

# Abstract

**Sally S El-Deeb**

## **A Sustainability Assessment Framework For Waterfront Communities**

It is predicted that the global phenomena of Climate change will have far reaching effects &#97;&#110;&#100; implications on different local urban systems. For incidence, global average sea levels are expected to rise between 7 &#97;&#110;&#100; 36 cm by the 2050s, and between 9 &#97;&#110;&#100; 69 cm by the 2080s. Waterfront communities are the first to be affected by such impacts putting them at high risk. Planning tools are needed to assist these communities &#97;&#110;&#100; increase their adaptive &#97;&#110;&#100; learning capacities in the face of diverse challenges to their urban sub-systems. The research investigates a number of sustainability frameworks &#97;&#110;&#100; assessment rating systems for neighbourhoods &#97;&#110;&#100; communities. It investigates the sustainable evaluation criteria carried out by three assessment rating systems. First is the LEED (Leadership in Energy & Environmental Design, USA), the second is BREEAM (Building Research Establishment Environmental Assessment Method, UK), &#97;&#110;&#100; the third is the Estidama PEARL rating system (UAE). Examples of waterfront communities which applied the previous rating systems are analysed in order to determine the applicability &#97;&#110;&#100; relevance of these systems to waterfront communities in particular. The research concludes with a proposed framework of indicators for waterfront communities. The similarities &#97;&#110;&#100; differences between the three rating systems &#97;&#110;&#100; featured indicators specific to waterfront planning applied in the analysed examples, yet absent in the three rating systems, have informed the ion of indicators in the proposed assessment framework. The proposed framework could be an effective tool for the planning &#97;&#110;&#100; development of a waterfront community in the MENA region. In order to validate the framework, the set of environmental &#97;&#110;&#100; physical indicators were applied on the case study of Abu Qir waterfront, Alexandria, Egypt. Conclusions &#97;&#110;&#100; recommendations are made that would enhance the resilience of this waterfront community &#97;&#110;&#100; provide a comprehensive tool for its sustainable planning.