

Mangroves: Guardians of Life and Livelihoods

Mangroves are among the most vital ecosystems on Earth, serving as **natural bio-shields**, **carbon sinks**, and **livelihood providers** for millions. In India, coastal communities depend on mangroves for protection against storms, erosion, and economic sustenance. The Government of India, in collaboration with international organizations, has been taking significant steps to conserve and restore these crucial ecosystems.

Reviving Coastal Communities Through Mangrove Conservation

In **Navghar**, Maharashtra, communities have witnessed firsthand the drastic impact of mangrove depletion. Over the years, diminishing mangrove forests led to **unpredictable crab and fish catch**, affecting livelihoods. Recognizing this crisis, the Government of India, in partnership with the **Green Climate Fund** and **UNDP**, initiated a project aimed at **enhancing climate resilience in coastal regions**.

A Community-Driven Approach to Conservation

Since 2021, a **Mangrove Co-Management Committee** has been actively working to protect and restore the mangroves in Navghar. This initiative brings together local stakeholders, **Gram Panchayats**, and **women's Self-Help Groups (SHGs)**. Women have taken the lead in sustainable **crab farming**, forming groups like **Healthy Harvest and Wild Crab Aqua Farm**. These efforts have transformed local economies while ensuring the preservation of vital ecosystems.

India's Commitment to Mangrove Conservation

Current Mangrove Cover and Growth Trends

India has made remarkable progress in **mangrove conservation**. According to the **India State of Forest Report 2023 (ISFR-2023)**:

- India's total **mangrove cover** is **4,991.68 sq. km**, which is **0.15%** of the country's geographical area.
- There has been a **7.86% increase** in mangrove cover (363.68 sq. km) from **2013 to 2023**.
- Between **2001 and 2023**, mangrove cover has expanded by **11.4% (509.68 sq. km)**.

sq. km).

Top Three States with Highest Mangrove Cover

1. **West Bengal** – **42.45%** of India's mangrove forests
2. **Gujarat** – **23.32%** (highest increase in cover with **253.06 sq. km** between 2001-2023)
3. **Andaman & Nicobar Islands** – **12.19%**

Key Government Initiatives for Mangrove Protection Regulatory Frameworks

India has enacted stringent regulations to safeguard mangroves:

- **Coastal Regulation Zone (CRZ) Notification, 2019** under the Environment (Protection) Act, 1986.
- **Wildlife (Protection) Act, 1972, Indian Forest Act, 1927, and Biological Diversity Act, 2002** provide additional legal protections.
- **Mandatory compensatory replantation** at a **3:1 ratio** in case of mangrove destruction due to development projects.

Major Conservation Programs

1. Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI)

- Launched on **5 June 2023**.
- Aims to **restore 540 sq. km** of mangrove forests across **9 coastal states and 4 Union Territories**.
- Funded through the **National Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**.
- ₹17.96 crore allocated for FY 2024-25 for restoring **3,836 hectares** of degraded mangroves.

2. National Coastal Mission - Conservation of Mangroves and Coral

Reefs

- Financial aid for the conservation of **38 mangrove sites** and **4 coral reef sites**.
- ₹8.58 crore disbursed to seven coastal states (2021-23).

3. Green Climate Fund - Enhancing Coastal Resilience of Indian Coastal Community (GCF-ECRICC)

- Active since **2019** in **Andhra Pradesh, Maharashtra, and Odisha**.
- Targets **10,575 hectares** of mangrove restoration.
- **As of 2024, 3,114.29 hectares** have been successfully restored.

Why Mangroves Matter: Ecological and Economic Significance

1. Mangroves as Natural Carbon Vaults

- Mangroves **store 7.5-10 times more carbon per acre than tropical forests**.
- Their degradation contributes to **10% of global deforestation-related emissions**.
- Restoring **1.6 million acres** of mangroves could **capture an additional 1 gigaton of carbon**.

2. Livelihood Enhancement

- Mangrove-dependent activities like **crab farming, fishing, and ecotourism** provide stable employment.
- Women-led initiatives ensure **financial independence** and **socio-economic upliftment**.

3. Disaster Mitigation

- Mangroves **act as a natural shield** against **cyclones, floods, and coastal**

erosion.

- Absorb storm surges, protecting **coastal villages and cities** from disasters.

A Tidal Shift Towards Sustainability

The success stories from **Navghar and other coastal villages** underscore the power of **community-driven conservation**. India is **leading the way in sustainable mangrove restoration**, ensuring that nature-based solutions become central to **climate resilience and economic development**.

With continued **government initiatives, local participation, and global collaborations**, mangrove ecosystems can thrive, securing a future where **coastal communities and marine biodiversity flourish together**.

Frequently Asked Questions (FAQs)

1. What are mangroves, and why are they important?

Mangroves are **salt-tolerant trees and shrubs** found in coastal intertidal zones. They protect shorelines, support marine biodiversity, store carbon, and sustain coastal livelihoods.

2. How is India protecting its mangrove forests?

India has **strict regulations** like the **CRZ Notification, Wildlife Protection Act, and compensatory replantation policies**. Conservation programs like **MISHTI and the National Coastal Mission** further aid restoration.

3. What is the total mangrove cover in India?

As per the **India State of Forest Report 2023**, India's **mangrove cover is 4,991.68 sq. km**, with a significant increase over the last two decades.

4. Which states have the highest mangrove cover?

West Bengal (**42.45%**), Gujarat (**23.32%**), and Andaman & Nicobar Islands (**12.19%**) have the largest mangrove forests in India.

5. How do mangroves help in climate change mitigation?

Mangroves store **up to 10 times more carbon per acre than tropical forests**,

preventing CO₂ release and mitigating climate change effects.

6. What initiatives has India taken for mangrove conservation?

Key initiatives include **MISHTI, the National Coastal Mission, and the GCF-ECRICC Project**, focusing on restoration, afforestation, and sustainable livelihoods.

7. How can individuals contribute to mangrove conservation?

Individuals can support **community-led initiatives, participate in plantation drives, reduce plastic waste, and promote sustainable coastal tourism.**

India's commitment to **mangrove conservation** is **not just an environmental goal but a socio-economic necessity**. By restoring and protecting these vital ecosystems, we safeguard both **nature and human livelihoods**, ensuring a sustainable future for generations to come.

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