



## CHANDIGARH STATISTICS

<b>SOLID WASTE GENERATED IN CHANDIGARH</b>		
YEAR	2005	2006
Solid_Waste_Generated(Tonnes)	352	368
Solid_Waste_Collected(Tonnes)	335	350
Collection_Efficiency(%)	95	95
Remarks	Per day	Per day

### CELEBRATE DAYS RELATED TO ENVIRONMENT

Contribute to preserve the best of Mother Nature by celebrating the coming environment days with us.

**October 3 World Habitat Day** - The earth is the habitat of not only human beings but also all living creatures. Increasing human activities is threatening the habitat of other living things.

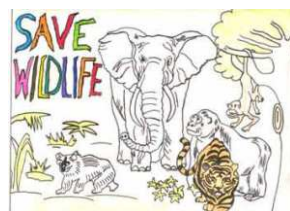
**October 1-7 World Wildlife Week** - Celebrate this week by building awareness on the importance of preservation of our wildlife.

**October 4 World Animal Welfare Day** - The welfare of animals has to be looked into and given due importance.

**October 13 International Day for Natural Disaster Reduction** - Due to a change in the environment there has been an increase in the number of natural disasters. Efforts have to be taken to reduce these disasters.

**November 14 Children's Day in India** - Children can work together for a better tomorrow by improving the environment around them.

**December 2 Bhopal Tragedy Day** - Mark this occasion by taking a pledge to put in your best efforts to prevent such a tragedy from occurring again.



Earthquake

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### MUNICIPAL SOLID WASTE

Municipal Solid Waste (MSW) includes mostly household waste or domestic waste with exceptional addition of commercial waste collected by a municipality within a particular region that exists as either solid or semisolid waste and generally excludes industrial hazardous waste. The term residual waste relates to household waste containing materials that have not been separated out or sent for reprocessing.

There are five broad categories of MSW:

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 packs, waste plastics such as toys.

Domestic hazardous waste (also called "household hazardous waste") & toxic waste: medicines, paints, chemicals, light bulbs, fluorescent tubes, spray cans, fertilizer and pesticide containers, batteries, shoe polish.



MUNICIPAL SOLID WASTE

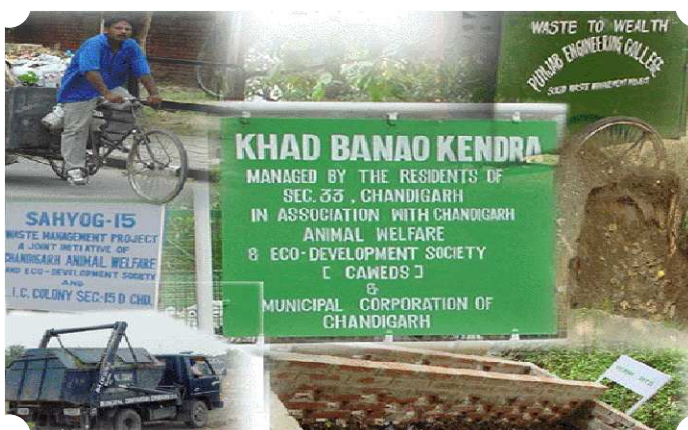
### SOLID WASTE MANAGEMENT

Waste management is the collection, transportation, processing, recycling or disposal of waste materials, usually ones produced by human activity, in an effort to reduce their effect on human health or local aesthetics or amenity. A sub focus in recent decades has been to reduce waste materials' effect on the natural world and the environment and to recover resources from them.

Waste management can involve solid, liquid, or gaseous substances with different methods and fields of expertise for each. Waste management practices differ for developed and developing nations, for urban and rural areas, and for residential, industrial, and commercial producers. Waste management for non-hazardous residential and institutional waste in metropolitan areas is usually the responsibility of local government authorities, while management for non-hazardous commercial and industrial waste is usually the responsibility of the generator.

[http://en.wikipedia.org/wiki/Waste\\_management](http://en.wikipedia.org/wiki/Waste_management)

### SOLID WASTE COLLECTION METHODS



Many areas, especially those in less developed countries, do not have a formal waste-collection system in place. Commonly, it is practiced in the city by collecting waste and/or recyclables and/or organic on a scheduled basis. In rural areas people usually dispose of their waste by dumping to landfill sites. Waste management methods vary widely between areas for many reasons, including types of waste material, nearby land uses, and the area available. Following are common practices to manage the Municipal Solid Waste.





