

The existence, progress and development of man is dependent on resources. We have been fulfilling our needs by getting them from nature since early times, wherein the forests are considered to be very important resources. A general meaning of forest is the accumulation of trees, scrubs or heaps of grass. In natural vegetation, only that vegetation is included which can be raised naturally without the help of man. This is called virgin vegetation. Now such vegetation in India is available only in Himalayas, Sundervan and remote areas of Thar desert.

## Classification of Forests

Forest classification is made according to different criteria. You have studied the classification of forests on the basis of climate in standard 9. Here, we will know about three types of forests on the basis of administration, ownership and management.

### Types of forests according to administration

**(1) Reserved Forests :** Such forests are under the control of the Government directly. Here, there is restriction on lumbering, collection of woods or for pasturing.

**(2) Protected Forests :** These forests are looked after by the Administration. Local people are permitted to collect the wood and to graze their animals without causing any harm to the trees.

**(3) Unclassified Forests :** These forests are still not classified. There is no restriction on tree felling or animal grazing.

### Classification of forests according to ownership, administration and management

The forests of India are classified into three types on the basis of ownership, administration and management aspects.

**(1) State Forest :** Central or State Government controls such forests. Most of the forests of the country fall under this category.

**(2) Communal(community) Forest :** Local Self Government institutions (Gram Panchayat, Municipalities, Corporations, District Panchayat) have control over such forests.

**(3) Private Forest :** Such a forest is owned by individuals. Such forests are found more in Odisha, Meghalaya, Punjab and Himachal Pradesh. Some of the these forests are in hapazard condition or some of them are totally barren.

## Deforestation

Deforestation means the destruction of forests. This is not a problem of our country alone but is one of the global problems. It can be said that it is result of the progress of man. Trees are destroyed naturally. However, it is negligible compared to the loss inflicted by human interference.

### Impact of deforestation

The impact of deforestation is widespread. The quantity of carbon dioxide increases in the atmosphere. Green house effects become more intense. With the removed forest cover the soil is eroded and the problem of farm fertility decreases. In the of peninsular India, the forest area has decreased largely due to deforestation. Many living organisms have lost their abodes. As a result the wild animals approach urban

settlements in search of food and water. More instances are recorded of carnivorous animals killing the domestic animals of those shepherds who live near the forests.

### **Remedies for Forest Conservation**

- Research should be carried out to find the option of wood. This will reduce the usage of wood and it will save the forests. Wherever the trees are to be cut inevitably for the development work or for necessity, new trees of the same species should be grown. There should be a total ban for cutting trees which are not grown fully.
- Those industries which receive their raw material from the forests should be compelled for afforestation for future needs. Under the name of Eco-tourism, the forest cover should not be damaged and should be strictly controlled.
- Widespread public awareness programmes should be organised among the local people.
- The importance of forest and their conservation strategies should be included in the syllabus of schools and colleges. They should explain the necessity of forest conservation.
- Social forestry and Agro-forestry should be developed intensively by taking planned steps for the necessity of fodder and firewood.
- In place of firewood, alternative options like solar energy, natural gas etc. should be implemented.
- Forest resources should be used sparingly. In order to make the process of tree growth faster and healthier, infested trees should be removed. Forest fire causes heavy damage to forests. A separate system or a force at national level should be created for dousing the fire.
- Due to the increased means of transportation and easy travel thousands of pilgrims reach the religious places in forested area to attend the bhandara, fairs or the parikamma (circular travel). At that time, the litter should be cleared properly, otherwise the forests are polluted.
- An area should be demarcated and reserved for animal pasture.

### **Wildlife diversity**

There is a large diversity in climate and physiography in India. Due to this geographical diversity, a large variation is seen among the insects, birds, animals and vegetation. There are about 15 lakh species of animals-birds in the world. Out of these, 81251 species are found in India. India stands 12th in the world in terms of bio-diversity. Animals from Asia, Europe and Africa are seen in India. African zarakh, European wolf, wild goats and Kashmiri deer, elephants and gibbons from South-East Asia etc. are found here. The bio-diversity of India includes black bear, one horned rhino, deer, different types of snakes, peacock, ghorad (bustard), hawk, king fisher, flamingo etc. The snow leopard in Himalayas and the Red panda found at the same altitude are distinguished animals here. Currently, India is the only country in the world where tiger and lion are seen moving in their natural abodes. During winter, migratory birds from distant places throng into the watershed area of Keoladev National Park, Bharatpur (Rajasthan) and Nal Sarovar in Gujarat to spend winter.

