

A decorative graphic featuring a light blue dashed line that curves around the central text. The line is punctuated by several small colored circles in teal, green, yellow, and pink. Surrounding the line are various larger shapes: a large teal ring with a white center, a smaller teal circle, a large lime green circle, a smaller green circle with a dashed outline, a large yellow ring, a large orange circle, a small pink circle, a large green circle with a white center, a small yellow circle, and a large lime green circle with a dashed outline.

Welcome

# Today we will discuss an overview of Environment & Ecology



The background is white and decorated with various colorful circles and dashed lines. In the top left, there is a large orange circle with a dashed red inner circle, overlapping a yellow circle. Below it is a small pink circle. In the top center, a large dashed light blue circle contains the number '1'. To the right, there is a green circle with a white dot, a yellow circle, and a dashed yellow circle. In the bottom left, there is a green dashed circle, a large yellow circle, and a small cyan circle. In the bottom right, there is a large cyan circle with a white center, a dashed cyan circle, and a small cyan circle.

1

# **INTRODUCTION TO ENVIRONMENT**



## **DEFINITION**

"All the living and non living factors affecting an organism and ultimately determining its form and survival on earth is known as Environment.

A decorative background featuring a large, light blue dashed circle. Inside and outside this circle are various colored shapes: a large green circle at the top left, a smaller green circle with a white dot, a small blue circle, a large cyan ring at the top center, a blue circle containing a white double quote, a large yellow circle on the right, a large orange circle on the right, a small pink circle, a large orange circle on the left, a small pink circle, a large yellow circle on the left, a large green circle with a white dot at the bottom right, and a small cyan circle at the bottom right.

“

“Environmental studies” is the scientific study of our environment and our place in it.

“Environmental studies” is the study of environmental issues



## Sub-topics..

- Multidisciplinary Nature of Environmental Studies.
- Classification of Environment.
- Components of Environment.
- Types of Environment.
- Objective of Environmental Education.
- Environmental Problems.

# Importance of Environmental science

## Solving the issues related to environment

- ✓ Pollution Over exploitation of non-renewable sources.
- ✓ Food problem.
- ✓ Sustainable development.
- ✓ Maintain the ecological balance.
- ✓ Eco friendly product - Conservation of natural sources.
- ✓ Inculcating attitude and value.
- ✓ Encouraging Environment protection.

# Man-Environment Relationship

ENVIRONMENT → MAN

1. Topography of land
2. Climate
3. Soils
4. Mineral Deposits
5. Water Supply



# Environment Degradation

MAN  ENVIRONMENT

- Air Pollution
- Water Pollution
- Land Degradation
- Depletion of Resources

# Environmental Degradation

What is environmental degradation? Let us understand it ?

- It is the process by which our environment i.e., air, water and land, is progressively contaminated, over-exploited and destroyed.



# Causes of Environmental Degradation

**Social factors**

**Economic factors**



# Impact of Technologies on Environment

- Advancement of technology & machines, has increased industrialization and increased pollution as a result of which environment has deteriorated.



# ECOLOGY



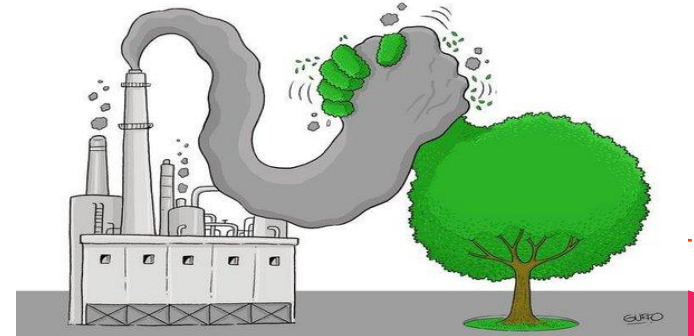
# ECOLOGY

(Greek word: Okologie; meaning: "place to live")

