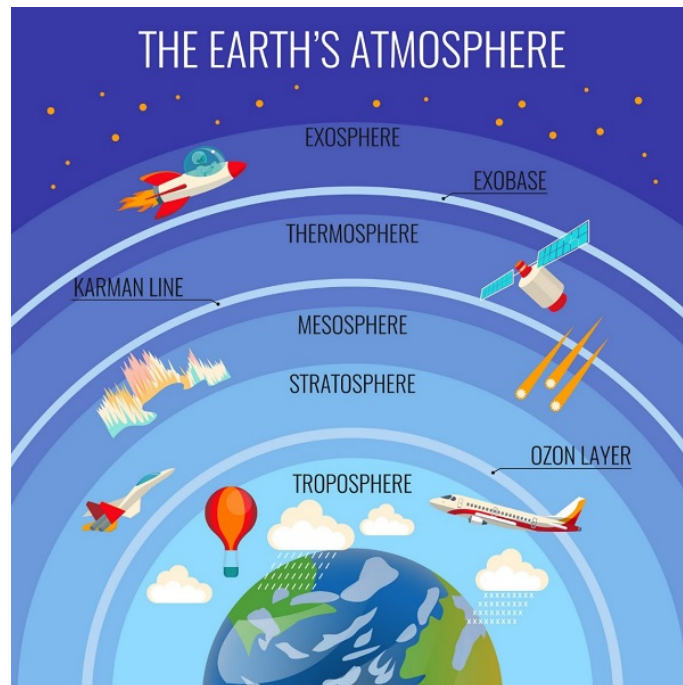


## ENVIRONMENTAL HISTORY

M.A- HISTORY – 18KP3HELH4

### III - SEMESTER

UNIT: I



Environmental pollution is one of the most serious global challenges. Wild-type organisms have a slower degradation rate of hazardous materials. Currently, advanced molecular biology tools along with conventional approaches allow us to rapidly degrade or accumulate hazardous materials from environments.

This can help modify microorganisms to gain the ability to sense and degrade hazardous chemicals from contaminated sites, in turn, allowing us to grow vegetation and improve crop productivity. In this chapter, conventional and advanced molecular biology tools for the removal and detoxification of contaminants from soil and water to improve environmental conditions are highlighted.

- Air Pollution, Water Pollution, Soil/Land Pollution, Noise Pollution,

## Radioactive Pollution , Thermal Pollution.

### Causes of environmental pollution

- Urbanization and industrialization. Since the era of industrial revolution, man has continued to introduce hazardous materials into the **environment** at an alarming rate
- Mining and exploration
- Agricultural activities
- Burning of fossil fuels
- Particulate matter
- Plastics
- Biodiversity. Biodiversity is the most complex and vital feature of our planet
- Water. Water pollution is a huge concern for us and our environment
- Deforestation. We need plants and trees to survive
- Pollution
- Climate Change
- 

The top ten environmental issues are these-Climate Change-Energy- Water.

### Chemicals, Toxics and Heavy Metals.

- Air Pollution.
- Waste Management.
- Ozone Layer Depletion.
- Oceans and Fisheries.
- Deforestation.
  
- The Cambridge Project at Cambridge University says the "greatest threats" to the human species are man-made; they are artificial intelligence, global warming, nuclear war, and rogue biotechnology.
  
- An **Environment** is everything that is around us, which includes both living and nonliving things such as soil, water, animals and plants, which adapt themselves to their surroundings. ...

The **environment** plays an **important** role in the existence of life on the planet earth.

## Definition

- There is no universally accepted definition of environmental history. In general terms it is a history that tries to explain why our environment is like it is and how humanity has influenced its current condition, as well as commenting on the problems and opportunities of tomorrow.
- Environmental historians are also interested in "what people think about nature, and how they have expressed those ideas in folk religions, popular culture, literature and art".
- As a method, environmental history is the use of ecological analysis as a means of understanding human history...an account of changes in human societies as they relate to changes in the natural environment.

## SCOPE

- The **scope of environmental education** can be divided into biological, physical and sociological aspects. They are described below: ... Air, water, land, climate etc are included in natural physical aspects. Likewise, Human made physical aspects cover all human made things such as roads, buildings, bridges, houses etc.
- The field was founded on conservation issues but has broadened

in **scope** to include more general social and scientific **history** and may deal with cities, population or sustainable development. ... The subject matter of **environmental history** can be divided into three main components.

- The **scope of environmental studies** is very wide and it deals with many areas like i) Conservation of natural resources, ii) ecological aspects, iii) pollution of the surrounding natural resources, iv) controlling the pollution, v) social issues connected to it, and vi) impacts of human population on the **environment**.

## IMPORTANCE

- The United Nations Conference on the Human **Environment** (UNCHE), held in Stock holm, Sweden, in 1972, was the first **major** international conference on the **environ ment**. ... The Declaration of the Conference stated that every human has the right to enjoy a clean and healthy **environment**.

