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**Keywords:** Nature of the Buildings  
Surrounding the Site - Climate -  
Levels

**Title** Rehabilitation and employment of the Adrere Imilal Oasis  
in the Egyptian Siwa Desert

**ABSTRACT :** Adrere Amilal Hotel is one of the most  
beautiful desert resorts, offering all means of relaxation and  
rejuvenation. The ambiance is enhanced by candlelight and  
lanterns, creating a serene atmosphere. Technology is not  
permitted, ensuring a true escape from the modern world  
and promoting a peaceful, stress-free experience

**العنوان:**

إعادة تأهيل وتوظيف واحة ادرير إميلال في صحراء سيوة المصرية

**الخلاصة :** فندق أدرير أميلال هو واحد من أجمل المنتجعات الصحراوية، حيث  
يوفر جميع وسائل الاسترخاء والتجديد. يتم تعزيز الأجواء بإضاءة الشموع  
والفوانيس، مما يخلق جوًا هادئًا. التكنولوجيا غير مسموح بها، مما يضمن تجربة  
حقيقية للهروب من العالم الحديث وتعزيز الهدوء وخلو البال من التوتر.

## Introduction:

The diversity of tourist destinations and programs has increased, and with technological advancements, new materials have emerged that do not align with Egyptian nature or neglected environmental identities, leading to the deterioration of architectural heritage. This has driven a trend toward using local materials in architectural and interior designs. Consequently, people have become more inclined toward comfort, seeking places for relaxation away from the hustle and bustle of the city.

Over the past two decades, Egypt has focused on tourism development, assuming that its continuous revenues would lead to social and economic development. Undoubtedly, the natural environment is one of the most important resources for tourism development. However, amidst the growing attention to tourism development, there was a lack of synchronization between the benefits of development and the accumulation of negative environmental impacts.

Consequently, tourism development activities in Egypt have become a direct source of significant risks to human life and the natural

environment due to the absence of an integrated approach to sustainable tourism development and continuous environmental evaluation of tourist areas.

The challenges of desert tourism development in Egypt are further exacerbated by the severe climatic conditions of these areas, characterized by extreme heat for most of the year, direct exposure to desert hinterlands, and natural threats such as moving sand dunes that endanger development in many regions. These spatial factors have turned desert areas into a sector with unique local environmental characteristics, requiring development methods distinct from those used in coastal tourist areas.

## Research Sample:

The research sample focuses on presenting designs for the redevelopment and optimal utilization of oases, with an emphasis on reviving the concept of sustainability in the materials and resources used.

## **The Scientific Methodology of the Research:**

Descriptive-analytical approach.

### **Research Problem:**

Therapeutic tourism accounts for approximately 5% to 10% of global tourism. Since Egypt possesses numerous resources and advantages in this field, it is essential to focus on developing and enhancing this sector as it represents an added value to the national economy. The research problem lies in understanding how to promote therapeutic tourism in Egypt, identifying the obstacles hindering its development, proposing solutions to overcome these challenges, and exploring strategies to develop Siwa Oasis as a key therapeutic tourism destination in Egypt.

### **Research Objectives:**

- 1- Highlight the key resources of therapeutic tourism in Siwa and explore the optimal ways to utilize them, aiming to attract investors and open new horizons for development.
- 2- Analyze the geographical reality of therapeutic tourism in Siwa.
- 3- Understand the characteristics of medical tourists, evaluate their satisfaction levels regarding services, and identify their challenges.
- 4- Present the main obstacles hindering the development of therapeutic tourism and propose appropriate solutions.
- 5- Offer recommendations for the optimal application of therapeutic tourism to position Siwa as a successful and distinguished destination for therapeutic tourism, integrating it into Egypt's tourism map.
- 6- Study some of the existing therapeutic tourism destinations in Egypt, assess the efficiency of their utilization, and identify areas of weakness.
- 7- Investigate the methods and strategies that can enhance therapeutic tourism development in Egypt.
- 8- Examine the future of therapeutic tourism in Egypt and propose strategic planning for its growth.

### **Research Hypotheses:**

The study is based on the hypothesis that Siwa possesses natural resources conducive to therapeutic tourism, including its location, sand, mineral springs, and climate. However, these resources have not been adequately utilized to

make it a major attraction for international visitors. This underutilization is attributed to weaknesses in human infrastructure, particularly the lack of accommodation facilities in the oasis and the absence of medical equipment to monitor patients' conditions. Therefore, it is essential to draw the attention of investors to the potential for exploiting these resources and to open new horizons for development.

### **Expected Research Outcomes:**

1. Achieving a balance between environmental tourism, economic and social development, and the preservation of natural resources and the environment, ensuring their sustainability at both national and local levels.
2. Enhancing the management and development of environmental tourism through collaboration among government agencies, institutions, private sector entities, and civil society at various levels.
3. Improving infrastructure and upgrading the services provided at environmental tourism sites, while encouraging environmentally friendly tourism that supports local communities and respects their cultures and traditions.
4. Promoting sustainable environmental tourism activities by enforcing environmental laws and regulations, establishing standardized criteria for tourism development, evaluating the methods used, and assessing the state of biodiversity.

### **The Road Under Study :**

"Adrer Amellal" is located in the Siwa Desert in Egypt, approximately 550 kilometers southwest of Marsa Matrouh on the Mediterranean coast .

