

## Environment Class 08

5th March, 2024 at 9:00 AM

### DISCUSSION ON LAST CLASS & QUESTIONS (09:10 AM)

#### WORLD HERITAGE CONVENTION, 1972 (09:46 AM)

- It is under **UNESCO**. -> This is not a legally binding convention.
- It is the **only convention** which links together the concept of **nature conservation and preservation of cultural** properties.
- Member nations of the convention identify potential sites and play a role in protecting and preserving them.
- They are supported by the **World Heritage Fund**. **environmental and cultural**
- A world heritage site can have **environmental, cultural or both** significance.
- In India, there are 7 Natural Heritage Sites, 1 Mixed Heritage Site and **34 Cultural Heritage Sites**.
- **The natural heritage sites are:**
- Great Himalayan National Park Conservation Area (2014) (In HP)
- Kaziranga National Park (1985) (in Assam)
- Keoladeo National Park (1985) (In Rajasthan) (In handout give more focus to that National parks which are heritage sites.)
- Manas Wildlife Sanctuary (1985) (In Assam)
- Nanda Devi and Valley of Flowers National Parks (1988, 2005) (In UK)
- Sundarbans National Park (1987) (In WB)
- Western Ghats (2012)
- The only Mixed World Heritage Site is **Khangchendzonga National Park**.
- All member nations nominate certain places in the tentative list.
- **In India, this includes:**
- Namdapha National Park (In Arunachal Pradesh)
- Wild Ass Sanctuary (In Gujarat)
- Neora Valley National Park (In WB)
- Desert National Park (In Rajasthan)
- Chilika Lake (In Odisha)
- Satpura Tiger Reserve (In MP)
- Keibul Lamjao Conservation Area, etc. (In Manipur)
- **Jingkieng Jri:** Living Root Bridge. (In Meghalaya)
- **Belaghat and Lamet Ghat:** They are often known as the Grand Canyon of India. (Note: Gandikota Fort in Andhra Pradesh is also called as Grand Canyon of India.)

These two are nominated by India for Mixed Heritage sites.

## CONVENTION ON MIGRATORY SPECIES (10:06 AM)

- It is also called as **Bonn Convention**.
- This convention aims to provide sustainable use of migratory animals and their habitat. The agreement may range from legally binding treaties to non-legally binding mechanisms.
- The convention maintains two appendices.
- **Appendix 1: Migratory species threatened with extinction are listed here.**
- **Appendix 2: Migratory Species that will significantly benefit from global cooperation are listed here.**
- India is a party to the convention.
- Indian sub-continent is part of the Central Asian Flyway Network.
- Hundreds of migratory birds are found within this network.

## THE INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES, 2001 (10:16 AM)

- This is under the Food and Agriculture Organization (FAO).
- The treaty aims to conserve and sustainably use all plant genetic resources used for food and agriculture.
- It also aims at **Fair and Equitable Sharing of Benefits**, arising out of their use in harmony with the Convention on Biological Diversity.
- Under the treaty, 64 most important crops are put into an easily accessible global pool of genetic resources which is available freely to member nations.
- However, the treaty <sup>prevents</sup> ~~presents~~ recipients of genetic resources for claiming IPR in the form they ~~receive genetic resources.~~ received those genetic resources.

## BIODIVERSITY IN INDIA (10:25 AM)

- With **2.4 percent of land area**, India accounts for **8 percent** of recorded species.
- The entire country can be classified into **10 biogeographic zones**.
- Biogeographic zones are regions of the earth's surface that have distinct patterns of flora and fauna, due to a unique combination of environmental characteristics such as temperature, precipitation, soil type, and geological history, climatic changes among others.
- **Zone 1: Trans-Himalayas**
  - It includes part of Sikkim, Ladakh and the Tibetan Plateau.
  - The flora includes **scanty alpine steppes**, and some wild fauna such as Sheep, goats, black bears, wolves, snow leopards etc.
- **Zone 2: Himalayas:**
  - These are the youngest mountain sequences in the world.
  - The flora can vary from grassy meadows to alpine forests and moist deciduous forests.
  - The region also includes some amazing fauna such as Hangul, Musk Deer, and Snow Leopard.
- **Zone 3: India Desert:**
  - This can be further divided into the **Great Indian Desert in Thar, Rajasthan and Rann of Kutch in Gujarat**.
  - Thar desert is known for foxes, snakes, camels, gazelles, and a highly endangered bird Great Indian Bustard.
  - Rann of Kutch is known for some endemic animals such as wild ass, migratory birds such as flamingos etc can be spotted here.
- **Zone 4: Semi-Arid Areas**
  - It is characterized by discontinuous vegetation and soil which remains a deficit of water.
  - In Gir forest, the endangered Asiatic lion is found.
  - Some large herbivores such as black buck, gazelles, etc.
- **Zone 5: Western Ghats**
  - It is a Biodiversity hotspot, known for high endemism and evergreen forests.
- **Zone 6: Deccan peninsula:**
  - It is known for its Deciduous forests and many river systems such as Narmada, Tapi, Mahanadi, and Godavari. [-> Ghadiyal is found in Chambal river in this zone.](#)
  - Trees of timber value such as sal and teak.
  - Many species of deer and antelope such as Sambhar deer.
- **Zone 7: Gangetic Plains:**
  - One of the most fertile regions of the world, known for deciduous forests with trees of timber value.
  - Fauna includes one-horned rhinos, Asian elephants, wild water buffalo, and swamp deer among others.
- **Zone 8: Northeast India**
  - One of the richest regions in terms of biodiversity, but also one of the poorest in human development.
  - This region is known for wild varieties of domesticated plants such as banana, citrus, and mango among others.
  - The fauna includes rhinos, wild buffalo, swamp deer, pygmy hog, and elephants.
- **Zone 9: Islands**
  - This comprises two groups of islands in the Bay of Bengal and the Arabian Sea.
  - known for high levels of endemism in both flora and fauna, beautiful corals, and evergreen and mangrove forests.

