

# **Islamic Approach on Public Awareness Campaign of Solid Waste Management**

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## **ABSTRACT**

Drastic increase in solid waste has become one of the serious environmental problems in many parts of the world. Malaysia is also facing a similar problem with the uncontrolled amount of waste and low-quality management. Current awareness campaigns are not effective to change the attitude of the public. This study aimed to identify the attitude and acceptance of the Muslim community towards the Islamic approach in public awareness campaign of solid waste management. The content of current campaign, the media used and the slogan were also studied. A survey was conducted among 520 respondents who were randomly selected from the urban, suburban and rural areas of Kelantan. The results demonstrated that the current public awareness campaign is moderate and media campaigns failed to serve the purpose. Meanwhile, the attitude and acceptance of the respondents towards an Islamic- approach campaign is high. Respondents also showed a positive reaction towards the use of Islamic media channel and the slogan based on Islamic principles is considered effective. This study recommended for stakeholders and policy-makers to consider the role of religion (Islam) in designing a more effective awareness campaign among Muslims.

**Keyword:** Public Awareness, Solid Waste Management, Islamic Approaches

## **1. Introduction**

Local authorities in Malaysia are struggling with the problem of efficient solid waste management in the face of increasing waste production, high collection cost, dwindling financial resources and lack of public awareness. Improper solid waste management may create negative environmental impacts like land and water pollution, infectious diseases, blockage of an open drain and small canals and loss of biodiversity (Ejaz

& Janjua, 2012). According to Kamali (2010), the crisis of waste management behaviours relates to the problems of ethics and human morality. Understanding and practice of harmonious relationship with the environment are closely related to the inner elements of human spirituality. The Quran has long warned that environmental damages are caused by human (al-Quran, 30: 41). Nevertheless, modern development often ignores the elements of religion and spirituality thereby causing damage to the environment without any feeling of guilt (Nasr, 1993).

In this context, the shariah gives a complete code of living and ethical guidelines for various aspects of life. Islam does not only demand a harmonious relationship with one's fellow-man to another (social obligations) but also with living and non-living beings including the environment. Therefore, religious approach to developing human awareness should be adopted, in addition to the conventional methods. Public awareness is a significant part of successful waste management. Recognising and understanding the factors that influence people's awareness and participation is important in the effort to promote efficient solid waste management (Owens et al, 1991). The current environmental crisis is connected with a moral crisis or even a spiritual crisis in human beings. The solution ultimately rests on inculcating moral sensibility of the people and possibly regenerating the spirituality of human being. However, to move from a traditional value (religious approaches) to modernity is a great challenge (Bucher, 2014).

The rapid pace of development, economic advancement, population growth, production and modernisation of lifestyle based on high consumerism culture are among the factors contributing to the large quantities of solid waste in Malaysia. A report on the Ninth Malaysia Plan (9MP) 2006-2010 (Malaysia, 2007) indicates that the volume of waste in Peninsular Malaysia has substantially increased from 16,200 tons per day in 2001 to 19,100 tons per day in 2005. It increased further to 28,102 tons per day in 2010 with the average per capita at 0.85kg per day. The same scenario occurs in Kelantan where the volume of waste increases alarmingly every year. In fact, the increase of generated waste in Kelantan is noticeably higher than the population growth rate (Ministry of Housing and Local Authority, Malaysia, 2012).

Danish International Development Assistance (DANIDA) reported that roughly 20 to 30 percent of daily household waste in Kelantan was disposed of as illegal dumping (DANIDA, 2010). The phenomenon of poor waste management can be found almost everywhere. Many streets are littered with scraps of paper, plastic bags, paper cups, paper wrap,

plastic bottles and other garbage. The drains and the backyards are piled with rotting rubbish (Teuku Afrizal, 2012). Despite various awareness campaigns conducted by the local authority with assistance from national bodies like the Ministry of Housing and Local Government, Environment Department (JAS), NGO and community groups, such as *Anti-litter Campaigns*, *Keep Kelantan Beautiful and Clean Campaigns*, *3R Campaign*, *No Plastic Bag Day Campaigns*, the attitude and practice of the public in managing solid waste remained unchanged. Table 1 illustrated the household waste in Kelantan between the year 2000 to 2010.