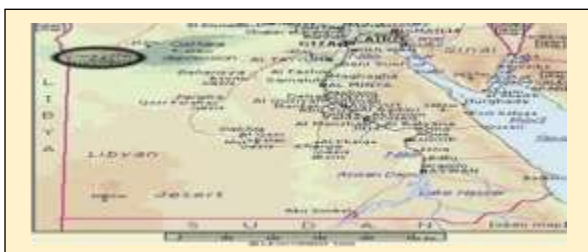


**Figure (1) illustrates the study area of Adrir Amilal Oasis in the Siwa Desert, Arab Republic of Egypt.**

The Adrere Amellal Hotel is one of the most beautiful desert resorts, offering a unique atmosphere for relaxation and rejuvenation, with candle and lantern lighting and a strict prohibition on technology. The hotel was once the residence of King Charles of England and his wife Camilla when he was the heir to the throne, as they stayed there for four nights. Seventeen years ago, a private plane bearing the British flag landed at Cairo Airport. Within minutes, the British heir to the throne, Prince Charles, and his wife Camilla, who had arrived in Cairo in March 2006 in search of a unique journey, left the city and headed west to the Siwa Oasis. There, they stayed in one of the most extraordinary hotels, not just in Egypt, but in the world.

### Geographical Location:

Siwa Oasis is situated in the southwestern part of Marsa Matrouh Governorate, approximately 300 km from the city of Marsa Matrouh, as shown in Figure (1-1). Siwa Oasis is one of the natural depressions in the Western Desert, lying 18 meters below sea level and covering an area of 1,738.4 square kilometers. To the north, it is bordered by a connected rocky plateau that narrows toward the west and widens toward the east. To the south, there is a series of hills and sand dunes. The Libyan border lies 65 km to the west, and the Bahariya Oasis is located to the east, stretching between longitudes 25° 16' and 25° 6'.



**Figure (2) illustrates the geographical location of Adrir Amilal Oasis in the Siwa Desert, Arab Republic of Egypt.**

### History of the Hotel :

Siwa Oasis is located on the shores of the lake that bears its name in Egypt, approximately 50 km east of the Libyan border. This desert land, made of rocks and sand, has been inhabited by different civilizations for over 55,550 years and still holds traces of their evidence. The ancient Siwan houses, which had collapsed over years of neglect, were restored and expanded using traditional methods to create the Adrere Amellal Hotel, an eco-friendly lodge highly sensitive to its environment, without Wi-Fi, telephone service, electricity, or public transportation—elements typical of modern comfort. Instead, a visit to the hotel frees you from the industrial world and provides a window into history, allowing you to experience the night sky, the lake breeze, and the desert landscape as they have always been enjoyed. The buildings were

renovated by the International Environmental Quality Organization and are made from a blend of salt rock and clay (karshif), stone construction, and homes carved into the Great Mountain that hosts the lodge. Returning to the fundamentals of design, all aspects of the buildings are naturally intended to maintain basic comforts. The thick earthen walls absorb heat during the day, keeping the interior cool, and release heat at night as temperatures drop. The windows are specially designed and positioned to capture desert breezes, eliminating the need for air conditioning, while heat is sourced from wood-burning stoves. The Adrere Amellal Resort is surrounded by seven salt lakes, with palm trees encircling them like bracelets around a wrist. The complex consists of the ancient Siwan houses that had collapsed due to years of neglect, now restored and expanded using traditional methods to create the Adrere Amellal Hotel. History of the Hotel Siwa Oasis is located on the shores of the lake that bears its name in Egypt, approximately 50 km east of the Libyan border. This desert land, made of rocks and sand, has been inhabited by different civilizations for over 55,550 years and still holds traces of their evidence. The ancient Siwan houses, which had collapsed over years of neglect, were restored and expanded using traditional methods to create the Adrere Amellal Hotel, an eco-friendly lodge highly sensitive to its environment, without Wi-Fi, telephone service, electricity, or public transportation—elements typical of modern comfort. Instead, a visit to the hotel frees you from the industrial world and provides a window into history, allowing you to experience the night sky, the lake breeze, and the desert landscape as they have always been enjoyed. The buildings were renovated by the International Environmental Quality Organization and are made from a blend of salt rock and clay (karshif), stone construction, and homes carved into the Great Mountain that hosts the lodge. Returning to the fundamentals of design, all aspects of the buildings are naturally intended to maintain basic comforts. The thick earthen walls absorb heat during the day, keeping the interior cool, and release heat at night as temperatures drop. The windows are specially designed and positioned to capture desert breezes, eliminating the need for air conditioning, while heat is sourced from wood-burning stoves. The Adrere Amellal Resort is surrounded by seven salt lakes, with palm trees encircling them like bracelets around a wrist. The complex consists of the ancient Siwan houses that had collapsed due to years of neglect, now restored and expanded using traditional methods to create the Adrere Amellal Hotel.

## Nature of the Activity :

The project concept is based on integrating natural therapeutic methods (hot mineral springs and sand) into the design of the resort. The exterior of the building features straight lines that blend with the surrounding structures, while the interior courtyard is characterized by curved lines inspired by the shape of hot springs, with a double roof designed to resemble the sand dunes of the surrounding desert. The main objective of the project is to merge traditional and modern construction styles to achieve harmony with nature.

Health and wellness tourism programs and products provide numerous benefits for both patients and healthy individuals. Therapeutic tourism is conducted through sand burials and sulfur spring baths. Patients suffering from joint pain and rheumatism experience significant relief after a period of burial. Additionally, a specific diet is followed during the burial period, as salt helps draw negative energy from the body, leading to a calming of the nerves and promoting relaxation.



Figure (3) illustrates the method of burial in the sand in the Siwa Desert, Arab Republic of Egypt.



Figure (4) illustrates the method of burial in the sand in the Siwa Desert, Arab Republic of Egypt.

## Nature of the Buildings Surrounding the Site:

- **Shali Fortress:** Built in 1300 AD by local residents of the oasis to protect the community from Bedouin invasions. It is now a stunning historical landmark and a protected site in the heart of Shali City.
- **Mountain of the Dead Tombs:** Carved into one of the mountains in ancient times, these tombs date back to the Greek and Roman periods. They are home to more than 550 Roman tombs and four tombs from the 26th Dynasty, carved into the rock face and open for visitors.

