4.7CONSERVATION OF BIODIVERSITY

- Conservation is the protection, preservation, management, or restoration of wildlife and natural resources such as forests and water.
- Through the conservation of biodiversity the survival of many species and habitats which are threatened due to human activities can be ensured.

In-situ:

- The basic principle of in-situ conservation is the protection and management of components of biological diversity through a network of protected areas in their natural habitat.
- It is a cheap, convenient and natural way of conservation.
- The species is allowed to grow in their own habitat with the protectors playing an important role in the whole process.
- The species actually face the natural calamities such as floods, rain, droughts and snowfall etc and thereby get a better adaptation in the long run.
- For this reason, the wild species are more resistant to the changing environmental conditions than the domesticated or the hybrid ones.

Drawback- It requires a large area for the complete protection of biodiversity.

National parks:

- These are the small reserves for the protection and conservation of a few species in their habitat.
- A national park has a well defined boundary.

Wildlife Sanctuaries:

- These are the small reserves that are meant for the protection of the wildlife in their natural habitat.
- Sanctuaries do not have a well defined boundary and tourists are allowed inside a sanctuary.

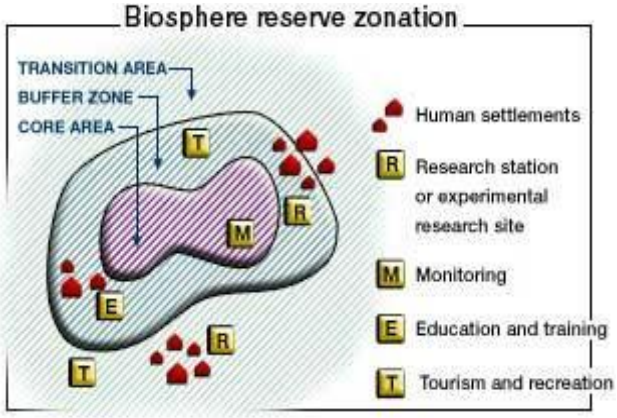
Biosphere reserves:

- These are large, protected areas where the entire biotic spectrum of the climatic zone is preserved.

- The Indian government has established **18 Biosphere Reserves of India**, which protect larger areas of natural habitat (than a National Park or Animal Sanctuary), and often include one or more National Parks and/or preserves, along buffer zones that are open to some economic uses.

A biosphere reserve is classified into 3 zones:

- **Core zone:** it is meant for the conservation of biodiversity and is totally secured.
- **Buffer zone:** This zone surrounds the core zone and is used for activities such as environmental research, education, monitoring and recreation etc.
- **Transition zone:** It surrounds the buffer zone and may be used for agricultural activities, settlement of tribal people, cultural people, local people and government authorities for the sustainable development of the region's resources and other purposes.



Ramsar Sites:

- The Convention on Wetlands of International Importance, called the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.
- The Ramsar Convention is the only global environmental treaty that deals with a particular ecosystem.
- The treaty was adopted in the Iranian city of Ramsar in 1971 and the Convention's member countries cover all geographic regions of the planet.

Ex-situ:

- The conservation of elements of biodiversity out of the context of their natural habitats is referred to as ex-situ conservation.
- Zoos, botanical gardens, nurseries, laboratories and seed banks are all example of ex-situ conservation.
- In-situ conservation is not always possible as habitats may have been degraded and there may be competition for land which means species need to be removed from the area to save them.

Drawback:

- Ex-situ conservation is rarely enough to save a species from extinction.
- It is to be used as a last resort or as a supplement to in-situ conservation because it cannot recreate the habitat as a whole.