

Policies and Regulations, which govern Solid Waste Management; their Successes and Failures

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Abstract—(Every country has its own policy on waste management, yet almost all nations in the world struggle to take care of the garbage problem. Time has come to critically review the policies on waste management and bring about the necessary amendments. While the developed nations need to pay much attention to recycling of non-biodegradable waste, the developing nations need to pay attention to composting and bio gas production from organic waste. For success traditional knowledge should not be ignored rather it should be included into policy documents.)

Keywords—(solid waste, policy, developing, developed, Fiji, Sri Lanka, Indonesia, failure, success)

1. Introduction

Every country pursues to eradicate pollution due to solid waste. A substantial portion of the budgets allocated to the Municipal councils of the world are being spent on keeping the cities clean through management of waste. No matter how hard or how much of energy is directed towards waste management, no country in the world can be satisfied with their achievements. Waste management has become a hiding affair; either one bury, burn or disperse the waste. No country has been able to manage waste from the point of generation. This is a story about the policy makers not been as effective as they should be. We will look at three strategies used in waste management, their benefits and failures.

1. Reducing the amount of waste to be disposed of and increase landfill life by-processing bio-waste into compost at household level
2. Source segregation for waste recycling
3. Capacity Building in the Field of Waste Management)

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I. Reducing the biodegradable Waste reaching the landfill site

Composting is considered as one of the best ways of reducing the biodegradable waste reaching the landfill site. In most countries home gardening and composting are promoted together. Composting is well accepted in developing countries as a material which adds nutrition to the soil, and allows moisture to be retained in the soil. Farmers use compost together with the artificial fertilizer. However the developed nations do not consider compost as a soil nutrient and refer to compost more as a soil conditioner. In developed nations composting is not promoted. However in the developing nations composting is well accepted.

In fact the consultants who come from the developed nations discourage the farmers and households from producing compost. This is unfortunate, as 85% of the waste in developing nations is biodegradable. In the absence of foreign consultants Asians generally rely on composting for solving the garbage problem. Many forms of composting bins have been designed. One of the key elements for success is the presence of holes or vents for intake of oxygen. Aerobic respiration eliminates the bad odour. The compost bins vary from tin or metallic bins, to concrete or wooden bins.

In developing nations the garbage consist of primarily of bio-degradable waste, which can be converted to compost or bio gas. In the developed nations the composting is not so much promoted and their waste does not contain a large proportion of bio degradable waste, but rather non-biodegradable waste.

II. Segregation of waste

This activity is one of the most excellent ways of minimizing the waste that will otherwise enter the landfill sites. In order to achieve this action, facilities needs to be provided for households, commercial sector and the industries to separate the waste. The purpose of waste segregation at the source is to minimize contamination, to select items which can be recycled, to receive a better payment through selling recyclable waste. If waste material contain mixed substances it becomes difficult to recycle. For e.g.: paper laminated with plastic or aluminium foil cannot be recycled.

a. Drawbacks within the system

(i) Scenario 1: Households are interested, the Council is not committed (1):

In most of the developing nations the councils involved in recycling do not provide any incentives for the people who segregate waste. Moreover, even if they do separate the waste they are not paid well for the material that they have collected. In many places the households out of their commitment for the environmental protection segregate the waste, but no token of appreciation is given by the councils to them. The Corporate Social responsibility gestures are almost nil among most Councils. The municipal council Lorries when they come to collect the segregated waste some put all waste altogether into the truck, which leads to a great disappoint among the community that has spent energy collecting the waste separately. Once the waste is mixed and dirty it cannot be recycled.

(ii) Scenario 2: The commitment of the companies is low, do not provide incentives;

The companies which come to collect the segregated waste do not arrive on the specified date; thereby people lose their trust in the program. In many countries the households complain that the commitment the Councils and the local companies show towards collection of recyclable waste is minimal. They do have a chart to show the specified date on which they would come to collect, but do not come. In most instances the people just give the segregated waste to the normal garbage truck. In order to remedy the situation much more in depth studies need to be done. More strict regulations need to be enforced on the persons who are responsible to collect the segregated waste.

(iii) Scenario- 3 People are too lazy to segregate the waste (1,2):

People always look for a reason to do something new. For many countries in the world household segregation is new. As it is new, people look for an incentive. For some, commitment towards environmental protection is a good enough reason. For others a financial gain appears to be the driving force. For the sake of sustainability a small incentive scheme needs to be developed. This need not be a financial commitment; it could be an exchange of waste to dry rations. This has been done in Sri Lanka, where the waste was accepted by the Multi-purpose cooperatives in exchange for clean waste. Such schemes are only successful as long as the heads of Institutions, who understand the value of the program, are chairing such programs. If the Heads of Institutions are not of that commitment level, such programs will die off after a while.

(iv) Scenario 4: Legislations required for recycling:

Most countries have given the choice to public to decide on recycling rather than formulating regulations which make recycling mandatory for each household. In some countries bins for separating glass, paper, plastic, degradable waste are provided by the council, and the council will collect the waste only if the waste is well sorted out. In such countries if the public fail to separate the waste fines are imposed. This system, which exists in the developed nations, works more efficiently than the system

of the developing countries. Unfortunately the amount of recycling occurring even in developed countries is growing smaller and some developed countries in fact attempt to ship their waste to the developing nations for recycling and disposal. The latter is creating reasons for concern among the developing nations. However according to the Basel convention this is prohibited, yet illegal shipments are still an occurrence.

(v) Scenario 5: If incentives can be provided for the waste collectors, one could develop a more sustainable waste management program (3).

The success of a recycling program truly depends on the amount of income one can generate by recycling of waste. The fact that recycling is not a total profitable industry, the income generated through the recycling industry is limited. For e.g.: It is a known fact that the virgin material is cheaper than the recycled material. Recycled pellets cannot be used if the cups and saucers are to be produced. Regulation (EC) No 1935/2004 provides a harmonized legal EU framework. It sets out the general principles of safety and inertness for all Food Contact Materials (FCMs). The principles set out in Regulation (EC) No 1935/2004 require that materials do not: release their constituents into food at levels harmful to human health, change food composition, taste and odour in an unacceptable way.

There is a vast population of persons who depend on waste segregation for living. They visit the dump sites daily to collect waste that can be sold. If these waste pickers can be recognized throughout the world as green collar workers, not only will their efficiency would improve, but it could result in the products of the recycling industry becoming cheaper, and more affordable to the industry and the public. Development of such incentive schemes are missing in most of the policy documents.

III. capacity building through Waste Management (4)

As one can observe from the facts given above the waste management strategies of the developing and the developed nations differ. While the developed nations place more emphasis on recycling, the developing nations place more emphasize on composting. The primary reason for this is the fact that the waste of the developed nations mainly consist of plastic, glass, tins and paper, whereas the waste of the developing nations consist mainly of biodegradable organic waste, which can be composted or used to make bio gas. Unfortunately most of the consultants for waste management come from countries, which are either highly developed or are able to give grants for waste management projects. The Policy documents and strategies prepared by these persons are totally foreign to the culture and lifestyle of the citizens receiving the AID. As a result the waste management attempts in the developing nations have failed. Time has come to include local traditions into the policy documents.

Appendix1



The Author at a compost plant in Sri Lanka

The Author with the waste collectors of Indonesia and among the waste collectors of Sri Lanka

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