

CONSERVATION OF BIODIVERSITY

Definition : The management of biosphere for the sustainable benefit to meet the needs of future generation.

Factors affecting biodiversity:

- Human activities like construction of dams in forest, industrial wastes, using pesticides etc
- Poaching of wild animals, over exploitation of natural resources.
- Discharge of effluents disturbs the marine ecosystem
- The climatic factors-global warming, ozone depletion, acid rain affect the biodiversity

Advantages or Need of Biodiversity:

- Recreation, tourism, Drugs, herbs, food, important raw materials, preserves plants & animals, hence leads to life supporting systems.

Types of Biodiversity:

- In-situ conservation (within habitat)
- Ex-situ conservation (outside habitat)

Methods of In-Situ conservation:

Biosphere reserves –	7
National Parks	80
Willife sanctuaries	420
Gene sanctuaries	120

IN-SITU CONSERVATION:

Involves protection of fauna & flora within its natural habitat.

1. Biosphere Reserves:

- Covers area of more than 5000 sq. km.
- Protect species for long time

(ex) Nanda devi	U.P
Nokrek	Meghalaya
Nilgiri	Kerala, TN, Karnataka
Manas	Assam
Sunderbans	West Bengal
Gulf of Mannar	TN

Role of Biosphere reserves:

- Protects endangered species
- Site of recreation & tourism
- Useful for education & research purpose
- Gives long term survival

Restriction:

No tourism & explosives are permitted.

3. Wildlife Sanctuaries:

- Conserve animals & Birds only

(examples)

Mudumalai wildlife sanctuary	-TN
Vedanthangal Bird sanctuary	- TN
Sultanpur Bird sanctuary	- Haryana
Ghana Bird sanctuary	- Rajasthan
Wild Ass sanctuary	-Gurajat

Role of wildlife Sanctuaries:

Protects animals only
Harvesting of timber,
Collection of forest products

2. National Park:

- Covers area of about 100 to 500 sq.kms
- Conserves wildlife & environment

(ex) Gir National Park	Gujarat
Periyar	Kerala
Dudwa	UP
Sariska	Rajasthan
Ranthambore	Rajasthan
Kaziranga	Assam

Role of National Park:

- For tourism without affecting environment
- Protect, propagate & develop wild life

Restrictions:

4. Gene Sancturay:

- Conserve Plants

Examples:

Citrus sanctuary	- North India
Pitcher plant	-North India

5. Other Projects for conservation of animals:

Examples:

Gir Lion Project, Crocodile Breeding Project, Project Elephant, Project Tiger etc.

Merits of In-situ conservation:

Very cheap & convenient method
Species adjust to floods, drought, forest fires etc.

Demerits

Large area is needed, Maintenance is not proper due to pollution and lack of staff.

Restrictions:

Killing, hunting, shooting of wildlife is prohibited

EX-SITU CONSERVATION:

Involves protection of fauna & flora outside the natural habitats.

Role of Ex-situ conservation:

Maintenance of endangered plant & animal species under controlled conditions
Preserves more important species

Methods of Ex-situ conservation:**1. NBPGR**

National Bureau of Plant Genetic Resources → uses cryo technique

Cryo Technique: Preservation of seeds, vegetables, fruits, crops, etc by using liquid nitrogen at -196° C

2. NBAGR :

National Bureau of Animal Genetic Resources → preserves semen of bovine animals

3. NFPRCR:

National Facility for Plants Tissue Culture Respository → preserves crops or trees by tissue culture

Merits

Survival / life span of species increase by special care
Species are assured for food, water, shelter etc
Endangered species are preserved

Demerits:

Expensive method
Freedom of wildlife is lost
Animal cant survive in natural environment

Two Marks Questions:

1. **What is environment?** Ans: Sum of total of all the living & non-living things around us is environment.
2. **Define environmental studies?**
Study of the environment its biotic and abiotic components and their interrelationship is env. Studies.
3. **Explain Biosphere?**
Ans: The part of lithosphere, hydrosphere and atmosphere in which living organisms live & interact with one another is called biosphere.
4. **Define Producers?** Ans: Producers synthesize their food themselves through photosynthesis .ex all green plants.
5. What is ecological succession? Mention their types
6. What are food chain? Mention they types
7. What is food web?
8. **Name Four ecosystem?** Ans: Forest, Grassland, Desert, Pond ecosystem
9. Explain the concept of an ecosystem?
10. Define producers and consumers?
11. **How does a biome differs from an ecosystem?**
Ans: An ecosystem which are exposed to same climatic conditions, life cycle, and physical structure is called biome. I,e the biome is a small ecosystem within an ecosystem.
12. **What is meant by keystone species?**

Ans: Species which contribute to habitat functioning and without the work of these key species or when they disappears, the habitat change dramatically. Such species are called keystone species.

13. What are autotrophic and heterotrophic components? Give examples.

14. Define Biodiversity?

15. Define genetic and species diversity?

16. What do you understand by flora and fauna?

17. **India is a mega diversity nation? Account.**

Ans: India is one among the 12 mega diversity countries in the world.

It has 7.31% of world faunal species & 10.8% of the world floral species.

The loss of biodiversity is about 33%.

18. What are the two important biodiversity hot spots in India?

19. Give few examples for endangered and endemic species of India?