**Table 1**  
Household Waste generation in Kelantan Year 2000-2010  
(tons/day and tons/year) ('000)

<b>Year</b>	<b>Population</b>	<b>Generation Rate Tons/Day</b>	<b>Generation Rate Tons/Year</b>
2000	1,313.9	1,034.3	377,519
2002	1,440.6	1,130.5	412,632
2004	1,479.7	1,213.4	442,891
2006	1,554.5	1,302.3	475,339
2008	1,595.3	1,381.6	504,284
2009	1,639.3	1,423.1	519,431
2010	1,539.6	1,465.8	535,017

*Source:* Department of National Solid Waste Management (PPSPPA), Ministry of Housing and Local Government Malaysia, 2012.

Based on previous studies (Said et al., 2003; Richardson, 2005; Seow et al., 2010), public awareness campaigns conducted by the government received low participation and less attention from the local communities. The National Strategic Plan for Solid Waste Management (Malaysia, 2010), reported that the level of public environmental awareness in Malaysia is still generally low. The first National Recycling Program (NRP) which was launched in 1993 and the following in 2000 failed to achieve the goals for the lack of awareness and apathy of the public. According to Seow et al. (2010), recycling practice is still uncommon among the majority of Malaysians until today. Local researchers suggested the government and stakeholders to consider more suitable methods in planning public awareness campaigns by reevaluating

the role of local community, religion and culture (Mohammed et al., 2009; Mohd. Azlan & Abdul Ghulam, 2012). It is therefore necessary to seriously consider the Islamic principles in conserving and sustaining the nation's environment.

## **2. Literature Review**

Existing literature revealed that there is a great number of studies on solid waste management, but studies related to the role of religion in the environmental awareness issues are relatively limited. There are only few studies of public environmental awareness specifically related to the Islamic principles. For example, studies on awareness campaigns and programs on water conservation based on the Islamic principles have been conducted by Atallah et al. (1999) and Haddad (2001) in the Eastern Mediterranean Region. Both studies indicated that campaign for the conservation of the environment particularly using the Islamic education system to address the importance of conserving water, land and biodiversity has positive effects in raising awareness among the public. The use of Islamic principles in public campaigns to promote awareness among the people on environmental issues is proven to be effective as Islamic communication channels and expressions are more straightforward. They can easily reach the society at all levels. Islamic principles related to the environment thus proved to be an added value in awareness campaigns.

As mentioned earlier, existing literature on the role of Islamic principles related to solid waste management behaviour is limited. Even in cases where religion is explicitly recognised as an important factor to influence behaviour in waste management, investigations were restricted to minor inclusion in the survey questions, particularly for socio-demographic characterisation with no or limited analysis. In most part, religion as a part of socio-demographic data are only included for countries with a strong religious background (Zeeda et al., 2012). On the other hand, religion is not the main focus of the study of solid waste management among the researchers. Undoubtedly, there are several studies that relate specifically to solid waste management and religious factors such as al-Khatib et al. (2009) who found that religious convictions (Islam) have strong correlations, not only with littering behaviour and practices but also with potential litter prevention strategies. In particular, the impact of religious convictions of the respondents on their littering habits and attitudes was very clear. Arafat (2010) conducted

a study on attitude and perceptions of solid waste management among the Palestinians. The respondents were fifty imam as well as a thousand adults and children who reside in the district of Nablus, Palestine. The findings of the study indicated that there was a statistically significant correlation between the level of religion (Islam) with the attitudes and perceptions of the respondents to the problem of solid waste in the streets. The study also found that respondents who have a good level of religious practice tend to ensure the cleanliness of the streets, more willing to take part in clean-up campaigns and less probable to be involved in the symptoms of throwing wastes in streets.

### **3. Methods of the Study**

The aim of this study is to investigate the practice of household solid waste management among Muslim communities in Kelantan, Malaysia. The study also assesses the attitude of Muslim communities in Kelantan towards current public awareness campaigns on solid waste management conducted by the local authority and their acceptance towards public awareness campaigns based on Islamic principles approaches. The study also attempts to identify an effective communication campaign channel in promoting public awareness of waste management among the Muslim communities and examine public acceptance towards campaign media based on Islamic principles. In order to reach these goals, a survey was carried out. The respondents were selected randomly from the urban, suburban and rural areas in Kelantan.

