

Unit-4 A GLOBAL PROBLEMS & GLOBAL EFFORTS

GLOBAL WARMING

Some of the Sun's rays that penetrate the thick layer of CO₂ are able to strike the earth and get converted into heat. The heated earth is able to re-radiate this absorbed energy as radiations of longer wave length. Much of this does not pass through CO₂ layer to outer space but gets absorbed by the CO₂ and water in the atmosphere and adds the heat that has been already present. Thus earth's atmosphere heats up. This phenomenon is called Green house effect.

CO₂ thus acts like a glass of green house on global scale. The average global temperature is 15⁰c. Burning of fossil fuels and large scale deforestation increase green house effect. With the result there will be gradual increase in mean air temperature of several degrees, with consequent melting of polar ice and rise in sea level.

Global warming consequences:

- Change in rain fall pattern
- Turning productive lands to deserts.
- Melting of polar ice caps which results in raising sea level.
- Low lying lands may submerge.
- Climate change reports may enhance.
- Affect the ozone layer.

Kyoto protocol:

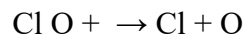
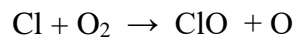
- The Kyoto Protocol is an international treaty, which extends the 1992 United Nations Framework Convention on Climate Change (UNFCCC) that commits State Parties to reduce greenhouse gases emissions, based on the premise that (a) global warming exists and (b) man-made CO₂ emissions have caused it.
- The Kyoto Protocol was adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005.
- There are currently 192 Parties (Canada withdrew effective December 2012)^[4] to the Protocol.
- The Kyoto Protocol implemented the objective of the UNFCCC to fight global warming by reducing greenhouse gas concentrations in the atmosphere to 'a level that would prevent dangerous anthropogenic interference with the climate system.
- The Protocol is based on the principle of common but differentiated responsibilities: it puts the obligation to reduce current emissions on developed countries on the basis that they are historically responsible for the current levels of greenhouse gases in the atmosphere.

OZONE DEPLETION

- Ozone is the other form of oxygen.



- Ozone protects us from harmful uv radiations from sun. The amount of atmospheric ozone is measured by Dobson spectrometer, and is expressed in Dobson units.
- Depletion of ozone causes direct harmful effects.



- Reduction of ozone increases the uv rays on earth. Due to this cancer, especially relating to skin melanoma will occurs.
- The other disorders are cataract formation, destruction of aquatic life and vegetation and loss of immunity.

Montreal protocol:

- The Montreal Protocol is an international treaty designed to protect the ozone layer by phasing out the production of numerous substances that are responsible for ozone depletion.
- It was agreed on September 16, 1987, and entered into force on January 1, 1989, followed by a first meeting in Helsinki, May 1989.
- As a result of the international agreement, the ozone hole in Antarctica is slowly recovering.
- Due to its widespread adoption and implementation it has been hailed as an example of exceptional international co-operation, with Kofi Annan quoted as saying that "perhaps the single most successful international agreement to date has been the Montreal Protocol.

ACID RAINS

Mainly the oxides of sulphur and nitrogen released from industries, power plants and automobile exhausts, swept up into atmosphere. They oxidized in to acids.

Sulphuric acid and nitric acid are the two main acids that dissolves in atmospheric water and falls on the ground as acid rains.

Effects of acid rains:

- Acid rains increase soil acidity.
- They affect land flora and fauna.
- They cause acidification of lakes and streams thus affecting aquatic life.
- They affects crop productivity and human health.
- They also corrodes buildings, monuments, statues and bridges.

- Increase in soil acidity causes the death of bacteria and fungi, It disrupts the ecological balance.

Unit-4 B

ENVIRONMENTAL IMPACT ASSESMENT

THE ENVIRONMENT PROTECTION ACT, 1986

- The act came in to force on nov 19th,1986, the birth anniversary of late prime minister Indira Gandhi, who is the pioneer of environmental protection issues.
- The most important functions of central govt. under this act are:
 - To set up standards of quality of air, water (or) soil.
 - To set up (or) safe guard for the handling of hazardous substances.
 - The prohibition and restrictions on the handling of hazardous substances in the different areas.
 - Prohibition and restriction on the location of industries.

Under the Environmental Protection 1986 the state pollution control board have to follow the guide lines like:

- To advise the industries for treating waste water and gases.
- To encourage for recycling and re-use the waste.
- To encourage for the bio-gas.
- To emphasize on the implementation of clean technologies.

WILD LIFE PROTECTION ACT,1972

- The Indian Board of wild life (IBWL) was created in 1952, which after the enactment of the wild life protection act took up.

Activities of this act:

- It defines wild life.
- Providing appointment of wild life advisory board.
- listing the endangered wild life species.
- Prohibition of hunting of endangered species.
- Setting up national parks & sanctuaries.
- Imposes a ban on the trade & commerce in the wild life animals.
- To provide breeding programme for endangered species.

FOREST CONSERVATION ACT,1980

- This act deals with the conservation of forest and related aspects.
- To use the forests only for forestry purpose.
- Conservation of all the types of forests.

- Any illegal activity within the forest area can be immediately stopped under this act.
- 1992 Amendment in the forest:-
 - wild life sanctuaries, national parks etc are totally prohibited for any exploitation.
 - setting of transmission lines, seismic surveys, exploration, drilling and hydro electric projects in the forest areas without cultivating trees in the forest.
 - Tusser cultivation (a type of silk-yielding insect) in the forest areas by the tribals as a means of their livelihood is treated as a forestry activity.
 - To cease the ongoing mining activity immediately.

WATER (PREVENTION& CONTROL OF POLLUTION) ACT, 1974.

- Maintenance and restoration of quality of all the types of surface and ground water.
- Establishment of central and state control boards for pollution control.

CENTRAL POLLUTION CONTROL BOARD(CPCB)

- Prevention and control of water pollution.
- Provides technical assistance to state pollution control board.
- Organizes training programs to prevent pollution.
- Publishes technical and statistical data related to pollution.
- Prepares manuals for treatment and disposals of sewage .
- Establishment laboratories for analysis of water, sewage.

STATE POLLUTION CONTROL BOARD (SPCB):

- It lays down standards for effluents.
- Every industry has to obtain consent from the Board.
- Board suggests efficient methods for utilization, treatment and disposal of trade effluents.
- It tests the samples from streams from streams, well or sewage passing through an industry to maintain water quality.

AIR (PREVENTION & CONTROL OF POLLUTION) ACT,1981.

- Act provides for prevention, control and abatement of air pollution.
- Checks whether the industry strictly follows the norms laid down by the board or not.
- It funds, accounts, audit, penalties and procedures.
- As per the section 19, the state may declare an area within the state as air pollution control area and can prohibit the use of any other fuel than approved fuel in the area causing air pollution.