

## **Developing Therapeutic Tourism in Egypt through Environmental Architecture**

### **A vision of Moses Bath Area at Southern Sinai**

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#### **Abstract:**

Tourism planning is one of the most necessary components of continual developments in many countries. These countries can be up against the intense competition in international tourism marketing, especially in the field of therapeutic tourism. It is considered one of the primary advantages that distinguish one environment from another. Hither was the necessity of investing in these therapeutic environment elements which are soil properties, water resources, water wells, and climate exclusiveness. All this helps in investing in it to develop tourism through a continual developing plan, which is in need of growing the current situation for all individuals in society without any increase in the use of essential resources. The continual environmental developing plan aims at guaranteeing continual use and keeping of land, water, wildlife, and water resources. It also aims at guaranteeing the protection of all biological resources, ecological systems, and other systems that support life. Hither approach the role of environmental architecture that principally depends on essential resources and using environmental elements that keep up with the surrounding environment. Therefore, it does not produce negative effects on the health of individuals who utilize it. This architecture shall be confirmed with specifications and directions related to its use .

The role of architecture environment is extremely critical, as architecture is one of the sciences that is directly related to humans and the surrounding environment together. There are a direct relationship and direct effect between both of them. To ensure on the role of art in the therapeutic matter, through different designing directions in architecture and interior architecture, for example methods of healing through art and they are ordinarily used in the therapeutic environment, it is preferred to use works and art designs that reflect harmony present in nature and keep up with effective power in it in an organic movement to represent life forces in humans; in addition to environment materials. This therapeutic technique and materials are considered an addition to elements of a therapeutic environment society to help utilize all surrounding environment resources. Study of this research, in both theoretical and applicable aspects, aims at introducing a continual environmental design to develop the area of Moses Pool at southern Sinai with aim of activating therapeutic tourism; therefore, developing the promotion of tourism investment and developing the national economy.

#### **Keywords:**

Sustainable development – environmental architecture – therapeutic tourism – organic - environmental elements – eco-friendly systems - sustainable tourism– sustainable architecture

**الملخص:**

ان التخطيط السياحي يعتبر ضرورة من ضرورات التنمية المستدامة الرشيدة الذى يمكن الدول و خاصة النامية أن تواجه المنافسة فى السوق السياحية الدولية, و خاصة مجال السياحة العلاجية , فهى تعد من المزايا النسبية التى تنفرد بها بيئة ما عن غيرها , و من هنا تأتى ضرورة استثمار هذه المقومات البيئية العلاجية من خصائص للتربة , الى مصادر المياه و العيون و الآبار , الى خصوصية المناخ , كل هذا يساعد على استثمارها فى تنمية و تطوير السياحة فى ظل خطة التنمية المستدامة التى تتطلب تحسين ظروف المعيشة لجميع الافراد دون زيادة فى استخدام الموارد الطبيعية . و تهدف التنمية المستدامة و خاصة البيئية إلى ضمان الاستخدام المستدام والحفاظ على الأراضي والمياه والحياة البرية وموارد المياه. كما تهدف الى ضمان الحماية الكافية للموارد البيولوجية و الأنظمة الإيكولوجية والأنظمة الداعمة للحياة. و من هنا ياتى دور العمارة البيئية التى تعتمد اساسا على المواد الطبيعية و استغلال كل المقومات البيئية, و التى تتواءم مع البيئة المحيطة بها , فلا ينتج عنها آثار سلبية على صحة الأفراد المستخدمين لها , فتكون هذه العمارة متوافقة مع متطلبات و التوجهات المنوطة باستخدامها .

يأتى دور العمارة البيئية فى منتهى الخطورة حيث ان العمارة هى من أكثر العلوم وثيقة الصلة بالانسان و البيئة المحيطة به فى آن واحد, وهناك ما بينهما علاقة تأثير و تأثر واضحة . و للتأكيد على دور الفن فى المسألة العلاجية من خلال الأساليب التصميمية المختلفة فى العمارة و العمارة الداخلية مثل اساليب الشفاء بالفن , و هى عادة تستخدم فى البيئات العلاجية , يفضل استخدام أعمال و تصميمات فنية تعكس التناغم الموجود فى الطبيعة و التى تناسب الطاقة الايجابية فيها فى حركة عضوية لتمثل قوى الحياة فى الانسان , كذلك الخامات البيئية, فهذه التقنيات العلاجية والخامات هى إضافة الى مقومات المجتمع البيئى العلاجى و للمساعدة على استغلال كل موارد البيئة المحيطة. و تاتى الدراسة فى هذا البحث بشقيه النظرى و التطبيقي, الى مقترح تصميم بيئى مستدام لتطوير منطقة حمام موسي بجنوب سيناء بهدف تنشيط السياحة العلاجية و من ثم ترويج الاستثمار السياحي و تنمية الاقتصاد القومى.

**الكلمات المفتاحية:**

التنمية المستدامة - العمارة البيئية - السياحة العلاجية - العضوية - العناصر البيئية - الأنظمة الصديقة للبيئة - السياحة المستدامة - العمارة المستدامة

**Introduction:**

As a result of the enormous role of architecture in shaping the surrounded environment and what it causes as a result of problems and negatives; this leads to an expansive role of architecture in establishing a healthy environmental architecture that does not contradict surrounding situations but utilizes it for its interest. This is recommended by architect Hassan Fathy saying "in this age, modern technology provided the architect with all methods and inventions that serves him and kept him away from being concerned about the external environment and natural conditions that building lives within. His/her job is like a person who plays football using a canon; so if the aim is counting goals, the aim is achieved till the goalkeeper was killed." Professor Hassan Fathy is advising architects saying "you should not deal with the environment as you deal with a piece of paper that you draw on, while it is a blank white ..... A suitable building represents not a modern building, but the one that you add on to the previous environment .... Duty is respecting it, comprehending it, dealing with it, and utilizing it for the sake of what you do ".

Therefore, Environmental designing is a speciality related to correcting environmental problems, keeping it safe and investing in it to serve humans. It is this science resulting from merging architecture as an art and engineering science with the environment. This speciality emerged since the beginning of the fifties as a normal response to environmental problems that achieved a high degree of difference and difficulty, aiming at placing general policies and creating comprehensive diverse programs. These programs aim at achieving contribution in the field of preserving the environment safe and improving environment type, whether in current cities, new cities, or future cities. Therefore, achieving great contribution of belonging of citizens towards their environment.