This study employed a quantitative research design. A total of 520 samples were drawn using a convenient sampling method. Data were collected through distribution of questionnaires to each respondent. The collected data were then processed using SPSS version 20. Results of the study are presented in tables and charts. The questionnaire consists of multiple choice items and five point Likert Scale which were divided into four sections. The first section seeks the respondents' demographic background. The second section measures their practices towards household solid waste management. The third section measures respondents' perception towards current public awareness campaign and their acceptance towards the campaign based on Islamic principles approach. The last section measures the effectiveness of media and the public campaign awareness slogans for solid waste management.

## **4. Result and Analysis**

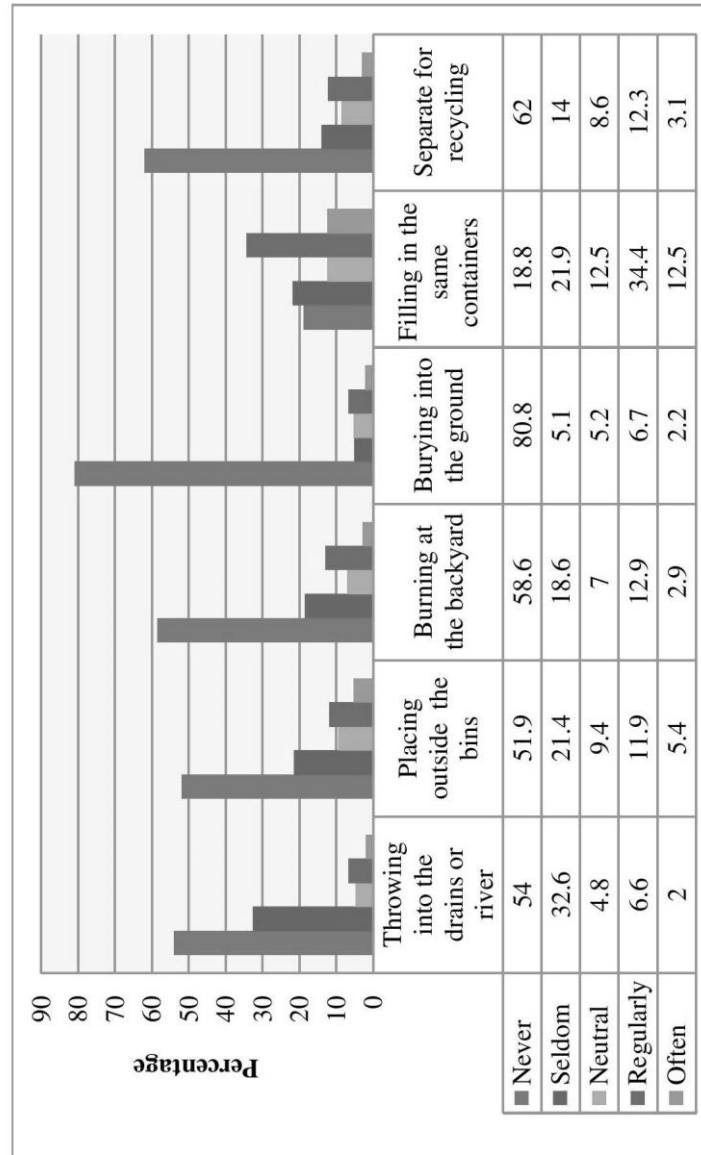
### **4.1 Respondents' Demography**

The study comprised of five demographic factors; gender, age, income, marital status, and educational level. The gender profile indicates that 56% of the respondents are female and only 44% are male. This is favorable as women are homemakers who play a pivotal role in conducting waste collection campaigns and other activities related to household solid waste management. Women also have more potential to motivate other household members towards spreading awareness of good household solid waste management. For the age profile, the study indicates that many of the respondents are aged between 31 to 40 years old (43.5%). Others are aged between 21 to 30 and 41 to 50 years old (38% and 12.5% respectively). Very few respondents are above 51 years old which constituted only 6%. In term of education level, 33% of the respondents finished high school levels, followed by primary school level (31%), 22.2% are graduated at degree level, 10% at Diploma level and 3.8% at postgraduate level. The average monthly income of the respondents is also considered as an important variable that could influence people's practice and perception on solid waste management. Many of the respondents (37.8%) earned an income below RM1000, followed by those who earned between RM1001 to RM3000 (27.5%). About 17% of them earned RM3001-5000, 11% earned RM5001 to RM7000 and 6% earned RM 7001 to RM9000. Very few (0.3%) of the respondents are earning RM9001 and above.

