

Achieving Sustainable Tourism Development of Hotels' Interior Design Using (Ecolodge) as one of the Environmental Design Solutions

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Abstract:

The aim of this research is to highlight the relationship between tourism as an economic sector, and the concept of sustainable development as one of the strategic directions, and the role of tourism in promoting the goals of sustainable development.

Eco-tourism is a type of tourism that helps people to carry out eco-friendly touristic activities and emphasizes the importance of ecotourism by seeking to preserve the environment in which they live and to contribute to sustainable development.

There are three basic dimensions of sustainability:

- The environmental dimension (in trying to maintain ecological balance and the protection of natural life).
- The economic dimension (making use of scarce natural resources in the world to achieve returns, profits and employment)
- The social dimension.

Cultural heritage is the true expression of the history and culture of society. It is the material and moral link between generations. It reflects the culture and originality of the society. The heritage includes both environmental heritage (geographical location, natural reserves, terrain ...) and cultural heritage (past, present and future of social life, customs and traditions).

Interior design is one of the most important areas of sustainability, and its role is important and effective in eco-tourism through the internal design of hotels, villages and tourist facilities.

The tourism industry is an important industry because of its great contribution in supporting economic, social, cultural, political and psychological development. As different areas of tourism and its various service activities and their close relationship with sustainable development have become a social and economic demands.

Therefore, the research addresses sustainable development (concept, definition, objectives, and indicators), tourism (concept, types, classification, concept of ecotourism and sustainable tourism), sustainable tourism development standards for interior design and tourism development problems.

The research defines the environmental design, principles, explanation and analysis of the eco-lodge as a solution to sustainable ecotourism development.

The research reviews the concept and considerations of designing sustainable tourism facilities and energy as a domestic determinant in the interior design of touristic establishments.

Key words:

Tourism Development - Sustainable Tourism - Eco lodge - Environmental Design.

Research problem:

- Touristic establishments' interior designs are missing the Egyptian identity for not employing the local cultural heritage.
- Scarcity of environmentally sustainable interior designs for touristic resorts.
- Not applying sustainable development goals and standards for interior design to emphasize the role of tourism as a major source of national income.

Research aims:

- Increase awareness among some interior designers to emphasize the use of interior design that highlights local identity.
- Clarify the importance of economically, socially and culturally sustainable ecotourism.
- Study the principles of sustainable environmental design and its use in the sustainable interior design of tourist facilities.

Research importance:

- Increasing the importance of tourism in emphasizing sustainable environmental development goals.
- Access to high quality tourism service which can be provided by improving services and obtaining environmental, social and economic returns.

Research hypotheses:

- The application of the concept of sustainable ecotourism promotes sustainable development goals.
- The role of ecotourism as an important economic sector for the Egyptian economic growth.

Research Components:**First: Sustainable Development**

- The entrance to sustainable development.
- Definition of sustainable development.
- The concept of sustainable development.
- Sustainable Architecture.
- Sustainable Development Goals.
- Sustainability indicators.

Second: Tourism**The general concept of tourism.**

- Types of tourism.
- Classification of tourism.
- The concept of tourism development.
- Eco-tourism.
- Sustainable tourism.
- Sustainable tourism development.
- Sustainable Tourism Development Standards for Interior Design.
- Problems of tourism development.

Third: Ecolodge as a solution for the development of sustainable ecotourism

- The concept of the environment.
- Environmental interior design.
- The concept of sustainability and environmental architecture.
- Tourist facilities.
- Concept and considerations of sustainable tourism facilities design.
- Energy specific home in the interior design of tourist facilities.

Introduction:

Sustainable development maintains the integrity of ecosystems. It is highly dependent on inclusiveness and integration of the different dimensions of urban, environmental, social, economic and cultural development, sustainability must be understood and applied through a changing society and an open society, especially during periods of globalization, but at the same time communication and sustainability must be applied within the framework of the respective economies, policies and cultures.

The concept of sustainable development in the areas of interior design and architecture has been strongly associated with the urgent need to change the traditional patterns used in design and implementation of tourist buildings to make them more sustainable. This requires a change that must start from the main element in the construction industry processes, the architect and the interior designer. This change stems from the educational process in the faculties concerned with development and design studies.

Hence the need to discuss the close relationship between the interior design and its various determinants of the dimensions and pillars of sustainable development in relation to tourism facilities, especially in Egypt, is necessary to activate the state of tourism development.

