



Types of Forests in India

Introduction

▪ Definition of Forest:

- At present, in India, there is no clear nationally-accepted definition of 'forest'.
- States are responsible for determining their definition of forests.
- The prerogative of the states to define forests stems from a 1996 Supreme Court order called the **T.N. Godavarman Thirumulkpad vs the Union of India** judgment.
 - In the judgement, the Supreme Court interpreted that the word "forest" must be understood according to its "dictionary meaning".
 - This description covers all statutorily recognised forests, whether designated as reserved, protected or otherwise.

▪ Constitutional Provisions:

- Forests are included in the **Concurrent List** in the (Seventh Schedule) of the Constitution of India.
- Through the [42nd Amendment Act](#), 1976 Forests and Protection of Wild Animals and Birds were transferred from State to Concurrent List.
- **Article 51 A (g)** of the Constitution states that it shall be the **fundamental duty** of every citizen to protect and improve the natural environment including forests and Wildlife.
- **Article 48 A** in the [Directive Principles of State policy](#), mandates that the State shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country.

▪ Statute:

- India's forests are currently governed by the [National Forest Policy, 1988](#) which has environmental balance and livelihood at its centre.

▪ Forestry Report:

- According to [India State of Forest Report, 2019](#), tree and forest cover together made up 24.56% (8,07,276 sq km) of India's area.
- The country is pursuing a long-term goal of having 33 percent of its land under forest cover.

Classification of Forests

On Administration-Basis

Reserved Forests	Protected Forests	Unprotected Forests
<ul style="list-style-type: none">▪ Under direct supervision of the Government.	<ul style="list-style-type: none">▪ Looked after by the government.	<ul style="list-style-type: none">▪ Unclassified Forests.
<ul style="list-style-type: none">▪ No public entry allowed for the commercial purpose of cattle grazing.	<ul style="list-style-type: none">▪ Local people are allowed to collect forest produce and cattle grazing without causing any serious damage.	<ul style="list-style-type: none">▪ No restriction on cutting trees or grazing cattle.

<ul style="list-style-type: none"> 53% of the Total Forest Area (TFA) of the country under this category. 	<ul style="list-style-type: none"> Occupy about 29% of the TFA. 	<ul style="list-style-type: none"> Occupy 18% of the TFA.

Classification as per Constitution of India

State Forests	Commercial Forests	Private Forests
<ul style="list-style-type: none"> Include almost all important forest areas of the country and are under full control of the government (state/central). 	<ul style="list-style-type: none"> Owned and administered by local bodies (municipal corporations, village panchayats, district boards etc.) 	<ul style="list-style-type: none"> Under private ownership.
<ul style="list-style-type: none"> Cover almost 94% of the TFA. 	<ul style="list-style-type: none"> Cover 5% of the TFA. 	<ul style="list-style-type: none"> Cover slightly more than 1% of the TFA.

On Merchantability

Merchantable	Non- Merchantable
<ul style="list-style-type: none"> Forests that are accessible. 	<ul style="list-style-type: none"> Forests that are situated at high mountainous peaks; non accessible.
<ul style="list-style-type: none"> Cover 82% of the TFA. 	<ul style="list-style-type: none"> Cover 18% of the TFA.

Based on Composition

Coniferous Forests	Broad-Leaf Forests
<ul style="list-style-type: none"> Temperate Forests 	<ul style="list-style-type: none"> Tropical and subtropical monsoon forests.
<ul style="list-style-type: none"> Found in middle and upper elevations of the eastern Middle Himalayas and N-E Indian states like Arunachal Pradesh. 	<ul style="list-style-type: none"> Found in the plateaus, plains and mountainous areas of the country.
<ul style="list-style-type: none"> Cover 6.50% of the TFA of the country. 	<ul style="list-style-type: none"> Cover about 94% of the TFA of the country.

Based on Average Annual Rainfall

In India, the Forests, on the basis of average annual rainfall, can be categorised broadly into five categories:

Tropical Evergreen Forests

- Moist Evergreen Forests:**
 - Region:** Found in southern India along the **Western Ghats, Andaman and Nicobar Islands** and **north-eastern region**.
 - Climatic Conditions:** Found in **warm and humid areas** with an annual precipitation of over 200 cm and mean annual temperature above 22°C.
 - Trees:** In these forests, trees reach great heights up to 60 m or above.
 - There is no definite time for trees to shed their leaves, flowering and fruition; **these forests appear green all the year round**.
 - Species found in these forests include Rosewood, Mahogany, Aini, Ebony, etc.
 - The more common trees that are found here are the jackfruit, betel nut palm,

jamun, mango, and hollock.

▪ **Semi Evergreen Forests:**

- **Region:** Found in the less rainy parts of the regions where moist evergreen forests are found; **Western Ghats, Andaman and Nicobar Islands, and the Eastern Himalayas.**
- **Trees:** Such forests have a mixture of moist evergreen and moist deciduous trees.
 - The under growing climbers provide an evergreen character to these forests.
 - Main species are white cedar, hollock and kail.