### **4.2 Practices on Household Solid Waste Management**

The practices on household solid waste management among the respondents are shown in figure 1 below.

**Figure 1: Practices on Household Solid Waste Management**



The result indicated that there are respondents (41.2%) who disposed of their household waste by throwing into wrong places, such as a river or drains (32.6% seldom do it, 6.6% regularly do it and 2% do it often). However, for the practice of placing waste outside the bins, 51.9% respondents stated that they never do it, 21.4% seldom, 11.9% regularly and only 5.4% often put their household waste outside the street bins or public waste containers provided by LA. In relation to burning household waste at the backyard, 34.4% of the respondents admitted to having done it, with 18.6% seldom do it, 12.9% do it regularly and 2.9% claimed they do it often. Backyard burning is more common in less densely populated areas with 15% of rural dwellers and 10% of suburban dwellers burnt their household waste. The problem also exist in urban areas though at a much lesser extent with approximately 1-in-25 are burning their waste. This survey found that backyard burning is not only common among the rural dwellers, but also among city dwellers in Kota Bharu. Backyard burning is not only a nuisance to neighbours; it can release many harmful chemicals into the air and irritating the neighbourhood.

As for the practice of burying the waste, most respondents (80.8%) said that they had never done it. Only very few of them (14%) had done it in the past. This may be due to the fact that burying the household waste is no longer a suitable practice as most of the land was used for other purposes. Another improper practice among the public is filling all types of waste in the same container or waste bag. The result shows that most of the respondents (69%) stated that they filled their waste in the same waste bag or container. Similarly, in term of waste separating, only 29.4% have separated their waste, 14% of respondents seldom do it, 12.3% regularly separate their waste and only 3.1% do it regularly. This means that most of the respondents do not practice waste segregation for recycling purpose. This finding is similar to the study by Abdelnaser (2008), who did a survey on recycling practice on the East Coast of Peninsular Malaysia (Kelantan, Terengganu, and Pahang). He found that the recycling practice in three states was very unsatisfactory. This is evidenced since only 10% were doing it as opposed to the majority who did not recycle their waste.

### **4.3 Attitude towards Public Awareness Campaigns**

The chart below shows the respondents' attitude towards current public campaign on solid waste management conducted by the local authority (LA).



