

The role of environmental components in enhancing sustainable tourism development in the Tihamah Plain of the Jazan region, Saudi Arabia, according to Vision 2030

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Abstract:

Preservation of environmental resources and the balance of various ecosystems, particularly coastal ones, rank among the foremost priorities of Vision 2030 as defined by the Kingdom of Saudi Arabia. This vision aims to promote sustainable tourism and enhance the tourism sector by diversifying income sources and encouraging private sector investment. This is pursued through plans to develop different tourist sites according to the highest global standards, aiming to achieve economic efficiency, social benefits, and environmental equilibrium.

The Tihamah Plain in the Jazan region provides a spatial model for sustainable tourism development based on its environmental characteristics, which include terrain, climate, and vegetation cover. These factors have attracted visitors to engage in various tourism activities. Utilizing the SWOT analysis allows for an understanding of the strengths, weaknesses, opportunities, and threats associated with the area. This analysis serves as a foundation for guiding decision-makers in developing a geographic framework for sustainable tourism development in the Tihamah Plain, Jazan region, leveraging identified opportunities while addressing potential challenges, based on a conceptual framework formed by a set of recommendations.

Keywords: environmental components, sustainable tourism development, Tihamah Plain, Jazan region, Kingdom of Saudi Arabia, Vision 2030

Introduction:

Among the key requirements highlighted by the United Nations for achieving sustainability is raising awareness about the risks of negative impacts on the natural environment (Rotich et al., 2012, Pienaa et al., 2024) and how to manage natural resources for host communities to meet basic standards of economic well-being. This includes protecting natural, social, and cultural capital (Agyare et al., 2024).

This also refers to exploiting and investing in natural and human tourism resources, and enhancing the performance of tourism activity operators at both regional and international levels (Baloch et al., 2023), within a strategic planning framework to achieve prosperity for current community members and future generations (Wang, Tziamalis, 2023, Zhao et al., 2023).

Thus, sustainable tourism development can significantly contribute to environmental protection, biodiversity conservation, and the sustainable use of natural resources (Waldemar, Dajer, 2024). Additionally, recognizing the economic importance of tourism and its positive impacts on individuals and communities increases awareness of the value of environmental and cultural resources, which constitute important assets and essential elements in tourism development (Liu, 2023).

The environment is considered the fundamental basis for managing cultural and environmental resources to attract tourists from around the world (Matiku et al., 2021). Therefore, preserving environmental resources is crucial and highly effective for the long-term success of tourism development. Energy carrying capacity is also a vital method in sustainable

economic planning for sustainable tourism development and management of environmental tourism resources. Thus, best practices for managing environmental resources involve maximizing use that can be achieved at tourist sites without causing detrimental effects on their tourism resources, reducing tourist satisfaction levels, or causing harmful economic and social impacts on the local environment (Han et al., 2023). This is indeed the core issue in carrying capacity; For sustainability, it is essential to limit the consumption of environmental resources and reduce pollution levels. It is necessary to control mass tourism development and expand high-quality tourism strategies to meet sustainability requirements (Rocio et al., 2023).

Ecotourism as a comprehensive concept differs from other types of tourism. It is a relatively recent term that emerged in the late twentieth century to describe a new form of environmentally friendly tourism practiced by people who strive to preserve the natural and cultural heritage of the environments they visit (Baydeniz et al., 2024). Ecotourism involves clean tourism practices focused on visiting natural areas such as beaches, mountains, reserves, deserts, and valleys to observe and study wildlife. Its primary goal is to support environmental conservation and preserve natural resources with minimal negative impact on the environment and maximum positive impact on the region. It serves as an effective platform for promoting environmental awareness among local residents and eco-tourists (Mondino, Beery, 2019).

Ecotourism has garnered significant attention worldwide due to its dual focus on environmental preservation and sustainable development. It has become a pressing necessity because it greatly facilitates the integration of investments and productive projects within communities while simultaneously protecting the environment and cultural diversity of tourist regions. Ecotourism ensures that the natural environment remains the primary attraction for tourists seeking refined enjoyment of natural elements without compromising their preservation or their ability to be passed on to future generations (Scheyvens et al., 2021). Therefore, Saudi Arabia has shown interest in ecotourism to diversify the kingdom's income sources and encourage private sector investment (Al-Sulbi, 2010). This is being pursued through plans to develop various tourist sites according to the highest global standards. In line with its Vision 2030, Saudi Arabia aims to develop a distinctive tourism sector that offers social, economic, cultural, and environmental benefits. This initiative builds upon the kingdom's Islamic values, rich heritage, and traditional hospitality, leveraging these assets to create a sustainable tourism industry (Hassan et al., 2022).

In this context, the Tihamah plain in the Jazan region offers significant anticipated benefits from the development of its tourism sector, leveraging its diverse and varied environmental assets through rational planning. This approach aligns with the Kingdom of Saudi Arabia's direction following the launch of Vision 2030, where prioritizing tourism sector development is essential. This development underscores the importance of preserving the environmental systems of tourist sites in the Tihamah plain, as they constitute pivotal environmental components that enhance tourist attractions. Consequently, tourism development plans for the Tihamah coast must inherently adhere to the principle of environmental sustainability to foster sustainable tourism development.

