

STATUS OF 3R AND WASTE MANAGEMENT IN MALAYSIA

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Introduction

- Municipal solid waste (MSW) management was quite primitive until the late 1970s.
- In 1993, **privatization** was initiated
 - awarded concessions to four private consortia
 - failed to resolve MSW challenges faced by the local authorities due to the unsustainable financial mechanism.
 - no specific contribution from the waste generators.



Highly mixed waste generated by Malaysians



Plastic wastes at landfill site



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Landfill leachate contamination



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Legislations on MSW Management

Year	Policy/Legislation
1988	Action Plan for a Beautiful and Clean (ABC) Malaysia
2005	National Strategic Plan for Solid Waste Management (NSP)
2006	Master Plan on National Waste Minimization (MWM) National Solid Waste Management Policy
2007	Solid Waste and Public Cleansing Management Act (SWPCM Act) 2007
2009 – 2013	Solid Waste Corporation Strategic Plan
2011– 2015	Tenth Malaysian Plan (2011–2015) articulated the Malaysian government's commitment to sustainable waste management

Aim of Presentation

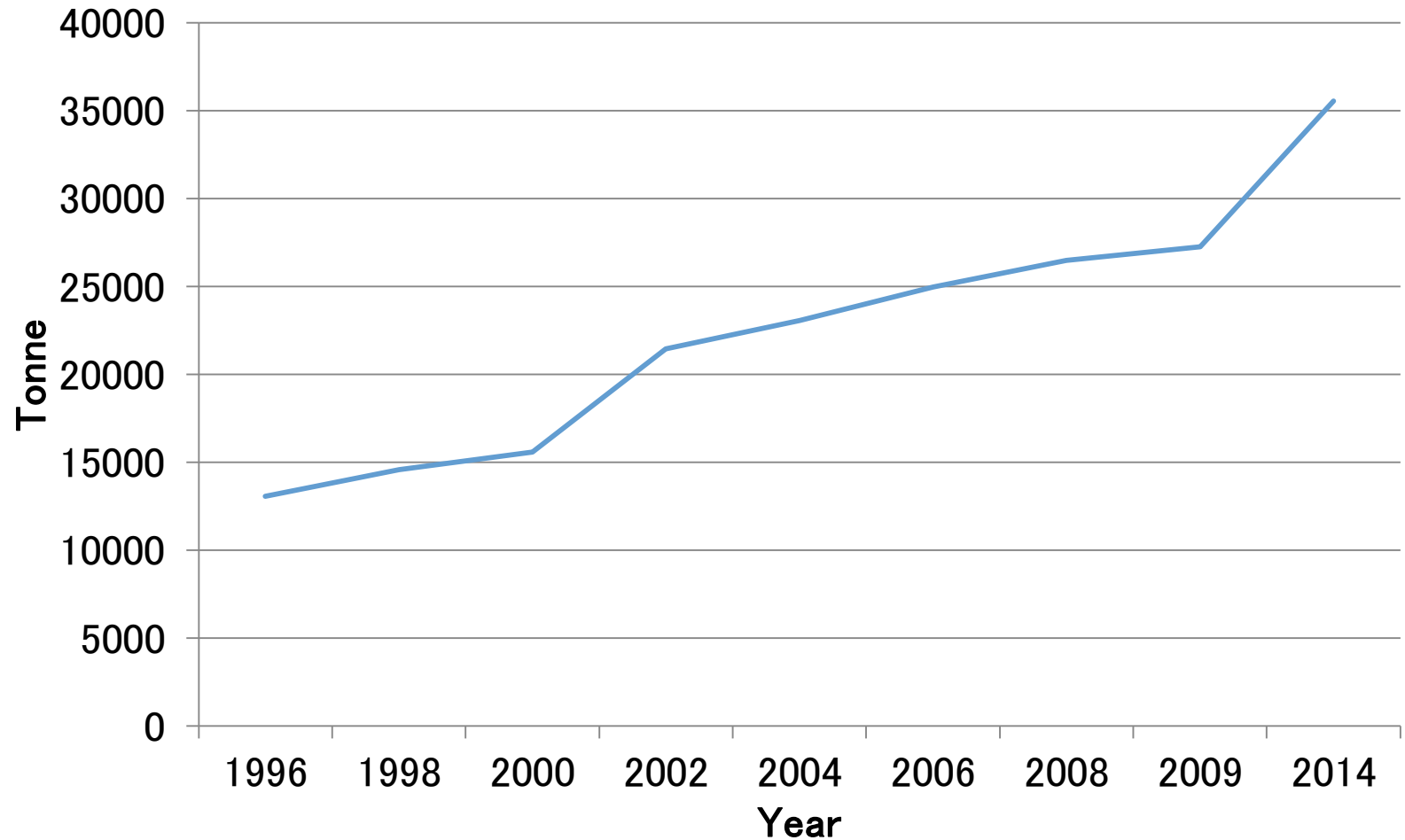
To deliberate on the current status of 3R
in Malaysia resulting from the
implementation of the legislation
pertaining to waste management

Current Waste Management in Malaysia

- MSW generation has reached 33,000 tonnes/day, since 2011
- per capita generation is predicted to reach 1.6 kg in 2017 (3% annual increase)
- >80% recoverable materials
 - organics (~40%), paper (11%), plastics (13%), metals (3%) and glass (3%)
- Separation is almost nil due to the complexity and highly heterogenous nature of waste.