**Figure 2:** Respondents' Attitude towards Current Public Awareness Campaigns

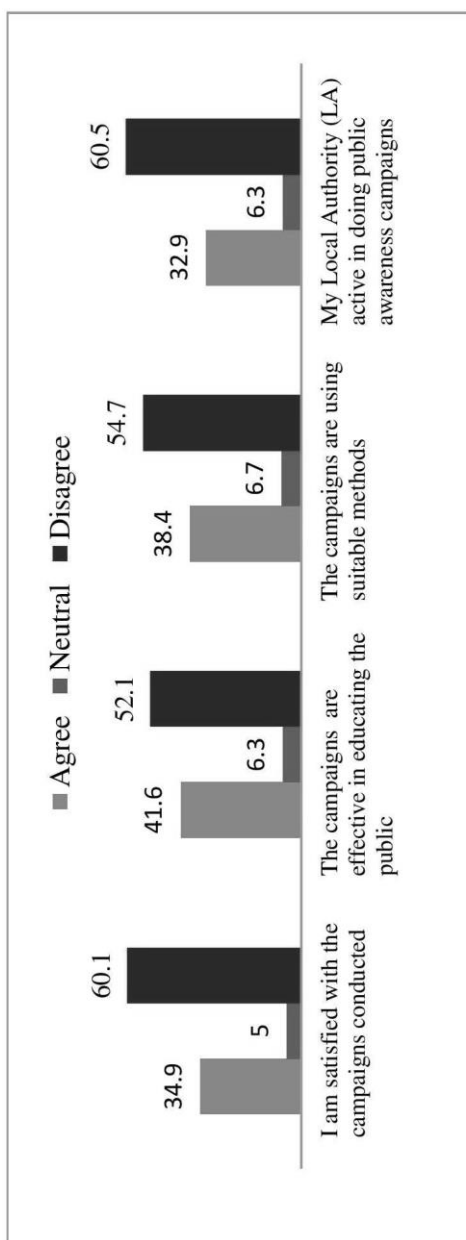
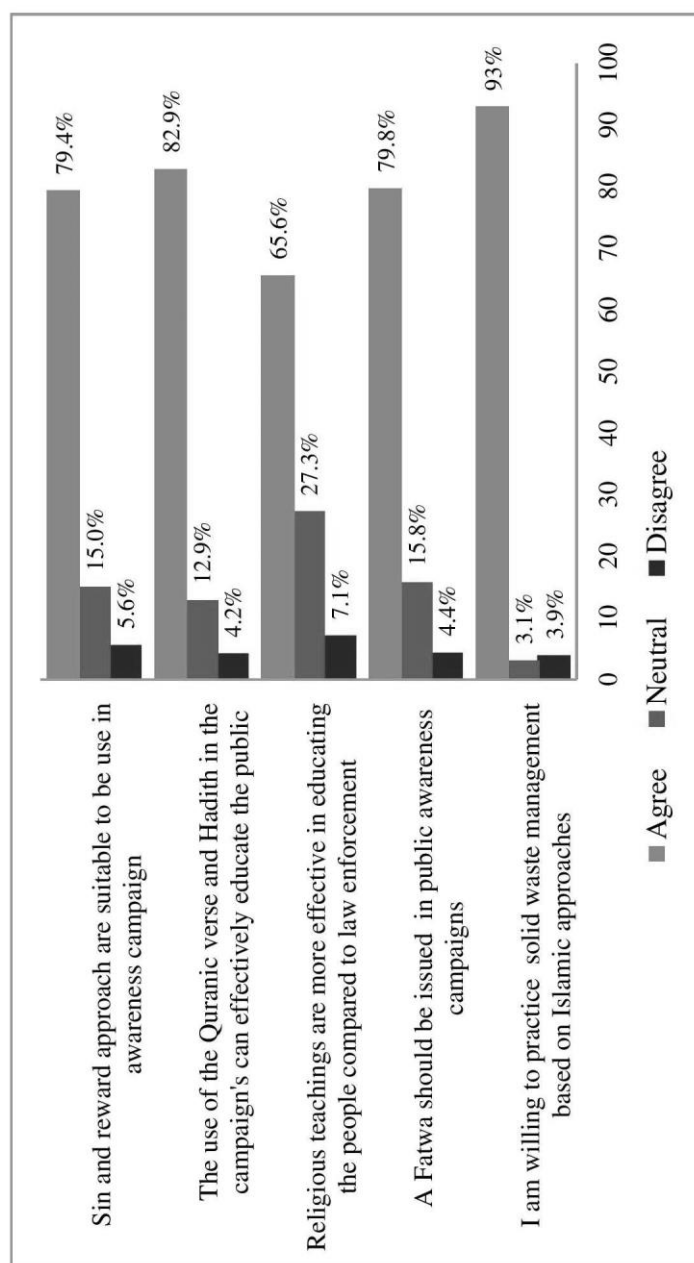


Figure 2 shows that a majority of respondents (60.1%) were not satisfied with the awareness campaigns by the LA, compared to only 34.9% who satisfied with it. More than half of the respondents 60.5% of the respondents believed that the campaign could not effectively educate the public to practice proper waste management and 52.1% also felt that the campaigns did not use a suitable method. In addition, the majority of respondents (60.5%) viewed that the LA was not active in its campaigns. This study implied that the campaigns were not active and effective. This could be due to certain factors such as financial constraints, lack of manpower, lack of cooperation with other agencies like federal government agencies, environmental NGOs, and other institutions, and others.

#### **4.4 Attitudes towards the Public Awareness Campaign Based on Islamic approach**

Respondents' attitude towards the awareness campaign based on Islamic approach is illustrated in Figure 3.

