URBAN POLLUTION

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Pollution

Pollution is defined as an unwanted change in the environment, It can be natural or manmade

Pollution is introduction of contaminants into the natural environment that cause adverse change, in the form of killing of life ,toxicity of environment, damage to ecosystem.

An unwanted change in the environment which involves the physical, biological and chemical changes involving air, water and land which affects the human life in one way or the other".

Pollution has become a serious issue after World War-II in developing countries due to rapid industrialization.

Pollution is the root cause of many diseases that kill and disable living organisms.

Green house effect and global warming

- The pollutants like Carbon dioxide, Nitrous oxide can trap heat from solar radiations and they do not allow the heat to escape to outer surface.

Thus increases the temperature causing Global warming.

These effects leads to melting of polar ice and the sea level rise

Types of pollution

- 7 types of pollution in modern world
- Water pollution
- Air pollution
- Thermal pollution
- Noise pollution
- Soil pollution
- Radioactive pollution
- Light pollution
- Visual pollution

Water pollution

- **Water pollution is the contamination of natural** water bodies by chemical, physical, radioactive or pathogenic microbial substances.

Sources

- Industrial waste disposal/discharge

- Eutrophication

- Pathogens, Organic wastes, Oil spills, Natural disasters

Water Pollutants…

- Detergents
- Chloroform
- Food processing waste, (fats and grease)
- Insecticides and herbicides.
- Petroleum hydrocarbons, (gasoline, diesel fuel, jet fuels, and fuel oil).
- Lubricants (motor oil).
- From storm water runoff

Polluted Water…

- Domestic sewage.

- Industrial wastewater.

- Agricultural wastewater.

- Construction site stormwater.

- Urban runoff (stormwater).

Water Pollutants….

- Petroleum hydrocarbons
- Plastics
- Pesticides
- Heavy metals
- Sewage
- Radioactive waste
- Thermal effluents

Treating Polluted Water...

• Suspended, solid particles and inorganic material can be removed by the use of filters.

• Use of biological filters and processes can naturally degrade the organic waste material.

Chemical treatment

Air pollution

Air pollution is defined as any contamination of the atmosphere that disturbs the natural composition and chemistry of the air.

Effects of air pollution

- Acid rain

- Ozone layer depletion

- Greenhouse effect & Global warming

Causes

- **GLOBALISATION**
- **POPULATION**
- **INDUSTRALISATION**
- Sulphur dioxide and carbon monoxide
- Burning plastic, wood and rubber

Soil pollution?

- Accumulation of man-made toxic substances in soil that has a negative effect of plant and animal life.

- Poor cultivation or farming practices, industrial waste dumping and mineral utilization

- Soil contamination or soil pollution is caused by the presence of xenobiotic(human-made) chemicals or other alteration in the natural soil environment.

- It is typically caused by industrial activity, agricultural chemicals.

- improper disposal of waste.

Sources

- Insecticides, pesticides, Mining,
- **Dumping waste and landfills**
- Petroleum hydrocarbons.
- Polynuclear aromatic hydrocarbons.
- Lead and other heavy metals.

Effects

- Decrease in soil fertility
- Disturbance in the balance of flora and fauna
- Increase in salinity of the soil
- Creation of toxic dust/contaminants
- Foul smell due to industrial chemicals
- Alteration in the soil structure

Remedies

- Proper sewage treatment and dumping wastes.

- Usage of pesticides must be reduced.

- Usage of organic fertilizers instead of fertilizers.

- Avoiding the fossil fuels combustion as the fumes result in acid rain when the time of rain.

- Reduce the use of plastic, avoid improper dumping waste, usage of dustbin.

Remedies

Limit the use of fertilizers and pesticides
• Awareness about biological control methods
and their implementation
• The grazing must be controlled and forest
management should be done properly
• The afforestation and reforestation must take
place
• Proper preventive methods like green shields should
be used in areas of wind erosion and wind
breaks

Thermal pollution?

- Thermal pollution is excess heat that creates undesirable effects in urban area over the long periods of time

Sources

- Power plants
- Urban sprawl
- Air pollution particulates that trap heat
- Deforestration

Noise pollution

- ***The noise pollution is defined as the unwanted sound which is released into the environment.*** Noise pollution is displeasing or excessive noise that may disrupt the activity or balance of human or animal life

- Radioactive pollution

 Radioactive pollution is rare but extremely detrimental, and even deadly, when it occurs.

Sources of Noise Pollution…

- Machines.
- Transportation systems.
- Motor vehicles/TRAFIC.
- Aircrafts.
- Trains.
- Poor urban planning.

Sources

- Nuclear power plant accidents or leakage
- Improper nuclear waste disposal
- Uranium/radiactive elements mining operations

Effects

- Birth defects,
- Cancer,
- infertility, and
- Other health problems for human and wildlife population

Effects of Noise Pollution

- Noise pollution affects both health and behavior.
- Unwanted sound (noise) can damage psychological health.
- Noise pollution can cause
- Annoyance
- Aggression .
- Hypertension .
- High stress levels .
- Hearing loss.
- sleep disturbances, and other harmful effects

Light pollution?

- Bright lighting in functions, big cities, etc. causes "**Light Pollution".**

Sources

Large cities

- Billboards and advertising
- Night time sporting events and other nighttime entertainment

Effects

- Degrade the quality of life
- discomfort to the eyes

Degradation of photic habitat by artificial light.

- Alteration of natural light levels in the outdoor environment.

- Due to Indoor light pollution human health is compromised.

visual pollution?

- Visual pollution - eyesore - can be caused by the pollution or just by undesirable, unattractive views