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SEPARATION AT SOURCE AMONG PENANG HIGH RISE
RESIDENTS: A QUALITATIVE INVESTIGATION

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Abstract

Separation at source is particularly a great challenge in urban areas, hence there is increasing recognition of the importance of policies and actions that address this issue. However, it is not yet clear which factors are most suitable to support the separation at source behavior. Understanding the motivations that stimulate such behavior can promote environmental thinking to increase recycling efforts and minimize household waste. Therefore, this study undertook a qualitative approach to assess residents' perceptions and attitudes towards separation at source behavior. In-depth interviews were held with 25 Penang high rise residents representing several residential areas around the state. The results indicate that the separation at source is influenced by a particular phenomenon known as diffusion of responsibility. The two main sub-themes, moral disengagement and loafing behaviors were primarily motivated by being in the presence of a large group of people such as in a high-rise residential complex. In addition, there was a predominantly negative attitude towards, and low motivation for, separating the waste due to anonymity conditions, time constraint, inadequate infrastructure as well as apparent lack of enforcement by the authorities.

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Keywords: Separation at source, household waste, diffusion of responsibility, recycling, environmental thinking, municipal solid waste.



1. Introduction

The government of Malaysia recognises housing as a basic human need and an important component of the economy. This has led to the formulation of various programs and approaches aimed at ensuring that all Malaysian have access to affordable houses such as the Projek Perumahan Penjawat Awam Malaysia (PPAM), Projek Perumahan Rakyat 1Malaysia (PR1MA) as well as Projek Perumahan Rakyat Termiskin (PPRT). Many of the housing projects by these organizations involved high rise residential in densely populated urban areas. This is because; high rise residential buildings are able to efficiently cater for the increasing needs for housing units in urban areas, where lands are scarce (Sik Cho, Zdravko, & Ivan, 2017). Most of the private housing development is also based on high rise apartment housing.

Combining all the high rise development in Malaysian's cities, the number would be significantly higher than any other types of residential development. Currently, close to six million out of 20 million Malaysian city folks are living in stratified buildings like apartments and condominiums. It is also expected that the number to rise in future as the country progresses and becomes more urbanized (Meikeng, 2016).

Living in a residential high-rise is now becoming a lifestyle or trend among the urban professional community in Malaysia. One of the main reasons people prefer to stay in a high-rise residential is the facilities provided within the housing area. However, due to this trend, managing household waste becomes among the biggest challenge faced by major cities in Malaysia and around the world. Scholars have highlighted that the waste management initiatives usually does not generate the desired outcomes and are unable to sustain on large scale (Tadesse, 2009; Zhang, Che, Yang, Ren, & Tai, 2012). For example, a study conducted by Moh and Abdul Manaf (2017) stated that even though the initiatives for separating waste at the source have been implemented for few years in Malaysia, many Malaysians are still not aware about the initiatives and are not participating.

1.1. Literature Review

Reduction of waste produced by householders can be achieved if some of these waste are diverted to recycling by sorting it 'at source', which usually requires extensive community mobilization and engagement (Huang, Dai, Li, & harder, 2014). Nevertheless, residents in many countries have sorted out their waste at source and have showed tremendous community participation and co-operation for such initiative (Huang et al., 2014). This suggests that sustainable waste management not only needs to be environmentally effective and economically feasible, but also it must be accepted by the society.

Some studies in China found that authority's participation is very important for improving people's perception of a waste separation program (Zhang, Liu, Wen, & Chen, 2017). In a similar situation, Elsaied and Aghezzaf (2015) also highlighted that without authorities' strong support and commitment, it is hard to implement such a concept due to the lack resources, enforcement and effective control mechanism. For example, financial stimulation and investment is usually required to initiate and to set up waste management initiatives such as the provision of new bins, new vehicles, subsidies, public education and campaign. It is crucial for the coordinating government body to be aware of the impacts of

all of the different financial interventions on each of the stakeholders, which could be resulted in positive or negative commitment.

Residents were also facing many challenges when they were required to carry out separation at source. For instance, Ordonez, Harder, Nikitas and Rahe (2015)'s study found that nearly half of the residents in their study have stated that they required more containers in their kitchen to make waste sorting easier and some have raised their concerns about the lack of room in their apartment to keep the waste. There were also complaints about the nuisance (16%), cost (8%) and collection service problems (5%) with respect to the green bag system when implementing waste sorting (Parizeau, Massow, & Martin, 2015).

