REPORT 07

DEVI AHILYA VISHWAVIDYALAYA, INDORE

DEPARTMENT OF LIFELONG LEARNING

SESSION 2021-2022

Dr. Bharti Joshi

Head

WEBINAR

ENVIRONMENT AND BIODIVERSITY

Date	Time	Platform	No. of. participants	Speaker
16 November 2021	**11-12 AM**	**Online(Zoom meeting)**	**15 students**	**Dr.Jyoti Ratnawat**

Department of lifelong learning organized one day webinar on **ENVIORNMENT AND BIODIVERSITY** in which 15 participants take actively part for learning of environment skills as well as protection of both environment and biodiversity. Webinar is conducted for 1 hour in which mam clear all the positive as well as negative dead's done by us in environment.

ENVIORNMENT-

All the external forces, influences and conditions which affect the life, nature, behavior, growth and development is called environment.

POINTS WHICH ARE MAINLY FOCUSED:

Scope of environment

- Atmosphere
- Hydrosphere
- Lithosphere
- Biosphere

Elements

- Physical
- Biological
- cultural

Its importance -

- Environment issues being of international importance
- Explosively increase in pollution
- Need to save humanity from extinction.

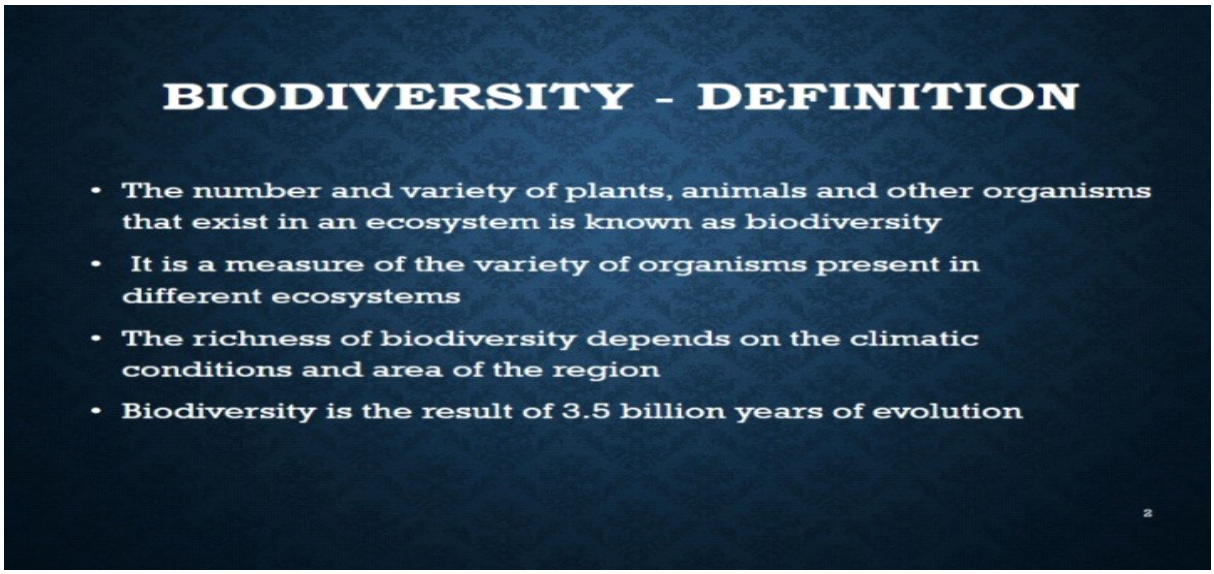
Need for public awareness –

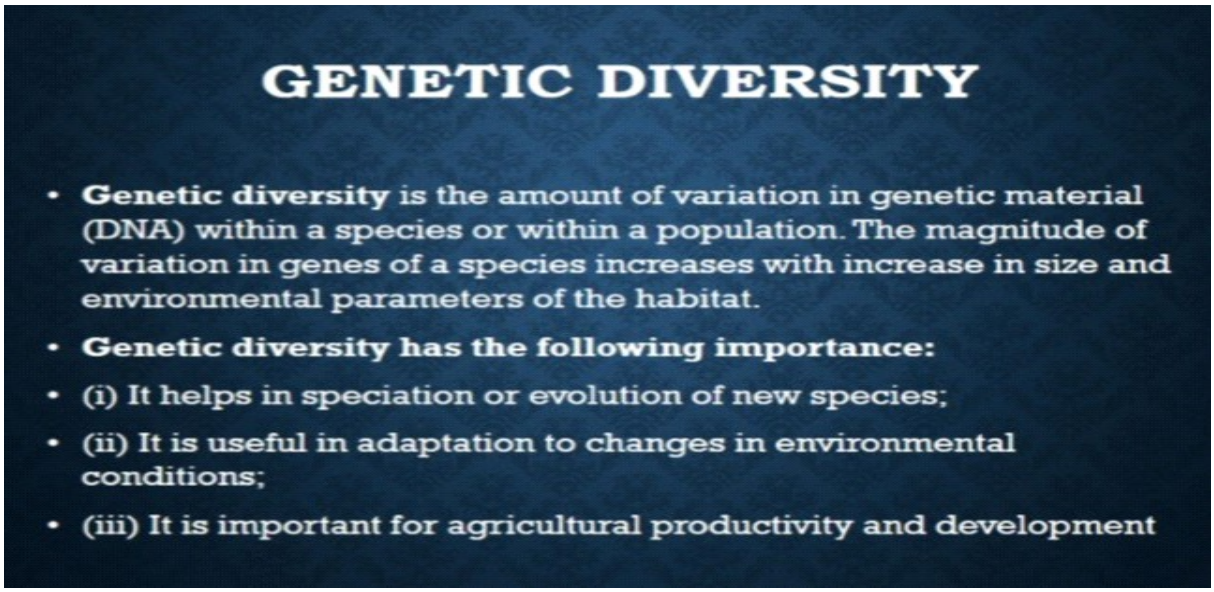
- Growing population
- Poverty
- Agricultural growth
- Need to ground water

- Development and forests
- Degradation of land
- Air and water pollution

Structure of environment -

- Physical environment
- Biological environment





SPECIES DIVERSITY

- It describes the variety in the number and abundance of the species within a region
- To accurately determine species diversity, both the **species richness**, which is the number of different species, and the **relative abundance**, which is the number of individuals within each species, must be considered
- The species richness depends largely on climatic conditions.
- When a species is confined entirely to a particular area, it is termed as **endemic species**

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ECOSYSTEM DIVERSITY

- It describes the assemblage and Interaction of spices living together and the physical environment of a given area
