CHAPTER: Forest And Wildlife Resource

Grade: **10**
Board: **CBSE**
Book: **NCERT**

1.

Chapter Summary and Placement

<Read through the following to understand how this chapter is connected with the previous and next grades and also the important concepts covered in it.>

1. The types of forest and vegetation in India was discussed in details in the previous year.

2. The chapter introduces flora and fauna in India and the factors.
3. Since the chapter talks about the flora and fauna, carry a sample plant that is unique/special to your area and start the class describing the importance of the same.

2.

LEARNING OUTCOMES

<On completion of the chapter, students will be able to:>

1. State the meaning of Biodiversity and classify it.
2. List the factors causing depletion of Biodiversity in India.
3. List methods followed in India to conserve the wildlife and forest.
4. Understand the different types of forest and on what basis they are categorised.

3. Previous Knowledge Requirement (Keywords)

The below points should be refreshed before introducing the chapter:

1) The types of vegetation in forests and climate in India studied in the previous year can be revised.
2) Revise chipko movement studied in previous year economics and the reasons for the same.

4. TEACHING PLAN

Follow this section for getting ideas on teaching the content covered in the chapter. The subtopic given in the first column with the matching learning outcome can be explained using instructions and resources listed subsequently

Subtopic and Learning Objective #1

Flora and Fauna in India
LO: State the meaning of Biodiversity and classify it.

Teacher Activity

1. Perform **Activity 1.**
2. Explain the meaning of the term biodiversity with the help of an example taken from the activity performed.
3. List out a few animals that are at the verge of extinction. The teacher may refer to **Resource 1** for reference.
4. Explain the classification based on the International Union for Conservation of Nature and Natural Resources (IUCN). Normal, Endangered, Vulnerable, Rare, Endemic, Extinct species should be discussed in detail.
5. ***Check for understanding:***

a) How many flora and fauna are there in the threatened list?
b) What is biodiversity?
c) Explain in details extinct species.

Resources Suggested

Textbook , marker pen , Resource 1

Activity 1

Name of the activity – The importance of Neem.
Type of activity – Individual/group/random
Learning Objective: Understand the importance of trees and introduce the concept of the chapter**.**
Use it for – Introducing the chapter/Beginning the chapter.
Materials – Textbook, Neem leaves or a small branch

Teacher instructions:

1. The teacher may take a few Neem leaves or a small branch to the class. If Neem is not available take another plant sample which has some importance in your area.
2. Have a few features of the plant ready so as to judge the correctness of students..
3. Ask the students what they know about the plant and it features. Finally, ask them if we can live without trees and animals in the world.
4. The teacher may help the students with hints to come up with valid points.

Resource 1

The images of Asiatic Cheetah, pink-headed duck and forest spotted owlet which are in the threatened list are given below:







Resource 1

One example for each category of species classified by IUCN

Normal Species: Cattle



Endangered species : Indian Wild ass



Resource 1

One example for each category of species classified by IUCN

Vulnerable Species : asiatic Elephant



Rare Species : Himalayan Brown Bear



Resource 1

One example for each category of species classified by IUCN

Endemic Species : Nicobar pigeon



Subtopic and Learning Objective #2

What are the negative factors that cause such fearful depletion of the flora and fauna?:
LO:
List the factors causing depletion of Biodiversity in India

Teacher Activity

1. The teacher can use the the text book to explain the various reasons for the depletion of flora and wildlife resources.
2. Explain how development projects became a threat to the flora and fauna.
3. The effects of fuel-wood collection, hunting, poaching and over population on the Flora and fauna can be discussed in detail.
4. Perform the **Activity 2.**
5. ***Check for understanding:***

a) What are the different products that we get from forest?
b) As per the Forest Survey of India over ____ (26,200 sq. km) of forest area was converted into agricultural land all over India.
c) What is a serious threat to the Buxa tiger reserve?
d) How are women affected by the depletion of resources?
e) _____ (Poverty) in these cases is a direct outcome of environmental destruction.

