

## SOCIAL ISSUES AND THE ENVIRONMENT

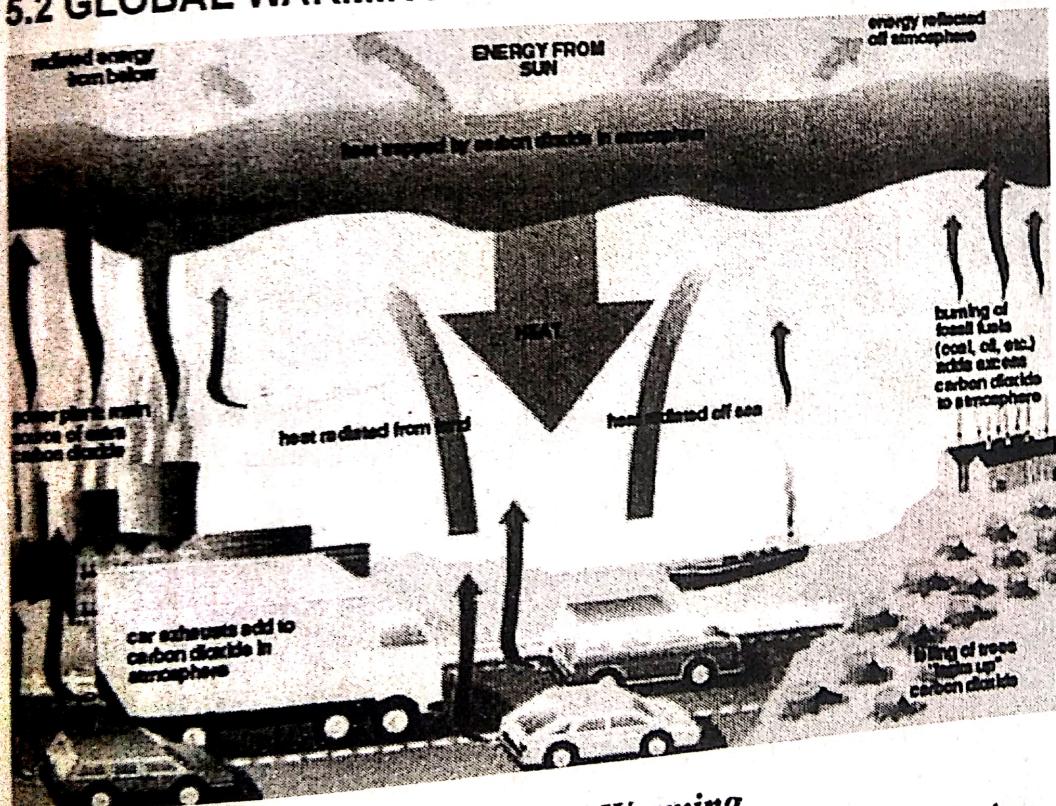
**Social Issues and the Environment:** Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies. Wasteland reclamation, Consumerism and waste products, Environment Protection Act, Air (Prevention and Control of Pollution) Act, Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation.

### 5.1 CLIMATE CHANGE

The average temperature in several regions has been increasing in recent decades. the worldwide average surface temperature has increased by  $0.2^{\circ}\text{C}$  to  $0.6^{\circ}\text{C}$  over the last century. Many nations have experienced increases in rainfall, especially within the international locations located inside the mid to high latitudes. In a few regions, such as parts of Asia and Africa, the frequency and depth of droughts are found to increase in current decades. All these are signs that the earth is unwell. Its weather is changing, making it extra hard for mankind to survive. The earth is losing its ability to balance itself owing to the imbalances created by human activities. Studies conducted by Intergovernmental Panel on global climate change (IPCC) have shown that within the close to future, the worldwide mean surface temperature can rise by  $1.4^{\circ}\text{C}$  to  $5.8^{\circ}\text{C}$ . Warming is greatest over land areas and at high latitudes. The frequency of weather extremes is likely to increase floods or drought. Global mean sea level is projected to rise by 9 to 88 cm by the year 2100.

Human societies are seriously tormented by extremes of climate like droughts and floods. This is often a serious concern for human health. To a large extent, public health depends on safe potable water, plenty food, secure shelter, and sensible social conditions. All these factors are damaged by global climate change. Fresh water components can be significantly affected, reducing the supply of smooth water for consuming and washing in the course of drought and floods. Water can be infected and sewage systems can be damaged. The danger of increased spread of infectious diseases increases. Food and water shortages may additionally lead to conflicts with critical implications for public health. Changes in climate will boom the spread of sickness, including malaria to regions which lack a strong public fitness infrastructure.

