

RESEARCH ARTICLE

Practice and attitude on household waste management in Tumpat and Kuala Krai, Kelantan

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ABSTRACT

The aim of this study is to determine the perceptions of solid waste management among residents in Tumpat. A total of 29 respondents were selected at random and divided into three groups. All the groups were interviewed during focus group discussions. The main waste was household waste such as food, diapers, bottles, cans, plastic, and papers. The majority of the respondents practice food waste disposal by using their waste as food for poultry with some practicing a composting process as recommended by the local authority. The suggestion from respondents in Tumpat was that every house in the residential area should be provided with a small dustbin and should undergo house-to-house collection in order to reduce the quantity of waste disposed of at the village dumping site. In conclusion the involvement of society plays an important role in solid waste management. Due to the high cost of waste disposal in terms of collection and transportation by the local authority, the community needs to take part in controlling, reducing, and recycling waste effectively.

Key words: practice, attitude, household waste, residential

INTRODUCTION

Insufficient dumping sites, increases in waste disposal and being dissolved in waste water are some of the issues associated with solid waste. Other related issues are non-systematic collection procedures and solid waste disposal [6]. Non-systematic management of solid waste can lead to the spread of infectious diseases caused by flies, rats, and mosquitoes [5]. The minister of health, has appointed that the poor cooperation between local authority and the residences in destroying breeding places of *Aedes* mosquitoes are the contributing factors for dengue cases in Kelantan [2]. Non-systematic solid waste disposal can also affect the value and image of an area. Besides that, water containing dissolved waste produced from the dumping site can also affect animals, plants, and aquatic creatures as well as the health of humans who use a river as their water source [9].

Inefficiency in managing these solid wastes is believed to occur due to insufficient financial resources, lack of human labor, and transportation. Other reasons that contribute to these problems are weak management planning, weak law enforcement, and the lack of awareness and involvement of the community [1]. These reasons have been supported by the president of *Majlis Perbandaran Kota Bharu Bandaraya Islam* (MPKB-

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BRI), Dato' Haji Zamri bin Ismail, who has been disappointed with the irresponsibility of the public in the management of waste. Other than that, the issue regarding waste in Kelantan is also believed to be due to the lack of transportation facilities to carry out waste collection. Thus, a systematic plan for waste collection from house-to-house cannot be achieved. Narrow roads or alleys to certain places or villages can also be a problem that makes it difficult for MPKB-BRI to reach such places for waste collection purposes [8].

2. Objectives:

The objective is to determine the perception of solid waste management following a local authority seminar.

MATERIALS AND METHODS

This was a qualitative study whose aims were to determine the management of solid waste among the community in Tumpat and Kuala Krai and to introduce an effective form of solid waste management. This study involved the views and perceptions of the villagers on their problems regarding solid waste management. The data collection was obtained through discussions and interviews with focus groups. The study involves the perception of solid waste management before and after the local authority seminar. The interviews in this paper are the result of the intervention in Tumpat and Kuala Krai.

Results:

A total of 12 respondents (41.4%) from Tumpat and 17 respondents (58.6%) from Kuala Krai were involved in this study. Table 1 shows the frequency and percentage of the respondents' socio-demographic data. Table 2 shows the frequency of the type of solid waste been disposed of by the respondents. Meanwhile, Table 3 shows the frequency and percentage of the methods of solid waste disposal practiced by the respondents.

Table 1: Frequency and percentage of respondents' (n=29) socio-demographic data.

Variables	Tumpat, f(%)	Kuala Krai, f(%)
Gender:		
Male	5 (41.7)	5 (29.4)
Female	7 (58.3)	11 (70.6)
Age:		
20 – 29 years old	0 (0.0)	1 (5.9)
30 – 39 years old	2 (16.7)	2 (11.8)
40 – 49 years old	4 (33.3)	7 (41.2)
50 – 59 years old	5 (41.7)	4 (23.5)
60 years old and above	1 (8.3)	3 (17.6)
Monthly income:		
Less than RM500	6 (60.0)	13 (86.7)
RM500 – RM1000	3 (30.0)	1 (6.7)
More than RM1000	1 (10.0)	1 (6.7)

i. Knowledge of solid waste disposal and the best way to dispose of waste:

Most of the household waste was wet and dry waste such as food waste, plastics, bottles and glasses.

(R1, FGDL1, Male, Tumpat, 52 years old): "I think that we need to keep the wastes in the plastic. We need to separate those that need to be thrown into the dustbin, burned and so on. Wastes that need to be thrown into the dustbin are pampers and food waste."

(R4, FGDP2, Female, Tumpat, 50 years old): "Waste disposal means that we need to dispose of all wastes so that they won't be in the house."

(R1, FGDP1, Female, Kuala Krai, 44 years old): "Disposal of waste means that it can causes pollution to our places and can be infectious to our children if we dispose too much wastes."

ii. Food waste disposal and composting:

The majority of the respondents practice food waste disposal by using their wastes as a food for poultries and some of them have practiced composition process as recommended by the local authority." (R4, FGDL1, Male, Tumpat, 53 years old): "For me, I just throw the food wastes at one place, give them to the ducks available at home."

(R1, FGDP2, Female, Tumpat, 47 years old): "Throw them in the bin available at home, put and tie them in the plastics and dispose of them in the hole made at the side of the house."

