

The Directions of Tourists' Destinations in Rwandz and Soran Districts in Kurdistan, Iraq between 2013-2018

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Abstract. Human movements and their travel in the world has gone through various stages throughout history. Tourism plays a significant role in the economic sector and increases national revenue. Therefore, it impacts the growth and development of areas that have attractive natural and physical features. Studying the variations in tourists' destinations can be helpful to understand tourists' behavior and its influence on the development of touristic sites according to their characteristics and tourists' demands in the future. The main aim of this research is to study tourists' movements in Soran and Rwandz district sites between 2013-2018 using the Geographic Information System (GIS) and R program. In this study, data on the movement of tourists in Rwandz and Soran districts are obtained from the General Board of Tourism in the Kurdistan Region of Iraq and the Soran Tourism Directorate. The tourist sites in the study are Ali Beg Valley, Pank Tourist Resort, Bekhal Summer Resort, Korek Mountain Resort and Jundian Summer Resort. Graphs and statistical calculations of trend were processed in R, a programming language and open-source environment for statistical computing and graphics. This research shows that in 2013, 83076 tourists visited Soran and Rwandz district tourist sites, but after 2018, compared to the previous years, the figures showed an increase of visitors to 97073 tourists. From 2013 to 2018, Arab tourists contributed the most, and their numbers increased from 26136 to 42838. The number of tourists towards Pank Resort peaked with 70586 tourists, but in 2018, there was a change in the destination of tourists towards Ali Galley Bag waterfall with 25116 visitors.

Keywords: *movement, Rwandz, Soran, tourism, tourist.*

INTRODUCTION

The movement of humans on earth relates to people's needs, services, and prosperity. This includes tourism or "the movement of tourists" when an individual leaves his permanent place of residence to visit resort sites and depends on means of transportation [1]. Tourism plays a significant role in economic growth, and it has become one of the most important industries of the 21st century. Tourism is vital in the global development of countries as it increases a state's revenue and lets more money into the country [2]. In addition, tourism has a strong relationship with the marketing of tourist sites; it brings in more investors to develop new tourist locations and impacts job creation and opportunities for the residents as well as the regional economic growth [3].

Researching tourist movement is complex, and it is essential to study why tourists decide to change their destination; this may be due to several reasons, including time, place and means of their movements [4]. Furthermore, to understand all types of tourist movements, it is essential to research the tourist sector and its influence on the development of infrastructure, superstructure, tourist sites, resorts and planning for the new attractive locations [5]. In addition, it is important to investigate the directions of tourist movements and monitor tourists' destinations, their choice of attractive sites, and the length of their stay. All these issues can be investigated through various techniques, including interviewing. This allows researchers to understand tourists' behavior and the time, place, and impact of tourism on the availability of services and how these meet the needs of tourists who bring in foreign currencies to the area [6,7,8].

Therefore, the movement of tourists, and the changes of destination, is based on the attractiveness of tourist sites which include physical and human features [9]. The tourists' movement is the alteration of sites, either locally or internationally. There are many reasons for this; the main ones are the preference of attractive touristic sites and the time motives or travel factors [10]. Because there are many human and physical features in the Kurdistan region of Iraq, in the future, tourism can contribute the most to the economy of this region. Developing the tourism industry can increase the national revenue and individual income; as explained by Nadir Rustay¹, "tourism is Kurdistan region's oil in the future". For example, in 2013, exactly 2,952,027 tourists visited Kurdistan, and the figures showed a rise with around 3,057,642 visitors in 2018. The researched area is located in the Erbil Governorate; Erbil is the capital city of the Kurdistan region. In

¹ Official spokesman for the General Authority for Tourism, Kurdistan Region of Iraq

2014, Erbil was named the tourism capital because of its outstanding features. In 2013, 83,076 tourists visited the Soran and Rwandz Districts; this number increased to 97,073 visitors in 2018 [11,12,13].

The purpose of current study is to identify the tourist movements within the touristic sites of Soran and Rwandz Districts. In addition, this research can be helpful to understand the tourist movements based on the gender of visitors and the location of touristic sites. Hence, this study investigates the remarkable popular places and the most attractive tourist destinations in the researched area. It also discusses the reasons impacting tourist attractions, infrastructure and superstructure facilities.

1. Literature review

Many researches have been done on the touristic movement sites and their impact on the tourists' movements. Based on the background information, the researchers have listed several studies that dealt with the topic of the tourism movement, following different methodologies and results that have been provided.

An empirical case study was conducted to understand tourist movement patterns from the perspective of party size using mobile tracking data in Xi'an, China. Travel party size has been shown to affect tourists' behavior. Tourist movement patterns were compared across different party sizes from demographic, spatial, and temporal aspects [14]. This paper reported on a study analyzing the movements of tourists within an urban destination. A total of 78 discrete movement patterns were identified, which were categorized into 11 movement styles. Data were analyzed using GIS software [15].