Ecology Oikos + Logos

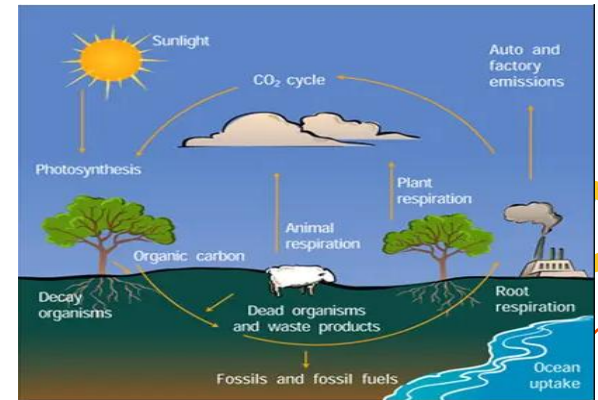
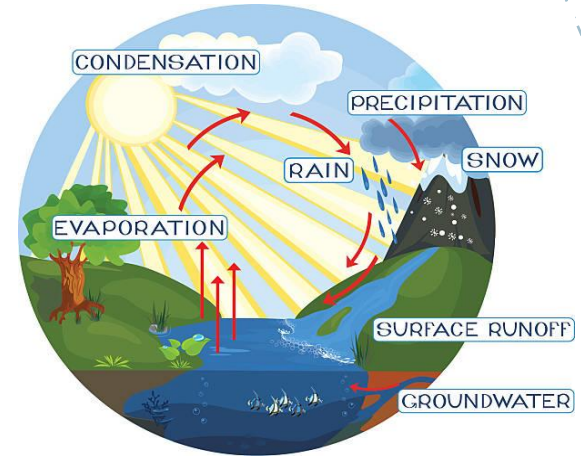
- Oikos means house or dwelling place
- Logos means study of

Branch of science that deals with the scientific study of the interrelationships between living organisms with respect to each other and to their surroundings.



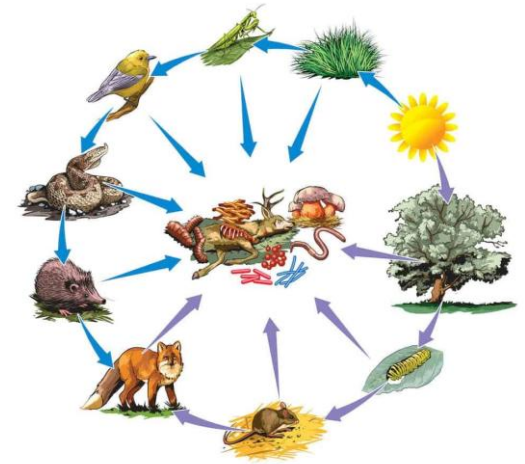
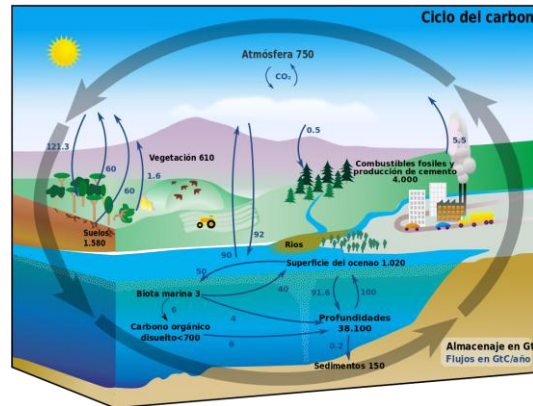
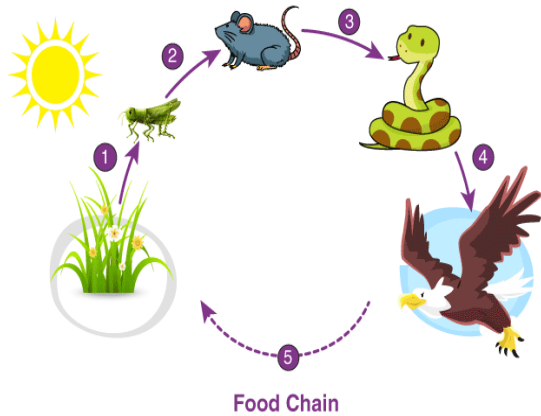
# Ecosystem

- Ecosystem is a dynamic complex of plant, animal and micro-organism communities and their non-living environment, interacting as a functional unit.