First: Sustainable Development**Introduction to Sustainable Development**

Sustainability arose when it was first proposed by the World Commission for Development and Environment (known as the Brundtland Commission), which puts forward ideas about the importance of having ideas that bring together the world's concerns, which is called sustainable development. The idea of sustainable development relied on the development of new ways of thinking about the meaning of development in the world, which most governments and international bodies agreed that they have a wide range of goals (environmental - economic - political - social - cultural) but have no clear definition of what it means, the agreed term of "sustainability" generally allows the integration and compatibility between dimensions of sustainability that can achieve the goal of which substantially. ⁽¹⁰⁾

The concept of sustainable development revolves around the main objective of providing durable and safe livelihoods that reduce resource depletion, environmental degradation and cultural imbalance and aims towards social stability.

Concept of Development:

The concept of development was called the process of establishing coherent economic and political systems. It began in the 1960s in Asia and Africa. The concept of development is important in its multiple dimensions and levels. ⁽²³⁾

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Brundtland Commission". He puts forward solutions about the importance of having ideas that bring together the world's concerns, which he called sustainable development.

Defined as "development that has the capacity to assert the needs of present generations without encroaching on the ability of future generations to meet their needs." The idea of sustainable development was based on the development of new ways of thinking about the meaning of development in the world, which most governments and international bodies agreed that they have a wide range of objectives (environmental - economic - institutional - political - social - cultural) but does not have a clear agreed upon definition of what the term "Sustainability" in general, but the integration and compatibility of the dimensions of sustainability may well achieve their goal. ⁽¹⁰⁾

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The stages of development of the concept of development:

The concept of development has emerged mainly since the Second World War, and it was not used since its emergence until the question about the development of the economy of Eastern Europe in the nineteenth century, then appeared the used terminology modernization, or industrialization.

The concept of "development" first appeared in economics, where it was used to denote the process of bringing about a series of radical changes in a particular society in order to give that community the ability to self-development continuously at a rate that ensures the improvement in the quality of life for all individuals. In the sense of increasing the capacity of society to respond to the basic needs and the growing needs of its members in such a way as to increase the degree of satisfaction of these needs through the continued rationalization of the exploitation of available economic resources, and the good distribution of the proceeds of that exploitation ⁽⁷⁾ p.

The concept of development then moved to politics since the 1960s, where it emerged as a single area concerned with the development of non-European countries towards democracy. Political development is defined as "a process of social change that is multifaceted with a view to reaching the level of industrialized countries". European regimes achieve economic growth, participation and political competition and entrench the concepts of patriotism, sovereignty and loyalty to the nation-state.

This is how the concept evolved under the name "development".

Definition of Sustainable Development:

Development that balances the interactions of the three systems (biosphere - social environment - artificial environment) and maintains the integrity and performance of ecosystems.

Several definitions have emerged that focus on specific aspects:

A. Physical aspects: Development that emphasizes the use of renewable natural resources in a way that does not lead to their demise or degradation, or diminishes their usefulness for

future generations while maintaining a consistent and unequalled balance of natural resources such as soil - groundwater - and biomass

B. Economic aspects: Development that focuses on optimal resource management to maximize the benefits of economic development, provided that the quality of natural resources is preserved and the use of resources should not reduce real income in the future.

C. Technological Aspects: Development that uses new technologies that are cleaner, more efficient and better in the ability to save natural resources, in order to reduce pollution, help achieve climate stability and accommodate growth in the population. ⁽⁹⁾ p. 16

The concept of sustainable development:

- The concept of sustainable development emerged in 1970 as a theoretical concept of the International Strategy for Conservation of Environment under the auspices of the International Union for Conservation of Nature, with the development of the World Conservation Strategy. The social and environmental challenges facing mankind, followed by the Konyak Declaration in 1974 and the United Nations Environment Program in 1981, all announced a new global strategy on the possibility of planning and establishing environmentally sound policies to induce socially and economically equitable development, the term which was later re-launched under the name of Continuous Development ⁽⁸⁾ p. 115

Several conferences that have focused on sustainable human settlements development include the World Conference on Education for All (Jomitan, Thailand, 1990) and the World Summit for Children (New York, 1990). ⁽¹⁵⁾ p. 15

- In June 1992 in Brazil, the largest summit of the twentieth century (Earth Summit) was held in which more than 178 heads of state and governments and more than 300 environmental scientists, such as governmental and non-governmental organizations, trade unions and environmentalists, United Nations Conference on Environment and Development - Earth Summit - Agenda 21 At that conference, the international community agreed on a framework for sustainable human settlements development.

- The Earth Summit established the basic principle of development (sustainable development), and its basic idea that (development that must take into account social justice and serve nature and seek economic efficiency without being an end in itself, and summarized the "Keizer" To Burkina Faso, this approach is, in a nutshell, that sustainable development is environmentally friendly, provided that its primary objective is human.

- At the First World Bank Conference on Environment 1993, the social aspect of sustainable development was emphasized in the sense that people first through the need to focus on the concept of social justice, demographic distribution of population, social cohesion, participation, personality and identity.

