

Environmental study of the Wadi El Hitan Reserve and Its effect on Interior Design and Furniture

Prof. Abdul Rahman Bakr

**Professor of Environmental Design, Department of Interior Design and Furniture,
Faculty of Applied Arts, Helwan University, Egypt**

Prof. Ashraf Hussein

**Professor of Environmental Design, Department of Interior Design and Furniture,
Faculty of Applied Arts, Helwan University, Egypt**

Dr. Sarah Fawzy Mustafa

**Lecturer, Department of Interior Design and Furniture, Faculty of Applied Arts,
Helwan University, Egypt**

Researcher. Hend Mahmoud El-Sherbiny

**Bachelor's degree in Interior Design and Furniture, Faculty of Applied Arts, Helwan
University, Egypt**

Hend4237@a-arts.helwan.edu.eg

Introduction to the Search:

Interior design and furniture are the most powerful weapons in terms of the ability to develop the general thought and taste of people and direct them to what is best. The world's most concern now is the idea of sustainability and environmental preservation, taking into account the requirements and needs of individuals that differ from one region to another, and from culture to another. Accordingly, the interior designer tends to quote all material and moral needs from the surrounding environment in order to take advantage of renewable natural resources, and find alternatives to non-renewable resources and dependence on environmental elements, whether these elements are from the natural environment or from the culture associated with that environment, which begins with inspiration for the idea and how the drafting and ending with implementation on the ground. The role of the interior designer here is the ability to integrate the environmental elements and the blind to benefit from the environment while preserving and benefiting them. This is called the exchange of benefits between both the interior designer and the environment.

Search importance:

Emphasizing the importance of the role of the interior designer in achieving a design that is compatible with the times and is inspired by the environment through paying attention to its various elements and the study of its cultures.

Search problem:

Difficulty in presenting a sustainable design idea for the internal spaces with how to benefit from the environment, all its material and moral elements. In addition to making interior spaces that have a beneficial side to the external environment that does not contradict the laws of the reserve.

Search goals:

1) Directing the interior designers to indulging in the surrounding environment and creating a mutual benefit between the interior designer and the environment.

2) To come up with an interior design that has heritage assets that are suitable for today's users of different cultures.

Search limits:

The Search is determined by studies related to Wadi Al-Hitan Reserve and its different vocabulary, analyzing these terms and creating an interior design that does not exceed the limits allowed in the laws related to the reserve.

Search Methodology:

Descriptive and analytical method: It depends on the work of an analytical study of environmental vocabulary (Wadi Al-Hitan Reserve).

Search Axes:

- 1- About Wadi Al-Hitan Reserve.
- 2- Environmental studies.
- 3- Field studies.
- 4- Tourism available in the area of Wadi Al-Hitan Reserve.
- 5- The reason for choosing this region.

1- About Wadi Al-Hitan Reserve (Qara Helln District):

It is located inside the Wadi El Rayan Reserve in Fayoum, which is 150 km away from Cairo and has an area of 400 km in a desert area in the northwest of the upper lake near the foot of Mount Hell. Forty million years ago, Wadi El Rayan was under a huge ocean and as a result of geological changes the ocean was left behind. The remains of some marine creatures, such as whales, so the main attraction of this region was the presence of whale structures in a desert region, and this was the reason for naming this area as the whale Valley. This region is considered an open museum.



Environmental studies:

The Whale Valley Reserve contains about 16 species of endangered animals, the most famous of which are the Egyptian deer, white and fennec fox, about 100 species of migratory and resident birds such as flamingo, Spoonbill, and about 15 types of desert plants, such as Gharqad and Smar.



Fennec fox

Egyptian deer

Spoonbill

Flamingo

Smar plant

Gharqad

Field studies:

Most of the houses in this area depend on the traditional building method, which depends on the use of natural environmental raw materials such as (stones, mortar, rock salt, wood, palm and sand. In addition to the population's reliance on the industries based on jrid, palm fronds, ceramic industries, wicker, spinning and weaving.



