

¹AbdeInaser OMRAN, ²Abdelsalam O. GEBRIL

STUDY OF HOUSEHOLD ATTITUDE TOWARD RECYCLING OF SOLID WASTES: A CASE STUDY

ABSTRACT:

Solid waste management is a growing problem in Malaysia. For this reason the government of Malaysia through the Ministry of Housing and Local Government (MOHLG) have taken various measures to promote recycling amongst its population. Recently, a nationwide campaign was launched to get the people to recycle their wastes. Recycling centers equipped with separate recycling bins for different recyclables have been set up across the country. In addition, publicity drives using the newsprint, the electronics media on top of the other modes of information dissemination such as seminars, workshops and meetings were held on a continuous basis over the years. However, despite the effort little has been achieved due to the lack of participation from the households. This paper identifies the reasons for the failure of the campaign. Data were gathered using a mail-out questionnaire to 400 randomly chosen households. Quantitative analysis made based on 347 responds received indicated that although all of the respondents had a positive attitude towards recycling only a few did recycle. The poor response is largely due to the lack of facilities provided. Many residents are turned down when they are unable to locate the recycling centers and if they are able to locate one, it seems too troublesome to be needed.

KEYWORDS:

Recycling, Solid Wastes, Household Attitude, Malaysia

INTRODUCTION

The concept of attitude has played a major role in the history of social psychology. It is undeniable that the concept of "attitude" has become something of a factotum for both psychologists and sociologists (Fishbein, 1976). Nowadays, solid waste recycling is a problem of major relevance for all societies. Moreover, finding acceptable strategies to cope with such a problem is becoming a quite hard task, owing to the increasing awareness of environmental issues by population and authorities. However, Malaysia, with a population of over 24 million in 2005 generates 17,000 tons of domestic waste daily (Noor, 2005). At present, the per capita generation of solid waste in Malaysia varies from 0.45 to 1.44kg/day depending on the economic status of an area, the national average being 0.5 - 0.8 kg/person/day but may increase up to 1.7 kg/person/ day in major cities (Agamuthu, 2001). Perak is the second largest state in Peninsular Malaysia. It is bordered on the north by Kedah and Thailand, on the east by Kelantan and Pahang, on the south by Selangor and to the west by the Strait of Malacca. Perak means silver in the Malay language. The name comes most probably from the silvery colour of tin. In the 1890's, Perak, with the richest

alluvial deposits of tin in the world was one of the jewels in the crown of the British Empire. However, some say the name comes from the "glimmer of fish in the water" that sparkled like silver. Perak's population is now approximately 2 million. Once Malaysia's most populous state, the decline in the tin mining industry caused an economic slowdown from which it has yet to recover, leading to a massive drain in manpower to higher-growth states such as Penang, Selangor and the Federal Territory of Kuala Lumpur. Modern Perak is divided into 10 administrative divisions, or "Daerah" in Malay.

However, the Executive Council is the highest administrative body in the state. At the local government level, the state has one local authority, namely the Municipal Councils of Ipoh (MCI). The average throw away in Perak is around 0.9 - 1.1 kg of waste/person/day, which is higher than the national average (MOHLG, 2005).

This paper reports on the results of a research study that evaluated attitude of household towards recycling solid wastes. The research aims of shed to light upon the level of environmental awareness of the different household in Perak state at Malaysia concerning recycling of solid wastes and their perception on the success of the recycling campaign. The main objective

of the research was to study the attitude of households, their awareness as well as the problems which was related to failure of the recycling campaigns. The findings of this research study may be used in decision making as a measure of attitude of household and should help households to recognize how important the environmental issues of recycling solid wastes recently.

THE RECYCLING CAMPAIGN

As mentioned earlier, the Ministry of Housing and Local Government, Malaysia launched a nationwide recycling campaign (*Kempen Kitar Semula*) in 1993. However, the campaign failed due to lack of response and participation from the people. A bigger and more aggressive campaign was initiated in 2000. Sixty-five (65) drop-off or collection centers, located at schools, gas stations, shopping malls and other convenient public places are opened nationwide.

