

The role of the Jordan Green Building Guide in improving the quality of the internal environment for resorts accommodation

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Summary:

The Hashemite Kingdom of Jordan has realized the nature of the dangers surrounding our planet as a result of the depletion of natural resources. Foremost among them are energy and water resources, and accordingly, the need to introduce sustainable design concepts in the implementation of tourism facilities has become urgent. It was represented by what is known as green buildings. Its importance is due to the benefits that it can have on the surrounding environment, the local economy, health and individual productivity. The idea of developing a guide for green buildings that contains technical standards and environmental requirements necessary to achieve the requirements of environmental sustainability in tourism facilities, their evaluation and exploitation to suit Jordan's special climate, natural resources, legislation and building technology available in it. This is done by activating the standards of the Jordanian Green Building Guide for the quality of the healthy internal environment, materials and resources in the interior design areas of accommodation rooms in tourist resorts, which establish an internal environment that meets all the requirements of comfort and safety as a health strategy followed to achieve a minimum of environmental pollutants in the building and to achieve the highest level in the efficiency of positive exchange between the building and the surrounding environment around it. The research deals with the concept of sustainable design, the quality of the indoor environment, the pathogen phenomenon and the most important causes thereof. The tourist resort concept; Introducing the Jordanian green building guide and addressing the criteria for the quality of a healthy indoor environment, materials and resources. To identify the suitability of the design of tourism facilities in Jordan with the sustainable design; Clarify the effect of activating the standards of the Jordanian Green Building Guide on the interior design spaces for resorts' residence rooms; Among the proposed recommendations to provide a healthy indoor environment: Activating the standards of the green building guide in the early stages of design, applying them and making use of them to the fullest and lowest possible cost when compared to the cost of procedures for identifying problems and treating them after occupancy in the interior design areas of accommodation rooms in tourist resorts.

key words:

Sustainable design, The quality of the internal environment, The phenomenon of sick buildings, Tourist resort, Jordan Green Building Guide.

Introduction:

Many questions have emerged about the problem of the internal environmental quality of residence rooms in tourist resorts in various countries of the world. The roots of this problem can be traced back to the post-World War II period, when the main concern at that time centered on energy efficiency; By taking into consideration the design strategies followed at the time; Whereas, the trend has been towards the use of sealed insulation materials and the use of industrial materials; It also used advanced heating and cooling systems. Mainly recycle indoor air; So that you are less satisfied with the outside air; This negatively affected the health of the building's occupants. This is due to the toxic emissions that it produces which is harmful to the environment and humans.

We note that the real risk is not limited to the external environment only. It also includes the internal environment; Especially after the spread of the phenomenon of pathogenic buildings, which, according to the World Health Organization, have been described as a group of factors that cause sensing a set of negative health symptoms such as irritation in the eyes, nose and throat; To headache, mental fatigue and nausea; Dizziness, respiratory tract infection and other dangerous symptoms; These symptoms have been associated with sealed buildings, and the consequent rise in temperature levels, relative humidity levels and the spread of dust.

Research problem:

The interior design of residence rooms in tourist resorts lacks an environmentally sustainable character; This will have a negative impact on the environmental, economic and social impact.

Research importance:

- The importance of the research lies in activating the standards of the Jordanian Green Building Guide regarding the quality of a healthy indoor environment. Which leads to the development of the internal environment for residence rooms in tourist resorts.
- Providing healthy design solutions and environmental treatments; This will be positively reflected in the sustainable improvement of the environmental, economic and social returns.

Research aims:

- The research aims to activate the standards of the Jordanian Green Building Guide for the quality of the healthy interior environment in the interior design areas of accommodation rooms in tourist resorts.
- Reaching design solutions to environmental problems in the internal spaces of residence rooms in tourist resorts to give them a competitive advantage that stimulates ecotourism.

Research hypotheses:

The research assumes that adherence to the Jordan Green Building Guide; And the application of its principles and standards on the quality of the healthy internal environment, materials and resources; Lead to the maximum quality of a healthy indoor environment; It also improves indoor air quality.

