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A vision to improve the level of tourism performance in North Sinai Governorate

(Field study during 2014:2023)

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ABSTRACT

Tourism development is considered one of the main perspectives for developing any society due to its economic, social, and environmental importance etc..... As Egypt is one of the most important tourist destinations, including various marvelous areas such as the Sinai Peninsula, it generally seeks to achieve specific objectives, such as improving the performance of targeted tourist spots. The North-Sinai governorate offers a unique model for tourism development, boasting a unique geographical location, climate, religious monuments, and attractive tourist attractions. However, the North Sinai governorate suffers from weak tourism performance because of underperforming matters concerning tourism development. This study aims to promote and develop tourism performance to achieve tourism development in the North Sinai Governorate. Some concepts related to tourism were reviewed, and the current situation of the governorate was analyzed, including its potential and obstacles. Also, questionnaire forms were distributed to a sample of people who frequent the governorate, including evaluating transportation services, access methods, infrastructure, services supporting tourism, etc. Through analyzing the results of the questionnaire, which confirmed the study hypothesis, some alternatives, suggestions, and recommendations were developed that help increase the level of tourism performance in this historical spot, the most important of which is the establishment of commercial markets and handicraft centers in various parts of the governorate, the redevelopment of religious and historical roads, develop promotional plans for tourism activation of all kinds and patterns and providing media means advertising the tourism product, its market presence, etc.

1. Introduction

North-Sinai governorate has an important strategic location and it is known as the eastern fortress of Egypt which links the east to the west. North Sinai governorate is characterized by various tourism potentials including natural, historical, cultural, and religious for example religious and historical routes,

castles, and cities that have ancient culture and history. The most available services in the governorate are beach, medical care. Historical, religious, environmental, and desert tourisms. So, it's necessary to highlight on this historical region and clarify its role and importance in the internal and external tourism market. The study illustrated the tourism performance

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during the period 2014:2023 in view of affecting their by many factors, which led to tourism activity declined in the governorate .Also, the study highlighted general concepts of tourism development, the origin - foundation of the governorate and tourist attractive places. And also, the practical section has experienced the status quo of services submitted to the governorate visitors. Then, a field study was conducted by analyzing questionnaires results which led to gather some suggestions and alternatives in order to uprising and developing tourism development of the governorate [1, 2].

1.1. Research problem

Due to the importance of North-Sinai governorate for local and foreign tourism and its various potentials, however, it doesn't receive enough attention to develop tourism. The importance of the study problem lies in concentrating on the most important factors which have an effect on tourism performance in which the potentials are improved as a means of promoting tourism.

1.2. Research Goals

- Monitor the potential of North Sinai governorate, identifying its origin and the most important and attractive places.
- Determining the factors effect on tourism performance in North-Sinai governorate.
- Providing some alternatives and suggestions by analyzing the results of the questionnaire to improve the level of tourism performance.

1.3. Research Methodology

The research chose the strategy of the deductive method, through the information's of the space and time of study, to achieve the research objectives specified through the experimental methodology. To test the information collected through scientific observation, monitoring, and case study, which is one of the tools for collecting information from the descriptive methodology, by experimenting with the concepts related to tourism and tourism development, as well as highlighting the places that attract tourism in North Sinai Governorate, while the analytical approach includes a field visit through which the current situation of services provided in the governorate was analyzed, and then questionnaire forms were distributed to a sample of people who frequent the governorate. The deductive/statistical

method, where the results of the questionnaire were analyzed, led to the development of some alternatives and suggestions that work to increase the level of tourism performance in the governorate.

1.4. Research Hypothesis

This study hypothesizes that there are factors such as tourism quality, transportation services, infrastructure services, tourism potentials, and services supporting tourism, etc...That affect the competency of tourism performance in the North Sinai governorate.

2. Concepts related to tourism and its development

This study deals with some different concepts:

2.1. Tourism Definition

Tourism is a social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes. These people are called visitors (which may be either tourists or excursionists; residents or non-residents) and tourism has to do with their activities, some of which involve tourism expenditure [3].

2.2. Components of tourism

Tourism directly contributes 4.4% of GDP, 6.9% of employment, and 21.5% of service-related exports to OECD countries. Global tourism has expanded steadily for more than six decades. Driven by strong global economic growth and the size of new overseas markets, particularly from the Asia-Pacific region, international tourist arrivals worldwide rose to more than 1.4 billion in 2018, an increase of 5.6% from 2017. With tourism arrivals growing International growth ahead of long-term growth is now expected to exceed the threshold of 1.8 billion people before 2030 [4].

2.2.1. Attractive tourist places

Are what countries have, such as various tourism resources and potentials (beach-environmental, including beaches, etc....) [5].

2.2.2. Tourists

Are human groups which travel to countries with attractive tourist resources and potentials [6].

2.2.3. Tourist services

Include services helping tourists during their accommodation, such as infrastructure services, communication networks, means of transportation, etc.... [7].

2.3. Categories of tourism

Forms and types of tourism can be categorized in accordance with the various types of tourism and development criteria [5].

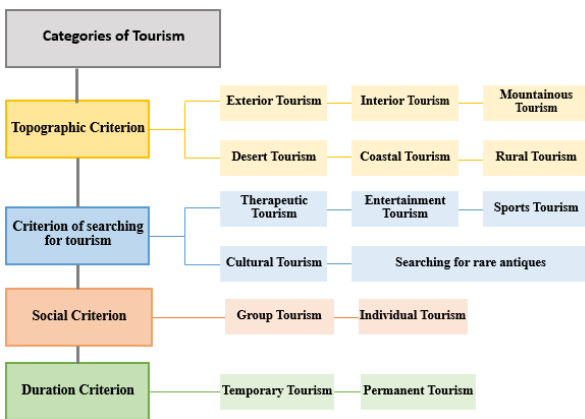


Fig.1: Categories of tourism [5].

