

CLASS 10 NOTES

# GEOGRAPHY

## Forest and Wildlife Resources

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# # FOREST AND WILDLIFE RESOURCES

## Introduction:

Our earth is home for millions of living beings, starting from microorganisms and bacteria, lichens to banyan trees, elephants and blue whales.

Biodiversity: Species diverse in form and function but closely integrated in a system through multiple networks of interdependencies.

## Flora and Fauna in India

EXAM MEI AYEGA

- India is one of the world's richest countries in terms of its vast array of biological diversity.
- It has nearly 8% of the total number of species in the world (estimated to be 1.6 million)
- 81,000 species of fauna
- 47,000 species of flora (15,000 flowering species are endemic to India)
- At least 10% of India's recorded wild flora and 20% of its mammals are on threatened list.
- Cheetah, pink headed duck, mountain quail, forest spotted owl and plants like *Madhuca insignis* (wild Mahua), *Hubbardia* (a species of grass).

### Vanishing forest:

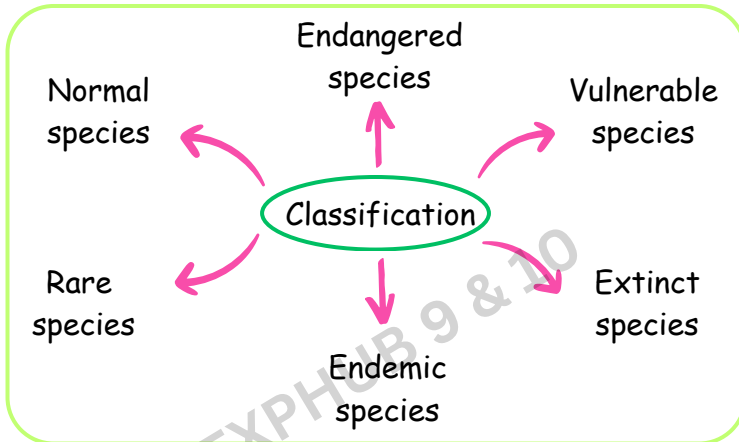
- Total forest cover = 24.01% (78.92 million hectare)
- Dense forest = 12.24%
- Open forest = 8.99%
- Mangroves = 0.14%

- According to state of forest report, area increased by = 10,098 sq/km since 1997
- Limitation: It does not differentiate between natural forests and Plantations.

## IUCN's Classification:

IUCN - International Union for Conservation of Nature and Natural Resource.

- Total forest cover = 24.01% (78.92 million hectare)



### (i) Normal species

- Population level are normal for their survival.
- Ex- Cattle, Sal, Pine

### (ii) Endangered species

- In danger of Extinction
- Survival may not be possible if threats to their population continuous to operates.
- Ex - Black buck, lion tailed Macaque

### (iii) Vulnerable species

- Decline in the population, from where they are likely to move into the endangered category, if the threat continuous to operate.
- Ex - Blue sheep, Asiatic elephant, Gangetic dolphin

(iv) **Rare Species**

- All ready small population
- May move into endangered or vulnerable category if the threats to their population
- Continuous to operate
- Ex - Himalayan brown Bear, wild Asiatic buffalo

(v) **Endemic species**

- Found in some particular area
- Isolated by natural or geographical barriers.
- Ex - Andaman teal, Nicobar pigeon

(iv) **Extinct species**

- Do Not found after searches, where earlier they used to occur
- A species may extinct from, local area region, country, or the entire earth.
- Ex - Asiatic cheetah, pink head duck

E.M.A

**Asiatic cheetah : Where did they go?**

- The world's fastest land mammal, the cheetah (*Acinonyx jubantus*) is a unique and specialized member of the cat family and can run at a speed of 112km/hr.
- Its distinguishing marks are the long teardrop shaped lines on each side of the nose from the corner of its eyes to its mouth.
- Prior to the 20th century, cheetahs were widely distributed throughout Africa and Asia.
- Today, the Asian cheetah is nearly extinct due to a decline of available habitat and prey.
- In 1952, it was declared extinct in India.

# Depletion of Flora and Fauna

Factors responsible for the depletion of forest and wildlife:

## (i) Development during colonial period

- Railway network, agricultural, commercial, scientific forestry and mining activities expanded.
- Enrichment plantation - A single commercially valuable species was extensively planted and other species were eliminated.