Resources Suggested

Textbook , flat surface , flashlight , blackboard

Activity 2

Name of the activity – Analyse the causes of depletion of natural resources in your area or nearby areas. Explain how flora and fauna are affected.
Type of activity – Individual
Learning Objective: Understand the need for conservation
Use it for – Enhancing the writing skills and understanding the topic
Materials – Textbook, Paper, pen

Teacher instructions:

1. The teacher should explain the topic to the students
    a) The students should analyse the disturbance caused to their surroundings.
    b) List out the reasons for the same.
    c) Forest and wildlife should be kept in mind while listing out the reasons.
2. The listed details should be from the surroundings.
3. The reasons listed should be clear and based on what is learnt from the class.
4. Collect details from news papers and list out the details.
5. The teacher can check the papers, collate the main points and discuss them in class. The main points may include:
    a) Water: Pollution from different sources, less rain, less aquatic animals.
    b) Air: Pollution from industries, effects of pollution on birds etc.
    c) Forest: Felling of trees, hunting, forest fires etc, how wildlife is affected.
6. The teacher may help the students with more details while discussing the main points in the class.

Subtopic and Learning Objective #1

Conservation of Forest and Wildlife in India
LO:
List out the methods followed in India to conserve the wildlife and forest.

Teacher Activity

1. Explain the reason why conservation of wildlife is important.
2. List out the future focus of conservation projects
3. Refer to **Resource 2** for an example of national park.
4. ***Check for understanding:***

a) _____ (Conservation) in the background of rapid decline in wildlife population and forestry has become essential.

b) What was the main thrust of conservation programmes?

Resources Suggested

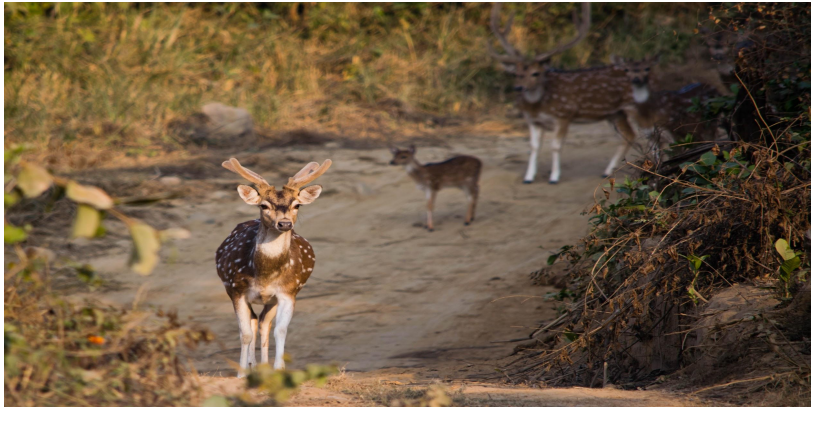
Textbook ,Globe , blackboard

Resource 2

Corbett National Park







Subtopic and Learning Objective #3

Types and Distribution of Forest and Wildlife Resources
LO:
Understand the different types of forest and on what basis they are categorised.

Teacher Activity

1. Explain the different types of forest.
2. Explain the difference between the three types of forest.
3. Discuss the features of permanent forest.
4. ***Check for understanding:***

a) List out two places where unclassed forest is situated.
b) What is a reserved forest?

Resources Suggested

Textbook ,Globe , blackboard

Subtopic and Learning Objective #4

Types and Distribution of Forest and Wildlife Resources
LO:
Understand the different types of forest and on what basis they are categorised.

Teacher Activity

1. Explain the different types of forest.
2. Explain the difference between the three types of forest.
3. Discuss the features of permanent forest.
4. ***Check for understanding:***

a) List out two places where unclassed forest is situated.
b) What is a reserved forest?

