

## Ahmedabad City Solid Waste Management for Master Plan upto the year 2031

Ahmedabad Municipal Corporation (AMC) invited Urban Management Centre (UMC) for preparation of Municipal Solid Waste Management Master Plan upto the year 2031 for AMC jurisdiction in November 2011. UMC conducted numerous visits between November 2011 and April 2012 for the purposes of data collection, field visits, interaction with AMC officials, citizens, focussed groups, etc. In addition to data collection, detailed site visits were conducted at the following locations to assess the status of MSWM services:

- Waste collection points in residential, commercial, special market areas (including meat & vegetable); formal and informal open dumping sites in and around the city, etc.
- Natural water bodies including *nalas*, river, lakes, ponds, etc. to assess the environmental degradation caused due to lack of MSWM services in the city.
- Public toilets, urinals and open defecation (OD) spots
- Special areas such as Railway station, Gujarat University, other campuses of large institutional areas, GIDC estates in the city, etc.
- Some select outgrowths/ contiguous settlements to the city
- Other site visits included areas such as the slums, residential areas, municipal civic centres, retail and wholesale markets, health and educational institutions, etc.

Quantity of solid waste generated follows a sinusoidal pattern and historical records showed that it peaks in the month of December. Hence, for the purposes of this master plan, December 2011 (for the FY 2011-12) has been taken to compute all functions related to quantity of waste and make projections until 2031. Continued efforts are being undertaken by AMC to improve services by bringing process changes as well as augmenting existing infrastructure and equipments for solid waste. Status of existing equipments and vehicles has been included in plan and all computations factor these additional equipments and vehicles.

### **1. Concept of Zero Waste Cities**

Increasingly the concept of sustainable cities has been gaining prominence in management of cities. Zero Waste Management is a key component of the sustainable management of cities.

Zero waste is defined as ***“a lifestyle where no waste is generated, i.e. any object that has completed its life-cycle can be re-consumed locally in any natural and/or industrial process without generating any solid, liquid or gaseous waste.”***

## 2. Strategy for Zero Waste Ahmedabad

Sound Material Cycle Society (SMC) provides zero waste solution in true sense. However, as SMC involves initiative at international, national and local levels, it is a long term goal and other approaches can be aligned to increase preparedness of cities to adopt SMC principles in the future. Other options include Reduce-Reuse-Recycle as an effective way to achieve zero waste cities and are implementable in our cities in the current circumstances. In case of Ahmedabad, a combination of SMC and 3Rs provides a viable solution as an intermediary stage to eventually achieving SMC. As per the timeline of this master plan, Phase 1, i.e. upto 2021 can be planned for incorporating principles of 3Rs, while during the next ten years, i.e. upto 2031, measures to improve AMC's preparedness to adopt SMC principles can be planned. Implementation of SMC however, involves much larger policy initiatives at national and state level which can be relooked at in a periodic manner. For preparation of MSWM Master Plan 2031 for AMC, various micro planning scenarios have been explored to achieve targets set in the previous section towards zero waste. Under the current circumstances, any scenario can be assessed with 2 pre-conditions

- i. Mixed waste entering the municipal stream
- ii. Segregated (at source) MSW entering municipal stream

The three scenarios which have been assessed for MSWM collection are

- Scenario 1 : Bin Free City
- Scenario 2 : Strengthened Secondary Collection System
- Scenario 3 : Improved Door Step and Optimised Secondary Collection System  
(Minimized Bin City)

Based on analysis of existing system of MSWM in Ahmedabad, the existing mechanism (combination of door/gate collection and secondary collection) should be strengthened to integrate various ongoing initiatives by AMC. The proposed strengthening of the existing system has been suggested which explains the collection chain from source to treatment/disposal by 2031 while identifying various infrastructural requirements for the same.

As proposed in the report, collection and transportation of MSW should be improved through strengthening the current chains based on source. Subsequent sections further detail out each chain of MSW collection, transportation, processing and disposal of MSW based on the source of generation as per the preferred scenario for the master plan.

The proposals in the Municipal Solid Waste Management Master Plan 2031 include procurement of equipment and vehicles for different streams of waste, conducting various studies and programmes (including city wide IEC Campaigns, preparation of extensive database of MSWM services in GIS and training and capacity building of municipal as well as contracted staff) and improvements in current monitoring systems within AMC.