

## CHAPTER 3

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# ENVIRONMENT AND SOCIETY

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### Points To Remember

- The term Ecology denotes the web of physical and biological systems and processes of which humans are one element.
- Ecology has been modified by **HUMAN ACTION** - aridity or flood proneness is often produced by human intervention.
- The interaction between environment and society is shaped by social organisation e.g. if forests are owned by the government, it will have the power to decide whether it should lease them to timber companies or allow villagers to collect forests produce.
- Different relationships between environment and society also reflect different social values and norms as well as knowledge systems - the values underlying, socialistic values of equality and justice have led to the seizure of lands from large landlords and their redistribution among landless peasants.
- There are different perspective of the environment and its relationship to society.

### **Social environment as a two way process**

Social environment emerged from interaction between bio physical ecology and human interventions. This is a two way process — Just as nature shapes society, the society shapes nature.

(a) **Nature affects society** : Nature affects in such a way that human schedule, their wearing style and their living style are according to the nature of the Region.

(b) **Society affects nature** : Society affects nature through urbanization and industrialization

### **Human action has modified ecology.**

- For example — what appears to be a natural feature of the environment (aridity or flood proneness) is often produced by human intervention.
- Deforestation in the upper catchment of a river may make the river more flood prone.

- Climate change brought about by global warming is another instance of the widespread impact of human activity on nature.
- Over time, it is often difficult to separate and distinguish between the natural and human factors in ecological change.

**Environmental management is a very difficult task**

- As not enough is known about biophysical processes to predict and control them.
- Human relations with the environment have become increasingly complex.
- Spread of industrialisation, resource extraction has affected ecosystem in unprecedented ways.
- We live in risk societies, e.g. occurrence of nuclear disasters.

**Definition of Risk Society :** With the spread of industrialization, resource extraction has expanded and accelerated, affecting ecosystems in unprecedented ways. Complex industrial technologies and modes of organization require sophisticated management systems which are often fragile and vulnerable to error. We live in risk societies using technologies and products that we do not fully grasp. The occurrence of nuclear disasters like Chernobyl, industrial accidents like Bhopal, and Mad Cow disease in Europe shows the dangers inherent in industrial environments.

**Environmental problems and risks** There are many globally recognised environmental problems:

- **Resource depletion :** Using non-renewable resources is one of the most serious problems.
- **Pollution :** There are many kinds of pollution - air pollution, indoor pollution through chimneys specially in rural households, noise pollution through vehicles and factories, water pollution, etc.
- **Global warming :** The release of particular gases (carbon-dioxide, methane and others) creates a 'green house' effect by trapping the sun's heat and not allowing it to dissipate thus causing significant rise in global temperatures. China and India are increasingly significant contributors to world carbon and green house gas emissions.
- **Genetically modified organisms :** It is a new technique of gene splicing which allows scientists to import genes from one species into another, e.g. Bacillus Thuringiensis have been introduced into cotton species, making it resistant to the bollworm.

### Natural and Man-made Environmental Disasters :

<b>Natural Disaster</b>	A natural disaster is a major adverse event resulting from natural processes of the Earth; examples include floods, hurricanes, tornadoes, volcanic eruptions, earthquakes, tsunamis, and other geologic processes. A natural disaster can cause loss of life or property damage, and typically leaves some economic damage in its wake, the severity of which depends on the affected population's resilience, or ability to recover and also on the infrastructure available.
<b>Man-made Disaster</b>	In a man-made disaster the element of human intent or negligence leads to human suffering and environmental damage. In it man has direct hand in the occurrence of the disaster. For eg: Dropping of Atom bomb on Hiroshima, Bhopal Gas Tragedy.

### Environmental problems are also social problems :

- Social status and power determine to what extent people can insulate themselves from environmental crises or overcome it.
- Securing the public interest e.g. construction of dam may actually serve the interests of particular politically and economically powerful groups but hurt the interests of the poor and politically weak.

**Environment-Society conflicts:** Different social groups stand in different relationships to the environment and approach it differently, e.g. A forest department geared to maximising revenues from supplying large volumes of bamboo to the paper industry will view and use forest very differently from an artisan who harvests bamboo to make baskets. Their varied interests and ideologies generate environmental conflicts.

Thus environmental crises have their roots in social inequality.

### TERMS AND CONCEPTS

1. **Hydrology:** The science of water and its flows; or the broad structure of water resources in a country or region.
2. **Deforestation:** The loss of forest area due to cutting down of trees and/or taking over the land for other purposes, usually cultivation.
3. **Green House:** A covered structure for protecting plants from extremes of climate, usually from excessive cold; a green- house (also called a hot house) maintains a warmer temperature inside compared to the outside temperature.
4. **Emissions:** Waste gases given off by a human-initated process, usually in the context of industries or vehicles.

5. **Effluents:** Waste materials in fluid from produced from industrial process.
6. **Aquifers:** Natural underground formations in the geology of a region where water gets stored. Monoculture: When the plant life in a locality or region is reduced to a single variety.

#### 2 MARKS QUESTIONS

1. What do you understand by ecology?
2. What is meant by social ecology?
3. What is global warming?
4. List the advantages of genetic modification.
5. Mention/List the consequences of global warming.
6. Give examples of natural and man-made disasters.
7. How is indoor pollution from cooking fires a serious source of risk for women in rural areas?
8. Which social institutions and organisations played a role in the industrial disaster of Bhopal?

#### 4 MARKS QUESTIONS

1. Explain with examples how ecology has been modified by human action.
2. Social environments emerge from the interaction between biophysical ecology and human interventions. Explain.

OR

Explain how nature shapes society and society shapes nature.

3. How social organisations shape the relationship between environment and society?
4. Why environmental management is a very difficult/complex task?
5. How do different patterns of water use affect different social groups?

#### 6 MARKS QUESTIONS

1. "Relationships between environment and society reflect different Social values and norms". Justify the statement with examples.
2. Explain briefly the reasons for Bhopal Industrial disaster.
3. Explain the major environmental problems and risks.
4. Explain with examples why environmental problems are also social problems.
5. Describe some environment related conflicts.

#### HOTS

- **Higher Order Thinking Skills (HOTS)**

- (1) We live in 'risk societies' — Discuss the statement with suitable examples.