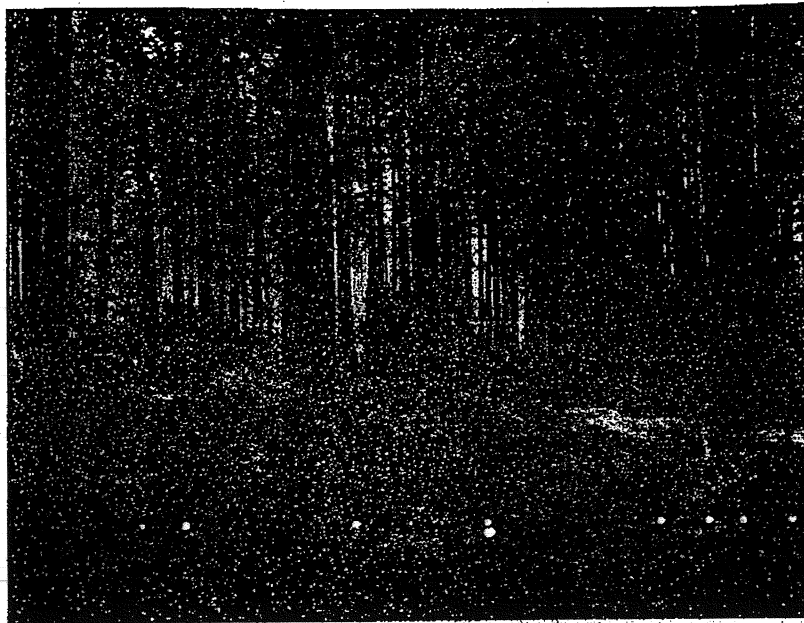


Forest Society and Colonialism



12.1 Advantages of forest

- Forests play a major role in improving the quality of environment, modify the local climate, controls soil erosion, regulates stream flow, support a variety of industries, provide livelihood for many communities and offer opportunities for recreation.
- Forest adds to the floor large quantities of leaves, twigs and branches which after decomposition forms humus.
- Provides industrial wood, timber, fuel wood, fodder and several other minor products of great economic value.

The things that come from forests are the paper in the book we are reading, desks and tables, doors and windows, the dyes that colour your clothes, spices in your food, the cellophane wrapper of your toffee, tendu leaf in bidis, gum, honey, coffee, tea and rubber, oil in chocolates, which comes from sal seeds, tannin used to convert skins and hides into leather, the herbs and roots used for medicinal purposes. Forests also provide bamboo wood for fuel, grass, charcoal, packaging fruits, flowers, animals, birds and many other things.

2.2 Why deforestation?

The disappearance of forests is referred to as deforestation. Deforestation is not a recent problem. But under colonial rule it became more systematic and extensive.

"Forests are renewable resources and contribute substantially to economic development of a country. They play a major role in enhancing the quality of environment. Between 1700 to 1995, the period of industrialisation, 13.9 million sq km of forests or 9.3% of the world's total area was cleared for industrial uses, cultivation, pastures and fuel wood."

A forest is a large area of land covered with trees & other woody vegetation.



The absence of cultivation in a place does not mean the land was uninhabited. In Australia, when the white settlers landed, they claimed that the continent was empty or terra nullius. In fact, they were guided through the landscape by aboriginal tracks, and led by aboriginal guides. The different aboriginal communities in Australia had clearly demarcated territories. This land included five different environments: salt water, riverine tracts, lakes, bush and desert plains, which satisfied different socio-economic needs.



Native Americans like the Lakota tribe who lived in the Great North American Plains had a diversified economy. They cultivated maize, foraged for wild plants and hunted bison. Keeping vast areas open for the bison to range in was seen by the English settlers as wasteful. After the 1860s the bison were killed in large numbers.



Adivasis were hired by the forest department to cut trees, and make smooth planks which would serve as sleepers for the railways. At the same time, they were not allowed to cut these trees to build their own houses.

(a) Land to be improved

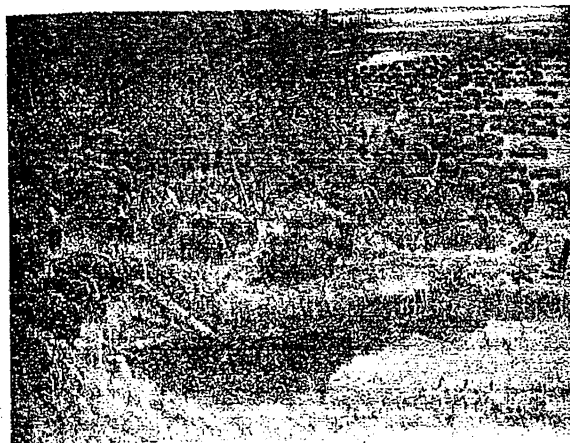


Fig.1 When the valleys were full Painting by John Dawson.

In 1600 approximately one sixth of India's landmass was under cultivation. Now that figure has gone up to above half. As population increased over the centuries and the demand for food went up, peasants extended the boundaries of cultivation, clearing forests and breaking new land.