Sea turtles come to lay eggs along the sandy coasts of Odisha. Indian python, various snakes and the King cobra are found in the southern rain forests.

### **Wild life on extinction**

Today many wild animals in the world are on the verge of extinction. Tigers were found throughout India during last century. Tigers were seen in the forests of Idar, Ambaji and Danta. Today, tigers are totally extinct from Gujarat forest areas. Cheetah is also becoming extinct from Indian forests. Many bird species which



were very easily seen in Indian forests are now hardly seen. Some of them like vulture, duck with pink throat, cranes and owls are on the verge of extinction. Chilothro bird, once widespread in Arunachal of North-East is not seen so easily. There is a danger of survival to the alligators of the fresh waters of rivers and Ganga River Dolphin. The number of sea turtles approaching the coasts of Odisha and Gujarat is constantly decreasing. Water-fowl (Jalbiladi) once found frequently in Narmada, Tapi, Mahi and Sabarmati rivers of Gujarat is almost extinct. A time has come for us to think about this seriously.

### Reasons for the destruction of wildlife

- Due to the human interference in grasslands and in watershed area of the forests, the natural habitat of the wild animals is put in danger.



**9.1 Hunting to Satisfy Hobbies**

- Destruction of forests is the main reason responsible for natural imbalance. Its final impact is the reduction in the number of wild animals.
- Hunting the animals to obtain hair, skin(hide), bones, horns or nails is also responsible.
- The over exploitation of forests made by man for his greedy motives, such as roads, multi-purpose projects, mining minerals, expansion of new settlements or cities etc. displace the wild animals.

- Forestlands are being encroached for grass, fuel or for grazing. The forest fire engulfs many species. When the forest fire occurs at the time of rearing the young ones of the birds or hatching the eggs, it creates a negative impact on the number of wild animals.
- Due to the loss of their natural habitats many animals without any abode come into conflict with man and sometimes even lose their lives.
- Hunting to procure bio-medicine or things which make perfume also bring the species on the verge of extinction.

### Things to know



**Red Panda :** Red Panda is found in the cold forests of eastern Himalayas. His food is bamboo sprouts, eggs, small birds, insects etc. It is less active during the day. Besides India, it is also found in China, Nepal, Bhutan, Myanmar.

### Measures of preservation of wild life

- It is necessary to change our attitude and perception towards the forests. We consider it as a source of unlimited income, which is a mistake. It must be preserved. Only then the natural habitats for wild life can be saved.
- Maintain the balance of number between the herbivores and the carnivores in the forests. For this, steps like maintaining the water sources in the forests and restriction on grazing of domestic animals should be taken.

- There should be strict laws to ban hunting. Those laws should be implemented very harshly. Heavy punishment should be inflicted for illegal mining in forest area and a fine should be imposed.
- It is necessary to make such arrangements which would not disturb the animals during their procreative period.
- A study should be made about the likely effects of fisheries, forest gatherings or tourism in the forests and steps should be taken accordingly.
- Programmes should be arranged to bring widespread awareness in the society.
- If the wild life protection force is inactive, then pressure should be brought on them and this work should be given priority.

### Things to know



#### Ganga River Dolphin (Platanista Gangetica)

: This Ganga River Dolphin found in river Brahmaputra and Ganga is a fresh water species. Generally, it lives in the river having deep and calm water flow. It is found in the Ganga river which flows through one of the densely populated regions of the world. Due to the release of dirty water in the river, sedimentation due to deforestation, fisheries,

navigation in the river, industrial waste etc. danger has been created against its existence. Apart from Ganga and Brahmaputra rivers, there are few such dolphins left in Chambal river. It comes to the surface very often to breathe making Suu-Suu like sound. So it is also known by other names like Sauns, Susu or Suis. It is also found in the rivers of our neighbours Nepal and Bangladesh. At present, the existence of Ganga River Dolphin is in danger.