Apart from that, convenience is also one of the main challenges to increase household waste separation (Bernstad, 2014). For instance, convenient location of waste drop-off facilities was found to be a motivator (Lange, Bruckner, Kroger, Beller, & Eggert, 2014). This is in line with many previous studies indicating that recycling behavior can be facilitated by convenience (Nguyen, Zhu, Phong Le, 2015; Vassanadumrongdee & Kittipongvises, 2018). To put it in a nutshell residents need to have easy access to the facilities that can assist them in waste separation activities.

2. Problem Statement

Separation of waste at the source for high-rise residential buildings in particular, faced unique challenges and difficulties due to the living environment that they are in. At present, there is no specific separation at source strategies implemented in any high-rise residential building in Malaysia. Since the achievement of at source separation mostly rest on active participation of the residents, there is a pressing need to investigate the challenges faced by the residents of high rise residential buildings when implementing waste separation at the source.

3. Research Questions

Taking into consideration all the issues related to the waste management problems, the general aim of this study, which is to assess the separation at the source behaviour among residents of high rise buildings in Malaysia, has focused on the following RQ:

- RQ1. What are the problems and challenges that may arise in the context of separation of waste in high rise residential buildings?

4. Purpose of the Study

Implementing separation of waste at the source for the residents of high rise buildings raised different challenges from those of landed houses. However, studies on these challenges are absent in the case of Malaysia. This is despite the fact that close to 30% of city folks stayed in high rise buildings. Thus this study is primarily interested in exploring major challenges affecting people living in high rise residential buildings in Malaysia when complying with the policy of separation at the source.

5. Research Methods

A qualitative approach is particularly suitable when the study focuses on the perspectives and experiences of actors in their lifeworld (Bitsch & Yakura, 2007). In relation to the waste separation at the source, the behaviours of residents of high rise buildings are diverse and would manifest differently from the residents of landed buildings due to the differences in the nature of these properties. In addition, waste separation is also a sensitive topic, since not separating the waste is considered socially undesirable and against the government's current policy. Therefore, the present study employed a qualitative research approach to investigate the challenges faced by residents of high rise residential buildings (Bitsch, 2005).

5.1. Research Design

Since the study of waste separation at the source is vulnerable to the social desirability bias, it is imperative to ensure proper procedures when collecting data (Banga, 2013; Zhuang, Wu, Wang, Wu & Chen, 2008). In order to reduce social desirability bias, several measures have been taken in this study. First and foremost, the researcher decided to use face-to-face interviews over focus groups to minimise self-presentational concerns and to reduce the pressure on the interviewees to resort to providing researcher with ideal answers (Moser & Korstjens, 2017). The participants were also informed that the focus of the study was to investigate their opinions and beliefs and that there were no right and wrong answers to the interview questions. For particularly sensitive questions, the researcher used protective methods by asking the participants to interpret the behaviour of other residents (Oltmann, 2016).

Participants were contacted through personal contacts of the researcher, and via subsequent snowball sampling. A total of 25 individuals were participated in this study and their profiles were highlighted in Table 01. The interview sessions continued until redundancy was reached, indicating saturation of information. The semi-structured interviews lasted between 45 and 90 minutes, were digitally audio-recorded and transcribed verbatim, and were based on a pre-formulated guide. The guide was initially informed by existing literature, and continually adapted to incorporate emerging issues raised by participants. The interview guide focused on food separation challenges existed due to the participants' particular residential building environments and their specific lifestyle.

Table 01. Participants Profile

Criteria	Category	Number
Gender	Male	16
	Female	9
Age Group	30 – 36	4
	35 – 39	6
	40 – 44	7
	45 – 49	6
Household Income	<2,000	6
	2,001 – 4,000	9
	4,001 – 6,000	5
	>6,000	5
Marital Status	Married	16
	Not Married	9

Household Location	Paya Terubong	4
	Sungai Nibong	7
	Gelugor	8
	Jelutong	6

5.2. Data Analysis

In line with the recommendation by Miles and Huberman (1994), the researcher has coded the data and conducted a thematic analysis of dominating themes. In order to analyse qualitative data, the steps need to be taken are consisted of coding the data, combining the codes into broader categories and themes, and interpreting the results (Creswell et al., 2007). The process of data analysis for this study is also developed gradually during the data collection process (Corbin and Strauss, 2008); the initial analysis of the first transcript enabled the refinement of the discussion guidelines for subsequent interviews. The final analysis was conducted when all the data had been collected. All the relevant sections of the interview transcripts were carefully reread and analysed in the search for patterns and themes (Spiggle, 1994)

6. Findings

The study has conducted interviews with 25 participants, living in nine high rise residential buildings around the state of Penang. Based from the interviews, the main concerns are (1) Moral disengagement situation among the residents in complying with the separation at the source policy; (2) Loafing attitude in separating their household waste. The subthemes and theme that have been uncovered are presented in Table 02.