#### **Statement of the Problem:**

- Tourism sector is still suffering from a marked decrease in the considerable number of allowed tourists due to the security situation and the low level of social services (including health care). The real-estate sector also suffers from an observed decrease in demand for residential units (for the high-income segment), administrative and commercial, in addition to hotels (due to the decrease in tourism as well as the COVID 19).
- Possible failure to optimize the use of materials that are commercially available in the local environment of the site, which does not require much industrialization (energy saving) and is harmless to human health. Also ensuring the remarkable flexibility of the building and its principal components by accommodating potential changes in the foreseeable future.

#### **Research Aims:**

- Egypt strives for a competitive, balanced and diversified economy based on innovation and knowledge. Medical tourism is witnessing a global boom, also in line with Egypt's Vision 2030. It is time for the Egyptian government to pay attention to it.
- Developed tourism contributes positively to the inclusive growth of the Egyptian economy by properly promoting local employment, increasing government revenues and foreign exchange earnings, and modernizing infrastructure. Medical tourism as a subsector of the local tourism industry can benefit economically from the existing regulations and economic infrastructure.

#### **Signification of the Study:**

The importance of the research is due to:

- Instantly improving the medical tourism ecosystem in Egypt, in direct line with Egypt's Vision 2030
- Establishing medical resorts in Egypt in places that possess a suitable nature and offer competitive prices (compared to the expensive spa resorts in Europe and America) remain the preferred product at this stage in Egypt.

Therefore, if huge investments are directed to establish medical tourism resorts in the areas mentioned in the study, which are famous for medical tourism, along with a global advertising campaign to attract tourists from different countries of the world, it is expected that the tourism, health and real-estate investment sectors will witness a boom and strong growth as a result of the huge expected demand towards these sectors.

**Research Delimitations:**

- Tourism planning is considered a necessity for rational and sustainable development that enables countries, especially developing countries, to face competition in the international tourism market, the field of medical tourism.
- Architecture is one of the sciences most closely related to humans and the environment around him at the same time, and there is a clear relationship between them.
- Ecotourism creates jobs for longtime locals and naturally produces a more diversified economy. Ecotourism can also properly help preserve the historic area's historical heritage and properly provide more extensive interaction with indigenous people.

**Research Methodology:**

The research follows the descriptive and applied approach by studying the role of environmental architecture, which mainly depends on natural materials and exploits all environmental components, which are compatible with the surrounding environment.

Then the researcher designs a sustainable environmental design proposal to develop the Hammam Moussa area in South Sinai to stimulate medical tourism and then promoting tourism investment and developing the national economy.

**Therapeutic Tourism:**

- Tourists who travel from one country to another searching for a kind of health service. In the last three decades, medical tourism becomes a world phenomenon that attracts related academics to investigate in it, private sector to invest in it, and governments to create policies to reinforce therapeutic tourism in the concerned countries. Historically, medical travellers from developing countries were seeking to get medical care in developed health care centres; and in developed countries, to get cures that are locally unavailable. Despite that, and with regard to a number of factors for example rapid increase in costs of health care; long waiting period, and unguaranteed health services by social health insurance in developed countries have paved the way to establish a replacing market that can provide this request. On another hand, globalization and rapid increase in telecommunication technologies made it possible for medical tourists in developed countries to reach to amount of information about health therapy outside.
- A medical tourist is a person who consumes the services of medical tourism. He is a patient who travels outside the boundaries of his country or with help of travel agency to receive medical interference. Medical tourism generally means the existence of tourism tours operator and organizing whole travel with providing medical and non-medical services together. It is not clear whether strangers and traditional tourists who get medical care during their stay in attended countries are considered medical tourists.

### - Manufacturing Therapeutic Tourism: -

Medical tourism is being distinguished as a type of health tourism by a number of scientists  
The Following table (table 1) explains the categories of utility persons in therapeutic tourism:

Wellness tourism	Medical wellness tourism	Medical tourism
<p>It is concentrated in enhancing "feeling good" through renewing tourist's spiritual and material state (by using methods like herbs bath and mud bath), using cosmetic treatments and exercising programs.</p> <p>These activities can be introduced by management in a spa or health spa in developed areas.</p>	<p>It is concentrated on achieving a balance between medical services and tourism services. The result is a harmony between medical treatment and fun programs.</p> <p>The medical wellness program is being provided in spas under professional medical supervision.</p> <p>Usually, programs deal with providing services and solving problems for example weight loss, treating stress, removing poisons out of the body, treatment using seawater (using seawater in cosmetic and health treatment) and treatment using aromas (using natural oils to enhance body and psychology fun)</p>	<p>It is concentrated on medicine and health care like surgery and drug interference.</p> <p>It introduces modern health care through health care introducers like hospitals, clinics and diagnosing centers.</p> <p>It is important to facilitate tourism for following reasons: - Facilitate travelling arrangements and coordinate introducing medical and non-medical service.</p> <p>- Using entertaining and non-entertaining activities.</p>

Table (1) explains categories of utilizers in therapeutic tourism

### Types of treatment:

This type of treating the disease of therapeutic tourism includes patients who suffer from malfunctions or bad psychological state that requires a kind of hospital interference. Starting from hospital diagnosis, there is a diagnose like lab tests, rays' diagnoses and gas treatments that include surgical operations and non-gas treatments like medical treatments. These medical services can be provided through clinics or medical centres or university hospitals or complicated health care systems.

Table (2) explains a type of treatments and sickness state related to therapeutic tourism:

ophthalmology	Kidney diseases	Skin diseases	Heart diseases
Rheumatism diseases	Cancer treatment	Liver diseases	Dental services

Table (2) explains treatments and sickness states related to therapeutic tourism.

### **Categorizing of medical treatment under the following category:**

- Medical treatment: using methods of non-gas treatment (like medicine, nursing care).
- Surgery: using a gas treatment like open- heart surgery and Cardiac catheterization.
- Mitigation care: to help reduce disease syndrome and improve patient's quality of life, but not treating him/her completely.

Type of "improving therapeutic tourism" is related mainly to enhance beauty. It includes plastic surgery, enlarging breasts, skin treatment, liposuction, cosmetic dentistry.