In the colonial period, cultivation expanded rapidly for a variety of reasons—

- (i) First the British directly encouraged the production of commercial crops like jute, sugar, wheat and cotton. These raw materials were required for industrial production.
- (ii) In the early nineteenth century, the colonial state thought that forests were unproductive. They were considered to be wilderness that had to be brought under cultivation so that the land could yield agricultural products and revenue and enhance the income of a state. Thus cultivated area rose by 6.7 million hectares between 1880 and 1920.



Fig.2 Converting sal logs into sleepers in the Singbhum forests, Chhotanagpur, May 1897.

(b) Sleepers on tracks

- (i) By the early nineteenth century, oak forests in England were disappearing. This created a problem of timber supply for the Royal Navy. By the 1820s, search parties were sent to explore the forest resources of India. Within a decade, trees were being felled on a massive scale and vast quantities of timber were being exported from India.
- (ii) The spread of railways from the 1850s created a new demand. Railways were essential for colonial trade and for the movement of imperial troops.

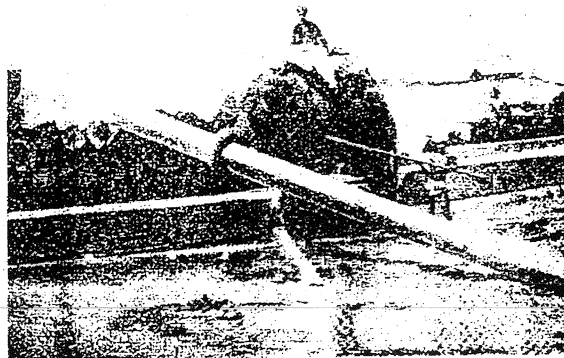


Fig.3 Elephants piling squares of timber at a timber yard in Rangoon.

- (a) To run locomotives, wood was needed as fuel.
- (b) To lay railway lines sleepers were essential to hold the tracks together. Each mile of railway track required between 1760 and 2,000 sleepers. From the 1860s, the railway network expanded rapidly. By 1890, about 25,500 km of tracks had been laid. In 1946, the length of the tracks had increased to over 765,000 km. As the railway tracks spread through India, a larger and larger number of trees were felled. As early as the 1850s, in the Madras Presidency alone, 35,000 trees were being cut annually for sleepers. The government gave out contracts to individuals to supply the required quantities. These contractors began cutting trees indiscriminately. Forests around the railway tracks started disappearing.

(iii) Plantations : Large areas of natural forests were also cleared to make way for tea, coffee and rubber plantations to meet Europe's growing need for these commodities. The colonial government took over the forests, and gave vast areas to European planters at cheap rates. These areas were enclosed and cleared off forests, and planted with tea or coffee.

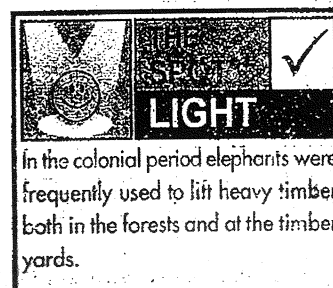
CHECK YOUR LEARNING 12.1

1. List at least six items around you which come from forests.
2. Under what names is shifting cultivation or swidden agriculture practiced in the following areas:
 - (i) South East Asia
 - (ii) Central America
 - (iii) Africa
 - (iv) Sri Lanka
 - (v) India



Fig.4

Bamboo rafts being floated down the Kassalong river.



In the colonial period elephants were frequently used to lift heavy timber both in the forests and at the timber yards.

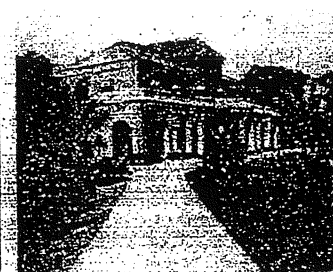


Fig.5

The Imperial Forest School, Dehra Dun, India. The first forestry school to be inaugurated in the British Empire.

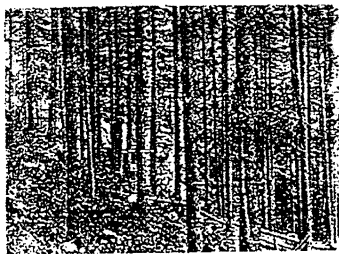


Fig.6 A deodar plantation in Kangra, 1933.



When the forest department decided to take up an area for logging, one of the first things it did was to build wide roads so that trucks could enter. Compare this to the forest tracks along which people walk to collect fuelwood and other minor forest produce. Many such trucks of wood go from forest areas to big cities.



Fig.7 Truck carrying logs.

12.3 The rise of commercial forestry

(a) Dietrich Brandis

- (i) In the previous section we have seen that the British needed forests in order to build ships and railways. The British were worried that the use of forests by local people and the reckless felling of trees by traders would destroy forests. So they decided to invite a German expert, Dietrich Brandis, for advice, and made him the first Inspector General of Forests in India.
- (ii) Brandis realised that a proper system had to be introduced to manage forests and people had to be trained in the science of conservation. This system would need legal sanction. Rules about the use of forest resources had to be framed. Felling of trees and grazing had to be restricted so that forests could be preserved for timber production, anybody who cut trees without following the system had to be punished.
- (iii) Brandis set up the Indian Forest Service in 1864 and helped formulate the Indian Forest Act of 1865. The Imperial Forest Research Institute was set up at Dehradun in 1906. The system they taught here was called 'Scientific Forestry'. Many people, including ecologists, feel that this system is not scientific at all.

