CHAPTER 10

Soil Pollution

Biomagnification:

The nutrients necessary for plant growth are found at very low concentrations in most natural waters. In the process of collecting nutrients, phytoplankton also collects certain human made chemicals, such as some persistent pesticides. The chemicals biologically accumulate in the organism and become concentrated at levels that are much higher in the living cells than in the open water.

The small fish and zooplankton eat vast quantities of phytoplankton. In doing so, any toxic chemicals, accumulated by the phytoplankton are further concentrated in the bodies of the animals that eat them. This repeated each step in the food chain. This process of increasing concentration through the food chain is known as Biomagnification.

Dumping of solid wastes:

At the end of the 19th century, the industrial revolution saw the rise of the world of consumers. Not only did the air get more and more polluted but the earth itself become more polluted with the generation

of non – biodegradable solid waste. The increase in population and urbanization are largely responsible for the increase in solid waste.

Solid waste, on the basis of its sources of origin can be classified as:

1) Municipal solid waste:

It consists of household waste, construction and demolition debris, sanitation residue**.**

2) Hazardous solid waste:

Industrial and hospital waste is considered hazardous waste as they contain toxic substances**.**

3) Infectious solid waste:

Biomedical or hospital waste generated during diagnosis treatment etc. that include sharp, chemical wastes, discarded medicines and human excreta etc.

In general, they contain increasing amounts of paper, cardboards, plastics, glass, old construction material, packaging material and toxic or otherwise hazardous substances. The portion of solid waste that is hazardous substances. The portion of solid waste that is hazardous such as oils, batter metals, heavy metals from smelting industries and organic solvents, are the pay particular attention. More than 90% of hazardous

waste is produced by chemical, petroleum and metal – related industries and small businesses such as dry cleaners and gas stations contribute as well.

Toxic chemicals leached from oozing storage drums into the soil underneath homes, causing an unusually large number of birth defects, cancers and respiratory nervous and kidney diseases.

Deforestation:

Soil erosion occurs when the weathered soil particles are dislodged and carried away by wind or water. Deforestation, agricultural development, temperature extremes, precipitation including acid rain and human activities contribute to this erosion. Human speed up this process by construction, mining, cutting of timber, over cropping and overgrazing. It results in floods and cause soil erosion.

During the past few years, quite a lot of vast green land has been converted into deserts. Deforestation is slowly destroying the most productive flora and fauna areas in the world, which also form vast tracts of a very voluble sink for CO_2.