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Socioeconomic Of Scavenger: Study Case At Johore State, Malaysia

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Abstract
The scavenging activities are one of the common phenomena in the Third World Countries. The scavengers are the communities in solid waste management, they are often related to poorness, uneducated and unhealthy group but they are playing the importance role in the recycling activities in Malaysia. The article discusses the scavenging activities and the socioeconomic situation of scavengers in Malaysia. The result showed that the scavenging activities could generate the good income for most of the scavengers, there are four types of scavengers in Malaysia, the scavengers did not report their true health information due to the some constraints, 60 percent of scavengers need necessity at their work place, they realize that the activities of scavenging can reduce amount of solid waste, and lastly scavengers are exposed to the hazardous and unhealthy work place environment. The decision maker must consider these communities into the solid waste management policy framework to prevent and provide them the healthy environment work place.
Keywords: Scavenger, socioeconomic, solid waste management

1. Introduction

In large cities throughout the developing world, poor individuals survive by salvaging waste materials, primarily recyclable materials, in open dump sites. These people recover the material to sell for reuse or recycling. They also collect different items for their own consumption. These people are generally known as scavengers or ragpickers. Scavenging is a widespread phenomenon. In many developing countries, scavengers can be found on the streets or in open dumps or landfill areas (JICA 2002). In most Asian countries, there is an informal recycling system which works along with the formal system of municipal waste management system. Scavengers go from home to home and buy recyclable material like paper, plastic, glass and old clothes, thus preventing these things from going into dump sites (Seow 2004 & 2005).

It is difficult to quantify the total contribution of the informal sector to urban waste management. The informal nature of this sector inherently implies lack of official statistical data. Quantification of informal recovery is therefore scarce an uncertain. For Mexico, scavengers are estimated to remove 10% of the municipal waste (Bartone et al., 1991). In Bangalore, India the informal sector is claimed to prevent 15% of the municipal waste going to the dumpsite (Baud and Schenk, 1994). In Karachi, the informal sector reduces municipal waste collection by 10% (Ali et al., 1993). Based on the World Bank estimation, 1 – 2% of the population of big cities is supported directly or indirectly by the refuse generated by the upper 10 – 20% of the population (Hogland and Marques, 2000).

Scavenging not only provides a source of income to the poorer segments of the population but also reduces the need for highly sophisticated and costly recovery systems. The objectives of this paper are (i) to determine the level of social economic of scavengers; (ii) to determine the need at the work environment as a scavenger and (iii) to discuss the health issue and environmental knowledge among the scavengers.

2. Method

The study was exploratory in nature using a set of questionnaire to survey the scavenger. The questionnaire consisted of six parts. There are (i) background of the respondent; (ii) information of scavenging activities; (iii) information of socioeconomic; (iv) income information; (v) information of health; and (vi) knowledge of environmental issues. The random method used to get the respondents at landfill, road side and institution. The case study was carried out in Johore State of Malaysia. Random method is used in this study. Total respondents is 206.

3. Result

The total of respondents in this study is 206 people. There are 48 respondents in Muar District, 31 respondents in Batu Pahat District, 41 respondents in Kaluang District, 12 respondents in Kota Tinggi and 74 respondents in Johor Bahru District. 154 (75%) of the respondents are male and others are female (25%). 25 of respondents are foreigner, most of them are from Indonesia and Nepal. Figure 1 show that 18 % of the respondents never get the

education, 37 % of the respondents just only have the education level at primary school, 41 % of the respondent at the secondary school level and 4 % of the respondents are informal education (others).