Daily MSW Generation



Waste generation increase in Malaysia (tonnes/ day)



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MSW generated by the high, medium and low socio-economic areas in Petaling Jaya

Composition (%)	Socio-economic status		
	High	Middle	Low
Paper products	19.79	15.73	13.04
Plastic and rubber	21.05	18.61	13.01
Glass and ceramics	14.99	9.42	7.57
Food waste	24.13	29.77	31.86
Metals	8.80	12.75	9.15
Textiles	1.57	3.87	3.08
Garden waste	5.50	6.95	15.56
Wood	3.45	2.90	6.72
Total	100.00	100.00	100.00



Overflowing of waste



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3R under SWPCM Act 2007

- to tackle 3R issues,
 - separation,
 - treatment of solid waste,
 - interim treatment,
 - final disposal of solid waste, and
 - other services related to public amenities.
- waste generators are responsible to conduct waste separation.
 - Failure to do so would be an offence and upon conviction the person is liable to a fine not exceeding RM1000 (USD263).



Provisions on 3R under SWPCM Act 2007

- Reduce the generation of solid waste.
- Use environmentally friendly material.
- Use specified amount of recycled materials for specified products.
- Limit the generation, import, use, discharge and disposal of specified products or materials.
- Implement coding and labelling systems for any product or material to promote recycling.
- Use of method for the purpose of reducing adverse impacts from solid waste.
- Use of method for the purpose of reduction, reuse and recycling of solid waste.
- Require that producers and manufacturers take back their products or goods for recycling or disposal at their own cost.
- Require any person to deliver the products or goods to the producer and manufacturer.
- Require any dealer to store the products or goods to be taken back to the producer and manufacturer.
- Establish a deposit refund system and determine the specified products or goods, the deposit refund amount, labelling and the obligations of dealers.



Challenges of the Implementation of SWPCM Act 2007

- Solid Waste and Public Cleansing Management (Scheme for Household Solid Waste and Solid Waste Similar to Household Solid Waste) Regulations 2011
 - enforced in September 2015
 - aim to mandate the waste generators to conduct waste separation
- Two years grace period prior to the execution of punitive measures.
- Among the issues identified:
 - lack of public participation,
 - inefficient enforcement,
 - issues on collection system and informal recyclers, and
 - implementation challenges on non-landed properties.
 - lack of proper separation schedule and procedure