### WASTE MANAGEMENT METHODS

#### LANDFILL

A properly-designed and well-managed landfill can be a hygienic and relatively inexpensive method of disposing of waste materials in a way that minimises their impact on the local environment.



#### INCINERATOR

A waste-to-energy plant (WtE) is a modern term for an incinerator that burns wastes in high-efficiency furnace/boilers to produce steam and/or electricity and incorporates modern air pollution control systems and continuous emissions monitors. This type of incinerator is sometimes called an energy-from-waste (EfW) facility.

#### RESOURCE RECOVERY

The process of extracting resources or value from waste is variously referred to as secondary resource recovery, recycling, and other terms. However, the very high human cost of these activities including disease, injury and reduced life expectancy through contact with toxic or infectious materials would not be tolerated in a developed country.



#### RECYCLING

Recycling means reuse of considered waste in same or other form e.g. Paper is recycled to newspapers. Developing countries like India can save more by recycling as they produce more of waste in comparison to developed countries in many areas.

ENVIS

### MUNICIPAL SOLID WASTE MANAGEMENT IN CHANDIGARH

With a view to make provisions for effective management of Municipal Solid Waste in scientific manners, the Ministry of Environment Government of India notified "The Municipal Solid Wastes (Management & Handling) Rules 2000 and made all local Bodies in the country responsible for the implementation of the rules. The rules contain provisions for collection, removal, storage, segregation, transportation and disposal of Municipal Solid Waste in appropriate manners.



A Unit to handle Solid waste, Land filling, Composting, and Sahaj Safai Kendras.



**MUNICIPAL SOLID WASTE MANAGEMENT IN CHANDIGARH**

**Characteristics of Non Degradable Waste**

Year	Paper/Cardboard(%)	Plastic(%)	Metal(%)	Glass(%)	Ash_&_Earth(%)	Degradable_Waste(%)	Remarks
2006	4.8	5.0	0.8	2.0	7.3	77.7	The figures are Approx.

On its part, the city Corporation of Chandigarh has top priority to the work related to the management of city's Municipal Solid Waste as per rules. With a view to make improvements in the sanitary conditions of the city, the corporation introduced a novel concept of 'Bin Free Sector Scheme' in Chandigarh . Under the scheme all garbage bins placed at various locations in the sector are removed and one or two suitable places are earmarked for construction of Sahaj Safai Kendras for storage of Municipal Solid Waste from that area. The garbage from these 'Transfer Stations' i.e Sahaj Safai Kendras is transported simultaneously to the dumping ground for final disposal. The office has provided storage facility, segregation facility, drinking water facility and toilet facility for the workers at the Sahaj Safai Kendras. The 'Bin Free Sector Scheme' has been extended in 29 areas and is being extended in other areas in phased manner. The office is providing cycle carts free of cost to the Residents Welfare Associations for organizing door-to-door collection of garbage in the area where ' Bin Free Sector Scheme' is introduced. The residents are motivated to adopt the practice of segregation of garbage at source.

Impressed by the concept of 'Bin Free Sector Scheme' introduced in Chandigarh, the Central Pollution Control Board sanctioned a demonstration project for the management of Municipal Solid Waste in Chandigarh in two phases. The first phase covers the work related to the collection, storage, removal and transportation of the Municipal Solid Waste which has sanctioned by the Board at an approximate cost of Rs. 3.15 Crores. 50% of the funds for the implementation of this project are being provided by the Central Pollution Control Board as grant in-aid. Construction of Sahaj Safai Kenderas is one of the major components of this phase of the project. The office has constructed 29 Sahaj Safai Kenderas. Further, the work for the construction of 8 more Sahaj Safai Kenderas in various sectors is in progress.

The Central Pollution Control Board sanctioned 2nd phase of the Demonstration Project at an estimated cost of Rs. 9.55 Crores which covers the capping, covering and closing of re-claimed area of existing landfill site and the development of a sanitary landfill site for disposal of inert materials and rejects from the processing unit as per provisions of "The Municipal Solid Wastes (Management & Handling) Rules 2000. The work relating to capping, covering and closing and the development of a sanitary landfill site is in progress at the site. It is expected to be completed with in coming 2-3 months.

The office arranged fencing of entire area of 8498 Rft. of dumping ground by constructing boundary wall of 9" thick 5' 11-1/2 " height in cement mortar and with galvanized barbed wire fencing of 6' height. The office purchased one chain Bulldozer for Rs.63 Lacs for compacting and pushing garbage into low lying area for disposal. The office incurred an expenditure of Rs.80 Lacs for the purchase of one J.C.B. and Rs. 10 Lacs for purchase of two tippers required for spreading layer of fresh soil on garbage on day to day basis.