- **Temple of the Oracle of Amun:** A historic site that played a significant role in ancient Egyptian religious practices.
- **Temple of Um Ubida:** Another important historical and archaeological site within the area.
- **Cleopatra's Spring:** A natural water spring with historical significance and renowned for its therapeutic properties.
- **Funtas Island or the Island of Fantasy and Imagination:** A unique location known for its scenic beauty and cultural significance.
- **Mount Dekror:** Famous for being a destination for therapeutic tourism, particularly for relieving rheumatism and arthritis through sand burials, which are believed to have calming and healing properties.



Figure (5) illustrates the nature of the buildings surrounding the Adrir Emillal oasis in Siwa, Arab Republic of Egypt.

## Documentation of the Location:



Figure (6) illustrates the material used in the construction of the Adrir Emelal oasis.



Figure (7) illustrates the lighting used in the Adrir Emelal oasis.



Figure (8) illustrates the exterior design of one side of the Adrir Emelal oasis.



## History of the site :

Adrere Amellal is one of the most unique and isolated hotels in the world, yet it is also one of the most beautiful desert resorts. It lacks all modern conveniences, including electricity, telephones, and various technologies, but it provides all the means for relaxation and rejuvenation, with candle and lantern lighting that creates a romantic atmosphere.

Remarkably, Adrere Amellal is surrounded by seven salt lakes, embraced by olive trees that circle them like a bracelet around a wrist. Its walls are entirely made from sand and Siwan soil, known as *karshif*, a mixture of salt and clay. Scientifically proven to be an excellent thermal insulator, similar to adobe bricks, this material has been used by local builders in Siwa for thousands of years. This unique construction makes Adrere Amellal a cool oasis amidst the harsh desert of Egypt.

Despite the hotel having only around forty rooms, these too are built using the same *karshif* material. To ensure complete heat absorption, the doors, windows, and fixtures are crafted from olive wood mixed with Siwan soil. The ceilings are made from palm trees, which prevents heat from seeping in during the day when the doors are open and reflects it at night, providing warmth to the rooms and protecting guests from the freezing desert cold. The resort is enclosed by salt rock walls, shaded by numerous palm trees.

## Topography of the Site :

Topography and Geography of Siwa Oasis :

The geography of Siwa City is highly diverse, characterized by a unique combination of arid and humid elements. The oasis is composed of sand dunes surrounded by natural springs, hot sulfur baths, and highly saline lakes. This environment contributes to the area's fertility, supporting the growth of thousands of date palms and olive trees. The landscape of Siwa is a striking blend of desert terrain and lush, fertile patches, making it a distinctive and rich region within the harsh surroundings of the Western Desert.

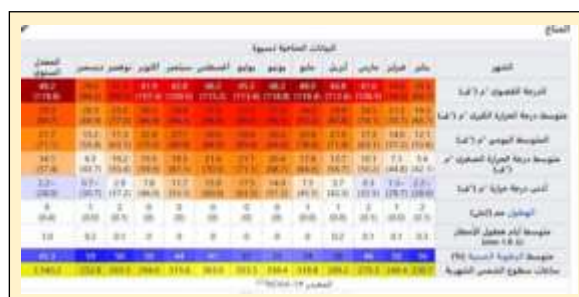


Figure (9) illustrates the climate of the Adrir Emelal oasis in Siwa, Egypt.

## Climate :

The temperatures in the Western Desert, and particularly in Siwa, vary significantly throughout the year and across different seasons. In January, temperatures can reach their lowest point, approaching freezing (0°C), and then start to rise through the spring months until they peak in the summer, especially in July and August, when temperatures can reach approximately 45°C.

Atmospheric pressure plays an important role in influencing wind patterns and their speed, which in turn affects rainfall. The presence of light, warm, low-pressure air and cold, high-pressure air creates horizontal air movement from high-pressure areas to low-pressure areas.

In Siwa, the prevailing winds are generally from the north in July and August, and from the east, southeast, and south in March, April, and May. The southwest and west winds are most common in December, January, and February, while the northwest winds dominate in July and August. Siwa is also subject to the "Khamsin" winds, which blow from the southern desert regions of North Africa into northern Egypt. These winds, carrying sand and extremely hot air, typically occur in April and May, but they can also occur in December.

## Design Concept and Objective:

- Transform Egypt into a hub for Arab medical tourism, making it the first choice for Arab patients and organizations that send their citizens abroad for treatment. This would position Egypt as a global destination for medical tourism, benefiting from its strong international reputation and goodwill in the tourism sector.
- Enhance the productive return of the medical sector to contribute to economic growth and boost the state's revenue. This would involve active cooperation with various ministries (e.g., Ministry of Tourism, Ministry of Information, Ministry of Foreign Affairs, Ministry of Civil Aviation, Ministry of Health).
- Restore confidence in Egyptian medical institutions and doctors among local patients by demonstrating that Egypt has become a medical fortress attracting thousands of Arab and foreign patients, thus reducing the reliance of some Egyptians on treatment abroad, which in turn benefits the national economy.
- Improve the performance standards of medical institutions and services, fostering healthy competition among them and enabling them to compete effectively with similar facilities outside Egypt.
- Open new markets for Egyptian tourism in regions where medical tourism promotion efforts have not been conducted before.

### Tourist Attractions in Siwa Oasis

Siwa Oasis is considered one of the richest regions in Egypt when it comes to unique tourist attractions. It is renowned for its distinctive archaeological sites and biological diversity. The oasis offers a wide variety of tourism types, including:

- **Cultural and archaeological tourism:** Siwa is home to historical sites, such as the ancient Shali fortress, the Mountain of the Dead, and the Temple of the Oracle of Amun.
- **Natural and ecological tourism:** The oasis is known for its stunning natural landscapes, such as the salt lakes, palm groves, and natural hot springs.
- **Medical tourism:** Siwa's natural sulfur springs and sand therapy offer health benefits, attracting visitors seeking alternative treatments.
- **Safari tourism:** The vast desert surroundings provide opportunities for desert excursions, dune-bashing, and exploring the unique desert environment.