Year round programs aimed at increase awareness and participation of the population were initiated or organized by the Ministry of Housing and Local Government, Non-Governmental Organization's and Consumer groups. These include talks, exhibition and actual recycling activity. (Table 1)

Table 1: Recycling related activities (January -July 2003).
Source: Ministry of Housing & Local Government, Malaysia.

	Type of Activity	Occasions
1	Talks/Speech	13
2	Exhibition	26
3	Meetings	27
4	Actual recycling activity	7
	Total	73

Table2: Location of Recycling Collection Centers. Source: Ministry of Housing & Local Government, Malaysia.

	State	Frequency
1	Penang	16
2	Kedah	210
3	Kelantan	0
4	Terengganu	0
5	Perak	180
6	Pahang	138
7	Selangor	177
8	Negeri Sembilan	109
9	Melaka	98
10	Johor	108
11	Sabah	150
12	Sarawak	217
	Total	1403

METHODOLOGY

The study sought to evaluate the attitude of households in Perak, Malaysia on recycling of solid wastes. Specifically it is aimed to discover reasons why the nationwide recycling campaign organized by the Ministry of Housing and Local Government Malaysia failed to attract households to recycle. Four Hundred (400) questionnaires were distributed within the period of three months beginning the 2nd of

February 2006 to 27th of March 2006. To ensure good response, the strategy used was to distribute the questionnaire at randomly selected houses on Perak State. Three Hundred and Forty Seven (347) useable questionnaires (87%) were received and analyzed. Although, the number of questionnaires received was small, it is sufficient to give some indication of the overall attitude of the households of Perak on recycling of solid wastes and is adequate to enable the findings to be generalized for the whole population of Perak. The descriptive analysis of the data collected is presented below.

RESULT AND DISCUSSION

Awareness of the recycling activities/campaign

A majority (84.7%) of the respondents claimed that they are aware of the ongoing campaign. Most knew it through ads in the newspaper. TV and Radio ads ranked second followed by newsletter and billboards.

Importance of recycling

Asked on the importance of recycling, all participants (100%) indicated that recycling is important. However, only about 71% (247) of the respondents indicated that they participated in the recycling activity. The main reasons given, ranked in order of importance are:

- i) Concern for the environment;
- ii) Concern about availability of landfill;
- iii) Encouragement from their children/others.

A small number indicated that they recycled for money.

Participation in recycling

Amongst those who did not participate in the recycling activity (29% or 100 respondents), the main reasons given are inconvenience and lack of facilities (62%). It is interesting to note that about 18% of the non-participating respondents indicated that they "don't bother" or find it unimportant (13%). Although the number of respondents within this group is small, particular attention should be taken to 'convert' them. Comparing with a Singapore the research by Foo (1997) was found that only 9% of the respondents practice regular was recycling and another 11% practice recycling 'some of the time', whereas the rest only practice recycling once in a while (64%).

Facilities provided

Respondents were also asked about the facilities provided for recycling. When asked whether they know the location of the nearest collection point for their area, 61.7% indicated they knew the location. However, more than 52% complained that the location could not be easily located. In term of distance, only 33% indicated that it was within 1 kilometer from their house, 16% was within the radius of 2 - 3 kilometer and 44% indicated that it was more than 5 kilometer radius. Undoubtedly, the farther the location of the collection point, the more discouraged will the householders be. Adenso-Díaz (2005) commented that when citizens who are environmentally concerned have bins near to home, they appear to be willing to recycle more fractions than when they have to walk for a longer time to drop off the waste, due to the inconvenience of carrying the large volumes that this

type of waste usually occupies. He concluded that distance and access to the bins is obviously an incentive to recycling. The benefit of facility may bring to local residents can influence attitudes (Lima, 1996). However, citizen's attitudes depend on knowledge about a facility (Rahardyan, 2004). It was observed that, the farther the location of the collection point was the more discouraged were the householders were to recycling.

