



Department of Architecture
Faculty of Engineering
Ain Shams University

Tracing and Documenting Sustainability Contributions throughout the Egyptian Architectural Heritage

A thesis submitted in partial Fulfillment of the requirements of
MSc Degree in Architecture

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STATEMENT

This thesis is submitted to Ain Shams University for the degree of Master in Architecture. The work included in this thesis was accomplished by the author at the Department of Architecture, Faculty of Engineering; Ain shams University.

No part of this thesis has been submitted for a degree or a qualification at any other university or institute.

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DEDICATION

I dedicate this thesis to

*My daughter, **Sajdah***

*The sweetest little sunshine ever whom Allah
has blessed our life with her presence.*

Abstract

Since the beginning of the new millennium, Egypt experienced huge energy crisis. Considering that buildings consume about 50% of the energy produced in Egypt, architecture and planning are crucial in developing future plans, as it has the potential to reduce the energy consumption and enhance the human's living quality.

In order to comprehend why things are as they are in the present, whether technology, political systems, architecture or even music, we must understand how they began and evolved into what they are today. Since Egypt has rich heritage, it has a legacy of strategies of development that can be used before suggesting new ones. Therefore, this thesis will present the background of Sustainable Architecture movement in Egypt by studying Egyptian architecture to address the emerging attempts towards this movement through architecture heritage. As the sustainable development requires environmental, economic and social well-being, so the economical and social factors will be studied too for having important effects on the architectural products. Ancient Egyptian and Islamic civilizations are studied for being the most influential eras in forming the Egyptian identity. The residential buildings are studied and analysed according to the contemporary concept of sustainability.

The thesis discusses the motivation behind the concept of sustainability and background of this movement. Then, the definitions of sustainable development will be studied to reach the comprehensive concept of the principle of sustainable development in general and in architecture in particular leading to the discussion of the principles of sustainable design and evaluation plans of sustainable buildings. Finally, the evaluation criteria is developed to be applied in assessing the inherited Egyptian

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architecture. Then an analytical study of the residential buildings in Egypt including the study of the social and economic aspects during the period under study through introducing detailed explanation of residential buildings and analyzing these buildings using the criteria of evaluation developed concluding features of sustainability contributions during the discussed era.

The thesis concluded that Heritage can be considered as a source of creativity, being the product presenting the experience of the community members and their way in dealing with the conditions of their lives through different times. As the traditional Egyptian architecture whether vernacular or inspired from different civilizations achieved many of environmental sustainability principles. Aspects of economic sustainability and social equity are also manifested in the traditional Egyptian Architecture. So, it is considered as a reference that can be used in the architectural design in Egypt to achieve sustainable architecture.

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