The current study area is active in the tourism movement resulting from the passage of visitors from the southern provinces to the holy sites of Karbala and Najaf, where tourists and visitors visit shrines, religious sites and various recreational sites [16].

This study sought to shed light on the most significant natural resources that contributed to the activation of the natural tourism movement in the town of Batir/ Jordan. The study used the cartographic approach to protect the natural resources on specialized maps through GIS technology. Additionally, it adopted an analytical approach to analyze the maps produced for the study area and the reality of their natural resources [17].

The objective of these studies was to simulate the current and projected movement of individuals in relation to pedestrian infrastructures or the management actions to determine the impact on visitor experience and infrastructure capacity [18].

A study on the travel advice issued by major tourists' origin countries, including the USA, Australia, Canada, Germany and the United Kingdom, was carried out. Incidents, such as terrorist attacks, epidemics, or natural disasters that greatly impacted tourism, were then selected. Besides, the issuance of travel advice, their different issuing authorities, the classification level, and the impact on tourism in the country or the place in question was examined [19].

This study aimed to determine tourism development and tourists' movement or migration patterns of tourists visiting the Floating Market Lembang, West Bandung. This research used a descriptive method with a survey approach [20].

This study investigated tourist movement patterns in Europe. Researchers acquired 122 data points from posts on the NAVER blog, the most famous social media platform in Korea. These data were transformed into matrix data for social network analysis and analyzed for centrality. The results suggest that Korean backpackers in Europe tend to enter Europe through London and Paris, while Venezia and Firenze are key cities [21].

The methodology of this research aimed to reveal the 'hot spots' of such sites according to visitors' views. This work, therefore, sought to establish a sound methodology for collecting data on the visitor experience and interaction with archaeological sites [22].

2. Material and methodology

2.1. Study area

Soran is 105 km away from Erbil; it is a commercial, touristic and archaeological district. It is located close to the triangular border of Iran, Iraq, and Turkey and is also surrounded by a chain of mountains, including Hendren, Zozk, Hassan Bag, Bradost, and Korek mountains. The beauty of Soran city is complemented by two rivers that run across the city. The first river flows through the border district of Haji Omran, while the second runs through Mergasoor. Thus, Soran is an important link between Rwanz, Choman, and Mergasoor and all other districts and villages in the region. It was elevated to the rank of District in 1980-1981 and renamed Al-Sadiq until its old name was restored following the uprising of 1991[23].

The city of Rwanz is located 107km northeast of Erbil. The city's name comes from Rawn, a famous poet from the area, and Duz, a citadel or tower in Kurdish. It is located 1500m above sea level, between the valley of Xarand and Xala Rash. The district is surrounded by mountains, including the Korek mountain to the south, Hendren to the north, Zozk to the west, and Bradost to the east [24].

