

Bio-Diversity & Biotic resources

1) The term bio diversity was given by walter G. risin in 1986 and it is a combination of one greek word, and one latin word: Bios + diversitas respectively
 = life = variety

2) definition: - All life forms with their manifold varieties which occur on the earth is known as bio-diversity

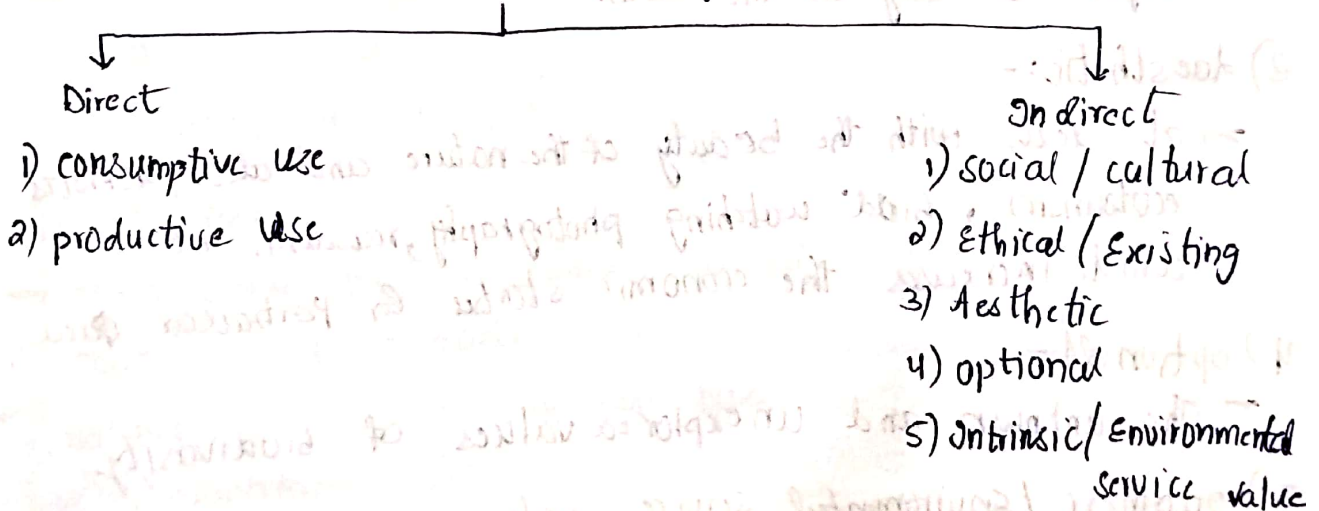
⇒ Types of biodiversity:-

→ it is of three types:

- 1) Genetic diversity ⇒ variations in the genes causes genetic diversity
- 2) species diversity ⇒ variations among the species within the same living area.
- 3) ecosystem diversity ⇒ variations in living areas or habitat.

⇒ values of bio diversity:-

values of biodiversity



Direct :-

1) consumptive use:- it includes the benefits from both plants and animals.

Plants: fruits, vegetables, drugs, medicines, gums, rubber, fuel wood etc.-

animal: - meat, fish, eggs, milk and milk products

2) Productive: - The products which are having price tag in the market

for example; ivory, claws, horns, silk, wool etc - from animals and teak, sandal wood, bamboo timber from plants.

Indirect: -

1) social / cultural: - In india mostly people worship plants like tuls, Peepal, Neem etc and animals like cows, snakes, peacock, Tiger etc. are more protected than other species in order to protect our culture.

2) Ethical / Existing: -

→ It deals with the moral values towards the conservation of biodiversity and also states that every live form has right to stay on the earth.

3) Aesthetic: -

→ It deals with the beauty of the nature and also promotes ecotourism, bird watching photography, research etc - which increases the economic status for particular area

4) Optional: -

→ The unknown and unexplored values of biodiversity

5) Intrinsic / Environmental service values: -

1) photosynthesis

2) soil formation

3) maintenance of bio-geo chemical cycles

4) self sustaining capacity of forest.

5) Decomposition.

Hotspots of biodiversity:-

→ The biologically rich areas with high percent of endemic and endangered species.

endemic :- The species which are restricted to particular geographical area.)

Ex:-

Ostrich → South Africa

Kangaroos → Australia

Penguins → Antarctica.

Endangered :- The species which are at the stage of extinction or disappear.

→ This concept was given by Norman Meyer in 1986.

→ 35 hotspots are in the world, only 2 are in India

1) eastern Himalayas

2) western Ghats.

Threat to Bio-diversity (Danger to Bio-diversity).

→ It is of two types

1) Habitat loss

2) Poaching of wild life

Habitat loss :-

→ It is some total of climatological and geographical conditions of particular area.

