



Awareness among Terrace House Residents in Shah Alam towards Domestic Waste Recycling

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Abstract

About thirty per cent of our domestic waste is recyclable, hence, can be sustainably processed rather than disposing through incinerators and at landfills. Waste reduction and recycling activities are no longer an option but a necessary step to achieve a healthy life style and at the same time protecting our environment. Recycling can save more energy than burning waste because its process is simple and less pollution. This research is to measure recycle knowledge and awareness level of sample residents in Shah Alam, and their priorities or supports towards sustainability. The findings will help the authority to address the issue.

Keywords: Recycle; domestic waste; recycle knowledge; sustainability

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DOI: <https://doi.org/10.21834/jabs.v3i7.252>

1.0 Introduction

Malaysians are reported to generate domestic waste at an alarming rate, which is faster than the natural degradation process would be, and they consumed resources at a speed exceeding the rate these materials could be replaced. Even though "Recycling" has been accepted world wide as a form of waste disposal, Malaysia's domestic recycling rate is still low at about five per cent (Chandravathani, 2006). Moreover, about thirty per cent of our domestic waste is recyclable, and hence, can be sustainably processed rather than disposing through incinerators and at landfills. Waste reduction and recycling activities are no longer an option but a necessary step to achieve a healthy life style and at the same time protecting our environment. Recycling can save more energy than burning waste because its process is simple, less pollution and producing more new things from waste materials.

According to Jamal Othman (2002), Malaysia happens to produce the most municipal solid waste among selected Asian countries, beating the highly populated country Japan. Educating people on waste disposal and recycling is rather difficult because most of them are not comfortable or trained in doing so. The best approach to manage garbage disposal is to avoid creating wastes in the first place (Siraj, 2006). In which they say, "prevention is better than curing". If we educate and expose our children the importance of recycling at their tender age, hopefully it will be a habitual activity when they grow up.

This research is to measure the recycle knowledge and awareness level of sample residents in Shah Alam, and their priorities or supports towards sustainability in general. The study is also to seek the suitable method of disseminating information with regards to recycling among the residents.

1.1. Significance of the Study

The following study will help future designers to relate to the issues users have in recycling with a typical terrace house layout.

The study will help to increase the awareness among the government and other environment related organizations with regards to recycling problem faced by the residents.

The study will also identify the most effective way/s to spread about recycle and recycle practice.

2.0 Literature Review

Landfill is dumping rubbish in the ground or in waste mountains, which release toxins. This threatens our quality of life (Friends of the Earth Trust Limited, 2008). Improper disposal of Municipal Solid Waste into landfills not only creates conducive environment for pests like flies, rats and others but also pollutes the ecosystem with the release of leachate (Fauziah and Agamuthu, 2005).

Recycling has almost drawn the universal acceptance as a form of waste disposal but yet our national domestic recycling rate still hovers at around a mere five per cent. More than 30 per cent of our garbage is recyclable, and these materials can be prevented from ending up in landfills and incinerators (Bernama, 2006). Definition from Wikipedia (2012); recycling involves processing used materials into new products to prevent waste of potentially useful

materials, reduce the consumption of fresh raw materials, reduce energy usage, reduce air pollution (from incineration) and water pollution (from landfill) by reducing the need for "conventional" waste disposal, and lower greenhouse gas emissions as compared to virgin production.

According to Arms (2011), "recycling is a process, a series of activities that include: the collection and sorting of waste materials, the processing of these materials to produce brand new products, and the purchase and use of these new products by consumers".

3.0 Methodology

Research design

Questionnaires and interviews provide primary data, while literature reviews provide the secondary data. The sampling frame for this study will be any terrace houses in Shah Alam selected randomly by convenience. The study is limited to a two-storey terrace houses type at Shah Alam. According to Salkind (2003), the appropriate sample size should be more than 30 or less than 500. Therefore, for this research, there will be 10 respondents from each three types of terrace houses in three different locations that will sum up to 30 respondents.

