



## Potential Geographic Development for Tourism in Maidan District: A Study in the Tourism Geography

Hemin Nasraddin M. Amin<sup>1</sup> and Chrakhan Nasraddin Salih<sup>2</sup>

<sup>1</sup>Department of Geography, College of Education, Garmian University, Sulaymaniyah, Kurdistan region of Iraq.

<sup>2</sup>Department of Oli, gas and energy management, College of Business, Charmo University, Sulaymaniyah, Kurdistan region of Iraq.

<b>Article History</b>  Received: 20 July 2022  Revised: 23 Aug 2023  Accepted: 29 Sept 2023          CCLicense CC-BY-NC-SA 4.0	<b>Abstract</b>  This study is conducted in the field of tourism geography, and discusses the most important natural and human resources of Maidan district and how to develop them. Maidan district is located in the southeastern Kurdistan Region and northeastern Iraq. Administratively, it belongs to Garmian administration. It is separated from Bamo district of Halabja Governorate by a mountain range in the north and northeast. It borders with the Islamic Republic of Iran for 37 km in the east, Quratu district in the south and Sirwan river in the west. The aim of this study is to present the potential of the natural and human factors of the study area on the development of tourism in the area. In light of its objective, the study is divided into two main discussions, namely (geographical characteristics of the study area and their relationship to tourism development, natural and human tourism areas of the study area and how to develop them). Finally, the study reached a number of conclusions, the most important of which is that the study area has a strong natural potential, and a low human potential to attract tourists to the area.  <b>Keywords:</b> Natural Resources, Human Resources, Development, Tourism, Maidan District
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### Introduction

Tourism geography is a branch of economic geography, and focuses on economic, social, environmental and cultural activities. It includes increasing the level of national income, personality, income, which results in increasing the level of livelihood, providing various services, mixing and exchanging cultures and customs between residents and tourists, opening closed societies and strengthening the spirit of forgiveness and adaptation. This is especially true in the shadow of globalization, free markets, settlement between states and the significant developments in communication, transportation and other fields. In addition to the role of protecting the human and natural environment, both of which are the main sources of the principles of development and construction of tourism projects. Therefore, we see that tourism is considered a new industry, which is directly and strongly related to national income and the balance of payments and labor. Because it is one of the invisible exports and a strong pillar of the problem of the balance of exports along with the balance of trade and capital exchange and the exchange rate is no less important than other sources. Depending on the scientific needs and objectives of the research, we need to take the following scientific steps.

## **Research Problem**

The study area is rich in natural and human resources to attract tourists, but this area has not received much attention in terms of tourism development. This is the main problem of the study. The secondary problems can be presented in the form of questions, as follows:

1. How suitable are the natural and human characteristics of the study area for tourism activities?
2. What is the difference between the location and period of tourism activities in the region?
- 3) How suitable is the study area for establishing tourism projects?

## **Research Hypothesis**

As a preliminary answer to the research problem, the following points are assumed:

1. The natural and human fundamentals of the area have good potential for tourism.
2. In both seasons (spring and autumn) the whole region and in summer the banks of the Sirwan River, the beaches of the mountainous areas and the river bank of Zhalanaw are suitable for tourism activities.
3. Most of the well-known river banks in the area are suitable for setting up tourism projects.

## **Purpose of Research**

The main objective of the study is to present the potential of natural and human factors of the study area on the development of tourism in the area. Thus, the objective of the study can be presented as the following.

1. Identifying the natural and human resources in tourism development in the study area.
2. Presentation of the problems facing the development of tourism in the study area.
3. Making maps and tourist guides for the study area, in order to better familiarize foreign tourists with the area.

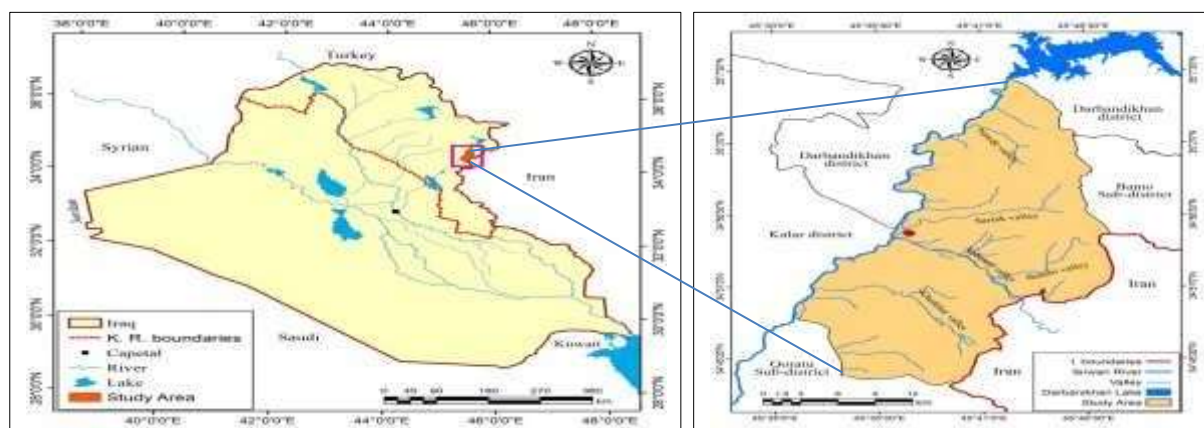
Discussion 1: Geographical characteristics of the study area and their relevance to tourism development

