

GUIDELINES FOR CITIZENS FOR MANAGEMENT OF MUNICIPAL SOLID WASTES



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FOREWORD

Municipal solid waste (which includes household garbage and wastes from commercial complexes, institutions and hospitals and waste from construction and demolition activities) can be a serious hazard to human health and environment, if it is not handled, treated and disposed of in a proper way. People's participation and action is essential for effective management of such wastes.

These guidelines have been prepared as a part of our mass awareness campaign for management of municipal solid waste. Efforts made by Ms. Vinita Dhupkar, Consultant and Shri. Bharat Nimbarte, Regional Officer in preparing this document are greatly appreciated. Suggestions and inputs received from the Central Pollution Control Board and the Municipal Corporation of Greater Mumbai in the preparation of this document are also gratefully acknowledged. Comments/criticism for improvement are welcome.

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**Dr. Dilip B. Boralkar
Member Secretary
October 6, 2005**

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Maharashtra Pollution Control Board

GUIDELINES FOR CITIZENS FOR MANAGEMENT OF MUNICIPAL SOLID WASTE

1.0 Introduction

Solid wastes (as different from liquid effluents) are those undesirable, useless and unwanted materials and substances that arise from human and animal activities. In earlier times, when population was limited and industrial development scarce, the major constituents of waste were largely domestic sewage and agricultural residues. Disposal of such wastes was not a problem since these were biodegradable and plenty of land was available.

With increasing industrialization and populations, however, solid waste generation has not only increased but its nature has also changed. Wastes from urban areas and industrial units contain diverse types of materials. Many of these discarded materials are often reusable and are often considered as a resource in another setting. 'Solid waste management' is a term that reflects efforts to manage society's waste in a manner that meets public health and environmental concerns and encourages private and community attempts to reuse and recycle discarded materials.

2.0 Applicability of guidelines

These guidelines are being issued by the Maharashtra Pollution Control Board as a part of its mass awareness campaign and to encourage people's participation and action to promote environmentally sound management of such problem wastes.

These guidelines are applicable to all citizens, communities, NGOs, social organizations and generators of municipal solid waste.

3.0 Categories of solid wastes

Human beings and animal generate solid wastes in various forms and from diverse activities. Details of various categories of solid wastes generally unwanted by society are discussed below:

Municipal Solid Waste (MSW)

Municipal solid waste comprises of wastes from households including garbage and rubbish, sanitation waste and street sweepings. MSW also includes wastes and discarded materials from institutions and commercial complexes and debris from construction and demolition activities.

Domestic wastes

These wastes are generated by household activities such as cooking, cleaning, repairs and redecoration and include empty containers, packaging, clothing, old books, newspapers, old furnishings, etc.

Commercial wastes

wastes generated in offices, wholesale stores, restaurants, hotels, markets, warehouses and other commercial establishments are classified as commercial wastes. These are further categorised into garbage and rubbish.

Institutional wastes

Considerable wastes are generated from institutions such as schools, colleges, hospitals and research institutions. Such wastes include garbage, rubbish and hazardous materials.

Garbage

Garbage is a general term which includes animal and vegetable wastes associated with various activities like storage, preparation, sale, cooking and serving of food. These wastes are biodegradable in nature.

Ashes

Residues from the burning of wood, charcoal and coke for cooking and heating in houses, institutions and small industries are also defined as waste. Ashes consist of a fine powdery residue, cinders and clinker often mixed with small pieces of metal and glass.

Rubbish

Apart from garbage and ashes, other solid wastes produced in households, commercial establishments and institutions are termed as rubbish.

Bulky wastes

Bulky wastes are large household appliances such as cookers, refrigerators and washing machines as well as furniture, crates, vehicle parts, tyres, wood, trees and branches. The bulky metallic wastes are sold as scrap metal but some portion is disposed of in sanitary landfills.

Street wastes

Street wastes consist of paper, cardboard, plastic, dirt, dust, leaves and other vegetable matter collected from streets, walkways, alleys, parks and vacant plots.

Dead animals

Animals die naturally or are sometimes accidentally killed. If left untended, the carcass will generate nuisance. This category, however, does not include carcasses and animal parts from slaughterhouses as these are considered industrial wastes.