“Cloning type” of medical tourism is a prosperous type. It targets patients of this category to treat medical cases like Sterility and Gynecology or getting fertility inside the body or in a lab. It is possible that motivation of this search of such services outside the country, is a result of lack of finance; as most of these services is not covered by insurance companies. Or It may not be legal to have these types of treatment in country of origin.

Dragging underwater (in Thermal water) as a medical procedure: Dragging underwater is a procedure designed by Károly Moll; he is one of the Rheumatism specialists. This procedure uses mechanical power to urge a stretch of soft tissue (like muscles, cords and strings), along with steadiness that is being stable and movable. Dragging underwater uses bodyweight that is suspended through neck or underarms in a special pool of warm thermal water. Sometimes we add additional weight to body or foot to increase extension effect. During treatment, the body is extended softly releasing muscles and connective tissues of the backbone. A professional healer shall supervise treatment and it is continued for 15 minutes. As explained in Figure (1)



Figure (1) shots explain Dragging underwater in Thermal water as a medical procedure.

<https://www.physio-pedia.com/Aquatherapy>



## Types of universal therapeutic tourism:

### a- The ULTIMATE BUDAPEST bath:

BUDAPEST is the centre of spas in Europe; as the city is located on a mixture of hot fountains that make water, which is full of healing minerals, warm; and there are a great number of thermal baths established many centuries ago. Choice of health spas varies because everyone can be satisfied; whether during diving in the original Turkish bath, or having a little fun in the middle of whirlpool for purpose of massaging muscles. It is said that warm water can heal almost anything, and diving in an open BUDAPEST Pool is a true BUDAPEST experiment. Figure (2)



Figure (2) interior screenshots that explain interior designing and location coordination of ULTIMATE BUDAPEST bath top, Hungary – Europe.

<https://welovebudapest.com/en/venue/gellert-baths>

### b- The Cave Bath of Miskolc in Hungary:

The Bath is located at slope of Bükk Mountain in Europe; it is one of most beautiful areas in northern Hungary. Thermal paths in this area provide a unique experiment for visitors around the world. Land thermal baths of Miskolc area is famous for healing characteristics through many Centuries ago. Long ago before building contemporary structure of Miskolc bath, monks of middle ages and Ottomans were seeking benefits from these baths.

Cave Bath is considered a famous universal attracting point at Miskolc; its outer pools and interior rooms is distinguished by extraordinary scenes and great fun locations at same time. People who are engaged in therapeutic tourism can participate in different Sauna rooms that is run by professional Sauna experts. As for People who prefer movement can experiment water sports; and those who seek for additional relief and care can choose between massage sessions and different refreshing treatment inside Cave Bath. Figure (3)



Figure (3) screenshots that explain architectural design, location coordination and cave interior. The Cave Bath of Miskolc in Hungary.

<https://jp-lugaresfantasticos.blogspot.com/2014/04/caverna-termal-de-miskolcapolca-hungria.html>

### c- Medical center for Rehabilitation of injury patients – experimental designing.

Designed by Sarah Schneider, inside heart of Austrian Alps, it is a concept of medical center to rehabilitate injured patients. It is designed to host 50 patients and it contains rooms overlooking mountain slope and high paths that passes through surrounding forests. Sanatoriums of nineteenth and twenty centuries are dependent on dual group of values: it embodies faith in healing powers of technology and healing powers of nature; that is why, it is located mostly at heart of natural scenes. For this reason, architect tries to develop a contemporary relation with natural scenes based on linear decorations. Arabic handwriting adds an idea of creating a difference, through art expression to a technical case, which is related to communication; and it is related to decorations that uses normal shapes and rules for natural growth. As explained in Figure (4).

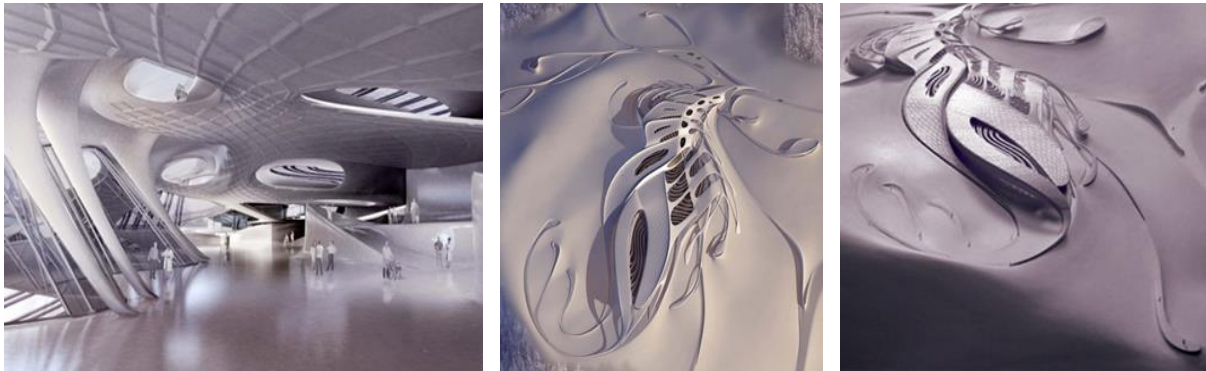


Figure (4) screenshots that explain architectural design and location coordination of a health center to rehabilitate injured patients at Alps.

<http://pc.blogspot.com/2010/04/rehabilitation-center-rainberg-sarah.html>

### d- Mleiha desert resort at heart of Mleiha tourism and archeological project:

Mleiha desert resort is located at road of Emirates desert. It is the first five-star desert resort that is developed at heart of Mleiha city by end of year 2019. Mleiha tourism and environmental project is located between sands of the area and famous fossil rock. Resort shall offer a group of hotel services restaurants, cafes, health spas, pools and other universal hospitality facilities. Resort shall include 45 villas for weekends designed on style of classic desert tents; each has its own pool. Royal suite, which is one of four living choices in resort, include two rooms with unique designs and a special pool, Figure (5). It shall include also huge interior space which is considered a thermal pool treatment.



Figure (5) screenshots that explain architecture design and location coordination of Mleiha desert resort at heart of Mleiha tourism and archeological project.