**Figure 3:** Respondents' attitudes towards the awareness campaigns based on Islamic approach



Finding indicates that, the majority of the respondents (79.4%) agreed with the approach of highlighting sin and reward in public awareness campaign and only 5.6% who disagreed with the approach. Similarly, the majority of the respondents (82.0%) agreed that the use of Quranic verses and Hadith is effective for the campaign. A significant percentage of respondents (65.6%) also agreed that the religious teachings are more effective in educating people compared to regulatory or law enforcement approach. Most of the respondents (79.8%) agreed that a fatwa should be issued in relation to the public awareness campaign. The fatwa (Islamic ruling) will strengthen positive law enforcement in its effort to control environmental damage (Magunjaya, 2011). A fatwa is an opinion given as a formal answer to the question on a point of law or dogma by a person or body with the authority to do so. It is an exercise in religious jurisprudence (*fiqh*) in which the challenge for the fatwa-giver is to support the centrality of divine revelation but at the same time determine personal duty in a practical way (Hooker, 2003). In Malaysia, fatwa relating to environmental conservation is limited and yet to be enforced. It is interesting to note that the results also showed a very large majority of the respondents (93%) agreed to practice solid waste management based on Islamic approach. This is a good indicator to all stakeholders to consider, rethink and re-evaluate the role of religion (Islam) in planning any public awareness campaign among the communities, particularly among Muslims.

#### **4.5 The Effectiveness of Campaign's Communication Channels**

Figure 4 below shows the respondents' opinion on the effectiveness the campaigns through media.