## 5.2 GLOBAL WARMING



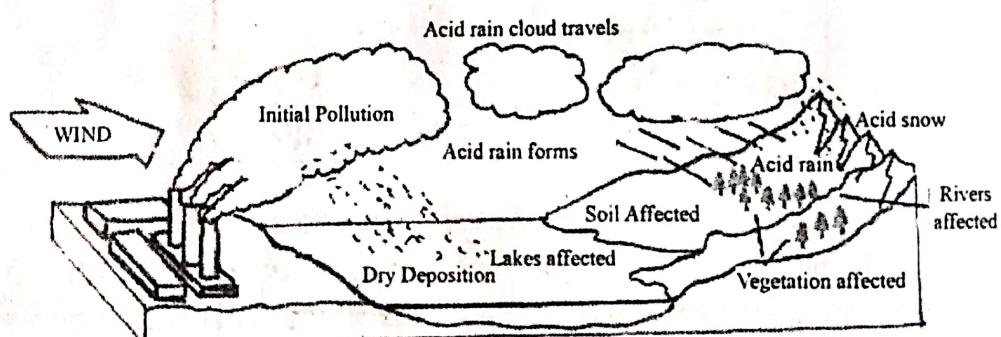
*Fig 5.1 Global Warming*

About 75% of the sun power achieving the Earth is absorbed on the earth's surface which increases its temperature. Whatever is left of the warmth transmits back to the atmosphere. Some of the heat is trapped through greenhouse gases, often by carbon dioxide. As greenhouse emission is discharged by numerous human activities, it's quickly increasing and causing global warming. Human

activities for the duration of the last few decades of industrialization and population boom have polluted the atmosphere and affecting the weather. Carbon dioxide within the surroundings has expanded by 31% since pre-industrial times, inflicting greater heat to be trapped inside the lower atmosphere.

### 5.3 ACID RAIN

When fossil fuels consisting of coal, oil and natural gas are burnt, chemical substances like sulfur dioxide and nitrogen oxides are produced. These chemicals react with water and different chemical substances in the air to form sulfuric acid, nitric acid and other harmful pollution like sulfates and nitrates. These acid pollutants unfold upwards into the atmosphere and are carried via air currents, to eventually return to the ground in the form of acid rain, fog or snow. The corrosive nature of acid rain produces many forms of environmental damage.



*Fig 5.2 Acid Rain*

#### 5.3.1 EFFECTS

Acid rain is known to cause widespread environmental damage.

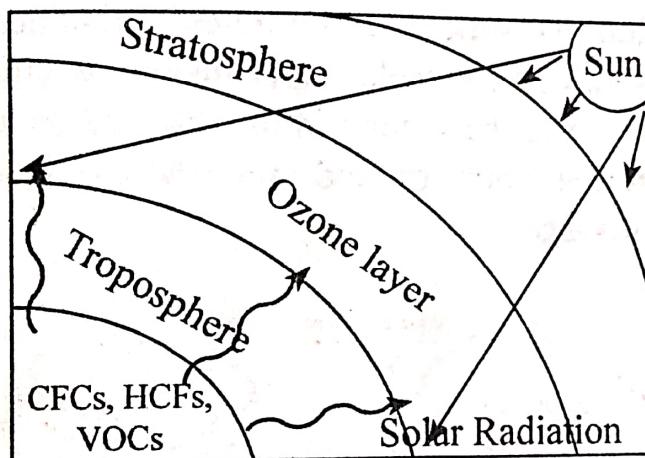
- Acid rain dissolves and washes away vitamins in the soil which are essential for plants.
- Acid rain indirectly affects plants by removing nutrients from the soil during which they grow.
- Acid rain that falls or flows as  $H_2O$  to reach rivers, lakes and wetlands, causes the water in them to become acidic. This affects plant and animal life in aquatic ecosystems.
- Acid rain also has far achieving effects on flora and fauna. The entire food chain is disrupted, in the end endangering the whole atmosphere.

- Acid rain and dry acid deposition damages buildings, vehicles, and other systems made from stone or steel.

### 5.3.2 PREVENTION

Way to stop the formation of acid rain is to lessen the emissions of sulfur dioxide and nitrogen oxides into the surroundings. This may be achieved by using the use of much less energy from fossil fuels in power plants, automobiles and industry. Switching to cleaner burning fuels is the other way.