### Archaeological Tourist Attractions :

Siwa Oasis is rich in ancient relics, showcasing its diverse history through Pharaonic, Roman, and Islamic sites. Below are the key archaeological sites in Siwa:

- **Al-'Ateeq Mosque:** The oldest mosque in Siwa, constructed along with the ancient city of Shali.
- **The Oracle Temple:** Located in the village of "Agurumi," it stands atop a plateau amidst the ruins of the old village.
- **Temple of Amun (Temple of Umm Ubaida):** Situated in the village of "Agurumi," this temple is dedicated to the god Amun and reflects the historical and religious significance of the region.

### Therapeutic Tourism Attractions:

Siwa Oasis is renowned for its natural healing practices, especially through its unique therapeutic sites:

- **Mount Dakrou:** This sacred mountain holds significant cultural and medicinal value for the residents of Siwa. It is known for its therapeutic benefits for treating rheumatic diseases and joint pain. The healing process involves burying the body in the sand for periods ranging from 15 to 30 minutes daily over two weeks during the summer months, conducted at specific times of the day. This traditional sand therapy has become widely recognized, making Mount Dakrou a famous destination for therapeutic tourism.

- **Mineral Springs:** Siwa also boasts natural hot springs that are used for their healing properties. One of the most well-known springs is **Kefar Well**, which has a temperature of 67°C. These mineral springs contribute to the area's reputation as a destination for natural treatment and relaxation.



Figure (10) illustrates the method of burial in the sands of the Siwa Desert in Egypt.

### Natural and Ecological Tourism Attractions :

Siwa Oasis is distinguished by its unique natural and environmental features, which include:

1. **Mountains and Hills:** Siwa is home to around 3,000 mountains, hills, and elevated landforms. The most notable among these is **Mount Dakrou**, which holds sacred significance for the local community. These natural elevations contribute to the region's distinctive landscape and support an ecosystem rich in natural resources.
2. **Mineral and Quarry Resources:** The desert and mountains of Siwa contain substantial deposits of various minerals and building materials, including:
  - **Marble**
  - **Alabaster**
  - **Timeless sand**
  - **Radioactive sand**
  - **Silica sand**
  - **Limestone**



Figure (13)

Figure (12)

Figure (11)

### ¶Lakes and Springs :

Siwa Oasis is renowned for its numerous lakes and natural springs, which are significant for both their ecological and historical importance. Notable examples include:

1. **Famous Lakes:** The oasis hosts several prominent lakes such as:
  - **Zaytoun Lake**
  - **Quraish Lake**
  - **Khamisa Lake**
  - **El-Muraghi Lake**

Some of these lakes stretch up to approximately 15 kilometers in length and were once home to about 1,000 springs, of which around 200 still exist today. However, only about 80 of these are utilized for irrigation or drinking purposes.

2. **Key Springs:** Siwa's springs are known for their abundant water and healing properties. Important springs include:
  - **Ain Tajaret**
  - **Ain Dakrou**
  - **Ain Quraish**
  - **Ain Hammam** (with historical significance)
  - **Ain Cleopatra**
  - **Ain Fatanis**
  - **Ain Tamosa**
  - **Ain Khamisa**
  - **Ain El-Jurba**
  - The water output varies between these springs, and **Ain El-Shifa** is particularly renowned for its sweet-tasting water.



Image (14) illustrates the most famous lakes and springs in the Siwa Desert, Egypt.

### Safari Tourism Attractions :

Safari tourism is particularly popular among foreign visitors, especially in the southern region of Siwa. This area is known for its expansive sand dunes, the Great Sand Sea, and the path leading to the Qattara Depression. Key attractions for safari tourism in Siwa include: **Birwa -The Petrified Forest (El-Garib)- Shiata-Tababgh-Um Al-Katatib -El-Araj -The Two Seas (Al-Bahrain)**



### Entertainment and Cultural Traditions Attractions :

The leisure and entertainment experiences in Siwa can be deeply connected to its rich customs and traditions. Notable cultural and recreational attractions include:

1. **Traditional Festivals:** One of the most prominent festivals is the **Harvest Festival**, held in October around **Jebel Dakrou** for three days. This celebration showcases local traditions, music, and dances, providing a vibrant and authentic experience for visitors.
2. **The Siwan House Museum:** This museum is built in the traditional Siwan architectural style, preserving the heritage of the region. It houses various exhibits and Siwan products that depict the customs and traditions of the local people. Visitors can learn about the lifestyle, crafts, and history of the community.
3. **Siwa Culture Palace:** A significant cultural institution that hosts traditional arts and performances. It offers programs and shows that highlight local folklore and crafts, both within the palace premises and at unique outdoor locations like the sand dunes or gardens, enriching the cultural experience for tourists.



Figure (18)

Figure (17)

Figures (17-18) illustrate the most important folk celebrations of the oasis.

### Architectural Style and Character :

The **Adrir Amellal** hotel embodies a unique architectural style that harmonizes with the natural environment of Siwa. The building is constructed entirely from local materials, showcasing traditional craftsmanship and sustainability:

1. **Walls:** The walls are made from **kirshaf**, a mixture of sun-dried salt, clay, and straw. This material is renowned for its natural insulating properties, maintaining a comfortable temperature inside the building throughout the day and night.
2. **Bathrooms:** The bathrooms are constructed using **sandstone**, which adds to the rustic and organic feel of the space.
3. **Furniture and Decor:** The hotel features traditional Siwan furniture made from **palm tree trunks and fronds**. **Handwoven fabrics** are used for bed covers, adding an authentic touch that emphasizes local craftsmanship and the area's cultural heritage.

### Architectural Style of Adrir Amellal:

#### 1. Number of Rooms and Facilities:

- **Administrative Building:** Includes a reception hall, administrative offices, and a utility room.
- **32 Double Rooms:** Each room comes with an attached sanitary bathroom.
- **Restaurant:** Equipped with rooms for special services, such as storage and kitchen facilities.
- **Bar Building:** Includes exterior terraces, both covered and open.
- **Swimming Pool Building:** Dedicated space for guests to relax and swim.
- **Parking Building:** Contains parking spaces, storage areas, and staff accommodation rooms.