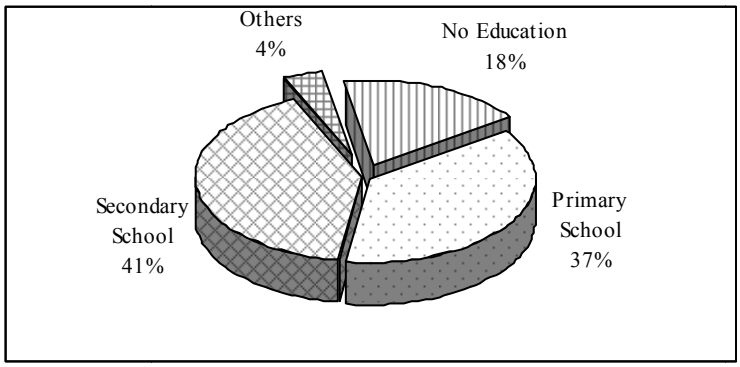

Figure 1. Percentage of Scavenger's Education Level

Like others countries, scavengers in Malaysia have two types, there are work as permanent and part time job, 30 % of the scavenger work as full time job and others are park time. 15 % of respondents are work in landfill or dump site, 19% in road site, 21 % in institution and 45 % are freelance to collect the recyclable material in anywhere (Figure 2). Most of the scavengers (41%) work 7 days per week, 33 % work 6 days per week, 13 % work 5 days per week, 16 % work lest then 5 days. Most of them will spend 1 to 15 hours per day for work. Scavengers not only collect the recyclable material for selling but they also kept it as own-use for some of well product. Commonly, the waste is sorted into different categories including paper, cardboard, textile, leather, aluminum can, plastics, glass bottles, ferrous metal and wood. The table 1 show that the type of recyclable material and own-use recyclable material such sofa, mattress, books, and clothes.

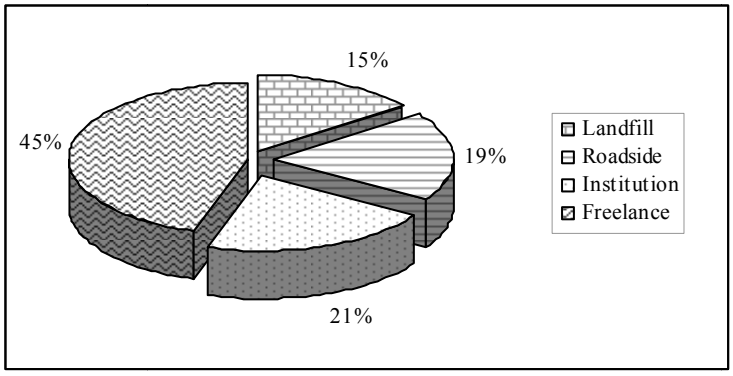

Figure 2: Percentage of Scavenger Category

Table 1. Frequency of Scavenger Sell and Own Use Recyclable Material

Type	Sell	Own use
Paper (included all types of paper boxes)	138	134
Plastic	47	45
Metal	178	177
Rubber	12	8
Leather	3	1
Textile	19	5
Glass	13	13
Food Waste	6	2

Most of the scavengers spend the productive period of their lives at the landfill while others work there temporarily when unable to find employment in the labor market. They may have ordinary jobs such as security guards, operators, house wife, cleaners, and blue collar worker. The scavenging activities produce the good

income for scavenger. The Table 2 show that the average weekly income of scavengers earning through the scavenging activities. Most of them earn less than RM50 (USD 13.16) per week. Most of scavengers buy recyclable goods directly from households or shops, than sell it to the dealer. But some of scavengers acquire recyclable waste from the streets, in heaps outside houses or the transfer station, although they do not usually pay for the waste.

Table 2. Average Weekly Income

Income rate	Frequency
Less then RM 50 (USD 13.16)	178
RM51 – RM100 (USD 13.17 – USD 26.32)	15
RM 101 – RM 150 (USD 26.33 – USD 39.47)	1
RM151 – RM200 (USD 39.48 – USD 52.63)	4
RM201 – RM250 (USD 52.64 – USD 65.79)	1

Nearly sixty percent from the total scavengers (57%) have their own house, 31 % from them rental the house, 24 % from them staying at the landfill. Figure 3 show the basic facilities possessed by scavengers. 88 % of the scavenger's get the tar road front their house, 52% of scavengers use telephone or handphone / mobile phone, 90 % of the scavenger get the clean water supply and electricity supply. Most of them have possessed by these facilities. Table 3 show those main monthly household expenditure spend by scavengers. Scavengers spend large amount for their house renting / installment, car installment and insurance.

