Competitive Exams: Municipal Solid Waste

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- It needs additional references or sources for verification. Tagged since August 2009.
- It may need to be wikified to meet Wikipedia's quality standards. Tagged since August 2009.
- Sections should be added to this article, to conform with Wikipedia's Manual of Style. Tagged since August 2009. "Municipal waste" redirects here. For other uses, see Municipal waste (disambiguation) .

Municipal Solid Waste

Municipal solid waste (MSW) , also called urban solid waste, is a waste type that includes predominantly household waste (domestic waste) with sometimes the addition of commercial wastes collected by a municipality within a given area. They are in either solid or semisolid form and generally exclude industrial hazardous wastes. The term residual waste relates to waste left from household sources containing materials that have not been separated out or sent for reprocessing.

- Biodegradable waste: Food and kitchen waste, green waste, paper (can also be recycled) .
- Recyclable material: Paper, glass, bottles, cans, metals, certain plastics, etc.
- Inert waste: Construction and demolition waste, dirt, rocks, debris.
- Composite wastes: Waste clothing, Tetra Paks, waste plastics such as toys.
- Domestic hazardous waste (also called "household hazardous waste") & toxic waste: Medication, e-waste, paints, chemicals, light bulbs, fluorescent tubes, spray cans, fertilizer and pesticide containers, batteries, shoe polish.

Waste Generation

Waste generation encompasses activities in which materials are identified as no longer being of value and are either thrown away or gathered together for disposal.

Waste handling and separation, storage and processing at the source.

Waste handling and separation involves the activities associated with management of waste until they are placed in storage container for collection. Handling also encompasses

the movement of loaded containers to the point of collection. Separation of waste components is an important step in the handling and storage of solid waste at the source.

Collection

The functional element of collection includes not only the gathering of solid waste and recyclable materials, but also the transport of these materials, after collection, to the location where the collection vehicle is emptied. This location may be a materials processing facility, a transfer station or a landfill disposal site.

Separation and processing and transformation of solid wastes.

The types of means and facilities that are now used for the recovery of waste materials that have been separated at the source include curbside collection, drop off and buy back centers. The separation and processing of wastes that have been separated at the source and the separation of commingled wastes usually occur at a materials recovery facility, transfer stations, combustion facilities and disposal sites.

Transfer and Transport

This element involves two steps:

- The transfer of wastes from the smaller collection vehicle to the larger transport equipment
- The subsequent transport of the wastes, usually over long distances, to a processing or disposal site.

Disposal

Today the disposal of wastes by landfilling or landspreading is the ultimate fate of all solid wastes, whether they are residential wastes collected and transported directly to a landfill site, residual materials from materials recovery facilities (MRFs) , residue from the combustion of solid waste, compost or other substances from various solid waste processing facilities. A modern sanitary landfill is not a dump; it is an engineered facility used for disposing of solid wastes on land without creating nuisances or hazards to public health or safety, such as the breeding of fatties and insects and the contamination of ground water.

Energy Generation

Municipal solid waste can be used to generate energy. Several technologies have been developed that make the processing of MSW for energy generation cleaner and more economical than ever before, including landfill gas capture, combustion, pyrolysis, gasification, and plasma arc gasification. While older waste incineration plants emitted high levels of pollutants, recent regulatory changes and new technologies have significantly reduced this concern. EPA regulations in 1995 and 2000 under the Clean Air Act have succeeded in reducing emissions of dioxins from waste-to-energy facilities by more than 99 percent below 1990 levels, while mercury emissions have been reduced by

over 90 percent. The EPA noted these improvements in 2003, citing waste-to-energy as a power source with less environmental impact than almost any other source of electricity.