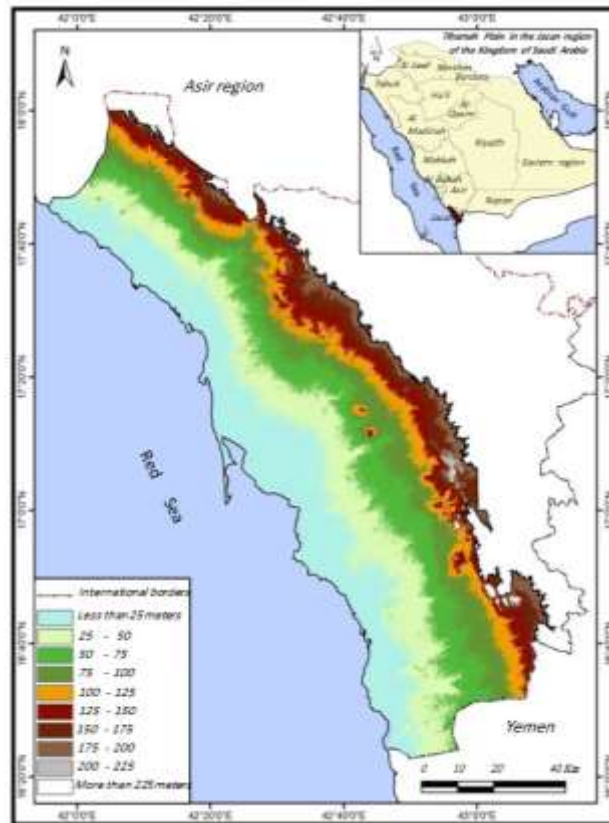
Studying the environmental components of the Tihamah plain in the Jazan region forms a geographic database that contributes to understanding the environmental factors for sustainable tourism development in the study area. This includes identifying key sustainable tourism patterns, alongside conducting a SWOT analysis to delineate strengths, weaknesses, opportunities, and threats. This approach facilitates the construction of a geographic model for a sustainable tourism development map in the Tihamah plain of Jazan, serving as a framework for responsible entities to support sustainable tourism development in alignment with the Kingdom's Vision 2030. This effort is underpinned by a set of recommendations.

A geographically conducive location for sustainable tourism development.

The study area lies in the Tihamah plain in the Jazan Administrative Region, one of the thirteen administrative regions of the Kingdom of Saudi Arabia. Geographically, the Tihamah plain in Jazan extends between latitudes 16° 22' 45" N to 18° 00' 00" N, and longitudes 41° 55' 05" E to 43° 11' 50" E. Located in the southwestern part of the Kingdom, it is bordered to the north by the Asir region, to the south by the Republic of Yemen (Al-Jawhari, 2018), and to the west by the Red Sea, extending to the foothills of the Sarawat Mountains in the east (Figure 1).

The Tihamah plain is the most widespread topographical feature in the Jazan region, running parallel to the Red Sea coast for a length of 235 kilometers. It extends up to 40 kilometers in width to the south, while narrowing to no more than 25 kilometers to the north. The Tihamah plain covers approximately two-thirds (65,5%) of the area of the Jazan region (Salman, 2015).

The plain gradually slopes eastward from sea level to approximately 200 meters above sea level. It is intersected by a network of valleys that flow eastward from the water division area in the far east, ultimately reaching the Red Sea in the west. These valleys form extensive floodplains in the lower basins of the region (Salman, Nabih, 2016).



Map (01): Astronomical, geographical location and elevation categories of Tihamah Plain in Jizan Region.

Source: Author based on ARCGIS Desktop Ver. 10.8.

The Tihamah plain consists primarily of gravel, sand, and clay, which have been produced through weathering processes in the upper regions (Moatamad, 2004). Additionally, the coastal plain includes extensive areas of fragmented sandy terrains confined between river channels locally known as ‘alkhabt’. Furthermore, there are salt marshes extending along most shores with widths approximately 4-5 kilometers. The coastal plain also features numerous beaches, lagoons, capes, coral reefs, branching valleys, water bodies of various types, and hot springs.

These features, along with some isolated hills ranging in height from 50 to 150 meters (Subyani, 1999), can serve as prominent viewpoints for scenic tourism. Consequently, this could play a significant role in achieving sustainable eco-tourism development in the Tihamah plain.

The coastline of the Jazan region is characterized by its numerous bends and twists in many parts, forming promontories, bays, lagoons, coastal lakes, and headlands. These features create visually distinct areas, with formations resembling tongues extending into the sea and other areas where water within the shores presents a picturesque sight. Additionally, the study area is notable for several visually striking beaches renowned for their fine, dry sands. These characteristics contribute to the scenic beauty of the region, making it visually appealing and potentially attractive for tourism development.

Research Objectives:

This research aims to achieve the following objectives:

- Diagnosing environmental components (topography, climate, vegetation, etc.) through constructing a geobiological database to facilitate sustainable tourism development in the Tihamah Plain of Jazan region.
- Identifying various patterns of sustainable tourism practices based on the environmental components of the Tihamah Plain in Jazan region.
- Conducting a SWOT analysis to identify strengths, weaknesses, opportunities, and threats that could enhance sustainable tourism development in the Tihamah Plain of Jazan region.