(R1, FGDP1, Female, Kuala Krai, 44 years old): "Err, like food wastes, we have chickens, feed the food wastes to the chickens."

(R3, FGDP1, Female, Kuala Krai, 59 years old): "For wastes like fish gut, I just throw it outside the house to be eaten by chickens."

(R5, FGDL1, Male, Tumpat, 55 years old): "Burn like this and it will become fertilizer. It's OK to burn because it will become fertilizer."

iii. Plastic and bottle disposal:

Most of the plastics and bottles were disposed of by putting them in the dustbin outside the house for collection by the local authority. Besides that, some of them recycle them again.

(R5, FGDL1, Male, Tumpat, 55 years old): "Wastes like plastics are thrown into the dustbin. Wastes like bottles can be stored. Store nicely in a container and sell them."

(R2, FGDL1, Male, Tumpat, 38 years old): "Glass bottles are stored or arranged nicely at the side of the house. Nowadays there are no buyers to buy the bottles. So we just throw them into the dustbin."

(R4, FGDP1, Female, Kuala Krai, 36 years old): "For the mineral water bottle, I reuse them to fill with drinking water. For the glass bottle, I will keep and sell them, keep them inside the plastics and put them outside the gate."

(R5, FGDP1, Female, Kuala Krai, 42 years old): "We can use the bottles to plant flowers or reuse them as vases. If there are many glass bottles available... gather and sell."

iv. Wood, furniture and dry leaves:

Leaves and dry plants can also be disposed of by using the burial method other than burning. Usually, people who live in residential areas prefer to dispose of their dry leaves into the dustbin due to inadequate space for burying and burning. The respondents at both study sites stated that they usually burned wastes like wood, dry leaves and furniture. Besides that, there are some of them who try to repair their old or damaged furniture to be reused instead of just simply disposing of it. Almost all respondents in Kuala Krai do not have any problems with the disposal of old or damage furniture due to the flood factor that they experience every year. Because of the flooding, they decided to keep their houses free from furniture to avoid any loss during the flood.

(R4, FGDL1, Male, Tumpat, 53 years old): "For big or small woods, it can be used as charcoal for fire. For dry leaves and so on, we can just burn them."

(R6, FGDP2, Female, Tumpat, 44 years old): "We can just burn the old furniture made from wood."

(R4, FGDP1, Female, Kuala Krai, 36 years old): "We just burn wastes like furniture and wood."

v. Problems and suggestion regarding waste management:

The respondents in Tumpat had problems regarding the area and quantity of dustbins provided by the municipal authority. There were only 2 dustbins provided for 2 villages and each of them located far away from their houses. Most of the respondents' houses were situated more than 1 km away from the disposal site. Before this, an unfortunate event happened when a car unintentionally drove over a villager's foot at the disposal site. This happened due to the location of the dustbins that are too close to the roadway.

Respondents in Kuala Krai were also having problems regarding waste disposal. One of the problems is about the shortage of dustbins provided by the municipal authority. There was only one dustbin available for their area. Because of that, they claimed that the practice of waste separation cannot be applied because all types of waste were gathered and disposed of in that one place.

(R3, FGDL1, Male, Tumpat, 53 years old): "The dustbin is located too close to the roadway. It is dangerous and recently a car has stepped on a feet of a person who stop by to throw rubbish."

(R4, FGDL1, Male, Tumpat, 53 years old): "It is difficult to dispose of waste because the dustbin is far from the village. There are only two dustbins available in this area."

(R5, FGDP1, Female, Kuala Krai, 42 years old): "We will inform the problems to the chief's village and he will try to talk with the person's responsables in the collection of the waste if there is no collection for a few days."

Discussion:

The intervention process used in this study was in the form of a briefing or talk that was delivered by a representative from the local authority. This talk was done to introduce a proper solid waste management system to the respondents. Almost all respondents praised the talk as being great and relevant to increase their awareness and knowledge of the importance of proper waste disposal and the appropriate ways to manage waste. Respondents also said that this talk was easy to understand and enjoyable with the use of videos encouraging people to recycle. All the respondents gave high marks to the speaker. However, we can see that during the interview session, most of the respondents were unable to answer questions accurately and even forgot what was taught during the intervention. This may be due to the age factor because the majority of the respondents were aged 50 and above. Knowledge of household waste management is crucial if we are to reduce pollution and preserve the environment for future generations.

There were a few changes in waste management practiced by the respondents at both study sites after the

intervention process. Some of them had changed their attitude and practice of waste separation after the intervention. They started to prepare different bins for different wastes in their houses, separated their wastes based on types, and practiced recycling. A recycling program is important to create awareness within society and to reduce the amount of waste [7].

Most of the respondents agreed that this type of talk should be given more often to increase their knowledge and awareness of environmental health. There are a few topics regarding solid waste that people were interested to learn including environmental cleanliness, drainage systems, the recycling process in theory and practice, and a proper way to dispose of wastes. Therefore seminars, talks and campaigns can help in promoting the correct way to dispose of waste and increase awareness of, and a positive attitude to, the reuse, reduction, and recycling of waste [3].

Conclusion:

In order to develop a clean country, the involvement of society plays an important role in household waste management. The cost of managing household waste in terms of its collection, storage and transportation is very high. Therefore, community needs to take part in controlling and reducing the irresponsible disposal of waste.

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