Table 02. Emerging Subthemes and Themes

Key points	Sub theme	Theme
Inadequate facilities	Moral disengagement	Diffusion of Responsibility
Lack of enforcement		
Time constraint	Loafing Attitude	
Anonymity		

6.1. Inadequate facilities

At the onset of the new waste separation policy was a new issue and challenge, and no high rise residential buildings were yet provided the best solution for collecting the separated waste. The new policy for separating the waste presupposed a better and efficient waste collection than previously, both in terms of the volume of waste and recyclable waste collected. However, the residents of the high rise residential buildings did not view the new initiative as an improvement of the current waste disposal management and the policy triggered a wave of negative reactions from the residents. They felt that policy was not properly executed because the current facilities were not user friendly and that not having them upgraded would impair the initiatives.

Come on, we are staying in a condo and I stay at 33rd floor for goodness sake. And they expect me to bring down my rubbish to the basement? Then why do I need to pay maintenance fee? (Mr Kuan, Owner, Condo B).

The residents were furthermore concerned about the possibilities of bringing down the household waste downstairs, since there are no workers to collect the separated waste from the respective floors. The negative utterances toward the idea of bringing down the waste were voiced already before they started implementing the separation at the source policy at some high rise residential buildings. This laid the ground for resistance towards the initiatives and had a negative effect on the policy;

Too far, simply too far for me to bring my rubbish. Just imagine, from my unit to downstairs and sometimes the lifts are not working. (Ms Jasmine, Apartment D)

One of the most important challenges of participating in the separation at the source initiatives was that of customisation to the specific circumstances, needs, and priorities of each high rise residential buildings. Although some of the buildings, especially the newer ones had taken steps to identify facilities that should be provided to all residents, the reality turned out to be more complex. In some buildings, due to the limited space available, residents have to bring the already separated waste to the recycling bins located in a different area;

Over here, we do not even have workers to collect the rubbish at every floor. So, it is too much if you expect me to bring several bags of rubbish downstairs and then walks quite a distance to the recycling bins (Mr Alex, Owner, Apartment C).

Due to the failure of the building management to provide appropriate facilities, disagreement about adhering to the new policy at the high rise residential building has created distrust and scepticism toward the initiatives from the start.

Last time, I separate bottles and papers from my general rubbish and put it separately. Since they only provide 1 big bin in the refuse room, I leave them on the floor. Guess what, the JMB put up a notice asking us to put rubbish in the bin and the recycles at basement. Now, I don't do it anymore (Mr Sam, Tenant, Condo B)

Separating the waste by residents of high rise residential buildings did exist, but there seemed to be different interpretations about how it be practised. This became an issue whenever the residents were asked about their adherence to the separation at the source policy where various understandings of responsibilities between the building management bodies and the residents would appear. Many residents were already stretched in terms of time and they reported considerable frustration at not having suitable facilities, particularly to support them in realizing the separation at the source initiatives.

6.2. Lack of Enforcement

This is one of the persistent subthemes that relate to moral disengagement. Insufficient enforcement is a state on what should be there but is unavailable. This issue emerged when the participants mentioned what it is like to feel like invincible offenders since no one is enforcing the policy. Government agencies need to work as a one coherent group in order to enforce efficiently. During the interview, one of the participants mentioned how a conflict could exist when the building management

body tried to enforce the initiative. In addition, it will be very difficult for the building management bodies to take action against those who ignore the call to separate their household waste.

They are going to penalize us or the JMB? Because it is impossible to pin point whose rubbish is that. (Ms Aminah, Owner, Apartment C)

Lack of enforcement from the relevant government agencies increased pressure for compliance, which meant the building management bodies had difficult time to enforce the policy thoroughly and therefore non-compliances were more likely to happen, as one of the participants described.

We stay in a condo and we don't put our rubbish in front of our house, so I don't think the government can trace and penalize us, hahaha (Mr Farouq, Tenant, Apartment C).

6.3. Time Constraint

Apart from having little or no enforcement on ensuring separation at the source, some of the participants also claimed that they do not have the time to properly separate their waste as required by the government's policy. Because of the lacking in easy access facilities, the residents felt that they have to do extra work that potentially could lead to extra time dedicated to deal with their household waste, where unnecessary efforts were more likely needed. They described how they sometimes had to spend time which could be utilized for other useful things;

When you have kids that are going for public exams, you will be very busy and don't have time for this kind of stuff. I've to take care of the house and left with no time for other things. (Ms Ina, Owner, Condo B)

It should be noted from the study as well that most people spend huge amount of their time at workplace. Therefore, it is not surprising that many of them claimed that they do not have enough time to do the extra works need in separating their waste. In other words, the participants have put strong emphasis on spending long hours at work and have no intention in spending more time on waste;

I'm working and when I come home, I just want to relax and rest. Sometimes, I told myself that I'll do it tomorrow, but then I forgot because I have so many things to do. (Mr Alex, Owner, Condo A).