Research Methodology:

The research follows several methodologies and research approaches to achieve its objectives, which are: the regional approach and the foundational approach in studying the geo-environmental factors and their impact on sustainable tourism development in the Tihamah Plain of the Jazan region. Additionally, a descriptive approach was used to study the environmental components related to tourism development linked to geo-environmental factors, utilizing field observations, maps, satellite imagery, and photographs. Furthermore, the study employed an exploratory approach to identify patterns of sustainable tourism development.

The research also employed various research methods such as quantitative analysis and cartographic techniques for graphical representation of some results.

The research relied on a collection of data sources used in studying the Tihamah Plain, including written sources such as books, research papers, theses, reports, diagrams, and published and unpublished statistical sources.

The research methodology relies on "SWOT analysis" to identify key factors for achieving specific goals in large organizations, enabling informed decision-making and selection of suitable strategies in the short or long term to address various issues (Khayyati, Nourani, 2015). This analysis can be tailored to a specific geographical area (Rezagama et al., 2021). This analysis consists of two matrices of internal and external factors. Internal factors are associated with weaknesses (W) and strengths (S), while external factors are linked to opportunities (O) and threats (T) for a group, region, or topic (Mallick et al., 2020).

This allows identifying the opportunities provided by the Tihamah Plain in the Jazan region to promote sustainable ecotourism based on its environmental resources. Additionally, it involves mitigating threats that hinder sustainable tourism development projects by exploring mechanisms to transform them into opportunities to enhance strengths.

Multiple Environmental Components Supporting Sustainable Tourism Development in the Tihamah Plain, Jazan Region:

Natural geographic components with their various elements constitute natural attractions for tourism, encompassing all the aesthetic values of the Earth's landscape. They are among the most significant factors contributing to the establishment and prosperity of tourism. It is

important to consider that each element of these features has its own advantages in tourism attraction, and all these elements work together within a unified framework that makes it difficult to separate their impact on successful tourism programs. Therefore, tourism represents a geographical phenomenon with its foundation in natural environment, its structure in economics, its engine in human interaction, and its driving force in psychological and mental enjoyment.

Below are the key natural components contributing to sustainable tourism development in the Tihamah Plain, Jazan Region:

Flat lands with some differences in elevations:

The topographic characteristics, including flat terrain and steep slopes, play a crucial role in the distribution of vegetation cover and the composition of plant communities within these systems. Factors such as elevation above sea level, surface slope gradient, and slope aspect collectively influence tourism activities.

The Tihamah Plain is characterized by its extensive flatness, with nearly 89.6% of its total area consisting of flat to very flat terrain, where slopes do not exceed 5°. These lands are predominant across the plain, forming expansive plains and low-lying areas. In contrast, steep slopes, representing about 2.36% of the area, are found in isolated hills and escarpments scattered throughout the plain (Subyani, 1999).

The digital elevation model (DEM) indicates that the predominant slope directions in the Tihamah Plain are north (13.14%), northeast (12.21%), south (13.46%), southeast (12.26%), followed by northwest (12.21%), west (12.06%), east (11.97%), and southwest (10.91%).

The elevation of the Tihamah Plain in the Jazan region ranges from sea level at the western coast to a height of 860 meters, recorded on one of the isolated hills within the coastal plain of the study area. The plain gradually rises slightly from west to east.

A climate suitable for engaging in a variety of tourism activities:

Climate is one of the most critical environmental factors underpinning sustainable tourism development. Its various elements profoundly influence human perception, activity, and mobility, thereby significantly impacting destination choice and length of stay.

Moreover, climate represents a fundamental attraction for tourism due to the opportunities it provides for enjoyment and relaxation. Many tourists gravitate towards regions with climates suitable for their preferred activities, making it a significant factor influencing tourism flow and volume (Subyani, 1999).

The study area is located within the tropical zone characterized by a hot and humid climate in summer and a moderate rainy climate in winter. The highest average monthly rainfall reaches 29 mm in December, while the lowest occurs in March (0.2 mm) and June (3.4 mm). Monthly average temperatures peak in June at 34.5°C and decrease to 26.8°C in January. Winds in the study area reach a maximum speed of 7-8 km/h between June and August.

This climate distinguishes the study area from the rest of the Jazan region, particularly in winter, when temperatures drop significantly in the highlands of Jazan, resulting in a cold climate. Meanwhile, the Tihamah plain experiences warmth and mildness, especially between December and March, making it conducive to human comfort. The humidity levels, reaching up to 60% during winter, contribute to increased visits to the coastal area due to its moderate and warm climate, compared to other seasons of the year.

The multiple valleys in the Tihamah plain enhance sustainable tourism development.

The Tihamah plain in the Jazan region is intersected by a significant number of valleys that descend from the "Sarah" Mountain's westwards towards the Red Sea. These valleys are characterized by flowing water throughout most of the year (Moatamad, 2002). Additionally, they feature natural vegetation such as acacias, tamarisks, capers, henna, and date palms along their courses and slopes, creating a distinctive and harmonious natural landscape. This

landscape attracts tourists who come to enjoy its natural beauty, engage in camping activities, and walk along its banks (Al-Wadani, 2014).

