

البحث الثالث

Green Architecture Assessment System in Egypt with an Application on *Zeinab Khatoun House*

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This paper aims at introducing the green architecture assessment system and criteria in Egypt as well as exploring some elements and features of traditional Islamic architecture while assessing the application of the green architecture principles on a traditional Cairene house. First, it explores the global principles of green architecture such as energy conservation and climate adaptation, planning a sustainable building site, economizing water consumption, efficient use of construction materials, indoor environment quality, recycling solid waste, design and innovation and respect of users. Second, discusses the most common green architecture assessment systems and their criteria. The paper then explores the green architecture assessment systems in Egypt through introducing the Egyptian Green Building Council, the Green Pyramid Rating System (GPRS) and its assessment criteria. These are sustainable sites development, energy efficiency and environment, water saving, materials selection and construction system, indoor environmental quality, innovation and design process and recycling of solid waste. At the end, it attempts to apply the GPRS on a traditional Cairene residence, *Zeinab Khatoun House*, in order to investigate whether the green architecture principles were applied or not. It was found out that In the *Zeinab Khatoun House*, the use of Islamic architecture elements and features led to an average application rate of Green Pyramid Standards equals to 65%. The house may therefore be considered a historical building with green architecture attributes.