- In June 1996, the United Nations Conference on Human Settlements was held in Istanbul, Turkey, where it represents a new era of cooperation among States, and offers a positive vision for sustainable human settlements. This conference came in support of the global goals of providing adequate shelter for all and making human settlements safer, healthier and more. This Conference recognized the principle that sustainable development is essential for human settlements development and that it must be planned, developed and improved in a manner that takes fully into account the principles of sustainable development and all its components.

⁽¹⁵⁾ p. 16

Sustainable Architecture:

A general term describing environmentally conscious design techniques in the field of architecture. It is the process of designing buildings in a manner that respects the environment, taking into account the reduction of energy, materials and resources consumption while minimizing the effects of construction on the environment and emphasizing harmony with nature.

Sustainable Development Goals:

- Conscious management of available resources, especially historical areas.
- Reliance on renewable and local resources mainly in historical areas and their optimal use.
- Optimal use of resources on the long run.
- Relying on the balance between three axes: protection, conservation, and social and economic development with its various elements.
- Adopting environmental planning methods and approaches to achieve the foundations and objectives of sustainable development.
- The main objective of sustainable development is to meet human needs while preserving human and natural resources base and to try to reduce environmental degradation.
- Manage resources to preserve human and natural resources.
- Protect the environment to avoid environmental degradation.
- Economic development to satisfy human needs and achieve the common good. ⁽⁸⁾ p. 99

Sustainability indicators:

Indicators are things that help society understand and absorb where it is? What way are we heading? And from anywhere? What is the goal? A good indicator helps the community to identify basic needs in order to address problems. In addition, sustainable city indicators show the way for society to identify weaknesses in the relationship between economic, environmental and urban aspects.

Thus, sustainability indicators are different from traditional development indicators as traditional indicators measure changes in a simpler area of development such as economic development, social development, education level, health.

“Sustainability requires a comprehensive and integrated vision of the world.”

In April 1995, the Commission on Sustainable Development (CSD) launched a program of work to develop indicators for sustainable development. These indicators aim to achieve social, economic, environmental and administrative goals. ⁽⁹⁾ p. 57

The main indicators of sustainable development were:

1. Development is a process and therefore it is continuous and escalating, reflecting the renewed and growing needs of society.
2. Development is a community-based process, in which all sectors and groups must contribute, and may not be dependent on a few or a single resource.
3. Development is a conscious process, meaning that it is not a random process, but rather a specific process, with a long-term strategy, phased objectives, plans and programs.
4. Development is a process directed by a developmental will, which is aware of the social goals and is committed to achieving them, and has the ability to achieve the efficient use of

the resources of society, production and distribution, in a civilized manner that preserves the potential of society.

5. Achieve a steady increase, over long periods of time will still be able to continue.

6. Increasing the social, political, economic and technical capacities of society in a way that is balanced with the comparative average growth in other international societies.

Second: Tourism

The general concept of tourism:

Some researchers defined tourism as a social phenomenon, others defined it as an economic phenomenon and others as an industrial phenomenon involving a producer and a consumer, some of whom defined it as a functional system. The different definitions of tourism can be classified as follows:

Tourism from a social perspective:

"It is a response to a social need that includes all the elements that are determined to form the experiences of the tourist that arise to serve his needs and expectations".

Tourism from an economic perspective:

"It is an industry and economic activity and a study of supply and demand that works to move people from one place to another for a period of time more than 24 hours.

Tourism from the industrial perspective:

"Tourism is an industry that derives its wealth by importing consumers of the product in a certain geographical area instead of exporting the final product to the consumer.

• "Types of tourism:

There are different types of tourism in general, including historical and cultural tourism, therapeutic, scientific and conferences, sports, religious, environmental and other different types that emerged from the concept of tourism in general but then specialized according to the purpose of the tourist and his purpose of travel in particular.

The types of ecotourism are directly related to nature and cultural heritage as follows:

- Long trips through the desert to see geological structures, rare animals and plants and hunting birds.

- Short trips between different oases, water eyes and natural places in the desert.

- Visits to nature reserves, scuba diving and underwater photography in coral reefs.

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International list. The desert has many formations created as a result of an occasional sandstorm in the region. The Farafra Oasis and the White Desert are the typical place to visit, and the desert has turned into what is considered an open museum to study the desert and geographical environment, excavations and wonderful wildlife. ⁽²⁰⁾



Western Desert

It is not just a one-color desert, but it is yellow, white, black and green, with an area of 861 square kilometers (about 68.1% of Egypt). It has 9 types of touristic activities, including medical, environmental, Islamic, safari, rally, scientific and research. ⁽²⁴⁾



Diving in Sharm El Sheikh (21)

Lakes of Siwa Oasis ⁽²²⁾

Tourism Classification:

Researchers have developed multiple classifications of tourism to facilitate their study and address their overlapping elements according to seasonal criteria, location and nature, The journey and motivation for travel and political borders between countries.

