MODULE 35 - COMMON VILLAGE TREES

OBJECTIVES

By the end of the session, the learner will be able to:

1. Know about common village trees.
2. Learn about the different parts of trees.
3. Know about the important features of a particular tree species.
4. Have an idea about economic and ecological importance of the species.
5. Know about the conservation states on the species concerned.
6. Learn to appreciate the relationship between plants and animals.

SUMMARY

Trees are a very common component of our surroundings. They make the environment healthy and beautiful. A woody plant that produces one main trunk and more or less elevated head is called a tree. Trees are generally found in forests but due to their aesthetic value and economic importance they are purposefully planted in and around cities and villages. Apart from the ecological and economic value they provide beauty and shade also. Village trees play a very important role in the economy of farmers. They also provide shade, shelter and food to a large number of herbivores. In order to protect and appreciate their value in our daily life we must know every detail of them. This module aims to help the learner to know about some common village trees and their environmental importance.

TRANSCRIPTION

Introduction

This green world is full of a variety of plants, classified as herbs, shrubs, climbers and trees. A tree can be defined as a big, tall, plant, with a woody stem and a rough bark, branching at the top, with leaves at the ends of its twigs. A tree is generally more than three meters tall, but some exceptions also exist, such as palms, which do not branch at all, even though they are trees. In our vicinity we come across different types of trees which are loosely classified as avenue trees, garden trees, forest trees, village trees, and so on. The type of tree also varies according to the habitat, climate and soil of the area. Trees of hilly tracts are different from trees growing in the desert. Sometimes we plant around them in our neighbourhood keeping in mind their uses and importance. In this module we will learn about some common village trees.

1. Acacia- or the Egyptian thorn tree

Acacia is a middle sized, thorny, deciduous tree found in hot low lands. It thrives very well in dry conditions. The bark is almost black, thick, deeply ridged and fissured. The tree has a spreading, open crown of feathery dark green, compound leaves. Its bright yellow flowers appear in the rainy season.

Its *Leaves* are twice feathered, 2.5 to 5 cm long dividing into 3 to 6 pairs. Each side stalk bears up to 25 pairs of leaflets. A pair of straight, white spines, about 5 cms in length, is present below each leaf. Leaves are shed in March or April.

Its *Flowers* are small bright yellow, clustered tightly to form round, yellow heads. Petals are insignificant. Bright yellow stamens give colour to the heads. The tree flowers from June to August.

Its *Fruits* are grayish and are known as pods. Each pod may be up to 20 cm long, deeply pinched between every seed. Each pod appears like a bead necklace. A single pod contains about 8-14 seeds. The fruit is indescent.

Names:

Acacia is commonly known as '*babool*' in many parts of India. It is also called '*keekar*'. Its English name is *Egyptian Thorn Tree*. Botanically the plant is known as *Acacia nilotica* or *Acacia arabica*. It is a member of the family *Mimosaceae*.

Uses:

Acacia is one of the most important trees of India. It is *planted* on the boundaries of fields. It provides *protection* to fields and *fodder* to goats and camels. The *bark and fruits* are used for tanning. *Gum* from this tree is used in calico printing and dyeing. It is also used in making inks, paints and confectionery. The *heart wood* is hard and is widely used in making agricultural tools. The wood is also used as fuel. In all, the tree is very useful and can be said to be a true friend of farmers.

Botanical Importance:

Acacia is indigenous to Sindh, Gujrat and North Deccan and is cultivated everywhere in India, considering its various uses. The tree provides good fodder to herbivores like goats and camels. The flowers are visited by bees for nectar and to pollinate them. Due to increased urban developmental pressure, this tree is becoming less visible around cities, even though it is resistant to air pollution. The weaver bird or 'baya's' nests are often found dangling from the tree. It is one of the preferred nesting sites of the weaver bird. It also provides food to the larvae of *Gram blue* and *Acacia blue butterflies*.

Date Palm:

The *date palm* is a tall, feather-leafed palm. Its stem is slender and curving, with plumore crown. The tree is evergreen. The *trunk* is grey-brown, covered by stumps of fallen leaves. It is un-branched, with a crown of leaves at the top. *Male and female plants* are separate. This condition is known as 'dioecious'. *Leaves* are very long, arching, grayish-green, compound. The leaflets are attached to the rachis. Each leaflet can be upto 45 cms long. Sharp spines are found on the lower portion of the leaf stem.

