DEPARTMENT OF BUILT ENVIRONMENT STUDIES AND TECHNOLOGY

COLLEGE OF BUILT ENVIRONMENT STUDIES SERI ISKANDAR, PERAK

IMPACT OF CLIMATE CHANGE ON CONSTRUC-TION PROJECT MALAYSIA

Dissertation submitted in partial fulfilment of the requirement for the award of Bachelor of Quantity Surveying (Honours)

PREPARED BY: MUHAMMAD HAIKAL BIN ZAIM
(2022876292)

SEMESTER: MARCH 2021-AUGUST 2024

DECLARATION

"I declare	e that th	is disser	tation	is the	result o	f my	research	and
that	all sou	rces are a	acknov	vledge	ed in the	refe	rences."	

Student signature		
Student name	. MUHAMMAD HAIKAL BIN	ZAIM
Date	· SEPTEMBER 2024	

ABSTRACT

The impacts of climate change have introduced unprecedented challenges to the construction sector, affecting safety regulations and practices on building sites worldwide. This research addresses the multifaceted nature of these climate-related challenges and their implications for workers and project management. The study explores issues construction sites face, such as worker management, scheduling adjustments, and adherence to environmental regulations. Standard procedures like shift work and scheduling have become increasingly complex as construction projects strive to maintain productivity while ensuring worker safety amidst changing climatic conditions. This research aims to foster a safe working environment in the construction industry amid climate change impacts on overall project progress. The two objectives of the research are (1) To identify the impact of climate change on the construction project and (2) To evaluate mitigation strategies for overcoming the impact of climate change on the construction project; a quantitative approach was employed for this research, with questionnaires distributed to G6 and G7 contractor firms in Kelantan. The findings revealed that most contractors strongly acknowledge the challenges related to the impact of climate change on construction projects, such as mental and physical exhaustion, delay of progress, and impact on the construction material. They also strongly agree on the impact of safety measures during climate change, including education and training, hazard prevention and control, and hazard identification and assessment. In conclusion, continuous monitoring and compliance are essential to improve safety and health at construction sites in the face of climate change.

ACKNOWLEDGEMENT

Thank you, Allah S.W.T., for His favour and permission, which allowed me to finish this bachelor's project successfully. First, I want to thank my supervisor for their direction, knowledge, and constant encouragement during this study project. Their insightful comments, helpful criticism, and ongoing support have all been crucial in helping to shape this dissertation.

I sincerely thank all of the study participants whose willingness to give up their time and experiences made this study feasible. Your input enhanced the results of this dissertation and offered critical viewpoints. I also appreciate that Universiti Teknologi Mara Campus Seri Iskandar offered the tools and space I needed to carry out my study. Getting hold of pertinent books and statistics has required access to the library, research databases, and technical assistance.

My friends and family have my eternal gratitude for their unfailing love, support, and faith in me. This trip has been motivated by your patience and support. I also sincerely thank everyone who has helped me advance both academically and personally. Because of every encounter and challenge, I am a different researcher and person.

While it is not feasible to thank everyone individually, your help and contributions are much appreciated. You made this dissertation possible. I appreciate every one of you coming along on our trip and thank you for your invaluable efforts.

Muhammad Haikal Bin Zaim

Table of Contents

DECLARATION	i
ABSTRACT	ii
ACKNOWLEDGEMENT	iii
CHAPTER 1	1
INTRODUCTION TO RESEARCH STUDY	1
1.1 BACKGROUND OF RESEARCH	1
1.2 PROBLEM STATEMENT	2
1.3 RESEARCH AIM	5
1.4 RESEARCH OBJECTIVES	5
1.5 RESEARCH QUESTIONS	5
1.6 IMPORTANCE OF RESEARCH	5
1.7 SCOPE OF RESEARCH	6
1.8 ORGANIZATION OF CHAPTER	6
1.9 SUMMARY OF CHAPTER	7
CHAPTER 2	10
LITERATURE REVIEW	10
2.1 INTRODUCTION	10
2.2 CLIMATE CONDITION IN MALAYSIA	11
2.2.1 Extreme Heat in Malaysia	13
2.2.2 Extreme Rainfall in Malaysia	
2.2.3 High Wind in Malaysia	
2.2.4 Climate Change in Kelantan	
2.3 IMPACT CLIMATE CHANGE ON CONSTRUCTION	17
2.3.1 Impact of climate change on the worker	17
2.3.1.1 Mental and Physical Exhaust	
2.3.1.2 Reduce Workers' Enthusiasm and Concentration	
2.3.1.3 High Wind Cause Accident to Workers	
2.3.1.4 Rain Led to Injuries to Labor	21