- It relates varieties of habitats, biotic communities ecological processes in biosphere. It also tells about the diversity within the ecosystem.
- For example, the landscapes like grass lands, deserts, mountains etc. show ecosystem diversity
- The ecosystem diversity is due to diversity of niches, trophic levels and ecological processes like nutrient cycling, food webs, energy flow, role of dominant species and various related biotic interactions.
- Such type of diversity can generate more **productive and stable ecosystems** or communities capable of tolerating various types of stresses e.g. drought, flood etc.

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BIODIVERSITY : DISTRIBUTION

- Biodiversity is not evenly distributed, rather it varies greatly across the globe as well as within regions
- Among other factors, the diversity of all living things (biota) depends on temperature, precipitation, altitude, soils, geography and the presence of other species.
- Diversity consistently measures higher in the tropics and lower in polar regions generally
- Rain forests that have had wet climates for a long time, have particularly high biodiversity
- Terrestrial biodiversity is thought to be up to 25 times greater than ocean biodiversity

BIODIVERSITY HOTSPOTS

- A biodiversity hotspot is a region with a high level of endemic species that has experienced great habitat loss
- While hotspots are spread all over the world, the majority are forest areas and most are located in the tropics
- **Colombia** is characterized by high biodiversity, with the highest rate of species by area unit worldwide
- It has the largest number of endemics (species that are not found naturally anywhere else) of any country
- About 10% of the species of the Earth can be found in Colombia

HOTSPOTS ....

- 34 biodiversity **hotspots** have been identified. They once covered 15.7 percent of the Earth's land surface
- 86 % of the **hotspots**' habitat has already been destroyed
- The intact remnants of the **hotspots** now cover only 2.3 % of the Earth's land surface.

