

Recycling Perception and Practice in Shah Alam Municipality

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Abstract—The success of solid waste management depends on the participation of household in waste segregation. The attitudes and behavior on recycling should be implemented from home in order for the country to achieve the target of national recycling target. This study was carried out to survey the awareness on the importance of recycling and to make recommendation to improve recycling practice among 100 householders in Shah Alam municipality. All of the respondents will be needed to answer the questionnaire form provided. The respondents were selected from the ‘Zero Waste’ program conducted by *Majlis Bandaraya Shah Alam (MBSA)*. The data was analysed by using Statistical Package for the Social Sciences (SPSS). Analysis show that most of the householders are not practicing recycling at home and are not aware of the consequences of not doing so. This may suggest that there is still a long way to go in educating the society for a sound solid waste management in the country.

Keywords— *Attitude, Environment, Recycling Perception, Recycling Practice.*

I. INTRODUCTION

The overall solid waste composition in Malaysia is dominated by municipal solid waste (64%) with the remaining consists of industrial waste, commercial waste, and construction waste (EA-SWMC, 2009). Typically, municipal solid waste includes all community waste (Tchobanoglous et al., 1993), which mainly refers to household waste. In 2007, with population of over 25 million, Malaysian households generate approximately 18,000 tons of household waste on daily basis (Ong, 2007).

Solid waste generation increases more than 90% for every 10 years (Abdul Jalil, 2010) with the growing population in Malaysia (Agamuthu and Fauziah, 2011). The least preferred disposal method is landfilling, as waste should be separated and treated (physical, chemical, or biological treatment) but these options are costly and time-consuming (Grodzinska-Jurczak, 2001). Landfill is one of the cheapest and commonly used as final destination to dispose the waste (Idrus MM, Mohd Baharudin R, Shahabudin M, Rashidah A, 2008). However, Malaysia relies heavily on open dumping and landfills, where most of these sites have exceeded its operating capacity, resulting to serious environmental and social threats (Latifah et al., 2009).

As solid waste collection services are provided in urban areas and certain adjoining rural areas, the management of solid waste among households in rural areas becomes self-reliant through burial or open burning, which to some extent, contributes to illegal dumping as well (Latifah et al., 2009).

It was estimated that solid waste generation by 2020 is 30,000 tons however in 2012, 33,000 tons per day are generated by Malaysians (Mokhtar, 2013; SWCorp, 2014). With significant advancement of living standards, it is inevitable that solid waste

generation increases over the years without any transformation in the attitudes and habits of Malaysians in managing their waste.

The rate of recycling remains low and it lacked of public response and participation due to several factors such as incapability to sustain the programs among most of the local authorities; low demand for recyclable materials; poor collection services; ineffective awareness program; and lack of policy and master plan focusing on recycling (Moh and Latifah, 2014).

Therefore, Shah Alam City Council (MBSA) has taken an initiative to start the recycling program at few zones of housing area since 1st October 2015. More places should be implemented with this program, in order for recycling education to be more effective in generating future citizen with fully supportive of environment preservation idea. Recycling programs have been conducted by various stakeholders including government sector and private sector to reduce waste generation from being disposed into the landfill (Nur Khaliesah Abdul Malik, 2015).

Thus, this study will be used to increase awareness of importance of recycling and to make recommendations to improve recycling practice in Shah Alam municipality.

II. METHODOLOGY

A. Research Design

A recycling program conducted by Majlis Bandaraya Shah Alam (MBSA) has been introduced to few areas in Shah Alam. Five sections have been chosen in order to give out the questionnaire to the householders. The sections are section 7, section 8, section U13, section U8 and section 19. Each area will have 20 respondents being picked randomly in order to answer few questions provided. The questionnaire consist of two parts where the first part of the questions were related to demographic profile of the respondents and the second part is the structural questions in which consist of ten multiple choice questions.

The pilot study has been conducted by selecting 10 respondents among the residents in study area. The questionnaire has been validated by supervisor prior to the actual data collection in order to obtain the authentic and useful information for this study. The reliability of questionnaire for pilot study were analysed by using reliability test in IBM SPSS Statistic Software. The Cronbach's Alpha coefficient has a good internal consistency and preferable where the value scale was 0.82.

100 questionnaires were distributed by using the national language, which is *Bahasa Melayu* in order to ease the respondents, to answer all of the questions. The period of the data collection happened within 3 months period from 20th March 2017 until 2nd June 2017. After the data has been collected, all information was analysed by using the SPSS software in order to see the householders' attitude and knowledge towards recycling. From the survey, the participation of the community towards the Zero Waste program and their knowledge are discussed in the section A) Demographic questions and B) Multiple choice questions.

III. RESULTS AND DISCUSSION

A. Cross tabulation of demographic questions

Based on the data that has been tabulated, the total of 100 respondents was received from all sections. Each section contribute even number of respondents which is 20 respondents. The gender of respondents from each section was not being strictly selected.