2.4. Definition of development

According to economists, development is not only an economic growth operation but also an inclusive and comprehensive process that covers production, its excesses, services, and their broad scope. In addition, it refers to types of social behavior, dominant values, and internal and external political and social conditions that affect determining development priorities. There are many types of development, the most important of which is tourism development [8].

2.5. Definition of tourism development

There are many definitions of tourism. "Some people think that tourism development can not only be confined solely to developing tourism demand or to building hotels and tourist villages in different regions; instead, it extends to include developing demand and requests to converge between them and to meet the tourists' needs to reach the pre-set national,

sectional, and regional goals, which are considered criteria to measure the required levels of development. According to this definition, the presence of tourists must be a primary factor in developing and achieving balance among all sectors. Other people consider tourism development to be a form of integrated manufacturing. This indicates the establishment of tourist centers that provide all necessary and different services required for tourists during their stay and are consistent with the financial capabilities of different categories of tourists [10]. Another definition of tourism development is that it comprises all different programs that aim to achieve constant and balanced development of tourism resources and deepen and rationalize tourism sector productivity [1].

2.6. Objectives of tourism development [1].

2.6.1. Economic objectives

- Achieving regional development, especially for creating new job opportunities in rural regions.
- Providing infrastructure services.
- Increasing level of outcome.
- Increasing tax revenues for the state.

2.6.2. Social objectives

- Providing entertainment and recreational facilities for the local population.
- Saving and satisfying social desires for individuals and groups.

2.6.3. Environmental Objectives

It protects the environment, prevents degradation, and implements restricted measures to address this concern.

2.6.4. Cultural and political objectives

- Spreading culture and enhancing communication among people from different countries.
- Developing political relationships among governorates of tourist countries.

3. The region of the study

The North Sinai governorate includes various tourist potentials on a local, regional, and international scale, and it is important to identify all the things owned by the governorate, so it is a must to know the following:

3.1. Historical background of North Sinai

Historian views varied about the origin of the word "Sinai." Some thought that it was derived from the word "sein," which means "the moon" in Hebrew, as it is called the "moon land." Others thought it meant "stone" because it includes many mountains. This historical spot (Sinai) is mentioned and revered in the Holy Quran "by the fig and olives and by the mount Sinai." Sinin also means trees, and Altour is Sinai's most famous and sacred mountain. In addition, Sinai Mountain is mentioned in the Pentateuch (Book of Exodus): "And they set forward from Elim, and all the multitude of the children of Israel came into the desert of sin, between Elim and Sinai. Therefore, the name of Sinai has a long history, and its paranoiac monuments indicate that people who lived there have Semitic origins. People of the north are called "Heroshato," which means sand heroes [2].

3.2. North Sinai Location

Situated on the coast of the Mediterranean, from Baluza (west) to Rafah (east), it occupies the north of the Sinai Peninsula, in the northeastern corner of Egypt. It oversees the Mediterranean from the north, the Sinai governorate from the south, the political boundary of Palestine from the east, the administrative borders of Port Said, Ismailia, and Suez governorates from the west [11].



Fig. 2: A map showing the geographical location of North Sinai Governorate [12].

3.3. North Sinai Climate

Distinguished by a moderate climate, where the average temperature is between 10°C in winter and 24°C in summer [11].

3.4. The Clean environment of North Sinai

In this frame, there is a study that investigated the chemistry of air and radiology activity. So, the American Academy of Sciences Department of Media (New York) ascertained that Sinai enjoys the finest air around the world. The study also emphasized that the percent of sulfur dioxide in the coastal region of the North Sinai governorate is about 2% out of 100 million tons of air volume. In addition, the percentage of monoxide is about 1% out of one thousand air volumes, and the percentage of oxygen reaches 21% out of the total volume of air. The governorate is unique with these measurements, which don't exist in any region of the world [13].

3.5. North Sinai area

Sinai covers an area of about 60,088 km², equivalent to 6% of Egypt. The area of Sinai governorate represents about 27,564 km², equivalent to 45.9% of the area of Sinai, with a population density of about 0.01 thousand people per km² [14, 15].

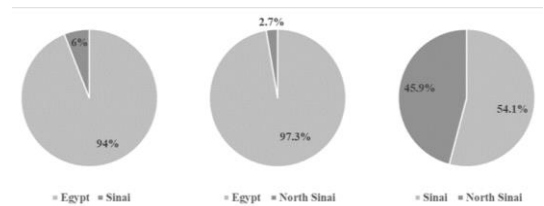


Fig. 3: The relative area distribution of North Sinai Governorate in Egypt [14].

3.6. North Sinai census

The population in North-Sinai governorate represents 0.05% of the total number of Egypt's population, while it is 61% in urban areas and 39% in rural areas. The rate of population growth was 1.64% in 2018; consequently, the total population in the North-Sinai governorate is about 465,542, with a male proportion of 38535 (51.7%) and a female proportion of 24713 (48.3%) [16].

3.7. North Sinai Administrative division

In accordance with Republic Decision No. 811 (1974), Sinai Governorate was incorporated into the local administration, and another decision was issued to divide Sinai into two governorates (North Sinai and South Sinai). North Sinai includes six administrative centers (Bar-elabd, Elarish, Alsahikh Zowayed, Rafah, Elhasna, and NakhI), and it also includes 82 villages and 458 sub-villages [17, 18].



Fig. 4: A map showing the administrative division of North Sinai Governorate [19].

3.7.1. Bir-El-Abd Center

This region is located in the western-northern borders of the governorate. It has an area of 3857 km² (6.2%) of the total area of Sinai and includes 24 villages. According to statistics from 2017, the population of urban areas was about 24844, and the population of rural areas was about 71077. The urban area population is 26% of the region's total population [18].

3.7.2. El-Arish Center

It is located in the coastal region and begins from the borders of Bir-El-Abd in the west to the borders of Rafah in the east. It has an area of 783 km². This region has a semi-desert climate and temperatures that tend to be high in the summer and warm in the winter. It has an area of 762 km², about 1.2% of the total area of the Sinai. According to statistics from 2017, it includes 4 villages, with a population in the urban area of 187991 and a population in the rural area of 4481. This means that the percentage of urban residents is 98% of the region's total population [17].