Survey Instrument

The survey instrument used for data collection is a questionnaire. It will be designed as precisely as possible for respondents to be able to answer the questions easily. The questionnaire will be distributed by hand to each respondent involved in this research. Interviews will be carried out when necessary to selected respondents who have additional information.

4.0 Results and Discussions

The results were from the questionnaire distributed to occupants living in a double storey house at Shah Alam, specifically Section 7, Section 8 and Section 9, as the target respondents are from families of total monthly income more than RM3000.

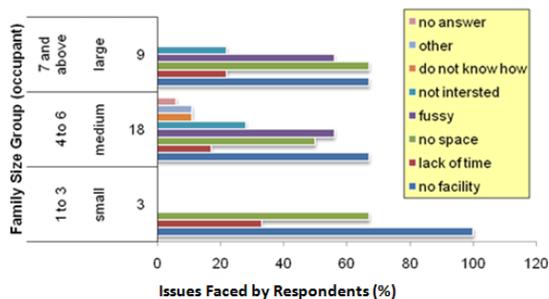


Fig. 1. Percentage of Issues Faced by Respondents among Family Size Groups

With reference to Fig.1, all of the respondents from a small family size have the issues of no facility for waste separation, 67% have no space, and 33% lack of time. Meanwhile, respondents from a medium family size have issues of no facility for waste separation (67%), fussy (56%), no space at home (50%), not interested (28%), lack of time (17%) do not know how (11%) and 1 respondent (6%) from the 30 respondents did not answer. Respondents from large families have issues of no facility for waste separation (67%), no space at home (67%), fussy (56%), lack of time (22%) and not interested (22%).

Small size families were mostly spending less on groceries, school fees and others. This phenomenon may influence on their way of life of being a bit luxury than other big families which may make them ignorant to small things. This was based on their respond to the question by stating that there is no facility for waste separation located at their area, despite the fact that there is a 3-minute-drive to the facility for waste separation. Meanwhile, medium and large families have been expected to have issues of no space at home due to their numbers of occupants. Majority also stated fussy as one of their issue. This may be due to difficulties in organizing their own families and dwellings.

Fig. 2 indicates that all of the 3 respondents from the low income group (monthly 0 – RM2999) has an issue of no facility for waste separation. Half of them also have issues of lack of time and do not know how to recycle.

Meanwhile, 13 respondents that form the medium income group (monthly RM3000 – RM11999) has issues of no space at home (62%) and fussy (62%). Other issues are not interested (15%), others (15%) and one did not answer (8%). They also have issues of no facility for waste separation but only half (54%) of the respondents posed it compare to lower income group which total up to 100%. Respondents from this category also have issues of lack of time (8%) and do not know how to recycle (8%). Both are surprisingly lower than respondents from the low income group.

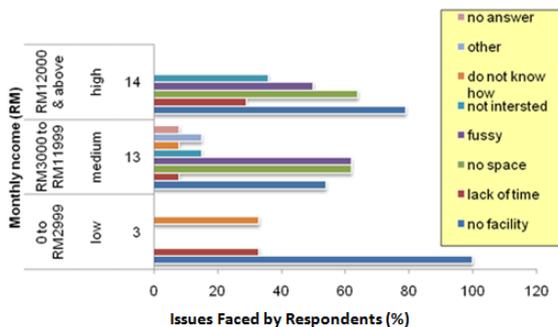


Fig. 2. Percentage of Issues Faced by Respondents among Monthly Income Groups

The 14 respondents from the high income group (monthly RM12000 and above) as expected to have issues of fussy (50%), uninterested in practice recycling (36%) and lack of

time (29%). They also have other issues of no space at home (64%) and no facility for waste separation (79%).

