India-People and Economy

Chapter-12 Geographical Perspective

Environmental Pollution

- Environmental pollution is the contamination of the physical and biological components of the earth/atmosphere system to such an extent that normal environmental processes are adversely affected
- Environmental pollution results from 'the release of substances and energy from waste products of human activities

Pollution can be classified into (i) air pollution, (ii) water pollution, (iii) land pollution and (iv) noise pollution.

(i) **Water pollution**

- Water pollution is the contamination of water bodies mainly due to human activities
- The main reason behind water pollution are indiscriminate use of water by increasing population and industrial expansion.
- Sources of water pollution- Natural sources like erosion, landslides, decay and decomposition of plants and animals, etc. and human sources are industrial, agricultural and cultural activities.
- **Industrial activities-** Industries produce several undesirable products including industrial wastes, polluted waste water, poisonous gases, chemical residuals, numerous heavy metals, dust, smoke, etc. Most of the industrial wastes are disposed off in running water or lakes. Major water polluting industries are leather, pulp and paper, textiles and chemicals.
- **Agricultural activities**- Chemicals used in modern agriculture such as inorganic fertilisers, pesticides and herbicides are also pollution generating components. These chemicals are washed down to rivers, lakes and tanks.
- **Cultural activities** such as pilgrimage, religious fairs, tourism, etc. also cause water pollution

Effects of water pollution

- Water pollution is a source of various water borne diseases. The diseases commonly caused due to contaminated water are diarrhoea, intestinal worms, hepatitis, etc.
- World Health Organisation shows that about one- fourth of the communicable diseases in India are water-borne

(ii) **Air pollution**

- It occurs when harmful substances including particulates and biological molecules are introduced into earth's atmosphere. With increasing use of varieties of fuels as source of energy, which results increase in emission of toxic gases into the atmosphere resulting in the pollution of air.
- **Sources of air pollution** are combustion of coal, petrol and diesel, industrial processes, solid waste disposal, sewage disposal, etc.

Effects of air pollution

- Air pollution causes various diseases related to respiratory, nervous and circulatory systems
- Smoky fog over cities called as urban smog is caused by atmospheric pollution. It proves very harmful to human health
- Air pollution can also cause acid rains

(iii) **Noise Pollution**

- Noise pollution refers to the state of unbearable and uncomfortable to human beings which is caused by noise from different sources.
- Main sources of noise pollution are various factories, mechanised construction.and demolition works, automobiles and aircrafts, etc
- The level of steady noise is measured by sound level expressed in terms of decibels (dB).
- The biggest nuisance is the noise produced by traffic, because its intensity and nature depend upon such factors as the type of aircraft, vehicle, train and the condition of road as well as that of vehicle
- Noise pollution is location specific and its intensity declines with increase in distance

from the source of pollution, i.e. industrial areas, arteries of transportation, airport, etc.

Urban Waste Disposal

- Solid waste refers to a variety of old and used articles, For example stained small pieces of metals, broken glasswares, plastic containers, polythene bags, ashes, floppies, CDs, etc. dumped at different places.
- Discarded materials are termed as refuse, garbage and rubbish, etc. and are disposed of from two sources : (i) household or domestic establishments, and (ii) industrial or commercial establishments
- The household wastes is disposed off either on public lands or on private contractors' sites
- The solid wastes of industrial units are collected and disposed off through public (municipal) facilities at low lying public grounds (landfill areas)
- Solid wastes cause health hazard through creation of obnoxious smell, and harbouring of flies and rodents, which act as carriers of diseases like typhoid, diphtheria, diarrhoea, malaria and cholera,etc
- Concentration of industrial units in and around urban centres gives rise to disposal of industrial wastes. The dumping of industrial waste into rivers leads to water pollution
- Urban waste disposal is a serious problem in India. In metropolitan cities like Mumbai, Kolkata, Chennai, Bengaluru, etc
- About 90% of the solid waste is collected and disposed.
- About 30% to 50% of the waste generated are left uncollected which accumulate on streets, in open spaces between houses and in wastelands leading to serious health hazards

Problems of Slums

- Urban centres in India are more differentiated in terms of the socio-economic,.politico-cultural and other indicators of development than any other areas
- Farm houses and high income group localities characterised by well-developed urban infrastructures like wide roads, street.lights, water and sanitation facilities, lawns,well-developed green belt, parks, play grounds and provisions for individual security and right to privacy

- “Slums”, jhuggi-jhopari” clusters - These are inhabited by those people who were forced to migrate from the rural areas to these urban centres in search of livelihood but could not afford proper housing due to high rent and high costs of land. They occupy environmentally incompatible and degraded areas.

Characteristics of slum areas

- Slums are residential areas of the least choice, dillapidated houses, poor hygienic conditions, poor ventilation, lack of basic amenities like drinking water, light and toilet facilities, etc.
- These areas are overcrowded having narrow street pattern prone to serious hazards from fire
- Most of the slum population works in low paid, high risk-prone, unorganised sectors of the urban economy

Problems of Slums

- They are the undernourished,prone to different types of diseases and illness and can ill afford to give proper education to their children
- The poverty makes them vulnerable to drug abuse, alcoholism, crime, vandalism, escapism, apathy and ultimately social exclusion

Land degradation

- Land degradation is a process in which the value of the biophysical environment is affected by a combination of human- induced processes acting upon the land
- Soil erosion, water-logging, salinisation and alkalinisation of land lead to land degradation
- There are two processes that induce land degradation. These are natural and created by human beings
- National Remote Sensing Centre (NRSC) has classified wastelands by using remote sensing techniques
- There are a few types of wastelands such as gullied /ravinous land, desertic or coastal sands, barren rocky areas, steep sloping land, and glacial areas, which are primarily caused by natural agents
- Other types of degraded lands such as waterlogged and marshy areas,

- There are some other types of wastelands such as degraded shifting cultivation area, degraded land under plantation crops, degraded forests, degraded pastures, and mining and industrial wastelands, are caused by human action

A case study (Jhabua district)

- Jhabua district is located in the westernmost agro-climatic zone in Madhya Pradesh
- It is one of the five most backward districts of the country
- It is characterised by high concentration of tribal population (mostly Bhils)
- The people suffer in this area is mainly due to poverty which has been accentuated by the high rate of resource degradation, both forest and land
- The watershed management programmes funded by both the ministries of “Rural Development” and “Agriculture”
- Government of India, have been successfully implemented in Jhabua district to prevent land degradation and improving soil quality
- Watershed Management Programmes implemented in Jhabua district
- It acknowledge the linkage between land, water and vegetation and attempts to improve livelihoods of people through natural resource management and community participation
- In the past five years, the programmes funded by the Ministry of Rural Development alone (implemented by Rajiv Gandhi Mission for Watershed Management) has treated 20% of the total area under Jhabua district.
- The Petlawad block of Jhabua is located in the northernmost part of the district
- Steps taken by the people with the Government-NGO partnership and community participation in managing watershed programmes are
    - Each household planted and maintained one tree on the common property
    - They also have planted fodder grass on the pasture land and adopted social-fencing of these lands for at least two years
    - No open grazing on these lands, but stall feeding of cattle