

MALAYSIA COUNTRY REPORT Waste Not Asia 2001, Taipei, Taiwan

Prepared by the Consumers' Association of Penang

Solid Waste Disposal and Incineration. At present, the per capita generation of solid waste in Malaysia varies from 0.45 to 1.44kg/day depending on the economic status of an area. In general, the per capita generation rate is about 1kg/day. Malaysian solid wastes contain very high organic waste and consequently high moisture content and bulk density of above 200kg/m³. A recent study conducted in Kuala Lumpur has revealed that the amount of organic wastes for residential area range from 62 to 72%. Disposal of solid waste is done almost solely through landfill method. There are about 177 disposal sites in Peninsular Malaysia. In most cases, open dumping is being practised and takes place at about 50% of the total landfills.

In the Seventh Malaysia Plan (1995-2000), the Federal government had spent RM20.9million to build 9 sanitary landfills and upgrade 27 existing landfills in 34 local authorities. The government had also spent RM17million to purchase 7 mini-incinerators with a capacity of 5 to 20 ton/day to be operated in the resort islands in Langkawi, Labuan, Tioman and Pangkor.

The Malaysian government is introducing a new law on solid waste management. The principal processes options available and being recognized as hierarchy for integrated waste management are listed as follows: waste minimization, reuse, material recycling, energy recovery and landfill. The Economic Planning Unit of Malaysia states that new technologies with regard to waste treatment facilities such as transfer stations, thermal treatment plants and waste to energy would become an alternative treatment of solid waste in the near future.

The government relaunched its recycling campaign on 2 December 2000. It has targeted 22% of waste to be recycled by 2020. Composting is still being studied but not priority now. The government, due to scarcity of land and high waste generation rate, is planning incineration plants in the central region. Three incinerator plants will be installed i.e. in Kuala Lumpur, Selangor and Cameron Highlands, Pahang. The incinerator plant in Kampung Bohol, Kuala Lumpur with a capacity of 1,500ton/day is estimated to be RM1.2billion with funding from JBIC (Japan Bank for International Cooperation) and the specific technology has not been determined yet.

Another proposal for a thermal oxidation plant with a capacity of 50 ton/day in Sentul, Kuala Lumpur has been called off on the basis that it is close to residential areas, schools and businesses. The Terms of Reference for an Environmental Impact Assessment for the proposed project was submitted to the Department of Environment for review. Our organization had called for a detailed study on the economic valuation of environmental externalities; cost benefit analysis; social impact assessment, etc. The project proponent is looking for another suitable site.

The Department of Environment of Malaysia is looking into the protocol for sampling of dioxin and drafting of new legislation as Malaysia does not have a standard for dioxin emissions. On the 30th April there was a briefing for the department's staff on the following subject: "Environmental Analysis for Dioxins Sources, Fate and Transport, Sampling, Quotation and Interpretation of Results, Historical and Future Perspectives" by Michael Khalil Harvey, Asian Area Manager of Thermo Finnigan Corporation.

Medical Waste Incineration. In 1995, when Malaysia's clinical waste management and hospital support services were privatized, regional and on-site medical waste incinerators were built. Currently there are 5 regional medical waste incinerators with capacity of 20 to 500kg/hr. Three more regional incinerators with capacity of 200kg/hr each are under planning

and yet to be built due to siting problems and resistance by local authorities. There are seven small on-site medical waste incinerators, five 20kg/hr and two 50kg/hr.

Hazardous Waste Incineration. A hazardous waste treatment plant for processing chemical waste has opened in Bukit Nanas, ninety minutes drive from Kuala Lumpur in the state of Negri Sembilan. The site is located in the middle of a rubber plantation and a long way away from the main road.

The plant, officially opened in November 1998, and modeled on the Danish hazardous waste processing plant, Kommunekemi, in Nyborg, is the first plant for processing hazardous waste in Malaysia. The owners of Kualiti Alam hold the contract for treatment of all hazardous waste in Peninsula Malaysia for 15 years. More than USD70 million has been invested in the plant.

When the plant was being designed, Malaysia drew up legislation on hazardous waste. The Act was prepared with Danish assistance and based on Danish legislation. There has been private Danish capital in the project during the planning stage and up to the actual opening. Through the DANCED programme, Denmark has provided support to start up the plant.

The plant receives all types of hazardous waste except hospital and radioactive waste. Organic waste is burnt in the incineration plant. Acidic and basic inorganic fluids are exposed to chemical treatment that neutralizes them and removes poisons such as chromium and cyanide. The residues from this treatment and solid inorganic waste are bound tightly with lime and cement before being deposited on a double membrane equipped landfill where there should be room for waste residues for up to 20 years.

Between 1995-1999, an average of 431,000 tonnes of scheduled waste was generated per annum, mainly from the metal finishing, electronics, textile, chemical and chemical-related industries, agricultural and domestic activities, and clinical waste from hospitals. By end of 2000, the Kualiti Alam plant received 216,500 tonnes of toxic and hazardous waste for treatment and disposal from 1002 companies.

Companies are now required to inform the authorities about hazardous waste and whether there is a need for associated collection, storage and processing. In addition, the companies have to pay for this service on the basis of the polluter pays principle.

CAP's Activity. The Consumers' Association of Penang has embarked on an anti-incineration and waste minimization campaign. We are collecting signatures from the public nationwide, stating that we are against all kinds of incineration, whether medical, solid waste or hazardous industrial waste and urge the government to opt for other environmentally safe, economically just alternatives. We are also producing articles in our newsletters and booklets on the issue of waste, plastics, EDCs, composting, etc to raise the awareness of the general public on these issues.

Our aim, among others is to reduce the generation of waste through legislation to phase out and ban hazardous household products, minimize packaging, prevention of waste at source, reuse, recycle and composting.