Types of materials recycled

Amongst those who recycled, the type of materials recycled ranked in term of quantity is newspaper, aluminum cans, plastics, cardboards and glass. In response to the question "How often do you recycle", 46% indicated they sent their recyclables weekly while about 24% indicated they need to recycle more often i.e. twice or three times a week.

Perception on the success of the recycling campaign
 The respondents were asked to give their opinion on the on-going recycling campaign hosted by the Ministry of Housing and Local Government. On the question whether the campaign succeed or failed, a huge 90% or (311) indicated that it fails and it can be seen in the Figure (1). Asked for the reasons for the failure, their responses can be divided into the following five broad categories:

- i) Little improvement in the surrounding. The surrounding area, public places and rivers are still littered or polluted.
- ii) People continue to throw recyclable items such as papers, glass and aluminum cans in ordinary dustbins. Not many took the effort to separate them before throwing.
- iii) Not enough facilities provided. Many areas are not provided with the facility for recycling. Many people do not know the location of the nearest collection point. Location of collection points is either not good or too far. Easier to throw the recyclables than to bring it to collection point.
- iv) Some people are selfish. They continue to litter and do not bother about the negative effect of their action. Some think of it as a waste of time.
- v) Have very little knowledge about what recycling is. Do not realize the importance of recycling. Never heard of the campaign and never participated.

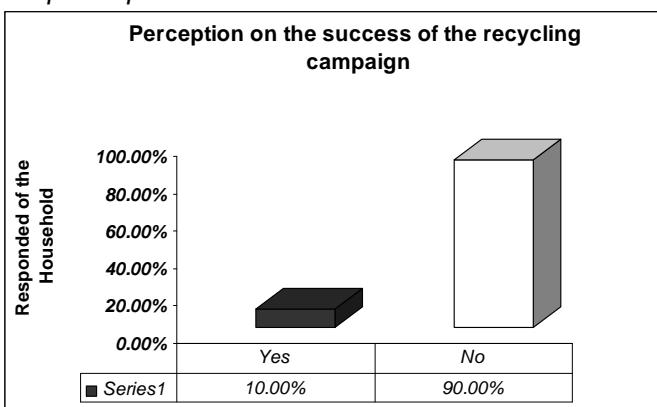


Figure 1: Perception on the success of the recycling campaign

How can it be improved?

The respondents were also asked of their views on how the situation could be improved. The majority of respondents suggested, "more facilities be provided". There should be "local collection centers", which is within easy reach for each community or housing areas. Community or group recycling should be encouraged and more effort is needed to educate the people of the need and importance of recycling. Monetary incentives may also be considered, for example by improving the community facilities in an area as a reward, based on the quantity of recyclables collected. In this regard, it is observed that the high rate of newspaper recycling might be due to the ready market for it. When asked whether they will recycle in the future, if all facilities are provided, all 99% of the respondents said that they would participate and this will be different comparing with the research by Grodzińska-Jurczak (2003) in Jaslo City, Poland when he asked the same questions to the household whereas got 41% of 932 interviewed they would to recycle and the rest refused any participation (22%) or did not respond (37%).

CONCLUSION

Recycling has become a household word in Malaysia, based on the finding of this study; it is evident that the households in both states are of the opinion that recycling is a very important activity. However, result of the study gave a clear indication that the recycling campaign by the Ministry of Housing and Local Government in Malaysia failed.

Even though the households agreed that recycling is important, not many of them did recycle. The quantity of recyclables collected in both states is indeed very small. The main reason, as indicated by the study result, is due to misdirection in the campaign. Although much money was spent on advertisements, there is a clear misinformation. It is observed that advertisement campaigns are focused on informing households to sort their recyclables and place them in separate bins. However, such bins can only be found at designated public places, which are usually at a distant from residential areas. It is therefore not surprising that most of the households find it too troublesome to bring their recyclables to the collection centers. Furthermore, reasons such as "lack of facilities" or "distance of facilities too far from home" are also clear proof that most households are not aware that they can do their bit in recycling by simply putting the recyclables and non recyclables in separate bags and placing them in the ordinary rubbish bins available at home which will then be collected by the council or appointed agents.