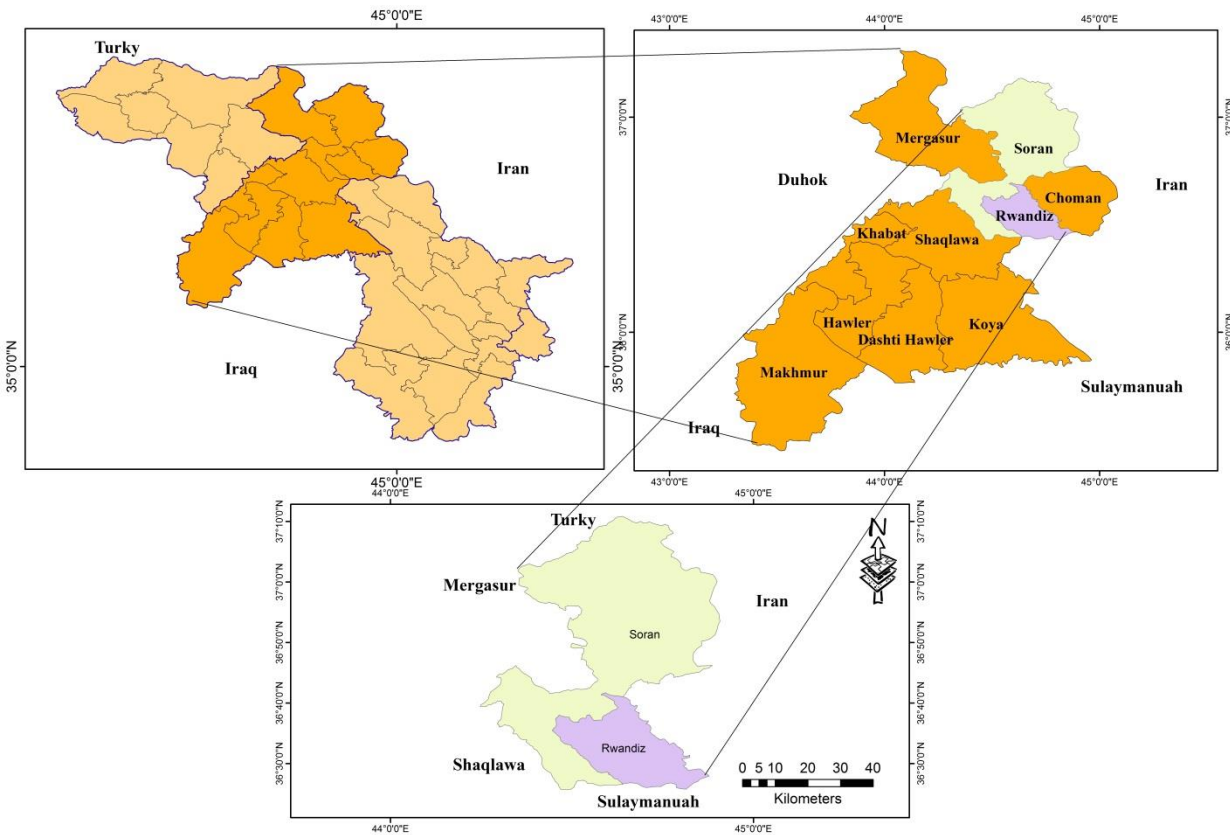


Figure 1. An illustration of the location of the study area.

2.2. Data collection

In this study, data on the movement of tourists in the Rwandaiz and Soran districts were obtained from the General Board of Tourism in the Kurdistan Region of Iraq and the Soran Tourism Directorate from 2013 to 2018. This information helped to analyze the movement of tourists by nationality and by tourist sites and the changes in the movement of tourists. In addition, field studies of tourism sites were conducted by taking the coordinates of those sites using a GPS device projected on a map utilizing techniques GIS. Also, personal interviews with tourists and experts in tourism were conducted to explain and analyze the movement of tourists in the study area. The tourist sites in the study area are the following places: Ali Begg Valley, Pank Tourist Resort, Bekhal summer Resort, Korek Cable Car and Jundian Summer Resort (Figure 2).