(b) Scientific Forestry

In scientific forestry, natural forests which had lots of different types of trees were cut down. In their place, one type of tree was planted in straight rows. This is called a plantation. Forest officials surveyed the forests, estimated the area under different types of trees, and made working plans for forest management. They planned how much of the plantation area to cut every year. The area cut was then to be replanted so that it was ready to be cut again in some years.

(c) Forest Act

After the Forest Act was enacted in 1865, it was amended twice, once in 1878 and then in 1927.

The 1878 Act divided forests into three categories : reserved, protected and village forests.

- (i) **Reserved forests** : Forests were permanently marked for production of timber and the forest products. Grazing of animals and any form of cultivation were generally not allowed in these forests. They are best forest.
- (ii) **Protected forests** : In these forests, grazing of animals and cultivation was allowed but these were subjected to some restrictions.
- (iii) **Village forests** : These forests were unclassified forests, villagers had open access to these forests.

All the above steps forced the local forest community to revolt against the British.

(d) How were the lives of people affected ?

- (i) **Foresters and villagers** : Foresters and villagers had different ideas of what a good forest should look like. Villagers wanted forests with a mixture of species to satisfy different needs - fuel, fodder, leaves. The forest department on the other hand wanted trees which were suitable for building ships or railways. They needed trees that could provide hard wood, and were tall and straight. So particular species like teak and sal were remoted and others were cut.

Uses of Forest

- (i) In forest areas, people use forest products - roots, leaves, fruits and tubers - for many things. Fruits and tubers are nutritious to eat especially during the monsoons before harvest has come in.
- (ii) Herbs are used for medicine, wood for agricultural implements like yokes and ploughs, bamboo makes excellent fences and is also used to make baskets and umbrellas.
- (iii) A dried scooped-out gourd can be used as a portable water bottle.
- (iv) Leaves can be stitched together to make disposable plates and cups, the siadi (*Bauhinia vahlii*) creeper can be used to make ropes, and the thorny bark of the semmur (silk-cotton) tree is used to grate vegetables.
- (v) Oil for cooking and to light lamps can be pressed from the fruit of the mahua tree.


(ii) **Hardship for villagers**

The forest act meant severe hardship for villagers across the country.

- All their everyday practices - cutting wood for their houses, grazing their cattle, collecting fruits and roots, hunting and fishing became illegal.
- People were now forced to steal wood from the forests, and if they were caught, they were at the mercy of the forest guards who would take bribes from them.
- Women who collected fuelwood were especially worried. It was also common for police constables and forest guards to harass people by demanding free food from them.

CHECK YOUR ANSWERS 12.1


1. (i) Paper in books, (ii) wood for desks and tables, (iii) dyes that colour your clothes, (iv) honey, coffee, tea, (v) oil in chocolates, (vi) tannin.
2. The local names of shifting cultivation in the following areas are:
 - (i) South East Asia - Lading
 - (ii) Central America - Milpa
 - (iii) Africa - Chitmene or Lavy
 - (iv) Sri Lanka - Chena
 - (v) India - Dhya, Penda, Jhum, Kumri.

 **THE SPOT LIGHT** ✓

The sale of tendu leaves is a major source of income for many people living in forests. Each bundle contains approximately 50 leaves. and if a person works very hard they can perhaps collect as many as 100 bundles in a day. Women, children and old men are the main collectors.



Fig.8 Drying tendu leaves.

 **THE SPOT LIGHT** ✓

Villagers wake up before dawn and go to the forest to collect the mahua flowers which have fallen on the forest floor. Mahua trees are precious. Mahua flowers can be eaten or used to make alcohol. The seeds can be used to make oil.

THE SPOT LIGHT ✓

The new line to be constructed was the Indus Valley Railway between Multan and Sukkur, a distance of nearly 300 miles. At the rate of 2000 sleepers per mile this would require 600,000 sleepers 10 feet by 10 inches by 5 inches (or 3.5 cubic feet apiece), being upwards of 2,000,000 cubic feet. The locomotives would use wood fuel.

THE SPOT LIGHT ✓

At the rate of one train daily either way and at one maund per train-mile an annual supply of 219,000 maunds would be demanded. In addition a large supply of fuel for brick-burning would be required. The sleepers would have to come mainly from the Sind Forests. The fuel from the tamarisk and Jhand forests of Sind and the Punjab. The other new line was the Northern State Railway from Lahore to Multan. It was estimated that 2,200,000 sleepers would be required for its construction.

(e) **How did forest rules affect cultivation?**

One of the major impacts of European colonialism was on the practice of shifting cultivation or swidden agriculture. Shifting cultivation as a system of agriculture has the following features.

- (i) Parts of forests are cut and burnt in rotation.
- (ii) Seeds are sown in the ashes after first monsoon rains.
- (iii) Crop is harvested by October-November.
- (iv) Such plots are cultivated for a couple of years and then left fallow for 12 to 18 years for the forest to grow back. Shifting cultivation has been practiced in many parts of Asia, Africa and South America. In India, it is known by different names, such as tavy in Africa, Chena in Srilanka, lading in southeast Asia, Milpa in Central America, dhya, panda, bewar, nevad, jhum, podu, khandad and kumri.