The most important categories are:

Demand season.

Location.

The nature of the trip.

The characteristics of tourist demand.

Political boundaries between countries.

Purpose or motive of travel.

The concept of sustainable tourism development

It is to provide facilities and services to satisfy the needs and desires of tourists, and also includes some of the effects of tourism, such as the creation of new jobs. ⁽¹⁴⁾

It is sustainable development that meets the basic needs of the present generation and does not limit the ability of future generations to enjoy the beauty of nature and its resources. It is the development that balances the interactions of the three systems (biosphere - social environment - manufactured environment) and preserves the environment. Good performing ⁽⁵⁾ p. 19

sustainable tourism development achieves tourism development plans and at the same time balances tourism development plans with the development of natural resources.

Importance of Sustainable Tourism Development

The application of the concept of sustainable tourism development will bring many natural areas with many benefits because of the impact of sustainable tourism development on tourism content and natural resources as well as the economic importance of ensuring the continuity of the quality of natural resources which are illustrated as follows:

Touristic Importance:

The beaches, mountains, forests, rivers and wildlife provide the basic pillars of tourism products, thus, the protection of these components is a fundamental measure for the quality of tourism.

Economic importance:

Tourism is a market for purchase and competition in this area at the global level, the requirements and expectations of tourists are still increasing significantly and continue to raise the elements of attraction for the tourism product, which necessitates ensuring that tourist attractions are not degraded and not exploit the distinctive natural resources of each region and ensure its continuity and quality for the enjoyment of current generations and future generations.

Eco-tourism:

Ecotourism is a relatively modern term that has emerged since the early eighties of the twentieth century and came to reflect a new type of eco-friendly tourism activity. The concept of ecotourism has become one of the most developed and widespread concepts of sustainable development in the world. The three sustainable development: economy, society and environment. This type of tourism is very important for developing countries because it is a source of income in addition to the preservation of the environment and the practice of sustainable development. Many developing countries have become dependent on ecotourism as a main source of income and development.

Ecotourism is particularly important because it works to achieve an integrated set of objectives and at the same time derives its importance from the nature of the practice. ⁽¹⁾

There are types of eco-tourism, including (nature reserve tourism, which is called innate tourism, deserts tourism, safari trips, mountaineering, medical tourism, archaeological tourism, diving tourism, tourist resorts tourism, exploration tourism, historical areas, traditional crafts and handicrafts, farm tourism, green tourism, hunting tourism for wild animals, birds and fish). ⁽²⁾

It can be defined as "a type of eco-friendly tourism activity practiced by man, preserving the natural and cultural inheritance of the environment in which he lives, and where he exercises his activity and life".

The year 2002 was declared the Year of Ecotourism, and the meeting was held in Quebec City, Canada, where the "Ecotourism Declaration" was announced, in which participants agreed to support ecotourism and maintain its sustainability.

Ecotourism is a part of sustainable tourism that is based on environmental, economic and social aspects, and contributes actively to the preservation of the national natural and cultural heritage, represented by world-renowned nature reserves such as: Ras Mohammed, Saint Catherine, Nabq in South Sinai.

The importance and role of ecotourism in supporting the Egyptian tourism sector should be emphasized.

The concept of sustainable tourism:

Sustainable tourism is the convergence point between the needs of visitors and the host region, which leads to the protection and support of future development opportunities, so that all sources are managed in a manner that provides economic, social and spiritual needs, but at the same time preserves the cultural reality and the necessary ecological pattern, biodiversity and all the necessities of life and their systems.

Sustainable tourism is defined as “tourism that takes full account of its current, economic, social and environmental impacts, present and future, while addressing the needs of visitors, industry, the environment and host communities”. That means:

- Continuous process of tourism development.
- Optimization of environmental resources and processes, as an important component of tourism development, to help preserve natural heritage and biodiversity.
- Respect the social and cultural authenticity of the host communities, and preserve their cultural, values and living heritage.
- Ensure long term and sustainable economic processes and practices, and provide economic and social benefits to all actors in tourism and distribute them fairly. ⁽¹⁹⁾ p. 11 .12

The concept of ecotourism and sustainability:

It is a process of learning, culture and education of the components of the environment, and thus it is a mean of introducing tourists to the environment and engage with them, while sustainable tourism is the optimal exploitation of tourist sites in terms of tourists entering in balanced numbers of tourist sites to be informed in advance and know the importance of touristic areas and deal with them consciously and responsibly, that is to prevent damage to both parties. It works to manage all available resources, whether economic, social, aesthetic or natural, and dealing with culture and cultural data, in addition to the need to maintain environmental balance and biodiversity.