<https://shurooq.gov.ae/shurooq-announces-aed-60-million-mleiha-desert-resort-at-atm-2017/>



## Forming philosophy of friendly environmental furniture:

### Definition of friendly environmental furniture:

It is this furniture that is manufactured from new, continual and non-poisonous materials; or materials that can be recycled; or re-manufacturing furniture that has been manufactured before.

### Properties of friendly environmental furniture:

- Maintaining quality of interior air; that is not manufactured by radio-active materials that affect human health.
- Maintaining natural resources that is non-exhausted through recycling.
- Using natural resources that is manufacturably renewable.
- It is distinguished by long shelf life.
- Rationalization of using materials represented in possibility of dismantling furniture in typical form to result in individual parts so that they are easy to enter into environmental recycling.

### Characteristics of friendly environmental furniture:

1- It is manufactured by continual materials or materials with natural renewable resource like wood.

It is manufactured by the use of healthy non radio-active materials in a way that is not harming the environment during manufacturing, assembling and using it; whether it is materials for formation, lining or painting.

2- It is inspired from nature whether in shape or formation or assembling.

### Designing standards of friendly environment furniture:

<ul style="list-style-type: none"> <li>• Providing healthy environment that is free from pollution and radioactivity</li> </ul>	<ul style="list-style-type: none"> <li>• Providing a safe environment for infinite materials.</li> </ul>
<ul style="list-style-type: none"> <li>• Efficiency of performance and possibility of re-use.</li> </ul>	<ul style="list-style-type: none"> <li>• Achieving environmental relief through providing good quality of interior air.</li> </ul>
<ul style="list-style-type: none"> <li>• Moving environmental beauty inside spaces present in furniture.</li> </ul>	

### Methods being used in designing friendly environmental furniture:

<ul style="list-style-type: none"> <li>• Using friendly environmental Materials in manufacturing furniture.</li> </ul>	<ul style="list-style-type: none"> <li>• Using of Sawdust and recycling it and molding it.</li> </ul>
<ul style="list-style-type: none"> <li>• Using plant manufacturing methods in shaping forms of furniture parts. Figure (6)</li> </ul>	<ul style="list-style-type: none"> <li>• Reviving old parts of furniture and make new designs from it.</li> </ul>

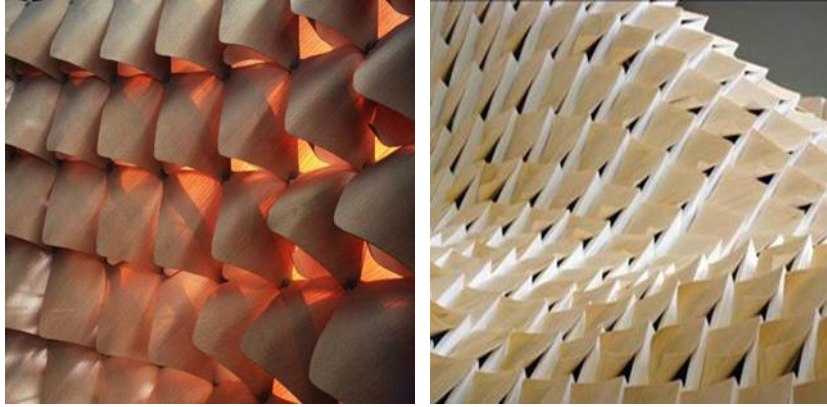


Figure (6) developing wooden surface crust with holes that can adapt with humidity and can deal with thermal changes and, then driving it from pine trees and its ability to respond and adapt to humidity.

<https://ns2015designbuild.wordpress.com/2015/04/03/envelope-precidents/>

## Samples of the friendly environmental furniture-used in therapeutic tourism regions:

### 1- Insomnia curing beds:

It is a design of a bed to cure insomnia resulting from lack of sleep and exhaustion. It is designed in Milano by designer Mathieu Lehanneur; and it combines a number of advantages like automatic closing. Also curtains are equipped with automatic sensors of temperature and controlling lights. There is a white pillar that is sound absorbent, to remove any outer sounds. Figure (7).



Figure (7) three dimensional screenshots that explains bed designing with automatic closing. Also curtains are equipped with automatic sensors of temperature and controlling lights. There is a white pillar that is sound absorbent to remove any outer sounds.

<https://www.pouted.com/extraordinary-and-dazzling-ideas-for-decorating-your-bedroom/>

### 2- Relaxing capsule (Concoon)

Its designation is in form of Capsule that aims at getting enough relaxing and youth renewal that is away from requirements of ordinary life. It is considered a new addition of home furniture. Its designation is a mixture of innovative technology and it is supported by interior sensors to adjust body temperature to provide person with relaxing atmosphere with quiet colors and ability to choose suitable sounds. It is as if you come to another dimension of place and time. Apparently, 20 minutes are enough to get an amount of comfort and relaxation away from noise and outer environment exhaustion. Figure (8)



Figure (8) three dimensional screenshots that explains a bed design. It is designed as a Capsule that aims at getting enough relaxing and youth renewal that is away from requirements of ordinary life. It is supported by interior sensors to adjust body temperature to provide person with relaxing atmosphere with quiet colors and ability to choose suitable sounds.

<https://luxurylaunches.com/home-improvement/the-concoon-is-a-worldclass-spa-capsule-for-your-home.php>

### **Types of therapeutic tourism in Egypt:**

Tourism resorts in Egypt are now varied to extent that it is a tourist destination around year for Many countries. Along with religion tourism and archeological tourism; there are also sea resorts, conferences, international exhibitions, art, travelling, cultural festivals, sports and shopping tourism. Therapeutic tourism is the result of an obvious various policies for touristic products. Egypt has a wide variety of rich material advantages, among which there are also a lot of hot springs. According to scientific researches, mud exists in these springs has therapeutic characteristic that can heal many diseases, for example bone, skin, kidney, breathing diseases and many other problems.

#### **Egypt and climate therapy:**

There was a reference to therapeutic advantages of Egyptian climate since the Greek Age. Socrates, who established natural climate therapy, referred to this fact in his famous research with the title "Egypt and climate therapy" in which he advised people to go to Egypt and enjoy its warm weather and refreshing sea air. After consulting him, tourists came to Egypt many centuries ago to treat diseases that is mostly caused by very cold climates and humidity in Europe.