Search limits:

Spatial boundaries: the Hashemite Kingdom of Jordan. Temporal boundaries: current time.

Research Methodology:

The research follows the descriptive and analytical approach. Through the descriptive study of the Jordanian Green Building Guide; Its principles and standards for healthy internal environment quality, materials and resources; With analysis of the model (Kempinski Hotel Aqaba - Jordan); And to clarify the effect of activating the standards of the Jordanian Green Building Guide for the quality of the healthy internal environment on resorts' residence rooms.

Research topic:

1. We can formulate the concept of sustainable design as: "a design philosophy that seeks to improve the quality of the built environment to the maximum extent possible and to reduce damage to the natural environment to a minimum"; It is an integrated system based on taking into account the design of the building in line with the surrounding environmental and climatic conditions, and that is in organized relationships by merging internal and external spaces together to achieve interaction with the biosphere to form environmentally balanced spaces by using the least possible resources to achieve the greatest possible benefit.
2. The internal environmental quality (IEQ) means the efficiency of accommodation and comfort for the occupants of the building with the interior spaces of the resorts; This is due to the combination of their psychological and organic reactions to interior design factors; The quality of the internal environment means the integration of functions and systems, and the use and application of principles of sustainability and green design, such as controlling the temperature, humidity, ventilation and lighting of the space. The psychological and social condition of the human being is affected according to the change of internal environment factors causing health and psychological damage as well as the sharp shift in mood and social interaction. This is called the pathogen syndrome phenomenon.
3. The term sick building syndrome refers to the description of cases of occupants of the inner building of tourist resorts; And the matters that affect the extent of their comfort and the varying health effects that are related to the time spent in the building without the possibility of identifying a specific disease or cause and depend on the sensitivity of people to its effects.

There are many different indicators. Symptoms associated with acute discomfort, chronic headache, eye or nose irritation, hypersensitivity, dry cough, dry skin, itching or fatigue; As well as nervous system disorders, respiratory congestion and sinus congestion; Most of the property occupants who complain of these symptoms feel better sometime after leaving the facility; The complaint could be from a specific room or it could be on a large scale that could cover all parts of the facility.

The causes of (SBS) overlap with many comfort factors related to the physical characteristics of the tourism facility; Which is represented by air quality, ionization of air, humidity and volatile organic compounds:

A. Air quality

Poor air quality is the main cause of sick building syndrome; This is due to defects in HVAC systems and improper heating and ventilation; Or due to unclean air filters; Not getting enough fresh air; It is possible to use trees and plants that purify the air and remove emitting toxic gases.

B. Ionization of air

Among the reasons attributed to the increase in negative ions are poor central heating systems, poor-ventilated plastic rooms, and a group of building materials such as cement and manufactured materials with positive charges, whose disposal process is very slow. In contrast to most natural materials, they create negative charges that are quickly dispersed into the ocean; The only solution is to return the ions to normal proportions by allowing outside air to enter the building through permanent building ventilation.

C. Volatile organic compounds

They are organic chemical compounds with high vapor pressure containing carbon found in all living things; The volatiles evaporate in a large amount and enter the atmosphere under normal conditions; Volatile organic compounds are produced as a result of some pollutants entering the building, such as biological and other pollutants.

D. Humidity

Absolute humidity is defined as "the amount of water vapor present in the air, measured by the number of grams present in each cubic meter of air"; Humidity is affected by temperature and reduced by the height of the vacuum above the earth's surface. Relative humidity is defined as "the ratio between the amount of water vapor in the air to the ratio of the amount of water that must be present in it if it is saturated."