### 5.4 OZONE LAYER DEPLETION



*Fig 5.3 Ozone Layer Depletion*

Ozone is made by the action of daylight on  $O_2$ . It forms a layer 20 to 50 kms over the surface of the earth. This action takes place naturally within the atmosphere, however is extremely slow. Ozone gas is extremely toxic with a powerful odour. It is a type of oxygen that has three particles in every atom. It is taken into consideration as a pollutant at ground level and constitutes a health risk by inflicting respiratory ailments like allergies and bronchitis. It also causes harm to vegetation and leads to a deterioration of certain materials like plastic and rubber. Ozone within the upper environment is important to all existence because it protects the earth from the sun's harmful ultraviolet radiation. The ozone layer within the upper atmosphere absorbs the sun's ultraviolet radiation, preventing it from reaching the earth's surface. This layer within the atmosphere protects life on earth from the harmful UV radiation from the sun. chlorofluorocarbons or CFCs, that were used as

refrigerants and aerosol spray propellants, expose a threat to the ozonosphere. The destruction of the ozone layer is seen to cause increased cases of skin most cancers and cataracts. It also causes harm to positive vegetation and to plankton, accordingly affecting natures food chains and food webs. This in turn causes an increase in carbon dioxide due to the decrease in vegetation.

### 5.5 NUCLEAR ACCIDENTS

Nuclear energy become researched and discovered via man as a source of alternative power which would be easy and cheap in comparison to fossil fuels. A single nuclear accident can motive loss of life, long-time period infection and destruction of belongings on a big scale for a long time frame. Radioactivity and radioactive fallout results in cancer, genetic issues and loss of life inside the affected location for many years after, hence affecting all types of life for generations to come.

### 5.6 NUCLEAR HOLOCAUST

The use of nuclear energy in war has had devastating effects on man and earth. The best use of nuclear strength in conflict in history, Hiroshima and Nagasaki incident in the course of World War II, is one of the worst disasters. These atomic bombs killed lots of people, left many hundreds injured and devastated for miles around. The results of the radiation from these nuclear bombs can nonetheless be visible nowadays in the shape of most cancers and genetic mutations in the affected children and survivors of the incident.

### 5.7 WASTELAND RECLAMATION

Loss of vegetation cover leads to loss of soil through erosion, which ultimately creates wastelands. Loss of soil has already ruined a massive amount of cultivable land in our country. Unless we competently shield our 'cultivable' lands, we might also sooner or later face a extreme scarcity of meals grains, vegetables, fruit, fodder and fuel timber. Hence, conservation of soil, defensive the present cultivable land and reclaiming the already depleted wastelands figures prominently of making plans for the future.

Wasteland can be classified into three forms:

- (1) Easily reclaimable,
- (2) Reclaimable with some difficulty,
- (3) Reclaimable with extreme difficulty.

Easily reclaimable wastelands may be used for agricultural purposes. Those which may be reclaimed with a few issue can be applied for agro forestry. Wastelands which are reclaimed with severe trouble can be used for forestry or to recreate natural ecosystems.

**Agriculture:** Wasteland can be reclaimed for agriculture by reducing the salt content and adding Gypsum, urea, potash and compost are added before planting crops.

**Agro Forestry:** Agro forestry implies integration of trees with agricultural crops or livestock management simultaneously. This involves putting land to multiple uses. Its main purpose is to have trees and crops inter- and /or under planted to form an integrated system of biological production within a certain area.

#### 5.7.1 NEED FOR WASTELAND DEVELOPMENT

Wasteland development ensures a constant delivery of gas, fodder and wood for local use. It makes the soil fertile by preventing soil erosion and preserving moisture and enables hold an ecological stability within the area. The trees help in protecting moisture and reduce surface run off supporting in the control of soil erosion.

#### 5.8 ENVIRONMENT PROTECTION ACT

Passed in March 1986, it came into force on 19 November 1986. It has 26 sections. The purpose of the Act is improvement of the human environment and the prevention of hazards to human beings, other living creatures, plants and property. The spirit of the proclamation adopted by the United Nations Conference on Human Environment was implemented by the Government of India by creating this Act. The Act was last amended in 1991.

The salient features of the act are:

1. The central government shall have the power to take all such measure as it deems necessary or useful for the purpose of protecting and improving the quality of the environment and preventing, controlling and decreasing environmental pollution.
2. No person carrying on any industry, operation or processes shall discharge or emit any environmental pollutants or permit to do so in excess of such standards as may be prescribed.
3. No person shall handle or cause to be handled any hazardous substances except in accordance with such procedure and after complying with such safeguards as may be prescribed.
4. The central government or any officer empowered by it, shall have power to take, for the purpose of analysis, sample of air, water, soil or other substances from any premises, factory etc. as may be prescribed.
5. Whoever fails to comply with or violate any of the provisions of this Act or the rules made or orders or directions issued there under shall in respect of each such failure or violation be punishable with imprisonment or with fine or with both.

