

**Fourth Regional 3R Forum in Asia**

**“3Rs in the Context of Rio+20 Outcomes – The Future We Want”**

**Ha Noi, Viet Nam, 18-20 March 2013**

## **Country Analysis• Paper**

**(Draft)**

**< Malaysia >**

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This country analysis paper was prepared by Malaysia as an input for the Fourth Regional 3R Forum in Asia. The views expressed herein do not necessarily reflect the views of the United Nations.

## COUNTRY ANALYSIS PAPER

### MAJOR INITIATIVES AND ACHIEVEMENTS OF MALAYSIA IN THE PROMOTION OF 3RS

#### INTRODUCTION

1. The government of Malaysia has been giving great emphasis on 3R to address the problem of waste since 2001. The **3<sup>rd</sup> Outline Perspective Plan (2001-2010)** stated very clearly that the government will consider the adoption of a comprehensive waste management policy including the installation of incinerators for safe and efficient disposal of waste as well as **to formulate strategies for waste reduction, reuse and recycling**. The 3Rs is to address both the solid waste as well as the schedule waste issues. While solid waste is under the purview of the Ministry of Housing and Local Government, the scheduled waste is under the jurisdiction of Ministry of Natural Resources and the Environment.

2. Regarding scheduled waste, the government through Department of Environment has outlined 3 objectives; to manage e-waste in environmentally sound manner, to prevent illegal import-export and to promote resource recovery. E-waste is categorized as scheduled waste and regulated under Environmental Quality (Scheduled Waste) Regulations (2005). In 2011, it was estimated about 3,281,569.21 metric tonnes of scheduled wastes were generated in Malaysia and 152,722.04 tons of the generated scheduled waste is e-waste that is 9.42% of the total scheduled waste generated. The scheduled waste in particular waste from electronic and electrical equipment is specifically targeted for 3R. Of the total wastes being recovered at local off- site recovery facilities, 39.1% are electronic and electrical wastes followed by dross/ash/slag/ catalyst (12.4%) whilst oil/mineral sludge/spent coolant (9.4%), acid/alkaline (6.9%), and heavy metal sludge/ rubber.

3. As for solid waste, in 2006, we formulated our National Policy on solid waste management to give priority to 3R and our National Strategic Plan on Solid Waste Management provides clear action plans to be taken such as :

- To promote waste reduction in public and private sector
- To achieve 3R by using mandatory and voluntary instruments
- Target to reduce and recovery of waste : >20% towards year 2020
- Setting recycling targets for specific waste streams i.e. paper, plastic, metal, and
- To provide Infrastructure to support these targets

### **3R in National Legislation**

4. In 2007, the Parliament passed a specific act on solid waste management. The **Solid Waste and Public Cleansing Management Act (Act 672)** confers the executive power to the Federal Government with regard to solid waste management in Malaysia. Thus, relieving the local authorities from their responsibilities to manage solid waste. This bold move was motivated by aims to provide a systematic and uniformed standard of solid waste management services as well as to achieve the economics of scale through holistic approach in terms of planning and integrating solid waste management value chains nationwide.

5. In this regard, Act 672 has special provisions specifically formulated to promote the practice of 3R such as requirement for separation at source, requirement to reduce, reuse and recycle waste, and the ability to establish take back system and deposit refund system for certain materials whenever the government deems it is necessary to intervene. These provisions certainly give a significant and meaningful leverage to the government as it strives to intensify the practice of 3R in Malaysia.

### **Sorting at Source**

6. The provision embedded in the Act has provided the enabling clause for the Department of National Solid Waste Management (DNSWM) to take 3R to a greater height. With the authority provided under the Act 672, the DNSWM is able to privatise the collection of household solid waste to three concessionaires. In the concession agreement, a provision is made for the sorting at source to be implemented. Although the regulation on this matter is not yet being enforced, the Concession Agreement has enable for sorting at source of houshehold waste to be carried out administratively. Under the privatisation programme, collection of recyclables including electronic and electrical waste, bulky waste and green waste will be carried out once a week from individual premise. Thus, with the infrastructure and the collection schedule being put in place, 3R activities are greatly enhanced.

### **Recycling Bank in Schools**

7. Efforts to educate the children in recycling activities is carried out intensely. We have established recycling banks at 279 schools nationwide. This programme is carried out with the cooperation of a local bank, Ministry of Education and the Corporation of Solid Waste and Public Cleansing Management. Under this programme, the Bank provides a saving account for each participating school children. The children will bring the recyclable waste to school where it is being exchange for cash which is deposited into the child account.

### **Drive Through Programme**

8. 3R Drive-through programs introduced by Ministry of Housing and Local Government now has the participation from 26 major shopping malls while 3R@Community program involves 44 communities apart from countless other community 3R drive done by local authorities under LA21 banner.