#### 4.5.1 The Effectiveness of Media Campaigns

**Figure 4:** Effectiveness of Campaigns through Media

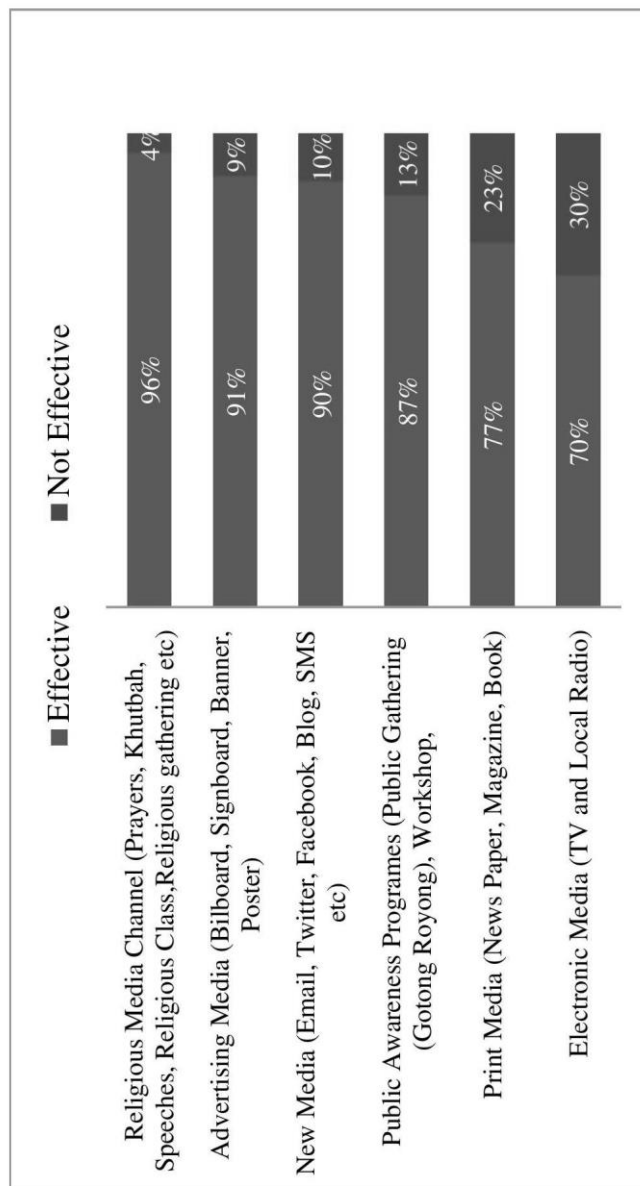


Figure 4 presents the respondents view on the effectiveness of media in public awareness campaigns of. From the six media channels, Islamic media channels and programs such as Friday sermons, religious speeches, religious classes, religious gathering, religious ceremony and other religious programs were chosen by most of the respondents (95%) as the most effective channel to provide information on solid waste management. It is observed that currently the religious platforms are not widely used to run public awareness campaign on solid waste management. A review on the Friday sermons issued by Islamic Religious and Customs Council of Kelantan (MAIK) for the year 2010 to 2012 (MAIK, 2013) indicated that only three to four topics of Friday sermons per year (5-6%) were related to environmental issues, including the issue of hygiene and environmental protection. The study also found that advertising media (billboard, banner, poster, signboard etc.) and social media (Email, Twitter, Facebook, blogs, SMS and other) are effective in channeling information on environmental issues (91% and 90% respectively). Advertising via billboards and roadside signboards, public transport such as bus and taxis, posters in malls and others, are easily visible but costly. This is indeed the main obstacle to LA, as the annual cost of solid waste management is already high. In Malaysia, a study found that the percentage of solid waste treatment cost in each LA in 2010 reached around 60% to 70% of the total cost of the LA's income (Fauziah, 2011). Furthermore, 67% of the respondents viewed that the electronic media such as TV and radio is effective in delivering messages and campaign to the public.

#### **4.5.2 Campaign's Slogan**

Slogans have not only affected people's daily language but also influence people's consciousness and behaviour. Slogans are said to be the strongest voice of the time and represent an important communication phenomenon (Zhu et al, 2011). In this regard, the respondents were asked to state the effectiveness of the given samples of slogan on solid waste management campaign. Table 2 presents the respondents' perception of the effectiveness of the slogans.

**Table 2:** The Effectiveness of the Slogan

Theme	Campaign's Slogan	Effective %	Ineffective %
Islamic Principle	“Pollute the River Means Betraying the Trust of Allah”	92.3	7.7
Islamic Principle	“ Pick Up the Garbage to Collect the Rewards From Allah”	88.0	12.0
Clean the state	“Kota Bharu is Always Clean”	61.1	38.9
Recycling/Reuse	“Think First Before You Throw”	57.0	33.0
River Protection	“Keep Our River Clean”	54.4	45.6
Anti-litter Regulation	“If You Litter Here, You Will Be Fined RM500”	34.1	65.9

The slogans encompass various themes such as; religious theme, love of country, recycling, anti-litter and river conservation. The results indicate that, the slogans based on religious themes such as “Pollute the River Means Betraying the Trust of Allah” and “Pick up the Garbage to Collect the Rewards from Allah” are more effective compared to other slogans (92.3% and 88.0% respectively). While local slogan introduced by the state government that use the local dialect (Kelantan dialect), as part of a sanitary campaign in Kota Bharu which is “*Kota Bharu Come Sokmo*” (Kota Bharu is Always Clean) is considered quite effective (61%). Meanwhile, the slogan with assertive connotation i.e. “If You Litter Here, You Will Be Fined RM500” get the lowest percentage in terms of its effectiveness.

## 5. Conclusion

This study found that improper waste management is still practiced by the community in Kelantan. Moreover, public awareness campaigns conducted by the LA were not effective and using unsuitable approaches. Interestingly, this study found that the community is more appreciative of public awareness campaign based on Islamic approach. In light of this, the study recommends several actions to be taken by all stakeholders and key agents in solid waste management in Kelantan. Firstly, the

government and non-government organizations, as well as community groups should consider awareness, education and training programs towards waste management. The government (state and federal), public and private waste agencies should lead in promoting solid waste awareness campaigns among the public. Secondly, all stakeholders should consider and give full support to the implementation of Islamic approach in the planning of public awareness and educational programs, especially among densely populated Muslims like the State of Kelantan. Thirdly, all stakeholders in solid waste management, professionals, Islamic scholars, Islamic social leaders, religious leaders, those who are skilled in social marketing, educational institutions, private sectors, Islamic and non-Islamic NGO and other parties must work together in designing and delivering public awareness campaigns on solid waste management based on Islamic environmental principles. Fourth, the educated public can be one of the most powerful weapons in the world's battle against harm to the environment. For the Muslims, education about the regulation and practice of cleanliness and pollution control based on Islamic principles should be exposed as early as childhood.

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