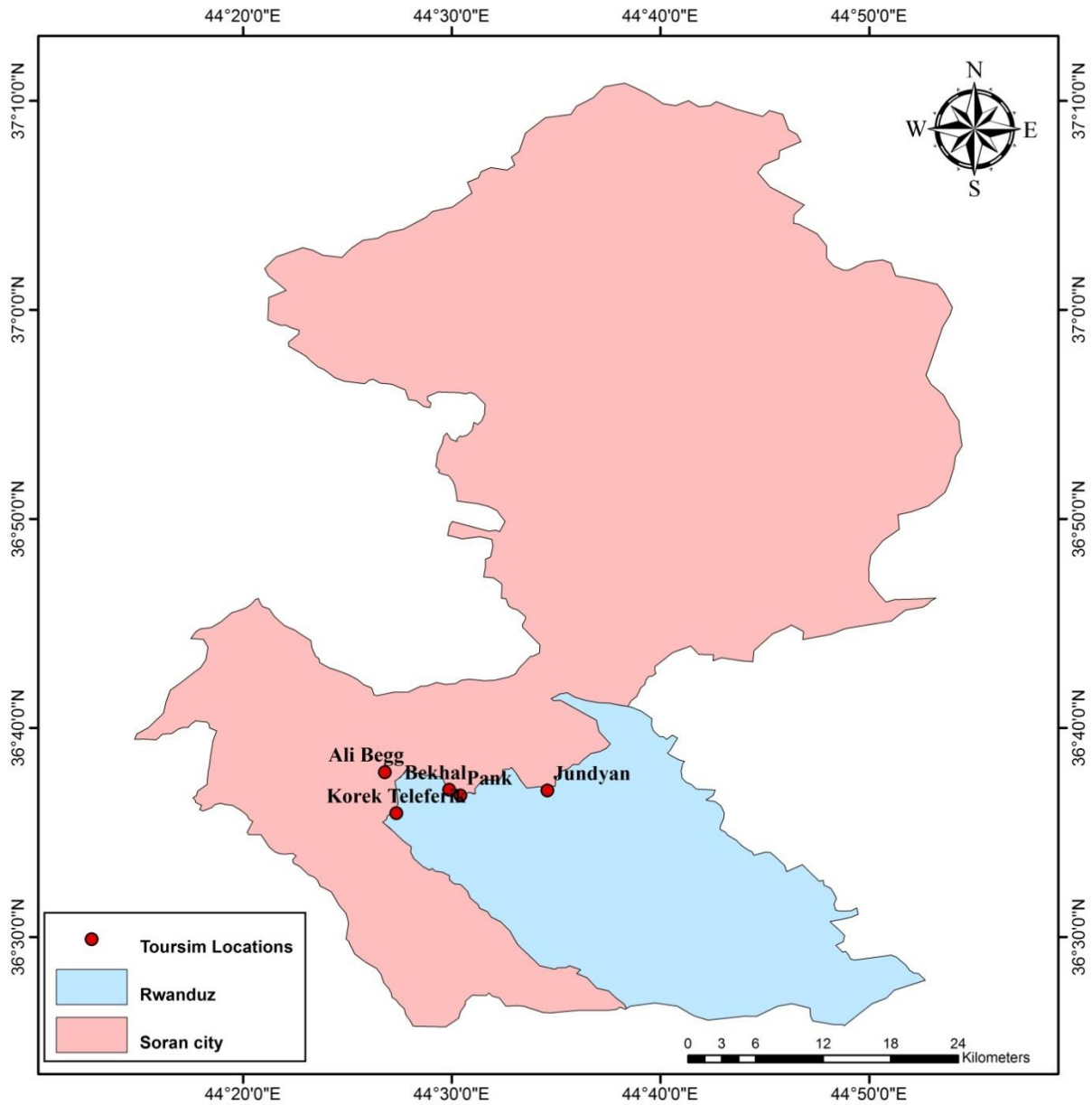


Figure 2. An illustration of the location of tourism in study area.

2.3. Methods

Graphs and statistical calculations of trends were processed in R, a programming language and open-source environment for statistical computing and graphics [25]. First, statistical results such as yearly trends and trend during the period (*trendp*) were calculated using Equation (1) below and the Theil–Sen approach (TSA) in “zyp” package in R [26]. Then, the significance of the trend was assessed using a Kendall test [27], as shown in Equation 2 below.

$$b = \text{Median} \left(\frac{x_j - x_l}{j - l} \right) \quad \forall l < j \quad (1)$$

where b is the estimation of the slope of the trend and x_l is the l th observation.

$$s = \sum_{i=1}^{n-1} \sum_{j=i+1}^n \text{sign}(x_j - x_i) \quad (2)$$

$$\text{sign}(x_j - x_i) = \begin{cases} 1 & \text{if } x_j - x_i > 0 \\ 0 & \text{if } x_j - x_i = 0 \\ -1 & \text{if } x_j - x_i < 0 \end{cases}$$

where: $x_1, x_2 \dots x_n$ represent n data points, x_j represents the data point at time j , and S is the Mann-Kendall test.

3. Results and Discussion

3.1. Directions and tourists' movements in Rwandz and Soran according to nationality

As highlighted in Table 1 and Figure 3, 2013 witnessed the highest number of visitors to the studied area, peaking at 83076. In addition, data suggest that Arab tourists were the most important group, with 26136 visitors. This can be explained by several factors. Firstly, the above results can be explained by the liberation of Iraq, including the Kurdistan region, by the coalition forces in 2003 and the removal of international economic sanctions on Iraq, which were the main reasons for the growth of the tourism sector in the area. Secondly, Kurdistan has become an important diplomatic place as it saw the opening of new consulates and embassies in the region. This brought new people to the area, either from abroad or from other areas of Kurdistan. Thirdly, the safety and security of Kurdistan compared to the central and southern parts of Iraq also explained this surge in tourism. Finally, the growth of the individual income explains this phenomenon.

However, it must be noted that between 2014 and 2015, the number of tourists plummeted from 49375 to 32150 because of three main factors: (1) the eruption of the Islamic State of Iraq and Syria (ISIS) and the occupation of some parts of Kurdistan, (2) the hazardous nature of roads for tourists, (3) the severity of the regulations at Kurdistan's checkpoints towards visitors to maintain security in the area impacted the emotional wellbeing of the tourists and (4) the cut of the Kurdistan Regional Government share of the budget by the Central Iraqi government caused a decrease of the individual revenue and in turn, a sharp fall in the number of Kurdish tourists.

Table 1 also illustrates that the number of tourists from 2016 to 2018 saw a reversal with 65271 and 97073, respectively. Several reasons can explain this trend. First, the Prime Minister of Kurdistan inaugurated a tourism conference in 2016 attended by hundreds of foreign companies. Second, a strong relationship was created between all tourist security checkpoints. The Prime Minister also requested the Ministry of Interior to facilitate the arrival of future tourists. Fourth, the tourist sites selected by Soran's committee of tourism were advertised on overseas television and seen by 40-50 invited journalists. Fifth, all Iraqi tourism companies from central and southern Iraq (about fifty companies), from Iran and Jordan (roughly fifteen companies), were invited to do business in Kurdistan. Finally, in 2017 an international tourism event was launched in Erbil.