### **5.9 THE AIR (PREVENTION AND CONTROL OF POLLUTION) ACT**

The Government passed this Act in 1981 to clean up our air by controlling pollution. The main objectives of the Act are as follows:

- (a) To provide for the Prevention, Control and abatement of air pollution.
- (b) To provide for the establishment of Central and State Boards with a view to implement the Act.
- (c) To confer on the Boards the powers to implement the provisions of the Act and assign to the Boards functions relating to pollution.

The presence of pollution beyond certain limits due to various pollutants discharged through industrial emission are monitored by the Pollution Control Boards set up in every State.

**Central Board:** The main function of the Central Board is to implement legislation created to improve the quality of air and to prevent and control air pollution in the country. The Board advises the Central Government on matters concerning the improvement of air quality and also coordinates activities, provides technical assistance and guidance to State Boards and lays down standards for the quality of air.

**State Board:** The State Boards have the power to advise the State Government on any matter concerning the prevention and control of air pollution. They inspect air pollution control areas at intervals or whenever necessary. They are empowered to provide standards for emissions to be laid down for different industrial plants with regard to quantity and composition of emission of air pollutants into the atmosphere. A State Board may establish or recognize a laboratory to perform this function.

### Penalties

Persons managing industry are to be penalized if they produce emissions of air pollutants in excess of the standards laid down by the State Board. The Board also makes applications to the court for restraining persons causing air pollution.

## 5.10 THE WATER (PREVENTION AND CONTROL OF POLLUTION)

### ACT

The Government has formulated this Act in 1974 to be able to prevent pollution of water by industrial, agricultural and household wastewater that can contaminate our water sources. The main objectives of the Water Act are to provide for prevention, control and abatement of water pollution and the maintenance or restoration of water.

The Central Government and State Governments have set up Pollution Control Boards that monitor water pollution.

### Salient Features

- The act also aims at restoration of wholesomeness of water
- The water act is designed to assess pollution levels and punish polluters
- The central government and state governments have set-up pollution control boards to monitor water pollution.
- The water act of 1974 along with amendments in 1978 is an extensive legislation with more than sixty sections for prevention and control of water pollution.
- Central and state boards have been created under this act for preventing water pollution
- The act empowers the board to take:
  - water samples for analysis
  - govern discharge of sewage
  - trade effluents
  - study or inspect appeals
  - revision of policies
  - set minimum and maximum penalties
  - publication of names of offenders
  - offences by companies or government departments
  - establish or recognize water testing laboratories and standard testing procedures
  - Prevention and control of water pollution is achieved through a '*permit*' or a '*consent administration*' procedure
  - Discharging effluents is permitted by obtaining the consent of state water boards

### Penalties

Penalties are charged for acts that have caused pollution. This includes failing to furnish information required by the Board, or failing to inform the occurrence of any accident or other unforeseen act. An individual or organisation that fails to comply with the directions given in the subsections of the law can be convicted or punished with imprisonment for a term of three months or with a fine of Rs10,000 or both and in case failure continues an additional fine of Rs.5,000 every day. If a person who has already been

convicted for any offence is found guilty of the same offence again, he/she after the second and every subsequent conviction, would be punishable with imprisonment for a term not less than two years but which may extend to seven years with fine.

### 5.11 THE WILDLIFE PROTECTION ACT

The wildlife act is aimed at preserving and protecting wildlife and came into effect in 1972.

#### Salient Features

- This act envisages national parks and wildlife sanctuaries as protected areas to conserve wildlife.
- Under this act, wildlife populations are regularly monitored and management strategies are formulated to protect them.
- The act covers the rights of forest dwellers. The act permits restricted grazing in sanctuaries but prohibits the same in national parks. The act also prohibits collection of non forest timber which might not ham the system.
- The act provides a comprehensive list of endangered species and prohibits hunting of the same.
- The act provides for setting up national parks, wildlife sanctuaries, etc.
- The act provides for constitution of central zoo authority
- The act imposes a ban on trade or commerce of commercial animals
- The act provides legal powers to officers to punish offenders.
- Under the act, captive breeding programs for endangered species have been initiated.