#### **Therapeutic Touristic Sites in Egypt:**

It includes touristic sites in Egypt like, Helwan, Hurghada, El Fayuom, El- Wahat, Aswan, Sinai, Safaga on red sea shores and many others; like the following:

##### **A-Aswan, bathing sand:**

Aswan is famous for its environmental therapy since the Pharaonic era. Dry weather in Aswan is idealistic for enjoying a sand bath during period from May to September. It is useful for treating different diseases like Rheumatism and Rheumatoid Arthritis. Also it can treat rheumatoid patients in thermal sand that surround mountains. Also, quiet and beautiful natural environment that is free of pollution contributes in rapid healing process. In Aswan, shining sunrays around the year and very dry weather can contribute to an ideal climate to treat Rheumatism and Bronchial Asthma.

To the south; Abu Simbel Temple, with raising percentage of ultra violet rays and low rate of humidity during period of December to March, that can provide a suitable environment to treat these diseases. It is suggested to establish a touristic village in area extended between Kataraket hotel and Aswan dam which include special centers for Physiotherapy; sanatorium for Rheumatism patients and skin diseases; places for establishing theaters, Cinemas and sport fields; and also establishing moorings for indigo boats and cruise ships.

In Aswan, there is also a number of hotels that contain centers for Physiotherapy; and there is also Pyramisa Isis Island Resort, one of the biggest and best Aswan therapy resorts in Aswan; because it provides submerge baths with yellow sand and black sand to ensure achieving great result in treating different diseases. As explained in Figure (9)



Figure (9) screenshots that explain architectural design and location coordination of Pyramisa Isis Island Resort in Aswan. <https://relaxtoursegypt.com/accommodations/hotel-pyramisa-isis-corniche-aswan/>

### **B-Therapy fountains in El Wadi El Gedid and herbs:**

There is another therapy touristic center which is called El Wadi El Gedid which contains a number of hot fountains and sand that have curing properties in addition to natural herbs. This region usually has dry climate, as temperature of fountains and wells ranges from 35 to 45 Celsius around the year. These wells provide cure for common flues, Rheumatism and other skin diseases like Psoriasis.

### **C-Red sea and treatment of Psoriasis:**

On the coast of the red sea, Marsa Alam and Safaga are well known locations for tourism therapy. According to NRC research team, there is a number of natural facts in Safaga that makes it suitable for therapy. High mountains serve as natural barrier against wind and sand storms; with this way air is free from any suspended bodies that can transform and absorb ultra violet rays – which is a necessary matter in treatment of Psoriasis. Gulf curve represents pacific sea that reverses ultra violet rays, and because there is plenty of Coral reefs, water has more salinity with percentage of 35% more than other seas, which helps a lot in treating Psoriasis using a lot of salt; also balance of salt concentration inside and outside the body affects therapy positively, according to the center.

### **D-Ancient Helwan and Sulfur springs**

Area of Helwan, which is located on southern Cairo, has a unique geographical location and extraordinary water fountains comparing to any mineral water around the world. Also natural mud of Ain El Sira contains medical natural components that helps curing all types of Rheumatism. Sulfuric Helwan center was established for treatment of Rheumatism and physical



treatment to provide curing remedy for: Arthritis, Rheumatoid Arthritis, Myositis, Neuritis, Neuralgia, Myopathy; and Nervous System Diseases like Chronic Sinusitis, Chronic Bronchitis, Bronchial Asthma; and Skin Diseases like Scabies, Eczema, Acne, Psoriasis; Bone Fracture Union, Stiffness of Joints, Peripheral Circulatory Disorders and many other diseases.

**E - Siwa Oasis and mount al-Takrur for treatment of Rheumatism and kidney diseases:** Siwa Oasis, mount al-Takrur and Cleopatra baths are one of the most important touristic therapy sites in Egypt. Siwa Oasis is Famous for its many properties that puts it on top of these therapeutic recommended sites. It is distinguished by calm, obvious environment with moderate temperature. Through boiling of mineral, Groundwater out of deep pollution, there is a remedy to treat kidney stones and burial in sand. Figure (10).



Figure (10) – to the right: treatment by sand burial – Siwa – to the left: one of the environmental hotels in Siwa. [https://worldtouradvice.com/Siwa\\_Shali\\_hot\\_bathes\\_Tours.html](https://worldtouradvice.com/Siwa_Shali_hot_bathes_Tours.html)  
<https://www.mobtada.com/details/738383>

### **Possibilities of continual development of environmental tourism in Siwa:**

- Providing sources of pure water more than 200 Artesian water springs; some of which have curing properties for many diseases and can be used for therapeutic tourism.
- Providing variety of wild and flora life at areas of Sera, El Arag, El Bahrain, and other areas that a network of natural touristic reserve and open desert gardens can be built upon.
- Uniqueness and variety of Visual and Aesthetic values of natural forms of land that include sand forms in great sand sea that is located south of Oasis, and lakes, mountains, rocky plateaus which are stretched inside main mountain and at its northern edge.
- Existence of famous archeological sites related to Pharaonic and Romanian era; most famous of which are Amun Temple and Coronation Temple.
- Distinguished social life of traditional Oasis that expresses urban, social and local characteristics.

#### **- Analytical study of a local type of environmental hotel: Desert Lodge Hotel:**

The Hotel was built in 2003. Aim of its building was for it to be on Islamic style of El Kasr Islamic Village which is located 70meter square under the hotel. (Figure11). This hotel was built on 7500meter square of land and it includes three floors and 32 rooms among which there is individual and double rooms and suites for families with cost of 5 Million Egyptian pounds, because of materials used in building process as most of which are rocks, palms, trees and other environmental materials like Palm fronds, natural bricks which exist in Dakhla Oasis.



### The Resort contains the following activities:

Main restaurant, Cafeteria, big opened balcony, bar, Popular cafe, activity hall (photography, Yoga and meditation- drawing), place for drawing, place for carving, swimming pool with Sulfurous water used for healing emerged from natural fountains. Figure (12).