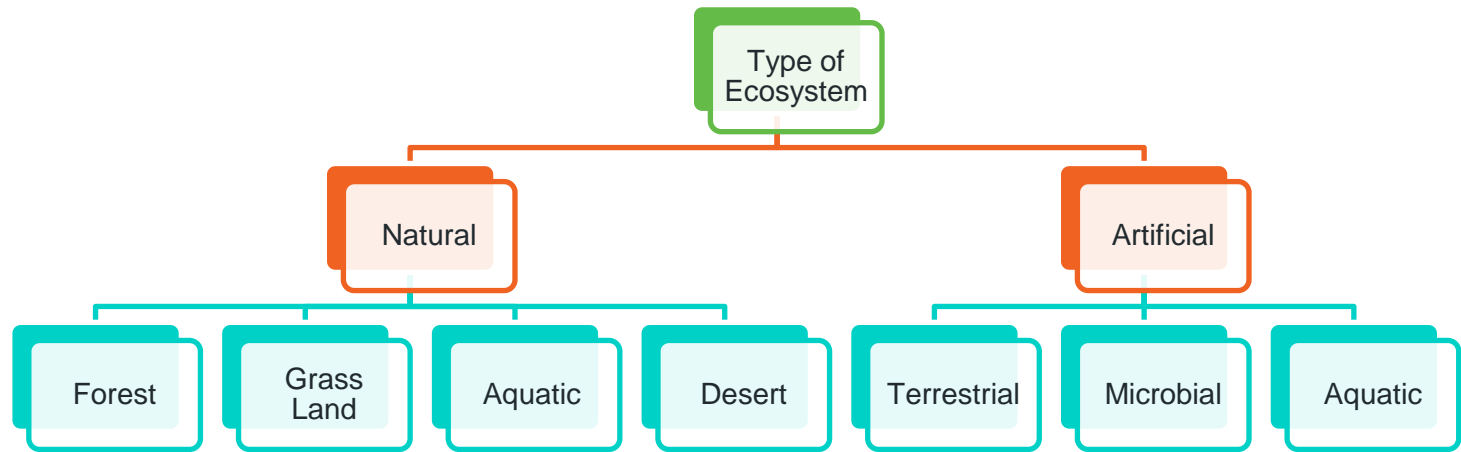
# Ecosystem ( Cont.)