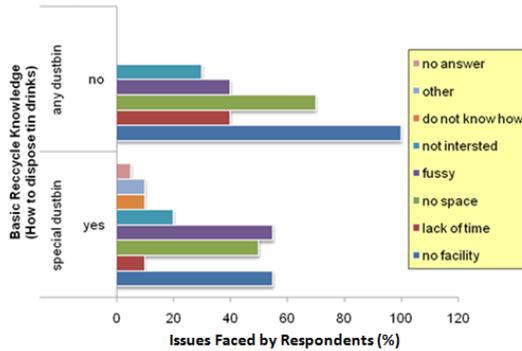


Fig. 3. Percentage of Issues Faced by Respondents according to their Basic Recycle Knowledge of Disposing Tin Drinks

Fig. 3 is a bar chart indicating the percentage of issues faced by respondents according to their basic recycles knowledge. The basic recycle knowledge is tested by asking a small quiz in the questionnaire of how to dispose tin drinks, either in any dustbins or special dustbins for aluminum. If respondents answered in any dustbins, the respondent is categorized as no basic recycle knowledge. Meanwhile, if they answered tin drinks are to dispose in special dustbins, respondents are categorized to have basic recycle knowledge. As expected, all respondents that do not have basic recycle knowledge answered no facility for waste separation. Other issues faced by are no space at home (70%), lack of time (40%), fussy (40%) and not interested (30%). Respondents seem to be ignorant, similar to respondents from the small family size.

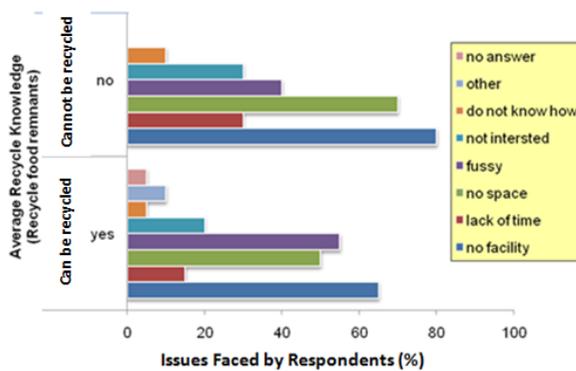


Fig. 4. Percentage of issues faced by respondents according to their Basic Recycle Knowledge of Food Remnants

Half of the respondents that have basic recycle knowledge also has issues of no facility for waste separation (55%), fussy (55%) and no space at home (50%). Other issues are not interested (20%), lack of time (10%), do not know how to recycle (10%), others (10%) and one did not answer (5%). These issues only sum up to the maximum of 55% making them not as distinct as the sum that came up with respondents with no basic recycle knowledge.

Fig. 4 shows the percentage of issues faced by respondents over the average recycle knowledge. The average recycle knowledge is tested by asking a question about recycling food remnants. If respondents answered the remnants can be recycled, they are categorized to have the average recycle knowledge. Meanwhile, if they answered cannot be recycled, they do not have an average recycle knowledge. The figure shows respondents that have the average recycle knowledge have issues of no facility for waste separation (65%), fussy (55%), no space at home (50%), not interested (20%), lack of time (15%), others (10%), do not know how to recycle (5%), and one did not answer (5%). As expected, majority of respondents that do not have the average recycle knowledge claimed to have no facility for waste separation (80%). Other issues faced by are no space at home (70%), fussy (40%), lack of time (30%), not interested (30%), and do not know how (10%). The results happened to be similar to issues faced by respondents according to their basic recycle knowledge (Fig. 4).

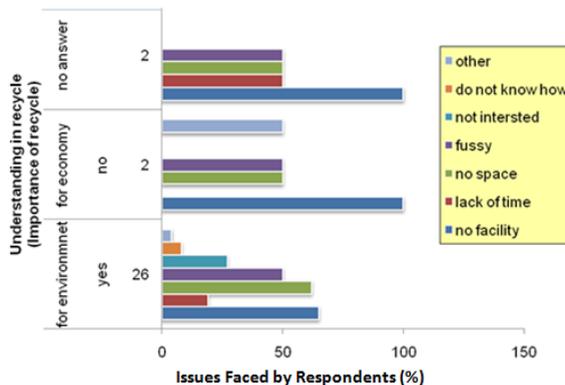


Fig. 5. Percentage of Issues Faced by Respondents according to their Understanding in Recycle

Fig. 5 shows the percentage of issues faced by respondents according to their understanding in the importance of recycle. Respondents that really understand on the importance of recycle will answer “recycle is important for the environment”. In this case, 26 respondents are grouped in this category. They posed that no facility for waste separation is provided at their area (65%), no space at home to recycle (62%), fussy (50%), not interested (27%), lack of time (19%), do not know how (8%), and others (4%).

