

# PREVENTION OF ENVIRONMENTAL POLLUTION

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India is a Vast country which has a present population of about 86 crores. It reveals from census report that the population of India has increased by cent percent with respect to what she had at the time of independence. In near future at the starting of TwentyFirst century this population may be 100 crores. Owing to increase in population the environment is being polluted badly in both Urban and Rural areas. Environment pollution may occur in the following ways

1. A) Air pollution
- B) Water pollution.
- C) Ground surface pollution.

As a result people are suffering from many diseases like, Heart disease, Cholera, Typhoid, Dysentery and Pox etc. which somecause death of living beings in large number.

For better living and health we may take some necessary measures to protect the environment from population.

## A. AIR POLLUTION AND ITS PREVENTION

All living beings on the earth require oxygen from the surrounding air for their existence. Air contains Oxygen, Hydrogen, Nitrogen, dioxide, Carbon monoxide, Argon, Neon, Helium, Ozone and impurities like smoke, bacteria, microscopic living organism. Air jets less polluted in rural areas than in cities and Industrial areas. In rural areas we get the following composition by volume in fresh air :

i) Oxygen	20%
ii) Nitrogen	78%
iii) Carbon dioxide	0.04%
iv) Others	1.96%

It may be mentioned here that Nitrogen acts as a diluent while Oxygen supports life. If the oxygen by volume comes down to 17%, no human life exist. Also no combustion can take place if the volume reduces to 12%. If the carbon dioxide increase to 0.06% by volume air becomes unfit to breathe.

The prescribed percentage of Oxygen in the air is being disturbed; causing air pollution by the following agents :

1. Transportation : By discharging smokes from vehicle.
2. Domestic Burning : Smokes from cooking chully.
3. Electric Power Generation place : By burning fuels like coal, Diesel and Gas.
4. Refuse Burning : Both from Domestic and Industry.
5. Industry : By burning fuel and other organic materials.

Large volume of carbon dioxide, carbon monoxide, Nitrogen dioxide and ozone etc. are discharged in the atmosphere from the above agents reducing, the normal percentage of oxygen in the air. In modern advanced life we can not avoid the Transportation, Domestic, Burning, Electric Power Generation. Industries for maintaining our daily life. So we are to take some preventive measures to maintain fresh air to help reduce environment pollution :

1. For Transportation : Providing best quality engine, fuel and air cleaner.
2. Domestic Burning : By using electric heater, Gas burner and providing smokeless chully.
3. Electric Power Generator : the generating place should be away from the inhabitants, as far as possible.
4. Refuses burning : The refuses are to be carried to vacant places and burnt.
5. Industrial burning : Industries are to be established at place away from the localities.

Moreover the air pollution can be reduced by plantation of Trees in place like cities, Industrial areas. Electric generating stations as much as possible. To Jet fresh air in dwelling houses, well ventilation, floor area and cubic space are to be maintained as shown below :

Occupancy	Floor area per persons in sq. mtr.	Cubic space per person in cubic meter
Residential	8 to 10	10 to 34
Hostels	6 to 12	28 to 42
Schools	3 to 5	10 to 20
Hospitals	10 to 15	30 to 50
Factories	5 to 8	10 to 15
Halls	6 to 10	12 to 18

## **B. WATER POLLUTION AND ITS PREVENTION :**

In our daily life daily life water is the second necessity where air is the first. Sources of water is mainly of two kinds normally, i) Surface water ii) Ground water. If we can use pure water we can be able to keep us free from several water born diseases like cholera, Dysentery, Typhoid and pox etc. Water both surface and underground is polluted in the manners as below :

1. From domestic use
2. From human excreta.
3. From Industrial wastes.

To keep water free from pollution various treatment methods may be adopted both in Urban and Rural areas before discharging waste water in the open space or directly to surface water.

### **a) In Urban areas :**

In urban areas like town and cities people are living in short space and multistoried buildings. Here all the waste water and human excreta can be collected from all houses by sewerage system, and brought to sewage treatment plant, consisting of sedimentation tank, Chemical precipitation, Trickling Filters, Legion and Chlorination and this is to be constructed far away from town and cities. preferably in the down stream of the surface water. By this method the biochemical oxygen demand ( B. O. D.) load of sewage can be reduced upto 20 ppm to 30 ppm from 400 ppm to 500 ppm. The dry refuse from the houses collected in dustbins and carried to dumping ground may be burnt out.

The Industrial waste may contains liquid, solid and gaseous contents. Gas waste directly goes to air. Other solid and liquid waste contain organic and inorganic materials of which biological oxygen demand ( B.O.D.) range from 500 ppm to 3000 ppm causing problem for disposal to great extent contain in these wastes. High quantity B.O.D. can be reduced upto 50 ppm B.O.D. by coagulation using, alum, lime, ferric or ferrous salt, clarifier, Trickling filter etc.

## **B) IN RURAL AREAS :**

India is a country consisting mainly of villages and about 70% people live in villages situated scatterdly. In villages, sewage treatment plant is not adequate due to geographical and economical positions.

Generally the wastes from villages are human excreta, dry refuse and domestic water waste which pollute the environment.

i) For disposal of human excreta we may construct Latrines and privies like, Pit-privy, Bore-hole Privy, cess-pools. Concrete vault privy, Dug-Well privy and Pour-flush latrine.

These are to be constructed at least 10.00 mtr. away from the spot source of drinking water like shallow tube wells and wells to avoid any contamination to ground water source.

### **ii) Disposal of Waste water :**

There is sufficient open land available in the villages. The waste water from kitchen, house washing, washing of cloths etc. not containing any external waste and which are not very dirty can be disposed to a pit excavated in frowned in one side of the house.

### **iii) Disposal of dry refuse :**

Dry waste contains house sweeping, vegetable waste, papers and solid particulars except external waste from latrines and animal dung. Dry refuse can be disposed by dumping in low-ground and in pits excavated in the house. The dry refuse can also disposed by burning in open space.

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