→ Habitat loss can be of two types

i) quantitative loss

ii) qualitative loss.

i) quantitative loss :- In this the habitat loss can be measured in terms of amount.

for ex:- habitat used for industries, mining, road ways or railways etc-

ii) qualitative loss:— The developmental activities like industries and mining releases pollutants in the form of liquid, gaseous and solid which alters the structure and function of particular habitat.

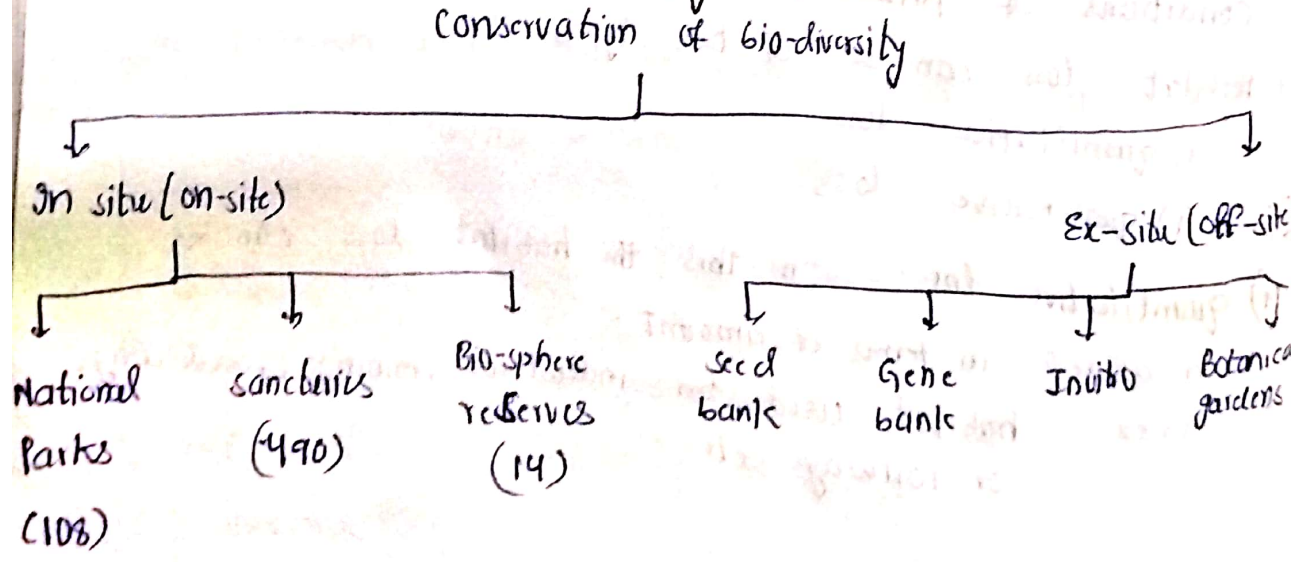
Causes for habitat loss:

- 1) Environmental pollution
- 2) Global warming
- 3) Improper use of Agro chemicals
- 4) Over utilisation of natural resources
- 5) Industries
- 6) mining
- 7) road ways, railways
- 8) Eutrophication

Poaching of wild life:—

- ⇒ The illegal killing of wild animals and illegal extraction of plants are known as poaching of wild life
- ⇒ for example, animals are killed for tusks, claws, horns, skin etc..
- ⇒ ~~Plant~~ Drugs and medicines from plants.

→ Conservation of Bio-diversity:—



in situ (on-site)

→ The conservation of wild animals and plants in their native ecosystem is known as in situ conservation.

→ It is by three ways:

- i) National parks: These are the protected areas for wild life where hunting and shooting are strictly prohibited and does not allow private ownership.
- ii) Sanctuaries: - These are the protected areas for wild life, where hunting and shooting are strictly prohibited but it allows private ownership.
- iii) Bio-sphere reserves: - These are also the protected areas for wild life and it is the combination of two or more national parks and is divided into three zones;
 - 1) core zone (wild life)
 - 2) Buffer zone (People who are in need are entered)
 - 3) Transition zone (human settlements)
 - 1) core zone: - It is completely for wild life
 - 2) buffer zone: - It allows people for collection and harvesting of minor forest products, research etc -
 - 3) Transition zone: - It allows human settlements.

Ex situ (off-site)

→ The conservation of both wild plants and animals away from their native ecosystem.

→ It is by the following ways:

- i) seed bank: - These are the places to store the seeds of endemic and endangered species of plants at a very low temperature i.e., -5°C for 25 years and at -20°C for 100 years.

ii) Gene bank:- These are the places to store the genes of both plants and animals by using cryo preservation (storage at -196°C by using liquid nitrogen)

iii) In vitro :- The slow growth of both plants and animals in the laboratory for research purpose.

iv) botanical gardens:- These are the places to conserve varieties of plants.

1) man-wild conflicts

2) India as a mega diverse nation

3) National Bio-diversity Act (2003)

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