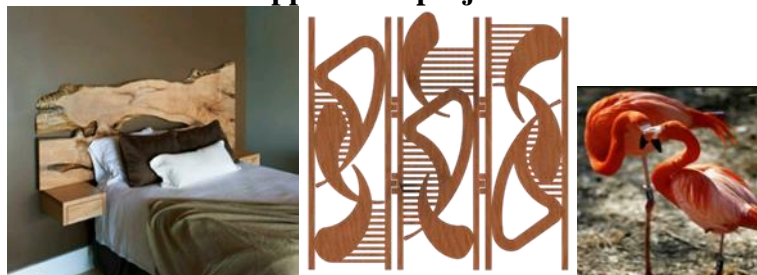
In Al-Hitan Valley area, leisure tourism is available alongside safari and camping, visiting the open museum, horse riding, camel and sand skiing. There is also therapeutic tourism because of the presence of sulfur eyes and rock salt.



Reason for choosing this region:

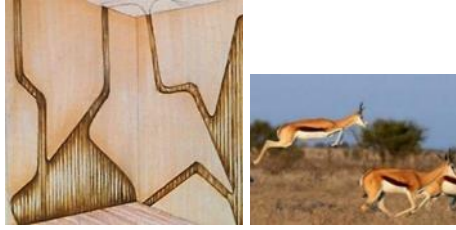
- 1- Availability of international tourist attractions.
- 2- It contains various activities.
- 3- Avoidance of any noise and pollutants with the availability of environmental raw materials suitable for use in construction and interior design.
- 4- It depends on environmental resources, so it is considered a relatively free place from any harmful resources or elements.
- 5- This region is considered a world natural cultural heritage.

Application projects



The use of natural wood in bed design

Partition design inspired by step that uses natural woods



The interior design of the vacuum was inspired by the lines resulting from the deer hops as well as the colors of its body



The interior design of the vacuum was inspired by the lines in the skeleton of the dinosaur and the use of natural wood, rakes and mortar in the construction.



This interior design and furniture for the space were inspired by the skeleton of the dinosaur and emptied into bone-like forms



The interior design and the furniture were inspired by the lines resulting from the deer leaps when escaping, and they used plywood panels made of palm groves.



The lighting unit design was inspired by the bone vertebrae of one of the whale's skeletons and used a biomimetic material for bone cells.

The design of the multi-use lighting unit was inspired, as it can be separated into two different pieces of lines resulting from the deer struggle and used natural wood with rock salt.



Designing a blueprint for a tourist village that drew inspiration from the skeletons of the reserve and used the traditional building style with the technology represented by a network in which the buildings contained.



Interior design and furniture for one of the residence rooms in the tourist village



Model of interior design and proposed furniture for the reception area of the tourist village

The results reached:

Using natural materials for building to achieve the principle of sustainability and inspiration from natural forms not only in form or movement but also mimicking nature, and making the building and interior design adapt to the environment and merge with it.

Some alternative materials were used:



Search recommendations:

- 1- Spreading the concept of sustainable internal design, preserving the environment and its vocabulary, using renewable energy sources, alternative materials and waste recycling.
- 2- Promoting the idea of preserving cultural heritage and customs of individuals.

References:

- 1(al'amin , halat eabd almueiz muhamad). (2012) (falsafat damj aleimarat altaqlidiat waleimarat bayn alnazariat waltatbiqi). (kilyh alhandasat - jamieat alqahirati). (alqahirat - jumhuriat misr alearabiati).
- 2('adarat alturath aleumranii walathar) (2017 m - 1439 hu). (mawadu waduat albina' altaqlidiati). (hukumat dibi). (dubi
- 1taqyim tajribat aleimarat almustadamat fi misr (eatawat , muhamad saed.) (qasim , majdi muhamad.) (mustafaa , mi 'usamat 'ahmad.) - (jamieat al'azhar - kuliyyat alhandasat - qism handasat aleimarat) - (alqahirat - jumhuriat misr alearabiati) .
- 2almabani altiyniat min manzur mueasir (saeid , eisam salah.) (alsiqaf , yasir khald.) - (jamieat asyut - kuliyyat alhandasat - qism alhandasat almiemariati) - (jumhuriat misr alearabiati).
- 1- tanagham aleimaruh mae altabieih (aleulwan , hudaa eabd alsaahibi.) (hasan bik , yasmin haqaa.) - (jamieih baghdad - kilih alhandasih - qisam handasih aleamarahi) - (aleiraqi)
- 1- -1(biqalmi: du. eabd alsamie , eamru.) - eunwan almaqal (wadi alhaytani) - jaridat al'ahram fi 20 sibتمبر 2005
(wizarat albiyati) - eunwan (aliaishtirat albiyyat liainsha' albiyat albiyaa) - mawqie jihaz albiya