

Chapter – 16: Garbage In, Garbage Out

- Waste materials – especially household waste – garbage
- Different kinds of waste – produced everyday
- Peel of fruits and vegetables, unused cooked food, dry leaves of potted plants, packing materials of packaged products, lots of unwanted plastic objects, many old and useless metal objects
- Anything – thrown away – contributes to garbage
- Garbage produced by a person – may be small – BUT – garbage produced by lots of person – makes a huge heap of garbage
- Garbage – if not removed from our surroundings – may damage our health
- Some garbage – may rot – give out foul smell – attract insects
- Garbage collected in the surroundings – collected by the municipality – disposed off in a number of ways

Dealing with garbage

- 2 components of garbage –
 - Useful –
 - Things – converted back to come useful products – recycled or reused
 - Useless –
 - Cannot be used in any ways
- Useful garbage – 2 kinds
 - Decomposable – fruits, vegetables, peels, left-over food (kitchen waste), dried leaves, etc – can be converted to compost
 - Recyclable – paper, plastic, glass, metal, etc – can be recycled or reused

Some garbage rots, other does not

- Garbage – peels of fruits, vegetables – left-over food – rot (decay) – biodegradable
 - Decompose easily – can be taken care of easily
- Garbage – plastic, paper, glass, metal – do not rot – non-biodegradable
 - Dealing with them – more difficult
- In urban cities – Municipality – provides separate dustbins
 - Green dustbin – collects biodegradable wastes
 - Blue dustbin – collects non-biodegradable wastes

Disposal of Garbage

- Disposal – get rid of garbage – different methods
- **Composting** –
 - Rotted plants and animal waste – used as manure – compost
 - Conversion of plants and animal waste materials into manure – composting
 - Compost – natural fertilizer – contains nutrients – help in growth of plants
 - Activity –
 - Dig a pit – collect all the biodegradable waste in it
 - Add lots of water – cover it with soil – leave it undisturbed
 - Micro-organisms in soil – decompose the waste materials – form compost

- Compost – used as manure
- NEVER – burn dry leaves
- Burning – produces smoke and harmful gases
- **Vermicomposting –**
 - Composting – done with help of redworms
 - Redworms –
 - Type of earthworm
 - Ability – convert plant matter into high quality manure – vermicompost
 - Vermicompost – much better than ordinary compost
 - Activity –
 - Dig a pit – place a wooden box in it – spread some sand at the bottom
 - Place the kitchen waste on the sand layer – other plants and animal waste can also be added
 - Sprinkle some water – layer of garbage – must be loose
 - Add some redworms to the pit – cover it loosely with a gunny bag or some grass – once in a few days – mix the top layers in the pit
 - Redworms – eat the rotting garbage – grind the garbage through a structure inside body – called ‘gizzard’ – excretions of redworms – collected inside the pit – make up the vermicompost
 - Put some fresh kitchen waste in a corner – redworms shift to this waste – collect the vermicompost – let it dry in sunshine – now it’s ready to use
 - Vermicomposting – helps in disposing kitchen waste – gives us high quality manure
 - Advantages of using natural fertilizers –
 - Much cheaper than chemical fertilizers
 - Does not harm the soil in any way
- **Recycling –**
 - Household wastes – paper, plastic, metal – recycled
 - Recycling – making new products from used products
 - Paper – sent to paper industries
 - Plastic – sent to plastic processing industries
 - Glass – sent to glass industries
 - To recycle – separation is imp.
 - All the recyclable materials – sold to junk seller – send them for recycling
 - Activity –
 - Take some old newspapers (any waste papers) – tear them in small pieces – put them in a tub – pour some water – let them be submerged for a day – make a thick paste afterwards
 - Fix a wire mesh to a frame – spread the thick paste over it – obtain a uniform layer of paper – wait until all the water dries up
 - Remove the layer of paper carefully – spread of a sheet of newspaper – let it dry under sun – make it completely dry – dried up layer of paper paste – final recycled paper – food color can be added to thick paste – adds colour to the recycled paper
- **Reuse –**
 - If possible – use the same things again
 - Plastic jars – jams, pickles, oils, etc – used again to store other items
 - Clothes – reused to make mats
 - Old invitation cards – reused to make diary

- Waste items – reusable – limited
- **Landfill –**
 - Non-useful garbage – cannot be recycled, reused or converted to compost – disposed in a landfill
 - Landfill – low-lying area – garbage from a city – dumped
 - Garbage – filled in the landfill – covered with soil – level the ground
 - Afterwards – converted into a park or playground
 - No building constructed for at least 20 years

Plastic – Boon or Curse?

- Daily life – many things we use – made of plastic – plastic bags, water bottles, pipes, pens, tables, chairs, insulation of electric wires, plugs, sockets, etc
- Lots of uses of plastic – make it a boon (*vardan*)
- Plastic – non-biodegradable (does not decompose) – only some of the plastic can be recycled
- If not disposed properly – it becomes a curse
- Problems with excessive use of plastic –
 - Do not decompose in nature – thrown away plastic – gets into drains and sewers – choked drains and sewers – create flood like situation
 - Some people – throw away – household garbage in plastic bags – cattles try to eat this food – even eats the plastic – harms them
 - Sometimes – plastic bags contain poisonous (toxic) materials – when this bag is thrown away – collected by ragpickers and resold to shopkeepers – harmful for us
 - Burning of plastic waste – gives out harmful gases – harmful for us

What can we do to minimize the overuse of plastics?

- Reuse the plastic bags for shopping – reduces the number of plastic bags used
- Carry your own cloth or jute bag
- We can also use paper bags – whenever possible
- Reuse the plastic containers at home
- Give away old plastic toys – someone can use them

What can be do to reduce the generation of garbage?

- Dispose the kitchen garbage carefully – vermicompost
- Reuse plastic bags – whenever possible
- Make full use of paper – write on both sides
- Used newspapers, notebooks – send for recycling
- Give away old clothes and books – someone can use them
- Use handkerchiefs instead of paper tissues
- Buy products with least packaging
- Use cloth, jute, paper bags instead of plastic bags – whenever possible
- Recycle – old and useless glass and metal objects
- Garbage disposal – not the responsibility of government alone – responsibility of us people as well