

**UNIT: III** Environmental problems: Air, Water, Noise and Solid Pollution - E.Waste - their cause and effect - Solid Waste management - Urbanization and its effects on environment - Deforestation - Climate change global warming Common property resources - renewable and non renewable resources .

### **AIR POLLUTION**

Air pollution is a mixture of solid particles and gases in the air. Car emissions, chemicals from factories, dust, pollen and mold spores may be suspended as particles. Ozone, a is a major part of air pollution in cities. When ozone forms air pollution, it's also called smog. Some air pollutants are poisonous. Causes of Air pollution. 1. Burning of Fossil Fuels: Sulfur dioxide emitted from the combustion of fossil fuels like coal, petroleum and other factory combustibles is one of the major cause of air pollution. Pollution emitting from vehicles including trucks, jeeps, cars, trains, airplanes cause immense amount of pollution. There are four main types of air pollution sources: mobile sources - such as cars, buses, planes, trucks, and trains. stationary sources - such as power plants, oil refineries, industrial facilities, and factories, area sources - such as agricultural areas, and wood burning fireplaces. Air pollution can also cause headaches, dizziness, and nausea .... Long - term health effects from air pollution include heart disease, lung cancer, and respiratory diseases such as emphysema. Air pollution can also cause long - term damage to people's nerves, brain, kidneys, liver, and other organs.

### **WATER POLLUTION**

Water pollution is the contamination of water bodies, usually as a result of human activities. Water bodies include for example lakes, rivers, oceans, aquifers and groundwater. Here are the few major causes of water pollution: Sewage And Waste Water: Sewage, garbage and liquid waste of households, agricultural lands and factories are discharged into lakes and rivers. These wastes contain harmful chemicals and toxins which make the water poisonous for aquatic animals and plants. Six Main Sources of Water Pollution. Article shared by: Some of the important sources of water pollution are: (i) Domestic effluents and sewage, (ii) Industrial effluents, (iii) Agricultural! effluents, (iv) Radioactive wastes, (v) Thermal pollution, and (vi) Oil pollution. he main problem caused by water pollution is that it kills organisms that depend on these water bodies. Dead fish, crabs, birds and sea gulls, dolphins, and many other animals often wind up on beaches, killed by pollutants in their habitat (living environment). Pollution disrupts the natural food chain as well.

### **NOISE POLLUTION**

Noise pollution affects both health and behavior. Unwanted sound (noise) can damage physiological health. Noise pollution can cause hypertension, high stress levels, tinnitus, hearing loss, sleep disturbances, and other harmful effects. What are the major sources of noise pollution?

- (i) Industrial Sources:
- (ii) Transport Vehicles:
- (ii) Household:
- (iii) Public Address System:
- (iv) Agricultural Machines:

(vi) Defense Equipment:

(vii) Miscellaneous Sources:

(1) Physical Effects: Noise pollution affects both health and behavior. Unwanted sound (noise) can damage physiological health. Noise pollution can cause hypertension, high stress levels, tinnitus, hearing loss, sleep disturbances, and other harmful effects.

### **SOLID POLLUTION**

Solid waste pollution is when the environment is filled with non - biodegradable and non - compostable biodegradable wastes that are capable of emitting greenhouse gases, toxic fumes, and particulate matters as they accumulate in open landfills. Solid waste pollution is caused mainly through urbanization and through industrial waste. It causes various diseases in human as bacillary dysentery, diarrhea and amoebic dysentery, plague, salmonellosis, trichinosis, endemic typhus, cholera, jaundice, hepatitis, gastro enteric diseases etc. Disposing of waste has huge environmental impacts and can cause serious problems. ... Some waste will eventually rot, but not all, and in the process it may smell or generate methane gas, which is explosive and contributes to the greenhouse effect. Leachate produced as waste decomposes may cause pollution. "Improper solid waste disposal leads to substantial negative environmental impacts (for example, pollution of air, soil and water, and generation of greenhouse gases from landfills), and health and safety problems (such as diseases spread by insects and rodents attracted by garbage heaps , and diseases associated with.

### **E. WASTE (ELECTRONIC WASTE)**

E - waste is a popular, informal name for electronic products nearing the end of their "useful life." Computers, televisions, VCRs, stereos, copiers, and fax machines are common electronic products. Many of these products can be reused, refurbished, or recycled. Harmful Effects Caused by Improper Computer & Electronic Waste Recycling. Electronic waste affects nearly every system in the human body because they contain a plethora of toxic components including Mercury, Lead, Cadmium, Polybrominated Flame Retardants, Barium and Lithium. When e - waste is warmed up, toxic chemicals are released into the air damaging the atmosphere. The damage to the atmosphere is one of the biggest environmental impacts from e - waste. When electronic waste is thrown away in landfills their toxic materials seep into groundwater, affecting both land and sea animals. Cell Phone Toxins and the Harmful Effects on the Human Body When Recycled Improperly. Lead is found in a wide variety of cell phone components including circuit boards, batteries and as a stabilizer in PVC products. Lead exposure can cause damage to the reproductive, blood and nervous systems.