#### 2. Building Materials and Techniques Used:

- **Palm Tree Trunks:** Used for structural support and aesthetics.
- **Kirshaf (Salt and Clay Mixture):** A traditional material combining sun-dried salt and clay, essential for wall construction.
- **Tree Leaves:** Utilized for roofing and decorative elements.
- **Olive Wood:** Used for construction and doors.
- **Reeds:** Employed in construction and design details.
- **Grit and Clay:** Used in wall and structural building.
- **Domes:** Incorporated into the design for both aesthetic appeal and functionality.

- **Load-Bearing Walls:** The walls are designed to be load-bearing, providing strength and stability.
- **Wall Thickness:** Varies from 60 cm to 80 cm, 30 cm to 40 cm, and 20 cm to 30 cm to ensure insulation and durability.
- **Wooden Openings:** Windows are designed to limit openings to no more than 5%, using olive wood.
- **Natural Wooden Doors:** Simple, untreated wood doors.
- **Modern Egyptian Stone (Mossranian Stone) and Sandstone:** Used for structural and decorative purposes.
- **Furniture:** Crafted from palm fronds and Egyptian cotton for a traditional, comfortable touch.

### Basic Principles of Sustainable Tourism Development in Siwa Oasis

1. **Preserving Nature, Traditions, and Desert Culture for Future Generations:** Ensuring that the unique natural and cultural heritage of the desert is maintained and passed down to future generations.
2. **Local-Level Development and Tourism Policies:** Advancing development through local policies and strategies that respect sustainable growth, ethical considerations, and cultural values, while preserving cultural and natural resources and ensuring tourists' well-being.
3. **Public and Local Professional Education and Awareness:** Educating and training the public and local officials involved in the tourism industry, making sure that they are well-informed about the fundamental principles of sustainable tourism.
4. **Developing Tourism Practices that Preserve Natural and Historical Heritage:** Encouraging tourism practices that protect the environment and historical sites while promoting the desert culture, and ensuring that tourism needs are balanced with heritage conservation.
5. **Respecting Local Traditions and Desert Tourist Sites:** Maintaining respect for the customs and traditions of the local residents and the significance of tourist sites in desert areas.



## Building Issues:

- The resort is constructed entirely from local materials, with the walls made of *kirshaf*, a mixture of sun-dried rock salt, clay, and straw. The bathrooms are made from sandstone, and furniture includes palm trunks, palm fronds, and hand-woven fabric for covers.
- The resort does not have electricity or modern technological facilities; instead, it uses candles and lanterns. The walls are built from sand, and doors and roofs are made of palm fronds. All food served is completely natural.
- The resort operates only during the winter season and closes from mid-May to mid-September for maintenance of the rooms. Additionally, the hotel does not rely on electricity or air conditioning.

## Zoning :

### The current spaces are:

1. Restaurant
2. Café
3. Rooms
4. Pools
5. Storage
6. Reception lobby
7. Bathrooms

## Architectural Details:

The walls are entirely made from sand and Siwan soil, known as "kirshaf," which is a mixture of salt and clay. Scientifically, it has been proven to be an excellent thermal insulator, similar to adobe brick. Local builders in Siwa have used this material for thousands of years, making "Adrere Amellal" a cool oasis in the heart of the Egyptian desert. Despite the hotel's modest number of rooms, which do not exceed forty, they are constructed from the same "kirshaf." To ensure complete heat absorption, the doors and windows, as well as fixtures, are made from olive wood mixed with Siwan soil. The ceilings are constructed from palm trees, which prevents heat leakage during the day when the doors are open and reflects it at night to provide warmth, protecting guests from the harsh desert cold. The resort is surrounded by salt rock walls, shaded by numerous palm trees.

## Units that should be available in a therapeutic hotel:

There are some essential units that must be provided in a health or therapeutic hotel, which should be focused on for their quality, such as:

1. Medical examination center.
2. Nutrition unit: where balanced diet standards are applied according to the medical condition by a nutrition specialist.
3. Sports center for preparing and offering daily exercise programs.
4. Health pools (covered or open).
5. Massage unit.
6. Skin and tissue inflammation treatment unit and dermatology care.
7. Physical therapy unit.
8. Special programs for smoking cessation, treatment using mineral water, hot springs, clay baths, and moisturizing masks.
9. Special programs for alcohol consumption cessation.
10. Various types of baths, such as Turkish baths, etc.
11. Unit for serving medicinal drinks to treat digestive and respiratory disorders, kidney and gallbladder diseases, and other conditions.
12. Sunbathing and light therapy unit, under medical supervision.
13. Physical training sessions unit to strengthen muscles and relaxation techniques.
14. Beauty and skincare center for anti-aging treatments, facial massages, and masks, etc.
15. Recreational units that organize:
  - Leisure trips
  - Cultural tours
  - Training courses for sports like golf
  - Children's playgrounds
  - Cultural center
  - Theater for plays and small museums.
16. Tennis courts.



**Impact of Sun Movement on the Interior Space:**

Figure (19) illustrates the effect of the sun's cycles on the Adrir Emelal oasis in Siwa, Egypt.



Figure (20) illustrates the effect of wind movement on the Adrir Emelal oasis in Siwa, Egypt.

### Impact of Wind Movement on Interior Spaces:

#### Levels:

1. **Administrative Building:** Includes a reception area, administrative offices, and a multipurpose room.
2. **32 Double Rooms:** Each room is equipped with an attached bathroom.
3. **Restaurant and Service Rooms:** Includes spaces for specialized services – also features the bar building and its outdoor extensions with open terraces.
4. **Swimming Pool.**



Figure (21) illustrates the levels of the Adrir Emelal oasis in Siwa, Egypt.