First, the natural characteristics of the study area

### **1. Geographic location**

Maidan district is located in the southeastern Kurdistan Region, and northeastern Iraq, look at Map (1). Administratively, it belongs to Garmian Administration. It is separated from Bamo district of Halabja governorate by a mountain range in the north and northeast. From the east it has borders with the Islamic Republic of Iran for 37 km. It is separated from the districts of Darbandikhan and Kalar by the Sirwan River to the south and the Sirwan River to the west. Astronomically, it is located between the north latitude ( $30^{\circ} 43' 34''$  -  $55^{\circ} 06' 35''$ ) and the east longitude ( $00^{\circ} 30' 45''$  -  $50^{\circ} 49' 45''$ ). The total area of the region is  $(578,33) \text{ km}^2$ . The geographical location of Maidan district is such that tourists cannot easily reach it. On the one hand, it has a relatively remote border area, and on the other hand, there is no main road, so that tourists, especially tourists from central and southern Iraq. Therefore, its geographical location is considered a weakness in the development of tourism in the region. However, it is important to note that this geographical location has a moderate climate suitable for tourism activities.

Map No. (1) Location of Maidan district according to Kurdistan Region and Iraq



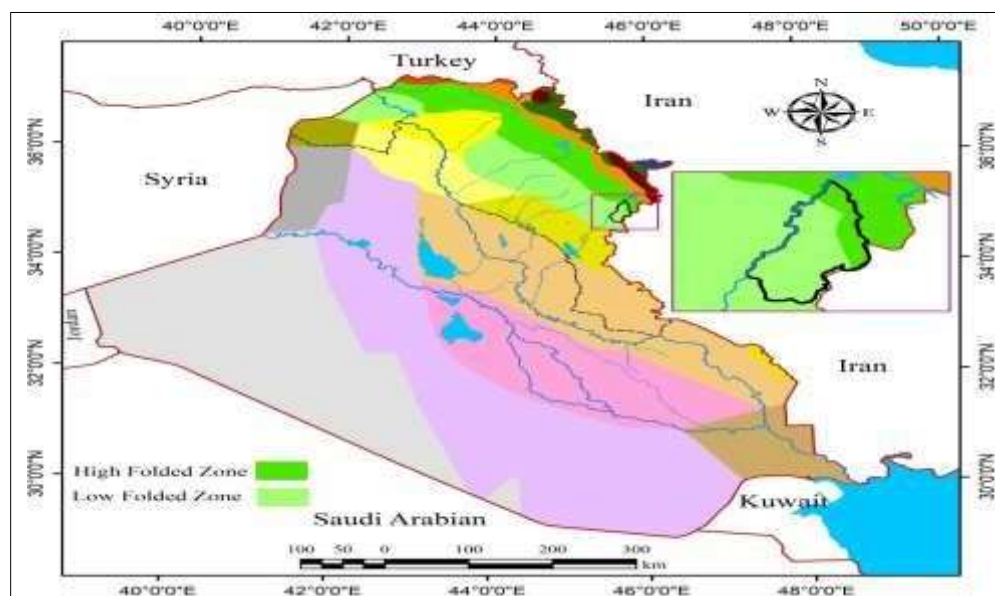
Source: Researchers' work using Arc Map GIS 10.8, based on:

- 1) Hashim Yasin, et al., Atlas of the Iraqi Kurdistan Region, Iraq and the World, Tenus Printing House, 1st edition, 2009, pp. 39 and 81.
- 2) Garmian Administration, Map of Residences of Garmian Administration, Technical Department.

## 2. Geological features

Geological features refer to tectonic features and geological structures and sediments. The study area is generally located on the Unstable Shelf, on the Foothill Zone. However, a small part of the northern and northeastern regions, which include the mountain range, is located on the lower edge of the High Folded Zone<sup>(1)</sup>, see Map No. (2). These are part of the edge of the (Arabic-African) plate, an area strongly affected by alpine movement. The bedrock is covered with a thick layer at a depth of 9-10 km, and this has led to a variety of heights, lows<sup>(2)</sup>, fractures and different geomorphological phenomena in the region, which are the reasons for attracting tourists.

Map No. (2) Tectonic location of the study area



(1) Jassim, Saad Z., and Jeremy C. Goff, eds. *Geology of Iraq*. DOLIN, sro, distributed by Geological Society of London, 2006, p56.

