

SOURCES OF WATER POLLUTANTS:-

(1) **DOMESTIC SEWAGE**:- Big cities discharge their domestic sewage in the sea by rivers or oceans through sewage system. It contains human and animal excreta, food residues and various types of cleaning wastes. These are rich in nitrogen compound and organic matter. Decomposition of these bio-degradable pollutants depletes oxygen content of water. This makes the survival of 'aquatic' organisms difficult. However in most instances, the amount of pollutant is small and causes less harm. If there are discharged in moderate amount, their degradation increases the productivity of river.

(2) **INDUSTRIAL WASTE**:- The custom to drain out industrial waste in nearby resources of water contaminates it. The industries are of various nature. These may be sugar factories, textile factories, dairy industries, oil refineries, rubber and plastic manufacturing industries etc. Depending upon the kinds of industries their wastes may contain zinc, lead, mercury, cyanide, arsenic, chlorine, phenol and many other organic as well as inorganic pollutants.

(3) **THERMAL POLLUTION**:- Water is used for cooling electric power plants and nuclear power stations. Hot water released by them in river stream or lakes cause calcification. Rise in temperature increase metabolic rate, respiration

of micro-organisms and change in the rate of various chemical reactions. This results in rapid decay of organic components leading to depletion of oxygen. Some organisms are directly affected by hot water and are killed.

(4) MINE WASHERIES: - These contain water pollutants like chlorides, ferrous sulphate, hydrogen sulphide, sulphuric acid and various metals.

(5) SILT FORMATION: - Ploughed and eroded land provides an increased opportunity for erosion of soil during heavy rain and flood. The eroded soil is carried to the lakes and streams with overflowing water and takes part in the formation of suspended particles. These particles of soil sand and other debris are called silt. This decreases productivity of water by decreasing the depth of light penetration. Further it prevents the reproduction of many fishes by depositing on eggs and causes mortality of aquatic organisms by depositing on their gills.

(6) FERTILIZERS: These contain mainly phosphorus, nitrogen, potassium and sulphates. Extensive amount of these chemicals reaches to the ground water by seeping. Sometimes they also enter surface water by

(7) **FLUOROSIS**: fluoride contaminated water causes fluorosis. It is characterised by gastro-intestinal troubles, allergies along with bones, dental and neuromuscular disorders.

(8) **METHOMOglobinemia**: Contaminated combination of nitrides with haemoglobin decreases the oxygen carrying capacity of blood. This disease is recognized as methomoglobinemia.

(9) **Persistent pesticides** cause leukemia and cancer.