Furthermore, these valleys in the Tihamah plain of Jazan are also popular for birdwatching and hunting, given the trees that adorn them. Safaris are organized daily and during weekends, with careful consideration of choosing the safest locations due to the potential danger of flash floods in these valleys. Some of the notable valleys include Oued ‘‘Bish’’, Oued ‘‘Dahan’’, Oued ‘‘Rizan’’, Oued ‘‘Muhaad’’, Oued ‘‘Reem’’, and Oued ‘‘Layyah’’ (Supreme Commission for Tourism and National Heritage (2014).



Map (02): Valley network in Tihamah plain in Jizan region.

Source: Author based the survey on the digital elevation model (DEM), with a spatial resolution of 30 m.

Extended beaches are conducive to engaging in various tourist activities:

The longitudinal stretch of the Jazan region from ‘‘Shuqaiq’’ in the north to ‘‘Al-Musim’’ in the south along the Red Sea coast, spanning 235 km, boasts numerous beaches of varied formations: sandy, rocky, and pebbled. These beaches are rich in coral reefs, making them a significant tourist attraction that draws large numbers of visitors. The warm climate, particularly during winter, facilitates the enjoyment of water sports, recreational activities, and relaxation on these shores.

Certainly, the results of surveys conducted by the Saudi Commission for Tourism (1427 AH / 2002 AD) confirm that beaches constitute 74% of the tourist attractions visited by tourists in the Jazan region. Here is a summary of some of the most important tourist beaches (Supreme Commission for Tourism and National Heritage (2014):

- **‘‘Shuqaiq’’ Beach:** Located in the southern part of ‘‘Shuqaiq’’ city, which is part of the province of Al-Darb, and approximately 159 km north of Jazan city, this beach stretches for about 4 kilometers. It is characterized by its soft sands and the abundance of doum palm trees, which enhance its aesthetic appeal (Photo: 01).



Photo (01): "Shuqaiq" Beach.

Source: <https://www.akhbaar24.com/article/detail/587187>

- **"Ras Al-Tarfa" Beach:** Located approximately 25 km west of the city of "Sabya", "Ras Al-Tarfa" is a peninsula extending into the Red Sea. It is surrounded by water on three sides and is known for its natural shape and sandy beaches. The presence of shurah trees enhances the visual appeal of the scenery (Photo: 02).



Photo (02): "Ras Al-Tarfa" Beach.

Source : <https://www.akhbaar24.com/article/detail/587187>



Map (03): Tourist beaches in Tihamah Plain in Jazan region.

Source: General Authority for Tourism and National Heritage, 2014.

The increasing importance of groundwater in the Tihamah plain enhances sustainable tourism:

Water resources constitute a vital source for tourism and tourism planning due to their close relationship with various aspects of tourist activities. Water is a critical necessity that must be adequately provided for in all tourist destinations to meet the growing demands of tourists.

Rainwater is the primary source of surface water in the Tihamah plain, and it also recharges the groundwater, which is the sustainable natural resource for water supply in the Jazan region, similar to other areas of the Kingdom of Saudi Arabia due to the scarcity and variability of rainfall. Most groundwater reservoirs in the Jazan region are of the unconfined type, where water is under neutral pressure with atmospheric pressure. The groundwater level fluctuates depending on the recharge conditions and pumping activities in different locations (AlHababy, Al-Rajab, 2015).

A diverse natural plant species that spreads across valleys and coastal areas.

The Tihamah plain in Jazan region is characterized by its diverse fungal life, encompassing various types and species of plants, grasses, herbs, and date palms. This biodiversity gives it a relative advantage in terms of botanical richness, leading to the emergence of natural pastures. The vegetative cover plays a significant role in attracting tourists due to its natural features, contributing to the creation of a tourism pattern, particularly short-term tourism for nearby urban residents (locals). They seek to visit during short vacations and weekend holidays to engage in various tourist activities and enjoy its breathtaking and beautiful landscapes, enhanced by the harmonious integration of natural vegetation with other surface features (El-Demerdash et al., 1994).



Map (03): Distribution of natural plants in the Tihamah plain in Jazan region.

Source: Author based on Landsat9_OLI satellite image, 2022.

Plants such as al-Murkh, al-'Arafaj, ath-Thamaam, as well as the trees of talah, shih, arak, date palms, sidr, doum (Photo: 03), salam, fig, and mango thrive along the banks of valleys. They benefit from the flowing runoff water originating from highlands and fertile soil deposits (El-Demerdash et al., 1994).

Along the coastal strip of the region, there are various halophytic shrubs such as qurm and qundal. Additionally, there are some marine grasses that are influenced by high temperatures, evaporation rates, and low rainfall (Ministry of Municipal and Rural Affairs, 2006).



Photo (03): Clusters of doum palm trees in the Tihama plain of the Jazan region.

Source : <https://www.youtube.com/watch?v=yoK-bExzWnw>

The geomorphological nature of the Tihamah plain in Jazan region, characterized by scattered coastal lagoons that receive freshwater from valleys, creates a suitable habitat for the growth of mangrove trees. These trees typically form a growing green belt along the shores of these inland lagoons. Additionally, mangroves are found in the ‘Farasan’ Archipelago, which comprises over 100 islands (El-Demerdash, 1996).



Photo (04): Dense clusters of mangrove trees along the coast of the Jazan region.

Source : <https://www.spa.gov.sa/2297610>

In addition to their importance as essential components of coastal ecosystems, these trees and herbaceous plants play a fundamental and tangible role in the process of environmental rehabilitation. They contribute to the formation of a comprehensive ecosystem along coastal shores, helping to reduce temperatures and humidity levels in the air. Furthermore, they assist in maintaining gas balance and decreasing the presence of toxic gases in the atmosphere, while stabilizing and protecting soil from erosion and degradation.