### **CAUSES AND EFFECTS OF E - WASTE**

The main cause or rather reason for the increasing e waste is the increased number of products (because of development, technology, human mentality and population) because of which disposal problems are caused as excess of anything is not good . Development: As of now, It is estimated that there are over a billion personal computers in the world. In developed countries these have an average life span of only 2 years. In the United States alone there are over 300 million obsolete computers. Not only developed countries the developing countries too have faced a steep rise in sales or moreover wastage in this industry. It is believed that sales of computers and internet usage have gone up by 400% in developing countries as well. As the digital divide narrows we must

address the question of disposal of large numbers of "end of life" computers and other IT equipment. We can now also understand that this industry is globalizing at a fast rate or rather an alarming rate. ALL of this is because of development caused by globalization. Technology: In this modern era technology is growing at lightning fast speed. This technology results in the coming of newer products and appliances. The major reason for this can be none other than MNC's (Multinational corporations). MNC's now a days are so powerful that they can influence the whole market system of a country in no time. it is these MNC's that provide better technology They have money more than the budget of some countries as well. Moreover they have the power to decide price and quality. However, Its not only that MNC's profit when they start a business. Though some sections may be affected, the middle class have started to prosper because the prices have gone down and quality has increased.

### **Human mentality:**

This has given more money power to the common people (middle class people) and this money power has helped them buy more products and in our case or the case of computers increase e waste by kind of changing their mentality. Because of money power people now a days tend to substitute their older materials with the newer ones and this older materials if electronic related is what is termed as e - waste. Population: With the increasing population all these have been triggered even more. it's simple to understand by one of the most simple theories of unitary method. so if 1 person buys 1 computer so with increasing population the number of computers would also increase with this method. so we can conclude that with increasing population the amount of e waste would also increase because these computers they bought after sometime would be thrown with the introduction of better technology devices which would be bought by the.

Improper Electronic Waste Disposal leads to negative effects of E - waste on Environment  
Effects of e - waste on Environment Through Landfills  
Effects of E - waste on Environments in Third World Countries  
Poor E - Waste Management Effects  
Data Security Through Improper Data Destruction

## **SOLID WASTE MANAGEMENT**

Solid waste management is a term that is used to refer to the process of collecting and treating solid wastes. It also offers solutions for recycling items that do not belong to garbage or trash. As long as people have been living in settlements and residential areas, garbage or solid waste has been an issue. What are the types of solid waste management?

6 Main Types of Solid Waste Management. a. Municipal Solid Waste (MSW):

b. Hazardous Wastes:

c. Industrial Wastes:

d. Agricultural Wastes:

e. Bio - Medical Wastes:

f. Waste Minimization:

## **What are the objectives of solid waste management?**

Reduce the volume of the solid waste stream through the implementation of waste reduction and recycling programs. Maintain a balanced SWM system which benefits the community while following regulatory requirements. Provide efficient and economical refuse collection, recycling, and disposal services. What is the purpose of waste management? It is used to dispose of solid, liquid and gaseous waste. It is recognized as a practical method of disposing of certain hazardous waste materials (such as biological medical waste). Incineration is a controversial method of waste disposal, due to issues such as emission of gaseous pollutants. What are the advantages of waste management? Here are some points which describe the advantages of waste management. Recycling is a very good way to save some money. Conserves energy and help to save earth from pollution. Reduce pollution and give us the fresh air to breathe. What are the common methods of waste disposal?

- \* Composting and Vermicomposting. This method is useful for the disposal of biodegradable waste.
- \* Landfilling. A low - lying open area out of the city where garbage is collected and dumped is known as a landfill.
- \* Incineration. This method is mainly used to dispose of the medical waste.