#### Penalties

The offence is punishable with imprisonment for a term which may extend to three years or with a fine of Rs 25,000 or with both. An offence committed in relation to any use of meat of any such animal, or animal articles like a trophy, shall be punishable with imprisonment for a term not less than one year and may extend to six years and a fine of Rs 25,000. In the case of a second or subsequent

offence of the same nature mentioned in this sub-section, the term of imprisonment may extend to six years and not less than two years with a penalty of Rs.10,000.

### 5.12 FOREST CONSERVATION ACT

The salient features of the Act are as follows:

- The State Govt. has been empowered under this Act to use the forests only for forestry purposes.
- It makes provision for conservation of all types of forests and for this purpose there is an Advisory committee which recommends funding for it to the Central Government.
- Any illegal non-forest activity within a forest area can be immediately stopped under this Act.
- Forest officers and their staff administer the Forest Act.
- The Act deals with four categories of the forests, namely reserved forests, village forests, protected forests and private forests.
  - **Reserved forests :** These forests are under the direct supervision of the government and no public entry is allowed for collection of timber or grazing of cattle.
  - **Protected forests :** These forests are looked after by the government, but the local people are allowed to collect fuel-wood/timber and graze their cattle without causing serious damage to the forests.
  - **Village forests :** Reserved forests assigned to a village community are called village forests.
  - **Private protected forests :** These forest lands refer to protected areas inside India whose land rights are owned by an individual or a corporation / organization.

**Penalties:** A person who commits any of the offences like felling of trees, or strips off the bark or leaves from any tree or sets fire to such forests, or kindles a fire without taking precautions to prevent its spreading to any tree mentioned in the Act, whether standing or felled, or fells any tree, drags timber, or permits cattle to damage any tree, shall be punishable with imprisonment for a term which may extend to six month or with a fine which may extend to Rs.500, or both.

### 5.13 ISSUES INVOLVED IN ENVIRONMENTAL LEGISLATION

Environmental regulation is evolved to guard our surroundings as a whole, our health, and the earth's assets. The presence of a regulation to guard air, water, soil, etc. Does no longer necessarily suggest that the hassle is addressed. For a success environmental rules to be implemented, there has to be an powerful corporation to gather relevant data, procedure it and bypass it on to a regulation enforcement organization. If the law or rule is broken through a individual or institution, this needs to be punished via the legal process. The interested involved individual should file a Public Interest proceeding (PIL) for the protection of the surroundings. people need to keep an eye and inform the concerned and see to it that actions are taken against offenders.

#### 5.13.1 ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

For all development projects, whether Government or Private, the MoEF requires an impact assessment done by a competent organisation. EIA Environmental Impact Assessment) does this work. EIAs are expected to indicate what the likely impacts could be if the project is passed. The EIA must look into physical, biological and social parameters. The EIA must define what impact it would have on water, soil and air. It as well requires that a account of flora and fauna articular in the arena is accurate and to specify if there are any endangered breed whose abode or activity could be abnormally affected.

The Ministry of Environment and Forests (MoEF) has identified a large number of projects that need clearance on environmental grounds. After the Environmental Protection Act of 1986 was passed, an EIA to get an environmental clearance for a project is mandatory.

To get an environmental clearance the proposer of the undertaking is expected to apply to the State Pollution Control Board. The PCB exams and confirms that the EIA can be initiated. The agency that does the assessment submits a report to the proposer. This report is forwarded to the MoEF, which is the impact assessment authority and grants the project clearance.

### **5.13.2 CITIZENS ACTIONS AND ACTION GROUPS**

Individuals can take one or more viable moves after they have a look at offenders who for their personal self-interest damage the surroundings for others dwelling in the location. The person has the right to bring an environmental offence or nuisance to the attention of authorities. Educated individuals have rights as well as have an obligation to perform their duties. They can accompany activity groups to strengthen the ecology movements.

#### **LIST OF QUESTIONS**

1. Discuss how climate change is affecting human race.
2. Enumerate the impact of global warming on our mother nature.
3. What is acid rain? What are its effects?
4. Write a note on ozone layer depletion
5. Express the need for reclaiming the wasteland and its development.
6. Discuss Environment Protection Act and its features.
7. Explain the salient features of Air Pollution act.
8. What are the regulations governing water pollution prevention act?
9. Discuss (i) Wildlife Protection act (ii) Forest Conservation act.
10. What are the issues involved in enforcement of environmental legislation?
11. Explain about Environment Impact Assessment (EIA).

#### **REFERENCE**

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