On another front, these coastal plants also play a significant role in attracting tourists who come to enjoy their beauty and natural surroundings. This enhances sustainable ecotourism, further promoting the preservation and appreciation of these environments.

Dense presence of mammals and birds

The Tihamah plain and the ‘Farasan’ Islands are characterized by their rich biodiversity, serving as natural habitats for marine and terrestrial birds. Additionally, they are home to certain animals such as Arabian gazelles and white oryx, which can be easily spotted relatively close to settlements. This diversity acts as a significant attraction for tourists and birdwatchers, as trees and herbaceous plants attract and support marine and terrestrial bird species, encouraging them to breed. These environments serve as breeding grounds and shelters for various economically important fish and crustacean species.

In the valleys and agricultural lands of Tihamah, several distinct species of birds thrive, such as the Nile Valley sunbird, gray francolin, Abyssinian roller, and white-throated bee-eater. Additionally, various raptors like the striped eagle, booted eagle, and osprey are present. The presence of permanent water bodies such as the Jazan Dam Lake supports several other bird species including the pied kingfisher, great white pelican, mourning wheatear, and hoopoe, enhancing opportunities for nature tourism in the Jazan region.

Additionally, the coastal areas are home to birds like the Kentish plover and seagulls, along with notable species such as the laughing dove, great bustard, and Eurasian spoonbill. The black-crowned night heron is also plentiful near many resorts along the beaches and camping areas.

The coral reefs in the ‘Farasan’ Islands, despite their significance as tourist attractions, do not exhibit the same level of diversity found in the northern Red Sea towards the Gulf of Aqaba. Nevertheless, the National Commission for Wildlife Conservation and Development has identified the shores of the ‘Farasan’ Islands as among the best areas for coral reefs in the Red Sea (Ayachi, Jaouadi, 2017).

The coral reefs in the ‘Farasan’ Islands are particularly known for their preservation of their natural state. Additionally, ‘Farasan’ offers numerous marine environments suitable for diving activities, making it one of the best diving locations in the Kingdom overall (Jaouadi, Ayachi, 2016).

All these diverse environmental attributes have led to the emergence of various forms of sustainable tourism in the Tihamah plain of the Jazan region.

Multiple patterns of sustainable tourism development in the Tihamah plain of the Jazan region

The Tihamah plain in the Jazan region is distinguished by its diverse tourist attractions, encompassing a variety of tourism patterns all falling within the framework of sustainable tourism. The most notable of these tourism patterns include:

- Recreational and Leisure Tourism:

One of the oldest forms of tourism known worldwide, recreational and leisure tourism involves travelers moving from one place to another for the purpose of enjoying coastal beaches, waterways, scenic landscapes, relaxation, and engaging in various hobbies and activities. Its primary aim is to alleviate life pressures and work burdens.

The Tihamah plain in the Jazan region offers abundant elements for recreational and leisure tourism. Stretching 235 kilometers from north to south, its diverse beaches are characterized by clear waters and calm waves. The region's climate is particularly favorable during autumn, winter, and spring. The study area is enriched with expansive sandy beaches, scenic formations of trees and natural herbs, shallow coral reefs, scattered sea islands, and reefs-free beaches suitable for this type of tourism.

- Ecotourism and Landscape Viewing:

Ecotourism is considered one of the modern forms of tourism that has recently entered the global tourism arena, where travelers visit natural areas to enjoy various environmental resources in their natural form. The environmental diversity in the study area, ranging from marine islands, mangrove forests, valleys, and coastal beaches, makes it suitable for ecotourism. This is supported by the availability of essential infrastructure and services required by tourists (Al-Jawhari, 2018).

- Medical Therapeutic Tourism:

Medical therapeutic tourism began to take its modern form in the seventeenth and eighteenth centuries, although it is among the oldest types of tourism known to humans. The Tihamah plain in the Jazan region of Saudi Arabia possesses components conducive to medical therapeutic tourism, starting with its salty sea waters, which some studies have shown to be beneficial for treating conditions such as gout, psoriasis, and certain dermatological diseases.

Additionally, the area's fine sands and black sands are utilized in the treatment of ailments like arthritis.

- Beach Tourism and Marine Sports:

This type of tourism relies on the presence of water bodies such as seas or lakes, where tourists engage in various marine sports activities. These activities include diving, water skiing, swimming, yacht or boat racing, among others.

The coastline of the Jazan region is characterized by its diverse beaches, stretching 235 kilometers from north to south. It features expansive sandy beaches and long stretches of coral-free shores, making it ideal for swimming and engaging in marine sports and water activities. The region also boasts gradual and sandy beaches, alongside scenic formations of trees, natural herbs, and coral reefs suitable for underwater diving and various fishing hobbies (Al-Jawhari, 2018).

- Island Tourism:

Island tourism serves multiple purposes across various tourism types including recreational, sports, scientific, environmental, leisure, therapeutic, bird watching, and more, depending on the attraction features that facilitate diverse purposes for which islands are used for tourism. The Jazan coastline is rich with numerous islands that can be utilized as tourist resorts.