5. WORKSHEETS

Print or copy the worksheet questions on the blackboard and ask the students to attempt them. They can be given as homework or a class test as well.

Worksheet 1

Use it like: An assignment, homework

Answer the following questions in brief:

1. Give a few examples of the endangered species in India.
2. How did the colonial rule affect the natural balance of the flora and fauna?
3. Explain the effects of development projects on the wildlife and flora of the country.
4. What is the effect of mining on the biodiversity?
5. The destruction of forest and wildlife is not just a biological issue. Justify.
6. Why do we need to conserve our forests and wildlife? Give examples of the animals in the endangered list?
7. What are the conservation measures that the projects are focusing now?
8. What are the different types of forest?
9. What are permanent forest estates? Explain with examples
10. Explain the conservation strategies followed by villagers?
11. Explain the various protest and movements for conservation of biodiversity

Worksheet 2

Use it like: checking students understanding in class, oral test

Fill in the blanks:

1) We humans along with all living organisms form a complex web of _____.
2) _____ in third world countries is often cited as the cause of environmental degradation
3) The _____ are repositories of some of the country's most valuable forest products, minerals and other resources.
4) ____ in is a direct outcome of environmental destruction.
5) The central and state governments established ____ and ____ for conserving wildlife species.
6) Lion tailed macaque is an example of ____ species.
7) The conservation projects are now focusing on _____ rather than on a few of its components.

6. SOLUTIONS

This section gives you sample answers for activities and questions listed above.

Worksheet 1

1. The cheetah, pink-headed duck, mountain quail, forest spotted owlet, and plants like *madhuca insignis* (a wild variety of mahua) and *hubbardia heptaneuron*,(a species of grass).
2. The greatest damage inflicted on Indian forests was during the colonial period due to the expansion of the railways, agriculture, commercial and scientific forestry and mining activities. Even after Independence, agricultural expansion continues to be one of the major causes of depletion of forest resources. 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 India. Substantial parts of the tribal belts, especially in the northeastern and central India, have been deforested or degraded by shifting cultivation (jhum), a type of ‘slash and burn’ agriculture.
3. Large-scale development projects have also contributed significantly to the loss of forests. Since 1951, over 5,000 sq km of forest was cleared for river valley projects. Clearing of forests is still continuing with projects like the Narmada Sagar Project in Madhya Pradesh, which would inundate 40,000 hectares of forest.

Worksheet 1

4. Mining is another important factor behind deforestation. The Buxa Tiger Reserve in West Bengal is seriously threatened by the ongoing dolomite mining. It has disturbed the natural habitat of many species and blocked the migration route of several others, including the great Indian elephant.

5. The biological loss is strongly correlated with the loss of cultural diversity. Such losses have increasingly marginalised and impoverished many indigenous and other forest-dependent communities, who directly depend on various components of the forest and wildlife for food, drink, medicine, culture, spirituality, etc. Within the poor, women are affected more than men. In many societies, women bear the major responsibility of collection of fuel, fodder, water and other basic subsistence needs. As these resources are depleted, the drudgery of women increases and sometimes they have to walk for more than 10 km to collect these resources. This causes serious health problems for women and negligence of home and children because of the increased hours of work, which often has serious social implications. The indirect impact of degradation such as severe drought or deforestation-induced floods, etc. also hits the poor the hardest. Poverty in these cases is a direct outcome of environmental destruction. Therefore, forest and wildlife, are vital to the quality of life and environment in the subcontinent.