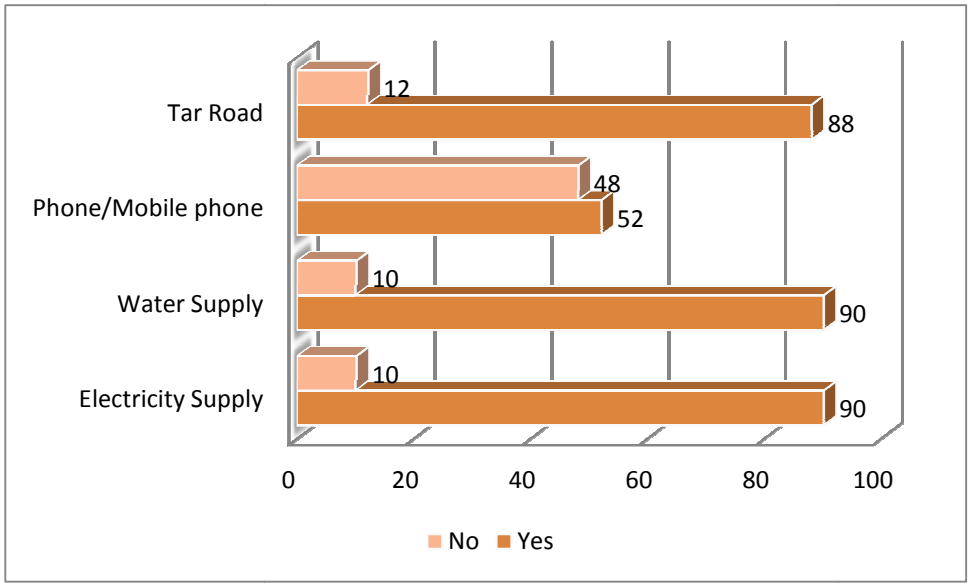

Figure 3. Percentage of Basic Facilities

Table 3. Monthly Expense for Household Scavenger

Category	Total (RM)	$USD
House Renting/Installment	50 - 400	13.2 – 105.3
Car Installment	200 - 400	52.6 - 105.3
Electricity	1-100	0.3 -26.3
Water	< 50	< 13.2
Phone (House)	< 100	< 26.3
Handphone	< 100	< 26.3
Insurance For Whole Family	< 800	< 210.5
Medical	< 50	< 13.2

The analysis shows (Figure 4) that scavenger really that they needed work training like technology usage, sorting and segregation the waste. They also needed the knowledge regarding the safety, health and environment at their work place. They also concern about the law's and regulation's information but 81 of respondents they do not need any necessity in their work place.