The colonial government banned this practice of shifting cultivation. They felt that land which was used for cultivation every few years could not grow trees for railway timber. When a forest was burnt, there was the added danger of the flames spreading and burning valuable timber. Shifting cultivation also made it harder for the government to calculate taxes. Therefore, the government decided to ban shifting cultivation. As a result, many communities were forcibly displaced from their habitats in the forests. Some had to change occupations, while some resisted through large and small rebellions.

(f) **Who could hunt?**

- (i) Before the forest laws, many people who lived in or near forests had survived by hunting deer, partridges and a variety of small animals. This customary practice was prohibited by the forest laws. Those who were caught hunting were now punished for poaching.



Fig.9 Lord Reading hunting in Nepal.

- (ii) While the forest laws deprived people of their customary rights to hunt, hunting of big game became a sport. Under colonial rule the scale of hunting increased to such an extent that various species became almost extinct. The British saw large animals as signs of a wild, primitive and savage society. They believed that by killing dangerous animals the British would civilise India. They gave rewards for killing big animals on the grounds that they pose a threat to cultivators.

- (iii) Over 80,000 tigers, 150,000 leopards and 200,000 wolves were killed for reward in the period 1875-1925. Gradually, the tiger came to be seen as a sporting trophy. The Maharaja of Sarguja alone shot 1,157 tigers and 2,000 leopards up to 1957. A British administrator, George Yule, killed 400 tigers. Initially certain areas of forests were reserved for hunting. Only much later did environmentalists and conservators begin to argue that all these species of animals needed to be protected, and not killed.

12.4 Effects of the new forest laws on nomadic and pastoralist communities

Nomadic and pastoral communities do not maintain a permanent place of residence. They own a herd of cattle and keep moving from one place to another in search of food and shelter for themselves and for their cattle wealth. Under colonial rule, the life of those communities changed dramatically.

- (i) Their grazing grounds shrank
- (ii) Their movements were regulated.
- (iii) The revenue they had to pay increased.
- (iv) Their agricultural stock declined
- (v) Their trades and crafts were adversely affected.

(a) New trades, new employments and new services

After the forest department took control of the forests, some people benefited from the new opportunities that had opened up in trade.

- (i) Many communities across the world left their traditional occupations and started trading in forest products. For example, with the growing demand for rubber in the mid-nineteenth century the Mundurucu peoples of the Brazilian Amazon cultivated manioc, began to collect latex from wild rubber trees for supplying to traders.
- (ii) In India, from the medieval period onwards, we have records of adivasi communities trading elephants and other goods like hides, horns, silk cocoons, ivory, bamboo, spices, fibres, grasses, gums and resins through nomadic communities like the Banjaras.
- (iii) With the coming of the British, however, trade was completely regulated by the government. The British government gave many large European trading firms the sole right to trade in the forest products of particular areas. Grazing and hunting by local people were restricted. In the process, many pastoralist and nomadic communities like the Korava, Karacha and Yarukula and the Madras Presidency lost their livelihoods. Some of them began to be called 'criminal tribes', and were forced to work instead in factories, mines and plantations, under government supervision.



This photograph of an army camp was taken in Bastar in 1910. The army moved with tents, cooks and soldiers. Here a sepoy is guarding the camp against rebels.



Fig.10 An army camp.



In 1947 Bastar kingdom was merged with Kanker kingdom and became Bastar district in Madhya Pradesh. In 1998 it was divided again into three districts, Kanker, Bastar and Dantewada. In 2001, these became part of Chhattisgarh. The 1910 rebellion first started in the Kanger forest area (encircled) and soon spread to other parts of the state.



The story of the forests and people of Bastar does not end there. After Independence, the same practice of keeping people out of the forests and reserving them for industrial use continued.



In the 1970s, the World Bank proposed that 4,600 hectares of natural sal forest should be replaced by tropical pine to provide pulp for the paper industry. It was only after protests by local environmentalists that the project was stopped.

- (iv) New opportunities of work did not always mean improved well-being for the people. In Assam, both men and women from forest communities like Santhals and Oraons from Jharkhand, and Gonds from Chhattisgarh were recruited to work on tea plantations. Their wages were low and conditions of work were very bad. They could not return easily to their home villages from where they had been recruited.

(b) **Impact of various forest laws on the colonial people**

- (i) **Various restrictions :** The Forest Act meant severe hardships for villagers across the country. After the Act, all their forest activities like cutting wood for their houses, grazing their cattle, collecting fruits and roots, hunting and fishing became illegal
- (ii) **Impact on cultivators :** Shifting cultivation was the most common cultivation practiced by the people. But this was banned because European foresters regarded this harmful for the forests.
- (iii) **Displacement of the people:** To protect the forests, the Europeans started displacing villagers without any notice or compensation
- (iv) **Various taxes:** The Europeans started imposing heavy taxes on the forest people.
- (v) **Loss of livelihood :** The European started giving large European trading firms the sole rights to trade in the forests. Grazing and hunting by local people were restricted. In the process, many pastoralists and nomadic communities lost their livelihood.