LOSS OF BIODIVERSITY

- The main cause of the **loss** of **biodiversity** can be attributed to the influence of human beings on the world's ecosystem
- Escalating human population is a major cause of biodiversity loss
- Most of the biodiversity loss has happened post Industrial Revolution through human activities

SPECIES LOSS RATE

- The planet has lost 52% of its biodiversity since 1970 according to a 2014 study by the World Wildlife Fund
- The Living Planet Report 2014 claims that "the number of mammals, birds, reptiles, amphibians and fish across the globe is, on average, about half the size it was 40 years ago"
- Of that number, 39% accounts for the terrestrial wildlife gone, 39% for the marine wildlife gone and 76% for the freshwater wildlife gone
- Biodiversity took the biggest hit in Latin America

CAUSES OF BIODIVERSITY LOSS

- ***Alteration and loss of the habitats***: the transformation of the natural areas determines not only the loss of the vegetable species, but also a decrease in the animal species associated to them.
- ***Introduction of exotic species and genetically modified organisms:*** species originating from a particular area, introduced into new natural environments can lead to different forms of imbalance in the ecological equilibrium. Refer to, "Introduction of exotic species and genetically modified organisms".
- ***Pollution***: human activity influences the natural environment producing negative, direct or indirect, effects that alter the flow of energy, the chemical and physical constitution of the environment and abundance of the species;

LOSS OF BIODIVERSITY.....

- Habitat loss and degradation
- Habitat loss and degradation create the biggest single source of pressure on biodiversity worldwide
- For terrestrial ecosystems, habitat loss is largely accounted for by conversion of wild lands to agriculture, which now accounts for some 30% of land globally
- In some areas, it has recently been partly driven by the demand for biofuels