Example of Ecosystem

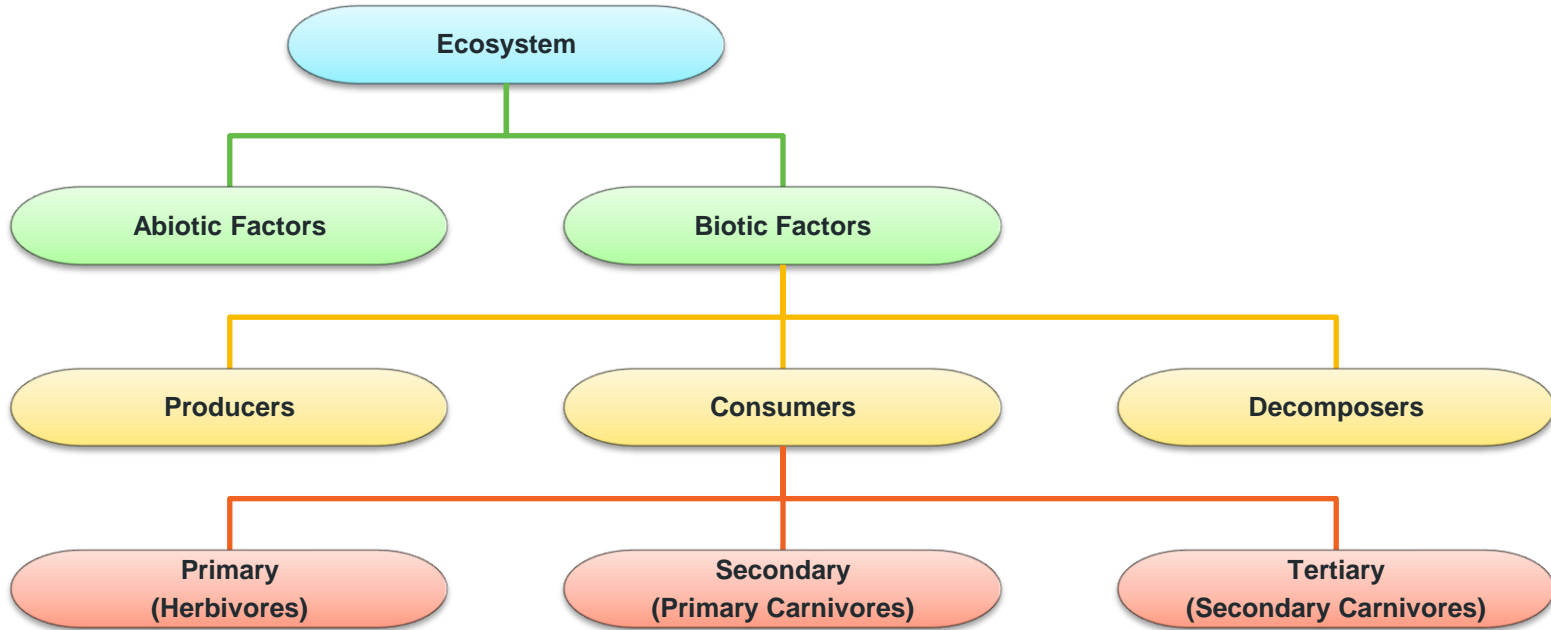




# Type of Ecosystem



# Type of Ecosystem



# BIODIVERSITY AND ITS CONSERVATION

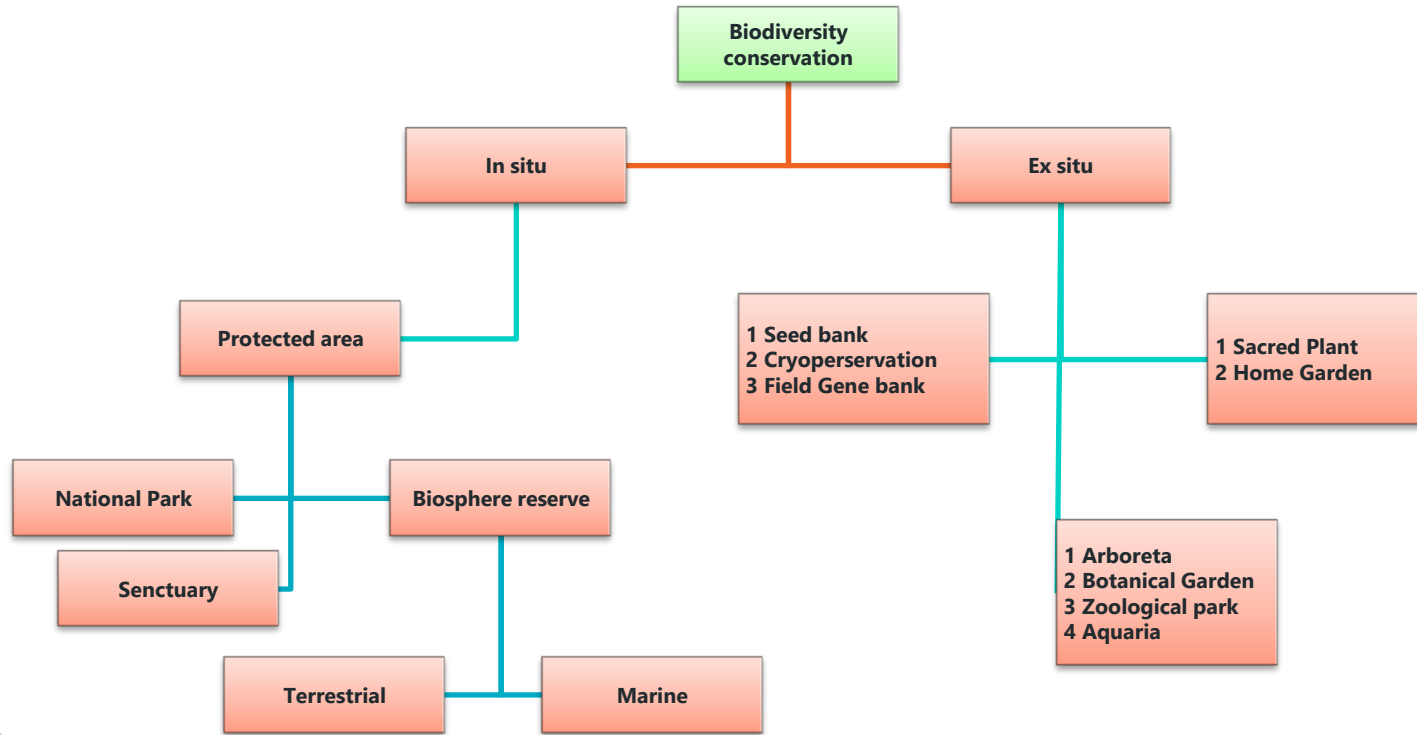
- Bio means 'life' and diversity means 'variety'
- Definition:

Biodiversity is defined as, the variety and variability among all groups of living organism and the ecosystem in which they occur.