12.5 Rebellion in the forest

In many parts of India, and across the world, forest communities rebelled against the changes that were being imposed on them. The leaders of these movements against the British like Siddhu and Kanu in the Santhal Parganas, Birsa Munda of Chottanagpur or Alluri Sitaram Raju of Andhra Pradesh are still remembered today in songs and stories

(a) **The people of Bastar**

- (i) Bastar is located in the southernmost part of Chhattisgarh and borders of Andhra Pradesh, Orissa and Maharashtra. The central part of Bastar is on a plateau. To the north of this plateau is the Chhattisgarh plain and to its south is the Godavari plain.
- (ii) The river Indrawati winds across Bastar east to west. A number of different communities live in Bastar such as Maria and Muria Gonds, Dhurwas, Bhatras and Halbas.
- (iii) The tribal people had formulated strict rules and regulations about how to manage and use the forests. They believed that each village was given its land by the earth, and in return, they look after the earth by making some offerings at each agricultural festival, since each village knows where its boundaries lie, the local people look after all the natural resources within that boundary.
- (iv) If people from a village want to take some food from the forests of another village, they pay a small fee called Devsari, dand or man in exchange. Some villages also protected their forests by engaging watchmen and each household contributes some grain to pay them.



Fig.11 Bastar in 2000

- (v) Every year there is one big hunt where the headmen of villages in a pargana (cluster of villages) meet and discuss issues of concern, including forests.

(b) The fears of the people

- (i) In 1905 the British Government proposed to reserve two-thirds of the forests, to stop shifting cultivation, hunting and collection of forest produce; the people of Bastar were very worried. For long, villagers had been suffering from increased land rents and frequent demands for free labour and goods by colonial officials. Then came the terrible famines in 1899-1900 and again in 1907-1908. Reservations proved to be the last straw.
- (ii) The initiative was taken by the Dhurwas of the Kanger forest where reservation first took place. Although there was no single leader, many people speak of Gunda Dhur, from village Nethanar, as an important figure in the movement. In 1910, mango boughs, a lump of earth, chillies and arrows, began circulating between villages. These were actually messages inviting villagers to rebel against the British. Every village contributed something to the rebellion expenses. Bazaars were



Fig.12 Train transporting teak out of the forest - late colonial period.

THE SECRET LIGHT

✓

Most of Indonesia's forests are located in islands like Sumatra, Kalimantan and West Irian. However, Java is where the Dutch began their scientific forestry. The island, which is now famous for rice production, was once richly covered with teak.

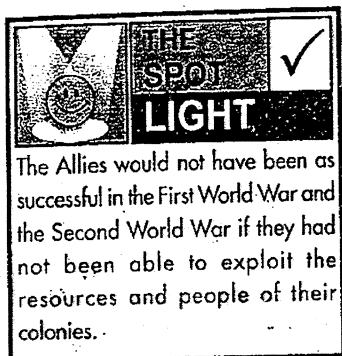


Fig.13 Indian Munitions Board, War Timber Sleepers piled at Soolay pagoda ready for shipment, 1917.

looted, the houses of officials and traders, schools and police stations were burnt and robbed, and grain redistributed. Most of those who were attacked were in some way associated with the colonial state and its oppressive laws.

- (iii) The British sent troops to suppress the rebellion. The adivasi leaders tried to negotiate, but the British surrounded their camps and fired upon them. After that they marched through the villages flogging and punishing those who had taken part in the rebellion. Most villages were deserted as people fled into the jungles. It took three months for the British to regain control. However, they never managed to capture Gunda Dhur.
- (iv) In a major victory for the rebels, work on reservation was temporarily suspended, and the area to be reserved was reduced to roughly half of that planned before 1910. The revolt also inspired the other tribal people to rebel against the unjust policies of the British Government.

12.6 Forest transformation in Java

Java is now famous as a rice-producing island in Indonesia, where the Dutch started forest management. Like the British, they wanted timber from Java to build ships. In 1600, the population of Java was estimated 3.4 million. There were many villages in the fertile plains; but there were also many communities living in the mountains and practising shifting cultivation.

(a) The woodcutters of Java

The Kalangs of Java were a community of skilled forest cutters and shifting cultivators. When the Dutch began to gain control over the forests in the eighteenth century, they tried to make the Kalangs work under them. In 1770, the Kalangs resisted by attacking a Dutch fort at Joana, but the uprising was suppressed.

(b) Dutch scientific forestry

The Dutch enacted forest laws in Java, restricting villagers access to forests. Now wood could only be cut for specified purposes only from specific forests under close supervision. Villagers were punished for grazing cattle in young stands, transporting wood without a permit, or travelling on forest roads with horse carts or cattle. As in India, the need to manage forests for shipbuilding and railways led to the introduction of a forest service. In 1882, 280,000 sleepers were exported from Java alone. However, all this required labour to cut the trees, transport the logs and prepare the sleepers. The Dutch first imposed rents on land being cultivated in the forest and then exempted some villages from these rent on land if they worked collectively to provide free labour and buffaloes for cutting and transporting timber. This was known as the Blandongdienst. Later, instead of rent exemption, forest villagers were given small wages, but their right to cultivate forest land was restricted.