The *Flowers* are trimerous i.e. three-petaled. They are fragrant. Male and female flowers grow on different trees. The stalk of flower cluster is flat and thick, like a camel's tail. The flower buds are enclosed in large sheaths. Male flowers are larger, more closely spaced and creamy yellow.

The fruit comes in large clusters. The fruits are green when young but become orange-yellow on maturing and finally turn to a deep red-brown. They are edible, but contain very little quantity of sweet pulp. The seed is large and grooved. The seed is called 'gudhali'.

Names:

In Hindi it is known as '*khajoor*' or '*Khajoori*'. It is also known as '*sendhi*' or '*chhind*'. Its botanical name is *Phoenix sylvestris*. It belongs to the family *Palmae.*

Uses:

The tree is of great economic value, especially for villagers. Leaves are sugary. The freshly tapped juice is rich in sugars and ferments quickly. It is known as '*taadi*'. The unfermented fresh juice is very refreshing and sold as '*neera*'. The woody trunk is used as beams and support in making houses. The leaf-stalks are used to make paper and rope. Old fallen leaf stalks provide fuel to the poor.

Ecological Importance:

The sweet fruits are eaten by many birds. This tree plays a very important role in rural economy. Its multipurpose uses can help in supporting and strengthening sustainable development. The tall trees are a favorite site for nesting weaver birds. One can see many nests of the weaver bird hanging from its leaves. Thus, this tree helps different herbivores, as well as human beings, in many ways. In short it provides all the basic needs of a man i.e. food, clothing and shelter.

2. Pongam Tree: -

Pongam is a familiar medium sized, deciduous tree. It reaches usually up to 10-20 meter high with a spreading, shady crown. It is very common along river banks, nalas and streams. The tree is especially found in Sudarbans. The bark is smooth and gray.

The leaves are compound. Each leaf consists of about 5-9 leaflets, placed opposite each other. Leaflets are green, oval in shape and 4-10 cm long, with elongated tip. The pale green young leaves make the tree look very beautiful. The mature leaves are attacked by leaf miner insects, making the leaf very ugly. Leaves fall in late winter. New leaves appear in April, with a second flush during rains. The leaf miner worm attacks the old leaves in December.

Flowers come in short clusters. They are pea-like. The flowers are fragrant white of pale pink. The flower has five petals, one of which is hood-like and called the 'standard petal'. The stamens are clustered together. The flowers appear on the tree from April-June, when the tree is nearly leafless.

Fruits are woody, pod-like, about 5 cms long, almost oval and flattened, with a characteristic pointed beak at the apex. Generally each pod contains one seed. The pods are initially green and become grey-brown on maturity. They are indehiscent and ripen between March to May of the next year.

Names:

Pongam is variously named as '*Indian Beech Tree'*, '*Ponga-oil Tree'*. In Hindi, Marathi and Bengali it is known as '*Karanj'*. This name is probably associated with the abundance of the tree on the island of Karanjia, near Mumbai. The botanical name is *'Pongamia pinnata'*. 'Pongamia' has been coined from the Tamil name of Pongam. This tree belongs to the *family Papilionaceae.*

Uses:

The Pongam is mainly used as a shade tree or as an ornamental plant. It is very suitable for road-side avenues and on railway station platforms, but is more commonly found in villages. Its leaves provide green manure and are used to cure skin diseases. They are also very effective against white ants. The oil obtained from seeds is used to treat scabies, herpes and rheumatism. Its oil is used as a lubricant, lamp oil, pesticide and in soap making. It is locally used as fuel wood.

Ecological Importance:

The leaves are not eaten by goats, so it is planted in large numbers without any protection on roadsides, creating green belts. Though the leaves are not palatable to cattle, the larvae of *Chestnut Streaked Sailor Butterfly*, *Indian Sunbeam Butterfly* feed on them freely. The flowers of Pongam also provide food to the larvae of *Common Cerulean Butterfly*. In this way the tree provides food to various herbivores, including leaf miners.

