

## **Earthen Architecture and Sustainable Green Building Learning from Old Ghadames city - Africa**



**Ilhan K. Halil**

Malazgirt sok:9, Alaykoy, Lefkosa, Mersin 10, Turkey

[ihabkhalil@cypruskwikspan.com](mailto:ihabkhalil@cypruskwikspan.com)

### **ABSTRACT**

The primary significance of this paper is the consideration of Earthen Architecture as a feasible, affordable, durable, cost-effective, environmentally friendly alternative to modern construction materials. Since the negative impact of the modern construction materials proved to be multi-dimensional, a systematic criticism of Modern Architecture helps unveil the existence of many ensuing problems of theoretical, technical, social, economic, environmental and cultural nature. On the other hand, an in-depth analysis of the construction pollution highlights the existing challenges of global level, thus underscoring the unsustainability of the modern construction materials and the techniques involved. In this regard, it is essential to take into consideration that environmental damage is not caused only in the building phase, as modern construction materials and the use thereof trigger considerable amount of pollution during the pre-building and post-building phases. Earthen Architecture as an alternative construction method, involving different materials, yet incorporating selected modern techniques and technologies, is not going to be something 'new' to the mankind. As a construction method, Earthen Architecture reflects a millennium-long architectural tradition identified worldwide and used in either primitive cultures since the Neolithic or among all the important historical civilizations across five continents. Examining historical paradigms (use of wood, stone, thatch and earth as architectural material) offers us therefore an insight into how we can re-employ the architectural know how in a way that is fully adapted to the particularities of each locality and habitat, while facilitating and improving the construction process thanks to modern technologies. Furthermore, Studying Old city of Ghadames - Africa as an example of Earthen Architecture in project that have been being carried out in different aspects and provides us with the most convincing argument as regards the need for an extensive use of Earthen Architecture as an environmentally friendly, sustainable and cost-efficient alternative to modern construction materials and in economic sectors as diverse as Education (nurseries, schools, institutes, and universities), Culture (theaters, museums, libraries, and cultural centers), Health (hospitals, clinics, health centers or labs), Public Administration (municipalities, governorates, courts of Justice, ministries), Tourism (hotels, resorts, youth hostels, etc.), Trade (bazaar or souq area constructions), and Construction (residential districts).

**Keywords:** Construction pollution, earthen building, environment, sustainable, cost-effective.