

# **CONTROL OF SOIL POLLUTION**

## **Reduced use of chemical fertilizers**

Chemical fertilizers and pesticides have several harmful effects on soil and environment. While proper amounts could enhance the fertility of the soil and reduce plant diseases, excess of it actually poisons the soil. The excess of chemical fertilizers and pesticides could pollute the soil in several ways. It could alter the pH levels of the soil to the level that affect plant growth. It could also destroy the beneficial microorganisms in the soil. The runoffs from soils containing excess chemicals cause water pollution as well.

## **Reforestation and Afforestation**

One of the major causes of soil pollution is soil erosion that is caused due to deforestation. It is natural that with the ever-growing population, the humankind needs more and more space to expand their civilization thus cut down trees massively. To prevent soil erosion plantation of trees or afforestation or reforestation of a deforested area should be promoted. The roots of the plants bind the soil particles together and even capture beneficial microorganisms in the soil. It also ensures the maintenance of the underground water.

## **Recycle and reuse products**

These steps not only reduce waste generation but also ensure that soil pollution is reduced. At present, plastic forms a significant portion of the generated wastes which are generally buried in landfills. In landfills, waste materials decompose slowly and release toxic materials into the soil. These toxic substances are very harmful to the health of the soil and are a major source of soil pollution. By reusing and recycling things, it could be ensured that lesser wastes are dumped in these landfills, and this, in turn, would reduce soil pollution.

## **Promote use of natural or biological fertilizers or pesticides**

Use of natural fertilizers (manure, compost, etc) and pesticides are one of the best sources of nutrients for the soil and method to reduce plant diseases. It is harmless and completely organic. It adds essential nutrients to the soil and restores the health of the soil. It has no harmful byproducts that could harm the soil or the environment.

## **CONTROL MEASURES FOR AIR POLLUTION**

Air pollution can be controlled by two fundamental approaches: preventive techniques and waste control. One of the effective means of controlling air pollution is to have proper equipment in place. This includes devices for removal of pollutants from the flue gases through scrubbers, closed collection recovery systems through which it is possible to collect the pollutants before they escape, use of dry and wet collectors, filters, electrostatic precipitators, etc. Providing a greater height to the stacks can help in facilitating the discharge of pollutants as far away from the ground as possible. Industries should be located in places so as to minimize the effects of pollution after considering the topography and the wind directions. Substitution of raw material that causes more pollution with those that cause less pollution can be done.

## **CONTROL OF NOISE POLLUTION**

Noise pollution can be effectively controlled by taking the following measures:

### **(1) Control at Receiver's End:**

For people working in noisy areas such as drilling and mining industries, ear-protection aids like ear-plugs, ear-muffs, noise helmets, headphones etc. must be provided to reduce occupational exposure.

### **(2) Suppression of Noise at Source:**

- (a) Designing, fabricating and using quieter machines to replace the noisy ones.
- (b) Proper lubrication and better maintenance of machines.
- (c) Installing noisy machines in sound proof chambers.
- (d) Covering noise-producing machine parts with sound-absorbing materials to check noise production.
- (e) Reducing the noise produced from a vibrating machine by vibration damping i.e. making a layer of damping material (rubber, neoprene, cork or plastic) beneath the machine.
- (f) Using silencers to control noise from automobiles, ducts, exhausts etc. and convey systems with ends opening into the atmosphere.
- (g) Using glass wool or mineral wool covered with a sheet of perforated metal for the purpose of mechanical protection.

### **(3) Acoustic Zoning:**

Increased distance between source and receiver by zoning of noisy industrial areas, bus terminals and railway stations, aerodromes etc. away from the residential areas would help in

minimising noise pollution. There should be silence zones near the residential areas, educational institutions and above all, near hospitals.

**(4) Sound Insulation at Construction Stages:**

(a) Sound travels through the cracks that get left between the door and the wall. For reducing noise, this space (jamb frame gap) should be packed with sound absorbing material.

(b) Sound insulation can be done by constructing windows with double or triple panes of glass and filling the gaps with sound absorbing materials.

(c) Acoustical tiles, hair felt, perforated plywood etc. can be fixed on walls, ceilings, floors etc. to reduce noise (especially for sound proof recording rooms etc.)

**(5) Planting of Trees:**

Planting green trees and shrubs along roads, hospitals, educational institutions etc. help in noise reduction to a considerable extent.

**(6) Legislative Measures:**

Strict legislative measures need to be enforced to curb the noise pollution. Some of these measures could be:

(a) Minimum use of loudspeakers and amplifiers especially near silence zones.

(b) Banning pressure horns in automobiles.

(c) Framing a separate Noise Pollution Act.