

UPSC 2020

Topic – Mangroves in India

Mangroves are a special type of vegetation. And they are found in the intertidal regions where freshwater and saltwater intermixes, in the bays, estuaries, creeks, and lagoons. They are the salt-tolerant variety of plants, which can survive in harsh conditions. And they are economically and ecologically significant. An important section in the Geography syllabus of the [IAS Exam](#), the topic, 'Mangroves' should be well-studied by the aspirants. This article will provide you with important facts about Mangroves.

Important Facts about Mangroves and Mangroves Forest

The table below mentions the ten important points on Mangroves and Mangroves Forest that are a part of [natural vegetation in India](#):

Mangroves in India	
S.No	Characteristics of Mangroves
1.	They represent the littoral forest ecosystem.
2.	Low lying areas of tropical and subtropical regions (Between 24 degrees North and 38 degrees South) are home to Mangroves
3.	They are also called Halophytes - They are salt-tolerant.
4.	The trees that grow in Mangrove Forests are generally 8-20 meters high. These trees have thick leaves.
5.	They are confined to tropical and subtropical regions as they need high solar radiation to filter saline water through their roots.
6.	They have blind roots which are called Pneumatophores. These roots help these trees to respire in anaerobic soils.
7.	The seeds of Mangrove Forests trees germinate in the trees itself before falling - This is called Viviparity mode of reproduction
8.	<p>Mangrove Forests trees project different types of roots:</p> <ul style="list-style-type: none"> • Prop - They are down into the water • Air - They are vertically configured up from the mud • Stilt - These roots emerge from the main trunk of the tree; also called adventitious roots
9.	<p>There are types of Mangroves:</p> <ul style="list-style-type: none"> • Red - Found along the coastlines • Black - Major feature of such mangrove trees is their dark bark. They have access to more oxygen. • White - Compared to Red and Black mangroves; they grow at the highest elevation.
10.	The major mangroves in India are found at:

- Sundarban Groves
- Mahanadi Mangroves
- Krishna Godavari Mangroves
- Mangroves of Gujarat
- Ratnagiri Mangroves
- Goa Mangroves
- Cauvery Deltaic Mangroves
- Krishan-Godavari Mangroves
- Andaman Nicobar Mangroves

Mangroves in India State Forest Report 2019

According to the Forest Survey of India, 2019, Mangroves' cover in the country has increased by 54 sq km (91.10 percent) in comparison to the 2017 assessment. The significant points put across by the State Forest Report 2019:

- Mangroves face limiting factors like:
 - Lack of Oxygen
 - High Salinity
 - Diurnal Tidal Inundations
- Mangroves adapt the following to live with their limiting factors:
 - Succulent Leaves
 - Sunken Stomata
 - Pneumatophores (Aerial Roots)
 - Vivipary
 - Stilt roots
 - Buttresses
- Mangroves make 1 percent of the tropical forests of the world.
- India has 3 percent of the total mangrove cover in South Asia.
- There are some important mangrove species in India:
 - *Avicennia Officinalis*
 - *Morinda Citrifolia*
 - *Rhizophora mucronata*
 - *Sonneratia Alba*
 - *Avicennia Alba*
 - *Bruguiera Cylindrica*
 - *Heriteira Littoralis*
 - *Phoenix paludosa*
 - *Ceriops Tagal*
- Mangrove Cover in India is 4975 sq km (0.15 percent of the total geographical area.)
- Mangrove cover is divided as:
 - Very Dense - 1476 sq km (29.66 percent)
 - Moderately Dense - 1479 sq km (29.73 percent)

- Open Mangroves - 2020 sq km (40.61 percent)

S.No.	State/UT	Very Dense Mangrove	Moderately Dense Mangrove	Open Mangrove	Total	Change with respect to ISFR 2017
1.	Andhra Pradesh	0.00	213.00	191.00	404.00	0.00
2.	Goa	0.00	20.00	6.00	26.00	0.00
3.	Gujarat	0.00	169.00	1,008.00	1,177.00	37.00
4.	Karnataka	0.00	2.00	8.00	10.00	0.00
5.	Kerala	0.00	5.00	4.00	9.00	0.00
6.	Maharashtra	0.00	88.00	232.00	320.00	16.00
7.	Odisha	81.00	94.00	76.00	251.00	8.00
8.	Tamil Nadu	1.00	27.00	17.00	45.00	-4.00
9.	West Bengal	996.00	692.00	424.00	2,112.00	-2.00
10.	A&N Islands	398.00	169.00	49.00	616.00	-1.00
11.	Daman & Diu	0.00	0.00	3.00	3.00	0.00
12.	Puducherry	0.00	0.00	2.00	2.00	0.00
Total		1,476.00	1,479.00	2,020.00	4,975.00	54.00

State Forest Report 2019

- West Bengal has 42.45 percent of India's mangrove cover (highest in the country.)

Importance of Mangroves

The following points mention the importance of Mangroves:

1. They protect coastal areas from Tsunamis, storm surges and soil erosions; due to their complex root systems which dissipate sea wave energy
2. Sediment deposition is a visible feature which arrests coastal erosion and seawater pollution
3. Many fish species and other fauna breeds here
4. They are an important source of livelihood for communities found in and around mangrove forests:
 - Collection of Honey
 - Tanning
 - Wax
 - Fishing
5. They are carbon sinks

Conservation of Mangroves

The State Forest Report 2019 mentions the following conservation techniques for Mangroves:

1. The state of Gujarat uses direct seed sowing, raised bed plantations, and fishbone channel plantations to restore degraded mangroves.
2. State of Andhra Pradesh has established Eco-Development Committees and Van Samrakshan Samithi to implement conservation projects in mangrove areas.
3. The state of Maharashtra has been implementing restoration, protection, regeneration, and maintenance techniques to conserve mangroves.