

PART 2: WASTE WATER MANAGEMENT PLANT

Treatment of polluted water:

The waste water could have substances such as pieces of cloth Cans, Plastic packets, Napkins, Earthern materials. Pieces of wood and paper.

Treatment of wastewater involves physical, chemical, and biological processes, which remove physical, chemical and biological matter that contaminates the wastewater.

Let us see this step by step process,

STEP :

Wastewater is passed through bar screens. Large objects like rags, sticks, cans, plastic packets, napkins are removed here.

STEP 2 :

Water then goes to a grit and sand removal tank. The speed of the

incoming wastewater is decreased here to allow sand, grit and pebbles to settle down.

STEP 3:

The water is then allowed to settle in a large tank which is sloped towards the middle. Solids like faeces settle at the bottom and are removed with a scraper. This is the **sludge**. A skimmer removes the floatable solids like oil and grease. Water so cleared is called **clarified water**.

The sludge is transferred to a separate tank where it is ecomposed

by the anaerobic bacteria. The biogas produced in the process can be used as fuel or can be used to produce electricity.

STEP 4:

Air is pumped into the clarified water to help aerobic bacteria to grow. Bacteria consume human waste, food waste, soaps and other

unwanted matter still remaining in clarified water.

After several hours, the suspended microbes settle at the bottom of the tank as activated sludge. The water is then removed from the top.

The activated sludge is about 97% water. The water is removed by sand drying beds or machines.

Dried sludge is used as manure, returning organic matter and nutrients to the soil.

The treated water is then recycled. It is used for irrigation, plantation and flushing too. The treated water has a very low level

of organic material and suspended matter. It is discharged into a sea, a river or into the ground. Nature cleans it up further.

Sometimes it may be necessary to disinfect water with chemicals like chlorine and ozone before releasing it into the distribution system.