### Exterior Views:



Figure (22)



Figure (23)



Figure (24)



Figure (25)

### Architectural Style:

#### Load-Bearing Walls:

1. **Wall Thickness:** Varied thicknesses of 60 cm, 80 cm, 30 cm–40 cm, and 20 cm–30 cm.
2. **Openings:** Limited to no more than 5% of the structure and made from olive wood.
3. **Doors:** Constructed from natural wood and left unpainted to maintain a rustic and organic look.
4. **Modern Stone:** Used as part of the structural and aesthetic design.
5. **Sandstone:** Integrated for durability and alignment with the natural environment.
6. **Kershaf:** A traditional material made from a mixture of sun-dried salt, clay, and straw, used for its excellent thermal insulation properties and historical significance in the area.

### Functions and Activities:

1. Physical Therapy
2. Restrooms
3. Dry Treatment
4. Wet Treatment
5. Information and Waiting Area
6. Movement Sensors
7. Passageways
8. Project Entrance
9. Women's Therapeutic Building
10. Chalets

Additionally, furniture should be crafted from natural woods, such as palm fronds (graid), to enhance the rustic and authentic look of the hotel while supporting local craftsmanship.

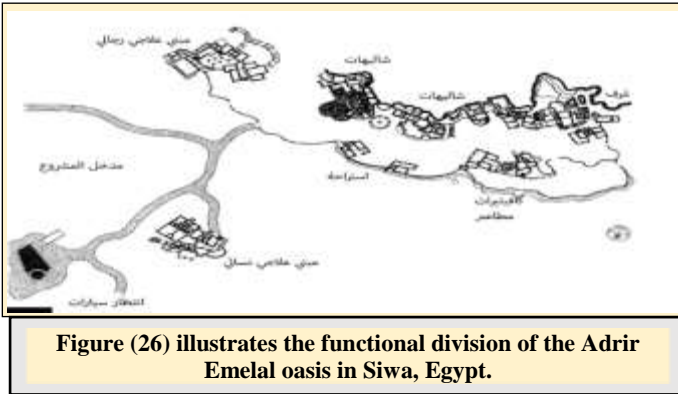


Figure (26) illustrates the functional division of the Adrir Emelal oasis in Siwa, Egypt.

### Color Scheme Plan:

**Beige Color:** Beige is one of the most soothing colors, creating a sense of calm and comfort. In this design, beige will be prominently used in most hotel components, such as wooden furniture (e.g., beds and small cabinets), bed linens, wall paint, and chandelier lighting. The key to success in this color scheme is the use of different shades of beige, including light beige, medium beige, and dark beige, which together create depth and visual interest.

**Green Color:** The psychological effect of green is significant as it evokes feelings of renewal, balance, and tranquility. It is easy on the eyes, helps reduce stress, and fosters a warm and comforting atmosphere. The use of green in the hotel's design can enhance the sense of relaxation and well-being among guests.



### Proposed Materials:

The use of natural materials is recommended to maintain an environmentally sustainable and harmonious aesthetic. For ceiling coverings, palm and olive tree branches can be used to regulate the indoor temperature and create a cool, comfortable atmosphere.



Figure (31)



Figure (30)



Figure (28)



Figure (33)

### Proposed Lighting:

- **Natural Lighting:** Utilize natural sunlight during the day to create a bright and warm ambiance.
- **Evening Lighting:** Use candles, olive oil lamps, and fire torches to provide a traditional and soothing atmosphere at night.
- **Energy-Efficient Devices:** Employ energy-saving lighting systems to minimize energy consumption.
- **Solar Energy:** Implement solar power for sustainable energy needs, such as cooking and water heating, to reduce dependency on non-renewable energy sources.



## Original Plan

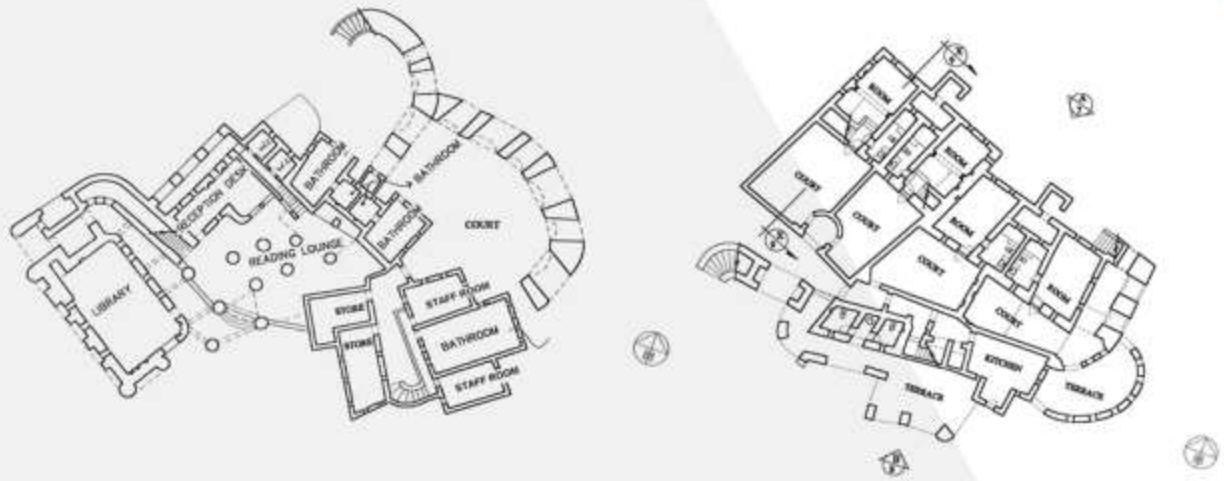
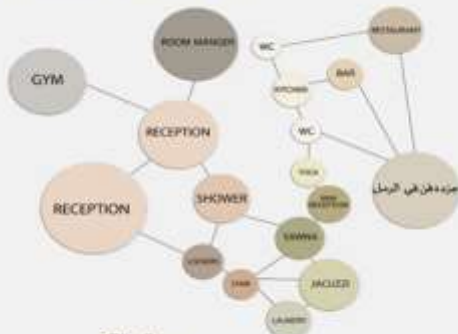


Figure (37) illustrates the original floor plans of the Adrir Emelal oasis in Siwa, Egypt.