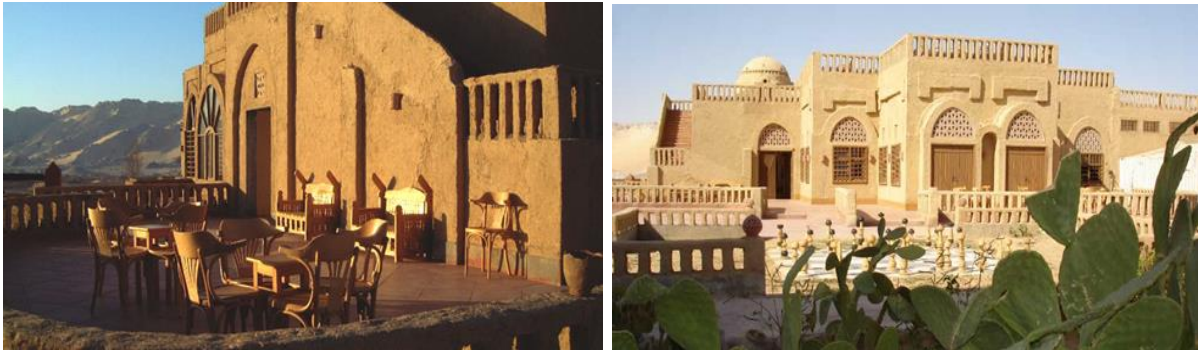


Figure (11) some screenshots of Hotel where natural materials being used in building process along with local establishing methods. <http://www.desertlodge.net/german/facilities/library/>



Figure (12) to the right: rooms design based on Islamic style from local environmental materials (like mud, straw, Palm fronds, natural bricks, Mashrabiya from tree branches)- to the left: therapeutic swimming pool at the village. <http://www.desertlodge.net/lodge/rooms/>

There is also inside the hotel: library- internet café- social halls and bicycle renting- tourism of sand skiing- a bazar for local and handmade products- a farm where there are all types of fruits and vegetables that are planted naturally without use of any chemical materials or Nitrogen fertilizers. Tourists came to it to choose types of fruits and vegetables by themselves and present it to the kitchen for their preferred types of food to be cooked.

- Also there is an artesian well which is 250-meter square digging under the land surface and it is 1.5 meters wide.

### Improving environmental system of therapeutic tourism in Egypt:

Tourism plays an important role in supporting Egypt economy. According to the international bank, the number of international tourists reached its peak in 2010 by 14 million. This is mainly because of adapting and executing national touristic continual strategy of year 2020 prepared by ministry of tourism; which is being prepared through process of joint and transparent planning process; that goes hand in hand with continual developing of the national strategy in Egypt and keep up with goals of millennium developing targets for world tourism organization for easing of poverty, economic development, developing society and keeping environment safe. Results of this three-stage study, that strategy uses, are represented in putting five pillar working plan that puts limit to a future map of manufacturing, also mechanisms for executing

defined goals. Strategy suggests promoting of infrastructure and enhancing skills of human resources and quality of services. It also presents recommendations about environmental, social and economic measures that must be executed on short and middle term; also suggests using new equipment to monitor and value goals and performance indicator. Tourism contributes positively in overall growth of Egyptian economy through enhancing employment, and increasing governmental income and foreign currency gaining and renewing infrastructure. Medical tourism, as a sub-sector of tourism manufacturing, can benefit from current systems and infrastructure.

Egypt is seeking to gain a balanced and competitive economy which is varied and depends on innovation and knowledge. Medical environment witnesses a world flourishing, as what is mentioned in Egyptian vision 2030; and time has come for Egyptian government to give great concern to it.

Understanding therapeutic tourism in Egypt and analyzing weakness, strengths, opportunities and threats SWOT ANALYSIS figure (13) in manufacturing environmental therapeutic tourism in Egypt is very important to get recommendations to specify policies, entities and required strategic plan; Also to achieve goal of existing manufactured environmental therapeutic tourism that is competitive and powerful.

## SWOT ANALYSIS



Figure (13) analyzing weakness, strengths, opportunities and threats SWOT ANALYSIS in manufacturing environmental therapeutic tourism in Egypt. [https://socialmediastrategiessummit.com/assets/client\\_files/files/Chicago2016/SMSSChicago2016\\_BillMrazek-V2.pdf](https://socialmediastrategiessummit.com/assets/client_files/files/Chicago2016/SMSSChicago2016_BillMrazek-V2.pdf)

### Environmental tourism:

Environmental tourism is considered one form of reasonable travelling to natural regions with aim of keeping natural resources safe, and protecting and enabling local societies economically and socially. Environmental tourism is related to enculturating travelers about making less impact on environment.

### Environmental tourism is important for tourism manufacturing in Egypt:

Traditional culture that is not undergoing any monitoring can cause harm to natural regions, through continual pressure on region. This can lead to other effects like increasing pollution, soil erosion, and loss of natural resources and endangered extinction types.

On other hand, environmental tourism has ability to create useful effects on environment through contribution in protecting environment and keeping it safe. Environmental tourism can

raise level of awareness of environmental values through creating useful educational programs and experiences. Also it can be a useful tool to protect natural regions and increase its economic importance. In the end, environmental tourism provides more than environmental benefits like economic, social and cultural benefits. Environmental tourism can create job opportunities for local population, it can also create more variable economy. It can also help in keeping archeology of the region safe and provide a more interaction with native population.

### **Investment in therapeutic tourism in Egypt:**

With respect to suffering of both sectors: tourism and real estate; we can see that Egypt needs new real estate products that meet the high requests. Establishing new therapeutic resorts in Egypt may be the solution to this problem.

It is expected that world therapeutic tourism market may reach to 144 American Billion Dollar by 2022 with complicated annual rate average expected to be -2025% (2014-2019). Marsio Vavila, executive manager of operating programs and foundations relations at WHO, said" the need for better understanding of emerged phenomenon, and world complicated and changeable phenomena like medical tourism rapidly has become necessity to benefit from possibilities of its growth".

Also tourism sector is still suffering from reduction of a number of tourists because of security situation and reduction of level of services (like health care); also real estate sector is suffering from reduction of requests for residential unit (for high salary sector), managerial and trade units in addition to hotel units (because of tourism reduction). So, these vital sectors that directly contribute in growth of national product is in need of new products that meet the high request. Establishing therapeutic resorts in Egypt must be done in places that have suitable nature and presenting competitive prices (in comparison with expensive therapeutic resort in America and Europe), and it is the preferred product in Egypt at this stage.

So, huge investments were directed to establish medical tourism resorts in previously mentioned regions in this study, which is famous for therapeutic tourism along with introducing huge universal promotional campaign to attract tourists from different region of the world. It is expected that tourism, health and real estate investment sectors to witness powerful and refreshing growth as a result of expected huge request towards these sectors.