Therefore, the location of the recycling station is essential and the public attitudes are knowledge about source separation in general and recycling stations in particular are of interest for the functioning of the whole system (Petersen et. al, 2004).

In the final analysis, it is interesting to note that the actual reason for the failure in terms of recycling, the lack of support and participation of households in Perak on recycling are not due to their negative attitude towards recycling but due to misinformation on the part of the authorities. In order to increase the rate recycling of solid waste and at the same time to reduce the social problem related to solid waste management at the following suggestions were made to the Perak People of Committee as followed:

1. Improving the publics' general knowledge and awareness concerning these issues is of prime importance to the minimization of waste, in general, and harmful effects of landfills on the environment, in particular.
2. Efforts are also needed to involve the public in the policy-formation, development of plans, and implementation of waste management programs and landfill siting decisions. Public support is essential for the success of such decisions.

REFERENCES

- [1.] Adenso-Díaz (2005). Influence of Distance on the Motivation and Frequency of Household Recycling, *J. of Waste Management*, 25, 15-23.
- [2.] Agamuthu P., (2001). Solid Waste: Principle and Management, With Malaysian Case Studies, University of Malaya, Kuala Lumpur, Inc.
- [3.] Fishbein M., (1967). Readings in Attitude Theory and Measurement, Department of Psychology, University of Illinois, John Wiley & Sons, Inc.
- [4.] Foo T. S. (1997). Recycling of Domestic Waste: Early Experience in Singapore, *Journal of Waste Management*, 21, 277-289.
- [5.] Grodzińska-Jurczak M., Marta T. & Read A. D., (2003). Increasing Participation in Rational Municipal Waste Management - A case Study Analysis in Jaslo City (Poland), *J. of Resources, Conservation and Recycling*, 38, 67-88.
- [6.] Lima M. L. (1996). Individual and Social Determinants of Attitudes towards the Construction of waste Incinerator: tow case studies, the 1996 Annual Meeting of the Society for Risk Analysis-Europe. The Centre for Environmental Strategy, University of Surrey, Guildford, Surrey.
- [7.] Noor M. Z. (2005). The Scenario of Solid Waste Management in Malaysia, A case Study, (Pre-Conference) Professional Training Programme on Solid Waste Management in SEA Cities, 4-5 July, Siem Reap, Cambodia.
- [8.] Petersen C. H. M. & P. E. O. Berg, (2004). Use of Recycling Stations in Borlänge, Sweden - Volume Weights and Attitudes, *Journal of Waste Management*, 24, 911-918.
- [9.] Rahardyan B., T. Matsuto, Y. Kakuto & N. Tanaka, (2004). Resident's Concerns and Attitudes towards Solid Waste Management Facilities, *Journal of Waste Management* 24, 437-45, Japan.
- [10.] Read A. D. (1998). Getting the message across: recycling in Kensington and Chelsea. *J. of Education and Information*, 17, 299-314.
- [11.] Socio-Economic & Environmental Research Institute of Penang 18. 8.2005 via website <http://www.seri.com.my>
- [12.] Teik K. H. (2005). Heading toward Zero Waste in Solid Waste Management, *The Penang Experience, (Pre-Conference) Professional Training Programme on Solid Waste Management in SEA Cities*, 4-5 July, Siem Reap, Cambodia.
- [13.] Tom E. & A. D. Read, (2001). Local Authority Recycling and Waste Awareness Publicity/ Promotion, *J. of Resources, Conservation and Recycling*, 32, 275-291, UK.

AUTHORS & AFFILIATION

1. Abdelnaser OMRAN,
2. Abdelsalam O. GEBRIL

1-2. SCHOOL OF HOUSING, BUILDING AND PLANNING,
UNIVERSITI SAINS MALAYSIA, MINDEN, PENANG, MALAYSIA



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