Classification:

- 1.Genetic diversity**
- 2.Species diversity**
- 3.Community** (or) Ecosystem diversity

# BIODIVERSITY AND ITS CONSERVATION

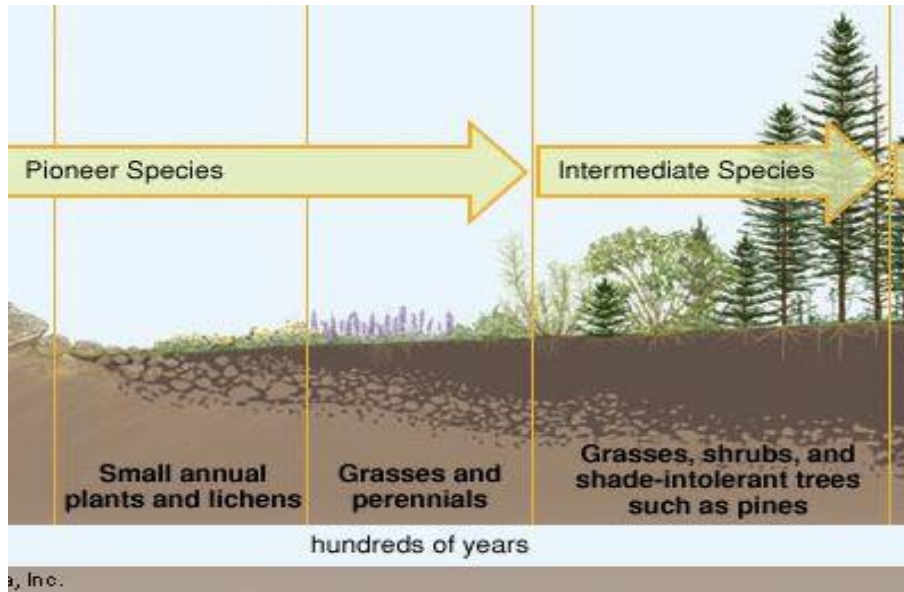




# OTHER CHAPTERS

- Photosynthesis & chemosynthesis
- Energy flow & trophic levels
- Food chain & food web
- Ecological pyramids
- Habitat & niche

# Ecological succession






# Cycles of matter

● Also known as biogeochemical cycle  
or nutrient cycle

- Water cycle
- carbon cycle
- nitrogen cycle
- phosphorus cycle
- Sulphur cycle

- 
- **Green house effect**
  - **population growth**
  - **climate and earth resources**





**A. Major environment issues**

**B. Responses at national level**

**C. Responses at international level**

# Global climate change

- ✓ As natural phenomena
- ✓ Human contribution







# National environment framework

# QUESTIONS...

90. The "Miyawaki method" is well known for the :

- (a) Promotion of commercial farming in arid and semi-arid areas
- (b) Development of gardens using genetically modified flora
- (c) Creation of mini forests in urban areas
- (d) Harvesting wind energy on coastal areas and on sea surfaces

**81.** "Climate Action Tracker" which monitors the emission reduction pledges of different countries is a :

- (a) Database created by coalition of research organisations
- (b) Wing of "International Panel of Climate Change"
- (c) Committee under "United Nations Framework Convention on Climate Change"
- (d) Agency promoted and financed by United Nations Environment Programme and World Bank

**82.** Consider the following statements :

- 1. "The Climate Group" is an international non-profit organization that drives climate action by building large networks and runs them.
- 2. The International Energy Agency in partnership with the Climate Group launched a global initiative "EP100".
- 3. EP100 brings together leading companies committed to driving innovation in energy efficiency and increasing competitiveness while delivering on emission reduction goals.
- 4. Some Indian companies are members of EP100.
- 5. The International Energy Agency is the Secretariat to the "Under2 Coalition".