## Bubble Diagram:



## Color



## Mood Board



## Material



## Furniture

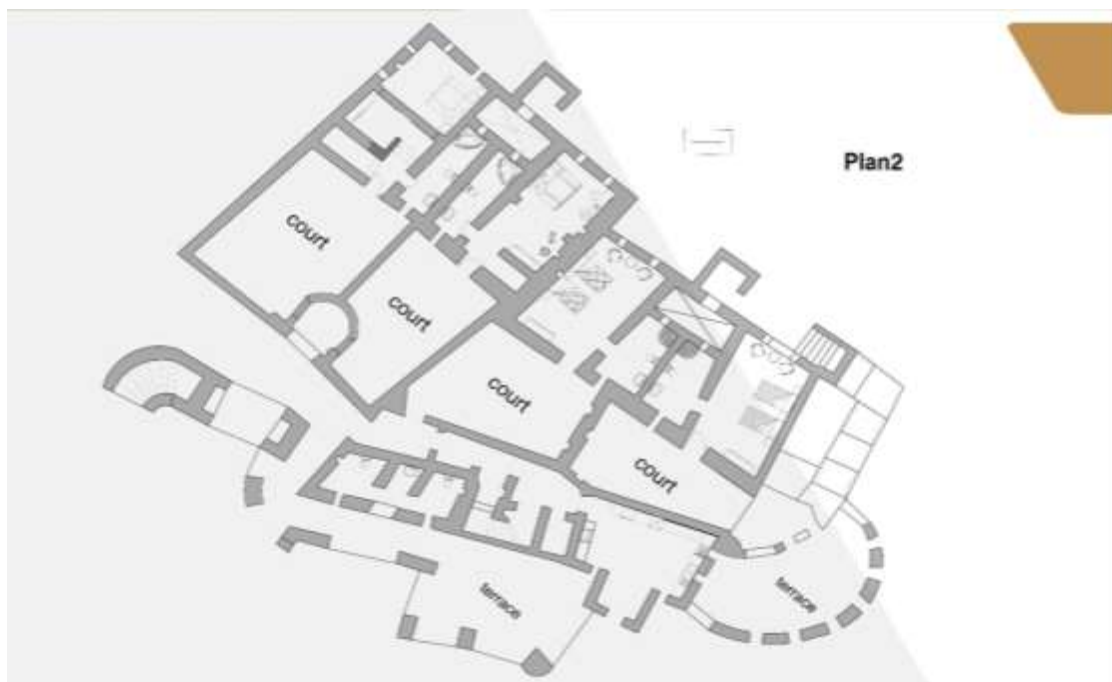


Figure (38) illustrates the color scheme, materials used, and furniture in the Adrir Emelal oasis in Siwa, Egypt.



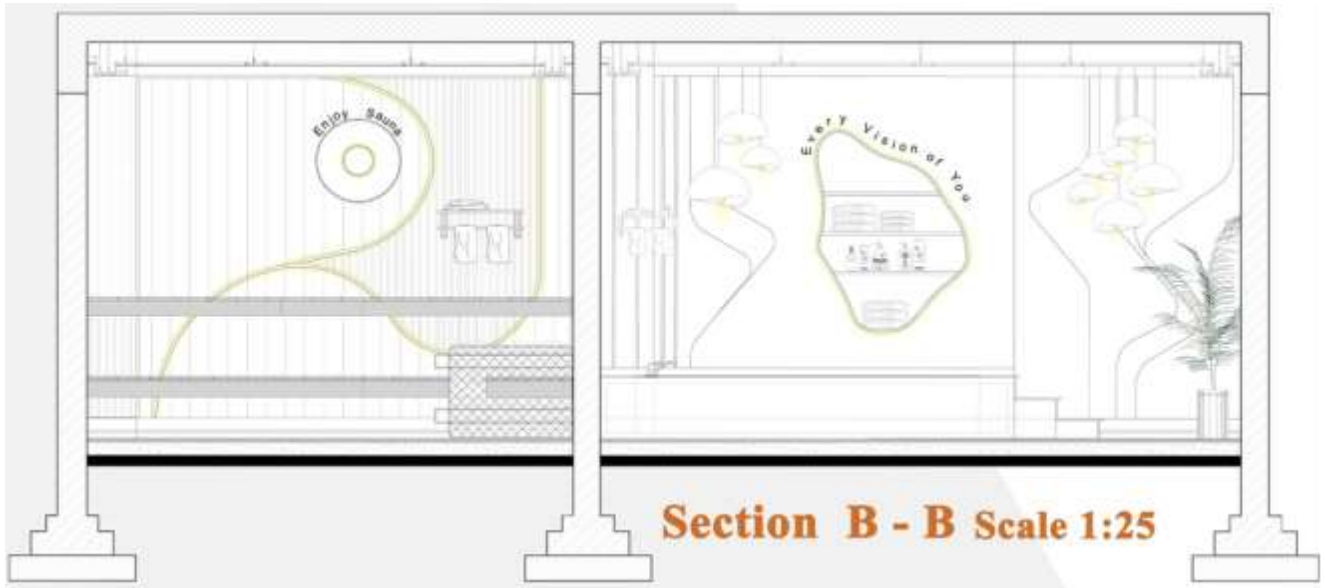


**Figure (39) illustrates the horizontal section number (1) of the Adrir Emelal oasis in Siwa, Egypt, after modification by the researcher.**



**Figure (40) illustrates horizontal section number (2) after modification by the researcher.**





**Figure (43) illustrates the cross-section B-B of the Adrir Emelal oasis in Siwa, Egypt, after modification by the researcher.**



