1 degree the number of stabilizers 1_2
		Number of stabilizers	3 degree of 101 and more people / km <sup>2</sup> 2 degrees of 51,100 inhabitants / km <sup>2</sup> 1 degree of 1_50 inhabitants / km <sup>2</sup>
Total population density		3 degrees of 41 and more 2 degree of 21_40 1 degree of 1_20	
Total residential density		3 degrees for the main tiled roads 2degrees of paved road 1 degree railway and dirt road	
Roads		3 degree for liquefied water network or pool 2 degree general tap 1 degree of well or eye and river and table and the leg and other (pelvic cars)	
Services 2	Drinking water	3 degrees for each power source of national	
	Electric		

	network
	2 degrees for each energy source of Generic Generators
	1 degree for each power source of a special dwelling generator
Sewage	3-degree Sanitary landfill sites for each plant or treatment unit 3 and more
	2-degree Sanitary landfill sites for each plant or treatment unit
	1 degree for each lift station
Education	3 degrees for every 3 schools and more
	2 degrees for every 2 schools
	1 degree per 1 school
the health	2 degrees for hospital and 3 for health center and more
	2 degrees for each 2-health center
	1 per 1 health center

**Table 5.** Development potential of the study area

Key Factors	Indicators	Weight (value)	Weight
Economic factor 4	Cultivated agricultural land Large (3), Medium (2), Few (1)	604	
	Unutilized land Large (3), Medium (2), Few (1)	1580	
	Agricultural productivity Large (3), Medium (2), Few (1)	480	
	Animal productivity Large (3), Medium (2), Few (1)	680	25088
	Type of activity (agricultural, industrial, service) Large (3), Medium (2), Few (1)	740	
	Water Resources Large (3), Medium (2), Few (1)	1968	
	Industries Large (3), Medium (2), Few (1)	80	
	Historical and religious attractions Large (3), Medium (2), Few (1)	140	
	Total population Large (3), Medium (2), Few (1)	6272 441	
	Population 3	Number of stabilizers Large (3), Medium (2), Few (1)	414

Services 2	Total population density	6	
	Large (3), Medium (2), Few (1)		
	Total residential density	7	
	Large (3), Medium (2), Few (1)		
	Total	868	
	Road network service and access within the rural area	992	
	Large (3), Medium (2), Few (1)		
	Drinking water	294	
	Large (3), Medium (2), Few (1)		
	Electricity	294	
	Large (3), Medium (2), Few (1)		
	Sewage	330	4236
Large (3), Medium (2), Few (1)			
Education	98		
Large (3), Medium (2), Few (1)			
the health	110		
Large (3), Medium (2), Few (1)			
Total	2118		

From table 5 it is clear that the Economic sector ranked first with a total of (25088) and 79% of the total class and services sector in the second rank with a total of (4236) and 13%, and third rank the population with total of (2604) and 8%, Thus the trend of urban development is towards Economic activity, which represents the highest proportion of the concentration of development potential.

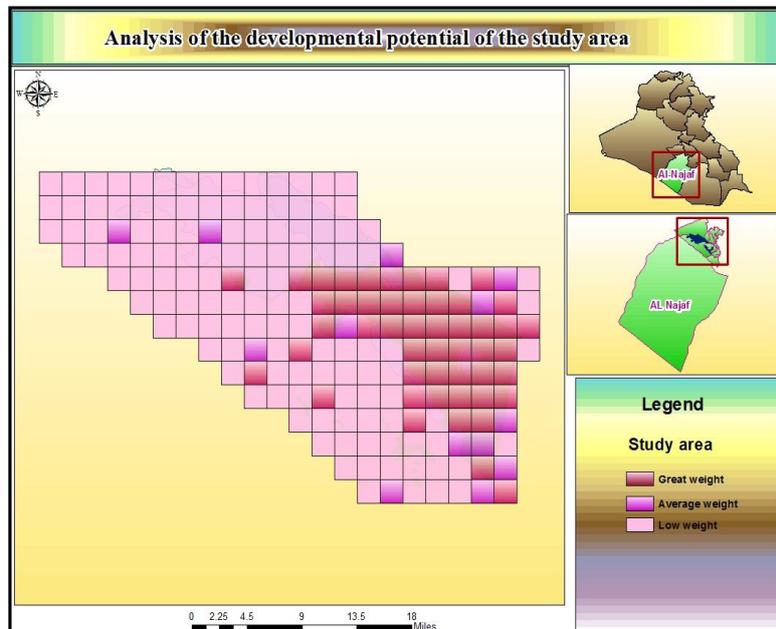
### 3.3. Digital Analysis of Development Potential in the Study Area