3. The Temple Tree

The temple tree is a small deciduous, low branching tree, generally planted in temples and gardens. The leaves are large, crowded at the end of the branches. The bark is very thin, shiny, greenish-brown and exudes a milky sap when cut or bruised. It is native to a hot, tropical territory, stretching from South Mexico, Panama and West Indies to the North of South America. At present, it grows extensively throughout India. It was probably introduced to India by the Portugese. It was found growing in the Malabar Hills in Mumbai in 1787.

The leaves are large, broadly lanceolate, tapering at both ends and quite distinctive due to prominent parallel veins. They are about 55 cms long, hairless and smooth when mature. The leaves are darker on the top and dull, without any shine. They are borne in crowded spirals at the end of the branches. Branches are cylindrical in shape. The tree remains leafless from December until the onset of the rainy season.

The flowers are strongly fragrant. They appear in upright clusters at the top of the branches, from a common stalk. The flowers are waxy, white and range from pink to deep crimson. The centre of the flower is generally tinged with golden yellow. Petals are five and twisted, that is, they overlap each other. The flowering period is between March and April and again between July and October. The tree is liked by all because of its sweet-scented flowers, which are available almost throughout the year.

The fruit is a leathery pod. Pods come in pairs of 12-15 cms. They are deep green, filled with seeds, with a tassel of silk. The tree rarely fruits in our country.

Names:

The Temple Tree is known in English as *Frangipani*. It is also known as the '*Pagoda tree'* as it is generally found near pagodas. In Hindi it is called '*Champa*'. The botanical name is '*Plumeria acutifolia'*, named after the French botanist Charles Plumier, while the term 'acutifolia' refers to the pointed, tapering leaves. It is also called '*Plumeria rubra'*, where 'rubra' refers to the variety with red flowers.

Uses:

It is a very attractive tree, loved by gardeners and nature lovers. The sweet scented flowers are offered in worship. The bark relieves fever, heals sores and acts as a powerful purgative. The crushed leaves are applied to the skin to reduce swelling. The milky latex is used along with coconut oil to treat skin troubles.

Ecological Importance:

The flowers are visited by a variety of insects, especially bees, which pollinate them. The leaves of trees growing along roadsides are often found covered with heavy dust deposits. In this way the tree helps control particulate pollution in cities. It also seems to be comparatively resistant to air pollution.

4. The Indian Gooseberry Tree:

The Indian Gooseberry Tree is a medium sized, deciduous tree, generally found in dry deciduous forests, but cultivated for its useful sour fruits on a large scale. It can also be seen in gardens or in villages, near temples, where it is planted for its religious significance.

The Indian Gooseberry is a distinctive tree with a thin grey *bark* which flakes off to reveal a yellow-brown fresh bark beneath.

The *leaves* are very small and generally mistaken as leaflets of a compound leaf. Each leaf is 8-12 mm long, narrow, with pointed apex. The tree remains leafless during January and February. New leaves appear in March.

The tree *flowers* in March as well. Separate male and female flowers are to be found on the Indian Gooseberry. Male flowers are many and found in clusters at the base of the twig, while the female flowers are found towards the apex of the branches. The flowers are small and inconspicuous. Female flowers are pollinated by insects, especially bees.

The Indian Gooseberry is known for its *fruits*, which are round and 2-4 cms in diameter. They are yellow-green in color, with a thin, translucent skin. About 6-8 faint vertical lines can be observed on the fruit. The fruit is extremely sour and is a rich source of Vitamin C. They are 20 times richer in Vitamin C than oranges are.

Names:

The Indian Gooseberry is also known as *Emblic murobalan.* In Hindi it is known as ‘Amla’, while in Sanskrit it is called ‘amlak’. Its botanical name is *Phyllanthus emblica’*. It belongs to the family *Euphorbiaceae.*

Uses:

The Indian Gooseberry is a very important medicinal tree. Its fruits are used for making ‘Triphala churn’ and ‘Chyavanparash’ and various other ayurvedic medicines. They are also used in making pickles, sherbets, hair oils, etc.

Ecological Importance:

The fruits of Indian Gooseberry are eaten by wild animals. The flowers provide nectar to many insects. Research conducted in our country suggests that this tree is moderately resistant to the effects of air pollution due to the rich Vitamin C content, which acts as a powerful antioxidant.