3.7.3. El-Sheikh Zowaid Center

It includes a coastal region that starts from the borders of El-Arish governorate in the west and continues to the borders of Rafah. It has an area of 783 km², about 1.3% of the total area of Sinai, and it includes 14 villages. According to statistics from 2017, the population of urban areas was 25207, and

that of rural areas was 34724. The urban area is 42% of the region's total population [20].

3.7.4. Rafah Center

It includes a coastal region that starts from the borders of El-Sheikh Zowaid in the west until the eastern international borders. It has an area of 506 km², which is 8% of the total area of Sinai, and includes 11 villages. According to statistics from 2017, the population of urban areas was 41270, and that of rural areas was 33817. The urban area accounts for 55% of the region's total population [17].

3.7.5. El-Hasana Center

It is one of the cities at the center of Sinai and is renowned for mineral wealth such as marble, white sand, etc. It is also away from El-Arish city, about 87 km in the south, and away from Suez, about 170km in the western north. It has an area of 10622 km², which is 17.4% of the total area of Sinai, and includes 21 villages. According to statistics from 2017, the population of the urban regions was 1667, and the population of rural areas was 18772. The metropolitan area is 8% of the region's total population [17].

3.7.6. Nakhl Center

The city of Nakhl is located in the center, facing south, and is considered a link between the northern and southern parts. It was the capital of the Sinai until the First World War. It is far from El-Arish, about 101 km; from Suez, about 127 km; and Nuweibah, about 208 km. It has an area of 11034 km², which is 18.1% of the total area of Sinai, and includes 10 villages. According to statistics from 2017, the population of the urban regions was 1682, and the population of rural areas was 4344. The metropolitan area is 28% of the region's total population [17].

Table 1. The area and number of urban and rural population in North Sinai Governorate, Ref [17, 20].

	Area (km ²)	Urban Population	Rural Population
Bir El-Abd	3857	24844	71077
El-Arish	762	187991	4481
El- Sheikh Zowaid	783	25207	34724
Rafah	506	41270	33817
El-Hasana	10622	1667	18772
Nakhl	11034	1682	4344

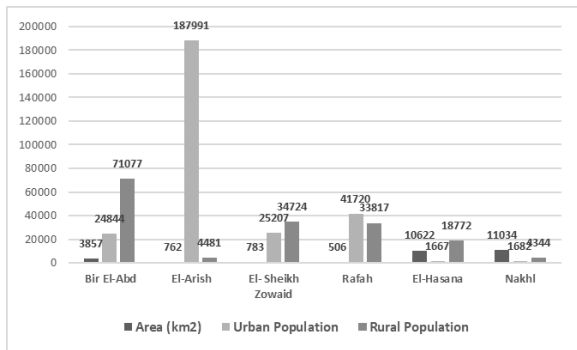


Fig. 5: A graph of the area and numbers of urban and rural populations for centers in North Sinai Governorate [17, 20].

3.8. Leading Routes to Sinai

3.8.1. Land Routes

- The international coastal roads

This is a double-driveway that runs through the North Coast from the west to the east. It starts from the El-Salam Bridge in El-Qantara Shark, passing through Bir-El-Abd, El-Arish, and El-Sheikh Zowaid down to Rafah [20].

- The North road

This road, which is 232 km in length and 6 meters wide, parallels the coast of the white Mediterranean Sea. It links the east of the Suez Canal to the eastern borders of Egypt [20].

- The middle road

This road, which is 6 m wide, links the east of Ismailia to Elawga in the west [20].

- The south road

This road extends from the east of Qantara and passes through the Ahmed Hamdy tunnel, which is 6 m in width and 100 m in length [20].

- A road from Elarish to Ras sedr

It is a road with a width of 6 m and starts from the northeast of Sinai, starting from El-Arish, passing through Bir Lahfen, then Bir Tamada Al-Hitan, until Ras Sidr on the Suez Gulf [20].

- Railways

The current situation is too weak and passes parallel to the North coast [20].

- Rafah land port

It is located on the eastern borders of Egypt and Palestine, at a distance of about 50 km [20].

3.8.2. Air routes

- El-Arish Airport

It is on the Mediterranean coast, 150 km east of Qantara [11].

- Bardawil Airport

Located in central Sinai, it covers an area of 11 km² and serves industrial and fishing areas throughout Sinai [11].

- El-Joura Airport

It is a domestic airport located about 12 km south of Sheikh Zuweid and 50 km east of Al-Arish Airport, on 7,818 acres [11].

3.8.3. Sea routes

- Al-Arish Port

It is situated north of El-Arish city on the Mediterranean coast. It contains cargo ship platforms and helps export materials such as marble, sand, cement, and food salt to Mediterranean countries. It also includes fishing ship platforms. This port boosts yacht tourism by receiving the Yacht Rally of the East Mediterranean countries (June 2000) [11].

- El Telol Port

Situated on El Bardaweel Lake (which is about 155 thousand acres). It is considered the most important port to fish in northern Egyptian lakes, which includes anchorages for fishing ships and fish packing and exporting units to the international and domestic markets. The lake is famous for producing fish such as mullet, shrimp, and crabs [11].

- Rafah Port

Located at the political eastern frontiers of Egypt, it contains departure and arrival halls. And provides all services for travelers [14].