Worksheet 1

6 Conservation preserves the ecological diversity and our life support systems – water, air and soil. It also preserves the genetic diversity of plants and animals for better growth of species and breeding. In the 1960s and 1970s, conservationists demanded a national wildlife protection programme. The Indian Wildlife (Protection) Act was implemented in 1972, with various provisions for protecting habitats. An all-India list of protected species was also published. The thrust of the programme was towards protecting the remaining population of certain endangered species by banning hunting, giving legal protection to their habitats, and restricting trade in wildlife. Central and many state governments established national parks and wildlife sanctuaries. The central government also announced several projects for protecting specific animals, which were gravely threatened, including the tiger, the one-horned rhinoceros, the Kashmir stag or *hangul*, three types of crocodiles – freshwater crocodile, saltwater crocodile and the *Gharial*, the Asiatic lion, and others. Most recently, the Indian elephant, black buck (chinkara), the great Indian bustard (*godawan*) and the snow leopard, etc. have been given full or partial legal protection against hunting and trade throughout India.

7. The conservation projects are now focusing on biodiversity rather than on a few of its components. There is now a more intensive search for different conservation measures. Increasingly, even insects are beginning to find a place in conservation planning. In the notification under Wildlife Act of 1980 and 1986, several hundred butterflies, moths, beetles, and one dragonfly have been added to the list of protected species. In 1991, for the first time plants were also added to the list, starting with six species.

Worksheet 1

8 **Reserved Forests:** More than half of the total forest land has been declared **reserved forests**. Reserved forests are regarded as the most valuable as far as the conservation of forest and wildlife resources are concerned.

Protected Forests: Almost one-third of the total forest area is protected forest, as declared by the Forest Department. This forest land are protected from any further depletion.

Unclassed Forests: These are other forests and wastelands belonging to both government and private individuals and communities.

9 Reserved and protected forests are also referred to as permanent forest estates maintained for the purpose of producing timber and other forest produce, and for protective reasons. Madhya Pradesh has the largest area under permanent forests, constituting 75 per cent of its total forest area. Jammu and Kashmir, Andhra Pradesh, Uttarakhand, Kerala, Tamil Nadu, West Bengal, and Maharashtra have large percentages of reserved forests of its total forest area whereas Bihar, Haryana, Punjab, Himachal Pradesh, Orissa and Rajasthan have a bulk of it under protected forests. All Northeastern states and parts of Gujarat have a very high percentage of their forests as unclassed forests managed by local communities.

Worksheet 1

10 In some areas of India, local communities are struggling to conserve these habitats along with government officials, recognising that only this will secure their own long-term livelihood. In Sariska Tiger Reserve, Rajasthan, villagers have fought against mining by citing the Wildlife Protection Act. In many areas, villagers themselves are protecting habitats and explicitly rejecting government involvement. The inhabitants of five villages in the Alwar district of Rajasthan have declared 1,200 hectares of forest as the Bhairodev Dakav 'Sonchuri', declaring their own set of rules and regulations which do not allow hunting, and are protecting the wildlife against any outside encroachments.

11 The famous **Chipko** movement in the Himalayas has not only successfully resisted deforestation in several areas but has also shown that community afforestation with indigenous species can be enormously successful. Attempts to revive the traditional conservation methods or developing new methods of ecological farming are now widespread. Farmers and citizens groups like the **Beej Bachao Andolan** in Tehri and **Navdanya** have shown that adequate levels of diversified crop production without the use of synthetic chemicals are possible and economically viable.

Worksheet 2

Fill in the blanks:

1. ecological system
2. Over-population
3. forest ecosystems
4. Poverty
5. National parks and wildlife sanctuaries
6. Endangered
7. biodiversity

6. EXTRA RESOURCES

Carry out the following suggested activities/ tasks if you have the time and resources to do them

Extension Activity 1

Purpose: Helping the students to implement the knowledge they have learnt about forests, wildlife and their conservation.
The teacher may perform a group activity by dividing the students into small groups and discuss the topic based on the report provided in the link below:
https://timesofindia.indiatimes.com/home/environment/developmental-issues/India-losing-135-hectares-forest-daily-RTI/articleshow/20531915.cms

Reference Video Link

The students can be suggested to watch the following videos/ shown in class:

https://www.youtube.com/watch?v=fH9DXc7D3yA

https://www.youtube.com/watch?v=VmLYUwtR1Ik