## NEED FOR PUBLIC AWARENESS

- Environmental Education (EE) is a process of learning by giving an overall perspective of knowledge and awareness of the environment. It sensitizes the society about environmental issues and challenges interested individuals to develop skills and expertise thereby providing appropriate solutions.
- **Climate change, loss of biodiversity, declining fisheries, ozone layer depletion, illegal trade of endangered species, destruction of habitats, land degradation, depleting ground water supplies, introduction of**

alien species, environmental pollution, solid waste disposal, storm water and sewage disposal pose a serious threat to ecosystems in forest, rural, urban and marine ecosystems.

## UNIT : II

### ECO SYSTEM

- The interaction and interrelationship between the living community (plants, animals, and organisms) in relation to each other and the non-living community (soil, air, and water) is referred to as an **ecosystem**. Thus, an ecosystem is a structural and functional unit of biosphere. It is made up of living and non-living beings and their physical environment.
- In other words, a natural ecosystem is defined as a network of interactions among the organisms and between organisms and their environment. Nutrient cycles and energy flows keep these living and non-living components connected in an ecosystem.

### BIO DIVERSITY

- **Biodiversity**, a shortened form of **Biological diversity**, refers to the existence of number of different species of plants and animals in an environment.
- The Convention on Biological Diversity (1992) of the United Nations gives a formal definition of biodiversity in its Article 2: "Biological diversity means the variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems."
- Biodiversity is also defined as the existence of variability among living organisms on the earth, including the variability within and between species, and within and between ecosystems.

### DEFORESTATION



- Deforestation is the permanent removal of trees to make room for something besides forest. This can include clearing the land for agriculture or grazing, or using the timber for fuel, construction or manufacturing.
- Forests cover more than 30% of the Earth's land surface, according to the [World Wildlife Fund](#). These forested areas can provide food, medicine and fuel for more than a billion people. Worldwide, forests provide 13.4 million people with jobs in the forest sector, and another 41 million people have jobs related to forests.
- Forests are a resource, but they are also large, undeveloped swaths of land that can be converted for purposes such as agriculture and grazing. In North America, about half the forests in the eastern part of the continent were cut down for timber and farming between the 1600s and late 1800s, according to [National Geographic](#).
- Forests can be found from the tropics to high-latitude areas. They are home to 80% of terrestrial biodiversity, containing a wide array of trees, plants, animals and microbes, according to [the World Bank](#), an international financial institution. Some places are especially diverse . the tropical forests of New Guinea, for example, contain more than 6% of the world's species of plants and animals.
- Forests provide more than a home for a diverse collection of living

things; they are also an important resource for many around the world. In countries like Uganda, people rely on trees for firewood, timber and charcoal. Over the past 25 years, Uganda has lost 63% of its forest cover, [Reuters reported](#). Families send children , [primarily girls](#) , to collect firewood, and kids have to trek farther and farther to get to the trees. Collecting enough wood often takes all day, so the children miss school.

- According to a 2018 [FAO report](#), three-quarters of the Earth's freshwater comes from forested watersheds, and the loss of trees can affect water quality. The UN's [2018 State of the World's Forests report](#) found that over half the global population relies on forested watersheds for their drinking water as well as water used for agriculture and industry.

## GLOBAL WARMING



Get the basic facts about **global warming** and how it is effecting our climate. Unbiased information presented in easy to understand format. Free PDF download available. **Climate Change**. Tax Deductible. Save a child. Non-profit. Types: **Global Warming, Climate Change**.

- **Global warming** is the long-term heating of Earth's **climate** system observed since the pre-industrial period (between 1850 and 1900) due to human activities, primarily fossil fuel burning, which increases heat-trapping greenhouse gas levels in Earth's atmosphere.
- Global warming, the gradual heating of Earth's surface, oceans and atmosphere, is caused by human activity, primarily the burning of fossil fuels that pump carbon dioxide (CO<sub>2</sub>), methane and other greenhouse gases into the atmosphere.

## GREEN HOUSE EFFECT



- The **greenhouse effect** is the way in which heat is trapped close to the surface of the Earth by “**greenhouse gases**.” These heat-trapping gases can be thought of as a blanket wrapped around the Earth, which keeps it toastier than it would be without them.
- The **greenhouse effect** is the process by which radiation from a planet's atmosphere warms the planet's surface to a temperature



above what it would be without this atmosphere

- The greenhouse effect is the way in which heat is trapped close to the surface of the Earth by “greenhouse gases.” These heat-trapping gases can be thought of as a blanket wrapped around the Earth, which keeps it toastier than it would be without them. Greenhouse gases include carbon dioxide, methane and nitrous oxides.

### References

K.C.Agarwal, Environmental Biology.

Down To Earth, Centre for Science and Environment.