

## **ENVIRONMENTAL GEOGRAPHY -18MAG14E**

**Syllabus, Unit – IV:** Human Settlements and Environment - Industrial Environment – Emerging Environmental Degradation and Issues – Environment and Health - Hazards and Disaster: floods, drought and desertification.

### **Industrial Environment and problems**

1. Toxic Chemicals
2. Industrial Consumer Products
3. Hazardous Waste Streams
4. Greenhouse Gas Emissions
5. Existence of Numerous Small Scale Industries
6. Degradation and Depletion of Natural Resources
7. Use of Out-dated Technologies
8. Lack of Effective Industrial Land use Planning

### **Emerging Environmental Degradation and Issues**

1. Genetic Modification of Crops
2. Waste Production
3. Population Growth
4. Water Pollution
5. Deforestation
6. Urban Sprawl
7. Overfishing
8. Acid Rain
9. Ozone Layer Depletion
10. Ocean Acidification
11. Air Pollution
12. Lowered Biodiversity
13. Impact on The Nitrogen Cycle
14. Over exploitation of Natural Resource Use
15. Polar Ice Caps Melting
16. Pollution due Transportation
17. Climate Change

### **Environment and Human Health**

Living entities, directly or indirectly depend upon their environment for energy requirements and to sustain life. Some of these requirements are pure water, clean air, unadulterated and nutritious food, disease-free community to live etc as these factors are known to add to the longevity in human history. It is also a known fact that sanitation, agriculture, treated water, personal and community hygiene have a visible impact on human health.

However, one cannot overlook the fact that apart from supporting and nurturing human life, it can also inflict diseases. One of the most common cause for death rate is the lack of fundamental necessities. The environmental risks can pump up the chances of contracting heart diseases, cancers and various other illnesses. Untreated drinking water, poor hygiene, improper sanitation are perceived to cause infectious diseases such as cholera, diarrhoea, dengue etc.

The environment is a natural world in which we all are living today. It relates to all the living and non-living things (biotic and abiotic components) surrounding us. There are different types of environment, which have a great impact on human health. On a daily basis, we all interact with the environment. Therefore it is very much essential to keep our environment healthy in order to protect our lives from different environmental hazards. The environment impacts on human health include physical, chemical and biological hazards. Air, water, soil, sound and land pollution are the major cause of illness in all humans.

### **Importance of Health**

Health is a state in which wellness of all the three aspects i.e., mental, physical and social are considered. To stay healthy one needs to have a sound mind too along with the physical perspectives. To maintain a healthy lifestyle, one is required to adopt a healthy diet and an active lifestyle. Humans are one of the most important components in an ecosystem that significantly contribute to the well-being of other environmental components as well, that can either be living or non-living such as plants, animals, climate etc.

One's health is majorly controlled and influenced by its immediate surroundings. Healthy individuals are usually free from almost all the health disorders and are least susceptible to diseases hence increasing the life span thereby decreasing greatly the chances of suffering from pain, discomfort, uneasiness which can not only affect one physically but can have an impact on the mental ability too. Normalcy and excellence at work are attributes that make for a favourable and a valuable asset in society. Physical fitness can boost one's confidence as it makes one feel better about themselves. It can also keep you on your toes to perform daily activities without any ado or discomfort. Overall, wellness and health bring about radical growth in the quality of life.

### **Physical Environment and Health issues**

- Air: Respiratory tract infections, cancers
- Water: Diarrhoea, Dysentery, Hepatitis, Amoebiasis
- Soil: lead poisoning, mercury poisoning, leukaemia, skin problems
- Housing: Respiratory infection, skin infection, accident
- Radiation: Leukaemia, mutations
- Climate: Heat cramps, frostbite, Respiratory problems

- Noise light: Deafness, Fatigue, Annoyance, Psychological effect, Blindness
- Waste: Chemical poisoning, Radioactive hazards, skin problem

### **Biological Environment and health**

- Bacteria: cholera, typhoid, TB
- Viruses: chickenpox, poliomyelitis, measles, influenza
- Arthropods: Malaria, Dengue
- Plants and Eukaryotic organism: Fungal infection, poisoning
- Animal: Zoonoses Rabies, yellow fever, plague

### **Psychosocial Environment and Health**

#### **1. *Social problems***

- Poverty
- Hunger
- Gender inequality
- Corruption
- Alcoholism

#### **2. *Health Effects***

- Depression
- Mental stress
- Accidents
- Malnutrition
- Poor hygiene

## **Flood**

Flood is one of the most dangerous natural disasters. It happens when excessive water is collected in any area. It usually happens due to heavy rainfall. India is highly prone to flood. There are many regions in the country that face this natural disaster because of the overflowing of rivers. Moreover, it also happens because of the melting of snow. Another reason for floods is when the dam breaks down. If we look at the coastal areas, the hurricanes and tsunamis are held responsible for causing floods. In this essay on flood, we will see the prevention and after-effect of flood.