## (ii) Agricultural Expansion

- According to the Forest Survey of India, over 26,200 sq km of forest area was converted into agricultural land all over India.

## (iii) Shifting Cultivation

- A large part of the tribal belts of the North-Eastern and Central India, have been deforested by "slash and burn" type of agriculture.

## (iv) Large-Scale Development Projects

- Since 1951, over 5,000 sq km of forest was cleared for river valley projects
- Narmada Sagar Project in Madhya Pradesh has submerged 40,000 hectare of forest.

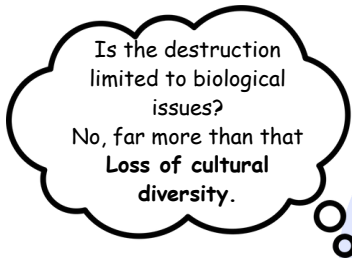
## (v) Human activities and Natural factors

- Dolomite mining has threatened Buxa Tiger Reserve in WB.
- Grazing and fuel-wood collection
- Expanding industrial economy
- Habitat destruction, Hunting, poaching, over exploitation, Environmental pollution, poisoning, forest fire and overpopulation etc.

# Effects of Depletion of Forest Resources

E.M.A

- Half of the Natural forests are gone.
- One-third of wetlands drained out.
- 70% of surface water bodies are polluted.
- 40% mangroves wiped out.
- Thousands of species are heading towards extinction.



## Loss of Cultural diversity:

- Such losses have increasingly marginalized and impoverished many indigenous and other forest-dependent communities, who directly depend on various components of the forest wildlife for food.
- Women are more affected than men as they have to travel long distances for the collection of food, fuel, fodder and water.
- This leads to health problems for women and negligence of home and children because of more hours of work.

## Indirect Impact of Degradation:

- Many natural calamities occur due to the depletion of forest resources and land degradation like severe drought, floods and so on.
- Floods hit the poor the hardest which leads to poverty.

# Conservation of forest and wildlife in India

## Why do we need it?

- Conservation preserves the ecological diversity and our life support systems like water, air and soil.
- It preserves the growth of species and breeding.  
Ex- Tradition Crop varieties  
Fishers on aquatic biodiversity

## Steps taken for Conservation of Forest and Wildlife:

- In the 1960s - 1970s, conservationists demanded a national wildlife protection programme.
- Then, for conservation, government implemented the Wildlife Protection Act in 1972.

## Wildlife Protection Act, 1972

E.M.A

- An all India list of protected species was published.
- Hunting was banned to protect the remaining population of some endangered species.
- Trade in wildlife was restricted.
- Habitats of wildlife were given legal protection.
- National parks and wildlife sanctuaries were established.
- Many projects were started to protect specific animals, e.g. Project Tiger.
- Wildlife Protection Act of 1980 and 1986 included many small creatures like butterflies, moths, beetles, dragonfly have been added to the list of protected species.
- In 1991, six plant species were also added to protected list.

# Project Tiger



- Tiger is one of the Keystone species in faunal web.
- The authorities realized that the tiger population had down to 1,827 from an estimated 55,000 at the turn of the century.
- Major threats to tiger population are poaching for trade, shrinking habitat, depletion of prey based species growing human population etc.
- The trade of tiger skins and the use of their bones in traditional medicines. Especially in the left the tiger population on the verge of Extinction.
- Since India and Nepal provide habitat to about 2-3 of the surviving tiger population in the world, these two nations became prime targets for poaching and trading.
- **"Project Tiger"** : One of the well published wildlife campaigns in the world was launched in 1973. E.M.A ←
- Initially it showed success as the tiger population went up to 4,002 in 1985 and 4,334 in 1989.
- But in 1993, the population of the tiger had dropped to 3,600.
- In 2014. the number went to 2,226.
- There were 39 tiger reserves in India.
- Corbett National Park in Uttarakhand
- Sunderban National Park in West Bengal
- Bandhovorh National Park in Madhya Pradesh
- Sariska Wildlife sanctuary in Rajasthan and many more.



# Types and Distribution of Forest & Wildlife Resources

The forests are classified under these three categories:

## (i) Reserved Forests

- Owned by the government.
- Human activities like grazing of cattle, etc. are not allowed.
- More than half of the total forest land has been declared reserved forests.
- These are considered as the most valuable from conservation perspective.
- Jammu & Kashmir, Andhra Pradesh, Uttarakhand, Kerela, Tamil Nadu, West Bengal and Maharashtra.