4. The tourist resort is defined as: "A space dedicated to tourism activity related to its own contents; and it provides this space with facilities and services, especially those facilities and services that are designed for the purposes of entertainment and recreation and the acquisition of experiences and healthy habits"; The resort should be designed in an integrated state with development compatible with the natural environment for the benefit of local communities. In order to achieve the modern concept of tourist resorts.
5. Jordanian Green Buildings Guide: It is a guide issued by the Jordanian Green Building Council. Which was established in 2009; The Jordan Green Building Index relies on areas similar to the (LEED) rating system. These areas are: green building management, site sustainability, water efficiency, energy efficiency, healthy indoor environment, materials and resources; The guide contains seven chapters; Includes a number of standards in which a number of mandatory, obligatory and optional requirements are presented and the points corresponding to each of them are presented in the form of a standard identification card; To be an indicator of the extent to which the requirements are met, and calculate the number of points collected upon adopting those requirements.
6. Kempinski Hotel Aqaba: The Kempinski Hotel Group is one of the oldest luxury hotels in the world. With a history of more than 100 years; The "Kempinski Hotel Aqaba" is one of these hotels; Which was established in 2008; One of the most important features of this hotel is that it is strategically located in the heart of Aqaba. It is (10 minutes) from Aqaba International Airport.

7. An Analytical Study on the Application of the Standards of the Jordanian Green Building Guide to Interior Spaces at "Kempinski Aqaba" Hotel:

Number	Standard	Total Points	Points Achieved
1	the internal environment and health	24	5
2	Materials & Resources	26	6
Total		11	

A. The internal environment and health

The hotel got a number (5 points) out of a total number (24 points); Based on the application of a number of healthy indoor environment standards found in the Jordanian Green Building Directory; This is based on the researcher's analysis.

B. Materials and resources

The hotel got a number (6 points) out of a total number (26 points); Based on the application of a number of standards for materials and resources found in the Jordanian Green Building Directory; This is based on the researcher's analysis.

Results:

- The roots of the problem of the quality of the internal environment in the residence rooms of tourist resorts Post-World War II; And there was no absolute interest in it.
 - That the real risk is not limited to the external environment only; It also includes the internal environment.
 - The phenomenon of pathogenic buildings is one of the factors that cause a group of negative health symptoms to be felt.
- Poor air quality is the main cause of sick building syndrome; This is due to defects in HVAC systems and improper heating and ventilation; Or due to unclean air filters; And not getting enough fresh air.
- That sustainable design achieves interaction with the biosphere; And this is to create environmentally balanced spaces by using the least possible resources to achieve the greatest possible benefit.
 - That the Jordanian green building guide aims to achieve the minimum and optimum requirements for designing eco-tourism facilities; And that by determining the efficiency and effectiveness of these facilities.
 - To activate standards for the quality of the healthy internal environment, materials and resources; It helps to create an indoor environment that meets all requirements of comfort and safety for residents and guests.
 - The application of the standards of the Jordanian Green Building Guide is a health strategy followed to achieve minimum environmental pollutants in the building. And to achieve the highest level in the efficiency of positive exchange between the building and the surrounding environment.

- That the "Kempinski Hotel Aqaba"; Has activated some of the requirements of the standards of the Jordanian green building guide; Except that he did not fulfill the necessary points; Which qualifies him to be certified as a green building.

Recommendations:

Among the recommendations proposed to provide a healthy internal environment in the interior design areas of residence rooms in tourist resorts are the following:

- That the authorities responsible for tourism establishments activate the standards of the green building guide in the early stages of design; To be applied and utilized to the fullest and lowest possible cost when compared to the cost of procedures for identifying problems and treating them after occupancy.
- The researcher recommends the necessity of highlighting the role of the interior designer in improving the quality of the interior environment in green building projects established in the Jordanian state.
- The researcher recommends the necessity to use the local materials and resources in Jordan as much as possible. This is due to the implications of its application on the economic impact of the local community and the environment.
- The researcher recommends that the Jordan Green Building Council hold awareness-raising conferences or seminars in a systematic manner. So that it aims to clarify the benefits and effects of applying green building strategies on the Jordanian environment and society.
- The researcher recommends that the Jordanian state impose strict laws that apply the principles of green building. This is due to the urgent need for it now and in the future.

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