The office is spraying a sanitizer known as Effective Micro-organism Solution on garbage before its disposal to prevent foul smell and breeding of flies and pests. The office is spending Rs.30 Lacs per annum for this treatment. Chandigarh is the only city in this part of the country to start this treatment. The office has not received any complaint of foul smell from the residents of the colony after starting the treatment from 2005 onwards. The Corporation has created a buffer zone between existing dumping ground and the residential area of Dadu Majra Colony by removing all encroachments. The office has covered the buffer zone area with barbed wire fencing and planted suitable saplings all- round the area.







### MUNICIPAL SOLID WASTE MANAGEMENT IN CHANDIGARH

The office introduced the concept of mechanical road sweeping system in the city and purchased two mechanical road sweeping machines for cleaning of outer roads. With a view to further strengthen the concept, four more mechanical road sweeping machines are proposed to be purchased.

The Corporation organized a workshop in May 2007 at Law Auditorium to create awareness where all the Councilors and incharge of Eco-Clubs of all High and Higher Secondary Schools were invited to participate.

The Municipal Corporation is setting up a 'Garbage Processing Unit' in a joint public private partnership venture with M/S Jai Parkash Associates Ltd. over an area of 10 Acres of land situated in the west of sector 25 Chandigarh provided by the Chandigarh Administration for this purpose. The city garbage will be processed in an environment friendly ambience to produce 'Refused Derived Fuel' (R.D.F) The processing of garbage will be in an enclosed infrastructure to prevent any pollution. The funds are being provided by the Project Developer to set up unit. The critical components of machinery have been imported from Germany to ensure world class standard of the processing unit. The entire quantity of the end products i.e. fluff / pellets are to be utilized for in house consumption in the cement plants by the Project Developer. The processing plant is expected to be ready for trial run by next one month and the plant is expected to become fully operational within next three months.

The Corporation invited Expression of interest for consultancy work for claiming Carbon Credits under the Kyoto Protocol Treaty for carbon emission reduction from landfill site and received five proposals. These proposals are under scrutiny. The consultancy work for claiming 'Carbon Credits' under the clean Development Mechanism Programme is likely to be assigned to the eligible entrepreneur by the end of September, 2007.

*Dr. G.C. Bansal, Medical Officer of Health, Municipal Corporation, Chandigarh*



### ROCK GARDEN IN CHANDIGARH

AN EXAMPLE OF MANAGED SOLID WASTE

Chandigarh-The City Beautiful





## ENVIRONMENT THROUGH OUR EYES

MSW, commonly known as trash or garbage, consists of items used in daily routine such as product packaging, old furniture or out of date electronic gadgets, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. It is generated in each and every house but seldom tries to manage and minimize the generated solid waste. Who is to be blamed for mess in streets, on roads, and all around in environment? Every one of us! It is our duty to preserve the best of environment by managing and minimizing the solid waste generation. This is not easy to digest the truth. It is like biting own hand but for worth. We can't teach children only by sending them in schools but by examples that we set before them in real life. Sector level societies should take the responsibility of assisting administration to implement the management of solid waste effectively. It can be more effective only if it becomes like inherited value in all the residents of city. It must not be confined to young ones but all of all ages. Let us realize together the dream of clean city green city, the city beautiful, Chandigarh. Following are some suggestions to manage the solid waste effectively

- Segregation of garbage should be done at household level itself. Biodegradable waste may be processed and utilized as compost. Non- Biodegradable and recyclable waste should be channeled through organized waste pickers.
- Community bins should be well-maintained and regularly inspected by the conservancy staff. It is the civic authorities' responsibility to take measures to check the entry of stray animals in the vicinity of such bins.
- Public should not be allowed to organize functions like marriages on roads and in parks owned by the government as it results in insanitary conditions due to careless disposal of leftover/waste food.
- Disposal of garbage in open drains (nallas), open parks, plots, manholes, road dividers etc. should be prohibited.
- Burning of garbage should be prohibited.
- The civic authorities should remain vigilant and see to it that the public do not dispose garbage at unidentified/non-designated places, Penalising violators will act as a deterrent.

*PJS Dadhwal, Member Secretary, CPCC, Chandigarh*



## SOLID WASTE MANAGEMENT IN SCHOOLS

Disposal of solid waste in schools creates a nuisance. Articles like papers, card board, plastic, rubber, packing material, the wood-powder produced by a white ant known as termite by eating wood, broken pieces of lime, furniture, coal, pebbles, fodder, torn out pieces of clothes in shape of rags, broken pieces of bangles, rotten leaves, porous earth fossils, pieces of waste leather, cut pieces of nails, hair etc is common solid waste found in schools. Even debris is another problem in many cases.

