

Natural lighting and sustainability in traditional environmental architecture

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Abstract

Sustainable architecture seeks to achieve a healthy environment within the space in terms of providing good ventilation, natural lighting, thermal comfort for interior spaces, energy saving, and reducing emissions of exhaust and harmful gases.

Some might think that there is no relationship between the field of sustainable energy studies and heritage architecture. But the fact is that there is a direct correlation between the two domains, since heritage buildings were designed to be energy-saving indirectly.

The present architecture is the product of many years of people's attempts to create buildings that adapt to the environment and reduce the undesirable effects of climate, thus providing a suitable built environment with minimal energy consumption, where the provision of natural lighting in the interior spaces is one of the most important elements to achieve comfort.

The research aims to analyze and study the provision of natural lighting in heritage Islamic buildings, providing a suitable built environment with minimum energy consumption. Also to illustrate how local construction methods and heritage building designs operate efficiently, through taking care of the design of the openings, and their sizes, locations and treatments, which led to reducing the impact of climatic conditions.

The research methodology, which is based on the applied analytical theoretical approach, is divided into the following:

- Theoretical study which deals with the presentation of sustainable environmental factors used to provide natural lighting of the traditional house and affect the provision of energy usage
- Analytical and applied study of the natural lighting of the spaces of one traditional housing, and to conclude the different traditional aspects that affect the natural lighting of traditional residential buildings, which must be preserved.

Keywords

Natural lighting, Sustainability, Energy saving, Traditional architecture.

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Biography

Dr. Salma Dwidar, Associate professor in Architectural Engineering, currently works at Department of Architectural Engineering, Faculty of Engineering, Prince Sultan University, KSA. Before, she has served as Assistant Professor in Department of Architecture, faculty of fine arts, Alexandria University, Egypt. Her area of research is in Architectural

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