- **Zone 10: Coastline**
- India has more than 7500 km of coastal line known for extensive deltas of Krishna-Godavari and Kaveri, the region is known for Mangrove vegetation, coconut trees, etc.
- Fauna includes Dugongs, Dolphins, etc., [Turtles](#).

### CONSERVATION STRATEGIES (11:12 AM)

- **Ex-Situ (Outside Natural Habitat)**

- Zoos
- Botanical Garden
- Cryopreservation
- Gene banks

Ex-Situ

In-Situ

- **In situ (In natural Habitat)**

- National Parks
- Wildlife Sanctuaries
- Biosphere Reserves
- Wetlands/Ramsar sites
- Reserved and Protected Forests
- Ecologically Sensitive Zones

- **Sacred Groves**

- Biodiversity Heritage Sites

- **Important Bird Areas:** Birdlife International and Bombay Natural History Society (BNHS)

## WILDLIFE PROTECTION ACT 1972 (11:21 AM)

- The act laid down strict measures to prevent, **hunting**, **poaching** and trapping of wild animals.
- The act also recognizes authorities, for implementation of the act.
- E.g. Every state has a **Chief Wildlife Warden**. <sup>Wardens and their staff.</sup> They have the power to grant, refuse or cancel permission to hunt wildlife and establish check posts. <sup>etc.</sup>
- **Protected Area Network Under the Act:**
- This act recognizes National Parks, Wildlife Sanctuaries, Community Reserves and conservation reserves.
- **National Park:**
- **National Park** as a concept was introduced by IUCN, and it has been adopted all across the world.
- E.g. In India, there are **106 National Parks**, which are declared **to protect wildlife in areas of ecological importance.**
- Both **central and state governments** can declare it.
- In National Parks, **human activity is not allowed**, **even grazing of livestock**, the private **tenurial** rights are not allowed.
- National Park cannot be downgraded to the status of a sanctuary, no alteration of the boundaries of national park shall be made except on the recommendation of the **National Board for Wildlife.**
- Any proposal to alter the boundary **also requires approval by the state legislature.**
- **Wildlife Sanctuaries:**
- The fundamental difference between a national park and a wildlife sanctuary is the **level of protection.**
- Very similar to parks, sanctuaries are also the areas of ecological importance known for wildlife.
- However, **limited human activities are permitted** such as the Grazing of animals, **a sanctuary can be created for a particular species** whereas National Parks are not focused on one species.
- Even sanctuaries can be declared by **both National and State governments.**
- In India, there are **565 wildlife sanctuaries.**

### National Park

Areas of ecological importance are known for wildlife.

<sup>Can be</sup> Declared by both national and state govt.

**Human activity is not permitted.**

Cannot be downgraded to a wildlife sanctuary.

Focus on the entire ecosystem.

### Wildlife Sanctuary

Areas of ecological importance are known for wildlife.

Declared by both national and state govt.

**Certain activities are permitted.**

Can be upgraded to a national park.

Can be created for specific species.

<sup>National parks have fixed boundaries but in case of Wildlife sanctuaries boundaries can be altered.</sup>

### **COMMUNITY AND CONSERVATION RESERVE (11:53 AM)**

- They were categorized as per the amendment to the Act in 2002.
- They typically act as buffer zones to connector and migration corridors between established parks and sanctuaries of reserved and protected forests of India.
- Areas are designated as conservation reserves if they are uninhabited and completely owned by the government of India.
- If used for subsistence by communities, it is called a community reserve.

### **MARINE PROTECTED AREAS (12:05 PM)**

- It is essentially a space in the ocean where human activities are more strictly regulated. compared to surrounding water.
- They can have the status of park, sanctuary and reserve also.

**The topic for the Next Class: Conservation Measures (continued)**