Based on the indicators derived from matrix 1. and from the tables of developmental potential, the total potential of each analytical square was analyzed according to the sequence, the analytical number and the final weight value of each square. the weights were collected and combined for each of the main factors (population, economic, and services) of the squares, (62) squares have been collected by their great and average weight in order to reach the main objective of the process of urban development based on the potential of self-active, and the squares are to be studied as in matrix 2. and map 6. show it

**Table 6.** Indicators of measured development boxes and their weights

Weight value	Analytical box number	Sequence of boxes	Weight value	Analytical box number	Sequence of boxes
90	98	32	170	137	1
84	132	33	158	136	2
84	150	34	138	84	3
84	154	35	138	101	4
84	166	36	138	118	5
84	167	37	130	163	6

84	172	38	126	133	7
82	109	39	129	215	8
80	99	40	122	298	9
80	117	41	118	174	10
80	153	42	114	138	11
80	239	43	114	270	12
78	65	44	114	381	13
78	77	45	114	405	14
78	90	46	110	156	15
78	201	47	110	266	16
74	107	48	108	68	17
72	35	49	108	100	18
72	83	50	106	70	19
72	85	51	104	67	20
72	129	52	102	115	21
72	149	53	102	116	22
72	152	45	102	192	23
72	168	55	98	25	24
68	82	56	98	27	25
68	135	57	98	134	26
68	151	58	94	58	27
64	171	59	94	114	28
64	219	60	94	356	29
62	131	61	92	34	30
60	214	62	90	81	31



**Map 6.** Analysis of the developmental potential of the study area  
 Source: researcher based on the Arc GIS 10.4 Program, 2017

Based on the results of the indicators analysis, we found that the Developmental potentials are concentrated in the area of the Al-Najaf Sea and the wet land region, which depends on the characteristic soil geology and wetland ecological Environment, these findings can be used in (SWOT) analysis to identify development alternatives of the urban development process based on Self-development potential indicators in terms of spatial interaction of strengths, weaknesses, opportunities and threats.

#### *3.4. Strategic analysis, Matrix and Spatial interaction:*

Through previous indicators extracted from spatial analysis we can identify strengths, weaknesses, opportunities and threats based on the spatial interaction of the elements of development potential available in the study area, in order to determine the appropriate strategy for selecting the necessary development alternatives for the urban development process as in the following steps:

*3.4.1. The identification of all four strategic analysis points (SWOT) and the following table 4. illustrate the quadratic strategic analysis process for all development potentials in the study area, specifically with large and medium potentials.*

#### *3.4.2. The model of the dual analysis of the spatial interaction of development:*

From the indicators that we have been able to obtain by applying and analyzing the method of developmental potential that was extracted from the matrix of developmental potential and then the employment of these indicators in a strategic analytical model based on analysis and spatial interaction and intersections between the developmental potential of the main sectors and indicators to reach alternatives and make the best strategic decision For development by adopting the necessary strategy after diagnosing vulnerability, threats and taking advantage of opportunities and transforming them into sources of strength through the matrix of spatial interaction between the sectors and the influencing factors to choose the alternative to achieve Spatial development.

Through the spatial interaction matrix between the sectors and influencing factors to choose alternatives or in accordance to developmental potential in general we can reach the strategic model that represents the spatial interaction and strategic analysis of the most important strengths, weaknesses, opportunities and threats leading us to strategies that help in urban and spatial region development as in model 1. the dual analysis of spatial interaction.

