

## UPSC Civil Services Examination

### UPSC Notes [GS-I]

#### Topic: Importance of Biodiversity (Geography Notes for UPSC)

##### Importance of Biodiversity

- The concept of biodiversity is an integral part of many human cultures.
- Biodiversity plays the following roles:
  - Ecological
  - Economic
  - Scientific
- It has contributed in several ways to the development of human culture and, in turn, human communities.
- It has played a major role in shaping the diversity of nature at the genetic, species and ecological levels.

##### Ecological Role of Biodiversity

- Each organism contributes something of use to other organisms besides extracting its needs.
- The major functions done by species which are important for ecosystem function and human survival are:
  - Capture and store energy
  - Produce and decompose organic materials
  - Help to cycle water and nutrients throughout the ecosystem
  - Fix atmospheric gases and help to regulate the climate
- The more diverse an ecosystem, better are the chances for the species to survive through adversities and attacks, and subsequently, is more productive.
- Hence, the loss of species would decline the ability of the system to maintain itself.
- The more the diversity of species in an ecosystem, the more stable the ecosystem is likely to be.

##### Economic Role of Biodiversity

- Biodiversity is an important resource in their day-to-day life for all humans.
- It is comprehended as a reservoir of resources to be drawn upon for the manufacture of food, cosmetic products, and pharmaceuticals.
- Some of the significant economic commodities that man derives from biodiversity are:
  - Food crops
  - Livestock

- Forests
- Fish
- Medicinal resources
- The vital part of biodiversity is 'crop diversity', which is also known as agro-biodiversity.
- This idea of biological resources is accountable for the deterioration of biodiversity.

### Scientific Role of Biodiversity

- All species can contribute some evidence to show how life evolved and will continue to evolve.
- Biodiversity helps in sensing how life functions and the role of each species in sustaining ecosystems.
- The level of biodiversity is a good indicator of the state of the relationships of human beings with other living species.