Sustainable Tourism Development: (Objectives - Principles - Standards):

Sustainable Development Goals

Sustainable tourism development through its mechanisms and content seeks to achieve a set of objectives, namely :

A- Enhancing awareness of existing environmental problems, as well as developing a sense of responsibility towards them and encouraging active participation in finding appropriate solutions through participation in the preparation, implementation, monitoring and delivery of sustainable development programs and projects.

B- Respect the natural environment:

Through focusing on the relationship between the activities of tourists and the environment and deal with natural systems and their content on the basis of human life, therefore sustainable development is absorbing the sensitive relationship between the natural environment and the built environment and develop this relationship to become a relationship of integration and harmony.

C- To achieve rational exploitation and use of resources:

Development treats resources as limited resources, thereby preventing their depletion or destruction and working to use them rationally.

D- Linking modern technology with the objectives of society: Sustainable development attempts to employ modern technology to serve the goals of society.

Principles of Sustainable Development:

The fundamental relationship between growth on the one hand and the environment on the other has led to the identification of the principles underlying the concept of sustainable development.

- A. The use of system approach in preparation and implementation of sustainable development plans: The system or systems approach is a prerequisite for the preparation and implementation of sustainable development plans, because the human environment is a subsystem of the overall system, and therefore sustainable development works through this method to achieve subsystems This approach is an integrated approach designed to preserve life of communities in all economic, environmental and social aspects without negative impacts.
- B. Public participation: Achieving sustainable development requires the provision of an appropriate form of decentralization that enables official, popular, civil and public bodies to participate in the preparation, implementation and follow-up of their plans.
- C. The principle of environmental balance and biodiversity.
- D. The principle of reconciling the needs of present and future generations.
- E. The principle of viability and competitiveness.
- F. The principle of preserving the characteristics of nature, as well as identifying and developing production, investment and consumption structures. ⁽²⁷⁾

Basic principles for sustainable tourism development in heritage areas:

Through five guidelines to start work in tourism on cultural heritage:

- A. Collaboration:** There must be a consensus between society and tourism to ensure that tourism is sustainable in the long term and therefore can bring many economic benefits.
- B. Balance:** To ensure the maximum use of cultural heritage, a balance must be struck between the needs of residents and visitors. It is important to understand the patterns and magnitude of tourism that can be accepted and dealt with by the local community, and therefore the involvement of the local community in tourism programs and activities is critical.
- C. Tourism Management:** Emphasis on the management of tourism programs to attract visitors, so as to show the cultural heritage of communities.
- D. Quality and originality:** Emphasis on the quality of the tourism product in cultural tourism, as the originality that distinguishes one society from another society is critical in everything related to history or heritage.
- E. Preservation and protection:** Cultural and historical heritage and natural resources must be protected because they are highly valued and irreplaceable, and therefore must be preserved and protected for continuity.

As mentioned above, the involvement of local people in tourism activities is one of the basic principles for the sustainability of tourism in heritage areas. There is no development and maintenance in isolation from the local population.

Criteria for Sustainable Tourism Development for Interior Design:

Sustainable Development Criteria for Interior Design of Tourism Establishments:

- **Environmentally:** (resources - energy - raw materials).
- **Economically:** (resources - energy - raw materials).
- **Cultural:** (cultural determinants of the site of origin).
- **Social:** (social determinants of the site of origin).
- **Design:** (job - durability - economy - beauty and creativity).

Obstacles to Sustainable Tourism Development

First: Obstacles to Sustainable Development

Despite the global efforts and serious attempts to achieve the demand for sustainable development in all countries and societies of the world, but these attempts are still largely deficient, for a number of reasons, perhaps among the most important and most prominent:

1. The steady increase in the world population.
2. The spread of poverty in the world
3. Instability in many regions of the world resulting from the absence of peace and security.
4. Continued migration from rural to urban areas and the spread of slums.
5. Areas of the world in general are exposed to harsh climatic conditions, especially lower rainfall than the annual average, high summer temperatures and evaporation and transpiration rates, which led to repeated drought and increased desertification.
6. Limited and misused natural resources, including severe shortage and pollution of water resources, scarcity of land suitable for exploitation in various agricultural activities, deterioration of their quality, and lack of non-renewable energy in some countries of the world.
7. Incompatibility of some technologies and experiences imported from developed countries with the economic, social and environmental conditions in some developing countries, and the lack of national competencies capable of dealing with them.

Second: Obstacles to Sustainable Tourism Development in Egypt

1. Problems related to the behavior of the Egyptian society with tourists.
2. Problems of tourism planning.
3. Ineffectiveness of tourism marketing.
4. Problems related to terrorism.
5. Neglect of archaeological tourist areas and surrounding facilities.
6. Obstacles related to air pollution and pollution of the River Nile water and beaches.
7. Obstacles of responsible tourism management. ⁽¹⁴⁾ pp. 7,8,9, 10

Third: Ecotourism as a solution for the development of sustainable ecotourism

Eco-hotels are eco-tourism facilities, designed, built and managed in a manner that contributes to and supports the conservation of natural and cultural resources. The term "eco-hotel" is a trade name for a product of the tourism industry used to identify a type of tourism facility based on nature.

