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Causes of loss of Biodiversity

- Biological diversity or Biodiversity is defined as the variety and variability among the living organisms and the ecological complexes in which they occur.
- In simpler terms, biodiversity is the assemblage of different forms of life forms.
- In recent times, there has been a significant loss of Biodiversity due to various reasons.
- The following points highlight the main causes for the loss of biodiversity:-

1. Destruction of habitats

- The natural habitats of many species is being destroyed by man for various purposes. Therefore, species must either adapt to change or move out to another location or they may succumb to predation, starvation or disease and eventually die.
- Habitat can be destroyed by the following activities:-
 - (a) Developmental Activities - Construction of human settlements, dams, reservoirs, industries, mines have upset the

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natural habitats. The laying of roads and railway tracks in the forests have scared wild animals and limited their movement.

(b) Deforestation - Deforestation results due to population settlement, shifting agriculture, fuel wood demand, demand of wood for industry and other commercial purpose.

(c) Pollution - Pollution affects and alters the habitats. For example, water pollution affects the aquatic ecosystem by upsetting the food chain. Presence of pesticides, insecticides, sulphur and nitrogen compounds, acid rain, ozone depletion and global warming can adversely affect plant and animal species.

2. Habitat Fragmentation :-

→ It is the fragmentation of a large habitat into smaller habitats. Many species of animals such as bears and large cats and species of birds which need large areas are unable to cope with this change. Population is divided into smaller groups that are vulnerable to disease and succumb to inter-specific and intra-specific competitions.

3. Hunting :-

→ Wild animals are hunted for products such as hides and skin, tusk, antlers, fur, meat, medicine, perfumes, cosmetics and ornamental purpose. The loss in biodiversity due to excessive hunting is severe.

4. Overexploitation :-

→ Overexploitation is the main cause of loss of species. Many economically important species and biologically interesting species such as the insectivorous plants are overexploited. Many plants of medicinal value were also overexploited leading to drastic decrease in number.

5. Collection for zoos and research :-

→ Animals and plants are collected for zoos and laboratories. Monkeys and Chimpanzees are sacrificed for research as they have anatomical, genetic and physiological similarity to man.

6. Exotic or Alien Species :-

- Exotic species are organisms introduced from another place to a local area. Exotic species competes for food and space with the native species and eliminate them.
- The weed species such as the carpet grass (Parthenium ^{crispus}), Lantana and the water hyacinth (Eichornia) has posed a threat for many native species of plants.

7. Control of Pest and Predators :-

- The various pest and predator control measures cause severe imbalance in the ecosystem, which affects other species present in the area.

8. Co-Extinctions :-

- When a species becomes extinct, the parasites that depend on it also become extinct.
- When an insect which pollinates a plant becomes extinct, it invariably leads to the extinction of the plant species.

9. Extinction of Species :-

- Extinction is the disappearance of a species from earth. A species may become extinct naturally because of sudden environmental changes and population characteristics.

Global Climate Change :-

- Many species that cannot adjust to warmer temperatures are likely to become extinct. Rare and isolated species will be most at risk, being most sensitive to any atmospheric change.
- Some habitats such as islands and coastal systems, which are at risk of flooding and submergence, will suffer particularly high loss of biodiversity.

11. Inflexible or Inappropriate Legal and Institutional Systems :-

- Although laws to protect biodiversity exist, loss of biodiversity continues. This may be because rarely a cross-sectional approach is adopted which combines ecological and economic realities.
- Over centralisation of planning hinders local participation which might have brought knowledge, insight and experience of the local environments into the planning process.