

## The Budget Push to Mangroves

### Why in news?

The Union Budget for 2023-24 announced an initiative for mangrove plantation along the coastline and on salt pan lands, under MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes).

### What are mangroves?

- **Mangroves** - They are a group of trees and shrubs that live in the coastal intertidal zone.
- They only grow at tropical and subtropical latitudes near the equator because they cannot withstand freezing temperatures.
- **True mangroves** - The tree species that form a mangrove forest or ecosystem are broadly classified as true mangroves and mangroves associates.
- **Distribution** - Mangroves in India are distributed across 9 States with 4975 sq km and three Union Territories with **West Bengal** having the highest mangrove cover.



## What are the benefits of mangroves?

- **Salt tolerant** - Mangroves are salt-tolerant plant communities found in tropical and subtropical intertidal regions.
- **Indicators of changes** - True mangroves are the ones which display morphological adaptations for a high saline mangrove ecosystem such as pneumatophores and salt-secreting cells.
- **Bulwark of climate change** - With the threat of climate change and frequent tropical storms looming large, planting more mangroves is welcoming for India which has a coastline of about 7,500 km.
- **Potent carbon sites** - Mangroves are potent carbon sites with 4-5 times greater efficiency than terrestrial forests.
- **State of World Mangroves 2022** points out that mangroves are estimated to hold up to four times the amount of carbon so the loss of even 1% of remaining mangroves could lead to the loss of 0.23 gigatons of CO<sub>2</sub> equivalent.
- **Disaster risk reduction** - Not only do mangroves stabilise coastlines by holding sediments together but they also act as safety nets against storms and surges.

*IFSR report points out that there has been an increase in the mangrove cover from 4,046 sq km in 1987 to 4,992 sq km in 2021.*

## What are the threats to mangroves?

- **Population** - In India the mangrove ecosystem faces constant pressure due to increasing population in coastal areas.
- **Logging** of mangroves for timber and charcoal production and the extension of usable areas for settlements, agriculture is an issue.
- **Aquaculture or fisheries** along the coast obstructing tidal flow is one of the biggest threats to the mangrove ecosystem.
- **Tourism** is a booming industry and an important source of income in many developing nations that affects mangroves massively.
- **Overreliance on mangroves** for fuel because of a lack of affordable alternatives pose serious threats to mangroves.
- **Deforestation for fuel** is the biggest threat to mangroves in Madagascar.
- **Discharge of untreated domestic and industrial effluents** into the rivers impede the natural inter-tidal flow along the coast and the mixing of freshwater and saline water.

## What is the need for a Budget push?

- The survival rate of mangrove seed plantation is 50% and of saplings is about 60%.
- It takes 3 years for a new plant to stabilize so we need various schemes to increase mangrove plantation with local community support.
- **Schemes** - MGNREGS (Mahatma Gandhi National Rural Employment Guarantee Scheme), CAMPA (Compensatory Afforestation Fund Management and Planning Authority) Fund and other sources.

- A contract-based one-time plantation under MGNREGS and CAMPA may not work unless the local communities take ownership of the forests.

### What can be done for mangrove conservation?

- Participate in a mangrove cleanup
- Help plant mangroves
- Reduce single-use plastic consumption
- Protect existing mangroves
- Patronize businesses with mangrove conservation in mind
- Support mangrove nonprofits and research organizations
- Spread the word and engage your local community
- Trial and testing with field experience and monitoring

#### Quick Facts

##### Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI)

- MISHTI is a new programme that will facilitate mangrove plantation along India's coastline and on salt pan lands.
- The programme will operate through convergence between MGNREGS, Campa Fund and other sources.
- This new programme will aim at **intensive afforestation** of coastal mangrove forests.
- India has such forests on both its Eastern and Western coasts with the **Sundarbans in Bengal** being one of the largest mangrove forests on the planet.

#### References

1. [The Hindu|Why have mangroves got a budget push?](#)
2. [The Hindu|The strange effect of the Moon on mangrove forests.](#)