Out of 30 respondents, two of them understood recycle differently. They do not understand the main idea of recycle. They understood that “recycle is important for the economy” instead for the environment. As expected, they all claimed that no facility for waste separation is provided, maybe due to their ignorant in understanding the real reason of recycling, making them also ignorant in knowing the existence of facility near their house. They also claimed that they did not recycle due to no space at home (50%), fussy (50%), and others (50%).

There are two other respondents that did not provide an answer to the question and they both claimed that they did not recycle due to no facility for waste separation, lack of time (50%), no space at home (50%), and fussy (50%).

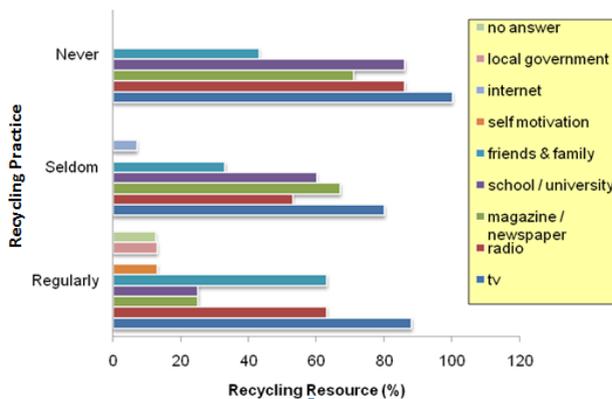


Fig. 6. Percentage of Recycling Resource according to their Recycling Practice

Fig. 6 is a bar chart showing the percentage of recycling resource according to their recycling practice. Most of the respondents that practiced recycle regularly apposed that they receive recycling information through TV (88%), radio (63%), and friends & family (63%). Others are printed media (13%), institutional (13%), and one did not answer (12.5%).

Meanwhile, respondents that seldom practice recycle claimed they receive recycle information through TV (80%), printed media (67%), institutional (60%) and radio (53%). Others are friends & family (33%), and internet (7%). All respondents that never recycle claimed that they received recycle information from TV. 86% noted that they heard about recycle from radio and printed media (71%), and friends and family (43%).

It can be seen that TV being acclaimed as the most common mode of disseminating recycling information among all of the 3 groups. Fig. 7 shows the percentage of most impact recycling source to respondents according to their recycling practice. Majority of the respondents (60%) that regularly practiced recycle were most effective by family and friends. Others are TV (13%) and institutional (13%). Meanwhile, those seldom practice recycling

claimed that the most effective recycling source is TV (53%). Others are institutional (27%), printed media (12.5%) and 7% respondents claimed from radio, friends & family, and internet.

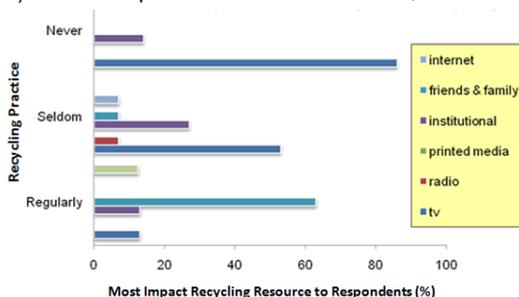


Fig. 7. Percentage of Most Effective Recycling Source to Respondents according to their Recycling Practice

Respondents that never practiced recycling claimed TV (86%) as the most effective recycling source. A few of 14% stated from institutional. Those answered by these respondents are not workable. Meanwhile, as expected, the best way to convey recycle is among family and friends, this was due to their highest choice among respondents that practiced recycling regularly.

