

# **Abstract**

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## **ELECTRONIC MODEL FOR GREEN PYRAMID RATING SYSTEM IN EGYPT.**

The incorporation of sustainability principles into project design and operation processes has been profoundly changing the construction industry. This change caused an increasing number of projects to pursue a green certification, such as the leadership in energy and environmental design (LEED) building research establishments environmental assessment method rating system (BREEAM) and green pyramid rating system (GPRS). Sustainable development in urban expansion is required in Egypt in order to relieve the population pressure. The emergence of many informal settlements without any urban planning presents a serious problem, in addition to the shortage in electrical power supply, the lack of water resources and the environmental impacts associated with the current situation. The aim of this study is to develop a computer model that helps to assess the new construction process during design and post construction stages by the GPRS and provide recommendation that helps to increase the project rating. The proposed model was developed using visual basic studio.net 2012 technology. The model helps to organize the collected data to simulate the rating system and evaluate the project, and recommends improvement strategies. A case study is presented in order to validate the proposed model and some improvement strategies have been applied to increase the final rating of the project.