



**SOIL  
POLLUTION**

CHEM-431

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## DEFINITION OF SOIL POLLUTION

Soil pollution is the contamination of soil with harmful substances that can adversely affect the quality of the soil and the health of those living on it.

## CAUSES OF SOIL POLLUTION.....

# USE OF CHEMICALS

- Use of chemicals include –  
Pesticides, insecticides, fertilizers.
- Excessive use of these chemicals increases salinity of the soil.
- It adversely affects the micro-organisms present in it causing soil to lose its fertility.
- Results in loss of minerals present in the soil.

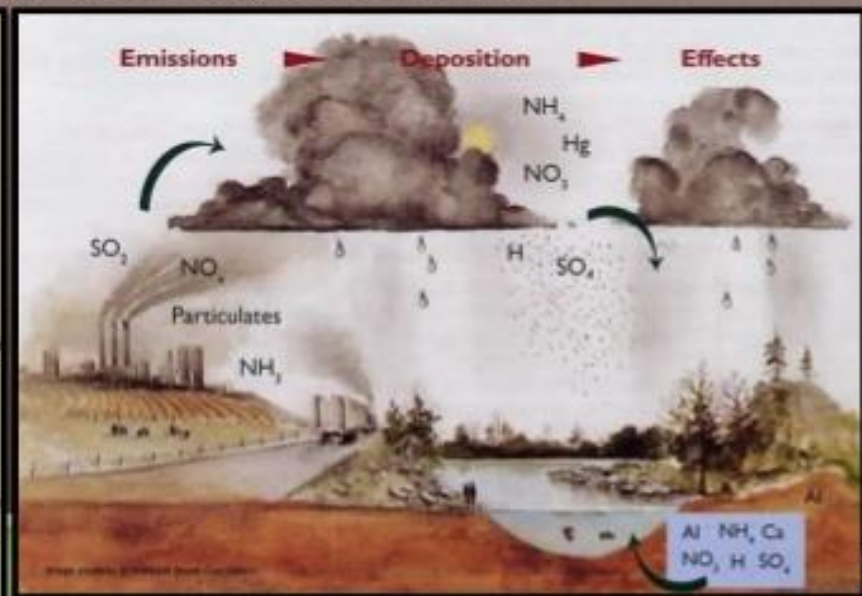
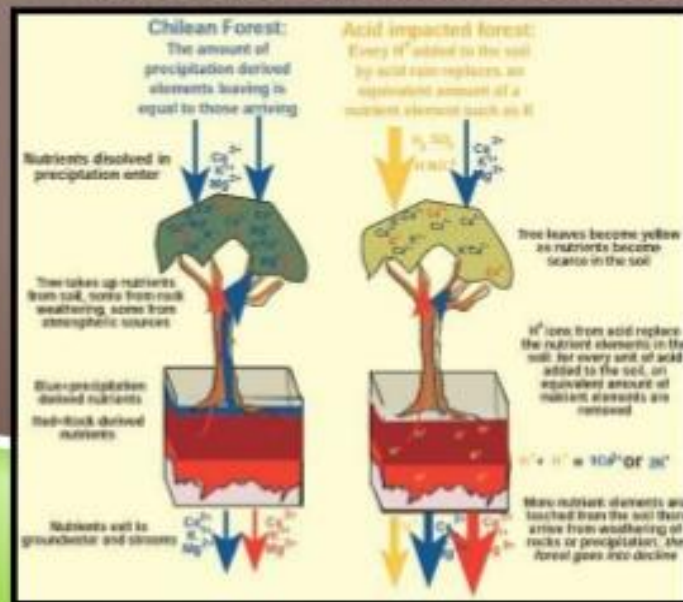




# CAUSES OF SOIL POLLUTION...

## ACID RAIN

- It is caused by air pollution.
- The acidic water falls on the soil and pollutes it by making the soil acidic.
- Soil loses its nutrient due to high solubility in acidic water



## CAUSES OF SOIL POLLUTION.....

# SOIL EROSION

- It occurs when top soil moves from one place to another as a result of various natural and man-made factors.
- Leads to decrease in the soil's capacity to retain water.
- When the soil is eroded, the crops grown are affected resulting in an indirect effect on the environment





## CAUSES OF SOIL POLLUTION .....

### SALTY WATER

- Use of water with high salinity causes soil pollution.
- Salts present in the water accumulates at the top layer of the soil.
- This salty water present in the soil becomes a cause for studded growth of the crops.