Construction and demolition wastes

Construction materials like cement, bricks, cement plaster, steel, rubble, stone, timber, plastic and iron pipes and major components of the building industry. About 50% of these materials are not currently recycled in India and the construction industry does not appear to be aware of available recycling techniques.

Hazardous wastes

Citizens should be aware of three additional categories of waste which however require special management and handling. Wastes from hospitals, clinics and laboratories fall under a separate regulation called the Biomedical Wastes (Management & Handling) Rules, 1998. Hazardous wastes generated by industries fall under a specific regulation called the Hazardous Wastes (Handling & Management) Rules, 1989 (as amended).

Citizens should also be aware of the impending threat posed by E-Waste, which includes old computers, discarded mobiles, batteries (using heavy metals like nickel and cadmium), TVs etc. All these wastes originate in households as well. Their final destination must be secured in environmentally friendly treatment and disposal options.

4.0 Components of Municipal Solid Wastes

Municipal Solid Waste contains on an average between 30 to 50% organics (or biodegradables), about 4-6% recyclables and certain constituents having high calorific (fuel) value. General constituents present in the municipal solid waste of cities in India according to the size of population clusters are presented in Table 1.

Table 1 : Physical characteristics of municipal solid waste from Indian cities

Population Range (in millions)	No. of Cities Surveyed	Paper	Rubber, Leather and Synthetics	Glass	Metals	Total Compostable matter	Insert soil debris
0.1 to 0.5	12	2.91	0.78	0.56	0.33	44.57	43.59
0.5 to 1.0	15	2.95	0.73	0.35	0.32	40.04	48.3
1.0 to 2.0	9	4.71	0.71	0.46	0.49	38.95	44.73
2.0 to 5.0	3	3.18	0.48	0.48	0.59	56.67	49.07
5	4	6.43	0.28	0.94	0.80	30.84	53.90

Note: All values are in percentage (%) and calculated on wet weight basis

The following polluting materials and substances are generally found in municipal solid waste:

(a) Thin polythene bags (carry bags)

Thin polythene coloured bags in municipal waste are well known to cause hazards to the natural environment and to animals. These bags contain toxic metals and are non-biodegradable. They cause damage to municipal drainage systems and storm water drains by choking. In July 2005, Mumbai city faced a major flood disaster: one of the reasons given for the flooding was the blockages created in the drainage system by plastic litter.

When these plastic bags get mixed with MSW, they are difficult to separate from other waste. If they are dumped on land with other MSW, they do not get degraded by microorganisms and will remain in the soil for years together, preventing rainwater seepage into the ground. These bags are also reported to be a cause of the death of many animals that feed on garbage dumps.

Plastic bags should not be dumped into municipal garbage. If segregated at source, they can be recycled.

(b) Organic biodegradable matter

Wasted food or easily biodegradable matter, when disposed of in MSW, starts decomposing immediately. This decomposition of food waste takes place due to the activities of microorganisms which in turn give rise to obnoxious odours. Such microorganisms are harmful to human health and are responsible for many diseases. Segregation and disposal of food wastes at source is therefore to be strongly encouraged if we are to overcome this problem.

(c) Paper, glass, plastic and metals

Paper, glass and metals, if mixed with other MSW, create their own problems in disposal of MSW. These are therefore to be separated from other MSW at source and despatched to be recycled and reused.

(d) Construction and demolition waste

Upcoming new constructions, housing complexes and similar construction and demolition projects generate wastes like silt, sand, cement, bricks, iron pipes, cement plaster, steel, rubble, stone, timber, plastic, etc. Such wastes contribute to waste volumes in general. They are also very difficult to segregate from MSW. Since they are non-biodegradable, their disposal along with biodegradable waste cannot be justified. They also occupy space at dump sites.

Construction and demolition waste should be disposed of separately. Recycling/reuse of such wastes should be encouraged.

Construction and Demolition Waste



5.0 Solid Waste Management

Any solid waste management programme in the community will emphasize first maximum waste reduction, then reuse, segregation of the waste at source, recycling, composting and the use of recycled products.