(c) Samin's challenge

Around 1890, Surontiko Samin of Randublatung village, a teak forest village, began questioning state ownership of the forest. He argued that the state had not created the wind, water, earth and wood, so it could not own it. Soon a widespread movement developed. Amongst those who helped organise it were Samin's sons-in-laws. By 1907, 3000 families were following his ideas. Some of the Saminists protested by lying down on their land when the Dutch came to survey it, while others refused to pay taxes or fines or perform labour.

12.7 War and deforestation



- (i) The First World War and the second world war had a major impact on forest. In India, working plans were abandoned at this time, and the forest department cut trees freely to meet British war needs.
- (ii) In Java, the Dutch destroyed sawmills and burnt piles of giant teak logs so that they would not fall into Japanese hands. The Japanese then exploited the forests recklessly for their own war industries, forcing forest villagers to cut down forests.
- (iii) Many villagers used this opportunity to expand cultivation in the forest. After the war, it was difficult for the Indonesian forest service to get this land back.

12.8 New developments in forestry

- (i) Conservation of forests rather than collecting timber has become a more important goal. The government has recognised that in order to meet this goal, the people who live near the forests must be involved.
- (ii) In many cases, across India, from Mizoram to Kerala, dense forests have survived only because villages protected them in sacred grooves known as sarnas, devara, kudu, kan, ral, etc. Some villages have been patrolling their own forests, with each household taking it in turns, instead of leaving it to the forest guards.
- (iii) Local forest communities and environmentalists today are thinking of different forms of forest management.



Fig.14
Log yard in Rembang under Dutch colonial rule.



LIGHT

Both the world wars had a devastating effect on the forests of India, Indonesia and elsewhere. The forest department cut freely to satisfy war needs.

EXERCISE # 1

FORMATIVE ASSESSMENT

Multiple choice questions

1. Which of the following is a commercial crop ?
(1) Rice (2) Wheat
(3) Cotton (4) Corn
2. Dietrich brandis was the
(1) First postmaster general
(2) First governor of forest administration
(3) First Inspector General of forests in India
(4) First supervisor of forests
3. What was meant by 'blandongdiensten' system followed by the Dutch in Java ?
(1) A system which allowed people to stay in revil free villages.
(2) A system which exempted the villagers from rent for providing buffaloes in cultivation work.
(3) A system which exempted villagers from rent in exchange for the free labour and supply of buffaloes for transporting timber.
(4) A system of taxation imposed on villagers for specified advantages.
4. In which type of forests, the villagers were forbidden to take anything ?
(1) Protected forests (2) Village forests
(3) Reserved forests (4) Wild forests
5. The new system introduced by the imperial forest institute was
(1) Scientific forestry
(2) Scientific farming
(3) Scientific irrigation
(4) Scientific plantation
6. The imperial forest institute was set up in 1906 at
(1) Lucknow (2) Dehradun
(3) Allahabad (4) Gorakhpur
7. Which of the following was the most essential for colonial trade and movement of goods?
(1) Roadways (2) Railways
(3) Airways (4) Waterways
8. At which of the following places, the villagers rose in revolt against the colonial government ?
(1) Rajasthan (2) Midnapore
(3) Bastar (4) Uttarakhand

9. Who among the following were well-known skilled forest cutters ?
(1) Mundas of Africa
(2) Kalangas of Java
(3) Gonds of Orissa
(4) Mundas of Chottanagpur
10. Latex can be collected from which of the following trees ?
(1) Rubber trees (2) Eucalyptus tree
(3) Deodar tree (4) Pine tree
11. Which of the following refers to shifting cultivation?
(1) Types of cultivation under which parts of forests are cut and burnt in rotation.
(2) Seasonal cultivation
(3) Type of cultivation in which farmers shift from one place to another to cultivate different crops.
(4) Cultivation where crops are harvested only in autumn.
12. Which of the following is not a local name of shifting cultivation ?
(1) Jhum (2) Khamir
(3) Tavy (4) Milpa
13. How much of India's landmass was under-cultivation in 1600 ?
(1) One-Sixth (2) One-Third
(3) Two-Third (4) Half
14. About how much percentage of the world's total forest area was cleared between 1700 and 1995?
(1) 9% (2) 9.3%
(3) 20.5% (4) 30%
15. Which place is now famous as a rice-producing island in Indonesia ?
(1) Java (2) Sumatra
(3) Borneo (4) Kalimantan
16. Who were 'Kalangs' of Java ?
(1) Dynasty of rulers
(2) Skilled forest cutters and shifting cultivator
(3) A community of moneylenders
(4) None of these
17. The Kalangs resisted the Dutch in
(1) 1700 (2) 1750
(3) 1770 (4) 1800

18. Who wrote the book the forest of India in the year 1923?

- (1) David Spur (2) E.P.Stebbing
(3) Verrier Elvin (4) John Middleton

19. Who was Gunda Dhur ?

- (1) A rebel of Java
(2) First Inspector General
(3) A leader of santhal rebellion
(4) A leader of Dhurwa tribe

20. Large areas of natural forests were also cleared to make way for which of these ?

- (1) Tea plantations (2) Coffee plantation
(3) Rubber plantation (4) All the above

True or false

- The length of railways tracks laid by now were over 7,65,000 km in 1946.
- In 1771, the kalangs rose in rebellion against the Dutch but were suppressed.
- Cutting of forests on large scale is known as afforestation.
- In 1860, the railway network expanded rapidly.
- The 1878 Act divided forests into 2 categories.
- Forest Act was enacted in 1865.
- One type of tree planted in straight rows is called plantation.
- Many communities were forcibly displaced from their homes in the forests.