5. Cluster Fig

The Cluster Fig is a middle-sized deciduous tree. The tree trunk is crooked and has an open, spreading crown. The bark is relatively smooth, grayish-yellow or rusty brown. The bark becomes somewhat scaly with age. A milky sap comes out when the tree is bruised or cut. Leaves are shed in

January and the tree is leafless till March. However, the tree may be evergreen if found near streams or ponds. The Cluster Fig is not a 'strangler' like other figs and is not found as en epiphyte on other fig trees. Aerial roots are also absent.

A native of Africa, this tree has now reached Asia. It can now be found throughout tropical Asia, from India to Australia. The Cluster Fig is not found in the drier parts of India. It is one of the 'panch pallav' trees of Indian culture, the other four being the peepal, mango, Jamun and the Banyan.

The leaves are simple, 9-13 cms long, thin & with a few irregular teeth. The teeth disappear as the leaf matures. Leaves are leathery, tapering at both ends. The upper surface is dark and the lower is dull or pale. The leaves are arranged alternately on the twigs. They have three prominent yellow veins. The venation is reticulate.

Flowers are found enclosed in figs. They are very small. Male and female flowers are separate. The figs grow in large clusters directly from the trunk or from the main branches. This is called 'cauliflorae' and is a characteristic of this fig.

The flowers are pollinated by the 'fig wasp'. The young figs are green and they turn red or orange on maturing. Each fig is 2-3 cms wide, with a short stalk and is somewhat spherical with a small opening at the apex. The fruits are found inside the figs. The figs are eaten by herbivores, specially birds like koel, hornbill, mynas and bulbuls. It is also cherished by bats, butterflies and monkeys.

Names:

The Cluster Fig is known as '*Goolar*' in Hindi, '*Umber*' in Sanskrit. Botanically it is called 'Ficus recemosa' or 'Ficus glomerata'. It belongs to the *Family Moraceae*.

Uses:

The Cluster Fig is an important medicinal plant. The fig is used in traditional medicines. The figs are carminative while the milky latex is used to treat piles and diarrhea. The leaves are excellent fodder for many herbivores like goats, sheep and elephants. An astringent lotion is prepared from the bark to treat deep wounds. The dried leaves are powered and used to cure biliousness.

The figs are eaten by forest-dwellers. The wood is used for sacrificial fires like havans and yagnas. The tree is considered as sacred.

Ecological Importance:

The Cluster Fig plays a very important role in the terrestrial ecosystem. Its leaves and fruits provide food for a variety of herbivores. More than a dozen birds are fond of its ripe figs. At the time of fruiting it becomes like a paradise for birds.

Its pollination by a specific wasp is a very good example of mutualistic relationship found in nature. The fig and the fig wasp seem to be made for each other, because in the absence of one the lifecycle of the other cannot be completed.

The leaves of the Cluster Fig are a good food for the larva of the Common Emigrant Butterfly, the Common Crow Butterfly and the Common Map Butterfly. In all, it is a very important tree in our surroundings.

GLOSSARY

1. Deciduous: Falling of all leaves of a tree at a certain season every year.
2. Pioneer: A plant which comes to establish first.
3. Leaflets: A part of a compound leaf, like Amaltas.
4. Spine: Sharp, pointed structure on branches of a plant/tree.
5. Head: A type of floral arrangement.
6. Pods: A typical dry fruit, elongated in shape.
7. Dioecious: having male & female flowers on different plants.
8. Plumore crown: Feather-like crown.
9. Evergreen: A tree remaining green throughout the year.
10. Rachis: Axis bearing flowers or leaflets of compound leaf.
11. Trimerous: Having floral parts in multiples of three.
12. Edible: Eatable material like fruit and leaves.
13. Leaf miner: A type of very small insect which attacks leaves.
14. Standard Petal: The largest petal of a papilionaceous flower.
15. Indehiscent: Not regularly opening, as a seed pod.
16. Bio-diesel: Diesel obtained from non-edible oil.
17. Lanceolate: Shaped like a lance-head.
18. Twisted: A type of arrangement of petals or sepals.
19. Pollination: Transfer of pollen from anther to stigma.
20. Fig: Fruits of Ficus genus, e.g. the fig tree, Cluster figs, the banyan tree.
21. Epiphytic: A plant that grows upon another plant.
22. Venation: Arrangement of veins on the leaves.
23. Reticulate: A type of venation of leaves in which a net of veins is formed.
24. Cauliflorae: A condition in which the flowers and fruits appear directly on the old branches of a tree e.g. Cluster Fig and Custard Apple.
25. Fig wasp: An insect found on figs, which is responsible for its pollination.
26. Carminative: Medicine that eases flatulence.
27. Astringent: A medicine that reduces the flow of secretions.
28. Mutualistic: The association between two partners in which both are benefitted e.g. lichens, Figs and fig wasp.