Waste generated by residential complexes, institutions, hotel and commercial complexes and offices can be collected and subjected to various treatment methods within their own premises. Solid waste segregation, collection, treatment and disposal management should follow the procedures given below:

5.1 Waste reduction/reuse at source

Awareness within the community to reduce the generation of waste should be increased. Products or packaging that are unsafe in production, use, post-consumer use, or that produce or release harmful products when disposed of should be phased out. Excess packaging and packaging including plastic and thermocol that is difficult to recycle should be eliminated.

Consumers should repair, resell, exchange, or donate unwanted product as much as possible to avoid disposal. Non-biodegradable material such as thermocol should be avoided for decoration of festivals. Reduced use of plastic should be encouraged.

5.2 Segregation of Waste

Dry waste should be separated from wet biodegradable waste. Recyclable waste should be given to agencies, which buy the waste from the generator and re-route it to the recycling process units. Non-recyclable waste (inorganic) such as PET mineral bottles, nitrogen sealed packaging chips, tetra packs, thermocol, carbon paper, plastic coated visiting cards and sachets should be collected in separate containers.

Biodegradable wet waste can be treated with common methods like yard composting, home composting or vermin-composting.

As per the Municipal Solid Waste Rules 2000, the segregation of waste is to be undertaken as follows:

Waste should be segregated into three categories.

- (i) Organic waste;
- (ii) Recyclable waste;
- (iii) Others – inorganic waste.

Detailed classification of solid wastes under these three categories is given in Table 2.

Table 2: Classification of Wastes

Biodegradable Wastes	Non-Biodegradable Wastes	
Organic Waste	Recyclable Waste	Others (Inorganic /Hazardous Waste)
<ul style="list-style-type: none"> • Tea Leaves • Egg Shells • Kitchen waste • Fluorescent tubes • Fruit peels • Meat • Bones • Flowers • House dust after cleaning 	<ul style="list-style-type: none"> • Paper • Shampoo bottles • Glass • Wires • Metal objects • Plastic • Metals • Rags • Leather • Rexine • Rubbers 	<ul style="list-style-type: none"> • Old medicine • Paints • Fluorescent tubes • Spray cans • Fertilizers and pesticide containers • Batteries • Shoe polish • Hospital waste

It is best if the authorities provide different coloured containers for storing and handling the different kinds of wastes. The following colours are recommended:

- Green container : Biodegradable waste
- White container : Recyclable waste
- Black container : Others (Inorganic/Hazardous waste)

The biodegradable waste can be treated and disposed off/ used as manure in the premises or it can be given to the local municipality vehicle for further disposal.

The recyclable waste can be sold to the raddiwala or scrap dealer.

MPCB and Municipality can be contacted for disposal of other (inorganic/hazardous) waste.

5.3 Dry waste recycling

Dry waste such as paper, shampoo bottles, glass, note books, wires, safety pins, caps of mineral bottles, plastic utensils and toys, etc., can be handed over to rag-pickers and kabaris who can further carry the waste for recycling or reuse.

Some items that can be recycled or reused are given below :

- **Paper**
Old copies, old books, paper bags, newspapers, old greeting cards, cardboard box
- **Plastic**
Containers, bags, sheets
- **Glass and ceramics**
Bottles, plates, cups, bowls
- **Miscellaneous**
Old cans, utensils, clothes, furniture

5.4 Wet biodegradable waste – composting

Organic wastes left to themselves undergo a slow process of degradation. The activity is carried out by microorganisms of different kinds. Composting is a controlled process of decomposition of organic material by microorganisms into a useful product. Waste generators can make their own supply of compost in their own yard using materials that would otherwise be thrown away. Composting of kitchen and yard wastes at the household and community level should be encouraged.

Composting exercises reduce the amount of waste material eventually going to municipal solid waste sanitary landfills.. At the same time, finished compost can be used to improve soil texture, increase the ability of soil to absorb water and air, suppress weed growth, decrease erosion, and reduce the need for commercial soil additives/fertilizers.

Yard composting



Waste ingredients that can be effectively used in the composting treatment process are listed in Table 3.

Table 3: Composting Ingredients

Browns (carbon)	Greens (nitrogen)
Dry leaves and twigs	Grass and plant clippings
Dry plant and grass clippings	Fresh landscape trimmings
Hay	Vegetables
Non-recyclable paper	Fruit peels
Paper towels, plates and napkins	Coffee grounds and used tea powder / leaves
	Egg shells
	Waste food

A good mix consists for composting will comprise of three parts 'browns' and one part 'greens'.