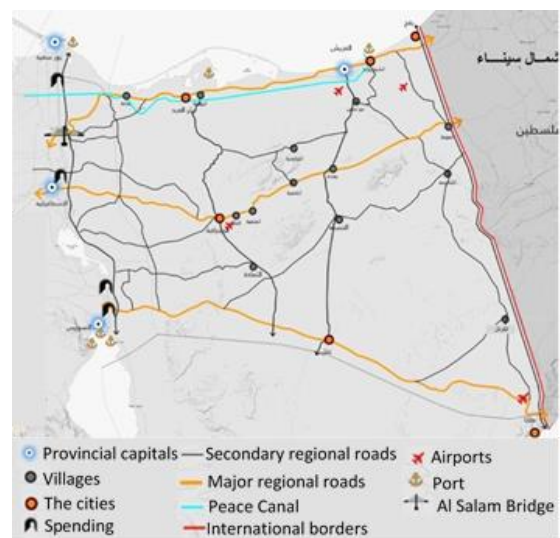


Fig. 6: Shows the road network in North Sinai Governorate [20].

3.9. Tourism Movement

It is clear from Table 2 that there was a decrease in the number of guests and tourists in 2014; however, there was an increase in the number of guests to the government in 2022 [21].

Table 2. The average of tourist stay (nights/guests), Ref [21].

		2014	2018	2022
Guests	Egyptians	19883	8612	16491
	Arabs	2806	1499	11655
	Foreigners	259	40	240
Total		22948	10151	28386
Nights	Egyptians	80351	53410	52327
	Arabs	4284	1973	13427
	Foreigners	731	42	635
Total		85366	55425	66389
Average Tourist Stay		3.7	5.46	2.34

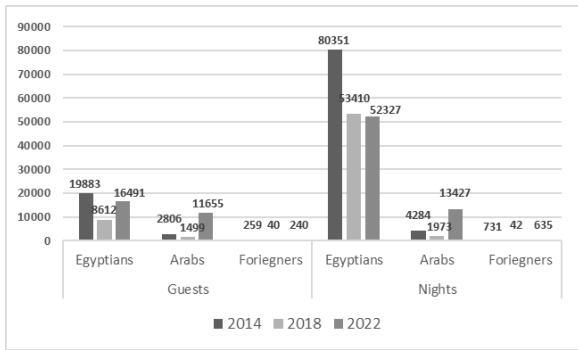


Fig. 7: A graph of the Development of the number of guests and tourist nights in North Sinai Governorate [21].

4. The capabilities Tourism of North-Sinai governorate

This section deals with the topographic capabilities of tourism in the North Sinai governorate, which is characterized by and gains entertainment, religious, and historical importance. It highlights the natural places in the governorate that can be developed as distinctive and attractive places for tourists. They are divided into beach, environmental, cultural, historic, religious, medical, safari, conference, yacht, and transit capabilities.

4.1. Capabilities of Beach tourism

The North Sinai governorate is distinguished by its long Mediterranean coast, where palm trees and olive farms are located. These beaches are characterized by quietness and soft, clean sand. Tourist services are available alongside all beaches, and it is considered the most extended tourist season in Egypt, overlooking the

Mediterranean Sea, reaching 5 and 6 months in the city of Arish and seven months in the town of Rafah. The main beaches are El Rayesa, El Nakhil, El Masaheed, El Midan, Abu Saql, Rommana, Baluza, El Rewaq, Rafah, and El Sheikh Zowaid [11].



Fig. 8: El Masaheed Beach, 2023 [Researcher].



Fig. 9: Sama Village Beach - El Masaheed, 2023 [Researcher].



Fig. 10: El Rayesa Beach, 2023 [Researcher].



Fig. 11: Abu Saql Beach, 2023 [Researcher].

4.2. Capabilities of Environmental tourism

- El Zariani protectorate

About 35 kilometers to the west of El Arish city. It is considered one of the essential protectorates for

emigrant birds from east Europe and middle Asia towards Africa, where about 270 kinds of birds pass by, such as garganey, flamingos, chats, grocers, warders, gulls, and sea swallows. Closely situated, El Zaraniq Lake, anguished by a naturally humid environment, has 155 plants, natural herbs like henbane, rosemary, colocynth, etc., 19 mammals, and 24 reptiles. The protectorate is considered the most critical location for reproducing both amphibian turtle species [11].

- El Ahrash protectorate

Located on the eastern coast of the North Sinai governorate, it is considered one of the distinct natural areas where acacia, peach, almond, fig, grape, and vegetables are cultivated [11].

- El Sheikh Zowaid Marh

Located to the north of El Sheikh Zowaid City, about 2 km from the Mediterranean coast, it has a surface area of about 2.5 km and is covered with salted water in winter and summer, leaving salt behind. This marsh is considered an attraction to winter birds, such as winter garganey, ruche, wild duck, and several wading birds, but in autumn, it is a passage for emigrating birds to Africa [11].

4.3. Capabilities of Cultural, historical, and religious tourism

4.3.1. Historical roads [11].

- Horus military road

It extends from Tharu Fort near eastern Qantra to Rafah. Ancient Egyptian kings used it in their campaigns towards the east, and it also contributed to the flourishing of commercial movements between Egypt, Syria, Palestine, and Lebanon.

- Holy Family road

It extends alongside the Mediterranean coast, and the holy family Virgin Mary-Christ-Joseph (carpenter) traveled through it during their flight to escape the persecution of Heridos, the ruler of Jerusalem, in the 1st century A.D.

- Islamic Fateh roads

Amr Abn Ela'as led his army through it to liberate (Fateh) Egypt in 639 A.D., 18 H, so Rafah, El Sheikh Zowaid, and El Arish were the first cities to know Islam in Egypt.

- Haj Road

One of the most important historical Islamic roads in Egypt, Egyptian Muslims used to go to the holy land through it until the First World War. Along its sides are situated Nakhl Fort and the El Sultan Konswa El

Ghuri bas-relief, carved on the foundation board in mountains of rocks.

4.3.2. Historical fortresses

- El-Arish fortress

Built on a hillside southwest of El Arish, on the ruins of an ancient Egyptian fort, it was reconstructed by the Turkish sultan Soliman El Qanony in 1560 A.D. [11].

- Nakhl fortress

It was constructed by Mamluki Sultan Konswa El Ghuri in Nakhel village in 1516 A.D.; it is one of the military forts and overlooks the old pilgrimage road to protect it [11].

