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INVESTIGATION OF STRUCTURAL DEFECTS IN GOVERNMENT HOSPITAL BUILDINGS IN SRI LANKA

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Dissertation submitted in Partial fulfilment of the requirement for the
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DECLARATION

I declare that this is my own work and this dissertation 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 my knowledge it does not contain any material previously published or written by another person except where the acknowledgment is made in the text.

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A.L.A. Dilrukshi

Date: 05/03/2018

The above candidate has carried out research for the Masters Dissertation under my supervision.

UOM Verified Signature

Dr. K. Baskaran

Date: 05/03/2018

Abstract

Sri Lanka has a free of charge health care system heavily subsidized by the government. The national health system of Sri Lanka is guided by the concept of the welfare state. The major armed conflict, which started in 1983 came to an end in May 2009 affecting almost all the sectors in the whole country.

At present, Sri Lanka aspires to become a higher middle income country. It faces the challenge of becoming a high performer in all sectors affected. Social health protection is hailed to be placed high on the national agenda. Within this context safety of built environment of the government hospital sector too is one of the most important matter and the upgrading of aesthetic aspect of the built environment is also a long await need.

A government hospital complex is a main component of major cities all over the country. But the common perception of government hospitals is attributed to the unpleasant experience due to the poor condition of built environment rather than the valuable and highly committed service being provided free of charge to the society.

This particular study was conducted to investigate structural defects in Government Hospital Buildings (GHBs).

Government Hospitals in Western province were selected for visual observation and photographic survey based on convenience and by judgement of the fact that over utilization of hospitals in Western province.

Also, it was highly important being aware of the local and international picture referring to past studies regarding the same area of study. As the chief structural material of most of the GHBs is Reinforced Concrete (RC), attention was drawn to refer to cracking inherent to RC as well. Observations and information gathered were carefully reviewed. Direct and indirect causes of defects could be identified based on the historical data and the observations made.

Further the attention was drawn on the current practice of Designing of Hospital Buildings in Sri Lanka and an attempt was made to find whether structural and performance issues identified and the maintainability aspect are addressed at the initial design stage.

It was revealed that there is neither detailed registry of GHBs nor detailed building audit of defects being carried out.

The main reason for immerging poor quality building either by new construction or renovation work is the lack of supervision of the work by competent personnel. The Attention on setting up a well-structured Building Management Division which is entrusted clearly with the entire responsibility regarding the GHBs is identified as a necessity in upgrading the condition of GHBs.

A special attention on performance and maintainability aspect of GHBs at the initial design stage has hardly been paid rather than adopting the common practice of designing of all types of buildings.

Despite the constraints in vertically expanding, the government hospital buildings observed are at an acceptable structural condition thus not requiring complete demolition.

Key words: Government Hospital Buildings, Detailed Building Audit, Structural Defects

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LIST OF ABBREVIATIONS

AHB	Annual Health Bulletin
BSR	Building Schedule of Rates
CEB	Ceylon Electricity Board
CECB	Central Engineering Consultancy Bureau
CM	Corrective Maintenance
DVD	Digital Versatile Disc
GHB	Government Hospital Buildings
HDU	High Dependency Unit
JCI	Joint Commission International
LCB	Limited Competitive Bidding
LRH	Lady Ridgeway Hospital
MICU	Medical Intensive Care Units
MR	Maintenance Requests
NCB	National Competitive Bidding
NINDT	National Institute of Nephrology, Dialysis and Transplantation
OPD	Out Patient Department
RC	Reinforced Concrete