Moisture Composting materials should feel moist but not overly soggy.

Temperature Compost should feel warm to the touch except in the cold winter months

Air To prevent unpleasant odours that can occur when materials decompose without oxygen, compost should be turned regularly to ensure that air is reaching the centre of the pile

5.5 Home composting

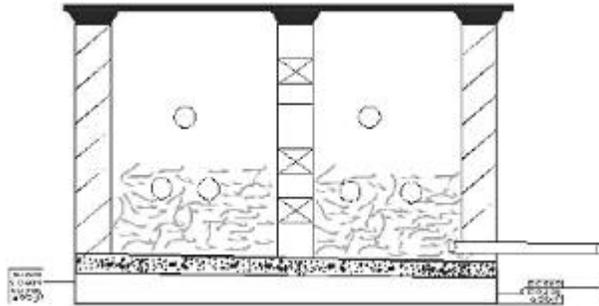
Dig two pits in the ground having dimensions of 2 ft x 2 ft x 2 ft. Please note not to increase the depth of the pit because harvesting of compost becomes difficult. Now start putting your kitchen or yard waste inside one of the pits. Do not heap the waste but spread it evenly so as to form a layer. If kitchen waste is used, then it has to be covered with garden or yard waste. Sprinkle some water to keep the material moist.

Keep on putting the waste every day layer by layer. When the material inside the pit reaches a height of one and a half feet, there will be a steady rise in temperature in the pile, signalling that the composting process has started.

Once the pit is full, cover it with mud.

Now you can start using the second pit. The material in the first pit shall be ready in

Dual Chamber Composting Unit



a time span of three to four months. The compost will look like dark-black soil having some parts of half decomposed organic matter. It can now be safely used for your garden or potted plants.

If you want to be a little more systematic, you can conduct the same process in bins that are constructed above the ground. The construction work is done on an RCC base with ordinary bricks. You can also use any other material to construct the bins. The bins should have a length of three feet and a breadth of two and a half feet. The height should not be more than two and a half feet. At this height you can comfortably move materials in and out while remaining outside the bin.

The bins have to be covered with a netting so as to prevent the entry of insects, birds and animals including rats. A roof cover is also necessary to prevent water from entering the bins during the rains. For this, you can cover the bins with a plastic sheet or construct a tin roof.

The process of making compost from domestic waste is the same: start using the first bin and put the waste in layers. Once in a way, sprinkle some water to keep the material moist. Do not add too much of water so that the material starts dripping. It will take around 3-4 months for the bin to get full if it is used by a single family.

When the first bin is full, you start using the second bin. During this time, the first bin will undergo the process of composting. There will be an increase in temperature and reduction in the size of the materials.. The volume inside the bin will reduce and go down by one third. The colour of the material will start changing, signalling the composting process is underway successfully..

All types of biodegradable waste can go inside the bins. Keep out all non-biodegradable waste such as glass, metal, plastic, etc. The compost will be ready after 3 months and will have a dark black colour. If you turn the material inside the bin once in 15 days, then the time taken for composting will be less and the compost shall be ready in 1-2 months. Once the second bin gets full, the first one will be fully composted. Remove the compost and start re-using it again. You can keep repeating the cycle indefinitely.

The dark soil-like compost can be directly used for plants.

Vermicomposting also can be used for decomposition of the organic waste, which gives rise to high quality granular compost by the activity of earthworms.

Composting units



6.0 Guidelines for Waste Management

There is a constitutional obligation of each citizen under Article 51A (g) to protect the environment. Each citizen should contribute to protect the environment by reducing, reusing and recycling solid waste and thereafter managing its safe disposal.

Cleanliness starts from the house. Each citizen should ensure that the solid waste generated from his/her house is segregated, stored and disposed of as per the guidelines provided to protect the environment.