FAQs

Q1. Write two popular names of Acacia.
Ans: Babool & Keekar

Q2. What are spines?
Ans: A sharp, pointed structure on the stem.

Q3. Give the popular name of fruits of Acacia.
Ans: the fruits of acacia are called ‘pods’.

Q4. What is the English name of Babool?
Ans: Egyptian Thorn.

Q5. What is the botanical name of Acacia?
Ans: Acacia nilotica or Acacia arabica.

Q6. Which family does Acacia belong to?
Ans: Family Mimosaceae

Q7. Which bird’s nest can be seen hanging from Acacia?
Ans: Baya or weaver bird.

Q8. Which type of leaf is found in Acacia?
Ans: Compound

Q9. Name the herbivores which feed on the leaves of Acacia?
Ans: Goats & camels.

Q10. What is ‘rachis’?
Ans: ‘Rachis’ is an axis bearing flowers or leaflets of compound leaves.

Q11. What is the meaning of ‘trimerous flowers’?
Ans: Trimerous flowers are those in which petals, sepals & sex organs are found in multiples of three.

Q12. What is the botanical name of Wild Date Palm?

Ans: Phoenix sylvestris.

Q13. Which family does the Date Palm belong to?
Ans: The date palm belongs to the family Palmae.

Q14. What is ‘Taadi’?
Ans: The fermented juice of date palm is called ‘Taadi’.

Q15. What is the freshly tapped juice of Date Palm called?
Ans: Neera

Q16. What is the meaning of ‘dioecious’?
Ans: When the male and female flowers are borne on separate plants, it is called ‘dioecious’.

Q17. What is ‘standard petal’?
Ans: The largest petal of Papilionaceous flowers and in members of Caesalpiniaceae, e.g. Gulmohar.

Q18. What is the botanical name of Pongam Tree?
Ans: Pongamia pinnata.

Q19. Which plant’s oil is currently being used in the preparation of bio-diesel?
Ans: Pongam seed oil.

Q20. Name the tree whose leaves are effective against white-ants.
Ans: The Pongam Tree.

Q21. What is the botanical name of the Temple Tree?
Ans: Plumeria acutifolia.

Q22. What is the Hindi name of the Temple Tree?
Ans: Champa.

Q23. The latex of the Temple Tree is used to treat which disease?
Ans: Skin disorders.

Q24. Who introduced the Temple Tree to India?

Ans: Portugese.

Q25. In which type of forest is the Indian Gooseberry found?

Ans: Dry, deciduous forest.

Q26. What is the botanical name of Indian Gooseberry?

Ans: Phyllanthus emblica

Q27. To which family does the Indian Gooseberry belong?
Ans: Euphorbeaceae.

Q28. What famous health tonic is prepared from Indian Gooseberry fruits?
Ans: Chavanparash

Q29. What is 'cauliflorae'?

Ans: A condition in which flowers appear directly on branches, e.g. Cluster Fig & Custard Apple.

Q30. To which family does the Cluster Fig belong?

Ans: Moraceae.

Q31. Who is the pollinator of the fig flowers?

Ans: Fig wasp.

Q32. What is the common Hindi name of Cluster Fig?

Ans: Goolar

Q33. What is the botanical name of Cluster Fig?

Ans: Ficus glomerata.

Q34. Which butterfly's larvae feed on the leaves of the Cluster Fig?

Ans: Common Emigrant, Common Crow and Common Map butterflies.