### **After-effects of Flood**

Floods interrupt with the day to day functioning of the affected area. The severe floods sometimes cause mass destruction. A lot of people and animals lose their lives due to floods. Several others are injured. Floods also bring a rise in diseases. The stagnant water attracts mosquitoes causing malaria, dengue, and more illnesses.

Furthermore, people face power cuts due to the danger of electrocution. They also have to face expensive pricing. As the supply of food and goods gets limited, the prices naturally grow higher. This creates a big problem for the common man.

Most importantly, the whole country faces economic loss. The resources needed to rescue people and tackle this disaster demands a hefty amount. Plus, the citizens lose their houses and cars which they worked all their lives for.

Subsequently, floods also hamper the environment. It causes soil erosion and this degrades the quality of the soil. We lose out on fertile soil. Similarly, floods also damage flora and fauna. They damage crops and displace trees. Thus, the measure should be taken to avoid these grave consequences.

## **Drought**

Drought is a dangerous condition which decreases the quality of life. It is termed as a natural disaster with harmful effects. A drought usually occurs when a region faces a shortage of water. This is mainly due to lesser rainfalls. In addition, droughts have proven to be fatal for mankind and wildlife as well.

### **Causes of Drought**

Drought is caused due to various reasons. One of the main reasons is deforestation. When there will be no trees, the water on land will evaporate at a faster rate. Similarly, it lessens the soil capacity to hold water resulting in evaporation. Moreover, lesser trees also mean lesser rainfall which eventually leads to drought.

Furthermore, as the climate is changing, the water bodies are drying up. This results in a lower flow of surface water. Therefore, when the rivers and lakes will dry out, how will the people get water? In addition, global warming is a major cause of this. The greenhouse gas emitted causes the earth's temperature to rise. Thus, it results in higher evaporation rates.

Subsequently, excessive irrigation is also a great cause of droughts. When we use water irresponsibly, the surface water dries up. As it does not get ample time to replenish, it causes drought.

### **Impact of Drought**

Drought is a serious disaster which impacts the whole of mankind, wildlife, and vegetation greatly. Moreover, a region which experiences drought requires a lot of time to recover from the disaster. It is a severe condition which interferes with the quality and functioning of life.

Most importantly, the agriculture sector suffers the most at the hands of drought. For instance, farmers face a loss of crop production, livestock production. Moreover, they experience plant disease and wind erosion. Similarly, they also have to face heavy financial losses. Their financial condition worsens and they end up in debt. This also leads to higher rates of depression and suicides.

Furthermore, wildlife also suffers. They do not get sources of water to drink from. In addition, when forest fires happen due to droughts, they also lose their habitats and life. Just like any natural disaster, droughts also result in inflation of prices. The basic products become expensive. The poor people do not get access to essential foods due to high rates.

Subsequently, droughts also degrade the quality of the soil. This result in poor or no yielding of crops.

In short, drought is definitely one of the most catastrophic natural disasters. It causes loss of life, vegetation and gives rise to other deadly problems like famine. The citizens and government must join hands to prevent droughts to save thousands of lives. This joint effort can help save the world from such a catastrophe.

## **Desertification**

Desertification is defined as a process of land degradation in arid, semi-arid and sub-humid areas due to various factors including climatic variations and human activities. Or, to put it in another way, desertification results in persistent degradation of dry land and fragile ecosystems due to man-made activities and variations in climate.

Desertification, in short, is when land that was of another type of biome turns into a desert biome because of changes of all sorts. A huge issue that many countries have is the fact that there are large pockets of land that are going through a process that is known as desertification.

Overgrazing is the major cause of desertification worldwide. Other factors that cause desertification include urbanization, climate change, overuse of groundwater, deforestation, natural disasters, and tillage practices in agriculture that make soils more vulnerable to wind.

Desertification affects topsoil, groundwater reserves, surface runoff, human, animal, and plant populations. Water scarcity in drylands limits the production of wood, crops, forage, and other services that ecosystems provide to our community.

### **Various Causes of Desertification**

- Overgrazing
- Deforestation
- Farming Practices
- Excessive Use of Fertilizers and Pesticides
- Over drafting of groundwater
- Urbanization and Other Types of Land Development
- Climate Change
- Stripping the Land of Resources
- Natural Disasters
- Soil Pollution
- Overpopulation and excessive consumption
- Mining

### **Effects of Desertification**

- ✚ Farming becomes next to impossible
- ✚ Decrease in Crop Yields
- ✚ Hunger
- ✚ Flooding
- ✚ Poor Water Quality
- ✚ Overpopulation
- ✚ Poverty
- ✚ Biodiversity Loss
- ✚ Endangerment and Extinction of Species
- ✚ Destruction of Habitats
- ✚ Migration

### **How to Prevent Desertification**

- ❖ Policy Changes Related to How People can Farm
- ❖ Policy Changes to Other Types of Land Use
- ❖ Awareness and education
- ❖ Technology Advances
- ❖ Restricting Mining Practices
- ❖ Putting Together Rehabilitation Efforts
- ❖ Reforestation
- ❖ Sustainable Practices to Prevent Desertification From Happening

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Subject Name: Environmental Geography  
Subject Code : 18MAG14E  
Faculty : K Sumesh