The most important elements to consider in the design of the hotel environment:

The characteristics of the place, nature, cultural attractions, methods of management and marketing of eco-tourism trips and how to involve the people of the region in the process of development of eco-hotel projects:

Therefore, the eco-hotel project raises the economic value of natural resources and cultural experiences.

Ecolodge in Egyptian society can be understood as "a new type of tourist building that provides an environmental educational experience for tourists about the natural and cultural life surrounding it and increases the knowledge of the surrounding natural environment."

The design of an eco-lodge project requires an architectural approach called Eco-design. This approach is based on three principles that must be taken into account.

1. Design solutions must stem from the natural environment surrounding the place and overlap with its cultural background.
2. Local communities should participate in the design and implementation process to benefit from the experience accumulated over many years.
3. The design must be fully integrated with nature, with architectural formations that complement it and do not interfere with it and with the nature of the site.

From the foregoing, it turns out that the key element in the establishment of the ecological hotel is access to the process of integration and integration with the weather, culture and nature in the surrounding area.



Kafr Dalhab Oasis Hotel. ⁽²⁵⁾

The picture illustrates the design's complete integration with nature, with architectural formations incompatible with the nature of the site

Eco-lodge design and planning considerations:

According to the definition of an eco-hotel, the planner of these establishments should take into account the following considerations:

-Respect the nature of the site and cultural resources, while minimizing the negative effects of development. The design should depend on compatibility with the environment and natural elements of the place and surrounding local buildings so as not to cause disharmony with the natural beauty of geographical terrain.

-The use of renewable local building materials with the use of simplified technology appropriate to functional needs, and ensure a strategy to save energy while avoiding the use of materials requiring intensive energy, environmentally harmful and high output of waste.

-The need to take advantage of local materials and materials, whether in the construction or interior design of the various units and installations such as the use of wicker and inventory and palm leaf in areas characterized by the growth of palm.

-The design takes into account the reception of people with special needs physically and sensually, and the use of the building must be balanced between different types of visitors and users.

Consider the division of the project into operational phases with a view to monitoring its impacts on environmental natural resources and the possibility of remediation in subsequent steps:

-The project should be designed to allow future modifications and expansions in such a way as to minimize recourse to demolition, removal and residues, using materials that readily accept reuse.

-Minimizing the pollution of the natural environment (air, water, soil).

-The architectural product shall not cause any damage to the historical and archaeological resources of the area in which it is situated.

-Signing the buildings in such a way as to avoid damaging the existing plants by incorporating them into the architectural design and planning as the parameters of the site.

-The use of plants to reduce the impact of buildings visually on the environmental context of the place.

-The buildings should be signed in places that do not hinder the natural growth of wildlife (plants) while trying to integrate with elements of natural environment in an easy way through the use of calm colors in buildings and close shades of the colors of those elements such as rocks, sea, sand, nearby mountains and interaction with nature through creating open terraces and surfaces overlooking the outside world and communicate directly with the surrounding environment visually and dynamically.

-The design of the building should be based on natural ventilation and lighting ⁽³⁾ and take advantage of culture and cultural heritage of Islamic civilization in climate treatments. While minimizing industrial ventilation and lighting, avoid the use of industrial air conditioning and attention to natural climatic treatments, such as:

Use of air cliffs in the roofs of buildings to attract and direct marine air inside buildings, or through the work of courtyards and yards inside the units to provide good ventilation of the Interior facades overlooking them⁽¹⁸⁾.

• **The use of environmental design mechanisms (solar energy, wind and water):**

-A lot of projections, walls and openings that respond to shade.

-Use of light colors for walls or ceilings which are sensitive to their environmental impact in reflecting sunlight.

-The use of domes and vaults in roofing buildings, to reduce the intensity of direct sunlight on the roofs of buildings, unlike horizontal roofs. ⁽¹⁷⁾ p. 16

- The product enriches the cultural environment and preserves its cultural heritage and does not cause the loss of the character of the region.

- Understand local culture and avoid introducing strange values to it:**

- Consult the residents of the region about architectural designs to develop their sense of participation, with the introduction of crafts and handicrafts in the interior design work.

- Providing the necessary places to display local crafts and practicing folk arts through open and main squares.

Concept of the environment:

Environment is the framework in which we live, and from it we get the ingredients of life. We have to carry out our vital activities, our humanity and human relationships. There are many definitions of the environment, its types and its relation to achieving the goal of environmental balance, which helps to sustain development in natural areas, although they all agree on the general framework governing them.