## (ii) Protected Forests

- Owned by government
- Local people are allowed to collect fuel wood, grazing, etc.
- Almost one-third of the total forest area is protected forest.
- The protected forests are protected from any further depletion.
- Haryana, Odisha, Punjab, Bihar, Himachal Pradesh, and Rajasthan.

## (iii) Unclassed Forests

- Managed by both private communities and govt.
- All the human activities are allowed.
- North Eastern states and Gujarat.

- Reserved forests and protected forests are collectively called **permanent forest**.
- Madhya Pradesh has maximum forest cover under permanent forests constituting 75% of the total forest cover.

## Community and Conservation

Local communities are struggling to conserve these habitats along with govt. officials.

The destruction of natural forests has severely affected many poor rural and tribal communities. Due to destruction, many communities have taken to protests and other struggles.

### Protest and struggle of local communities:

1. At **Sariska Tiger Reserve (Rajasthan)**, villagers have fought against mining by citing the Wildlife Protection Act.
2. The inhabitants of five villages in the Alwar district of Rajasthan have declared 1,200 hectares of forest as the **Bhairodev Dakav 'Sonchuri'**. They have declared their own set of rules and regulations to protect the wildlife.
3. **Chipko Movement**
  - Successfully conducted in the Himalayas.
  - Successfully resisted deforestation and revived traditional conservation by community afforestation
4. **Beej Bachao Andolan**
  - In Tehri and Navdanya, farmers and citizen groups have shown that adequate levels of diversified crop production without the use of synthetic chemicals are possible and economically viable.

### 5. Joint Forest Management (JFM) :

- Involving local communities in the restoration of degraded forests.
- In 1988, state of Orissa passed the first resolution for JFM.
- Local institute takes up the protection activities on lands managed by govt.
- In return, provided with non-timber benefits and share in the timber harvested by 'successful protection'.

### 6. Sacred Groves (the forests of god and goddesses)

Nature worship is an age-old custom in the Hindu religion and many tribes. Sacred groves in forests are the result of this tradition. Such spots in forests are untouched by human intervention.

#### Example -

- The Mundas and the Santhals of the Chhota Nagpur region worship mahua (*Bassia latifolia*) and kadamba (*Anthocaphalus cadamba*) trees.
- Similarly, the tribals of Orissa and Bihar worship the tamarind (*Tamarindus indica*) and mango (*Mangifera indica*), as part of wedding rituals.
- In general Peepal and Banyan tree is considered as sacred.
- Sacred qualities are often connected with springs, mountains, peaks, plants and animals.
- Monkeys are considered the representatives of the Hindu god Hanuman. In most of the places, people do not harm monkeys or langurs because of this belief.
- In and around Bishnoi villages in Rajasthan, chinkara, nilgai and peacocks are an integral part of the community and nobody harms them.

# Top 7 Questions:

**3 markers**

1. Explain any three methods of forest conservation adopted by the Government of India after independence.

**Ans. Methods of forest conservation adopted by the Government of India are:**

- (i) The Government of India has implemented the Indian Wildlife (protection) Act in 1972 for conservation of wildlife and forests.
- (ii) The government has classified forests into three categories such as reserved forests, protected forests and unclassified forests. Out of these forests two categories, the 'Reserved' and the 'Protected' forests have been restricted for use.
- (iii) The government has started Joint Forest Management (JFM) programmes involving local communities in management and restoration of degraded forests.
- (iv) The Central and many State Governments established national parks, wildlife sanctuaries and biosphere reserves to protect forest and wildlife of India.

2. Discuss the reasons for the extinction of Asiatic cheetah in India.

**Ans.** Asiatic cheetahs are the fastest mammals on land and can move about 112 km/hr. For this much agility they need a vast stretch of dense forest to move freely. The reasons for extinction of Asiatic Cheetah in India are as follows:

- Deforestation, especially depletion of dense forest made much damage to the natural habitat of Asiatic cheetah.
- Construction activities like mining and expansion of human habitat also destroy habitat for other smaller creatures on whom these big cats prey on. Lack of prey and habitat are now major reasons.
- Poaching and low rate of fertility also led to extinction of the unique Asiatic cheetah in India.