Fill in the blanks

- The river _____ flows through bastar.
- Java was a _____ colony.
- Sarnas are _____.
- In _____ the Indian forest service was set up.
- The imperial forest research institute was set up at _____.
- Bastar is located in the Southernmost part of Chattisgarh and borders _____, _____ and _____.
- The kalangs of java were a community of skilled _____.
- Rebellion which took place in the kingdom of bastar in _____.

Match the column

	Column-I		Column-II
1.	(1) Sacred	(a)	Dutch
	(2) Scorched earth policy	(b)	Brazil
	(3) Tribes of Bastar	(c)	Central America
	(4) Manioc	(d)	Sarnas, Kan, Rat
	(5) Milpa	(e)	Maria, Dhurwas and
	(6) Dietrich	(f)	The first inspector genral of forest in India.

EXERCISE # 1

ANSWER KEY FORMATIVE ASSESSMENT

Multiple choice questions

Ans.	3	3	3	3	1	2	2	3	2	1	1	2	1	2	1	2	3	2	4	4
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True or false

1. True 2. False 3. False 4. True 5. False 6. True
7. True 8. True

Fill in the blanks

1. Indrawati 2. Dutch 3. Sacred groves 4. 1864 5. Dehradun
6. Andhra Pradesh, Orissa and Maharashtra 7. Forest cutter & shifting cultivators 8. 1910

Match the column

1. (1) → d ; (2) → a ; (3) → e ; (4) → b ; (5) → c ; (6) → f

EXERCISE # 2

SUMMATIVE ASSESSMENT

Short answer type questions

1. Describe scientific forestry.
2. How did the forest rules affect cultivation?
3. Explain why did the Dutch adopt the 'scorched earth policy' during the war.
4. Mention any two ways by which the bastar rebellion was suppressed. State one result of the rebellion.
5. Explain any three features of the blandongiensten system?
6. Describe in brief the Saminist movement of Indonesia?
7. Why were forests important to the villagers?
8. Describe some of the common customs and belief of the bastar people.
9. How did the Forest Acts affect the lives of foresters and villagers?

10. Why were Oak forests very important for Britain?

Long answer type questions

1. Mention any three causes of deforestation in India under the colonial rule.
2. How did commercial farming lead to a decline in forest covers during colonial period?
3. Where is Bastar located? Discuss its history and its people.
4. What is shifting cultivation? Why did the European foresters regard this practice as harmful for the forests?
5. What new trends and developments have affected forestry today?
6. Discuss the rise of commercial forestry under the colonial governments.
7. State any five factors which contributed to deforestation in India.

NCERT QUESTIONS WITH ANSWERS

1. Discuss how the changes in forest management in the colonial period affected the following :

- (a) Shifting cultivators
- (b) Nomadic and pastoralist communities
- (c) Firms trading in timber/forest produce
- (d) Plantation owners
- (e) Kings/British officials engaged in shikar

Ans. (a) Shifting cultivators : European foresters regarded shifting cultivation as harmful for the forests. The government banned shifting cultivation. Shifting cultivators were forcibly displaced from their homes in the forests. Some had to change occupations, while some resisted through large and small rebellions.

(b) Nomadic and pastoralist communities : The forest laws deprived people of their customary rights and meant severe hardship for the nomadic and pastoralist communities. They could not cut wood for their houses, could graze their cattle or collect fruits and roots. Hunting and fishing became illegal. They were forced to steal wood. If they were caught, they were at the mercy of the forest guards and they would have to offer bribes to the guards. Many pastoralist and nomadic communities like the Korava, Karacha of the Madras Presidency lost their livelihoods. Some of the nomadic communities began to be called criminal tribes and were forced to work instead in factories, mines and plantations under government supervision. They were also recruited to work in plantations. Their wages were low and conditions of work very bad.

(c) Firms trading in timber/forests produce : By the early nineteenth century, oak forests in England were disappearing. This created a problem of timber supply for the Royal Navy. By the 1820s, search parties were sent to explore the forest resources in India. Trees were felled on a massive scale and large quantities of timber were being exported from India. The colonial government took over the forests and gave vast areas to European planters at cheap rates. The British Government gave many large European trading firms the sole right to trade in the forest products of particular areas. The government gave contracts to contractors who cut trees indiscriminately and made huge profits.

(d) Plantation owners : Large areas of natural forests were also cleared to make way for tea, coffee and rubber plantations to meet Europe's growing need for these commodities. The colonial government took over the forests, and gave vast areas to European planters at cheap rates. These areas were enclosed and cleared of forests and planted with tea or coffee. Communities like Santhals from Assam, and Oraons from Jharkhand and Gonds from Chhattisgarh were recruited to work on tea plantations. Their wages were low and conditions of work very bad. The plantation owners, under the protection and rights given by the British Government, made huge profits.