After pointing out the major problems leading to collection of debris here and there, we should see as how we can manage the solid waste in schools. It would be in the fitness of things if we adopt the following methods to reduce this problem to the minimum possible extent.

1. The role of sanitation of the school is of vital importance.
2. Early in the morning, the sweepers should be instructed to segregate the waste found in the school into biodegradable and non-biodegradable waste.
3. Students should be taught to reduce the generation of waste and to reuse the generated waste.
4. Keep separate dustbins for wet and dry waste generated in the school.
5. The school should exhibit the practice of managing waste like vermi composting in premise .

*R.K. Thaman, Prominent City- Based Environmentalist*





# Response Centre Feedback Form



YES ! I WANT TO KNOW  
ABOUT ENVIS CHANDIGARH  
Chandigarhenvvis



Dear Information Seeker,

ENVIS CENTRE, Chandigarh furnishes you with the services to collect and disseminate information related to environment of Chandigarh. To share information with us you are requested to fill up the form given below.



Your feedback is valuable to us and will be highly appreciated

- Name \_\_\_\_\_
- Designation \_\_\_\_\_
- Department \_\_\_\_\_
- Address \_\_\_\_\_  
 \_\_\_\_\_ City \_\_\_\_\_
- State \_\_\_\_\_ Country \_\_\_\_\_ Pin | | | | |
- Phone \_\_\_\_\_ Fax \_\_\_\_\_
- Email \_\_\_\_\_

Your views on scope of improvement :

Interest Area \_\_\_\_\_

I would like to have information on following :

The diagram shows a circular process with three blue arrows forming a clockwise cycle. The top arrow is labeled 'Ask', the right arrow is labeled 'Act', and the left arrow is labeled 'Analyze'. In the center of the cycle is a globe with the text 'Feedback Culture' overlaid on it.

e-mail : [ch@envis.nic.in](mailto:ch@envis.nic.in) • Web : [www.chandigarhenvvis.gov.in](http://www.chandigarhenvvis.gov.in)





# At the End of...



## ENVIS CENTRE TEAM

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(Project Coordinator)

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(Sr. Programme Officer)

**Shelly Aggarwal**  
(Information Officer)

**Mr. Surinder Kumar**  
(Data Entry Operator)

## TIPS TO MANAGE SOLID WASTE

- Don't buy items with excess packaging.
- Buy refillable or reusable containers.
- Bring your own bags when you shop.
- Purchase durable goods of quality.
- Be an informed buyer.
- Take all of your Household Hazardous Waste (HHW) to a depot.
- Don't throw anything away that can be reused or repaired.
- Compost your food and yard waste.
- Recycle when you can't reduce or reuse.
- Be aware and spread awareness on waste management among others.

## Solid Waste Management

Plastics, Metals etc. can be recycled into useful products. Dump these in Waste Bucket for Dry Waste.

Waste Food and other Bio-degradable Waste etc can be composted into manure. Separate it from dry waste

Teach your kids and peer group about waste management to receive motherly love from nature and avoid disasters.

### Recycle

### Reuse



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### Reduce

### Recovery

## USEFUL ENVIRONMENTAL WEB LINKS

[http://www.toronto.ca/garbage/waste\\_tips.htm](http://www.toronto.ca/garbage/waste_tips.htm)  
<http://www.epa.gov/epaoswer/osw/citizens.htm>  
<http://mpcb.mah.nic.in/municipal/msw.php>  
[http://envfor.nic.in/soer/2001/ind\\_waste.pdf](http://envfor.nic.in/soer/2001/ind_waste.pdf)  
<http://www.punervis.nic.in/swmgmt.htm>  
<http://www.nswai.com/>

<http://www.solid.gov.bb>  
<http://keip.in/>  
[http://www.tn.gov.in/dtp/solid\\_wm.htm](http://www.tn.gov.in/dtp/solid_wm.htm)  
<http://vellore.nic.in/solidwaste.htm>  
<http://mospi.nic.in/>  
<http://www.environment.tn.nic.in>

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To,

Book Post

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Note : While every care has been taken in compilation of the information available for this newsletter. However, readers must make thorough confirmation/enquiries at their own level before acting upon any data/information provided to the readers. Any discrepancy brought in the notice of ENVIS CENTRE, Chandigarh will be highly appreciated.