**Figure (44) illustrates the workroom of the Adrir Emelal oasis in Siwa, Egypt, after modification by the researcher.**



**Figure (45) illustrates the hotel reception of the Adrir Emelal oasis in Siwa, Egypt, after modification by the researcher.**



**Figure (46) illustrates the restaurant of the Adrir Emelal oasis in Siwa, Egypt, after modification by the researcher.**

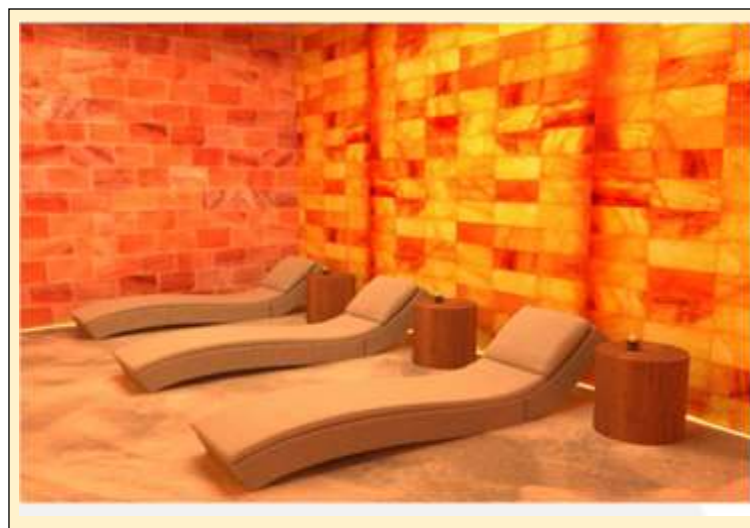




**Figure (47) illustrates the yoga room of the Adrir Emelal oasis in Siwa, Egypt, after modification by the researcher.**



**Figure (48) illustrates the bedroom of the Adrir Emelal oasis in Siwa, Egypt, after modification by the researcher.**



**Figure (49) illustrates the sauna room of the Adrir Emelal oasis in Siwa, Egypt, after modification by the researcher.**

## Proposals for Sustainable Tourism Development in Siwa Oasis:

1. **Enhancing Infrastructure:** Improve infrastructure facilities and increase water and electricity supply by extending new lines to primary and secondary centers, while enhancing wired and wireless communication systems. Accelerate the creation of new sewage networks that meet future expansion needs and align with current and future tourism patterns. Expand the use of new and renewable energy sources, particularly solar energy.
2. **Development of Therapeutic Resorts:** Utilize natural hot springs to build wellness resorts that align with Siwa's character and heritage. With medical supervision, these resorts can treat certain rheumatic conditions and offer weight-loss programs, particularly in high-temperature springs like Ain Wahid, which reaches 67°C and resembles the mineral springs of Karlovy Vary in the Czech Republic, attracting tourists from around the world.
3. **High-Quality Tourist Services:** Create high-standard hotels, restaurants, and tourist services to match tourists' tastes and living standards. This includes developing modern facilities since there are no 5-star hotels in the area, and designing them in Siwa's architectural style to ensure cohesion with local heritage.
4. **State Support for Therapeutic Tourism:** Provide assistance to the private sector in implementing tourism programs through a comprehensive marketing and promotional strategy.
5. **Establish an Environmental Healing Institute:** Take advantage of European expertise in therapeutic tourism, such as practices in Romania, France, Italy, and Austria, to train local tourism workers and promote awareness.
6. **Foreign Expertise and Training:** Invite foreign experts to help train Egyptian tourism workers for employment in therapeutic hotels and resorts.
7. **Environmental Protection Programs:** Implement programs to protect the environment from pollution and preserve natural life, particularly the mineral spring waters. Ensure separation from potential pollutants, such as industrial waste.
8. **Airport Development:** Encourage the government to offer Siwa for development and establish an airport with a profit-sharing scheme over several years. This will allow private investors to market Siwa's therapeutic tourism internationally, drawing more visitors at no additional marketing cost to the state.
9. **Integration with Other Tourism Types:** Promote safari tourism, which is gaining interest, especially in the southern area with its sand dunes and hills. Develop the coastal road to the Qattara Depression and encourage activities like rally races. Highlight the region's biodiversity, including rare wildlife and a diverse range of birds, reptiles, and insects. Promote historical and eco-tourism to reduce seasonality.
10. **Regional Integration for Therapeutic Tourism:** Create a collaborative approach with other therapeutic tourism areas such as the Bahariya Oasis, using the paved road linking them and the Qattara Depression. This would provide treatments for dermatological and rheumatic diseases.
11. **Improving Access and Services:** Enhance the quality of roads, including fueling stations and guiding signs, and develop Siwa's airport for civil use. Encourage charter flights to boost tourism.
12. **Local Human Resource Utilization:** Leverage local craftsmanship that appeals to tourists, emphasizing the unique folk traditions of desert life.
13. **Diversification of Activities:** Introduce varied recreational programs and increase the range of leisure activities.
14. **Expanding Tourist Markets:** Open new tourist markets and present the area's offerings in ways that appeal to the lifestyle of high-income markets worldwide.
15. **Increased Promotion:** Enhance local and international marketing of Siwa's therapeutic tourism through media campaigns, brochures, and targeted advertising of major tourism programs and attractions.
16. **Utilization of Cultural Events:** Highlight Siwa's cultural events and integrate them into the General Authority for Tourism Promotion's event calendar to maximize exposure.
17. **Eco-Friendly Design Principles:** Apply environmental design principles in tourism architecture and interior design to address ecological issues globally.
18. **Holistic Design Integration:** Create more harmonious tourism facility designs that connect indoor and outdoor spaces in an environmentally compatible manner.
19. **Natural Reserves as Development Assets:** Recognize and protect natural reserves as essential assets for sustainable development.
20. **Research and Environmental Studies:** Support research and studies focused on maintaining natural environments and eco-tourism from specialized bodies.

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