

5.1. INTRODUCTION

The extension of housing areas (Map 1.2) and increase in population has led to a pattern of high consumerism. The attitude of our “disposable” and “throwaway” society had increased the volume and the per capita generation of MSW in Taman Bukit Angkasa and their surrounding areas. The increasing of domestic municipal solid waste generated has placed a large strain on the existing solid waste management system in Pantai Dalam. Managing waste storage sites is becoming a problem due to lack of space. Local authorities are finding it a problem managing the increasing amount of waste. Residents of Taman Bukit Angkasa are disappointed with the poor municipal solid waste collection in the area. Most of the residents hope that the DBKL and Alam Flora would bring about some changes in solid waste management in the near future. The following recommendations are made for all the parties involved to minimize the solid waste management problems in the study area.

In Kuala Lumpur, solid waste management activities falls within the preview of the Local Authorities called Dewan Bandaraya Kuala Lumpur (DBKL). The local government has set up a department to undertake this job. A private contractor had been appointed by the local government to collect wastes and operate disposal sites, in which contracts for the municipal solid waste collection service are usually let by competitive tender for a specified period.

The sequence of events leading to good waste management can, in a simplified way, be set out in several stages as:

- (a) the identification, or discovery, of a “problem” (e.g. the need to ‘manage waste’);
- (b) assessment of the magnitude and importance-this will involve, among other things, data collection and analysis,
- (c) study of the interactions between this “problem” and other activities,
- (d) formulation of policy to counter, or deal with, the “problem”,
- (e) assessment of resources (of all kinds) available, and those necessary to implement policy,
- (f) pass legislation to implement policy, establishment of regulatory authorities, allocation of resources, and training of staffs,
- (g) implementation and enforcement of legislation, continued collection of data and its analysis, provision of guidance, prosecution of offenders,
- (h) monitoring to measure achievements against policy objectives,
- (i) stimulation and support of research into residual problems;
- (j) forward planning, continuous review of the methods to achieve the overall objectives and their appropriateness to the developing the developing situation, provision of new facilities.

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5.2 The role of municipal council

1. The municipal council should conduct regular checks on his constituents.
2. The hawker stalls need to be concentrated in one place to ensure cleanliness.
3. They should protect and manage the environment and should ensure that the quality of man's habitat is not adversely affected by development projects and population increase.
4. Introduce the 'Unit pricing of residential solid waste', or 'pay-as-you- throw programs'.
5. Promote waste separation at source for municipal wastes,
6. Develop a task force at city level with representatives from public, private and community sectors,
7. Provide a supportive business environment for small-scale recycling enterprises,
8. Engage the public through neighborhood 'clean-up' campaigns,
9. Ensure that recycling is embodied in school curricula nationally, and
10. Encourage manufacturing industries to reduce non-essential packaging
11. Introduce community service for offenders.
12. Should provide residents the opportunity to purchase backyard compost bins / provide free compost bins and free technical information to residents about backyard composting.

**5.3 The role of private municipal waste management
contractors**

The authorities should;

1. Improve its garbage collection services,
2. Increase the frequency of waste collection,
3. Use mechanical sweepers to clean the road and car parks,
4. The workers (garbage collectors and sweepers) should be trained,
5. The health of the workers should be protected,
6. The workers should trained and motivated to do their jobs better,
7. Need to draw up a code of practice on storage of solid waste,
8. Need to ensure that the authority have adequate information on municipal solid waste generation collection, characterization and quantification. This will provide valuable data for setting waste management goals, tracking progress toward those goals, and support planning at the national, state and local level.