- El mohamadeiat citadel

It is located in Romana village (Bar Elabd). It is a citadel with romantic origins, built from limestone, and contains rooms with windows at a height of 3 meters [21].

- Eltina citadel

It is located on the administrative boundary of Port Said governorate (Baloza-Port Foad Road). It dates back to the Mameluke era and was built by Alsultan Qonswa Alghori. It includes many military towers, carrier pigeon towers, a big mosque called Alarab Mosque, and rooms for officers and soldiers [21].



Fig. 12: El-Arish fortress, 2023 [Researcher].



Fig. 13: Al-Arish Culture Palace, 2023 [Researcher].

4.3.3. Historical cities

- El Farma City

It is located 4 kilometers north of Baluza and named (bluegum) after the seventh Nile bluegum branch, streaming through the Suez isthmus and flying into El Bardaweel Lake. It is one of the most important historical cities in the North Sinai. It reached its utmost during the Greco-Roman period, rivaling Alexandria; the Nile branch enabled it to be cultivated, and its sea site allowed it to be an important military and commercial port. Due to its importance, the ancient Egyptians named it (pr-in), which means Amon city; in the Coptic era, it became prima; later on, it became farma in Arabic. Archeological excavations in Farma City revealed the existence of the Eastern Church, Bluezum Bath, Roman Theatre, and its invincible fort enclosure wall [11].

- Rino Corowa (cut-off noses)

Elarish City was first built to punish criminals whose noses were cut off and banished to the city. It has special military importance because it is located on the Horas military road, where remnants of pharaonic monuments were found, and commercial importance because it was an ancient commercial road linked to the east of the Arabic Peninsula [21].

Rafia city

It was mentioned in ancient Egyptian texts as (Ra-Bah) and was the first and most important fort on the eastern Egyptian border. It played an important role in Egyptian history. In 1952, various monuments dating back to the Roman era were discovered, and some of them were transferred to the antiquities authority in Cairo.[21]

- (Man- Maeit-Raa)

The archeologist Cleara ascertained that the current Alsheikh zowayed city was established above the ancient city of pharaohs mentioned on the walls of Elkarnak inscriptions, and he discovered the famous mosaics. Another archeologist (Betery) ascertained the importance of excavation in this region [2].

- Nakhel city

It is the center for Taih countries, and it was known as Nakhel due to its soft sand. This city had a significant and religious role as it was a central station along the road of Islamic pilgrimage and helped to receive the pilgrimage caravans towards the Hejaz lands[2].

4.3.4. Museums

- El Arish Museum

It is located on the eastern international coastal road in El-Arish city. It contains a group of specialized archeological divisions that embody Sinai's history since the first man passed through different eras

besides original and local heritage belongings. It also includes a specialized library and exhibition hall [22].

- Heritage Museum

Situated in El Arish city, it consists of specialized sections containing cloth, food, traditional agricultural tools, self-defense tools, and the folkloric heritage of North Sinai. The museum also has a documentary library for local heritage [11].



Fig. 14: folkloric heritage of north Sinai, 2023 [Researcher].

4.3.5. Local Tourist Events [11].

National Day:-25th of April.

Camel Race: Originally, it was a tradition to hold this race during marriage festivals; later, it was developed and became a local event until it finally became an international festival.

Asala festival: in August.

Open Swimming festival: in July/August.

Group Wedding festival: in July/August.



Fig. 15: Camel race festival, 2022 [Researcher].

4.3.6. Other Tourist Sites [11].

- The Zoo

It is in El Arish city and houses various desert-adapted animals, the most important of which are the Sinai hyena and the Sinai Wolf, while among the bird species are sand grouse and falcons.

- Weekly Markets

The Thursday market in El Arish city is considered the biggest and oldest weekly market. It offers all kinds of products, including environmental handicrafts such as rugs, wool, and famous Egyptian clothes. Each city in the North Sinai governorate has a market, such as the "Saturday Market" in Rafah, the "Sunday Market" in Nakhel, and the "Tuesday Market" in El Sheikh Zowaid [22].

- The Gate of Salah El Din

It is named after "Salah El Din El Ayouby," the great Muslim leader, and is situated between Palestinian Rafah and Egyptian Rafah on Egypt's eastern borders [22].

- Panorama of Rafah

Panorama of Rafah: It is located in Rafah City. It is a square where symbols of peace and a record of Egyptian military history in defending Sinai are inscribed on a mosaic wall, together with a statue of an Egyptian soldier [22].

4.4. Capabilities of medical tourism:-

This governorate is characterized by factors that help treatment, such as a moderate climate, thermally balanced phenomena, and avoiding pollution [21].

4.5. Capabilities of water sports tourism, Sand Island and fishing:-

These capabilities provide a complete water system along the Mediterranean Sea, Bardawil Lake, and its islands. The tourist walkways on El Arish Beach give an outlet for fishing enthusiasts[21] .

4.6. Capabilities of safari tourism [11].

- Middle Sinai Area

Includes a group of valleys, plains, mountains, and dams to hinder the heavy rain, such as El Rawafea dam and El Karama dam. The heavy industry zone is in this area, with excellent mining wealth, such as coal, sulfur, marble, black and white sands, and building materials.

- El Qasima Oasis

Located in El Hasana city in the center of Sinai, it contains "El Qadirat Spring," one of the oldest springs whose water is used as drinking water and irrigation for this oasis's trees, such as olives and grapes. In the oasis, there are the remains of a Byzantine fortress. Besides, it offers climbers in the surrounding mountains a chance to enjoy their hobby.

4.7. Capabilities of conference tourism

El Arish City provides halls such as the Media Model Complex, Cultural Palace, Faculty of Agriculture, and Alahram Center, and halls for hotels, tourist villages, services, and various hotel projects [21].



Fig.16: Al Majd Conference Hall, 2023 [Researcher].



Fig. 17: Alahram center, 2023 [Researcher].