The environment is a storehouse of natural resources, whereas others see it as an economic or aesthetic vision. We can define the environment as "the natural home of living beings without human intervention."

Another definition is that; environment is the framework in which humans live, including soil, water and air which are the main constituents.

Environmental Interior Design:

A type of design activity depends on achieving compatibility and balance between different design requirements and the environment when solving design problems. The most important characteristics of adaptation to bring about integration, and integration of its elements with the rest of the existing ecosystems.

Environmental design means not only the suitability of the product to its environment of use, but also the suitability of all elements involved in the installation of the product, and at the same time the ability of products to meet the requirements of the times.

The concept of sustainability and environmental architecture:

The first one to be aware of contemporary environmental architecture was architect Louis Sullivan, the American architect who raised the slogan (form follows function), which was a slogan of architecture and design throughout successive times.

Sustainability is defined as the "optimal use of resources, physical, natural and human resources in a balanced and appropriate manner with the natural environment so that all available resources are utilized."

Tourist facilities:

"It is an area dedicated to tourism activity that provides space with services designed for the purposes of accommodation, recreation and entertainment".

Another definition "It is a specific geographical unit or a specific land area where the elements of attraction of natural tourism and civilization and the availability of multiple services of tourism facilities, construction and recreational services, sports and sometimes therapeutic".

Interior Design Considerations for Sustainable Tourism Facilities;

Environmental Considerations for Sustaining the Interior Design of Tourism Establishments:

1. Reuse: by the typical construction of interior design elements and furniture used in the design to allow the optimal use of the elements of the product over time through the possibility of disassembly, installation, and replacement of damaged parts and elements.
2. Recycling: The possibility of re-use of raw materials of products after the end of life to achieve economic and environmental aspects that can be recyclable (such as metal ores, wood, paper and glass).
3. The use of environmentally sustainable raw materials: such as liquid wood (a German team invented a material called "Arioform", a new material derived from the material (lignin) derived from wood pulp and can be mixed with linen or wood fibers and other additives to create a strong alternative and clean materials plastic products that replace plastic in the future.

(11)



Some models of liquid wood products⁽²⁶⁾

• Economic Considerations for Sustaining the Interior Design of Tourism Establishments:

1. Interior design of tourist facilities according to the principle of using renewable natural materials: Using industrial energy alternatives such as solar energy and wind to avoid the negative reflection of modern technology in the environmental balance.

2. Interior design of tourist facilities according to the principle of reducing the costs of using raw materials by:

- Encourage the use of recyclable materials and renewal such as breaking concrete, bricks and stones in the filling layers, re-use of wood floor fittings, doors, windows and others in the production of manufactured wood, the use of soil residues and gardens as brushes under the trees or can be used as fertilizers. ⁽¹²⁾
- Designers take patterns that are not tied to a specific timezone.
- Design capability for flexibility and development as needed and its ability to accept modifications.

3. Reduce energy consumption costs by:

- Use materials that require little energy in the processes of manufacture and production, such as recycled materials.
- The use of local materials or materials that have the ability to be produced locally.
- The use of simple designs that do not need many stages in the processes of manufacture and production.
- Design ability to rationalize energy consumption and self-sufficiency. ⁽¹³⁾

4. The use of modern sustainable materials characterized by the following:

- Low production cost.
- Recycled and reused, which allows to benefit from them more than once, where the designer can take advantage of these materials and adapt them in a way that enables them to satisfy the maximum needs of the user, while achieving the highest degree of sustainable economy in cost. ⁽¹¹⁾

Social Considerations for Sustaining the Interior Design of Tourism**Establishments:**

Social environment means that part of the overall environment, which consists of individuals and groups in their interaction as well as social interactions, and patterns of social organization and all other aspects of society. ⁽⁴⁾ P 22

The social dimensions of the sustainability of the interior design comes out of a major orientation are:

dealing with data of the built environment as a physical construction requires identification through different spaces, shapes and colors and what the designer means to formulate all its uses or what they symbolize those uses;

1. Cultural symbolism associated with society: The symbol is associated with a particular idea that stems from which the elements of interior design can carry multiple meanings according to the evidence used in a certain time.
2. Use direct cultural semantics: semantics have direct and specific meanings that embody meanings and require mental neglect to arrive at their meanings. The significance of this level of meaning is one of the most important difficulties faced by the interior designer, which requires a specific cultural identity.
3. Interaction with the user's social needs: A successful design is one that fulfills the user's social and environmental needs and needs, and the spiritual values and principles to be observed

Energy is an environmental determinant in the interior design of touristic establishments:

Energy is a major environmental frontier. It expresses itself in a variety of ways, and the power of nations is not measured by its population but by its energy sources and energy.