### Wild Life Protection Scheme

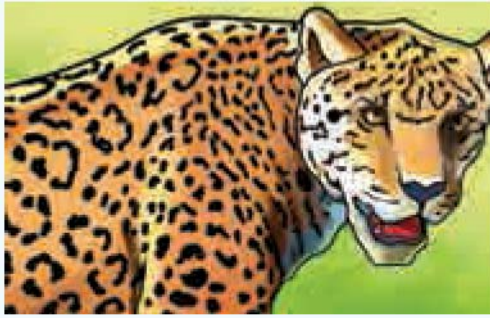
Some schemes are implemented in India to protect the wild life. Under these schemes, some projects are started for those animal species which are in danger or which are likely to be extinct in near future. Let us know about some of these projects in brief.

**1. Tiger Project :** As per one estimate, there were more than 40,000 tigers in India in the beginning of 20th century. Due to unrestricted illegal hunting and deforestation there was a big danger for the existence of tigers. In such circumstances, this project to save tigers was started in 1971. Under the project, a series of steps are taken to keep their natural habitat protected and to maintain ecological balance at national level. Till now this project is implemented in about 44 regions.





### Things to know



### Leopard :

- Leopard belongs to cat family. It holds smaller stature compared to lion and tiger.
- It is found everywhere in India. It is also found in dark black colour.
- It is found in large number in the forests of Gujarat.
- It often comes to human settlements. People unknowingly call it Cheetah also.

### Things to know :

### Cheetah :

- It is totally extinct from the forests in India.
- Today, it is found in Africa in its natural habitat.
- In India, it is found in a captive state only (Zoo).



**2. Elephant Project :** This project was started in 1992. Its main objective was to provide the elephants protection in their natural habitats and to protect habitats and their migratory corridors. Today there are about 26 protection zones for elephants in the country. After the implementation of this project, there has been an increase in the number of elephants in the forests. Besides this Project also works for the maintenance of domesticated elephants.

**3. Rhino Project :** This project is started for the protection of One Horned Rhino of India. In India most of the rhinos are found in Assam State. These are also found in less number in Sundarban of West Bengal. According to the strategy of 'Rhino Vision 2020', an increase in the number of rhinos is targeted at 3000.

### Things to know :



### One Horned Indian Rhino :

- It is seen in the marshy regions of Brahmaputra and Sundarban. It is hunted for preparing medicine from its horns. It is a herbivorous animal. Due to the attempts of its protection, its number has increased.

### 4. Crocodile Project :



## 9.2 Crocodile and Alligator's Species

This species of alligators which is found in fresh water was on the verge of extinction in the decade of 1970. The Government of India took timely steps to start this project.

**5. Vulture Project :** Vulture is the cleanliness worker of the nature. It eats the meat of dead animals. There are about 9 sub-species of vulture in India. Due to the unusual decrease in its number, this project was started in 2004.

**6. Snow Leopard Project :** This species which is found at an altitude of about 3000 metres in Himalayas lives in snow only. This Project was started in 2000 with the purpose to increase the knowledge about snow leopard among the local people, so the people would be aware to protect it.

Besides these, other projects which are operational including Kashmiri Hangool Project, Red Panda Project, Manipur Tamil Project for the special species of deer found in Manipur, Ganga-Dolphin project on Ganga-Brahmaputra rivers etc.

### Sanctuaries, National Parks and Bio-reserve :

Sanctuaries, national parks and bio-reserves are established for the protection of wild life. All these three words sound like synonyms but there is some difference. Let us be familiar with them.

#### 1. Sanctuary :

- Human activities are permitted within certain limit.
- Domesticated animals can be allowed to graze after due permission from the authorities.
- Wildlife sanctuary is established for the protection of some species. The sanctuary can be established by the Government after certain process.
- Perriyar, Chandraprabha, Eturnagaram etc. are famous sanctuaries.



### 9.3 Major National Parks and Sanctuaries



## 2. National Park :

- Compared to the sanctuary, this is more protected zone.
- More than one ecosystem included here.
- There is a complete ban on animal grazing.
- It is not centred around one species as it is in a sanctuary.
- It is established through the coordination of State and Central Government.
- Kaziranga, Corbett, Velavadar, Marine National Park, Gir, Dachigam etc. are important National Parks.