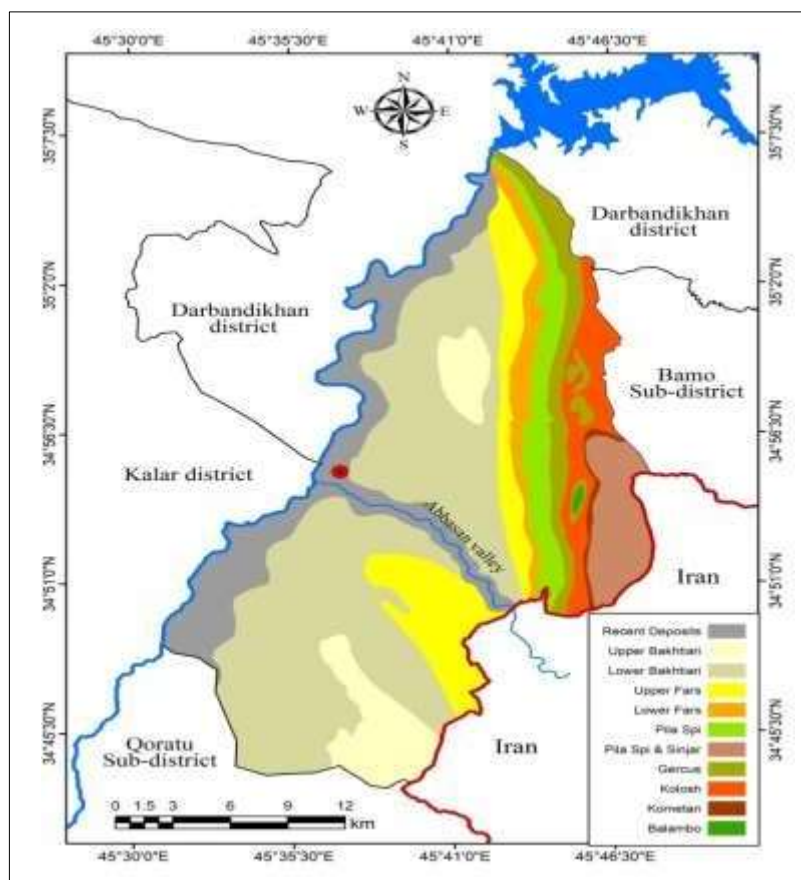
(2) Ali Mahmoud Asad Surdashi, *Geography of the Kurdistan Region, Geology of the Kurdistan Region*, Brotherhood Center Book 3, Ministry of Education Printing House of the Iraqi Kurdistan Region, Second Edition, Erbil, End of 1999, p33.

Source: Researchers' work using Arc Map GIS 10.8, based on:

Jassim, Saad Z., and Jeremy C. Goff, eds. *Geology of Iraq*. DOLIN, sro, distributed by Geological Society of London, 2006, p56.

In terms of geological structure, the area is characterized by a lot of geological structures, so that there are (11) geological structures and sediments in the area, see Map No. (3). They are the Cretaceous formations (Balambo, Comitan) during the Middle Period, and the formations (Kolosh, Sinjar, Pilaspi) belonging to the Pliocene. Formation of Xerxes in the Iocene and the Lower and Upper Persian formations of the Miocene, as well as the Lower and Upper Bakhtiari formations of the Third Period. With new sediments from both the Pleistocene and Holocene of the Fourth Period, some of these geological formations have created beautiful and attractive karst geomorphology, such as caves and melt valleys, which are an important tourist attraction.

Map No. (3) Geological formations of the study area



Source: Researchers' work using Arc Map GIS 10.8, based on:

FAO Northern Iraq, Coordination Office, *Geological Map of Qaradagh-Kalar Basin*, Scale 1\2

### 3. Earth's surface elevation of the area

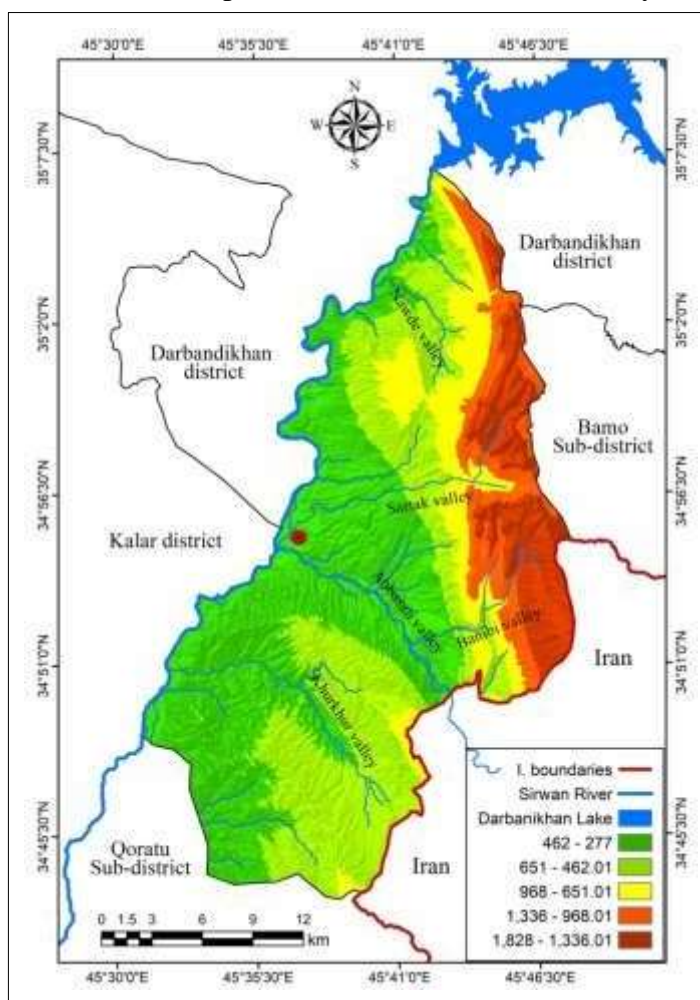
The diversity of natural phenomena on Earth is considered to be the most obvious principle of natural geography, which effectively contributes to the creation and development of tourism in any region. Although the attractiveness of the phenomena and natural scenery of tourist areas are not equally important and do not have a fixed and stable characteristic, because they primarily rely on the personal interests of tourists. However, of course, the diversity and differences in the non-uniformity of the land surface shapes are considered the most important factors, which enhance the attractiveness and importance of the tourism values of each region. Because the areas that have these factors in the past and now, the most important



areas to attract tourists, the geomorphic shapes, which are important for tourism such as (high mountains, beaches, lakes and rivers, plains, valleys, banks, etc.)<sup>(3)</sup>.