A. Solar energy as an environmentally safe renewable energy:

The advantage of solar energy is that the technology used is relatively simple and uncomplicated, as it achieves the environmental safety factor because it is clean energy, which earns a special status in this area. Solar energy can be converted into electrical energy and thermal energy through the photovoltaic and solar thermal conversion mechanisms.

Photovoltaic conversion is the conversion of direct solar or optical radiation into electrical energy by photovoltaic (solar) cells, using materials called semiconductors such as silicon, germanium, etc.

Many models of solar cells have been manufactured that can produce electricity in practice. It does not include moving parts, and does not consume fuel or pollute the atmosphere, with long life span and need little maintenance. Solar cells can be installed on roofs of buildings or facades to be used in the production of electricity and provide heat for heating purposes.

B. Biomass energy as an environmentally safe:

Of new and renewable energies that can be used to provide clean energy is the Biomass energy, which is produced from renewable organic matter of plant and animal origin. Agricultural residues from harvesting various crops are an important source of potential energy. Also the residues of aquatic plants resulting from the cleaning of watercourses. Animal and human wastes are no less important, as they contain organic materials that are a huge source of energy.

Biogas production technology is one of the most important means of providing clean and renewable energy. It is also one of the important means to benefit from human, animal and plant wastes, as well as garbage. ⁽⁶⁾ p. 57

C. Wind Energy:

Wind energy is one of the least polluting energies and uses no fuel other than air currents, but they must be at high speeds.

Although wind power still supplies less than 0.1% of the world's electricity, it is rapidly becoming a proven option as an energy source.

An analysis of Tunis village hotel in Fayoum governorate as one of the most important eco-coastal villages in Egypt

The village of Tunis is located on a high plateau overlooking Lake Qaroun, in the midst of a high palm tree, and an agricultural land decorated with olive and rose branches together, inhabited by hundreds of pioneers of pottery.



The images show the use of building materials from the surrounding environment such as wicker, mats and palm leaves.

With the use of simplified technology to process architectural apertures suitable for functional needs while avoiding the use of materials that require intensive energy and environmentally harmful. ⁽²⁸⁾



The project is designed to allow future adjustments and expansions horizontally, without resorting to demolition and removal, or presence of the resulting building waste in places that hinder the natural growth of plants, buildings are integrated with elements of the natural environment in an easy way through the use of quiet colors in buildings, close shades of colors of those plants were used to reduce the impact of buildings visually on the environmental context of the place⁽¹⁸⁾



Elements such as rocks, water, Sand, interaction with nature by creating open terraces and surfaces overlooking the outside world and communicate directly with the surrounding nature. Pictures (28)



The pictures illustrate the use of natural materials that minimize as much as possible the pollution of the product to the natural environment.

(Air, water, soil). Signing the buildings in such a way as to avoid damaging the existing plants by incorporating them into the architectural design and planning as the parameters of the site.

Utilization of local materials and materials, whether in construction or interior design of various units such as the use of wicker, mats and palm leaves. Pictures (28)





One of the most important considerations is the design and planning of the eco-hotel (Eco-lodge) Understand local culture and avoid introducing strange values:

This has been achieved by the village of Tunis, where hotels established architectural designs compatible with the architectural character of the village to develop their sense of participation, with the introduction of crafts and handicrafts in the work of interior design, as well as providing the necessary places to display local crafts and the practice of folk art through open squares and main squares. It also appears in the pictures where the spread of the craft of ceramic industry, kilim, and palm leaves works and other crafts to protect the cultural and historical heritage and natural resources.

From the above we find that the involvement of local people in touristic activities is one of the basic principles for the sustainability of tourism in heritage areas, there is no development and maintenance in isolation from the local population. Pictures ⁽²⁸⁾





Pictures of multiple accommodation in Tunis Village Hotel as well as the restaurant.

The pictures show the enrichment of the civilized environment and preserve its cultural heritage and emphasize the character of the region. The use of light colors for walls or ceilings which are sensitive to their environmental impact of the sun. Increase the work of projections and the walls and openings respond to shade. Pictures ⁽²⁸⁾

Results:

1. The interior designer plays a major role in contributing to tourism development, as they are responsible for the tourist's comfort in residence through functional designs compatible with the environment and heritage expressing the Egyptian personality.
2. Sustainable eco-tourism facilities are more attractive to tourists through the use of local environment materials.

Recommendations:

1. Utilize the theoretical and practical knowledge to research the production of eco-friendly design in tourist establishments in line with the modern times through the promotion and development of traditional design patterns of environmental facilities.
2. Benefit from the research in directing investors to the advantages of eco-tourism facilities in terms of preserving the legacies and low cost of construction than its counterparts of touristic facilities, in addition to attracting tourists more than the other facilities.
3. Adopting the concept of sustainability in interior and architectural design

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