Table 1

Number of tourists by nationality in Soran and Rwandz between 2013-2018

Years	Kurds	Arabs	Foreign	Iranians	Total
2013	22384	26136	20830	13726	83076
2014	13587	19376	4060	12352	49375
2015	22751	6502	1917	980	32150
2016	21448	36820	3634	3369	65271
2017	25479	42678	11888	5559	85604
2018	37055	42838	10335	6845	97073

Source: Kurdistan Region, Iraq; Council of Ministers, Ministry of Municipalities and Tourism; General Board for Tourism; General Directorate of Tourism, Erbil; Directorate of Soran Tourism; Tourism Statistics Department, 2019.

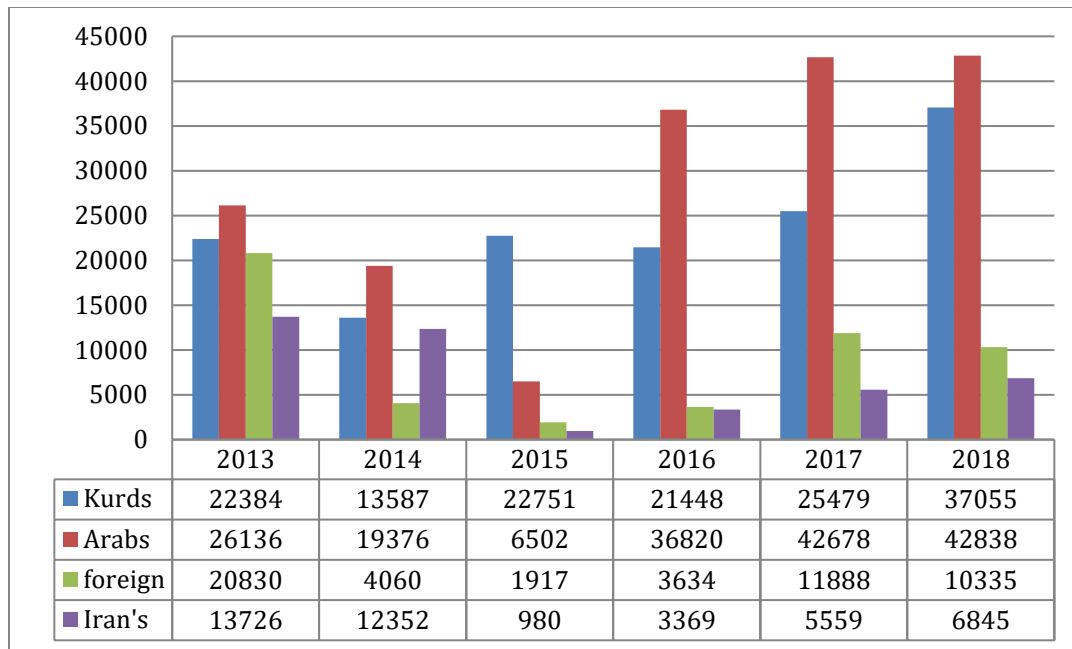


Figure 3: Number of tourists by nationality in Soran and Rwandz between 2013-2018

3.2. Directions and tourists' movements in Rwandz and Soran according to tourist sites

Table 2 and Figure 4 display the movement of tourist direction to the tourist sites in the area studied. In 2013, 70586 people visited the Pank resort, and the number of visitors steadily increased until 2015 for the following reasons. Firstly, several superstructures exist, including 120 villas, restaurants, and the Shingle Bana Resort. Secondly, this is also due to the proximity of Rwandz city (3 km), thereby benefiting from the existing economic infrastructure. Thirdly, the site is 1100m above sea level, which gives the area cooler weather during the scorching heat of the summer compared to the surrounding areas. Fourthly, it is close to the Bexal Resort, visited by many tourists between 2013 and 2015 during the summer seasons. However, in 2016 and 2017, tourists were more numerous around the Korek Mountain Resort, with 16781 and 26789 visitors, respectively. The topography of this area is phenomenal as it is 2155m above sea level, and it snows in the winter in altitude; this attracts tourists and is one of the reasons why winter tourism started as people can ski and take part in other winter sports activities. The resort has 37 motels, and a ski lift of 4 km long and 75 m high is being constructed to help skiers get to the top of the mountain.

As for the year 2018, tourism moved towards the Ali Begg Valley, with 25116 visitors. The site is popular among local Iraqi tourists as it is well-developed; it provides numerous facilities and tourism services to visitors in addition to benefitting from a good road network.