The study area is characterized by a diversity of land surface elevations and geomorphological phenomena, which is an important factor in attracting tourists to perform different types of tourism. In general, the study area is located in the semi-mountainous region of the Kurdistan Region, except for a small part of the upper part, which forms the final boundary of the mountainous region. The study area is similar to the Kurdistan Region. The land level increases from south and southwest to north and northeast, starting at an altitude of 277 m in the south and southwest and ending at an altitude of 1828 m in Bamo Mountain in the northeast comes, see Map No. (4). So, in such a small area there is a big difference in the height and low of the surface, which makes it suitable for different types of tourism. We can see that in the central and southern areas of Maidan district, people usually go there for walks and recreation in the middle seasons, especially in spring, but the northern and northeastern areas sometimes go there for adventure and mountain tourism.

Map No. (4) Elevation and slope of the land surface of the study area



Source: Researchers' work using Arc Map GIS 10.8, and based on: Elevation and elevation model file (12.5 m) of the study area.

#### 4. Tourist climate

Climate is considered to be the most important attraction and promotion of tourism and is one of the principles of natural geography and an influential factor in the emergence and development of tourism. In

(3) Shirwan Omar Rashid, Geographical Principles of Tourism Development in Sulaimani Province, PhD Thesis (Unpublished), Sulaimani University, College of Humanities, 2011, p46.

general, tourists choose regions whose climate is different from that of the place where they live. Therefore, the climate suitable for tourism movement in any region is considered a real advantage, which is different from the surrounding areas, because the climate is considered an important natural factor, although there is no ideal climate for different types of tourism activities. Though, we can determine the suitable climate for tourism activities in general as follows. This type of climate is moderate in season or tourist climate, not too hot or too cold, with many sunny days, clean air and no strong winds<sup>(4)</sup>.

Regarding the climate of the study area, according to the classification (De Martonne)<sup>(\*)</sup>, the area falls within the semi-humid climate region, which is an important factor in attracting tourists. The climatic features of the region reflect the factors that affect it, such as geographical location, altitude and low altitude, low pressure and air bubbles that blow over the region. Considering the temperature data of the study area, we can see that the average annual temperature is (22,09) ° C, the lowest temperature falls in December, which is (9,02)° C. In contrast, the highest temperature occurs in July, which is (36.37) degrees Celsius, so the annual temperature range of the region is (27.35) degrees Celsius, so that temperature is considered the most important type of tourism climate. It is also an important tourist attraction and motivator of tourists in the framework of tourism, as it is obvious that the human body temperature is normally (37) degrees Celsius. This average is also affected by direct exposure to radiation, so we see that areas with high temperatures are away from tourists, but areas with moderate temperatures and people feel physically and mentally comfortable. These areas are tourist attractions, so that researchers and tourism experts have set the ideal temperature for human peace and activity between (18-25) degrees Celsius<sup>(5)</sup>, see Table (1). There is a large spatial and seasonal difference in temperature in the study area, so both April and October are completely calm, and May is between calm and warm, while November is between calm and unsettled or calm and cool. Therefore, the other months are completely unstable for tourism in the study area.

Table No. (2) Temperature and Human Comfort According to Jaffney Classification

temperature in (Celsius)	Type
More than 28	Very hot, uncomfortable
27 – 28	Warm uncomfortable
25 – 27	Transitioned between calm to warm unrest
18 – 25	Calm
17 – 15	Transitioned between uncomfortable to calm cool
less than 15	Uncomfortably cold

Source: Ali Hassan Musa, Al-Manakh al-Hawiwi, Al-Agba Al-Awwali, Damascus, 2002, p38.

The average annual rainfall is 427.28 mm, and the highest rainfall is in winter and sometimes snowfall. In contrast, the summer season is dry and rainless. The wind speed is generally low (1.97 meter/second), the average annual humidity is 44.32%, and the highest humidity is in winter and the lowest it's summer. Contrary to the amount of evaporation, the maximum is in summer and the minimum is in winter. All these characteristics of the climate types of the study area facilitate tourism activities, especially in the middle seasons.

<sup>(4)</sup> Shirwan Omar Rashid, Geographical Principles of Tourism Development in Sulaimani Province, PhD Thesis (Unpublished), Sulaimani University, College of Humanities, 2011, p64.

<sup>(\*)</sup> De Martonne= (Annual rainfall/ annual tempreture+10) if the result (less than 5: dry), (5-10 semi-dry), (10-20 semi-humid, (20-30 moist, and more than (30) very moist. For more look the reference: Ali Shalsh Wakhrun, Geography of the Regions of Manakhiyah, Baghdad University, Al-Gaba'a al-Awwali, 1978, p.

<sup>(5)</sup> Ali Hassan Musa, Al-Manakh al-Hawiwi, Al-Agba al-Awwali, Damascus, 2002, p38.