4.8. Capabilities of Yacht tourism:-

El-Arish nautical port: the governorate previously incorporated with one of the national experiences homes to prepare a study exploiting one of the El Arish wharves as a harbor for yachts that cruise over the seas [22, 18].



Fig. 18: El-Arish nautical port, 2023 [Researcher].

4.9. Capabilities of transit tourism [17].

- Rafah land port

The middle road (Ismailia/ Nakhel/ Nuweiba).

5. The practical section

The researcher prepared a questionnaire to identify the real services provided to visitors to the North Sinai Governorate. The questionnaire consists of two parts: the first evaluates the services provided to visitors, and the second determines the extent to which they accept or reject the proposed solutions.

The researcher distributed 100 questionnaire forms to a sample of people who frequent some tourist places in the governorate during the period from 6/15/2023 to 7/15/2023, then analyzed the results of the opinions through the following tables:

Table 3. Evaluating service quality in North-Sinai governorate.

No.	Service assessment	Bad	Accepted	Medium	Good	Total
1	Evaluating the governorate by location	6	12	31	51	%100
2	Evaluating the governorate by climate	5	16	32	47	%100
3	Evaluating the governorate as tourist destination	9	20	21	50	%100
	Total evaluation for each item	20	48	84	148	

It is clear from table 3 that the satisfaction percentage for each item to evaluate tourism quality is good, and the majority of items are assessed with a percentage around at most 51% (an item of evaluating the governorate by location) and at least 47% (an item of evaluating the governorate by climate).

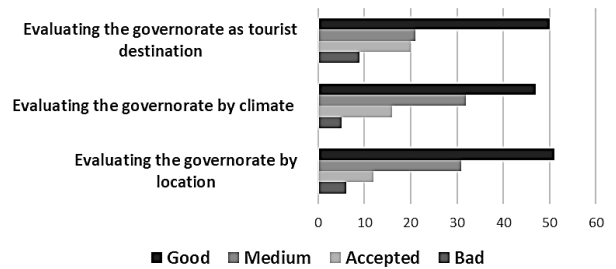


Fig. 19: A graph of the Evaluating service quality in North-Sinai governorate.

Table 4. Evaluating transport services and leading roads to North-Sinai governorate.

No.	Service assessment	Bad	Accepted	Medium	Good	Total
1	Evaluating land transport	26	23	32	19	%100
2	Evaluating air transport	47	15	13	25	%100
3	Evaluating Nautical transport	45	14	21	20	%100
4	Evaluating roads and bridges inside the governorate	15	32	27	26	%100
	Total evaluation for each item	133	84	93	90	

It is clear from Table 4 that the satisfaction percentage for items of transport services is at the lowest level of tourism quality assessment in the North Sinai governorate, and there is a modest acceptance of their items as the highest level has a bad assessment.

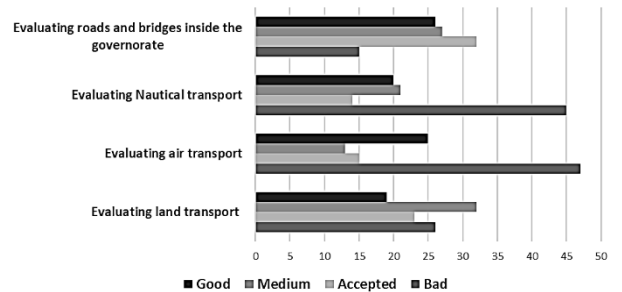


Fig. 20: A graph of the Evaluating transport services and leading roads to North-Sinai governorate.

Table 5. Evaluating infrastructure services in North Sinai governorate.

No.	Service assessment	Bad	Accepted	Medium	Good	Total
1	Evaluation of electricity service	40	20	22	18	%100
2	Evaluation of drinking water services	50	14	16	20	%100
3	Evaluating communication services	55	15	16	14	%100
4	Evaluating sanitation services	41	22	19	18	%100
5	Evaluating health services	47	17	17	19	%100
6	Evaluating fuel services	48	12	22	18	%100
	Total evaluation for each item	281	100	112	107	

It is clear from Table 5 that the satisfaction percentage for items of infrastructure services is lower than that of tourism quality evaluation in the North-Sinai governorate. Most items are evaluated in bad condition, with a percentage of around 55% at most (item of evaluating communication services) and 41% at least (item of evaluating electricity services).

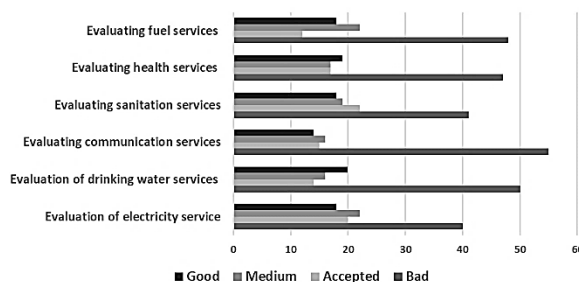


Fig. 21: A graph of the Evaluating infrastructure services in North Sinai governorate.

Table 6. Evaluating hostelling, restaurant and café services in North-Sinai governorate.

No.	Service assessment	Bad	Accepted	Medium	Good	Total
1	Evaluating hotels	29	37	18	16	%100
2	Evaluating tourist villages	27	32	29	12	%100
3	Evaluating chalets	27	34	28	11	%100
4	Evaluating rental apartments	18	33	32	17	%100
5	Evaluating restaurants	24	35	30	11	%100
6	Evaluating cafes	36	32	24	8	%100
	Total evaluation for each item	161	203	161	75	

It is clear from Table 6 that the satisfaction percentage of all services of hostels, restaurants, and cafes receives a modest acceptance, as the highest percentages have accepted evaluations, which are around 32% (an item for evaluating tourist villages) and 37% (an item for evaluating hotels). This evaluation is better than that of transport and infrastructure services.

