

**STUDY ON PLASTIC RECYCLING
IN PETALING JAYA**

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ABSTRAK

Kitar semula adalah merupakan satu kaedah dalam pengurusan sisa untuk mengurangkan penghasilan sisa pepejal. Biarpun terdapat beberapa bahan-bahan yang tidak boleh diguna semula atau dikitar semula, namun dalam tempoh dua dekad yang lalu, plastik adalah bahan yang sering dikitar semula. Kajian ini bertujuan untuk mengenalpasti jenis sisa pepejal perbandaran di Petaling Jaya (PJ), Malaysia. Di samping itu, objektif kajian juga adalah untuk mendapatkan peratusan tahap kesedaran di kalangan penduduk mengenai kitar semula plastik sekaligus untuk mengenalpasti masalah-masalah yang mempengaruhi pelaksanaan kitar semula plastik. Kajian soal selidik telah dibuat dan diedarkan kepada penduduk di kawasan kajian. Kaedah kajian ini adalah meliputi pengumpulan data daripada kajian lapangan iaitu; persampelan, pengasingan dan pengukuran berat basah sisa dan pendedaran soal selidik. Analisis data turut digunakan untuk mendapatkan pampasan sisa dan soal selidik dengan menggunakan 'Microsoft Excel' dan perisian software statistik (SPSS). Berdasarkan daripada kelompok sisa di PJ, jumlah 21% adalah terdiri daripada plastik, manakala sebanyak 42% adalah daripada komponen organik besar. Terdapat 67% daripada penduduk PJ yang memahami istilah kitar semula, namun daripada jumlah penduduk tersebut hanya 22% yang mengamalkan kitar semula. Sebanyak 60% daripada sisa plastik di PJ masih dilupuskan ke tapak pelupusan sampah. Hal ini menunjukkan bahawa penduduk masih tidak prihatin akan konsep 3Rs (kitar semula, guna semula, dan pengurangan). Antara faktor-faktor berlakunya masalah pembuangan plastik adalah disebabkan kemudahan yang tidak mencukupi dan kekurangan pendidikan mengenai kitar semula plastik. Di kawasan PJ, sebanyak 31% daripada responden menunjukkan rasa tidak puas hati terhadap penyediaan

tong kitar semula yang tidak mencukupi untuk pengasingan sisa plastik. Penduduk di PJ juga merasakan bahawa kurangnya pengetahuan terhadap kitar semula dan sikap tidak prihatin di kalangan penduduk adalah halangan utama untuk penduduk bekerjasama dalam pelaksanaan kitar semula plastik. Jumlah plastik yang diperolehi daripada kelompok sisa adalah tinggi. Kajian mendapati bahawa PJ merupakan kawasan yang paling bermasalah dan tidak efisien dalam pelaksanaan kitar semula plastik. Masalah-masalah tersebut berpunca daripada; kurang prihatin (39%), kurang pengetahuan (36%) dan tiada kemudahan kitar semula (31%). Oleh itu, penglibatan rakyat yang lebih progresif dalam isu kitar semula plastik dapat dicapai sekiranya pihak kerajaan dan pihak pengurusan sisa memainkan peranan penting dalam menyediakan infrastruktur asas yang mencukupi.

ABSTRACT

Recycling is an option in waste management that basically helps in the reduction of solid waste generation. While some materials cannot be reused or recycled, plastic is a material that has been more frequently recycled in the last two decades. This study was aimed at characterizing municipal solid waste (MSW) in Petaling Jaya (PJ), Malaysia. It also investigated the degree of residents' plastic recycling awareness in relation to identifying the problems affecting plastic recycling. An outlined questionnaire was designed and distributed to residents in the study area. The research includes data collection through field survey; sampling, segregation and wet weight measurement of the wastes and distribution of questionnaires. Analysis of data for waste composition and questionnaires were carried out using Microsoft Excel and the Statistical Package for Social Sciences (SPSS) software. Plastic component was approximately 21% of the waste stream in PJ, though organic component formed the bulk portion (42%). Although about 67% of PJ residents knew the meaning of recycling, only 22% of the respondents practiced it. About 60% of plastic waste in PJ is still being disposed off into landfill. This finding indicated that residents are not aware of 3Rs (Recycling, Reuse, and Reduce). This might be attributed to lack of facilities and suitable training methods on plastic recycling. In PJ area, 31% of the respondents showed their dissatisfaction over insufficient recycling bins provided for plastic waste separation at source. The citizens from PJ felt that inadequate knowledge on recycling and ignorance are the major setbacks for citizens' non-cooperation over plastic recycling. The concentration of plastics obtained in the waste stream is high. However, the research identified a number of problems that hinder efficient recycling of plastic in PJ. Such problems ranged from lack of awareness (39%), level of literacy (36%)

to unavailability of recycling facilities (31%). For a more progressive citizens' involvement in plastic recycling in PJ, government and waste management authorities should play a key role in providing the basic infrastructures.

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ABBREVIATION

ABS	Acrylonitrile Butadienne Styrene
BHET	Bis-(2-Hydroxyethyl) Terephthalate
CPET	Crystal Polyethylene Terephthalate
DMT	Dimethyl Terphthalate
EG	Mono Ethylene Glycol
FW	Fresh weight
GPET	Glycol Polyethylene Terephthalate
HDPE	High Density Polyethylene
IGES	Institute for Global Environmental Strategies
LDPE	Low Density Polyethylene
MATRADE	Malaysia External Trade Development Corporation
MBPJ	Petaling Jaya City Council
MHLG	Ministry of Housing and Local Government
MOIM	Ministry of Industry and Mines
MPMA	Malaysian Plastics Manufactures Association
MRF	Materials Recovery Facilities
MSW	Municipal Solid Wastes
NAPCOR	National Association for Plastic Container Recovery
NGO	None-governmental organization
NIMBY	Not in My Back-yard
NPIC	National Petrochemical Industry Company

PC	Polycarbonate
PE	Polyethylene
PET	Polyethylene Terephthalate
PJ	Petaling Jaya
PJCC	Petaling Jaya Community Centre Recycling
PMMA	Polymethyl Methacrylate
PP	Polypropylene
PS	Polystyrene
PVC	Polyvinyl Chloride
3R	Recycle, Reduce and Reuse
RM	Ringgit Malaysia
RVM	Reverse-Vending Machines
SPI	Society of Plastics Industry
SPM	Equivalent to O- Level
STPM	Equivalent to A- Level
TEI	Thailand Environment Institute
TPA	Terephthalic Acid
TrEEs	Treat Every Environment Special
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UV	Ultraviolet
V/D	Volume/Density
WMS	Waste Management Services

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