

**WORKFORCE MANAGEMENT, SAFETY,
HEALTHCARE AND WELFARE STRATEGIES IN
CONSTRUCTION SITES IN THE CONTEXT OF
COVID-19 PANDEMIC**

BY

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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 my 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. Also, I hereby grant to University of Moratuwa the non-exclusive right to reproduce and distribute my thesis, in whole or in part in print, electronic or other medium. I retain the right to use this content in whole or part in future works (such as articles or books).

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Signature of Candidate

Date

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

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Signature of Supervisor

Date

DEDICATION

This thesis is dedicated to my loving Parents, Wife and Family.

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To complete this research study successfully, a great assistance was received from many people and organizations. Therefore, I use this opportunity to express my sincere thanks to all of them.

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ABSTRACT

As the World Health Organization (WHO) declared the COVID-19 (Coronavirus 2019) outbreak as a pandemic, many countries have declared national lockdown in 2020. This unexpected lock down situation has mainly restricted the movement of people and performance of services. Finally, it has resulted in a full shutdown of the business sector and other industries globally. The construction industry in Sri Lanka is considered a significant sector of the national economy with no exception. Government of Sri Lanka (GOSL) declared an island wide lockdown for 52 days completely due to the COVID-19 pandemic and all the construction projects across the country were shutdown accordingly.

Therefore, the effect of COVID-19 on the construction industry in Sri Lanka will be investigated and analyzed through this research study. The impact for certain areas in the construction sector has been determined and analyzed using the feedback from experts in the industry. For the research study, the effect has been classified into different sectors which include workforce management, health and safety practices, welfare facilities and preparation for emergency and pandemic situations in construction sites. The study was carried out through a questionnaire survey which confirmed that the lockdown of construction sites had a high impact on the site activities, construction methods, management processes, safety and healthcare practices. The findings of this study will help to understand the consequences of a sudden occurrence of pandemic situations in the future and raise awareness in the industry. In addition to that, the outcome will help the project managers to plan for the worst-case scenario during the design and planning stages of construction projects.

It has been considered that Sri Lanka is one of the most vulnerable countries in the world because of the COVID-19 outbreak. Financial System of Sri Lanka is mainly dependent on the foreign investment and trade. Therefore, both direct and indirect impact to the economy and other sectors can be expected including the construction industry. As the COVID-19 pandemic has started to continue since December 2019, lockdowns have been imposed around the globe several times. This has changed the day-to-day physical activities to online activities everywhere. However, it is impossible to perform some activities remotely. For instance, construction activities are not possible to carry out virtually. In addition to that, in Sri Lanka, it is not practical to

maintain social distancing in construction industry as this sector is totally dependent on the manpower. Construction sites had been disturbed by their material supply chains and workforce due to the lockdown situations and various quarantine procedures. Therefore, COVID-19 pandemic has highly disrupted the construction industry in Sri Lanka. As the construction sector contributes a significant amount to the economy of Sri Lanka, it is essential to continue the construction activities according to the health and safety measures while reducing the spread of COVID-19. This research study has found that the workforce has been reduced by 30% to 90% in the construction sector due to the spread of Covid-19. This implies that construction project managers have to forecast and plan the future construction activities considering adequate health and safety measures for workers at construction sites and dormitories while maintaining minimum chances of spreading COVID-19 virus.

This research study is based on the primary data collected from the officials who are from the top management and middle management levels in various construction projects in Sri Lanka through an online questionnaire survey. The outcomes of this study have indicated that there is a significant effect to the construction industry of Sri Lanka due to COVID-19 pandemic. Therefore, effective policies and procedures should be utilized to mitigate the consequence of the Pandemic in the construction industry in Sri Lanka.

Key words: Pandemic, COVID-19, impact, Construction, Sri Lanka

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ABBREVIATIONS AND ACRONYMS

CIDA	-	Construction Industry Development Authority
GOSL	-	Government of Sri Lanka
GDP	-	Gross Domestic Product
ICTAD	-	Institute of Construction Training and Development
MERS	-	Middle East Respiratory Syndrome
PPE	-	Personal Protective Equipment
SARS	-	Severe Acute Respiratory Syndrome
SOP	-	Standard Operation Procedure
SPSS	-	Statistical Package for the Social Sciences
WFH	-	Work-From-Home
WHO	-	World Health Organization