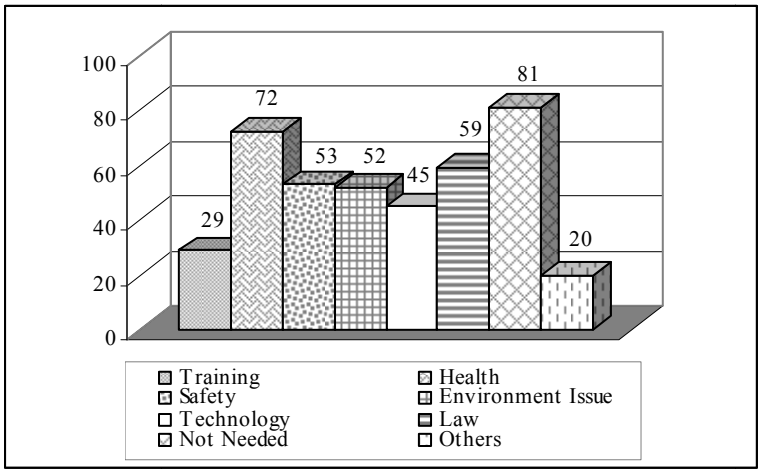

Figure 4. Frequency of Necessity of Training at Work Place

Human contact with refuse implies a high risk for a variety of diseases including tetanus, typhoid, hepatitis and cholera. Infectious diseases can be spread either by direct contact with the waste, by animals such insects, birds, goats and cows, or by windborne distribution. Table 4 show that the type of disease infected by scavenger and their family. The common disease infected by scavenger and their family are hypertension (17 cases), diabetes (13 cases), asthma (14 cases), heart disease (8 cases), skin disease (2 cases), kidney disease (2 cases), cancer (2 cases), HIV/AIDS (1 case) and others (15 cases). There is one case regarding with HIV/AIDS disease, that cases is due to that scavenger is the drug addict. Most of them are sensitive when asked the question regarding with their health information. Some of them threat the skin disease as a common disease because could not be taken their life. Scavengers often live on or beside landfill (for those do not have house) in order to await the arrival of waste filled trucks.

Table 4. Type of Disease Infected by Scavenger and Their Family

Type of Disease	Frequency
Heart disease	8
Hypertension	17
Diabetes	13
Skin	2
Asthma	14
Kidney	2
Cancer	2
HIV/AIDS	1
Others	15

The total eleven of the question (Table 5) regarding with the scavenging activities and the issues of environmental had been questioned. The results shown that 72 % of scavengers knowing that solid waste can bring the diseases to the human, 72 % agreed that the solid waste is one of the environmental issue, most of the scavengers do not know that they have to register with local authority to get the permit to do scavenging and most of them also disagreed with the statement saying that scavenging activities expose to the hazardous work environment. 79 % of scavengers disagreed that scavenging activities could bring harmful to the environmental. At the same time, 61 % of them agreed that scavenger have to concern about their safety issue at their work place and 91 % of them believed that scavenging reduce the amount of solid waste. 40 % of scavenger required the special equipment usage and safety and environmental knowledge.

Table 5. Percentage of Opinion of Scavenger Regarding With The Environmental Issues (%)

Issues	Yes	Not Sure	No
1. Solid waste could bring the disease	72	9	19
2. Solid waste is one of the environmental issue	75	18	7
3. Scavenging activities need to register with local authority	22	26	52
4. Scavenger expose to the hazardous work environment	26	29	45
5. Scavenging activities could bring harmful to the environmental	8	13	79
6. Scavenger have to concern the environmental issue	45	41	14
7. Scavenging reduce the amount of solid waste	91	5	4
8. Scavenger need the special equipment	40	32	28
9. Scavenger need the safety at work place	61	26	13
10. Scavenger need to expose to the safety knowledge	40	34	26
11. Scavenger need to expose to the environmental knowledge	40	34	26

4. Challengers of Scavenger

Scavengers are large informal sector which operates in parallel with the formal waste collection authorities. This informal sector is mainly guided by market forces. It is difficult to quantify the total contribution of the informal sector to urban waste management. The informal nature of this sector inherently implies lack of official statistical data. Quantification of informal recovery is therefore scarce and uncertain.

Based on the studied, the challenges of scavengers in Malaysia could be concluded into below phenomena:

- Scavengers in Malaysia play the importance role in the formal and informal solid waste management especially in term of waste minimization.
- Activities of scavenging have done full time and part time work for some interest parties in Malaysia.
- Scavengers in Malaysia are exposed to the hazardous and unhealthy work place environment.
- Scavengers do not know they have to register with local authority to get the license in their daily activities.
- Work place condition is unhealthy and unsafely.
- Scavengers urgently needed the training regarding with safety and health at work places.
- The values (price) of the recyclable material depend on the global market price therefore will affect scavenger's monthly income.
- The informal sector can recover and return to productive use materials that would otherwise end up in the waste stream.
- Activities of scavenging can be capable of handling large volumes of materials sorting activities for the purposes of selling, reusing and recycling can reduce a vast amount of waste materials requiring collection and transport.