Table (2) Climate types of the study area between the years (2008 - 2022)

Months	Temperature (C)	rain (mm)	wind (m/sec)	Relative Humidity (%)	evaporation (mm)
December	10,25	62,37	1,40	64,53	79,42
January	9,02	72,88	1,85	69,62	63,36
February	10,24	79,60	1,65	63,41	81,65
March	14,31	52,65	1,90	59,06	114,22
April	18,98	51,93	2,10	52,19	166,61
May	25,75	13,84	2,40	41,17	273,27
June	32,90	0	2,55	24,07	458,35
July	36,37	0	2,50	21,94	529,71
August	36,11	0	2,30	22,52	518,95
September	31,44	0	1,75	29,31	419,38
October	24,41	27,56	1,65	35,96	281,87
November	15,32	66,45	1,60	48,09	151,90
Average / Total	22,09	427,28	1,97	44,32	261,56

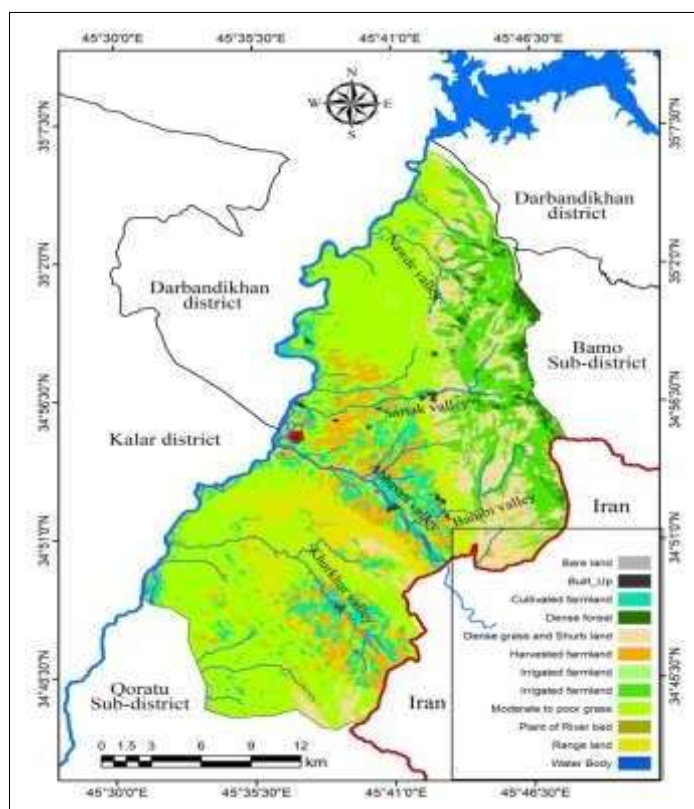
Source: Ministry of Agriculture and Water Resources, Garmian General Directorate of Agriculture, Meteorological Department,

## 5. Vegetative Cover

Natural plants include all types of plants (forests, weeds), which grow and multiply naturally, whenever natural conditions are suitable for their cultivation without human intervention. At each stage of its development, which are later considered part of the natural environment of the region, although the plant is the product of climate, altitude, low and soil, but the influence of the first factor is greater than the other two factors. Vegetation cover is a climate enhancer, maintains soil temperature and human shelter, and works to reduce wind speeds and conserve biodiversity <sup>(6)</sup>. Natural vegetation is an important genre in attracting tourists and tourism activities, because on the one hand it has a beautiful and attractive scenery, and on the other hand it pleases the atmosphere of the region. In addition to being a shelter and a suitable environment for birds and wildlife, the study area is rich in natural vegetation diversity. See Map 5. There are dense, medium and open forests in the mountainous areas. Riparian forests also exist along streams and rivers along permanent water sources, and various species of vegetation grow in the area during the wet seasons. The natural vegetation diversity of the study area is an important factor in attracting tourists to the study area.

<sup>(6)</sup> Rebaz Luqman Mustafa, Geographical Capabilities of Tourism Planning and Development in Penjwen District Using GIS, Master's Thesis (unpublished), Sulaimani University, College of Humanities, 2016, p59.

Map No. (5) Natural plant species in the study area



Source: Researchers' work using Arc Map GIS 10.8, and based on: Landsat 8 aerial images of the study area for the summer season (2021).

## 6. Water resources

Water resources are of great importance in the field of tourism, is considered an important basis for the development of tourism, because tourists are always looking for suitable water to meet their various needs. Here, water resources refer to surface and groundwater, the first includes rivers, lakes, wells and tributaries, the second includes natural springs of different types (health, minerals, ponds), except rain and snow, which is considered the most important source of water. Water resources are closely related to most tourism activities. The degree of importance of water resources depends on several factors, most notably their amount, type, characteristics, location and conditions related to their use. Especially if tourism factors and services are provided in such a way as to allow tourists to implement water tourism activities, such as (swimming, diving, diving, etc.). There is no doubt that water resources in various forms are the main requirements of tourism, especially if in the form of springs or fountains or lakes, water resources have a strong relationship with the emergence and development of tourism. The relationship between water resources and tourism can be divided into two parts, as follows <sup>(7)</sup>:

1. The direct relationship between water resources and tourism is that many types of water resources are the main source of tourism and tourism activities are directly related to them. Without them, tourism activities cannot be carried out.