When explaining the term 'do not have time' properly, another participant stated that her main concern is related to the additional work that they have to do themselves when dealing with waste. She also highlighted the fact that some of them have to work in shifts and she felt that the irregular time she spend at home make it difficult for her to commit to this initiative;

I'm working (*according to*) shift in a factory and my parents are too old to separate the rubbish. Sometimes I do all that and frankly most of the time, no laa. (Ms Zaleha, Owner, Apartment I).

6.4. Ability to be Anonymous

Although many newer buildings have provided some facilities to cater for separation at the source, only few residents have taken the initiatives to utilize them and participated in separating their household wastes. One of the main culprits that encourage high rise residents to continuously

ignore the call for separation at the source is the anonymity provided by the setting. This can be clearly seen in this study.

Impacts of anonymity on compliance to the separation at the source policy become understandable in view of the weakened monitoring efforts. That is, in lack of a proper monitoring system, self-interests grow and their importance outweighs the commitments and accountability to government policy. In fact, due to weakened monitoring, many of the participants claimed that the ability of the management body to identify offenders is highly questionable. Hence, it has creating relaxed attitudes among the residents in separating the waste.

I don't think people will know who separate their rubbish and who don't. At the end of the day, you will only see a rubbish bag and it can be from any of the units.

(Mr Tan, Unit owner, Apartment D)

Some participants also claimed that the situations are widespread and not only confined to a few housing areas. In relating his experience, the tenant for Condo A tells of hearing tales where in many instances, the people just throw their household waste without any concerns;

I heard that at my friend's condo, people don't really separate their rubbish, you know just throw the whole thing. I don't really separate my rubbish as well and so far I doubt that any of my neighbors separate theirs. (Ms Alice, Tenant, Condo A)

The development of the anonymity issue described showed how the negative attitudes tended to reproduce themselves creating new conflicts elsewhere, when they were not solved. Another reaction that often occurred was that the residents of the high rise buildings withdrew from participating and resorting to the same attitude of ignoring the call. Thus, the problems with anonymity have greatly affected the successful implementation of the separation at the source;

You see, if I don't even know whether my neighbors do the separation, I don't think others will know about me as well. (Mr Zaki, Tenant, Condo A)

Even though this study only covers a small number of high rise residential buildings, it reflects major problems for concerns across all of the areas. These problems would be a huge hurdle for ensuring the separation at the source is properly implemented. In the end, it was not the lack of time the residents experienced as the worst. Rather, apparent lack of transparency seemed to affect the initiative mostly.

7. Conclusion

In general, the participants believed that the two subthemes have given them valid reasons to free themselves from the responsibility to separate their household waste. The schematic presentation of views from residents who did not consistently adhere to the call for the separation of household waste at the source is showed in Figure 01.

In summary, there are several potentially important factors that could have contributed to the overall challenges faced by residents of the high rise buildings. However, one thing is clear, the current policy as well as facilities provided by the building management bodies did not strongly encourage residents to participate in the separation at the source initiatives.

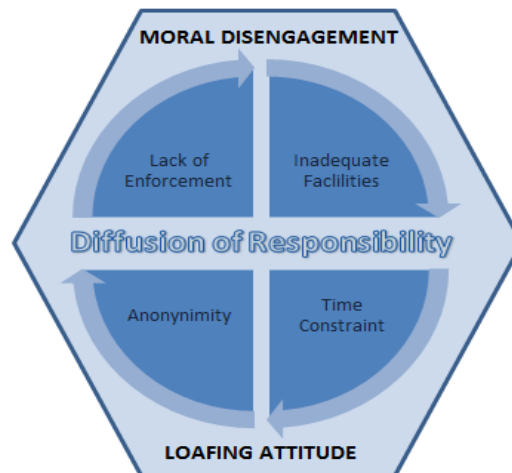


Figure 01. Summary of Findings

The interviews revealed that residents who found waste separation to be a difficult task have a negative propensity to make a commitment to participate in a waste separation program. Results presented in this study are consistent with previous studies which have shown that inadequate facilities, lack of enforcement, anonymity, and lack of time as well as the weak enforcement are important factors that could hinder residents' participations in waste separation at the source initiatives.

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