- Bird Watching Tourism:

The coastline of the Jazan region boasts a diversity of bird species, making it conducive to developing bird watching tourism. This can be achieved by highlighting these species through media, identifying their locations, and specifying the migratory periods of birds. This enables tourists to observe and enjoy bird sightings. Additionally, issuing informative brochures for tourists about the various bird species and guidelines on how to interact with them aims to conserve and avoid disturbing them (Al-Jawhari, 2018).

The SWOT Quadruple Environmental Analysis

The SWOT Quadrant Analysis is a strategic analysis tool used to identify four key points: Strengths, Weaknesses, Opportunities, and Threats. Strengths and Weaknesses represent elements of the internal environment analysis, while Opportunities and Threats are used to analyze the external environment (Nishanthi, Dissanayaka, 2021).

Based on the environmental factors for sustainable tourism development, the internal environment represented by ‘‘Strengths’’ and ‘‘Weaknesses’’ can be identified, along with the external environment represented by Opportunities and Threats (Abu Bakar, Rosbi, 2023). Integrating Strengths with available Opportunities facilitates the formulation of a robust strategy conducive to promoting sustainable eco-tourism in the Tihamah plain in the Jazan region. Additionally, reinforcing Strengths and addressing Weaknesses mitigates potential risks and challenges.

1- Strengths	2- Weaknesses
<ul style="list-style-type: none"> - The distinctive geographical location of the Tihamah Plain extends 235 kilometers along the territorial waters of the Kingdom of Saudi Arabia on the Red Sea. - The coastal lands are mostly flat, with elevations ranging from sea level to 50 meters, except for isolated hills scattered along the coast. - The coastal zone exhibits distinctive natural and environmental characteristics, along with unique ecological diversity. - Jazan's coastal sector provides infrastructure for tourism activities, represented by resorts scattered along its coast, such as the "Shuqaiq" Beach Resort. - Relative importance, institutional evolution, and longstanding experiences in the tourism sector and tourism development in the Jazan region. - Provision of supportive services for tourism and developmental activities. - Availability of ports, fishing harbors, and recreational marinas. - The region possesses valuable tourist resources, including coastal resources and rich marine life, especially the beaches and marine environment of the "Farasan" Islands, which can be utilized as prominent diving sites and attractions for marine tourism. - Availability of lowlands and islands in Jazan, with moderate temperatures in winter and pleasant conditions in the highlands during summer. - The region is currently undergoing some improvements in the hotel sector in cities and coastal resorts, as well as in other tourist facilities and services. - The region has seen the organization of an annual traditional boat race, festivals showcasing folk arts, and a festival 	<ul style="list-style-type: none"> - The relative similarity of the Jazan coast to neighboring coasts in the Asir and Makkah regions, and the absence of comparative advantage and competitiveness. - The environmental characteristics of the region categorize it within areas subject to restricted development conditions (such as wetlands and Ramsar Convention sites, coral reefs, mangrove forests, etc.), where potential development zones overlap with natural environmental zones that require conservation. - The relatively lower quality of coral reefs in the region compared to those in the northern Red Sea necessitates reassessment. - Limited development of tourist markets characterize Jazan, which is not widely recognized as a tourist destination. Marketing efforts are primarily confined to private sector institutions, with promotion and marketing predominantly conducted at the local level. - High temperatures and humidity levels during the summer months. - Limited variety of tourism products, and maritime tourism has not been well-developed except for a few beaches suitable for relaxation and swimming. - Lack of media materials and tourist services. - Despite the designation of the "Farasan" Islands as protected areas, effective environmental protection management must be implemented. Intensive fishing along the coastal waters depletes marine resources that have economic and recreational benefits. - Absence of any festivals to attract tourists, apart from the boat race, folk arts festival, and Hamoor fish catching festival. - Weak institutional and organizational structure in the local tourism sector, as well as in the private sector. Absence of tourism companies and integrated tour organizers,

<p>associated with the season of catching Hamoor fish in the “Farasan” Islands.</p> <ul style="list-style-type: none"> - Large quantities of fish and other marine organisms are locally available and utilized in tourism, serving as attractions. Additionally, they provide job opportunities and income for residents. 	<p>and weak tourism marketing. Lack or inadequacy of quality assurance for tourism products. Shortage of national human resources and low level of human resources.</p> <ul style="list-style-type: none"> - Difficulty in establishing large ports (for large ships) due to the coastal nature (islands and coral reefs) of the shoreline. - Harsh climatic conditions (high temperatures, high humidity) and dust storms during the summer season. - Issues related to soil quality, its seasonal variations, and changes over time, along with the costs associated with soil treatment and development (including sandy clay soil, marshes, seasonal lakes, and desert areas).
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3- Opportunities	4- Threats
<ul style="list-style-type: none"> - The potential for developing the international coastal highway could enhance connectivity to the Tihamah Plain and increase overall demand for tourism activities. - Opportunities for integration with established and strong tourism hubs such as recreational and ecological tourism in “Abha”, “Al-Soudah” Park, cultural tourism in “Rijal Almaa” village, and similar models. - The potential to diversify and expand tourism products, especially marine sports like diving in the islands, introduce new products in urban areas and mountainous regions, improve and expand health resorts. - The potential to expand tourism markets includes local markets, resident markets, Gulf Cooperation Council (GCC) countries markets, and international markets focusing on marine and beach tourism, as well as mountain tourism, heritage, and cultural tourism. Increasing marketing activities for the destination is also crucial. - Improving the road network and other infrastructure systems is crucial. 	<ul style="list-style-type: none"> - Limited competitiveness of the targeted tourism sector at the national level compared to advanced destinations like Jeddah. - Limited opportunities to attract external demand for tourism except in the long term, within the framework of cultural, administrative, or security developments over the long term. - Degradation or destruction of the distinctive environmental and ecological assets of the coastal area due to urban growth and tourism development activities, similar to lessons learned from the Egyptian experience. - External conditions that could hinder the development of international tourism markets. - If the plans and recommendations for diversifying and developing tourism products, as well as infrastructure, are not implemented and integrated into development programs, tourism development will not proceed as intended. - Organized implementation of necessary marketing activities to expand tourism markets is hindered unless sufficient

