

**UNIVERSITI TEKNOLOGI MARA**

**DESIGN, ANALYSIS AND  
FABRICATED OF DUSTBIN 5R**

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## **ABSTRACT**

Dustbin 5R is a project that the target is for user who has small garden in their house. This project is to implement 5R factors in people's daily life which is reuse, reduce, recycle, refuse, and rot. By using this factors that will be implement in the dustbin that will be called as dustbin 5R. Also, with the fabrication of dustbin 5R it will improve the productivity of management food waste in Malaysia. Malaysia with the fast-growing population by years need a new alternative to reduce the spreading of Carbon dioxide and Gas methane that will produce by the food waste. The main objectives to fabricate this project is to differentiate between food waste and general waste that are produce in home. The total size of this project is 500mm x 500mm x 600mm. In conclusion, the expected result from this product is that the product can fully function mechanically. Also, the product can act as a tool that will benefit user to differentiate food and household waste. Therefore, dustbin 5R can give awareness to human about the impact of food waste towards their daily life. Hence, with this product it will facilitate consumers who have plants and flowers so that they do not have to buy fertilizer from outside when they can produce the organic fertilizer from their house. for this project is that it can help user to differentiate between food waste and general waste and it will help user to produce their own organic fertilizer by using food waste that are will be produce at home.

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# TABLE OF CONTENTS

	<b>Page</b>
<b>CONFIRMATION BY SUPERVISOR</b>	<b>ii</b>
<b>AUTHOR'S DECLARATION</b>	<b>iii</b>
<b>ABSTRACT</b>	<b>iv</b>
<b>ACKNOWLEDGEMENT</b>	<b>v</b>
<b>TABLE OF CONTENTS</b>	<b>vi</b>
<b>LIST OF TABLES</b>	<b>viii</b>
<b>LIST OF FIGURES</b>	<b>ix</b>
<b>LIST OF ABBREVIATIONS</b>	<b>xi</b>
<b>CHAPTER ONE: INTRODUCTION</b>	<b>12</b>
1.1 Background of Study	12
1.2 Problem Statement	13
1.3 Objectives	14
1.4 Scope of Study	14
1.5 Significance of Study	15
<b>CHAPTER TWO: LITERATURE REVIEW</b>	<b>16</b>
2.1 Benchmarking/Comparison with Available Products	16
2.2 Related Manufacturing Process	17
2.3 Sustainability/Ergonomic Related Items	17
2.4 Patent and Intellectual Properties	18
2.5 Summary of Literature	

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of Study

The management of food waste in Malaysia continues to be a major challenge in our country. With fast-growing cities, ballooning population and a developing country like Malaysia are facing numerous challenges in sustainably managing wastes, especially in handling solid waste such as food waste. In general, food wastes have continued to increase in recent years in Malaysia. According to the Ministry of Housing and Local Government (MHLG), food wastes have outstripped other solid wastes generated in Malaysia, constituting more than 50 percent of the total wastes disposed in 2019. From the MHLG data, food wastes disposed from households were more than other sources. Therefore, from this data it shows that in Malaysia people will continue to increase food waste from time to time since human have to keep growing with food. Also, the environmental impacts of food waste are enormous, including climate change, and affects human health when disposed at unsanitary landfills [1].

To begin with Gas Methane that contribute to carbon dioxide will be produced by the waste of food that we sent to the garbage dump. Therefore, the purpose of this study is to improve the current status of food wastes management in Malaysia towards sustainable food waste for households. To achieve that aims and objectives of this study, an analysis has been made with the outcome of implement 5R's Zero waste to a dustbin. With the outcome of this study, it can be concluded that these variables of households' food waste management, environmental knowledge and environmental awareness still facing difficulties. Hence, in order to reduce food waste with sustainable food waste management for households' levels, this analysis will show how the dustbin 5R improve the food waste management for households [2].