

Abstract title

Earth Construction in Afghanistan: from an artisanal approach to an industrial strategy

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Abstract:

Earth has been used as a construction material in all ancient cultures for thousands of years, for both residential and commercial purposes. It is a sustainable way of construction that provide better living environment with less energy consumption and without destroying the natural environment. The use of earth in Kabul the capital of Afghanistan dated back to thousands of years, and currently around 70% of the people live in earth made buildings. Therefore, various traditional earth construction techniques exist and they are identified in this poster. The benefits of earth materials such as water buffering, thermal insulation and also the problems associated with erosion and frost of the earth made dwellings are discussed in detail. In the second part, methodology for selecting soil and preparation of Compressed Stabilized Earth Blocks (CSEB), blocks size and associated tests are identified. Moreover, affordable housing is in the forefront of the Afghanistan government strategy, the use of CSEB as a solution to this issue is discussed in third part. In the final part, by using a model and a smart design for residential buildings, the pros and cons of the proposed CSEB will be analysed. This research is based on a desktop study of published authentic journals papers, books and conference paper. The focus of this research is on Afghanistan and precisely Kabul city, where a standard compressive earth block will be design and propose as a new and standard element in Afghanistan construction industry.

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