<ul style="list-style-type: none"> - Environmental protection improvements can be implemented in the "Farasan" Islands, coastal waters, and other natural areas. - The possibility of organizing an intensive campaign to clean up the environment and natural sites, along with promoting an environmental awareness program. - Developing small and medium-sized enterprises to provide jobs for citizens, bolstered by education and training programs including tourism awareness initiatives, can directly contribute to employing locals in the tourism sector. - Focusing on available demand from seasonal domestic tourism and winter international tourism (Jazan Riviera), which constitutes a highly competitive and attractive hub for specialized environmental and local youth tourism. - Focusing on developing a specialized tourism sector with unique characteristics, such as eco-tourism or diving tourism, and integrating the potential to declare the area as a natural reserve. - The development directed towards the Jeddah-Jazan coastal axis is expected to have a positive impact on the development of the Tihamah Plain. - The coastal railway line (Jeddah-Jazan) has the potential to achieve a qualitative leap in the development of Jazan's coast. - Developing existing marinas for marine tourism, separating ports for tourism activities from fishing ports, and increasing their capacity. - Supporting demand for tourism activities along the Jazan coast by strengthening connectivity between urban clusters on the coastal strip and urban areas further inland along the eastern coast. 	<p>financial resources are allocated for this purpose.</p> <ul style="list-style-type: none"> - If the natural sites are not properly cleaned of waste, Jazan's image among tourist markets will always remain tainted and incomplete. - Some social customs and traditions may impose restrictions on the development of marine tourism and beach tourism. - Close cooperation between the public and private sectors is essential for the successful development of the tourism sector.
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The analysis of strengths, weaknesses, opportunities, and threats indicates that the Tihamah Plain in the Jazan region has achieved significant development in the tourism sector. It has the potential to continue developing and expanding tourism, especially marine and beach tourism. Despite existing constraints on development, opportunities also exist that can mitigate these constraints, reduce them, and expand the tourism product and markets. This makes the

tourism sector a crucial element in the economy and society of the region, providing additional benefits for the population of Tihamah and the Jazan region as a whole.

Research results:

The research concluded the following results:

- The Tihamah Plain in the Jazan region is characterized by its strategic location overseeing Saudi Arabia's regional waters, spanning 235 km. It is interconnected with the regions of Makkah and Asir to the south through the regional axis (Jeddah/Asir/Jazan).
- The Tihamah Plain in the Jazan region boasts numerous tourist attractions, whether environmental or natural. These include expansive sandy beaches, scenic formations of trees and natural grasses, coastal coral reefs, and ecologically distinctive semi-islands with sandy beaches and diverse bird species. The marine islands can be utilized as tourist resorts, alongside beaches suitable for swimming and marine sports.
- The study highlighted the suitability of the Tihamah Plain for tourism throughout the winter, spring, and autumn seasons.
- The region possesses valuable tourism resources, particularly in its coastal resources and rich marine life, including beaches and marine environments in the "Farasan" Islands, which can be utilized as excellent diving sites and tourist attractions for marine tourism.
- The coastal plain of the Tihamah region in Jazan is characterized by the presence of wave-protected areas such as lagoons and coves, which are suitable as marinas for receiving yachts, pleasure boats, and marine excursions.
- The study revealed the presence of gradually sloping sandy beaches that can be utilized for development purposes such as hotels, tourist resorts, or camping areas.
- The limited range of tourist products has hindered the development of maritime tourism, except for a few beaches suitable for relaxation and swimming.
- Coastal communities in the Tihamah plain of the Jazan region lack tourist facilities, services, and basic amenities. The available infrastructure does not meet the potential of the tourism resources available, which has had a negative impact on the limited development of the Red Sea coastline for tourism purposes.
- There are multiple tourism patterns that align with the tourism attractions in the study area, such as recreational tourism, eco-tourism, medical tourism, beach tourism, marine island tourism, and birdwatching tourism.

Recommendations:

Following the presentation of the study's key findings, the study recommends proposing several tourism projects aligned with Saudi Arabia's Vision 2030. These projects are also in accordance with the natural and environmental characteristics of the coastal area, aiming to achieve sustainable tourism development in the study area. The recommendations include:

- The necessity of building a comprehensive environmental and tourism database specifically focused on land use is crucial. This database should include maps, information, satellite imagery, studies, and research related to this field. It should be designed for ease of use by investors, decision-makers, and planners to utilize in developing tourism development plans in the study area.
- Development of marine resort tourism on the beaches, especially on the "Farasan" Islands and along the coast, with a focus on expanding diving operations, developing sailing activities, and diversifying other water sports.

