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“Eco - Sensitive Earth Architecture”

Re - Utilization of Earth in the Context of Modern Technology;

With Special Reference to Earth Walls.

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A dissertation



**Submitted to the Department of Architecture of the
University of Moratuwa in partial fulfillment of the
requirements for the degree of**

Master of Science

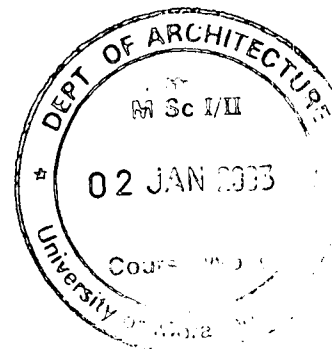


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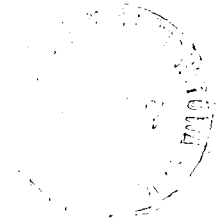
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Abstract

Every aspect of our life is likely to be affected by the built environment, and therefore the responsibility of the architect is heavy. Increased demand in the face of scarcity is certainly relevant in the present global context. In recent years the fear of an energy crisis and environmental pollution came into the sharp focus for the first time in human history. The environmental crisis currently a threat to humanity is directly linked to technological developments. This high technology is not a magic that was once believed to be; it cannot solve all the problems of the human race. In fact, in many ways it has turned back on itself and is threatening the existence of the human race. ✓

Hence, the attempt of this dissertation is mainly to examine a suitable material to be used in Sri Lankan context. On this regard Earth has proven to be very successful over the centuries. With the current trend of modernism, Earth needed to be re-utilized with the modern technology. Therefore this study is divided into four main sections.



The first section expresses pictorial history of earth architecture both locally and overseas. Even though they are not in a chronological arrangement it will discuss about earth architecture around the world and its glory. Further more it examines the historical methods of earth construction, soil characteristics and their suitability for sustainable development.

The second section reveals the traditional forms of earth architecture and impact of modern technology on earth construction. Further, it examines the degree of physical and psychological comforts. And also this chapter will look into other benefits such as fire resistance, Environmental impact, Acoustics, etc.

The third Section mainly based on series of tests done on the site. The main objective was to examine the physical performance of stabilized earth building components and their degree of eco-sensitivity and sustainability.

Finally, chapter four examines the eco-sensitivity and sustainability of earthen architecture. This chapter is a comparison between modern earth architecture and current trend of architectural practice.