▪ **Dry evergreen:**

- **Region:** Found in the **Shivalik Hills and foothills of the Himalayas** up to a height of 1000 metres in the north.
 - Found along Andhra Pradesh and Karnataka coast in the south.
- **Climatic Conditions:** Usually have a prolonged hot and dry season and a cold winter.
- **Trees:** Have mainly hard-leaved evergreen trees with fragrant flowers, along with a few deciduous trees.
 - Trees have a varnished look.
 - Some of the more common ones are the pomegranate, olive, and oleander.

Tropical Deciduous Forests (Monsoon Forests)

▪ **Moist Deciduous Forests:**

- **Region:** These forests are found in the **north-eastern states** along the **foothills of Himalayas, eastern slopes of the Western Ghats and Odisha.**
- **Rainfall:** Found in the regions which record **rainfall between 100-200 cm.**
- **Trees:** Tall trees with broad, branched trunks.
 - Some of the taller trees shed their leaves in the dry season.
 - **Teak, sal, shisham, hurra, mahua, amla, semul, kusum, and sandalwood** etc. are the main species of these forests.

▪ **Dry Deciduous Forests:**

- **Region:** Found throughout the northern part of the country except in the north-east.
 - Also found in Madhya Pradesh, Gujarat, Andhra Pradesh, Karnataka, and Tamil Nadu.
- **Rainfall:** Covers vast areas of the country, where rainfall ranges between 70 -100 cm.
 - On the wetter margins, it has a transition to the moist deciduous, while on the drier margins to thorn forests.
- **Trees:** As the dry season begins, the trees shed their leaves completely and the forest appears like a vast grassland with naked trees all around.
 - **Tendu, palas, amaltas, bel, khair, axlewood,** etc. are the common trees of these forests.

Thorn Forests

- **Rainfall:** The forests occur in the areas that receive **annual rainfall less than 50cm.**
- **Regions:** This type is found in areas with black soil: North, West, Central, and South India.
 - Includes semi-arid areas of south west Punjab, Haryana, Rajasthan, Gujarat, Madhya Pradesh and Uttar Pradesh.
- **Trees:** The trees do not grow beyond 10 metres and consist of a variety of grasses and shrubs. Spurge, caper, and cactus are typically found in this region.
 - The plants remain leafless for most part of the year.
 - Babul, Acacia, Kokko, Khair, Khajuri, Ber, Neem, Khejri, Palas, etc. are common species of the forests.

Montane Forests

▪ **Montane Wet Temperate Forests:**

- **Region:** Occur in the northern and southern India.
 - In the North, it is found in the region to the **east of Nepal into Arunachal Pradesh,** at a height of 1800-3000 metres, receiving a **minimum rainfall of 200 cm.**
 - In the South, it is found in parts of the **Nilgiri Hills, the higher reaches of**

Kerala.

- **Trees:** The forests in the northern region are denser than in the South.
 - This is because over time the original trees have been replaced by fast-growing varieties such as the eucalyptus.
 - Rhododendrons, Champa and a variety of ground flora can be found here.
- **Montane Subtropical Forests:**
 - **Climatic Conditions:** Found in the region where **average rainfall is 100-200 cm** and temperature varies between 15°C to 22°C.
 - **Region:** Found in **north-western Himalayas** (except Ladakh and Kashmir), Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh.
 - **Trees:** Chir (Pine) is the main tree but Oak, Jamun and Rhododendron are also found in these forests.
- **Himalayan Forests:**
 - **Himalayan Moist Forests:**
 - **Region:** Found in Jammu & Kashmir, Himachal Pradesh, Uttarakhand and northern hilly parts of Bengal.
 - **Elevation:** Found in the belt where altitude varies between 1000-2000 m.
 - **Trees:** Oak, chestnut, chir, sal, shrubs and nutritious grasses.
 - **Himalayan Dry Temperate:**
 - **Region:** J&K, Chamba, Lahaul & Kinnaur districts (Himachal Pradesh) and Sikkim.
 - **Trees:** Mainly coniferous; deodar, oak, chilgoza, maple, olive, mulberry and willow.
- **Alpine and Subalpine Forests:**
 - **Elevation:** In the higher reaches, there is a transition to Alpine forests and pastures occurring at altitudes of 2,500-4,000 m.
 - Sub alpine forests extend from Kashmir to Arunachal Pradesh between 2900 to 3500 metres.
 - **Trees:** In the Western Himalayas, the vegetation consists mainly of juniper, rhododendron, willow, and black currant.
 - In the eastern parts, red fir, black juniper, birch, and larch are the common trees.

Littoral/Swamp Forests

- **Region:** Found along the Andaman and Nicobar Islands and the delta area of the Ganga and the Brahmaputra.
 - Other areas of significance are the Mahanadi, the Godavari and the Krishna deltas.
- **Trees:** Some of these forests are dense and impenetrable. Only a limited number of plants are found in these evergreen forests.
 - They have roots that consist of soft tissue so that the plant can breathe in the water.
 - It consists mainly of whistling pines, mangrove dates, palms, and bulletwood.
- **Mangroves in India:** In India, the mangrove forests spread over 6,740 sq. km which is 7% of the world's mangrove forests.
 - The forests stabilise the shoreline and protect the coastal areas from erosion.
 - **Sunderbans along the Ganges delta is the largest tidal forest in the world.**

