

UNIVERSITI TEKNOLOGI MARA

**THE DETERMINANT FACTORS OF
ROOFTOP AS URBAN FARMING IN
HIGH RISE RESIDENTIAL
BUILDING: CASE STUDY AT
GEORGE TOWN, PENANG**

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MSc

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

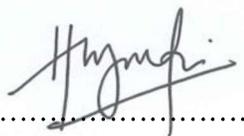
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ABSTRACT

The world's population in urban areas has rapidly grown since 1950 where 30 per cent of the population is in urban areas and the number is projected to grow to 66 per cent by the year 2050. Consequently, the population growth in urban areas leads to the demand for housing in these big cities. A marked increase in building densities occurs and this is indicative of the high values of the land. As more buildings are constructed, the urban area becomes compact and green space is being replaced by concrete jungles. Due to the limitation of the green space on the ground, it is shifted onto rooftops. Thus, the concept of green roof has the potential to be innovated into rooftop urban farming as an alternative in food production. Rooftop urban farming is one of the significant urban food productions in the urban area which contributes to food security. This research presents the ideas in implementing urban farming on the rooftop areas. The emergence of urban farming in handling urban problems mainly in food production is one of the methods in the initiative to develop a sustainable environment. However, the concern is to investigate an alternative way for urban dwellers to achieve resilience through urban farming. The researcher aims to identify the potential of utilizing rooftops for the residents to self-produce food (individually) and implement urban farming (cumulatively), in the high-rise residential building areas. Furthermore, the research objectives for this study are i) to investigate the potential space of rooftop areas as urban farming in high rise residential buildings and ii) to identify the determinant factors for the residents to be involved in rooftop urban farming in high rise residential building. The case study areas are more specifically located in Seksyen 5, George Town, Penang. The selection of building was focused on the residents' condominiums which is Kristal Height Condominium and Greenlane Height Block A. The method was to investigate the potential to implement urban farming on the rooftop areas. This study adopted a quantitative method using the questionnaires to conduct a survey. 300 sets of questionnaires were distributed to the residents in these high-rise residential condominiums. However, only 274 sets were returned to be analyses. The collected data were then compiled using the Software Package for Social Science (SPSS). The analysis carries out through SPSS are the reliability test, descriptive analysis, and Spearman Rho correlation analysis. Findings showed that the availability of space is a significant factor in the implementation of rooftop urban farming. While for the findings on the determinant factors for the residents to get involved in rooftop urban farming in high-rise residential building, the most significant are the support factors followed by the human factors; natural factors; factors in the availability of time; interest factor; the knowledge or understanding factors and the involvement factor. Finally, the implementation of rooftop urban farming in these areas has the potential to be developed based on the findings from this research.

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TABLE OF CONTENTS

	Page
CONFIRMATION BY PANEL OF EXAMINERS	ii
AUTHOR'S DECLARATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF PLATES	xiii
LIST OF ABBREVIATIONS	xiv
CHAPTER ONE INTRODUCTION	1
1.1 Research Background	1
1.2 Problem Statement	3
1.3 Research Questions	4
1.4 Research Aims	4
1.5 Research Objectives	5
1.6 Scope of Research	5
1.7 The Limitation of Research	6
1.8 Significance of Study	6
1.9 Outline of Thesis	7
CHAPTER TWO LITERATURE REVIEW	9
2.1 Chapter Overview	9
2.2 The Population and Urbanization Growth	9
2.3 The development of green roof in urban area	14
2.4 The Raising Concern on Urban Farming	19
2.4.1 Classifications of urban farming	22
2.4.2 The typology and scales of urban farming	24
2.4.3 The benefits of urban farming in urban areas	26