5. Sustainable community: the way forward

What is the best policy to stimulate the quality of life for the scavengers? No single policy offers the right solution for every country to follow. Action to improve conditions in scavenger's community need the sustainable way forward in dealing with other players in waste management communities. Sustainability requires managing all households - individual, community, national, and global - in ways that ensure that our economy and society can continue to exist without destroying the natural environment on which we all depend. Sustainable communities acknowledge that there are limits to the natural, social and built systems upon which we depend.

Sustainability is an issue for all communities, from small rural towns to large metropolitan areas where the solid waste are decreasing the quality of life. In a sustainable community, resource consumption is balanced by resources assimilated by the ecosystem. The sustainability of a community is largely determined by the web of resources providing its food, fiber, water, and energy needs and by the ability of natural systems to process its wastes. A community is unsustainable if it consumes resources faster than they can be renewed, produces more wastes than natural systems can process or relies upon distant sources for its basic needs.

Sustainable community development is the ability to make development choices which respect the relationship between the three "E's-economy, ecology, and equity" (MACED, 2006). There are;

- Economy - Economic activity should serve the common good, be self-renewing, and build local assets and self-reliance.

- Ecology - Humans are part of nature, nature has limits, and communities are responsible for protecting and building natural assets.
- Equity - The opportunity for full participation in all activities, benefits, and decision-making of a society.

While sustainability needs to be considered at all levels of decision making - local, regional, national, and global. The primary goal of a sustainable local community is to meets its basic resource needs in ways that can be continued in the future. To do this, we need to figure out what our basic needs are and how to meet those needs most effectively. It is important for the community itself to become involved in the project. A sustainable community needs to be developed by the people who make up the community. It needs to be implemented every day by the people who live and work in the community.

A sustainable community means many things to the different people who live in. Everyone wants a secure, productive job to support themselves. Everyone needs clean air to breathe and clean water to drink. Discovering the needs of the community and finding ways to meet those needs is not difficult but it does require some effort. It begins by deciding what sustainable community would look like. There are as many different ways to create a vision as there are communities that have done so. What is most important is that the vision be created by the entire community: the well-to-do and those living in poverty, business owners and union workers, young and old. Just as important as knowing what a community wants to become is knowing how to reach that goal. We need ways to tell whether the decisions we make are increasing or decreasing the overall community health of our communities. Yet, essential ingredients include the approach in sustainable development need to take into account for every policy makers.

Based on the available data, some strategies can be implemented in order to promote improvements in the scavenger's quality of life. In the methods used to reach this goal needs to take into account that scavenging a non-capitalist activity articulated with the capitalist sector through the market. To transform scavenging, any programs should introduce commodity relation and rationalization of production of recovered materials. Improvements may be made through social, technical or managerial assistance and credit, to transform the scavengers into an organized cooperative. The actors of the informal sector should be incorporated into the formal sector and for instance be provided with sanitary working conditions. Municipalities in developing countries are slowly beginning to recognize the merits of the informal recovery sector. As a result some policy makers have to try to accommodate scavengers in the policy.

The policy must be clarifying the some elements that could prevent these small communities, the policy elements should include:

- providing the long term view of the scavengers community;
- to address the issue of economic, social or biological diversity in the scavengers communities;
- to meet the issue of equity or fairness between current community residents or between current and future residents.
- provide the human capital like skills, abilities, health, safe and education.

6. Conclusion

The result showed us that scavenger communities work in the unhealthy and unsafely environment. They alert that they are playing the importance role in recycling activities. The health issues are sensitive for them. Therefore, one policy has to decide to improve their situation. But the questions occur is how far the exiting solid waste policy solid waste management has playing role in terms of taking account the important of contribution of scavenger in current solid waste management? Finally, the question is - when the scavenger communities will achieve the era of sustainable community in the modern society?

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