

ENVIRONMENTAL POLLUTION

- Environmental pollution refers to the introduction of harmful substances or pollutants into the natural environment, leading to adverse effects on the ecosystem, human health, and the overall quality of life.

❖ Air Pollution

Introduction

- Air is necessary for one's life without air we cannot survive only a few minutes. It constitutes of immediate physical environment of living Organism.
- **Sources of Primary Air Pollutants**
 - Automobiles
 - Industries
 - Domestic Sources
 - Tobacco Smoke etc.

Types of Air Pollution:

- Indoor air pollution
- Outdoor air pollution

APPROACHES TO REDUCES INDOOR AIR POLLUTION

Elimination or control the sources of air pollution

- Stores should be improve
- Use venting stores for cooking and heating.
- There should be regular maintenance of cooking, heating and cooling system.

Education and advocacy Environmental policy making Control of Outdoor Air Pollution

- Containment
- Replacement
- Dilution
- Legislation

❖ Water Pollution:

- In developing countries much of the ill effects which affects humanity came be seen due to lack of safer and wholesome water supply. Although water is not a vital factors of life but it plays a great role in socioeconomic development of pollution.

Causes of Water Pollution:

- Industrial waste
- Sewage and waste water
- Marine dumping
- Global warming
- Agriculture

Control Measures of Water Pollution:

- Waste Management
- Sustainable Agriculture

- Water Treatment and Purification
- Regulatory Measures
- Community Education

❖ Soil Pollution

- Soil pollution is defined as the contamination of soil with anomalous Concentration of toxic substances.

• Major Sources of Soil Pollution

The major sources of soil pollution are as follow:

- Acid rain causes soil pollution.
- Pesticides and herbicides sprayed in the fields will cause soil pollution.
- Excessive use of fertilizers will also cause Soil Pollution.
- Solid waste like garbage, trash, ash, building material, plastic, bottles and cans will cause soil pollution.
- Power plant storage and disposal radioactive waste will cause soil pollution.

□ Types of Soil Pollution

- Agricultural soil pollution
- Industrial soil pollution
- Urbanization soil pollution

□ Major Effect of Soil Pollution

- **Salinization:** Salinization will increase the soil content.
- Acid rain, agricultural operation and industrial activities were responsible to cause salinization.
- Because of salinization becomes unsuitable for plant growth and human use.
- In Saline soil ground water have large amount of salts as compare to normal soil which makes the water unsuitable for plant growth, for animals and for human use.

Methods to Control Soil Pollution

- **Reducing:** Reduce the use of chemical fertilizers and pesticides.
- **Recycling:** Recycling of paper, plastics and other materials will further reduces the volume of refuse martial landfills.
- **Reusing:** Reuse the material, e.g., plastic bottles, glass etc. to reduce Soil pollution.

- **Re-forestation :** Planting of more and more trees or reforestation will further help to prevent soil erosion and pollution.

❖ **Marine Pollution**

Definition

- It is defined as the discharge of waste substances into the sea that resulting in harm to living resources, hazards to Human Health hindrance of fisheries and impairment of Quality of sea Water.

The following are the important pollutants that will cause the marine pollution:

- Sewage
- Pesticides
- Plastic wastes
- Metallic wastes
- Oil
- Sediment plumes by deep sea mining
- Heat

Prevention and Control of Marine Pollution

- Heat should be removed from condenser cooling water prior to their disposal into the Marine water.
- Should remove phosphorus by electrolysis.
- Should adopt appropriate methods to remove heavy metals from Marine water.
- By ion exchange techniques, precipitation of Radio-nuclides radioactive waste can be removed or reduced.
- By using proper mining techniques deep sea mining impacts can be minimize or reduced.
- Should create awareness on Marine pollution.
- Sea should be protected by local Communities.

❖ **NOISE POLLUTION**

- Sound which is undesirable or which disrupts the balance or activity of individual or animal Life is known as Noise.
- When there is enough noise in the environment then it is known as Noise Pollution.
- Types of Noise
- Noise is of two types:
- External noise
- Internal noise

Prevention of Noise Pollution

- Do not use car horns unnecessary. Areas like hospitals and campuses are silence zones and horn is prohibited there.
- Motors, machines and vehicles also produced loud noise when maintenance is not maintained properly. For better performance proper maintenance should be carried out regularly.

- When you are not using motor vehicles you should turn off engine. It will reduce air pollution and annoying horns.
- When you are working in loud noise you must wear earplugs to prevent loss of hearing.

❖ **Thermal Pollution**

- Thermal pollution is harmful elevation in water temperature in streams, rivers, lakes or occasionally coastal ocean water.
- It is the degradation of water quality by any process that changes ambient water temperature.
- Temperature elevated 1–2°C which kills domestic fishes, shell fish and plants.

Sources of Thermal Pollution

- Nuclear power plant
- Industrial effluents
- Domestic sewage
- Hydroelectric power
- Coal fired power plant
- Thermal shock
- Deforestation

Control Measure of Thermal Pollution

- **Artificial lakes:** These artificial lakes were made by human which provide potential alternative cooling of power plants. Warmed effluents were discharged at one end of the lake where as cool water is discharge from another end of the lake in a propose to cool down the water. So, by the process of evaporation the heat of the artificial like is disappeared.
- **Cooling ponds:** For regulating thermal discharge cooling ponds are the simplest and low cost method. Although cooling pond is a shallow reservoir which will have large amount of surface area to remove heat from the water. However, this technique is not as much efficient with respect to air water contact.

Role of nurse in Prevention of environmental pollution

- Primarily nurse showed have thorough knowledge about environmental pollution and its impact on health.
- Nurse is foremost person who well assist in screening, diagnosis and alleviating health symptoms at the earliest.
- Nurse must provide health education to the community peoples such as safe drinking water, sanitation, stop using harmful chemicals in food and how to prevent air and noise pollution.
- Doing community survey and submit the report to higher authority regarding the data collection during survey in particular area with related to environmental pollution/hazards/disease, etc
- Planning for frequent health awareness programs for community peoples in order to promote and establish healthy environment.
- Educate the village regarding people sanitation.

- Community health nurse can influence air quality through detection, community education and lobbying for appropriate legislation.
- In case of water pollution, she can help by examining household or city drinking water.
- Asking clients to observe and report changes in water quality further and assist the nurse in the monitoring process.