Table (2) Number of tourists by tourism sites in Soran and Rwandz between 2013-2018

Years	Ali Begg Valley	Pank Tourist Resort	Bekhal summer Resort	Korek mountain Resort	Jundyan summer Resort	Total
2013	7344	70586	2864	-----	2282	83076
2014	2975	41864	888	2319	1329	49375
2015	7442	14509	2603	6156	1440	32150
2016	11804	15930	7833	16781	12923	65271
2017	18556	19335	12041	26789	8883	85604
2018	25116	19089	16755	18924	17189	97073

Source: Kurdistan Region, Iraq; Council of Ministers; Ministry of Municipalities and Tourism; General Board for Tourism; General Directorate of Tourism, Erbil; Directorate of Soran Tourism; Tourism Statistics Department, 2019.

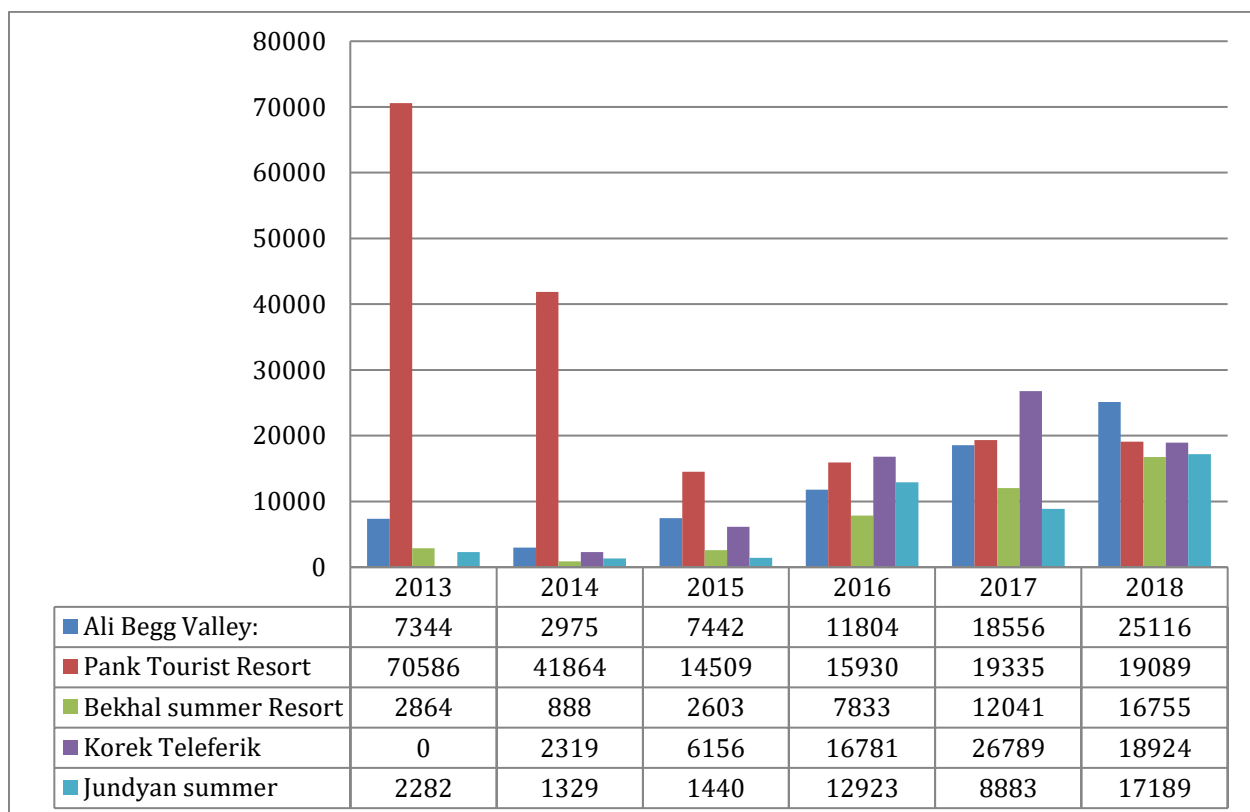


Figure 4: Number of tourists by tourism sites in Soran and Rwandz between 2013-2018

3.1.3 Tourist movement changes to tourism sites Rwandz and Soran districts using R.

The graph in Figure 5 shows the evolution of Arab tourists numbers, which were the most numerous visitors. During that period, exactly 24813 visitors came to these sites, representing 4136 visitors annually on average. The largest number of Arab tourists was seen in 2018, and the lowest number was in 2015, with 6502 visitors. Kurdish tourists were the second largest group totaling approximately 22583 visitors and 3931 annually on average.

Visitors from Kurdistan were the largest group in all five sites in 2018, while the smallest number of visitors was in 2014. The largest number of Iranian and other foreign visitors was seen in 2015, while the smallest was in 2013. Over six years, 8257 Iranian tourists visited the sites, representing a yearly decrease of 1376 visitors. Likewise, 1278 foreign tourists visited the Kurdistan region, that is, a yearly decrease of 213 visitors.