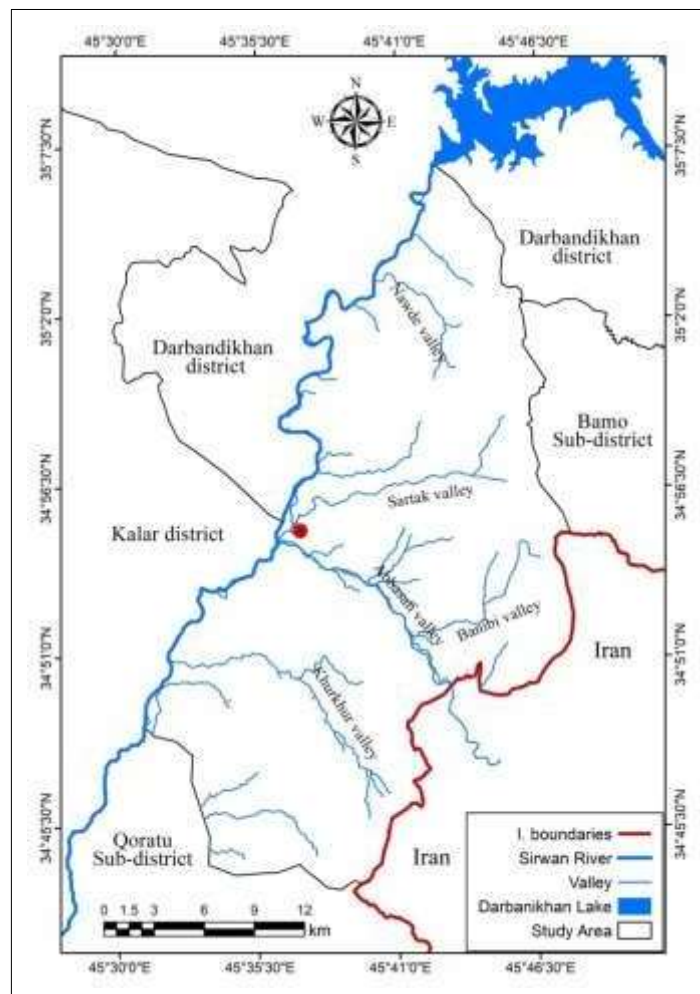
<sup>(7)</sup> Amanj Jalal Ahmad, A Geographical Analysis of Tourism Development Potentials in Dukan District, Master's Thesis (unpublished), Koya University, Faculty of Education, 2015, pp. 79-8



2. Indirect relationship between water resources and tourism, this relationship includes the impact of water resources on the beauty of nature, agriculture, agricultural and industrial production and providing the daily needs of the residents of tourism centers.

Regarding water resources in the study area, the area is very rich in water resources, especially groundwater, which is an important factor in attracting tourists and developing tourism in the area. There are also several springs and natural water sources in the region, but the most prominent water resources in the region is the part of the Sirwan River that forms the western border of the region. Also, the permanent tributaries of Hawasan, Khurkhur, Sartak and Belula are permanent water sources in the area due to the presence of spring water. In addition, there are several seasonal streams in the area, see Map No. (6). This is despite the presence of several small ponds and lakes in the area, all of which are of special tourism importance in the area, and are used for various purposes of tourism activities.

Map No. (6) Groundwater resources in the study area



Source: Researchers' work using Arc Map GIS 10.8, and based on: Elevation and elevation model file (12.5 m) of the study area.

Second, the human features of the study area

Here we point out the role and impact of human resources that complement natural resources, because human resources are the leaders in the development and utilization of natural resources. There are many and varied geographical human resources that affect tourism activities, such as population, economy, income level, leisure time, traffic, accommodation, modern markets, tourism awareness, etc. These factors in the

development of tourism vary from time to time and from place to place, according to the changes in society itself<sup>(8)</sup>.

Human resources include those that are man-made, such as (population gathering centers, historical, religious and civilizational monuments, industry and artificial works, roads and means of transportation, tourism services). What is important to note here is that since the study area is a district, it is a small and remote area. Therefore, the human resources are not many and varied, compared to the natural resources, but there are some obvious human resources in the region, which if developed will lead to the development of the tourism sector in the region.

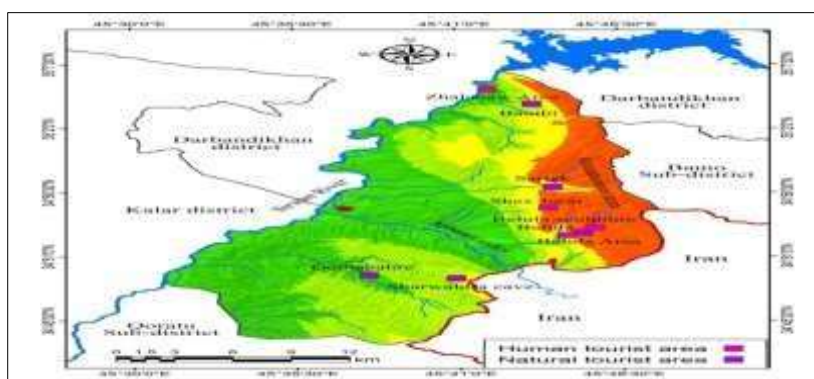
Concerning the human resources of the study area, it is reflected in the activities of the population. Obviously, the presence of a large number of population in any area is considered an important factor for the increased demand for tourism, whether domestic or foreign. Regarding the population of the study area, according to the 1957 census, the population of the district was 3901 people, decreased to 2818 in the 1965 census, while the population declined again to 2563 according to the 1977 census). This is due to the policy of Arabization by the Ba'ath government, so that both the districts of Quratu and Maidan were abolished at that time, and the Kurdish population was forcibly migrated to Kalar district, in order to reduce the number of Kurds in the area<sup>(9)</sup>. Nevertheless, according to the latest estimates for the Iraqi population in 2021, the population of the study area is 7,654. Therefore, the population of the area has grown slightly, which is the annual growth between (1957 – 2021) is (1,06%), which are divided into the center of the district (48) villages. In terms of environmental distribution, 6765 of the population live in rural areas and 889 in the district center. In terms of gender, 3791 are males and 3863 are females<sup>(10)</sup>. The population density is currently 13 people/km2.