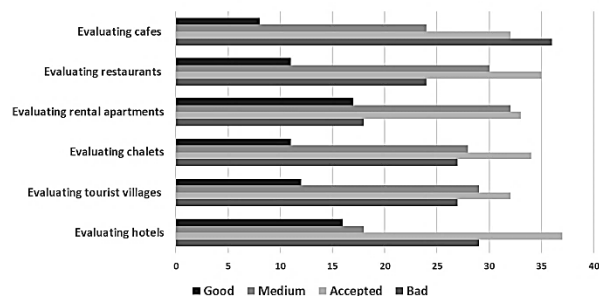


Fig. 22: A graph of the Evaluating hostelling, restaurant and café services in North-Sinai governorate.

Table 7. Evaluating tourism capabilities in North-Sinai governorate.

No.	Service assessment	Bad	Accepted	Medium	Good	Total
1	Evaluating the recreational areas (gardens - cinema - etc...).	22	35	28	15	%100
2	Evaluating the Beach tourism.	15	33	29	23	%100
3	Evaluating the religious and cultural tourism.	24	32	23	21	%100
4	Evaluating the environmental tourism	19	36	21	24	%100
5	Evaluating the medical tourism	24	25	29	22	%100
6	Evaluating the water sports tourism	18	36	26	20	%100
7	Evaluating the safari tourism	18	33	24	25	%100
8	Evaluating the conference tourism	27	29	23	21	%100
9	Evaluating the transit tourism	32	37	18	13	%100
10	Evaluating the yacht tourism	37	35	20	8	%100
Total evaluation for each item		236	331	241	192	

It is clear from Table 7 that there is variation in evaluation among sample respondents in which satisfaction level about beach, religious, cultural, environmental, medical, and safari tourism receives a modest acceptance. The evaluation of entertainment regions and tourism in terms of water sports, fishing, conferences, transit, and yachts is bad.

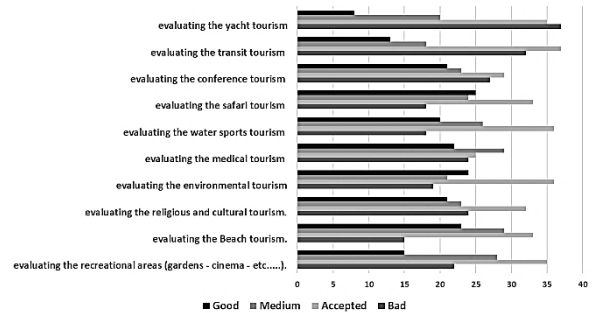


Fig. 23: A graph of the Evaluating tourism capabilities in North-Sinai governorate.

Table 8. Evaluating services supporting tourism in North-Sinai governorate.

No.	Service assessment	Bad	Accepted	Medium	Good	Total
1	Evaluating markets	29	29	17	25	%100
2	Evaluating internal means of transport	33	30	18	19	%100
3	Evaluation tourist offices and travel agents	28	32	20	20	%100
4	Evaluating prices inside the governorate	28	44	17	11	%100
5	Evaluating tourist marketing inside the governorate	35	30	20	15	%100
6	Evaluating employees in the tourist activity	23	31	28	18	%100
7	Evaluating current development plans in the governorate	30	31	28	11	%100
8	Evaluating the role of the state to encourage tourism in the governorate	29	27	29	19	%100
9	Evaluating the governorate plans to encourage tourism	29	31	24	16	%100
10	Evaluating the mass media to advertise tourist products in the governorate.	30	28	24	18	%100
Total Evaluation for each item		294	313	225	172	

It is clear from table (8) that satisfaction percentage of all items supporting services for tourism is modest.



Fig. 24: A graph of the Evaluating services supporting tourism in North-Sinai governorate.

Total evaluation for services:

The researcher will evaluate opinions by determining points for each response as follows:

- (3) Points for response (good).
- (2) Points for response (Medium).
- (1) Point for response (Accepted).
- (0) Points for response (bad).

To compare the perfect evaluation (good) with the actual evaluation of the sample, the perfect evaluation (good) = (3) points * No. of service items * 100 questionnaire forms.

- 1- The optimal evaluation for tourism quality in North-siani governorate= $3 * 3 * 100 = 900$ points.
- 2- The optimal evaluation of transport services and destinations in north-Sinai governorate= $3 * 4 * 100 = 1200$ points.
- 3- The optimal evaluation of infrastructure services in North Sinai governorate= $3 * 6 * 100 = 1800$ points.
- 4- The optimal evaluation of hotel, restaurant, and cafe services in North Sinai Governorate= $3 * 6 * 100 = 1800$ points.
- 5- The optimal evaluation of tourism capabilities in north Sinai governorate= $3 * 10 * 100 = 3000$ points.
- 6- The optimal evaluation for supporting services in north Sinai governorate= $3 * 10 * 100 = 3000$ points.

The actual evaluation can be calculated as follows:

Actual evaluation = 3 points * total responses forming services (Good) + 2 points * total responses forming services (Medium) + 1 point * total responses forming services (Accepted) + 0 point * total responses forming services (Bad).

- 1- The optimal evaluation of tourism quality in North Sinai Governorate = $3 * 148 + 2 * 84 + 1 * 48 + 0 * 20 = 660$ points.
- 2- The optimal evaluation of transport services and destinations in north-Sinai governorate = $3 * 90 + 2 * 93 + 1 * 84 + 0 * 133 = 540$ points.
- 3- The optimal evaluation of infrastructure services in North Sinai Governorate = $3 * 107 + 2 * 112 + 1 * 100 + 0 * 281 = 645$ points.
- 4- The optimal evaluation of hostel, restaurant, and cafe services in North Sinai Governorate = $3 * 75 + 2 * 161 + 1 * 203 + 0 * 161 = 750$ points.
- 5- The optimal evaluation of tourism capabilities in north Sinai governorate = $3 * 192 + 2 * 241 + 1 * 331 + 0 * 236 = 1389$ points.
- 6- The optimal evaluation of supporting services in north Sinai governorate = $3 * 172 + 2 * 225 + 1 * 313 + 0 * 294 = 1279$ points.

