

GLOBAL JOURNAL OF ENGINEERING SCIENCE AND RESEARCHES

TRENDS IN SOLID WASTE MANAGEMENT:-ISSUES, CHALLENGES & OPPORTUNITIES

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ABSTRACT

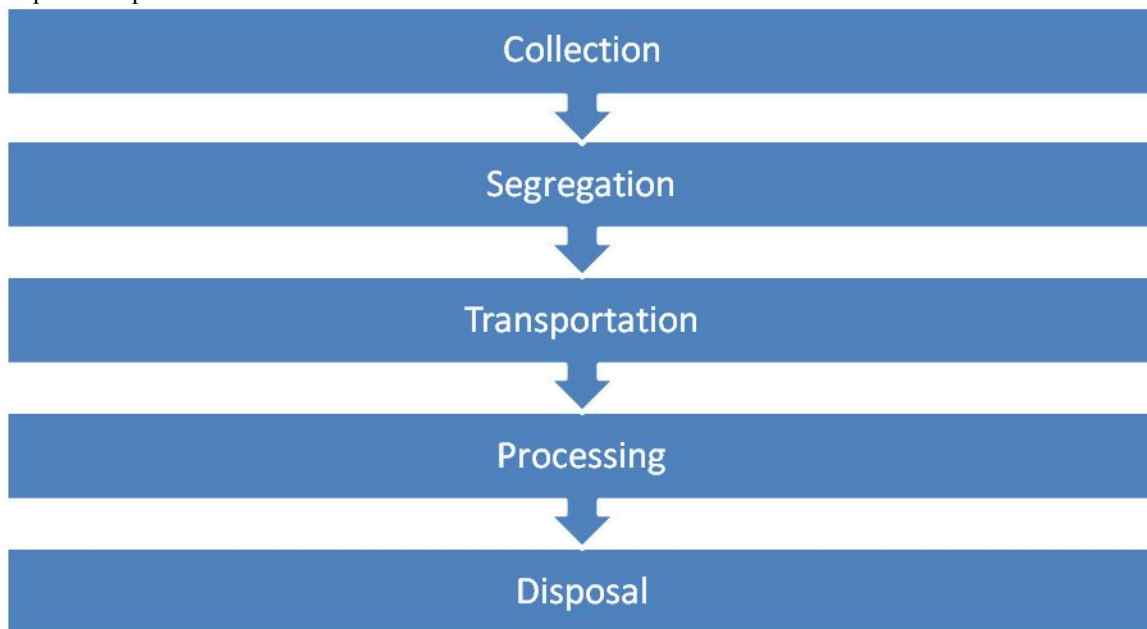
Solid waste is defined as discarded solid fractions, generated from domestic units, trade centres, commercial establishments, industries and agriculture, institutions, public services and mining activities. Characteristics of waste vary based on place of generation and season in which it is generated. The Central Public Health and Environmental Engineering Organisation, the technical wing of Ministry of Urban Development has classified solid waste in fourteen categories based on source, origin and type of waste. These include domestic waste, municipal waste, commercial waste, institutional waste, garbage, rubbish, ashes, bulky waste, street sweepings, dead animals, construction and demolition waste, industrial waste and sewage waste (CPHEEO, 2000).

Keywords- Integrated waste, Disposal, Urban, segregation, processing.

I. INTRODUCTION

A solid waste management (SWM) system includes collection, segregation, transportation, processing and disposal of waste.

Depicted in picture:-



II. SOLID WASTE MANAGEMENT PLAN

- An SWM Plan is a package consisting of a Management System including: Policies (regulatory, fiscal, etc.), Technologies (basic equipment and operational aspects) Voluntary measures (awareness raising, self regulations)
- A Management System covers all aspects of wastemanagement; from waste generation through collection, transfer, transportation, sorting, treatment and disposal.
- Data and information on waste characterization and quantification (including future trends), and assessment of current solid waste management system for operational stages provide the basis for developing a concrete and locality-specific management system.

Solid waste management coverage:-

Geographical and administrative boundaries/Jurisdiction (municipal, industrial) limits

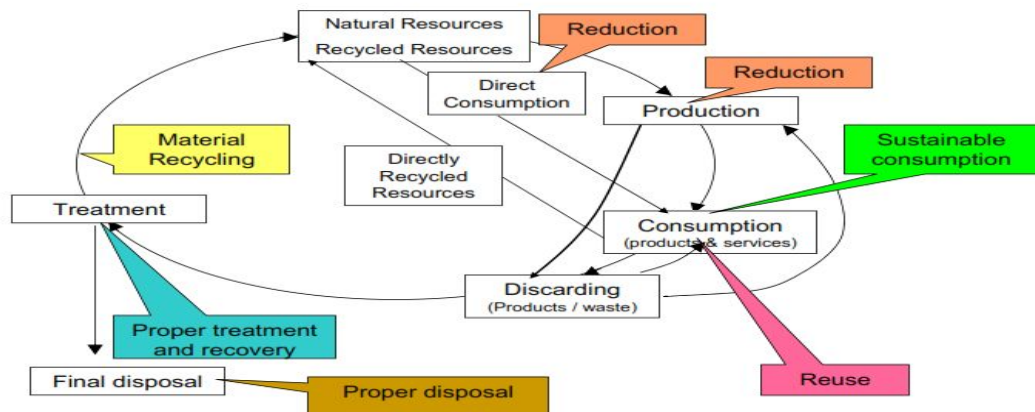
Institutions involved and administrative mandate