Non Governmental Organisations (NGOs) should take up initiatives to work with local residents to improve the sanitation, segregation of waste, garbage management, etc. They can play an active role in organizing surveys, studies and new technologies to attract private entrepreneurs to take up solid waste management as a project on a professional level. NGOs should help to create awareness in the society about cleanliness, importance of waste segregation, ill-effects of improper waste management and to promote education and awareness in schools. NGOs should involve the community in waste management. NGOs also should encourage minimization of waste through in-house backyard composting, home composting, vermicomposting and biogas generation.

6.1 Waste Management at Source

Solid waste at source according to the community and activities therein should be managed as per the guidelines given below:

Household waste

- Do not throw any solid waste in the neighbourhood, on the streets, open spaces, and vacant lands, into the drains or water bodies.
- Keep food waste/biodegradable waste in a non corrosive container with a cover (lid).
- Keep dry, recyclable waste in a bin or bag or a sack.
- Keep domestic hazardous waste, if and when generated, separately for disposal at specially notified locations.

Multi-storied buildings, commercial complexes, private societies

- Provide separate community bin or bins large enough to hold food/biodegradable waste and recyclable waste generated in the building or society.
- Direct the members of the association to deposit their waste in community bin

Slums

- Use community bins provided by the local body for deposition of food and biodegradable waste.

Shops, offices, institutions, etc.

- If situated in a commercial complex, deposit the waste in bins provided by the association.
- Keep dry and wet biodegradable waste separately.

Hotels & restaurants

- The container used should be strong, not more than 100 litre in size, should have a handle on the top or handles on the sides and a rim at the bottom for easy handling

Vegetable & fruit markets

- Provide large containers, which match with transportation system of the local body.
- Shop keepers not to dispose of the waste in front of their shops or open spaces.
- Deposit the waste as and when generated into the large container placed in the market.

Meat & fish markets

- Not to throw any waste in front of their shops or open spaces around. Keep non-corrosive container/containers not exceeding 100-litre capacity with lid handle and the rim at the bottom and deposit the waste in the said containers as and when generated.
- Transfer the contents of this container into a large container provided by the association.

Street food vendors

- Not to throw any waste on the street, pavement or open spaces. Keep bin or bag for the storage of waste that generates during street vending activity
- Preferably have arrangements to affix the bin or bag with the hand-cart used for vending.

Marriage halls, community halls, *kalyanamandapas*

- Not to throw any solid waste in their neighbourhood, on the streets, open spaces, and vacant lands, into the drains or water bodies.
- Provide a large container with lid which may match with the transportation system of the local body and deposit all the waste generated in the premises in such containers.

Hospitals, nursing homes, etc.

- Not to throw any solid waste in their neighbourhood, on the streets, open spaces, and vacant lands, into the drains or water bodies.
- Not to dispose off the biomedical waste in the municipal dust bins or other waste collection or storage site meant for municipal solid waste.
- Store the waste as per the directions contained in the Government of India, Ministry of Environment, Biomedical Waste (Management & Handling) Rules, 1998

Construction/ demolition waste

- Not to deposit construction waste or debris on the streets, footpaths, pavements, open spaces, water bodies etc.
- Store the waste within the premises or with permission of the authorities just outside the premises without obstructing the traffic preferably in a container if available through the local body or private contractors.

Garden waste

- Compost the waste within the garden, if possible. Trim the garden waste once in a week on the days notified by the local body.
- Store the waste into large bags or bins for handing over to the municipal authorities appointed for the purpose on the day of collection notified.

6.2 Reduction and reuse

- Solid waste management programs should be targeted for reductions in the region's waste streams and should provide incentives for decreased generation of wastes. Variable garbage collection rates, based on volume or weight, should be used to reward those who generate less waste and separate their recyclables at the source. The use of throwaway/disposable goods should be discouraged and regulated.

- Products or packaging that are unsafe in production, use, post-consumer use, or that produce or release harmful products when disposed should be phased out. Excess packaging and packaging that is difficult to recycle should be eliminated. Manufacturers of new products and packaging should be required to minimize waste and toxicity in production and to demonstrate environmentally sound post-consumer use and disposal.
- Products should be made to last as long as possible by the use of durable designs and materials, and the availability of repair services and replacement parts. Consumers should repair, resell, exchange, or donate unwanted product as much as possible to avoid disposal. Sharing and rental of tools and equipment is encouraged.
- Priority should be given to establish standardized and refillable containers for beverages and other products. New beverage containers without the mechanism or market for reuse or recycling should be prohibited.
- Waste management programs should include strong public education campaigns in source reduction, reuse, recycling, and composting.