As for other human resources, it is weak in terms of industry, artisanal works, roads, transportation and tourism services. However, there are many historical, religious and civilizational monuments and artificial beaches in the area. They can be developed and grow into an important human tourism center in the region in the future.

Discussion 2: Natural and man-made tourism areas of the study area and how to develop them.

The most important tourist areas of the study area are:

Map No. (7) Tourist areas of the study area



(8) Halbast Abdulrahman Tofiq, Geographical Capabilities of Tourism Development in Mergasur District, Master's Thesis (unpublished), Salahaddin University, College of Literature, 2012, p. 68

(9) Jaza Tofiq Talib, Hemn Nasruddin Mohammed Amin, Geographical Analysis of the Population of Khanaqin District, Halabja University Journal, No. (7), No. (1), 2022, pp. 27, 28 and 30.

(10) Republic of Iraq, Ministry of Planning - Central Bureau of Statistics, estimates of the population of Iraq by administrative units, environment, and gender for the year 2021.

Source: Researchers' work using Arc Map GIS 10.8, and based on: Field visits to the study area.

First, natural tourist areas

### 1. The Sirwan River

It is one of the most prominent land surface features of the study area, which is (54,18) km long and becomes the western natural boundary of the area, and separates the two districts of Darbandikhan and Kalar. The valley of the Sirwan River within the study area has a beautiful and attractive landscape. See Figure 1. It is used for many tourism activities, such as picnics, recreation, swimming, water motorcycles and fishing, although the Sirwan River has faced a number of obstacles in this area. For example, the deterioration of the geomorphology of the river and the natural environment of its valley in some places, due to the continuous operation of concrete pebble factories and the negative role of humans. For the progress of the Sirwan River Valley, environmental awareness guidelines should be issued, tourist attractions should be built on the river, with some tourism services, such as hotels, restaurants, cafeterias, etc.

Picture No. (1) Sirwan River within the study area



Source/ Image (a) was taken by the researchers, and image (b) is adapted.

### 2. Sartak Resort

The most famous natural resort of the study area is a narrow and high canal between the two mountains Bamo and Khushk in the north of the study area, which is visited by people from the Kurdistan Region and even Iraq for tourism purposes. It has a beautiful and unique landscape, see picture No. (2).

The pleasant climate, spring water sources, natural vegetation and various geomorphological phenomena have also made the area more attractive. However, the lack of tourism services has caused tourists to stay for a certain period of time, while Sartak resort like many other resorts can be developed and all tourism services such as hotels, restaurants, cafeterias, markets, etc. be established.

Picture No. (2) Sartak Resort



Source: Photos taken by researchers



### 3) Banibi Resort

A beautiful and attractive beach is located on the slopes of Mount Zmnako in the north of the study area. This beach is mostly visited by tourists in spring. There is a lake and a beautiful waterway, with some open trees. However, this area has no tourism services, some basic services should be provided to attract more tourists.

Picture No. (3) Banibi Resort



: Photos taken by researchers.

### 4) Belula Resort

This Resort is located in the northeast of the study area. A large number of tourists visit it in autumn, spring and sometimes in summer. Permanent water sources, abundant trees and favorable weather have made the area attractive to tourists. Though, this resort, like other resorts in the study area, is deprived of tourism services. This area can be developed like most other resorts in the Kurdistan Region, and provided with tourism services. Primarily the convenient way to reach the resort, as the area is remote.

Picture No. (4) Belula Resort



Source: Retrieved Pictures

### 5) Gomabahri Resort

Gomabahri Resort is located on the Khurkhur River in the south of the study area.

See Figures (5). On the other hand, in summer the phenomenon itself has a different climate compared to the region, although Gomabahri resort is located on the main route of the stream during the dry season, but due to the flow of water from both Sartaf and Rash springs. Water is one of the factors that attract tourists, the lake is suitable for swimming and recreation, especially in summer. Although it has a lot of depth and



swimming is adventurous, but there are several factors that have led to fewer tourists visiting it, including the remoteness of the sea phenomenon from the surrounding residential areas, lack of roads and services. A number of tourism services should be developed in the area to attract more tourists, including road repairs, restaurants and accommodation, as well as tourist bridges<sup>(11)</sup>.

Picture No. (5) Gomabahri resort



Source: Photos taken by the researchers

#### 6. Mountainous areas (Bamo, Khushk, Zmnako, Sharwaldra)

As mentioned earlier, there are a number of mountain ranges and peaks in the study area, which are of special tourism interest, and have given the area a beautiful and attractive landscape. In addition, mountainous areas are characterized by favorable climate, spring water sources, various natural plants, birds and wildlife. The most prominent of these are the mountains (Bamo, Hushk, Zmnako) which extend in a chain from north to northeast, as well as Mount Sharwaldra in the middle of the study area near the Iranian border. Some tourists prefer a different type of travel, such as adventure and mountaineering tourism, and sometimes stay in these mountains for more than 24 hours.