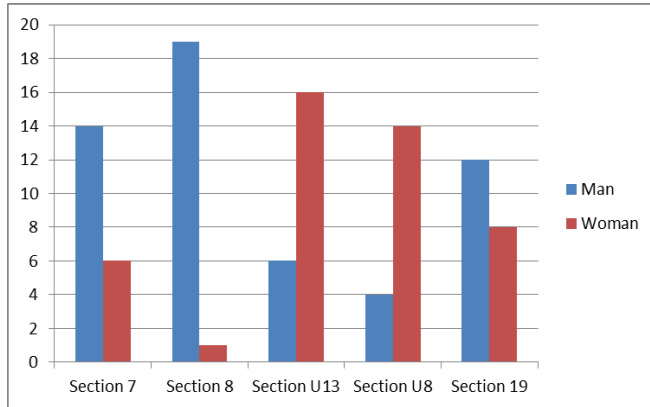


Figure 1: Cross tabulation between living area and gender

The race of the respondents was observed. From a total of 89 respondents were Malay, 6 respondents were Chinese, 3 respondents were Indians and only 2 respondents were other races.

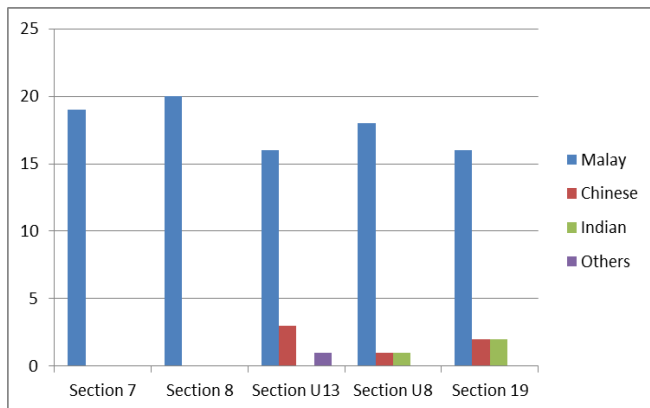


Figure 2: Cross tabulation between living area and race

The respondents were also surveyed on their education level. 98% respondents were all university graduates and only 2% respondents finished secondary level..

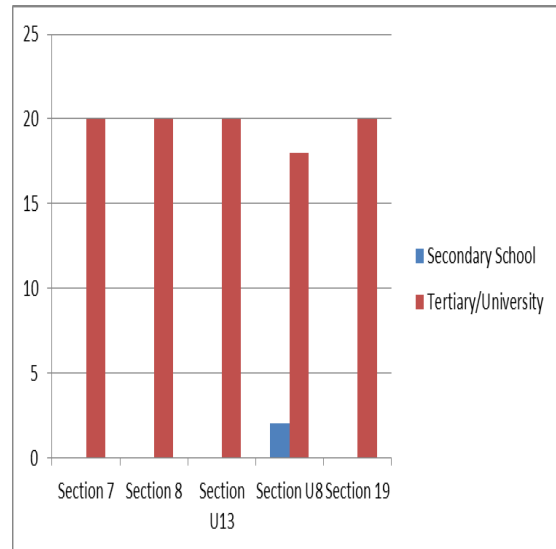


Figure 3: Cross tabulation between living area and education level

The groups of age of the respondents that have answered the questionnaire are 75% in age group 19 to 24 years old. 11% of the respondents are in age group 41 to 50 years old, 8% are from 25 to 30 years old, 4% are from 31 to 40 years old and only 2 % are from 51 to 60 years old. Most of the respondents who live in the area are most likely to be students.

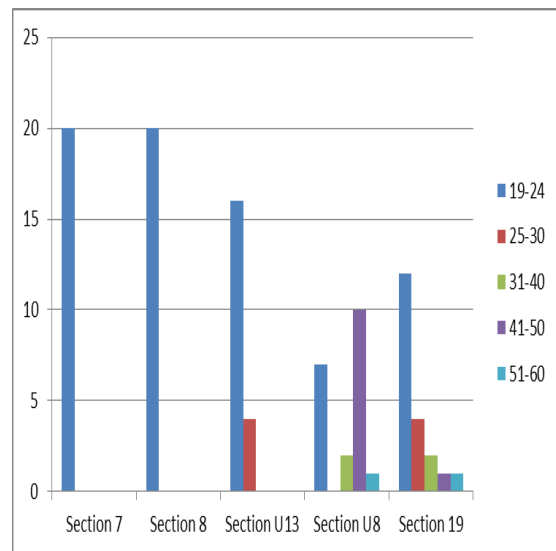


Figure 4: Cross tabulation between living area and age group

B. Multiple choice questions

Question 1 was asked to the respondents in order to determine the knowledge of the respondents on what is municipal solid waste. 84 out of 100 of the respondents were mostly able to recognise what is the municipal solid waste. Only 16 respondents do not know what is municipal solid waste.

