

**STUDY ON CURRENT PRACTICE OF SOLID WASTE
MANAGEMENT SYSTEM IN GAMBANG RESIDENTIAL
AREA KUANTAN, PAHANG**

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LIST OF ABBREVIATIONS

3R	Reduce, Reuse Recycle
EPA	Environmental Protection Act
MSW	Municipal Solid Waste
SWM	Solid Waste Management
SWPCM	Solid Waste and Public Cleansing Management
USEPA	U.S Environmental Protection Agency

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ABSTRACT

Nowadays, the Municipal Solid Waste is the one of the environmental problem that needed to give attention in Malaysia. The total amount of waste generated continues to increase in response to rapid increasing in population, urbanization and industrialization process. This research aims to identify the different type of solid waste from residential area in Gambang, Kuantan Pahang and to reduce the total amount of waste generated for sustainable waste management. Sources of the data and information are gathered by the researcher from the literature review of previous researches, published articles, and academic writings and provided suggestions to improve MSW management system in Malaysia. The standard procedure was followed to conduct the research. This study found that there were 6 types of residential waste such as food waste, paper, glass, plastic, tin or aluminium and others. The percentage of the solid waste was about 53 to 63 of food waste, 6 to 8 of papers, 8 to 11 of plastics waste, 4 to 7 of glass, 6 to 8 aluminium and others waste was about 13. Hence these studies suggest that effort to improve awareness of the population involved and practicing to reduce the waste produce, reuse and the use of recycling bins and sorting of solid waste in order to preserve the environment.

ABSTRAK

Pada masa kini, Sisa Pepejal Perbandaran adalah salah satu masalah alam sekitar yang perlu memberi perhatian di Malaysia. Jumlah sisa yang dihasilkan terus meningkat sebagai tindak balas kepada pesat meningkatkan penduduk, urbanisasi dan proses perindustrian. Kajian ini bertujuan untuk mengenal pasti jenis yang berbeza sisa pepejal dari kawasan kediaman di Gambang, Pahang Kuantan dan untuk mengurangkan jumlah sisa yang dihasilkan pengurusan sisa mapan. Sumber data dan maklumat yang dikumpulkan oleh penyelidik daripada kajian literatur penyelidikan sebelumnya, artikel yang diterbitkan, dan tulisan-tulisan akademik dan cadangan yang diberikan untuk memperbaiki sistem pengurusan MSW di Malaysia. Prosedur standard diikuti untuk menjalankan penyelidikan. Kajian ini mendapati bahawa terdapat 6 jenis sisa kediaman seperti sisa makanan, kertas, kaca, plastik, tin atau aluminium dan lain-lain. Jumlah peratusan sisa pepejal adalah kira-kira 53 hingga 63 daripada sisa makanan, 6 hingga 8 daripada kertas, 8 hingga 11 daripada sisa plastik, 4 hingga 7 daripada kaca, 6 hingga 8 daripada aluminium dan lain-lain sisa adalah kira-kira 13. Oleh itu kajian ini mencadangkan bahawa usaha untuk meningkatkan kesedaran penduduk yang terlibat dan berlatih untuk mengurangkan hasil sisa, guna semula dan penggunaan tong kitar semula dan mengasingkan sisa pepejal bagi memelihara alam sekitar.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Solid waste management continues to be a great challenge in the town around the world, particularly in rapidly growing towns and cities in the developing world. In fact, the lack of a solid waste management system that efficiently and effectively has a negative impact on the environment. Municipal solid waste (MSW), commonly known as refuse or rubbish, is discarded from residential, commercial, and institutional areas (Ngoc, 2009). Most of municipal solid waste comes from residential areas, commerce and other sources (Shekdar, 2009).

The average per capita generation of solid waste in Malaysia generation of MSW has increased more than 91%. In 2001, estimated 5.475 million tons of solid waste generated which is about 0.81 kg/capita/day while in main cities, the figure escalated to 1.7 kg/capita/day depending on the economic and geographical status of the area. Increasing population, changing consumption patterns, economic development, changing income, urbanization and industrialization result in increased generation of solid waste and also a diversification of the types of the solid waste generated (Ngoc, 2009). While in urban areas in Malaysia average of solid waste generated is 760,000 tons of solid waste per day as compared to the total 1.8 million tonnes per day in the year (Tarmudi et al., 2009).

Malaysia has become one of the world's highest waste generation of about 25, 000 metric tons of domestic waste per day by a population of over 29 million in 2012 (Yahaya, 2013). Waste cannot responsibly be dumped without due concern and preparation, because not only is it unsightly, unhygienic, and potentially disastrous to our environment, it also requires the allocation of space and incurs costs related to the consequences of the waste disposal (Ngoc, 2009). These wastes disposed of in 230 landfills in the country. Of these, only 7 are sanitary landfills while the rest is open dumps. However, about 80% of these landfills have reached full capacity and will not operate again.

Waste generation is increasing day by day. This is because there is no proper place to dispose of the waste in the right place or not systematic waste management system. In addition, there is also a lack of awareness about the importance of solid waste management to the public. People do not care about the act and regulations on the management of solid waste illegally. The operation of waste storage, collection and disposal of solid inappropriate practices involving a risk to public health and the environment (World Resources Institute 1996). If not maintained properly, it will cause severe problems to the public and the environment.

Therefore, the government has urged that action be taken if the population does not carry out the practice of segregation of solid waste into a plastic bag before throwing it in the garbage by type is provided. 3R program underway to train, raise awareness and inform the public about the importance of recycling. The 3R usual terms used in waste management; they stand for the "reduce, reuse, and recycle". Due to increased waste generation, increased processing costs, and decreasing landfill space available, three R`s has become a core principle in sustainable waste management efforts (Tudor et al., 2011).

1.2 Problem Statement

As the problem statement of the solid waste management at the study area is not good enough. From the previous research statement the residential area is a source of domestic solid waste generation is high compared with most other areas and recognized by Zulkiflee, (1997).

According to survey, the population is expected to grow Kuantan to about 488,409 in 2015 to 2.68% annual population growth rate. People living in the town had increased to 60% of the population due to urban expansion of new and existing administrative boundaries (Hamzah H, 2013).

With the country's rapid economic growth and rapid development in big cities has contributed to an increase in solid waste generation in certain areas. Thus the rate of increase in urban population kuantan also contributed to the increase in the generation of solid waste. This is extremely worrying because it is believed will be worse if the minimization of waste is not practiced by every household. The way humans respond and co-operate on waste management issues is basically influenced by their education (Agamuthu, 2009).

The lack of the knowledge in the society about the importance of the solid waste negatively affects solid waste practices in their household. What we can see, the knowledge is important to predict waste segregation behaviour. Basically increasing knowledge will translate into a change in behaviour. Knowledge of household segregation is about where, what, when and how to practice in a real life (Tunmise A et al, 2014).

In Malaysia, environmental awareness among the public generally is still not adequate. The factor of gender, peer influence, land size, location of household and membership of environmental organization explain household waste utilization and separation behavior (William et al, 2009). Improving Malaysian awareness should be given

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