Through the matrix we can reach the influencing factors to select the alternatives through intersections between sectors, potentials and spatial interaction on this basis the candidate region was identified by the spatial potentials and the identification of the axes in which development could expand. The development strategy was chosen because the region contains Strengths represented by the large and medium potentials that have been achieved by analyzing the method of development potential as well as the large and important opportunities in the region through what is available from untapped land represented in the wetlands and agricultural lands as well as tourist sites that can be developed to become important tourist areas serving the region in particular and the governorate in general, based on the priorities that have been determined in advance by determining the highest ratios by sectors of the method of analysis of the potential mentioned above aimed at eliminating the spatial imbalance where Development directions should be directed towards rebalancing through the exploitation of the large and medium potential of the areas identified locally and for all sectors and through the selection of development squares with medium potentials and relying on the development potential of squares with potential Great as the points and nucleus of the driving force for development and directed towards achieving the goals of planning development and achieve balance, efficiency and equity in the distribution of investment.

<u>Weakness</u>	<u>Strength</u>
<ul style="list-style-type: none"> <li>-Weak agricultural land reclamation policies.</li> <li>-The neglect of archaeological sites and the lack of recreational sites and tourism services.</li> <li>-There is a deficit in the transport network, because the network mostly consists of dirt roads.</li> <li>-Lack of sewage network and drinking water network.</li> <li>-Poor attention to human resources and capacity building.</li> <li>-Lack of services provided and lack of fair distribution.</li> </ul>	<ul style="list-style-type: none"> <li>-Provide empty spaces, agricultural land and orchards</li> <li>-Tourist attractions, religious shrines, palaces and archaeological hills, as well as the Najaf Sea</li> <li>-The existence of the main strategic route</li> <li>-Presence of raw materials for industry, presence of labor</li> <li>-The presence of water sources, good soil that helps agriculture</li> <li>-The existence of wetlands, which are an important economic and environmental resource for the province as a whole.</li> <li>-Biological and environmental diversity.</li> </ul>
<p style="text-align: center;"><u>Threaten</u></p> <ul style="list-style-type: none"> <li>- Depletion of arable land and increasing desertification due to soil salinity and lack of water resources in the area adjacent to the network area.</li> <li>- Delays in funding and government support for projects due to economic conditions.</li> <li>- Weak services provided by the state to tourist sites.</li> <li>- Weak spatial distribution of services, whether health or education, and lack of cadres</li> <li>- The existence of the strategic oil carrier line.</li> <li>- The danger of flooding due to the lack of tables to drain the water of Najaf in the rainy season and floods.</li> </ul>	<p style="text-align: center;"><u>Apportunity</u></p> <ul style="list-style-type: none"> <li>- Supporting agricultural reclamation projects to increase industrial agricultural productivity strategy.</li> <li>- Support for investment in the Sea of Najaf through tourism projects and economic and residential projects for the existence of untapped areas suitable for investment.</li> <li>- Government support for the development of the tourism sector, which constitutes an extension of tourism in the province as a whole.</li> <li>- The project of the new city of Najaf, which is within the study area and provided by a specialized company to the Directorate of Urban Planning and Investment Authority Najaf.</li> <li>- Supporting and promoting better utilization of the components of spatial development and promoting the proliferation policies of modern agricultural villages and providing services and infrastructure.</li> <li>- The allocation of funding for infrastructure projects, which represents an opportunity to develop the rural road network</li> <li>- Support by the Ministry of Education to identify the needs of the education sector</li> <li>- The idea of creating nature reserves that help preserve biological diversity and ecological balance</li> </ul>