3. What has been the contribution of the Indian Wildlife Protection Act in protecting animals habitats in India?

**Ans.** The Indian Wildlife Protection Act, 1972, incorporated various provisions for protecting habitats. The contribution of India Wildlife Protection Act can be seen through the following points

- An all India list of protected species was published. The act banned hunting of certain endangered species.
- It also gave legal protection to their habitats and restricting trade in wildlife.
- Many national parks and wildlife sanctuaries were established in which commercial activities were forbidden.
- Central Government also announced several projects for protecting specific animals, which were gravely threatened. These include the tiger, the one-horned rhinoceros, the Kashmir stag or hangul, three types of crocodiles-fresh water crocodile, saltwater crocodile and the Gharial, the Asiatic lion and others.
- Most recently, the Indian elephant, black buck (chinkara) the great Indian bastard (godawan) and the

snow leopard, etc, have been given full or partial legal protection against hunting and trade throughout India.

4. Write the important features of Joint Forests Management (JFM) Programme.

**Ans.** Joint Forest Management (JFM) programmes have been launched by various State Governments. The first state to start this programme was Odisha in 1988.

**The important features of JFM are :**

(i) In India, Joint Forest Management (JFM) programme has been proved to be a good example for involving local communities in the management and restoration of degraded forests.

(ii) The major purpose of the JFM is to protect the forests from encroachments, grazing, theft and fire and also to improve the forests in accordance with an approved Joint Forest Management Plan.

(iii) JFM depends on the formation of local (village) institutions that undertake protection activities mostly on degraded forest land managed by the forest department.

5. Discuss about the trend of depletion of forest after independence. Give at least four reasons for it.

**Ans.** There is a trend of depletion of forest after independence. The major reasons for the depletion of forest resources in India are:

(i) The greatest damage inflicted on Indian forests was during the Colonial period. This damage was done due to the expansion of the railways, agriculture, commercial and scientific forestry.

(ii) Rapid expansion of urbanisation caused major deforestation.

(iii) Different developmental projects like multi-purpose river valley projects, construction activities, mining activities contribute to deforestation and degradation of forest land.

(iv) Increase in agricultural practices like intensive agriculture and commercial agriculture led to transfer of forest land to agriculture land.

(v) Substantial parts of the tribal belts, especially in the North-Eastern and Central India, have been deforested or degraded by shifting cultivation (Jhum), shifting cultivation is a type of 'slash and burn' agriculture.

### 5 markers

1. Write any five reasons for the depletion of forest resource in India.

**Ans.** Five major reasons which are responsible for depletion of flora and fauna in India are as follows:

(1) **Agricultural expansion** : Between 1951 and 1980, according to the Forest Survey of India over 26,200 sq km of forest area was converted into agricultural land all over the India which led to depletion of forests.

(ii) **Mining** : It is another major factor behind deforestation. e.g. dolomite mining has seriously threatened the Buxa Tiger Reserve in West Bengal. This ongoing mining has disturbed the natural habitat and blocked the migration route of great Indian elephant.

(iii) **Large-scale development projects** : Since 1951, over 5000 sq km of forest cleared for River Valley Projects. Narmada Sagar Projects in Madhya Pradesh has inundated 40,000 hectare of forests.

(iv) **Rapidly expanding industrial-urban economy:**

Increasing consumption of forest based products such as rubber, medicines, dyes, fuel wood has increased the depletion of forest resources.

(v) **Over population :** In the third world countries it is often regarded as the cause of environmental degradation. However, an average American Consumed 40 times more resources than an average Somalian. Similarly, 5 per cent richest Indians cause more ecological damage than poorest 25 per cent.

2. Why are different tradition communities involved in conserving their own natural habitats in India?

**Ans.** It is true, that different traditional communities are involved in conserving their own natural habitats in India. This can be analysed through the following points:

- Nature worship is an age old tribal belief based on the assumption that all creations of nature have to be protected. Certain societies reserve a particular tree which they have preserved from time immemorial.
- The Mundas and the Santhals of Chota Nagpur region worship and protect Mahua (*Barnia Latifolia*) and Kadamba (*Anthocephalus cadamba*) trees.
- Tribals of Odisha and Bihar worship the Tamarind (*Tamarindus indica*) and Mango (*Mangifera indica*) trees during wedding and protect them.
- In and around Bishnoi villages in Rajasthan, herds of black buck (chinkara), nilgai and peacocks are protected. Monkeys and langoor are fed in many temples.

This way different communities are involved in conserving their own natural habits in India.