



G.D.GOENKA PUBLIC SCHOOL

Subject: Science (7th)

Thursday, 26th August 2021

Topic: Soil pollution

This material is not to be printed.

LEARNING OBJECTIVE: To learn about soil pollution.

SKILL FOCUS: Observation of causes that cause soil pollution.

Soil pollution refers to the contamination of soil with anomalous concentrations of toxic substances. It is a serious environmental concern since it harbours many health hazards. For example, exposure to soil containing high concentrations of benzene increases the risk of contracting leukaemia.

It is important to understand that all soils contain compounds that are harmful/toxic to human beings and other living organisms. However, the concentration of such substances in unpolluted soil is low enough that they do not pose any threat to the surrounding ecosystem. When the concentration of one or more such toxic substances is high enough to cause damage to living organisms, the soil is said to be contaminated.

The root cause of soil pollution is often one of the following:

- Agriculture (excessive/improper use of pesticides)
- Excessive industrial activity
- Poor management or inefficient disposal of waste

The challenges faced in soil remediation (decontamination of soil) are closely related to the extent of soil pollution. The greater the contamination, the greater the requirement of resources for remediation.

How can Soil Pollution be Controlled?

Several technologies have been developed to tackle soil remediation. Some important strategies followed for the decontamination of polluted soil are listed below.

- Excavation and subsequent transportation of polluted soils to remote, uninhabited locations.

- Extraction of pollutants via thermal remediation – the temperature is raised in order to force the contaminants into the vapour phase, after which they can be collected through vapour extraction.
- Bioremediation or phytoremediation involves the use of microorganisms and plants for the decontamination of soil.
- Mycoremediation involves the use of fungi for the accumulation of heavy metal contaminants.

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