**Figure 2.** The process of strategic analysis quadruple to all development potential in the study area

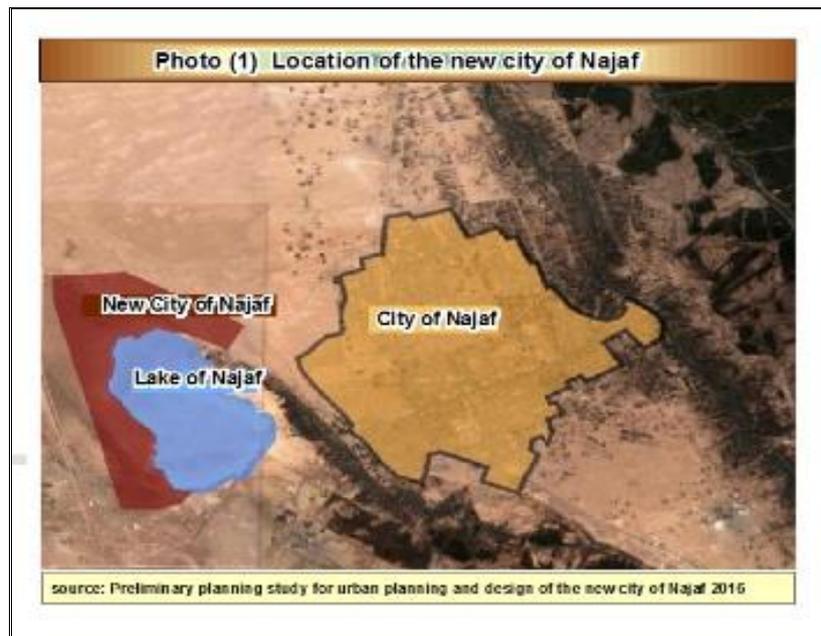
Weakness		Strengths	
<ul style="list-style-type: none"> <li>- The weakness of the policies of reclamation of agricultural land and orchards.</li> <li>- The neglect of archaeological sites and the lack of recreational sites and tourism services</li> <li>- The development reality showed weakness in the transport network</li> <li>- Neglecting training and preparation of human resources and capacity building.</li> <li>- Lack of services as well as lack of a sewage network and drinking water network.</li> </ul>		<ul style="list-style-type: none"> <li>- Availability of untapped spaces</li> <li>- The presence of agricultural land and orchards.</li> <li>- The diversity of tourism (religious, archaeological and recreational), the presence of religious shrines, palaces and hills As well as the Najaf Sea</li> <li>- The presence of labor</li> <li>- The existence of wetlands, which is an important economic resource</li> <li>- Biological and environmental diversity.</li> <li>- The existence of the main strategic road.</li> </ul>	
Treatment strategy (W-O)	Development Strategy (O-S)	Opportunity	
<ul style="list-style-type: none"> <li>- Reclamation of agricultural lands and reducing the decline of agricultural land and reduce the desert areas and the establishment of green oases to ensure food security to reach the green economy.</li> <li>- Establishing tourism and recreational investment projects by relying on archaeological sites and the Najaf Sea.</li> <li>- Activate the engineering works associated with the coordination of the site with the rehabilitation and preservation of cultural and archaeological landmarks and the preservation of the environment and the establishment of nature reserves on land and marine and provide continuous control and improve tourism and hotel services.</li> <li>- Support for social justice for the distribution of services.</li> </ul>	<ul style="list-style-type: none"> <li>- Activating development investments to the northeast, including the Wetlands to benefit from untapped land and potential.</li> <li>- Local distribution of investment projects towards the Najaf Sea area in addition to Tourism support.</li> <li>- The idea of establishing projects of nature reserves in the area overlooking the Sea of Najaf to benefit from wetlands as an economic and recreational resource.</li> <li>- Setting up vocational schools and institutes to benefit the workforce and develop their capabilities.</li> </ul>	<ul style="list-style-type: none"> <li>- Support agricultural reclamation projects to increase industrial agricultural productivity.</li> <li>- Support for investment in the Sea of Najaf through tourism projects and economic and residential projects for the existence of untapped areas suitable for investment.</li> <li>- Government support for the development of the tourism sector, which constitutes an extension of tourism in the province as a whole.</li> <li>- A study of the project of the new city of Najaf, which is within the study area provided by a specialized company to the Directorate of Urban Planning and Investment Authority.</li> <li>- The idea of creating nature reserves that help preserve biological diversity and ecological balance in general</li> <li>- Support by the Ministry of Education to identify the needs for HR development and capacity-building</li> </ul>	
Offensive Strategy (W-I)	Defense Strategy (S-I)	Threaten	
<ul style="list-style-type: none"> <li>- Activate the government support for the sectors and develop investment plans and encourage the mixed and private sector.</li> <li>- The need to use scientific planning and the development of short and medium-term plans for the development of the tourism sector and the development of programs for sustainable development and greening of investment.</li> <li>- Develop development plans for empowerment, equal opportunity and capacity building to share the human development approach from the perspective of social diversity</li> </ul>	<ul style="list-style-type: none"> <li>- To raise the level of growth in other sectors such as agriculture and services sector, increase agricultural and service industrial investments, increase financial allocation and encourage the role of the private sector.</li> <li>- Establishing land and marine protected areas and providing continuous monitoring that contributes to raising the standard of living by creating employment opportunities and contributing to increasing national income.</li> <li>- Cultivate and plant untapped lands to eliminate desert lands and prevent desertification.</li> </ul>	<ul style="list-style-type: none"> <li>- Decline, shrinking agricultural land and increasing desertification due to salinity</li> <li>- Soil and lack of water resources</li> <li>- Late funding and government support for projects due to economic conditions.</li> <li>- The weakness of the services provided by the State for tourist sites.</li> <li>- The danger of flooding due to the lack of tables to drain the water of the Najaf Sea in the rainy season and floods</li> </ul>	

