

# SOLID WASTE MANAGEMENT SURVEY

---

The broad objectives of the SURVEY Report are to determine a technically and economically viable solid waste management project for the Hansot Taluka and study detail as below.

## The ultimate goal to be zero waste in village through adoption of home composting and recycle of waste.

Following are the specific objectives:

- (i) To devise a system for effective and efficient method of (Municipal Solid Waste or domestic Solid waste) MSW disposal.
  - (ii) To assess Project feasibility
  - (iii) To assess Environment Impact Assessment of the Project
  - (iv) Cost Estimate
  - (v) To prepare operational plan
  - (vi) Organizational and Financial Studies
  - (vii) Training and Capacity Building
- Scope & Limitations of the study

The study is initially limited to Hansot Taluka under 3 villages. These are

Utaraj

Kalam

Alva

## **BACK GROUND OF STUDY**

As per the report released by government of India, It is projected that by the year 2031 the MSW generation shall increase to 165 million tons and to 436 million tons by 2050.

Increasing population, volume, and complex nature of generated solid waste, improper implementation of existing rules, failure of waste disposal techniques, limitation of funds and infrastructure are the common causes of unsustainable solid waste management in many countries of the world including India. Further, traditional beliefs and approaches such as "out of sight, out of mind," "not in my backyard (NIMBY)" and "flame, flush or bury" even towards the generated solid waste results in an unsustainable society which hinders sustainability.

A management system from generation up to final disposal of wastes in an environment friendly, economically affordable, and socially acceptable way is termed "Sustainable." According to the Indian Planning Commission report of 2014, if effectively managed, the unused MSW will generate about 439 MW of power, 1.3 million m<sup>3</sup> of biogas/day, or 72 MW of electricity from biogas and 5.4 million metric tonnes of compost annually. Many times improper use and ineffectiveness of different available techniques of harnessing energy and wealth from the wastes cause more environmental costs than economic gains. "Municipal solid waste is defined to include refuse from households, non-hazardous solid waste from industrial and commercial establishments, refuse from institutions, market waste, yard waste and street sweeping, etc.

## **Accordingly, waste management should be an integrated affair, which shall include:**

- 1) Minimizing waste,
- 2) Maximizing environmentally sound waste re-use and recycling
- 3) Promoting environmentally sound waste disposal and treatment and
- 4) Extending the coverage of waste management services

The stages involved in SWM are primarily as follows:

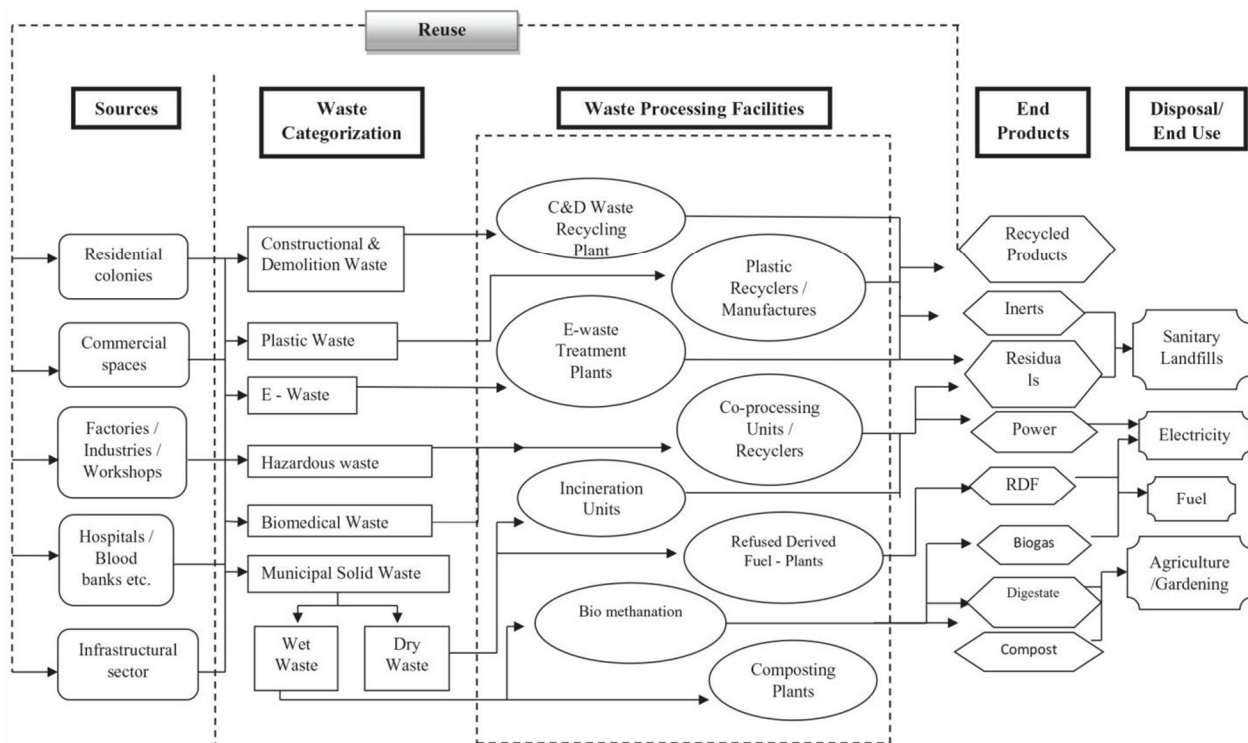
- 1) Primary collection of solid waste from household levels
- 2) Primary transportation to municipal waste bins and collection points,

3) Secondary transportation of garbage from municipal bins to disposal sites, and Actual disposal of the waste.

