Lect.8
Soil pollution

- **References:**
- **Annals of Biological Research, 2012, 3 (7):3101-3109.**
- **http://depssa.ignou.ac.in/wiki/images/0/0d/Soil_Pollution.pdf**

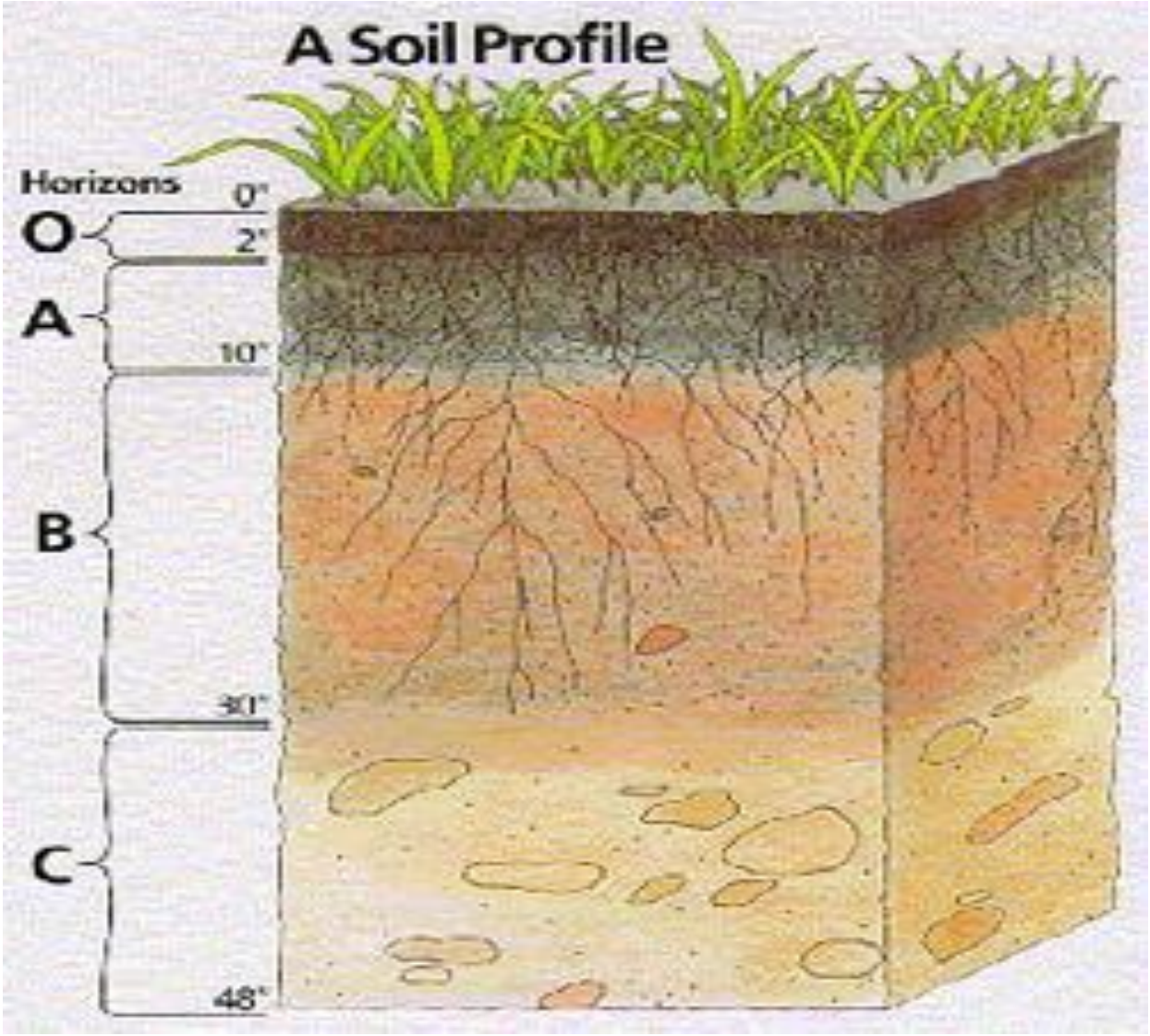
Soil is one of the important and valuable resources of the nature. Life and living on the earth would be impossible without healthy soil. 95% of human food is derived from the earth.

The soil is composed of two parts. Soil Living Part and Soil Dead Part.

The dead part of the soil includes weathered rocks and minerals which are obtained from the decay of plants and animals, which is called organic matter or humus, and water and air are categorized in this part.

The live soil is the soil which enjoys small animals like insects and worms an plants, fungi, bacteria and other microbes are grown in the live soil

Geosphere structure:
1- surface soil
2-Subsoil Layer
3- Solid Layer


A Soil Profile
Horizons
O
A
B
C
0"
2"
10"
31"
48"

Soil pollution

Soil pollution is defined as the build-up in soils of toxic compounds, chemicals, salts, radioactive materials, or disease causing agents, which have adverse effects on plant growth and animal health.

Sources of Soil pollutants:

Pollution in soil is associated with

- Indiscriminate use of fertilizers
- Indiscriminate use of pesticides, insecticides and herbicides
- Dumping of large quantities of solid waste
- Deforestation and soil erosion

Effects of Soil Pollution

- pollution runs off into rivers and kills the fish, plants and other aquatic life
- crops and fodder grown on polluted soil may pass the pollutants on to the consumers
- polluted soil may no longer grow crops and fodder
- Soil structure is damaged (clay ionic structure impaired)
- corrosion of foundations and pipelines
- impairs soil stability
- may release vapours and hydrocarbon into buildings and cellars
- may create toxic dusts
- may poison children playing in the area

Control of soil pollution

- **Reducing chemical fertilizer and pesticide use**
- **Reusing of materials**

Materials such as glass containers, plastic bags, paper, cloth etc. can be reused at domestic levels rather than being disposed, reducing solid waste pollution.

- **Recycling and recovery of materials**

This is a reasonable solution for reducing soil pollution. Materials such as paper, some kinds of plastics and glass can and are being recycled. This decreases the volume of refuse and helps in the conservation of natural resources. For example, recovery of one tone of paper can save 17 trees.

- **Reforesting**

Control of land loss and soil erosion can be attempted through restoring forest and grass cover to check wastelands, soil erosion and floods. Crop rotation or mixed cropping can improve the fertility of the land.