### **Best regions for investment in therapeutic tourism in Egypt:**

**A - Sinai:** it is considered one of the most important tourism regions in the world because it enjoys existence of all tourism factors, among them are historical, religion, natural, climate and environmental factors that are suitable for therapeutic tourism. Among therapeutic places in Sinai are pharos bath, Moses pools, Ras Sedr and natural herbs in Saint Catherine.

**B-Safaga:** it is located at southern of Hurghada city, and it is one of the most famous places in the world to treat Psoriasis, Rheumatoid, and other diseases. It improves general health, immunity and blood circulation because of its natural weather and quiet water with high degree of salinity and its black sand that is rich with mineral salts and radioactive materials in addition to reduction of gravity.

**C- Siwa Oasis:** it is located as far as 300 kilometers from Mediterranean Sea cost southern Matrouh city. It is also considered one of most important therapeutic tourism in Egypt as there is more than 200 water fountain in it that is used for irrigation drinking and medicine. In Siwa,

you can find warm sand that is suitable for treating many diseases. Swia is famous for Pharaonic and Romanian monuments along with gardens and Safari travels.

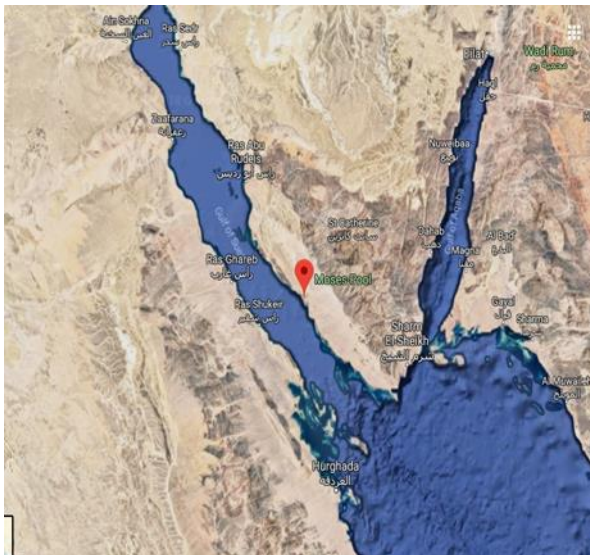
### **A future vision and a designing study for area of Moses Pool at southern Sinai:**

Moses Pool and pharos bath are considered one of the most important therapeutic tourism sites in Egypt in Saini area. This area, with its sulfurous properties, has attracted attention of French expedition earlier. It has a high rate of sulfurous water that is known in the whole world. Moses pool is located in city of El Tor and its water is flown from five fountains that poor in Moses Pool on shape of a built sink; and its sulfurous water temperature is near 37 Celsius is used for healing of many diseases like Rheumatism and skin diseases.

Area of Ras Sedr is distinguished, from many other tourism areas of governorate, by existence of plenty of wells and fountains at the area; most important of which is Moses Pool. It is a group of a sulfurous spring of water that is overflown with temperature between 35 and 40 Celsius. It can be used in establishing tourism resorts and healing areas as it is considered one of the most important visiting sites of area. It attracts a huge number of tourist groups both Egyptians and foreigners. There is also a religious status of area; at it is this place where Profit Mosa crosses sea escaping from pharos and his soldiers; and twelve springs of water were exploded as a holy miracle, figure (14) -(15).

Moses Pool consists of 21 water springs, and its pure water is distinguished with existence of salt minerals that has special healing properties like Sodium and Magnesium salts that play important role in treating kidney diseases and urinary system.

Moses Pool became famous many centuries ago; and in middle ages it was an area where Quarantine is applied for pilgrimages who came from Hijaz lands before entering into Suez and Cairo.



**Figure (14) A map that explains the area the subject of study in Sinai Peninsula; Moses Pool which is located under Moses Mountain, it is famous for overflown of warm water that has Holy Healing Power that can cure many diseases; like skin diseases, Inflammation of the bone and wound healing. It also helps in relaxation and reorganizing body power that can resist ageing diseases because it contains a proportion of Sulfur and other elements that benefit body along with warm water during all seasons of the year and it can be renewed continually**

<http://www.maphill.com/egypt/frontier-governates/janub-sina-south-sinai/3d-maps/satellite-map/>





Figure (15): External perspective explains Moses Pool on the shape of the large sink with the high dome flourished by water from beneath the mountain. It has seats to help to sit in water for relaxation. Moses pool is located in the centre of more than 2000 fruitful palm trees and some other natural herbs that help to remove pain and ageing diseases. <https://egypt-ru.touristgems.com/attractions/3101-kupalni-moiseya/>

### 1- Healing impacts from minerals and heat from thermal water:

Sulfur and minerals are being absorbed through skin, then emigrates to other body structures, like ligaments, cartilage and tendons. As soon as it appeared in body, Sulfur frustrates analysis of Elastin and Collagen.

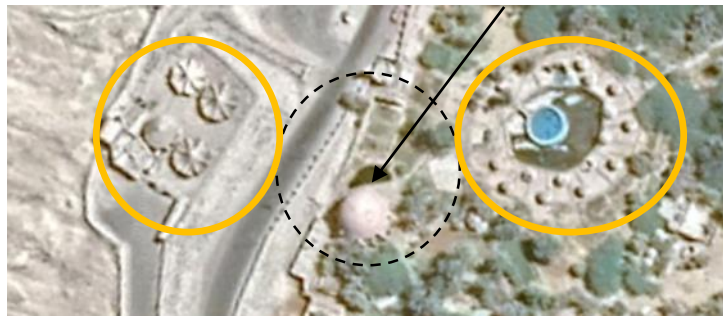


Figure (16): External perspective explains Moses Pool on the shape of the large sink with the high dome flourished by water from beneath the mountain. It has seats to help to sit in the water for relaxation. Moses pool is located in the middle of more than 2000 fruitful palm trees and some other natural herbs that help to remove pain and ageing diseases. Ref: google earth

### 2- Studying Location:

The city of El Tor is an Egyptian city and it is the capital of southern Sinai; it is located after the tunnel of martyr Ahmed Hamdy, about 265 kilometres on the Suez Gulf. It is one of the most famous cities where there are areas of Moses Pool and Ras Raya. It is located near the mountain mentioned in Holy Religions (Moses Mountain and Mount Horeb). According to Jewish, Christian and Muslim beliefs, El Tor is a place where Profit Mosa received the Ten Commandments.