Table 1: Question 1: Do you know what municipal solid waste is?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	84	84.0	84.0	84.0
No	16	16.0	16.0	100.0
Total	100	100.0	100.0	

The numbers of respondents that have answered the question on whether they know where solid waste being disposed, are almost even. This shows an uncertainty of knowledge of the respondents, on where does solid waste being disposed. 55% of the respondents seem to know where the solid waste will be disposed, and 45% of them do not know.

Table 2: Question 2: Do you know where will the municipal solid waste will be disposed?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	55	55.0	55.0	55.0
No	45	45.0	45.0	100.0
Total	100	100.0	100.0	

A question was asked in order to determine whether the respondents know about the effect of having piled of solid waste. This question can be answered by multiple answers. Therefore, a respondent may answer yes to all answers provided. From the tabulated data, there 48.2% of them answered that the community could not live in a certain area that was close to solid waste due to the unpleasant smell. 42% of them answered that the designated landfills could not carry a number of solid wastes that are being produced. Only 10.6% of them answered that housing and industrial area cannot be developed in the future. This shows that, only few of the respondents know the impacts of having a large amount of solid wastes unmanaged properly.

Table 3: Question 3: What problem will arise if there are pilings of municipal solid waste?

	Responses	Percent of Cases
	N	Percent

1.	Community will not be able to live in the area due to the unpleasant smell	68	48.2%	68.0%
2.	The designated landfill area will not be able to hold the amount of solid waste in the future	58	41.1%	58.0%
3.	Housing and industrial area cannot be developed in the future	15	10.6%	15.0%
Total		141	100.0%	141.0%

a. Dichotomy group tabulated at value 1.

The tabulated data from table 4, 82% of the respondents says they know about the waste that could be recycled. 5% of the respondents do not know and 13% of them were not sure about it.

Table 4: Question 4: Do you know what type of municipal solid waste that could be recycled?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	82	82.0	82.0	82.0
No	5	5.0	5.0	87.0
Not Sure	13	13.0	13.0	100.0
Total	100	100.0	100.0	

This question is to determine whether the respondents are doing recycling activity from home. From the tabulated data, 63% of the respondents do not practice the recycling activity and only 37% of them were doing so.

Table 5: Question 5: Do you segregate the municipal solid waste that could be recycled?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	37	37.0	37.0	37.0
No	63	63.0	63.0	100.0
Total	100	100.0	100.0	

Question 6 above was asked to determine the number of respondents who did waste segregation at home. The large gap can

be seen between respondents that answered yes to the statement that the solid waste management is a shared responsibility. 96% of them answered yes and only 4% answered no.

Table 6: Question 6: Do you agree that the responsibility of the management of solid waste is a shared responsibility?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	96	96.0	96.0	96.0
No	4	4.0	4.0	100.0
Total	100	100.0	100.0	

Zero waste programme is a programme that has been introduced by the authorities; MBSA to enhance the residents in Shah Alam to practice recycling behavior. From the responds received, 66% of the respondents did not practicing recycling activities, whereas 25% of them rarely did so. Small number of respondents, which is 9% were diligently practicing recycling at home. Despite of having awareness on the impact of poor management on solid waste, the respondents are still reluctant on doing recycle activity, even though they have been encouraged to doing so.

This research on question 8 has been conducted on the area that MBSA has launched the programme of zero waste. All questionnaires were given to the residents of the selected area. Despite of living in the selected area, 56% of the respondents said that they never had the information on how to recycle from the authorities. 35% of them never joined any campaign conducted by MBSA and again, only small amount of them received such information, which is 9%. This reflects the poor attitude of the respondents, who were neglecting the importance of recycling.

Table 7: Question 7: Do you actively involve yourself in the "Zero Waste" campaign conducted by the *Majlis Bandaraya Shah Alam* (MBSA)?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	9	9.0	9.0	9.0
No	66	66.0	66.0	75.0
Rarely	25	25.0	25.0	100.0
Total	100	100.0	100.0	

Table 8: Question 8: Have you received enough information regarding recycling method from MBSA?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	9	9.0	9.0	9.0
No	56	56.0	56.0	65.0

Never been to any of the campaign conducted by them	35	35.0	35.0	100.0
Total	100	100.0	100.0	

From the statement given to the respondents which is, do they think that if solid waste were being properly managed, the community will be able to live in harmony and comfortable, 100% of them do agree to the statement

Table 9: Question 9: Do you agree that if there are good municipal solid waste management, the community will live comfortably, harmony and more prosperous?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	100	100.0	100.0	100.0

IV. CONCLUSION

Towards achieving the national recycling target of 22% by the year 2020, the household area that has been implemented by the recycling programme by the authorities, need to give cooperation in order to achieve the goal of national recycling target. This study has revealed the overall finding results based on the presented analysis result concluded that; A) the community participation level in recycling programme in Shah Alam is very poor and this shows with the uncertainty of the materials that could be recycled from household.; B) although the respondents have been given enough information on the programme, their poor attitude to cooperate inhibit the ineffectiveness of the programme. Future researchers could explore the best way to implement the recycling habit in the community and enhance the participation in the programme.

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