(e) Kings/British officials engaged in shikar : In India, Shikar or hunting of tigers and other animals had been part of the culture of the court and nobility for centuries. Under colonial rule the scale of hunting increased to such an extent that various species became almost extinct. The British saw large animals as signs of a wild, primitive and savage society. They believed that by killing dangerous animals the British would civilize India. The British gave rewards for the killing of tigers, wolves and large animals on the grounds that they posed a threat to cultivators. The Maharaja of Sarguja alone shot 1157 tigers and leopards upto 1957. A British Administrator George Yule 400 tigers. Over 80000 tigers, 150000 leopards and 200000 wolves were killed for reward between 1875 and 1925. Initially certain areas of the forests were reserved for hunting.

2. What were the similarities between colonial management of the forests in Bastar and Java?

Ans. Forest management of Bastar in India was in the hands of the British and in Java it was in the hands of the Dutch. The Dutch, like the British, wanted timber to build ships and to make sleepers for railway tracks. Both the British and the Dutch enacted forest laws to control the forests and put restrictions on the customary rights of the local people. They were prevented from entering the forests, they could not graze cattle, or cut wood or take forest produce without permission. Both the governments banned shifting cultivation. Both the British and the Dutch introduced scientific forestry. The villagers in Bastar were allowed to stay on in the forests on the condition that they would provide free labour for the forest department in cutting and transportation of trees and protecting the forests from fire. Similarly, in Java the Dutch imposed rents on the cultivated land in the forests and then exempted some villages if they collectively provided free labour and buffaloes for cutting and transporting timber. This system was known as the 'blandongdiensten' system. When the exploitation by the British in Bastar and the Dutch in Java became too much, the forest communities in Bastar and Java revolted under Gundathur and Surrontiko Samin respectively. Both the revolts were crushed in 1910 and 1970 respectively.

3. Between 1880 and 1920 forest cover in the Indian subcontinent declined by 9.7 million hectares, from 108.6 million hectares. Discuss the role of the following factors in this decline.

- | | |
|----------------------------|--------------------------------------|
| (a) Railways | (b) Ship building |
| (c) Agricultural expansion | (d) Commercial farming |
| (e) Tea/Coffee plantations | (f) Adivasis and other peasant users |

Ans. (a) Railways : The spread of railways from the 1850's created a new demand. Railways were essential for colonial trade and for the movements of imperial troops. To run locomotives wood was needed as fuel and to lay railway lines. Sleepers were essential to hold the tracks together. Each mile of railway track required between 1760 and 2000 sleepers. From the 1860's the railway network expanded rapidly. As the length of the railway tracks expanded a very large number of trees were felled. As early as the 1850s, in the Madras Presidency alone 35000 trees were cut annually for sleepers. Forests around the railway tracks started disappearing very fast.

(b) Ship Building : By the early 19th century, oak forests in England were disappearing. This created a problem of timber supply from the Royal Navy. English ships could not be built without a regular supply of strong and durable timber. Imperial power could not be protected without ships. Therefore by the 1820's, vast quantities of timber were being "exported, leading to disappearance of forests.

(c) Agricultural expansion : As population increased, the demand for food went up. Peasants extended the boundaries of cultivation by clearing forests. In the early 19th century, the colonial state thought that the forests were unproductive. They were considered to be wilderness that had to be brought under cultivation so, that the land could yield agricultural products and revenue, and enhance the income of the state. So between 1880 and 1920, cultivated area rose by 6.7 million hectares by clearing the forests. The demand for commercial crops like jute, sugar, wheat, cotton and raw material for industries increased. Therefore the British encouraged expansion of cultivation by clearing forests, leading to decline in forest cover.

(d) Commercial farming of trees : In commercial farming, natural forests which had lots of different types of trees were cut down, in their place one type of trees was planted in straight rows, this is called a plantation, to promote plantation farming or commercial farming, different varieties of trees were cut down leading to loss of many species and loss of forest cover when the trees were cut for commercial use.

(e) Tea/Coffee plantation : Large areas of natural forests were also cleared to make way for tea, coffee and rubber plantations to meet Europe's growing need for these commodities, the colonial government took over the forests and gave vast areas to European planters at cheap rates, these areas were enclosed and cleared of forests and planted with tea or coffee. Plantations were large in area leading to loss of large forest areas.

(f) Adivasis and other peasant users : As in most parts of the world, shifting cultivation was done by the adivasis and other peasant communities in India also. In shifting cultivation, parts of the forest area are cut and burnt in rotation. Seeds were sown in the ashes after the first monsoon rains and the crop was harvested by October-November, when fertility decreased, the process was repeated at another location. This led to large loss of forests.

4. Why are forests affected by wars ?

Ans. Forests are affected by wars because forest products are used for fulfilling various needs and requirement during war. In the case of India, during the First world war and the Second world war the forest department cut trees freely to meet British war needs. During the Second world war in Java just before the Japanese occupied the region, the Dutch followed 'a scorched earth policy', destroying sawmills and burning huge piles of giant teak logs so that they did not fall into Japanese hands. The Japanese exploited the forests recklessly for their war industries forcing villagers to cut down forests. Many villagers took this opportunity to expand cultivation in the forests. Thus, wars also led to destruction of forests.

Important Notes

Lined area for notes.