### **Public Awareness Programme**

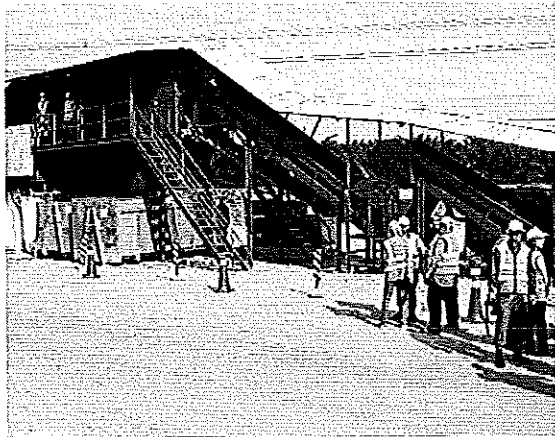
9. Public awareness programme is continuously being carried out. Each year, on the 11<sup>th</sup> November, Malaysia celebrates National Recycling Day. In conjunction with the National Recycling Day, various activities are carried such as Recycling Run, exhibition on 3R by NGOS, sermon in mosques about recycling and etc. In addition, television and radio runs various advertisement on recycling as well as articles in newspapers.

### **Promotion of 3R Technologies and Infrastructures**

10. In order to promote and enhance the utilization of 3R technologies, the government has taken several steps including:

- i) Establishment of Solid Waste Management Technology Evaluation Committee at Ministry of Housing and Local Government (MHLG) whose role among others, evaluating the suitability of 3R technologies for Malaysia;
- ii) Publication of Recycling Directory in 2006/2007 to promote 3R technology providers;
- iii) Creation of Ministry of Energy, Green Technology and Water, in which National Green Technology Policy has recognized waste management as one of its key sectors; and
- iv) Creation of a new division under Malaysian Investment Development Authority (MIDA) assigned with facilitating new investment in 3R technologies into Malaysia.

11. Malaysia is also seriously taking actions to provide sufficient infrastructures to increase 3R activities. In recent years, it was estimated about 700 recycling centers operated by various parties such as local authorities, non-government organizations (NGOs), business enterprises, etc. while currently there are 146 e-waste recovery facilities licensed by Department of Environment (DOE). In addition, material recovery facility will be integrated within 9 new sanitary landfills currently at various development stages. Malaysia also saw participation through corporate social responsibility (CSR) from business entities such as TetraPak who has contributed a 30ton/day MRF on an existing landfill. It is worthy to note that presently the facility is instrumental in reducing around 20% of waste disposed to landfill.



Material Recovery Facility in Jeram Landfill funded by TetraPak Malaysia

### **Promotion of 3R in Agricultural and Rural Areas**

13. Malaysia is the second largest crude palm oil producer and its largest exporter. 3R approach in managing palm oil biomass has been practiced over the years with the vast majority of its quantity is being returned to the fields to release its nutrients and replenish its soil. In recent years, multiple research initiatives has been done to turn palm oil into various other uses, including but not limited to production of wood products, pellets, bioenergy, biofuels and biobased chemicals<sup>5</sup>. Public research institutions such as Malaysian Palm Oil Board (MPOB) and Malaysian Agricultural Research Institute

(MARDI) have aggressively pursuing to improve the utilization of palm oil biomass through research, development and commercialization efforts, winning numerous awards and accolades along the way.

14. A close bilateral relationship forged with the Japanese Government over the years has benefited Malaysia. One of the more recent co-operations with Ministry of Agriculture, Forestry and Fishery Japan (MAFF) was in introducing the concept of biomass town through the pilot project in Sri Serdang Town. The project was carried out with aims to utilize the town's own biomass and organic waste to produce various products such as compost, biogas, biochar and biodiesel. The project also saw a joint co-operation between Ministry of Housing and Local Government, Subang Jaya Municipal Council, Putra University of Malaysia and MARDI.

#### **Renewable Energy From the Waste Sector**

15. 3R activities also encompassed efforts to generate energy from the treatment and disposal of waste. A number of our sanitary landfills has been harnessing the methane gas to generate electricity for own consumption. Our completed mini incinerator with a capacity to treat 100 tonnes per day is also capable to generate about 1MW of electricity. The Feed-In- Tariff introduced by the Ministry of Energy, Green Technology and Water provides the incentive for more waste to energy facilities to be built.

#### **CONCLUSION**

16. Solid waste generation in Malaysia is continuously on the increasing trend. The treatment and disposal facilities will be under great pressure if the generation of solid waste is not addressed in a holistic manner. The 3R approaches provide the opportunity to address waste generation right from at the consumer level. Consumer must be encourage to reduce and reuse waste whereas the government through cooperation with the private sector are the platform to recycle waste into other products as well as

energy. The government hopes through the combination of legislation, public awareness programme, change in consumption and production pattern as well as better infrastructure and collection system is able to reach our recycling target of 22% in 2020.

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