

SOIL POLLUTION

Contaminations of the soil by human and natural activities which may cause harmful effects on living beings.



Effects on living beings

This may be due to the following factors.

(i) Industrial wastes: Industries are the major causes for soil pollution. Textiles, steel, paper, Cement, oil, dyeing and other industries are responsible for soil pollution. Toxic organic compounds and phenol destroy the fertility of the soil.

(ii) Biological agents – Fungi, protozoa, bacteria are important Biological agents for soil pollution. The human and animal wastes, garbage, waste water generates heavy soil pollution.

(iii) Radio active pollutants: Atomic reactor, nuclear radio active devices releases radio active pollutants. These pollutants enter the land and accumulate there by causing soil pollution.

(iv) Pesticides: Pesticides pollute the soil. There are of two types (i) chlorinated hydrocarbon insecticide (2) Organic phosphorous pesticides. Common chlorinated hydrocarbon insecticides are DDT, BHC.

Organo phosphorous insecticides are synthetic chemicals like Malathion and parathion.

DDT reduces the activity of sex hormones of male and female. The land with fungicides insecticides causes diseases to human beings.

Fertilizers: These discharge N, Na, K, S, Nitrates etc., into the soil. The nitrate causes cancer.

Polymer, Plastics & other water: These materials appear as garbage. Solid wastes and their quantities increase day by day. They pollute the atmospheres, land and also water badly.

Agricultural practices: Modern agriculture practices pollute the soil to a large extent. Today huge quantities of fertilizers, pesticides, weedicides are added to increase the crop field. Apart from these farm wastes, manure debris, soil erosion containing inorganic chemicals are causing soil pollution.

Effect of soil pollution

1. Organic wastes enter the soil pores and decompose. Pathogenic bacteria spread infection.
2. Compounds containing As, Hg, Cr, Ni, Zn and Fe are toxic to life.
3. Fluorides affect plant development
4. Water logging and salinity increase the dissolved salt content in the soil. Some plants are very sensitive to soil PH and salinity.

Thus land becomes unfit for irrigation.

Control of soil pollution

1. Treat the sewage before land disposal
2. Rotate the crop pattern to allow the soil replenish the nutrients.
3. Preserve and protect top fertile soil, control soil erosion by tree plantation.
4. Fertilizers may be applied only after estimating the soil and crop measures.
5. Production of natural fertilizers Excessive use of chemical fertilizers and insecticides should be avoided. Bio pesticides should be used instead of toxic chemical pesticides.

6. Proper hygienic condition- People should be trained regarding the sanitary habits.

7 Recycling and reuse of waster – The wastes such as paper, plastic, metals, glasses should be recycled and used.

Source : <http://nprcet.org/e%20content/eee/EVS.pdf>