## **URBANISAION AND ITS EFFECTS ON ENVIRONMENT**

Urbanization is a word for becoming more like a city. When populations of people grow, the population of a place may spill over from city to nearby areas. This is called urbanization. Maybe tall apartment buildings spring up on what had been the outskirts of town, bringing more people there to live and work. What are the effects of Urbanization? Urbanization affects the physical environment through the impacts of the number of people, their activities and the increased demands on resources. Urbanization has negative consequences on health due mainly to pollution and overcrowded living conditions. It can also put added pressure on food supply systems. Why is urbanization bad for the environment? Poor air and water quality, insufficient water availability, waste - disposal problems, and high energy consumption are exacerbated by the increasing population density and demands of urban environments. Strong city planning will be essential in managing these and other difficulties as the world's urban areas swell. What are the impacts of urbanization on the atmosphere? Due to controlled urbanization in India, environmental degradation has been occurring very rapidly and causing many problems like shortage of houses, water quality, excessive air pollution, noise, dust and heat, problems of disposal of wastes, etc. which causes serious health problems.

## **DEFORESTATION**

Deforestation, clearance, or clearing is the removal of a forest or stand of trees from land which is then converted to a non-forest use. Deforestation can involve conversion of forest land to farms, ranches, or urban use. The most concentrated deforestation occurs in tropical rainforests. The deforestation causes include many factors. The destruction of the forests is occurring due to various reasons, one of the main reasons being the short - term economic benefits. ... The cutting down of trees for lumber that is used for building materials, furniture, and paper products have a major impact on forest life. How does deforestation affect the world? Deforestation can have a negative

impact on the environment. The most dramatic impact is a loss of habitat for millions of species. Eighty percent of Earth's land animals and plants live in forests, and many cannot survive the deforestation that destroys their homes. What are the five main causes of deforestation?

Click "Next" for the top 5 biggest causes of deforestation and ways for you to help stop it:

- Agricultural Expansion. The conversion of forests into agricultural plantations is a major cause of deforestation.
- Livestock Ranching.
- Logging.
- Infrastructure Expansion.
- Overpopulation.

What are disadvantages of deforestation? The disadvantages to deforestation are an increased amount of carbon dioxide emissions and soil erosion as well as the destruction of forest habitat and the loss of biological diversity of both plants and animals.

### **CLIMATE CHANGE AND GLOBAL WARMING GLOBAL WARMING**

Global warming is a long - term rise in the average temperature of the Earth's climate system, an aspect of climate change shown by temperature measurements and by multiple effects of the warming. What are the causes and effects of global warming ? Global warming is projected to have a number of effects on the oceans. Ongoing effects include rising sea levels due to thermal expansion and melting of glaciers and ice sheets, and warming of the ocean surface, leading to increased temperature stratification. What does climate change do? Within scientific journals, global warming refers to surface temperature increases while climate change includes global warming and everything else that increasing greenhouse gas levels affect. How do greenhouse gases cause global warming? Human activities, mainly the burning of fossil fuels and clearing of forests, have strengthened the greenhouse effect and caused global warming. The term "greenhouse effect" arose from a faulty analogy with the effect of sunlight passing through glass and warming a greenhouse. The greenhouse effect is the problem caused by increased quantities of gases such as carbon dioxide in the air. These gases trap the heat from the sun, and cause a gradual rise in the temperature of the Earth's atmosphere.

### **COMMON PROPERTY RESOURCES**

Definition: Common property resources (environmental) are natural resources owned and managed collectively by a community or society rather than by individuals. Unlike pure public goods, common resources face problems of congestion or overuse, because they are rival. Examples of common resources include irrigation systems, fishing grounds, pastures, forests, water or the atmosphere. What are the characteristics of common pool resources? "The terms common - pool resource (CPR), alternatively termed a common property resource, is a particular type of good, and a natural or human - made resource system, whose size or characteristics of which makes it costly, but not impossible, to exclude potential beneficiaries from obtaining benefits from its use. Common property is defined to be any renewable natural resource unit needing management under Common Property Rights to be sustainable. Common Property Rights is a new approach to the legal right to

manage, but not own, the health of an ecosystem service whose wise stewardship would benefit the common good.

### **RENEWABLE AND NON RENEWABLE RESOURCES**

Nonrenewable energy resources, like coal, nuclear, oil, and natural gas, are available in limited supplies. This is usually due to the long time it takes for them to be replenished. Renewable resources are replenished naturally and over relatively short periods of time. renewable resource. Any resource, such as wood or solar energy, that can or will be replenished naturally in the course of time. Some examples of renewable energy sources are solar energy, wind energy, hydropower, geothermal energy, and biomass energy. These types of energy sources are different from fossil fuels, such as coal, oil, and natural gas. The five major renewable energy resources are solar, wind, water (hydro), biomass, and geothermal. Since the dawn of humanity people have used renewable sources of energy to survive wood for cooking and heating, wind and water for milling grain, and solar for lighting fires.