Abstract

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A Sustainability Assessment Framework For Waterfront Communities

It is predicted that the global phenomena of Climate change will have far reaching effects and implications on different local urban systems. For incidence, global average sea levels are expected to rise between 7 and 36 cm by the 2050s,and between 9 and 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 and increase their adaptive and learning capacities in the face of diverse challenges to their urban sub-systems. The research investigates a number of sustainability frameworks and assessment rating systems for neighbourhoods and 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), and 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 and relevance of these systems to waterfront communities in particular. The research concludes with a proposed framework of indicators for waterfront communities. The similarities and differences between the three rating systems and 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 and development of a waterfront community in the MENA region. In order to validate the framework, theset of environmental and physical indicators were applied on the case study of Abu Qir waterfront, Alexandria, Egypt. Conclusions and recommendations are made that would enhance the resilience of this waterfront community and provide a comprehensive tool for its sustainable planning.