Sectors and sub-sectors: (residential, commercial, industrial, urban agriculture, healthcare, construction, and sludge)

Waste streams (hazardous and non-hazardous)

Recyclable and non-recyclable waste

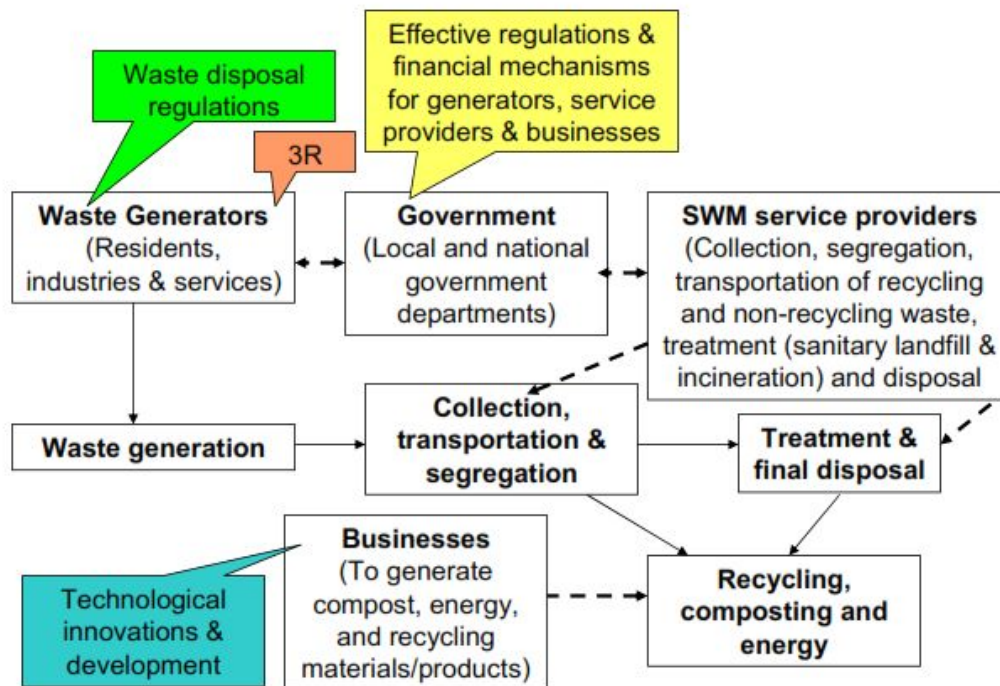
**Solid Waste Management
Life-cycle Perspective**



**Solid Waste Management
Generation-Source Perspective**



Solid Waste Management Stakeholders/Management Perspective



III. CHALLENGES AND OPPORTUNITIES

- Cities with increase in economic activities - enormous levels of waste including hazardous and toxic wastes
- Changing lifestyles - composition of waste is also changing
- A growing realization of the negative impacts that wastes on environment, land, human health, climate and so on
- Complexity, costs and coordination of waste management has necessitated multi-stakeholder involvement in every stage of the waste stream. This calls for an integrated approach to waste management.
- Local Governments are now looking at waste as a *business opportunity*, (a) to extract valuable resources contained within it that can still be used and (b) to safely process and dispose wastes with a minimum impact on the environment

IV. BENEFITS OF SOLID MANAGEMENT PROGRAM

- Cleaner and safe neighbourhoods
- Higher resource use efficiency
- Resource augmentation
- Savings in waste management costs due to reduced levels of final waste for disposal
- Better business opportunities and economic growth

Development of Sub-management Systems

1. Generation Level
2. Collection & Transportation
3. Sorting, Treatment and Recovery
4. Final Disposal

Note:-Unfortunately in India main emphasis on Generation level and collection & Transportation of waste. There is no concrete plan for sorting, treatment, recovery and final Disposal.

V. CONCLUSION & LESSONS

- Top level political commitment as well as interest and commitment of local Authorities is crucial to the success of project
- Baseline data is usually not available and requires considerable time and resources
- Local project teams are very essential
- It is very difficult to get cost related data in current waste management systems
- Stakeholder consultation provides vital information and greatly improve local ownership
- SWM approach being new requires continuous capacity building in partner institutions
- Benefits of proper waste management should be looked not just from environmental perspective but economic and social benefits should also be Factor
- Continuous follow-up is required to support Implementation

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