

India's Coastline in Danger

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India's Coastline in Danger: What Can Be Done?

Context

India's **coastal regions** face two major threats:

1. **Illegal light fishing**, which depletes marine biodiversity.
2. **Coastal erosion**, affecting **33.6% of the coastline** (government data).

These issues impact **economy, environment, and livelihoods**, requiring urgent action.

India's Coastal Region

1. India's Extensive Coastline

- **7,500 km coastline** across **9 states and 4 UTs**.
- Supports **trade, livelihoods, and biodiversity**.

2. Economic Significance

- Contributes **4% to GDP** through **fisheries, tourism, and shipping**.
- **Example**: Mumbai and Chennai ports handle **70% of India's trade**.

3. Biodiversity and Climate Risks

- **Mangroves, coral reefs, and endangered species** (Olive Ridley turtles).
- Rising **sea levels (3.2 mm/year)** and frequent cyclones.

Significance of Coastal Ecosystems

1. Climate and Carbon Absorption

- **Mangroves store 4x more carbon** than terrestrial forests.
- **Example:** Bhitarkanika Mangroves (Odisha).

2. Fisheries and Livelihoods

- **70% of India's fish production** comes from coastal waters.
- **16 million fishers** depend on it.

3. Natural Disaster Protection

- **Coral reefs and sand dunes** reduce erosion and storm impact.
- **Example:** Gulf of Mannar reefs protect Tamil Nadu.

4. Tourism and Heritage

- Coastal tourism generates **\$11 billion annually**.
- **Example:** Goa and Puri beaches.
- Coastal regions host **UNESCO sites**.

Key Issues

1. Illegal Light Fishing

- **LED-equipped boats deplete fish stock**.
- **Example:** Maharashtra and Andhra Pradesh face rampant violations.

2. Coastal Erosion

- **33.6% of coastline eroding** due to **rising sea levels and sand mining**.
- **Example:** Dakshina Kannada lost **48.4% of its coastline in 30 years**.

3. Pollution and Habitat Destruction

- **Plastic, sewage, and industrial waste** degrade marine life.
- **Example:** Versova Beach cleanup.
- **Mangrove loss reduces storm buffers**.
- **Example:** Mumbai lost **40% of its mangroves since 1987**.

4. Weak Enforcement

- **Illegal fishing, construction, and CRZ violations** persist.
- **Example:** Adani Port (Kerala) faced **CRZ violations**.

Way Forward

1. Strict Law Enforcement

- **AI surveillance, drones, and Coast Guard patrols**.
- **Example:** Kerala's crackdown on **LED fishing boats**.

2. Eco-Friendly Coastal Protection

- **Artificial reefs, sand replenishment, and breakwaters**.
- **Example:** Puducherry's breakwaters reduced erosion by **30%**.

3. Community Participation

- **Fisher cooperatives to ensure sustainable fishing.**
- **Example:** Tamil Nadu's fisher patrols against illegal trawling.

4. Climate Adaptation

- **Relocate high-risk settlements, build cyclone-resistant homes.**
- **Example:** Odisha's disaster-resilient housing.

5. Research & Policy Support

- **Scientific studies, better coastal mapping, increased funding.**
- **Example:** NCCR's satellite tracking of erosion-prone zones.

Conclusion

India's coasts are **critical for economy, ecology, and heritage**, but face threats from **erosion, pollution, and overfishing**.

Strict policies, eco-friendly solutions, and community involvement can help protect these vital ecosystems.