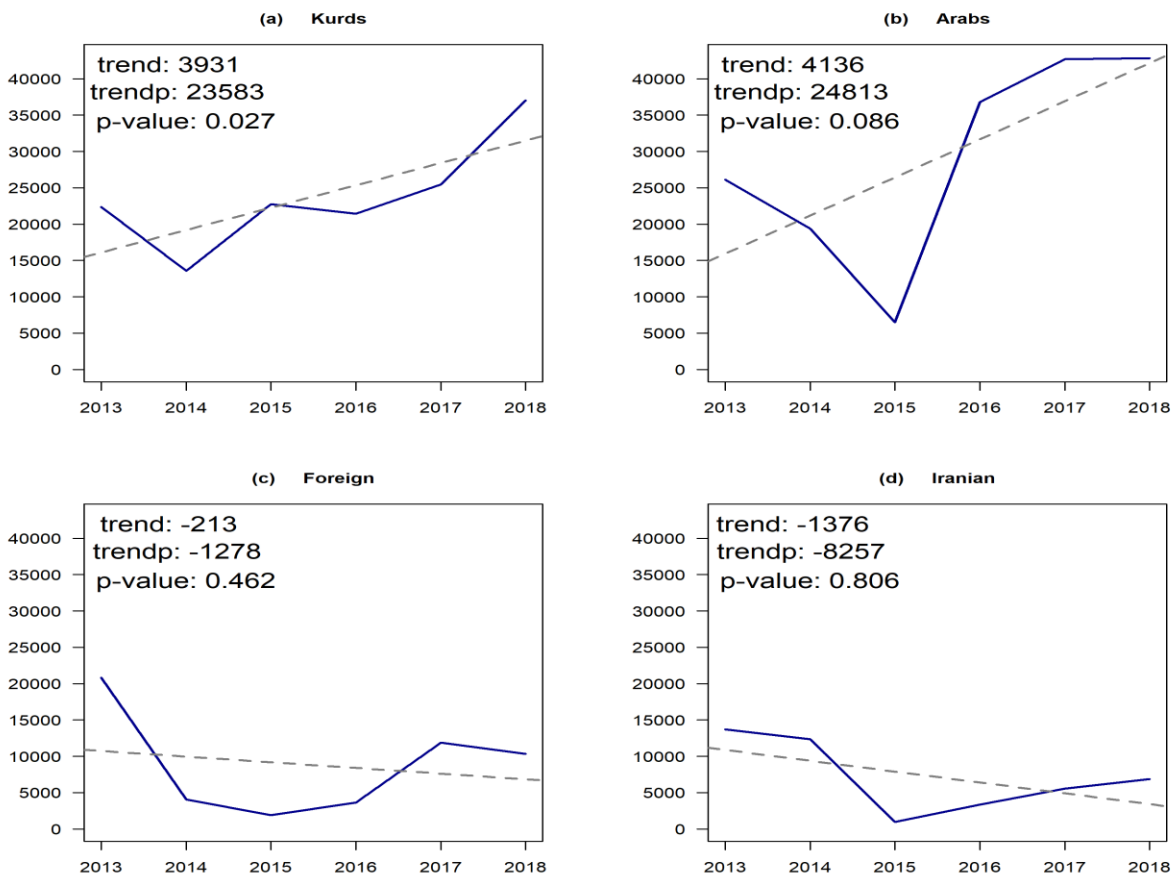


Figure 5: Tourism trends and movement by nationality from 2013 to 2018

According to Figure 6, the total number of visitors to all five tourist resorts (Ali Begg Valley, Bekhal summer Resort, Korek Mountain Resort, and Jundyan) has increased except in the Pank Tourist Resort.

The directions of nationality and tourist sites appeared positive; however, the number of visitors decreased dramatically in the Pank Resort over six years, with a decrease of 45058 tourists. Conversely, the Pank resort had the highest number of visitors between 2013-2015. During that time, most tourists headed for Ali Bag, with 26802 visitors, representing an annual increase of 4467. The second most visited site was Korek, with 25536 tourists, representing an annual increase of 4256 tourists. The largest number of visitors in Korek was in 2017, with 26789 tourists.