Picture No. (6) Mountainous areas of the study area



Source: Photo by the researchers.

(11) Shirwan Omar Rashid, Hemn Nasruddin Mohammed Amin, A geomorphological analysis of the emergence and development of tourism sea phenomenon in Garmian region, *Journal of Sulaimani University, Part (B – Humanities)*, No. (66), 2021, pp. 61-6

## 7. Sharwaldra Cave

Caves are one of the unique geomorphological phenomena, which have a beautiful and attractive shape, have special tourism importance worldwide. Many interesting and beautiful sights and phenomena can be seen, including (Stalactites) and (Stalagmites), tourist caves are one of the reasons to attract tourists around the world<sup>(12)</sup>. Sharwaldra Cave is located on the slopes of Sharwaldra Mountain near the Kurdistan Region-Iran international border, at the intersection of latitude ( $\bar{=}$  15° 84' 48") north, and longitude ( $\bar{=}$  55° 85' 81") east<sup>(13)</sup>. This cave is a karst phenomenon, and was formed as a result of melting by chemical weathering over the years. This cave has not been given much attention and no tourism services have been provided, but some tourists visit it. For a long time, sometimes for more than (24) hours stay there, if paid attention and some tourism services, especially such as roads, it will be a strong point in the future to attract more tourists to the area.

Picture 7: Sharwaldra Cave



Source: Retrieved pictures

First, human tourism areas

### 1. The Belula patterns

Belula Pattern is located northeast of Belula village. It is a pattern on the side of Mount Bamo at a height of (150) meters, the length of this pattern is about (90) cm, which is a statue of a man who seems to have power. Another man is praying in front of him and another is lying under his feet. See picture No. 8. There is a vague nail inscription below. There are different opinions on the date of this map, which is believed to date back to the late second or early third millennium BC. Because this pattern is in a tourist area, and it is a historical monument map, so most tourists who visit the area, to enjoy the ancient monument<sup>(14)</sup>. If the relevant authorities develop the tourist area of Belula, in the future to become a resort, then more tourists will visit the site.

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(12) Sherwan Omar Rashid, and others, Tourism development of caves in the Kurdistan Region of Iraq, Journal of the University of Dohuk for Humanities and Social Sciences, Volume 25, Issue 1, 2022, p. 480.

(13) Khaled Wali Ali, Haiman Nasr al-Din Muhammad Amin, Evaluating the potential of geomorphic phenomena for adventure tourism in the Garmian district, Diyala University Journal, No. 82, 2019, p. 594.

(14) Khaled Wali Ali, Tourism Ingredients in the Garmian District and Its Future Prospects, Master's Thesis (Unpublished), Garmian University, Faculty of Humanities and Sports, 2014, pp. 135-136.

Figure 8 is a bellows pattern



Source: Retrieved pictures

#### 2. The grave of Sheikh Jurayr

This grave is located at the foot of Mount Bamo between the two beaches Sartak and Belula, considered sacred by some residents of the area and surrounding areas. People visit it constantly and at different times, to the point of staying overnight.

#### 3. Zhalanaw resort

It is a man-made resort, consisting of tourist shades, located in the northwest of the study area, built directly on the Sirwan River. The importance of this resort is that it is close to the traffic road, so that it is close to the main road of Kalar - Darbandikhan, and is located on the road of Zhalanaw, Banibi and Sartak. It has the most accommodations among other resorts in the area, because it is near the lower tourist camp of Darbandikhan, especially for Arab families coming from central and southern Iraq. Sometimes due to the rising water level of the Sirwan River, sometimes accidents such as drowning of tourists occur in this resort, so it is necessary to establish water emergency station and special police to rescue these accidents <sup>(15)</sup>.

Picture No. (9) Zhalanaw resort



Source: Photo by researchers.

#### 4) The Artificial Bellula Resort

This resort is man-made, and consists of a tourist shades (see picture No. 10), located in the northeast of the study area. Built at the end of the Bellula resort, this area has some tourism services, and a significant number of tourists visit it in the middle season and even in the summer season. However, due to the

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<sup>(15)</sup> Pshtiwan Ali Mohammed, Morphomotor processes in Maidan district and their impact on human activities using GIS & RS, Master's thesis (unpublished), Sulaimani University, College of Humanities, 2022, pp. 139-1



remoteness of the area, which is located in the far northeast, it needs more tourism services to be developed and attract more tourists.

Picture No. (10) Bellula Artificial Beach



Source: Retrieved pictures

### **Results**

1. The study area has a strong potential for natural characteristics, and a low potential for human characteristics in attracting tourists to the study area.
2. Although the study area is a small area, there are significant differences in natural characteristics, so that (11) geological structures have been revealed in the area. There are also large differences in altitude and low altitude, with spatial differences in climate types and vegetation cover.
3. Both Sartak and Belula beaches have the potential to become summer resorts, due to their continuous water sources, diverse trees and favorable climate, and their location, each located between two high mountains.

### **Recommendations**

1. Paying more attention to the tourism of the region and its development, including protection, monitoring and spreading awareness to the residents and tourists.
2. Further promotion of Maidan district in terms of tourism, in the media and social networks.
3. Developing the area by providing a number of tourism services, roads, hotels, restaurants, cafeterias, etc.
4. Working on turning both Sartak and Belula beaches into resorts.

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