Which of the statements given above are correct ?

- (a) 1, 2, 4 and 5
- (b) 1, 3 and 4 only
- (c) 2, 3 and 5 only
- (d) 1, 2, 3, 4 and 5

83. "If rainforests and tropical forests are the lungs of the Earth, then surely wetlands function as its kidneys." Which one of the following functions of wetlands best reflects the above statement ?

- (a) The water cycle in wetlands involves surface runoff, subsoil percolation and evaporation.
- X (b) Algae form the nutrient base upon which fish, crustaceans, molluscs, birds, reptiles and mammals thrive.
- ✓ (c) Wetlands play a vital role in maintaining sedimentation balance and soil stabilization.
- (d) Aquatic plants absorb heavy metals and excess nutrients.

84. In the context of WHO Air Quality Guidelines, consider the following statements :

- 1. The 24-hour mean of  $PM_{2.5}$  should not exceed  $15 \mu g/m^3$  and annual mean of  $PM_{2.5}$  should not exceed  $5 \mu g/m^3$ .
- 2. In a year, the highest levels of ozone pollution occur during the periods of inclement weather.
- ✓ 3.  $PM_{10}$  can penetrate the lung barrier and enter the bloodstream.
- ✓ 4. Excessive ozone in the air can trigger asthma.

Which of the statements given above are correct ?

- (a) 1, 3 and 4
- (b) 1 and 4 only
- ✓ (c) 2, 3 and 4
- (d) 1 and 2 only

85. With reference to "Gucchi" sometimes mentioned in the news, consider the following statements :

- 1. It is a fungus.
- 2. It grows in some Himalayan forest areas. ✓
- 3. It is commercially cultivated in the Himalayan foothills of north-eastern India. ✓

Which of the statements given above is/are correct ?

- (a) 1 only
- (b) 3 only
- (c) 1 and 2
- ✓ (d) 2 and 3

86. With reference to polyethylene terephthalate, the use of which is so widespread in our daily lives, consider the following statements :

- 1. Its fibres can be blended with wool and cotton fibres to reinforce their properties.
- 2. Containers made of it can be used to store any alcoholic beverage.
- ✓ 3. Bottles made of it can be recycled into other products.
- X 4. Articles made of it can be easily disposed of by incineration without causing greenhouse gas emissions.

Which of the statements given above are correct ?

- ✓ (a) 1 and 3
- (b) 2 and 4 X
- (c) 1 and 4 X
- (d) 2 and 3

87. Which of the following is **not** a bird ?

- ✓ (a) Golden Mahseer
- (b) Indian Nightjar
- (c) Spoonbill
- (d) White Ibis

50. Consider the following :

1. Carbon monoxide
2. Nitrogen oxide ✓
3. Ozone
4. Sulphur dioxide ✓

Excess of which of the above in the environment is/are cause(s) of acid rain ?

- (a) 1, 2 and 3
- ✓ (b) 2 and 4 only
- (c) 4 only
- (d) 1, 3 and 4

5. Which one of the following has been constituted under the Environment (Protection) Act, 1986 ?

- (a) Central Water Commission
- (b) Central Ground Water Board
- ✓ (c) Central Ground Water Authority
- (d) National Water Development Agency



10. Which one of the following best describes the term "greenwashing" ?

- (a) Conveying a false impression that a company's products are eco-friendly and environmentally sound
- (b) Non-inclusion of ecological/ environmental costs in the Annual Financial Statements of a country
- (c) Ignoring the disastrous ecological consequences while undertaking infrastructure development
- (d) Making mandatory provisions for environmental costs in a government project/programme

29. With reference to Indian laws about wildlife protection, consider the following statements :

- 1. Wild animals are the sole property of the government.
- 2. When a wild animal is declared protected, such animal is entitled for equal protection whether it is found in protected areas or outside.
- 3. Apprehension of a protected wild animal becoming a danger to human life is sufficient ground for its capture or killing.

Which of the statements given above is/are correct ?

- (a) 1 and 2
- (b) 2 only
- (c) 1 and 3
- (d) 3 only

30. Certain species of which one of the following organisms are well known as cultivators of fungi ?

- (a) Ant
- (b) Cockroach
- (c) Crab
- (d) Spider



**Thank You**