



23CHT103-Environmental Science and Sustainability Endangered and endemic species of India

3.13 ENDANGERED AND ENDEMIC SPECIES OF INDIA

- According to International Union of Conservation of Nature and Natural Resources (IUCN) the species are classified into various types.
1. **Extinct species:** A species is said to be extinct, when it is no longer found in the world.
 2. **Endangered species:** A species is said to be endangered, when its number has been reduced to a critical level. Unless it is protected and conserved, it is in immediate danger of extinction.

3. Vulnerable species: A species is said to be vulnerable when its population is facing continuous decline due to habitat destruction or over exploitation. Such a species is still abundant.

4. Rare species: A species is said to be rare, when it is localized within restricted area (or) they are thinly scattered over a more extensive area. Such species are not endangered or vulnerable.

3.14 ENDANGERED SPECIES OF INDIA

❖ *A species is said to be endangered, when its number has been reduced to a critical level. Unless it is protected and conserved, it is in immediate danger of extinction.*

❖ In India 450 plant species have been identified as endangered species. About 100 mammals and 150 birds are estimated to be endangered species. But India's biodiversity is threatened due to habitat destruction, degradation and over exploitation of resources.

Table 3.10. Number of threatened species of India.

Group of Threatened species	Number of Threatened species
Plants	250
Birds	70
Mammals	86
Reptiles	25
Amphibians	3
Fishes	3
Molluscs	2
Insects	50

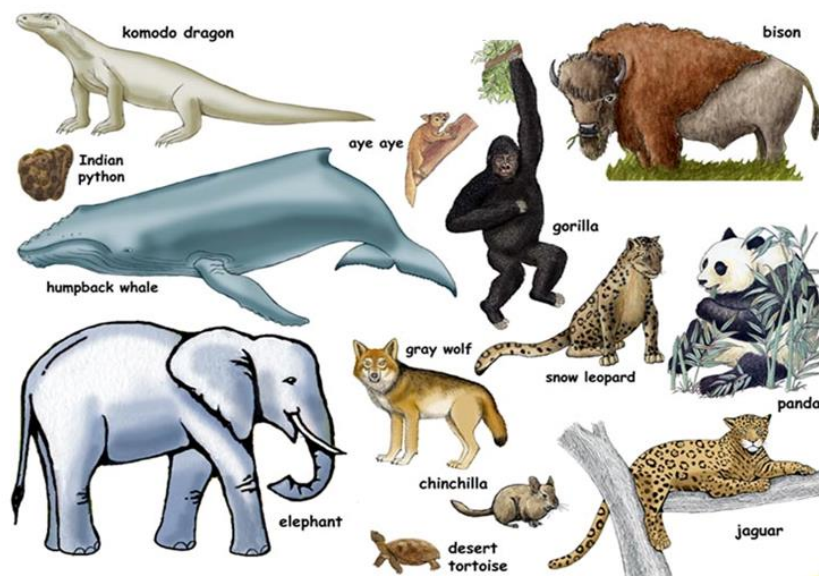


Fig. 3.2 Some endangered species

3.14.1 Important endangered Species

- A few species of endangered reptiles, mammals, birds and plants are given below.

1.	Reptiles	Tortoise, green sea turtle, gharial, python
2.	Birds	Peacock, siberian white crane, pelican, Indian bustard.
3.	Mammals	Indian wolf, red fox, sloth bear, tiger, Indian lion, golden cat, desert cat.
4.	Primates	Hoolock gibbon, lion-tailed macaque, capped monkey, golden monkey.
5.	Plants	A large number of medicinal plants (like rauwolfia serpentina), sandal wood tree (like santalum, cycas bed donei).

RED - data book: RED - data book contains the list of endangered species of plants and animals. The RED – data gives the warning signal for those species which are endangered and if not protected they become extinct in near future.

3.14.2 Factors affecting Endangered species

1. Pollution: Humans dispose their waste products on nature. So, the land, river, and air get polluted severely. These pollutants enter our environment and travel through the food chain and accumulate in the tissues of the living things, finally it leads to death.

2. Over - exploitation: Over - exploitation of the natural resources and poaching of wild animals also leads to extinct of wild animals.

3. Climate change: Climate change is brought about by the accumulation of greenhouse gases in the atmosphere.

- Climate change threatens organisms and ecosystems, which cannot accommodate the change of environmental conditions.

3.14.3 Remedial measures

International treaties on Endangered Species (ITES)

❖ Several international treaties and conventions help to protect endangered wild species. One of the most reaching treaty is, “Convention on International Trade in Endangered Species 1975” (CITES). This treaty is now signed by 160 countries.

1. This treaty lists some 900 species that cannot be commercially traded as live specimens or wildlife products, because they are in danger of extinction.

2. The treaty also restricts international trade of 2900 other species, because they are endangered.

Draw backs of this treaty

1. The bad news of this treaty is that the effect of this treaty is limited because enforcement is difficult and convicted violators often pay only small fines.
2. Also, member countries can exempt themselves from protecting any listed species.

3.15 ENDEMIC SPECIES

- *The species, which are found only in a particular region are known as endemic species. In India of 47,000 species 7000 plants are endemic. Nearly 62% of our endemic species are found available in Himalayas and Western Ghats.*

1. Fauna

- Animals present in a particular region or period.

Examples →

*Sapria himalayana, Ovaria lurida,
Nepenthes khasiana, Pedicularis
Parroter, etc.,*

- Out of 81,000 species of animals in our country a large number is endemic. The Western Ghats are particularly rich in (a) amphibians (frogs, toads, etc.,) and (b) reptiles (lizards, crocodiles, etc.,).
- crocodiles, etc.,). About 62% amphibians and 50% lizards are endemic to Western Ghats.

2. Flora

- Plants present in a particular region or period.
- It also refers to friendly bacteria which helps to protect the human body against invasion by pathogens.

Examples

- *Monitor lizards (varanus), reticulated python, Indian salamander and viviparous toad (Nectophhryne).*

Endemic species in India

- The following species are considered as endemic in India.

Table 3.11 Endemic Species of Plants

Group	No. of Species
Pteridophyta	200
Angiosperms	4950

Table 3.12 Endemic Species of Animals

Group	No. of Species
Land	878
Freshwater	89
Insecta	16214
Amphibia	110
Reptilia	214
Aves	69
Nannakua	38

3.15.1 Factors affecting endemic species

➤ There are number of factors, which affect amphibians (frogs) at various points in their life cycle.

1. Habitat loss and fragmentation, because of the draining and filling of inland wetlands.
2. Pollution also play an important role.



Example →

- 1. Frog eggs, tadpoles and adults are very sensitive to many pollutants especially pesticides.**
- 2. Overhunting of frog legs in Asia and France.**
- 3. Populations of same can also be reduced by introduction of non-active predators and competitors (like fish) and disease producing organism.**