6.3 Recycling

- Community solid waste management planning should be based on an analysis of the quantity and composition of the area's municipal and commercial waste streams to determine what can feasibly be managed by source reduction and recycling.
- Joint planning by community/environmental groups/recyclers to minimize contractual problems and other issues involving municipal personnel and to maximize environmental benefits is encouraged.
- Economic considerations of recycling should include avoided disposal fees, the avoidance of future clean-up costs, the costs of future land acquisition, transportation, and facility development. Disposal cost savings of recycling programs should be publicized. Disposal surcharges may be used as means of financing recycling programs.
- The establishment of stable markets for recycled materials is essential. Awareness should be created to promote procurement of products containing a high content of recycled and recyclable materials, and require that contracts specify products with the highest practical percentage of recycled content.
- Products and packaging materials should be conspicuously labelled to indicate recycled content, including post-consumer content, recyclability, toxicity and appropriate disposal.

- Household and small quantity commercial toxic and hazardous wastes should be segregated, labelled and collected separately in community-level programs that recycle, treat, or otherwise safely manage those wastes.
- A comprehensive waste management program should aim to recover all useful materials, with zero trash the ultimate goal. After source separation of recyclables, remaining salvageable materials should be recovered from the waste stream.
- Discarded tires should be recapped, reused as rubber, or reclaimed by processing into material for road surfacing or other uses. Burning of tires is strongly discouraged to prevent emission of toxic or harmful gases.
- Components of the waste stream such as wood waste, construction and demolition debris, and white goods (e.g., stoves and refrigerators) should be removed and processed to recover the material. Refrigerants should be recovered and recycled.
- Items, which can be repaired such as furniture, tools and small appliances, should be recovered and made available to the public through second-hand shops, charitable organizations or waste exchanges.

6.4 Composting

- Composting of kitchen and yard wastes at the household and community level should be encouraged through public education and dissemination of information on composting. Grass clippings should be left on the lawn to provide fertilizer and help conserve moisture.
- Organic materials such as kitchen waste, yard waste, and wet or soiled paper that cannot be recycled should be composted to produce a useful product. Curb side pick-up of separated compostable materials should be encouraged as part of the waste management program. Community drop-off centres should be provided if curbside pick-up is unavailable.
- If source separation is not used, appropriate materials should be separated from mixed waste for composting. Composting should serve to complement programs for recycling and reuse rather than substituting for these programs.

6.5 Landfills

- Land filling should be limited to materials that cannot be managed through preferable options. Materials entering landfills should be regulated and monitored to prevent the introduction of any hazardous substances. For land filling Government authorization is compulsory.
- Land filling shall be restricted to non-biodegradable, inert waste and other waste that are not suitable either for recycling or for biological processing. Land filling shall also be carried out for residues of waste processing facilities as well as pre-processing rejects from waste processing facilities. Land filling of mixed waste shall be avoided unless the same is found unsuitable for waste processing. Under unavoidable circumstances or till installation of alternate facilities, land filling shall be done following proper norms.



Paper Waste Recycling

Solid Waste Segregation for Recycling



7.0 Rules , Acts and Notifications for Solid Waste Management

- The right to live in a clean and healthy environment is not only a fundamental right guaranteed under Article 21 of our Constitution but is also a right recognized and enforced by the courts of law under different laws. **The Constitution of India, 1950 the earliest legislation and which is the supreme law of the land has imposed a fundamental duty on every citizen of India under Article 51-A (g) to protect and improve the environment.** The obligation on the State to protect the environment is expressed under Article 48 A. The right to live in a healthy environment is also a basic human right. The Universal Declaration of Human Rights, 1948 has declared under Article 3 that everyone has the right to life and under Article 25 that everyone has a right to a standard of living adequate for health and well being of himself and of his family. At the national policy level, the Ministry of Environment and Forests has notified the Municipal Solid Waste (Management and Handling Rules) 2000 in exercise of the power conferred on it under sections 3, 6 and 25 of the Environment Protection Act, 1986. These Rules shall apply to every municipal authority responsible for the collection, segregation, storage, transportation, processing and disposal of municipal solid wastes.
- Composting of wastes is now a legal requirement provided under the MSW Rules 2000 for all municipal bodies in the country. The MSW Rules 2000 requires that 'biodegradable wastes shall be processed by composting, vermicomposting, anaerobic digestion or any other appropriate biological processing for the stabilization of wastes.'
- Every municipal authority shall, within the territorial area of the municipality, be responsible for the implementation of the provisions of these Rules, and for any infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes.

