BUILDING PERFORMANCE OF SANDWICH PANELS MADE OUT OF BUILDING DEBRIS AND STABILIZED EARTH

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The Research Thesis submitted in partial fulfilment of the requirements for the Degree of Master of Science

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DECLARATION

"I declare that this is my own work and this thesis does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of our knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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ABSTRACT

With the aim of promoting sustainable construction, several building materials with lower life cycle cost have been developed. This in turn would limit the over exploitation of natural resources used to produce conventional building material such as bricks and cement sand blocks. Building demolition waste has added to the environmental impacts created by the building industry. This paper covers a research carried out to investigate the possibility of using recycled building demolition waste (BDW) in constructing some building elements with a comprehensive experimental programme. BDW has been combined with stabilized rammed earth (SRE) which is another greener material, to construct a composite walling material. The optimum mix proportion of BDW and SRE was established together with other important material properties to assess the proposed material for acceptable building performance. Based on the results, the proposed composite walling system made out of BDW and SRE can be confidently used as a load bearing walling material.

Key words: - Building demolition waste (BDW), Stabilized rammed earth (SRE), Material properties, and Thermal performance.

DEDICATION

This Research Paper is lovingly dedicated to our respective parents who have been our constant source of inspiration. They have given us the drive and discipline to tackle any task with enthusiasm and determination. Without their love and support this project would not have been made possible.

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