Fig. 8 indicates respondents' basic knowledge among the percentage of their highest education level. Majority (60%) of respondents with basic recycle knowledge has an education level of undergraduate. Meanwhile, 20% are secondary school and each 5% has postgraduates and PhDs. Meanwhile, 70% of the respondents with no basic recycle knowledge have the highest education of undergraduate. 20% of them also have a secondary school certificate and 10% of them have PhD.

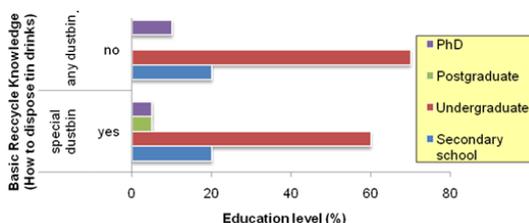


Fig. 8. Respondents' Basic Recycle Knowledge based on their Education Level

The Respondents' Average Recycle Knowledge among Percentage of their Education Level Group chart (Fig. 9) indicates that 70% of respondents that have average recycle knowledge have an education of undergraduate. Others are Secondary school (15%), PhDs (10%) and postgraduate (5%). Meanwhile, majority (70%) of respondents that apposed food remnants cannot be recycled have an education of undergraduate and 30% of secondary school

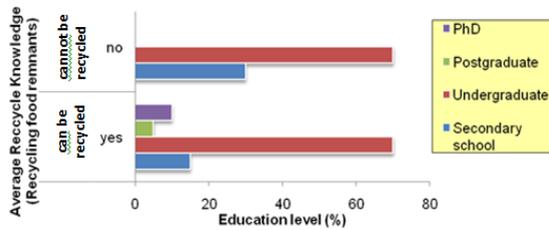


Fig. 9. Respondents' Average Recycle Knowledge based on their Education Level

Fig. 10 shows the respondents' understanding in the importance of recycle among the percentage of their highest education level. Respondents that misunderstood the main objective of recycle have an education of undergraduate (50%), and secondary school (50%). Meanwhile, majority of the respondents (73%) that understood the importance of recycle have an education of undergraduate, secondary school (15%), PhDs (8%), and postgraduate (4%). There were two respondents that did not answer, either they understand or not in the importance of recycle. Each of them is from secondary school and undergraduate.

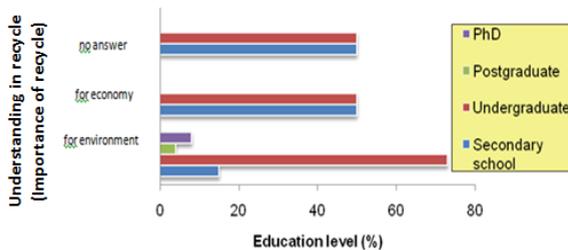


Fig. 10. Respondents' Understanding in Recycle based on their Education Level

5.0 Conclusion

Most of the respondents are from medium size family (4 to 6 occupants) of a total monthly income of more than RM3000 and having undergraduate as their highest education. Most of the respondents have basic recycle knowledge, know about recycling food remnants and understood the main objective of recycling but surprisingly only a quarter of them practice recycle regularly. Most of their reasons for it are no facility for waste separation, no space at home and fussy.

Medium to large family size complained about the short of space in order to practice recycling at home. Surprisingly, low income group also claimed that they are busy and have no time to practice recycling. Occupants with no knowledge and understanding in recycle claimed that they did not know there is such facility for waste separation around their area.

However, highest education level group does not influence the problems in not knowing and understanding about recycle.

Television is the most effective media to disseminating information to residents with regards to recycle campaign. Meanwhile, family and friends are the most effective way to convey about recycling because those who practice recycle regularly claimed they are the most impact recycling resource.

Even though many efforts taken by the government to address the issues, many residents still do not practice recycling to the maximum. More and more excuses were given for not doing it. It needs concerted effort by the whole neighbourhood in order to set a precedent and followed by the rest of the community in the future.

Acknowledgements

The authors would like to thank Universiti Teknologi MARA and the Faculty of Architecture, Planning and Surveying for the infrastructural and technical support.

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