The Central Government, to perform its functions effectively as contemplated under sections 6, 8, and 25 of the Environment Protection Act, 1986, has also made or issued other Rules, Notifications and Orders that impinge upon the environmentally safe handling of wastes. These include:

- The Bio-Medical Wastes (Management & Handling) Rules, 1998.
- The Recycled Plastics (Manufacture and Usage) Rules, 1999. The Plastic Rules:
- Prohibit the usage of carry bags or containers made of recycled plastics for storing, carrying, dispensing or packaging of foodstuffs.

- Prescribe that the minimum thickness of carry bags made of recycled plastics shall not be less than 20 microns.
- Directs the manufacturers of carry bags that the carry bags and containers shall be in natural shape or white in colour.
- Stipulate that recycling of plastics shall be undertaken strictly in accordance with the standards prescribed by the Bureau of Indian Standards. The manufacturers of recycled plastics carry bags shall mark their products as 'recycled'.
- This notification also provides that the Plastics Industries Association through member units shall undertake self-regulatory measures.

Nonsegregated waste on the street



8.0 Action taken

The Central Pollution Control Board (CPCB) and the State Pollution Control Boards (SPCBs) within the given powers to them under relevant Acts and Rules have been attempting to persuade local bodies to take appropriate measures for the treatment and disposal of domestic sewage and municipal solid waste.

The Supreme Court of India has given directives to all States to comply strictly with Municipal Solid Waste Management Rules Maharashtra Pollution Control Board. Maharashtra Pollution Control Board has given authorization to 245 Urban Local Bodies for MSW management.

MPCB in consultation with AILSG have prepared the checklist for identification of processing and disposal sites to facilitate effective implementation of MSW rules. Maharashtra State Government also have formed the District Level Committee under Chairmanship of District Collector for identification / selection of landfill sites.

MPCB has extended financial assistance to five local bodies for model/demo projects which will guide ULB as a road map for development of projects which will guide ULB as a road map for development of MSW project and its proper operation and maintenance.

Urban Local Bodies, MPCB and State Government are working together to manage the increasing load of MSW, however public participation and community level treatment of MSW will help to decrease the load on Municipal solid Waste Management.

Home Composting – Citizens's Action



9.0 Do's and Don'ts to assist the authorities

- Carry your own cloth or jute bag when you go for shopping.
- Say no to all plastic bags as far as possible. Replace with paper, cloth and jute bags.
- Reuse the soft drinks pet bottles.
- Segregate the waste in the house as wet and dry. Keep two garbage bins and see to it that the biodegradable and the non-biodegradable material is put into separate bins and disposed of separately.
- Dig a compost pit in your garden and put all the biodegradable waste into it to provide you with rich manure for your garden.
- See to it that all garbage is thrown into the municipal bin for further disposal of municipal solid waste. Do not litter on road or in offices, theatres, market places and/or any other common public places. When you go out, do not throw paper and other wrappings or even leftover food here and there, make sure that it is put into a dustbin.
- Do not throw the waste/litter on the streets, drains, open spaces, water bodies, etc.
- Community storage/collection of waste in flats, multi-storied buildings, societies, commercial complexes, etc.
- Manage excreta of pet dogs and cats appropriately.
- Provide waste processing/disposal at a community level.
- Organise public education and awareness programs. Increase awareness in children by interesting education programs in schools.

Ready compost as manure



Following internet sites may be referred to for more information:

- <http://mpcb.mah.nic.in>
- <http://envfor.nic.in/cpcb>
- <http://www.cpcb.delhi.nic.in>
- <http://www.environment.about.com>
- <http://www.edugreen.teri.res.in>
- <http://www.mcgm.gov.in>
- <http://www.epa.org>