## CAUSES OF SOIL POLLUTION....

### URBAN WASTE

- Both domestic and commercial waste are known as urban waste
- It contains garbage and rubbish material like papers , fibers ,plastics ,glasses , bottles and dried sludge of sewage
- As this rain water runs from top of the this uncovered garbage this causes soil pollution





## CAUSES OF SOIL POLLUTION ...

# INDUSTRIAL WASTE

- Most of the industrial waste rejected materials like calcium carbonate , magnesium , sulphate.
- This industrial waste are all dumped over the soil surface by almost all industries
- This causes toxicity of soil



## CAUSES OF SOIL POLLUTION ...

# POLLUTION OF UNDERGROUND WASTE

- Deposition of many agricultural chemicals in the underground layers has disturbed the normal activities.
- Living of earthworms ,centipede ,millipede ,frogs and rats underground has greatly disturbed the ecological equilibrium is badly affected

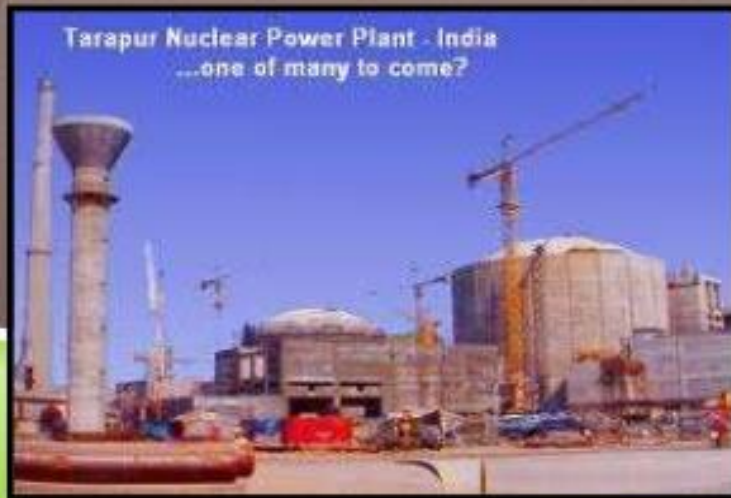




## CAUSES OF SOIL POLLUTION...

# RADIOACTIVE WASTE

- Storage and disposal of radioactive waste from nuclear power plants causes soil pollution
- They get deposited on the top soil and emit continuously gamma radiations.
- Examples : strontium 90, iodine 131, barium 140





## CAUSES OF SOIL POLLUTION ...

# WASTE FROM MINING

- Huge holes are dug in the ground.
- Waste obtained from mining left on site in the form of spoil heaps.
- This waste contain toxic and poisonous substances which then leach into the soil due to rainfall.



Waste obtained from  
coal mining

## CAUSES OF SOIL POLLUTION.....

# DUMPING OF SOLID WASTE

- Solid waste includes garbage, domestic refuse.
- Discarded solid material from commercial, industry & agricultural operation.
- These degrades the appearance of an area and pollute the soil.





## CAUSES OF SOIL POLLUTION ...

# OIL & PETROLEUM SPILLS

- Petroleum spills from gas stations, fuel tanks or other activities can result in elevated levels of contaminants in the soil.
- Such as Benzene, Toluene, and Xylene.
- Oil spills cause poor growth of plants.





## CAUSES OF SOIL POLLUTION ...

# LEAKAGE OF TOXINS

- Faulty landfills.
- Bursting of underground bins.
- Seepage from faulty sewage systems