There is a stage between the collection and disposal of solid waste, that is, resource recovery or segregation of degradable and recyclable materials in the garbage and actual recycling. In Hansot and nearby village no separation of garbage between degradable and non – degradable items and recycling taken up at the municipal level. This is so not only because it is uneconomical. since only 13 to 20 % of municipal waste is recyclable the remaining 80-85% is compost but in case of Hansot and nearby village 80 – 85% plastic, paper etc for recycle and around 20% is domestic waste for composting. In most cases however, secondary waste collection is not being done adequately. On an average, 20 to 30 per cent of the total waste generated remains uncollected, creating Environmental hazards in urban settlements.

Now a day due to increase in the environmental concern, emphasis is laid on recycling and reuse of domestic garbage is gaining momentum. The municipalities and municipal corporations themselves are unable to take up such projects of collection, segregation, and recycling or composting in an integrated manner because of the high costs involved. Here the opportunity to define a sustainable model for complete Solid waste management and create livelihood through wealth generation. Many private agencies are now providing these services to the municipalities or are independently running some projects for waste collection, segregation, recycling and composting or even bio-gas generation.

## MSWM FLOW CHART



## PRESENT SCENARIO IN VILLAGES

VILLAGE : Utaraj

Locality Name : Utraj (ઉતરાજ)

Taluka Name : Hansot

District : Bharuch

State : Gujarat

Language : Gujarati and Hindi

### Population

Census Parameter	Census Data
Total Population	1353
Total No of Houses	250
Female Population %	45.3 % ( 613)
Male Population %	54.7 % ( 740)

Standard Domestic waste generation –Max 300 kg per day

Locality Name : Kalam (કલમ)

Taluka Name : Hansot

**District** : Bharuch

**State** : Gujarat

**Language** : Gujarati and Hindi

## Population

Census Parameter	Census Data
Total Population	786
Total No of Houses	158
Female Population %	45.1 % ( 355)
Total Literacy rate %	54.9 % ( 431)

## Standard Domestic waste generation –Max 200 kg per day

**Locality Name** : Alva ( અલ્વા )

**Taluka Name** : Hansot

**District** : Bharuch

**State** : Gujarat

**Language** : Gujarati and Hindi

## Population

Census Parameter	Census Data
Total Population	539
Total No of Houses	88
Female Population %	43.2 % ( 233)
Total Literacy rate %	56.8 % ( 306)

## Standard Domestic waste generation –Max 140 kg per day

### PRESENT SITUATION / INFRASTRUCTURE FOR SWM

1. Dustbin provided to individual houses in Utaraj and Kalama
2. Tractor provided in Utaraj only for collection from door to door and battery cart available for Kalam
3. No segregation exists.
4. Garbage scattered many places even disposal place is available
5. 80% Plastic and 20% non-plastic waste
6. No composting or recycling of garbage
7. Local gram panchayat involvement is very less only to collection .

8. No municipal or Government collection and disposal of garbage exist in Taluka or villages.
9. All garbage scattered in multiple location creating health hazard and polluting the environment.
10. Some domestic waste is being fed to domestic animal.
11. Once more garbage is piled up than it is burnt in villages.

## **CHALLENGES OF SOLID WASTE MANAGEMENT**

1. Segregation at source and bin use
2. Correct and adequate segregation technique
3. Adoption of in-house composting
4. Monitoring of SWM in villages
5. Garbage transportation and labour
6. Composting and recycle
7. Location and infrastructure
8. Third party / agency involvement for collection and recycling
9. Shed to be utilized for garbage disposal no other places for throwing garbage.
10. Awareness and training for participation.
11. Volume of garbage for 3<sup>rd</sup> party collection and recycle

## **SCOPE AHEAD**

1. Ample opportunities in villages to make villages clean, sarpanch participation and team formation
2. Under SBM, villages will have composting and SWM disposal shed, provide by Government.
3. Third party collection and reuse the plastic from nearby location
4. Start with One village UTRAJ and make it a best model village to replicate further.
5. Involvement of Panchayat Development Officer and SBM officer showing positive participation to make SWM a successful project.
6. Possibility to work towards "ZERO WASTE VILLAGE "

## **PRESENT SWM AND INFRASTRUCTURE**

### **UNORGANISED WAY OF GARBAGE IN VILLAGES AND TALUKA**







VEHICLE FOR GARBAGE COLLECTION AND DISPOSAL





SBM – SHED