Impacts & Needs of SWPCM Act 2007

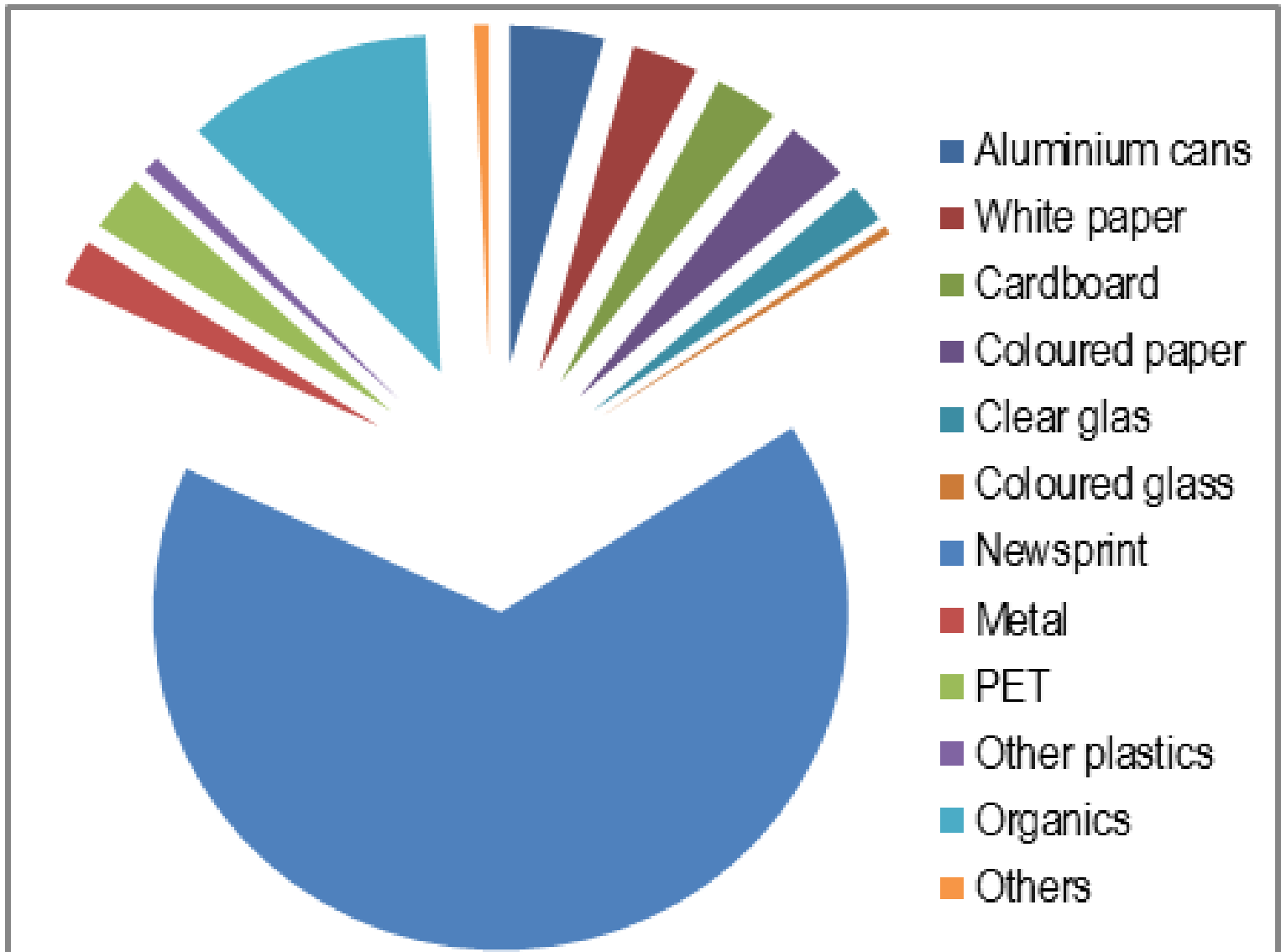
- No visible significant improvement but collection of recyclables has increased.
- Several **strategies** need to be utilized to improve the percentage of success in separation and recycling
- **Incentives** in the form of tax exemption, or points system may boost public participation in recycling as well as reduction and reuse habits.
- Additionally, proper waste separation mechanism should be **publicized**, with clear guidelines of 'do's and 'don't's



Waste separation in Malaysia

- Regulations under Act 672 make **waste separation mandatory**.
- Waste separation is the responsibility of the **waste generators**.
- **Enforced since June 1, 2016**, in at least eight states/territories.
- Failure to separate the waste generated by the premises is an **offence**.
- Upon conviction the person is liable to a fine not exceeding RM1000 (USD263).
- The 672 Act makes it **compulsory** for residents to separate solid wastes according to categories of paper, plastics and others or face fines between RM50 and RM500.





Composition of recyclables in Malaysia

Waste generated in Kuala Lumpur in a day

Districts	Number of residents	Total waste generated (kg)	Total recyclable		Per capita generation	Actual generation (kg)
			Mass	Percentage		
Cheras	65	430.6	80.5	18.7	0.93	142,685
Titivangsa	61	482.1	108.5	22.5	1.13	210,457
Setiawangsa	58	363.4	49.7	13.6	0.9	150,644
Wangsa maju	60	352.2	57.4	16.3	0.83	178,641
Batu	55	400.0	74.8	18.7	1.04	89,364
Kepong	52	351.0	69.5	19.8	0.96	10,028
Bandar Tun Razak	55	405.9	75.9	18.7	1.05	269,893
Seputeh	58	419.8	84.8	20.2	1.03	223,037
Segambut	42	307.1	84.0	23	1.24	147,138
Lembah Pantai	45	440.8	70.3	16	1.39	247,512
Total						1,699,299 =1699.299 metric tonne

Separation percentage according to district

Districts	Percentage of house that separated waste (%)
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Seputeh	47
Segambut	60
Bandar Tun Razak	40
Lembah Pantai	33
Titiwangsa	53
Batu	40
Setiawangsa	20
Wangsa Maju	33
Kepong	45
Cheras	40



76% residents have been separating their waste since the implementation in September 201



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Current Status of Recycling in Malaysia

- Malaysia's recycling rate is only at 10.8 % according to the JPSPN's waste audit.
- Current market in recycling sector in Malaysia:
 - 60 plastic manufacturers,
 - 10 paper mills, and
 - More than 100 e-waste recyclers.