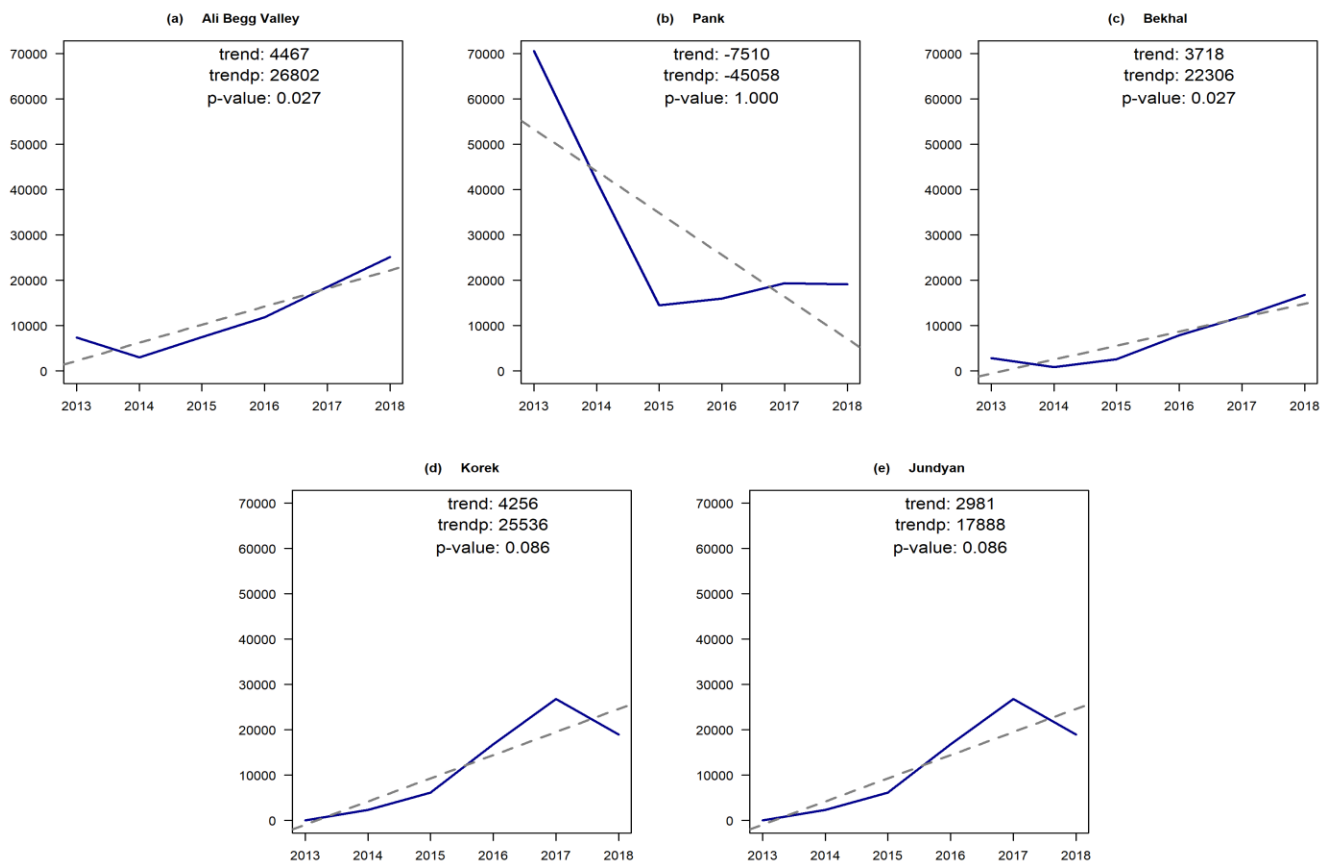


Figure 6. Tourism trends and movement according to tourist sites in 2013-2018

4. Conclusions

Rwandz and Soran districts both have several components and are located in mountainous areas. Tourists visit both areas because of the cool weather in the summer and the winter and their geographical locations. The Hamilton Road passes through both districts; it is known as the international road number 3. It connects the capital city of the Kurdistan region, Erbil, to the north of the country, to Iran and the south to Bagdad. Undoubtedly, this attracts Arab tourists and foreign tourists to its tourist sites.

In 2013, 83076 tourists visited Soran and Rwandz districts' tourist sites, but after 2014, specifically in 2015, the number of tourists saw a dramatic decrease because of the eruption of the Islamic State in Iraq and Syria (ISIS) who took over large swathes in both countries and some parts of northern Iraq. This had a detrimental impact on tourism and tourist destinations. However, in 2018, compared to the prior years, the figures showed an increased number of visitors, with 97073 tourists because the ISIS militants were pushed out of some areas and defeated.

From 2013 to 2018, Arab tourists contributed the most, increasing from 26136 visitors to 42838. The number of tourists in the Pank resort peaked at 70586 tourists, and tourists continued to favor this location until 2015. After 2016 and 2017, the Korek resort became another tourists' destination with 16781 and 26789 visitors, respectively. However, in 2018, tourists favored the Ali Galley Bag waterfalls, with 25116 visitors. This is because many new modern infrastructures were built and redesigned, which facilitated the availability of more services.

Finally, this research discussed the changes in tourist destinations and the number of visitors according to nationalities and tourist sites in both Soran and Rwandz districts using the R program.

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