

# **Abstract**

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## **NATURAL VENTILATION IN OLD ISLAMIC HOUSES THE STUDY OF COURTYARD IN OLD CAIRO Case Study: Zeinb Khatoun House**

Cairo the capital of Egypt, is a rich architectural environment with long history extending over 70,000 years. The rich history is still educating and informing knowledge in all fields of science. An important part of this history is the Islamic era and its vibrant architecture. This research studies the architecture of houses in old Cairo and focuses mainly on their courtyards. Courtyards in old houses served many purposes social, religious and environmental factors. Egypt has been confronted with an escalating energy demand due to the gradual rise in the use of mechanical ventilation associated with loss in natural ventilation design in houses. This paper aims at learning from the past to achieve a sustainable built environment by understanding the necessity of passive ventilation strategies and how courtyards inform it. This is achieved through inductive methods such as literature review represented in the first part and analytical method through the application of passive ventilation in an old courtyard Islamic house.