Scrap metal recycling services company in Kuala Lumpur



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Existing facilities in Malaysia to promote resource recovery



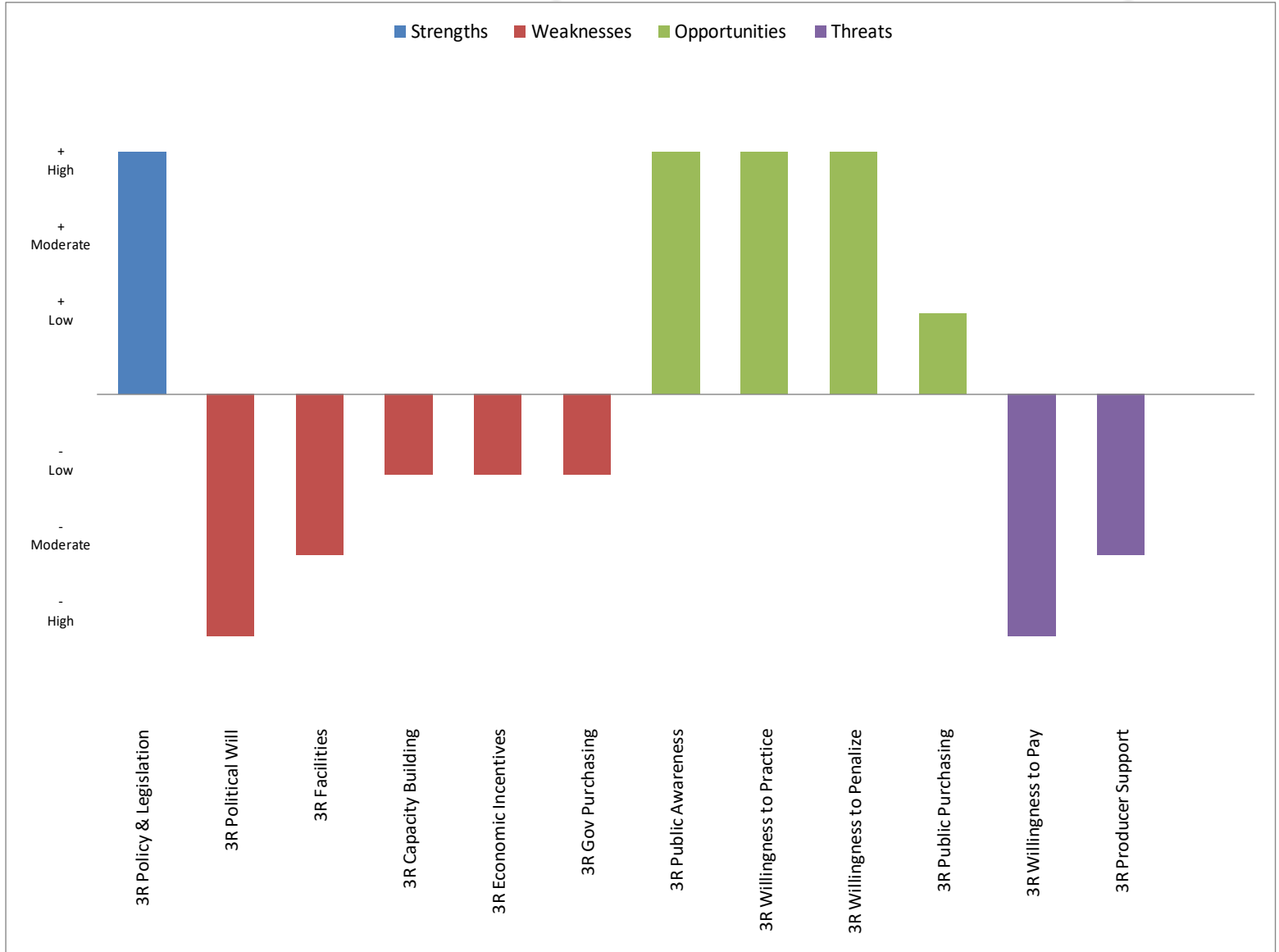
Recycling Mart in Penang, Malaysia



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SWOT Analysis on 3R Policy



Challenges in 3R Policy

- Lack of political will for implementation,
- Lack of facilities and infrastructure,
- Lack of capacity for personnel,
- Absence of economic incentives, and
- Lack of government purchasing to encourage market for 3R products.



Opportunities for 3R Policy Implementation

- moderate to high level of awareness on 3R policies,
- willingness to practice 3R activities such as source separation and recycling,
- willingness to penalize individuals who refuse to recycle as well as making recycling mandatory,
- willingness to purchase recycled products.

Conclusion

- 3R concepts should also be highlighted as one of the national waste management agenda;
- There are opportunities to improve the current status of 3R program in Malaysia;
- More sustainable waste management system should be established to promote higher recycling rates.





THANK YOU
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