Figure 3. Matrix of the dual analysis of spatial interaction

### 3.5. Identification of development programs:

#### 3.5.1. program 1:

Through the indicators derived from the spatial development analysis of the method of development potentials and the model of double analysis and spatial interaction shows that the squares of large development potentials that reflect multiple elements maximize the value of the potential spatial dimension and concentrated in a natural lake extended near the city of Najaf and located on the road that surrounds In the ancient city of Najaf and visually linked to the shrine of Imam Ali (peace be upon him) overlooking the palm groves picturesque, which is after a place of high potential can be exploited to establish investment projects for the development of the study area, The new city of Najaf, where the new city represents an extension of the city of Najaf in the west to contribute to the development of the urban and economic development of Iraq and help this investment opportunity to exploit the Sea of Najaf in investment activities, tourism and entertainment as shown in picture 1. Shows the location of the new city.



**Figure 4.** Location photo of the new city of Najaf

### 3.5.2. Program2:

The medium development squares which include wetlands, which represent environmental systems that help maintain the ecological balance and biodiversity in the region and Iraq as a whole. It is possible to establish nature reserves projects that provide economic, tourism and recreational benefits and help improve the atmosphere and balance of climate in the region. The development of the urban and regional region through the moderate climate and fertile ground for investments and large urban projects that benefit the region in particular and Iraq in general and map 6. Illustrate these squares.

### 4. Conclusions:

1. The existence of potential developmental in the low-lying area of the Najaf Sea is not exploited. It is possible to benefit from the development of the region, as well as the existence of empty and rich resources areas, such as development squares that include wetlands and the surrounding areas, which have not been exploited for establishing governmental and investment projects to achieve sustainable spatial development and development of the region. Strategically.
2. The existence of the large water surface (the Sea of Najaf) can be used in the establishment of tourist and recreational resorts serving the province and environmental at the regional level.
3. From the model of double analysis and spatial interaction, a development strategy has been reached that will help develop the region through the development potential of the strengths and opportunities to reach a spatial strategy.
4. The spatial and spatial analysis matrix (SWOT), based on the indicators derived from the method of development potential using modern information technology (GIS), has been acquainted with the economic and social potentials and the percentage that helped to make the planning decision to determine the direction of sustainable spatial development of Najaf in particular, in general.

### 5. Recommendations:

1. Dependence on the method of development potential using the modern planning methods as it helps in determining the quality and quantity of potential and the direction of development of the region through the developmental weights that the planner sets according to the available resources and possibilities.
2. Exploitation of the natural resources of the region in the creation of an important industrial and economic activity by establishing a large industrial zone through the availability of resources

represented by the small development boxes in the development potential map (2-13) and the exploitation of empty areas containing preliminary materials for the manufacture of cement and building materials.

3. Attention to human resources and development through the establishment of primary and secondary schools and the establishment of institutes and professional economics as the basis for the development of spatial development of the region.
4. Ensure equitable distribution of development fruits at all planning levels to address bilateral spatial development to achieve comprehensive development.

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