9. Communal collection container should be placed within a short walking distance.
10. Introduce new technologies and methodology in all aspects of waste minimization,
11. Computerization of their office equipment,
12. Solid waste management planning models and methods should be used,
13. The waste disposal firms should promote door-to door collection schemes,
14. The company can also set up drop-off and buy-back centers for recyclable items,
15. Clogged drains in the squatter area should be cleaned and checked regularly.
16. Implement management information systems (MIS) to design and use computer-based information system to handle large amounts of old and new data in a better way in various levels of management.
17. A comprehensive disposal strategy is needed.
18. The agencies should set out objectives as follows:

- a. **Short term:** close monitoring and determination of solid waste generation rate and characteristic as well as pollution load in the study area,
- b. **Medium term:** determination of measures in controlling of measures in controlling managing municipal solid waste preventing nuisance to adjacent areas, and
- c. **Long term:** Sustainable municipal solid waste management plan and enforcement in environmental quality

5.4 The Role Of The Government

Malaysia needs to re-orient its development priorities to encompass environmental and social sustainability. Concern for environment must be seen, as a part of the whole dynamics of development and people's role as the key players in this entire dynamics must be fully recognized. The planning of solid waste management has to be integrated with other facet of environmental planning. Public participation should be encouraged to contribute and participate in the planning, approval, implementation and monitoring of development projects. New construction developments such as housing areas should be required to provide and implement better and proper solid waste facilities in terms of storage and transporting.

CHAPTER FIVE RECOMMENDATIONS

The national objectives of solid waste management must be clearly established and stated. The general structure should address the following requirements;

1. A clear national policy to achieve the objectives must be developed.
2. Effective legislation must be introduced,
3. In order for the government to achieve sustainable development, it should integrate environmental protection and other social responsibility objectives with business growth and financial performance plans,
4. An effective Environmental Management System (EMS) is needed,
5. Public participation is needed segregated municipal solid,
6. The environmental impacts of solid waste management should be conducted involving the *lifecycle assessment*, and *economic valuation* techniques.
7. The government should encourage an intensive separation of solid waste at the point of generation and in landfills.
8. The government should guided and coordinated all municipalities in starting their municipal solid waste resource recovery efforts.
9. Provide safety guidelines and proper way for waste collectors to dispose clinical and hazardous waste,

- 3. Set up a multi-disciplinary public agency to provide advanced applied research, planning, management information, development alternative and educational activities in sustainable solid waste related activities,
- 4. The green taxes would act as an incentive to both reduce solid waste generation by encouraging both producers and consumers to act in a more environmentally friendly manner -a case of "hit' em where it hurts",
- 5. The government should implement Dual System to promote the use of environmentally friendly packaging materials to avoid unnecessary waste,
- 6. Encourage the plastics industries to use environmental friendly plastic (durability, easy processing) such as glycolmodified polyester or PETG or ester copolyester.
- 7. Coordination among related agencies such as private sector, community groups, local authorities and national representatives should be encouraged and strengthened.

2.5 The Role of The Public

There are simple things that everyone can do at home to reduce solid waste generation. These are;

Reduce the amount and the toxicity of waste by using alternative methods or products without hazardous constituents to accomplish a certain task,

Do home composting especially on organic material such as leaves, grass and vegetable scraps,

Use water-based paints rather than oil-based paints whenever possible,

4. Most of our solid waste ends up in the landfills. We can significantly reduce certain amount of solid waste if we buy only what we need, use some items longer, and apply the Five R's (reduce, reuse, recycle, respond, repair),
5. Take household hazardous waste to a collection center specifically designed to provide a safe disposal option for hazardous waste items.
6. Schools should form environmental clubs and participate in activities such as recycling, reuse and reduce.
7. A study should be conducted on the public awareness and participation in resource recovery
8. A Sustainable City Program is needed to provide municipal authorities and their partners in the public, private, and community sector with improved methodologies for environmental planning and municipal solid waste management,
9. Decision-makers and educators should look for alternative municipal solid waste practices that are environmentally sound and economically sustainable and effective.

The quality of life in the urban environment can be improved simply by adopting the most rational and operational planning and policy on the urban solid waste management at local, region, regional and national level. The minimization of non-degradable, non-returnable and non-recyclable food and beverage packaging originating from houses and shops within the area is necessary and desirable to reduce the waste stream.

CHAPTER FIVE RECOMMENDATIONS

Without public co-operation, which will only come from the realization that mankind, is morally obliged to keep the environment clean. Even the best laid-out waste management infrastructure will fail.