- Enhancement of tourism in urban areas by leveraging tourism markets associated with business trips, vacations, and visits to friends and relatives in the city of Jazan.
- Development of bird watching activities, turtle watching, and other ecotourism-related activities, supported and integrated with other tourism patterns.
- Promotion of tourism through the establishment of tourist gateways leading to the region and related transit areas, identifying tourism development zones, centers, and tourist sites.
- Focusing on the development of road networks in tourism development areas, improving entrances leading to the ‘‘Farasan’’ Islands, and connecting tourist gateways with tourism development zones, centers, and tourist sites. Additionally, ensuring adequate roads for organized tourism excursion programs.
- Jazan is classified as a prime destination for diving and water sports, as well as one of the distinguished beach destinations. It is also recognized as a significant destination for natural health resorts in the medium term within the Kingdom.
- Developing tourism services in the region to integrate products together is crucial. Among the key services needing development are tour packages and information provision services for tourists.
- Promoting and raising awareness about the efforts made by the Jazan region towards preserving a clean and healthy environment is essential.
- Implementing proper management programs in designated protected areas, and generally applying an environmental approach to planning in all forms of tourism development, is crucial.
- The precise coordination between infrastructure development efforts and the development of tourist sites and areas is essential.
- Encouraging and facilitating the entry of citizens into the tourism sector in Jazan is crucial.
- Creating a major facility that provides education and vocational training in tourism and hospitality is essential to develop a highly skilled workforce in Jazan and other regions of the Kingdom.
- Development of ‘‘Farasan’’ Islands, and providing more facilities and services for beach tourism, especially diving activities.
- Continuous development of resorts located on the beaches and inland in the Tihamah plain of the Jazan region.
- Developing ecotourism focused on bird watching and cleaning natural sites...
- Continuing to develop Jazan city, including beautification and decoration programs for the city.
- Establishment of a tourism management authority in the region, along with private sector-affiliated tourism trade associations.
- Deployment of the database on a web page to enable internet users to explore tourist attractions and available services in the area through digital mapping technology.
- Creation of entertainment centers featuring water-based recreational facilities, water parks, water sports, children's playgrounds, and an aquarium showcasing Red Sea marine life, complemented by theaters showing films about diving locations.
- There is a critical need to develop and enhance current facilities along the coastline of the study area to serve the goals of tourism development. This includes existing fishing marinas and ports, which can be utilized for hosting yachts, leisure boats, and for recreational outings. Additionally, there should be efforts to establish new marinas and docks, integrating them into a leisure excursion program along the Jazan region's coastline. This initiative aims to bolster tourism development and stimulate this sector of tourism.
- Leveraging the concentration of urban activities along the main axis (Jeddah/Jazan) to localize tourist, recreational, and entertainment services that appeal to visitors along the coastal sector.
- Utilizing visually distinctive areas along the coastal sector to localize activities that offer relative advantages in tourism development.

- There is potential to enhance connectivity between the regional axis (Jeddah/Jazan) by utilizing dirt roads and mountain trails traversing the highlands east of the regional axis (Jeddah/Jazan). Developing and planning these routes as new corridors could establish links between the coastal sector and the mountainous sector, aiming for sustainable development.
- There is potential to benefit from the Ministry of Transportation's proposal to establish a coastal railway line to support connectivity between the coastal sector of Jazan region and the regions of Makkah and Asir.
- The coastal sector boasts numerous sites with diverse morphological features, including gently sloping sandy beaches, coral reefs, and locations suitable for ecotourism. This diversity presents opportunities to localize a variety of tourist activities that cater to all visitor needs and preferences.
- There is potential for diverse tourism patterns in the coastal sector, including ecotourism, recreational activities, cultural tourism, sports conferences, camping and safaris, scenic viewpoints, and beach activities.
- There is a necessity to capitalize on nearby coral islands as tourist destinations while implementing strict environmental controls and avoiding the establishment of permanent structures on them.
- Learning from the experiences of some countries in developing sustainable beach tourism in the study area, such as the Egyptian and Jordanian experiences, as well as experiences from the United Arab Emirates and some European countries.

Conclusion:

The Tihamah Plain coastline in the Jazan region boasts diverse environmental qualities, amplified by its strategic location along the Red Sea coast and strong ties between the Makkah and Asir regions. These environmental attributes serve as tourist attractions, combining coastal resources and marine life to facilitate various tourist activities year-round.

A SWOT analysis of strengths, weaknesses, opportunities, and threats indicates that Tihamah Plain holds numerous opportunities for achieving sustainable tourism development. These opportunities also represent strengths that can be effectively planned in alignment with Saudi Arabia's Vision 2030, aimed at enhancing the tourism sector, particularly in beach and marine-related activities.

However, there are weaknesses specific to Tihamah Plain in the Jazan region, such as existing constraints, which require transforming these weaknesses into opportunities and mitigating risks to realize the sector's potential. Collaboratively engaging stakeholders can build a model for sustainable tourism development in Tihamah Plain, Jazan, where tourism becomes a key driver of the local economy, generating wealth and income, while expanding access to the tourism market in the Red Sea basin in accordance with Vision 2030.

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