## 3. Bio-reserve Zone :

- It is formed according to International norms.
- The purpose is to protect the physical and cultural diversity of any region.
- Besides the vegetation, insects and land of that area, the life style of the people living there is also protected.
- Special arrangements are created for research and training about bio-reserves.
- In such proclaimed area, all external human movements are totally restricted.
- The average area of such zone is larger than 5000 sq. kilometres.
- Nilgiri, Gulf of Mannar, Great Nicobar, Sundarban, Pachmadhi etc. are considered to be the important bio-reserves of the nation.
- The Rann of Kachchh of Gujarat was declared as a Bio-reserve zone in 2008 for the protection of its special environmental conditions.

### Like to know

	Bio-protection Zone	National park	Sanctuary
India	18	103	531
Gujarat	1	04	23

Developmental process is inevitable. But along with it, it is necessary that we keep in mind its ill effects on the entire life system while planning. Whenever one species is completely destroyed or is in danger, the results of the disturbances in the food chain are far reaching. In food chain every insect has a specific role. If a life is lost, the entire structure experiences disturbance. If one species is removed, the natural system breaks down in long run.

These effects reach man very late hence we are not aware of it. Those environmental dangers which we are following are the result of carelessness developed before decades. If we have a planned development, there will not be any problem. Friendly approach with the environment is the need of present day.

### Things to know

**Henotaro :** This animal lives in the arid and semi-arid regions having alkaline forests and grasslands, desert or semi-desert area. It lives in the Greater and Smaller Rann of Kachchh of Gujarat, Banni and in Narayan Sarovar sanctuaries. It can be identified as it is slightly taller than the fox, has fleshy round mouth and has high ears. It hunts smaller birds and animals. Its existence can be known by its foot prints.



### Things to know

**Dugang :** This is an aquatic animal. It is seen in very small numbers along the western sea coast of India. Besides, it is also found along the sea coasts of East Africa, South-East Asian sea coast and northern coast of Australia. Sea grass and vegetation is its main food, but occasionally it also eats aquatic animals. It is widely hunted for its meat and fat. Earlier this dugang was found frequently along Gujarat coast, specially along Saurashtra coast, but today it is rarely seen along Gujarat coast.



### Exercise

#### 1. Answer the following questions in details :

- (1) Write a detailed note on types of forest.
- (2) State the remedies for forest conservation.
- (3) Describe various projects of wild life protection.

#### 2. Answers in brief :

- (1) What is meant by bio-reserve zone ?
- (2) Where would we find Tigers in Gujarat ?
- (3) State the reasons for forest destruction.
- (4) Write notes about the wild life on the verge of extinction.

#### 3. Answer the following questions in brief.

- (1) What is meant by a sanctuary ?
- (2) What is a National Park ?
- (3) In which state is the Nal Sarovar located ?

#### 4. Select the correct option from the options given for each question and write the answer :

- (1) Which wildlife is extinct from Gujarat .....  
(A) Gudhkhar      (B) Bear      (C) Tiger      (D) Leopard
- (2) Forests over which the Local Self Govt. institutions (Grampanchayat, municipality, corporations) have control .....  
(A) Village forests      (B) Sanctuary forest      (C) Collective forest (community)      (D) Jhoom forest



(3) How many species of animals and birds are there in the world ?

- (A) Twelve lakh      (B) Twenty one lakh      (C) Seven lakh      (D) Fifteen lakh

### Activity

- Arrange a celebration of the special day pertaining to environment.
- Arrange a competition of question-answer (catechism) keeping the wild life in centre.
- Paste the cuttings from the newspapers and periodicals regarding wild life on the school bulletin.
- Invite an expert to lecture on environment and on wild life diversity.
- If possible, arrange a visit to a zoo during your school trip.
- Know about new things from the following web sites with the help of your teacher or parent and present it in the prayer assembly or the class in your school.

[www.gujaratforest.org](http://www.gujaratforest.org)

[www.geerfoundation.gujarat.gov.in](http://www.geerfoundation.gujarat.gov.in)

[www.kidsrgreen.org](http://www.kidsrgreen.org)

[www.eoearth.org](http://www.eoearth.org)

<http://www.wwfindia.org>

