World Academy of Science, Engineering and Technology
International Journal of Environmental and Ecological Engineering
Vol:13, No:05, 2019

Traditional Sustainable Architecture Techniques and Its Applications in Contemporary Architecture: Case Studies of the Islamic House in Fatimid Cairo and Sana'a, Cities in Egypt and Yemen

Authors : Ahmed S. Attia

Abstract : This paper includes a study of modern sustainable architectural techniques and elements that are originally found in vernacular and traditional architecture, particularly in the Arab region. Courtyards, Wind Catchers, and Mashrabiya, for example, are elements that have been developed in contemporary architecture using modern technology to create sustainable architecture designs. An analytical study of the topic will deal with some examples of the Islamic House in Fatimid Cairo city in Egypt, analyzing its elements and their relationship to the environment, in addition to the examples in southern Egypt (Nubba) of sustainable architecture systems, and traditional houses in Sana'a city, Yemen, using earth resources of mud bricks and other construction materials. In conclusion, a comparative study between traditional and contemporary techniques will be conducted to confirm that it is possible to achieve sustainable architecture through the use of low-technology in buildings in Arab regions.

Keywords : Islamic context, cultural environment, natural environment, Islamic house, low-technology, mud brick, vernacular and traditional architecture
Conference Title : ICSUUDN 2019 : International Conference on Sustainable Urbanism and Urban Design with Nature
Conference Location : Berlin, Germany
Conference Dates : May 21-22, 2019