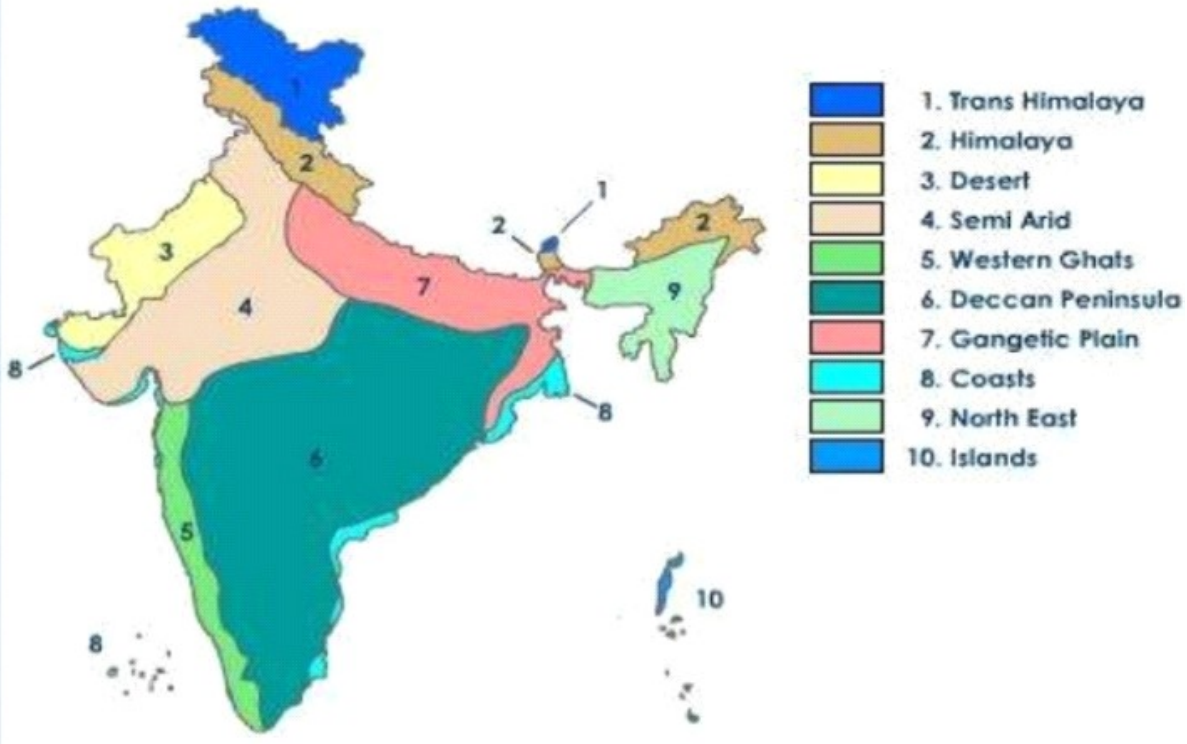
CLIMATE CHANGE

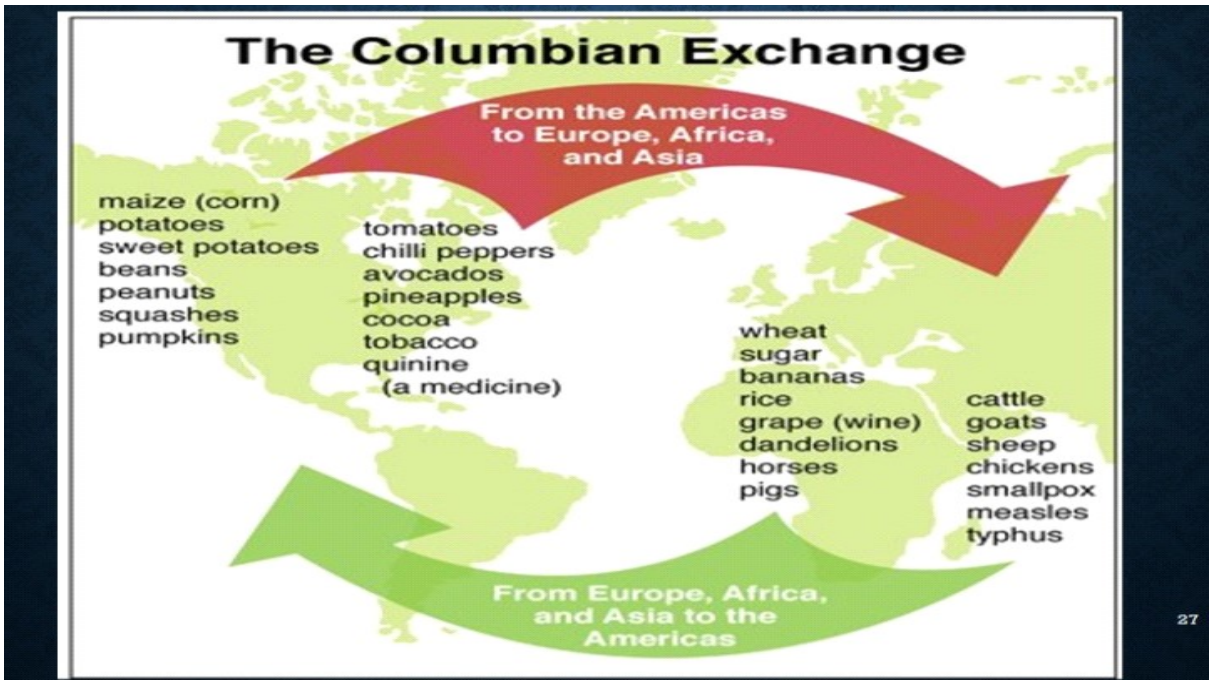
- Climate change is already having an impact on biodiversity, and is projected to become a progressively more significant threat in the coming decades
- Loss of Arctic sea ice threatens biodiversity across an entire biome and beyond
- The related pressure of ocean acidification, resulting from higher concentrations of carbon dioxide in the atmosphere, is also already being observed

IMPORTANCE OF BIODIVERSITY

- At least 40 per cent of the world's economy and 80 per cent of the needs of the poor are derived from biological resources. In addition, the richer the diversity of life, the greater the opportunity for medical discoveries, economic development, and adaptive responses to such new challenges as climate change.

10 Biogeographic Zones of India





BIODIVERSITY CONSERVATION

- **Biodiversity conservation** is about saving life on Earth in all its forms and keeping natural ecosystems functioning and healthy
- Conservation is of two kinds : In-situ conservation and Ex-situ conservation
- **In-situ** conservation, the conservation of species in their natural habitats, is considered the most appropriate way of conserving biodiversity.
- Conserving the areas where populations of species exist naturally is an underlying condition for the conservation of biodiversity. That's why protected areas form a central element of any national strategy to conserve biodiversity
- **A protected area** is a geographically defined area that is designated or regulated and managed to achieve specific conservation objectives. It may be set aside for the protection of biological diversity, and of natural and associated cultural resources and is managed through legal or other effective means.
- This includes national parks and nature reserves, sustainable use reserves (biospheres), wilderness areas and heritage sites

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