Green Architecture As a concept of Historic Cairo

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Abstract

Green Architecture appeared as a result of the negative impacts on the environment surrounding the buildings and in a wider scope as a result of the power consumption increases and the use of environment pollutants, besides other elements attributing to environment imbalance of the Earth. Thus, Green Architecture appeared as a sort of historical reconciliation with the environment. Meanwhile, the majority of the developing countries including Egypt showed an intensive increment in the building’s volume that were blind copied from the current international architectural trends neglecting any environmental aspects. On the other hand, the Egyptian historical heritage, particularly old Cairo districts, used to give great respect to the climatic conditions of their environment while maintaining the unique value of their architectural style. Therefore, this research aims to focus on this Egyptian architectural of the historical Cairo are to study and analyse its environmental aspects and treatments in order to derive their architectural bases that are suitable for their local environment with Egyptian green methods. The research was carried out through two main phases; the first phase was based on a theoretical analytical study of a specific house form Historical Cairo, El El-Suhaimi house, while the second empirical phase was conducted for the same case study using simulation methods through Design Builder simulation software in order to assure that all findings conform to the recommended ones that could achieve the desired thermal comfort. The results of the case study showed great potentials in using the passive designs methods of this historical house to enhance thermal comfort in residential buildings which located in hot arid climates. Thus, this paper concludes that the traditional architecture, specifically the historical Cairo architecture, proved to be suitable to become a permanent reference to make use of its elements and particulars in the formation of modern green architecture of a local identity and style.

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