Table 9. Based on this rule, evaluation cases can be formulated according to their priority as shown in the following;

No.	Service	Optimal evaluation	Actual evaluation	Evaluation mark visitors' opinions.
1	Evaluation of tourism quality in North Sinai Governorate.	900	660	%73
2	Evaluation of transport services and destinations in north-sinai governorate.	1200	540	%45
3	Evaluation of infrastructure services in North Sinai Governorate.	1800	645	%36
4	Evaluation of hostel, restaurant, and cafe services in North Sinai Governorate.	1800	750	%42
5	Evaluation of tourism capabilities in north sinai governorate.	3000	1389	%46
6	Evaluation of supporting services in north sinai governorate.	3000	1279	%43
	Total	11700	5263	%45

It is clear from Table 9 that the evaluation results for total services were weak (45%). This is less than 50%, which represents the minimum limit for accepted individual evaluations and for each service item that doesn't reach that limit of acceptance (50%).

However, tourism quality receives a 73% rating, indicating that it has significant potential for developing the tourism industry. In addition, infrastructure services receive the lowest evaluation (36%), which represents basic infrastructure for developing tourism in general.

6. Suggested solutions

Table 10. Some suggested solutions to improve the level of tourism performance.

No.	Service Evaluation	Agree	Don't agree	Total
1	Establishing water purification stations.	98	2	100
2	Expanding communication networks in the governorate.	94	6	100
3	Establishing hospitals and medical centers in the governorate.	99	1	100
4	Establishing new fuel stations.	98	2	100
5	Tourist streets should be developed.	95	5	100
6	Reconstructing the Ismailia-Rafah) railway network to link the Governorate to other neighboring governorates.	96	4	100
7	The governorate requires internal transportation networks to reach all the edges of the governorate.	97	3	100
8	Increasing the number of new hotels with different levels of service.	95	5	100
9	Establishing new and diverse restaurants and cafes.	95	5	100
10	Entertainment places need to be developed, and new ones should be established.	97	3	100
11	Forts and religious shrines should be restored in order to be utilized touristically.	93	7	100
12	The governorate has various untapped tourism potentials.	93	7	100
13	Constructing and developing a corniche along the coast of the Mediterranean Sea (Bir-El-Abd _ El-Arish _ El-sheikh Zowaid _ Rafah).	98	2	100
14	Establishing new commercial markets around the governorate to promote tourism.	99	1	100
15	Establishing handi-craft centers for training and marketing to promote tourism.	98	2	100
16	Renovating religious and historic roads (Islamic pilgrimage route - the holy family route).	98	2	100
17	Financing the governorate by private authorities to develop tourism.	96	4	100
18	Raising awareness among people and workers with the importance of tourism.	99	1	100
19	Setting recreational plans to promote tourism.	97	3	100
20	The governorate needs to ensure security, safety, and to eliminate anxiety factors.	95	5	100
21	The governorate needs to provide mass mediato advertise tourist products.	97	3	100

It is clear from Table 10 that the percentage of the suggested solutions received positive agreement and ranges between 99% (the maximum limit) and 93% (the minimum limit). This indicates that the North-Sinai governorate must utilize the suggested solutions to achieve tourism development that is consistent with the tourist level of the governorate.

7. Results

7.1. The deduced results from the theoretical framework and the researcher's field visits to the North-Sinai governorate ascertained this governorate's various tourism capabilities and made it a distinctive tourist location on an internal and external scale.

7.2. The acceptance rate of the sample's opinions regarding evaluating tourism quality at North Sinai Governorate was reasonable, and its significant items were assessed as "good".

7.3. The acceptance rate of the sample's opinions regarding transportation services and routes to the governorate was, to some extent, accepted.

7.4. The acceptance level of the sample's opinions regarding infrastructure services was weak, and its significant items were evaluated as "very bad".

7.5. The sample's opinions regarding hosteling, restaurants, and cafe services received modest acceptance, and the same result applies to evaluating tourist capabilities and services supporting tourism.

7.6. The results of all tourist services evaluated by the sample's opinions were weak, with a percentage of 45%, which is less than 50% (the minimum limit of accepted evaluation).

7.7. The researcher's suggested solutions received good acceptance, which ascertains their importance in improving and activating tourism performance in the governorate.

8. Recommendations

8.1. Recommendations concerning transportation services and routes to the governorate:

- Reconstructing railway networks to link the North-Sinai governorate with neighboring governorates.
- Supporting some centers in the governorate with internal roads.
- The governorates require an internal transportation network in order to reach all the edges of the governorates.
- Re-opening El-Arish airport and harbor.

8.2. Recommendations concerning the infrastructure services:

- Establishing a water purification station.
- Expanding communication networks in the governorate.
- Establishing new hospitals and medical centers in the governorate.
- Establishing new fuel stations.

8.3. Recommendations concerning hostels, restaurants, and cafes:

- Increasing the number of new hotels with different levels of service.
- Establishing new and diverse restaurants and cafes.

8.4. Recommendations concerning tourism capabilities:

- Entertainment places need to be developed, and new ones should be established.
- Forts and religious shrines should be restored in order to be utilized for tourism development.
- The governorate has various unutilized tourist capabilities.
- Constructing and developing a cornice along the coast of the Mediterranean Sea (Bar-Elaabd, El Arish, Elsheikh Zowayed, and Rafah).
- Establishing new commercial markets around the governorate to promote tourism.
- Establishing handicraft centers for training and marketing to promote tourism.
- Renovating religious and historic roads (Islamic pilgrimage route, the holy family route).

8.5. Recommendations concerning supporting services of tourism:

- Financing the governorate by the governorate and private authorities to develop tourism.
- Raising awareness among people and workers about the importance of tourism.
- Setting recreational plans to promote tourism.

- The governorate needs to ensure security and safety and eliminate anxiety factors.
- The governorate needs to provide mass media to advertise tourist products.

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