El Tor city enjoys stable weather for the entire year and it has pure water resources of Artesian wells, this distinguished it from any other city governorate as it is rare to find pure water for drinking.

**Moses Bath Mountain:** it is a small mountain located on the Suez Gulf 4 miles away from El Tor City. It is distinguished with seven hot sulfurous fountains.

In the figure (16) there is a mass plan of the area the subject of study – as there is the red dome that covered Moses Bath water flowing area and in the yellow colour, you can see redeveloped areas and its design by the researcher.





Figure (17): to the right – there is Sinai, El Tor in around the position where it is made of granite alkaline rocks which are integrated among other various types of rocks among them are volcanic rocks. Rocky nature in Sinai El Tor generally refers to the fact that rocks are formed through different types of depth. To the left is an interior screenshot of Moses Pool where sulfurous water strongly has overflowed from beneath.

[https://www.elbalad.news/3400633?utm\\_source=referrer&utm\\_medium=sahafy&utm\\_campaign=mmlka&utm\\_cid=bfd7](https://www.elbalad.news/3400633?utm_source=referrer&utm_medium=sahafy&utm_campaign=mmlka&utm_cid=bfd7)



Figure (18) to the right: the external perspective of cafeteria area established with tents – to the left: a mass planning suggested for the cafeteria area, four areas of the cafeteria were established in the shape of stone domes to face weather changes, green areas for landscapes, playing area for children and baths. .

<https://egypt-ru.touristgems.com/attractions/3101-kupalni-moiseya/>



Figure (19) External perspective designed by the researcher – in which there is the idea of dividing the cafeteria area to four domes inside which there are tables and chairs and counters, also playing area for children, baths; there is also a landscape division and outer floors planning.





Figure (20) Perspective designed by the researcher that presents service counter established from bricks and distribution of tables and chairs made of other environmental materials in the round area at the centre design, lighting units with available environmental materials, and stones in dome interface give an interior effect also.



Figure (21) to the right: External Perspective for the location. To the left. Suggested mass plan for the pool.





Figure (22) External Perspective designed by the researcher that presents service counter established from bricks and distribution of tables and chairs made of other environmental materials in the round area at the centre design, lighting units with available environmental materials, and stones in dome interface give interior effect also.



Figure (23) External Perspective designed by the researcher to areas of swimming pools and designed Pergolas that surround it and the shape of seating units.

**Research Results:**

- Understanding policies, strategies, and resources is required as it shall be specialized for purpose of enhancing therapeutic tourism manufacturing in Egypt.
- Vital sectors that directly contribute to the development of national production in case we need new products that enjoy high demands.
- Establishing therapeutic resorts in places where there is the enjoyment of a suitable nature and providing competitive prices, is the preferred product in Egypt at this stage.
- The establishment is distinguished by outstanding and relaxation beauty (with enough lightning and natural colors).
- The main usage of greatly available materials in a local environment that does not need a great amount of manufacturing (providing energy) and does not harm human health. Also ensuring that building and its elements are flexible and can absorb possible changes shortly.

**Research Recommendations:**

- Directing huge investments for establishing therapeutic tourism resorts in regions notable for therapeutic tourism in Egypt.
- Doing universal promotional campaigns to attract tourists from different cities of the world.
- Complete harmony with ecological properties of the site and benefit from its elements to achieve the ultimate benefit of these properties informing best urban buildings .
- Encouraging using local and natural materials in designing elements of location harmony by the local population.

**Research References:**

- 1- Maurice Marzouk Ayoub, Magdi, *MEDICAL TOURISM IN EGYPT: OPPORTUNITIES AND CHALLENGES*, A Thesis Submitted to the Public Policy and Administration Department, The American University in Cairo - School of Global Affairs and Public Policy, 2017
  - 2- Bookman, Milica. 2007. *Medical Tourism in Developing Countries*. Springer
  - 3- Research Center of Population and Building, " modern theory in field of environmental designing for buildings", February 2000
- Egypt 2030. 2017. "Egypt 2030 - SDS Egypt 2030." *Egypt 2030*. Accessed March 1.
  - Hall, Colin Michael. 2013. *Medical Tourism: The Ethics, Regulation, and Marketing of Health Mobility*. Routledge.
  - Watson, S., & Stolley, K. (2012). *Medical Tourism: A Reference Handbook: A Reference Handbook*. ABC-CLIO.
  - Jesus Diaz , Alien Secret Base Discovered in the Alps Is Actually Medical Center Concept - <https://gizmodo.com/5037961/alien-secret-base-discovered-in-the-alps-is-actually-medical-center-concept>
  - Rob Ong , Asemic Scapes by Sarah Schneider , <https://www.dezeen.com/2008/08/16/asemic-scapes-by-sarah-schneider/>
  - US EPA. Green Building, Choosing Green Materials and Products
  - Achim Menges: Architecture and Product Design Research: <http://folksonomy.co> - APRIL 2012
  - <https://beebreeders.com/the-role-of-architecture-in-shaping-communities>
  - <http://www.epa.gov/greenhomes/smartermaterialchoices.htm> (accessed October 11, 2010).

- <https://www.timeoutdubai.com/hotels/news/71179-uae-will-have-worlds-greenest-eco-resort->
- <http://www.meobserver.org/?p=15969->
- <http://www.portghalib.com/news/2017/6/climatotherapy/38/->
- <https://slideplayer.com/slide/6126197/->
- <https://welovebudapest.com/en/toplists/ultimate-budapest-best-baths-and-spas/>
- <https://www.danubiushotels.com/en/health-spa-and-wellness/medical-stay>
- <http://www.touregypt.net/oyunmusa.htm>
- [http://www.medegypt.com/default\\_ar.aspx](http://www.medegypt.com/default_ar.aspx)
- <http://www.desertlodge.net/facilities/mineral-spring/>
- <http://www.lyring.com/home-wellness-furniture-by-wasserbetten-concoon>
- <http://www.trendhunter.com/trends/mathieu-lehanneur-once-upon-a-dream#!/photos/75223/1>
- <https://ar.wikipedia.org/wiki>
- <http://travecare.com/map/index.php>