Coastal vulnerability

Coastal vulnerability is on the rise in Tamil Nadu primarily due to:
- Low-lying coastal zones
- Intense coastal erosion
- Densely populated coastlands
- Pollutant discharge into sea
- Extreme climate events
- Overfishing

Carbon footprint

Use of large amounts of fuels in fisheries causes considerable emission of greenhouse gases. Carbon dioxide emission in Chennai Fishing Harbour during 2012-13 was 64000 t CO₂ (about 2 t CO₂ per tonne of fish caught).

Adaptation options

- Proper implementation of existing management measures
- Introducing and mainstreaming climate change into Ecosystem Approach to Fisheries Management (EAFM)
- Addressing small-scale fisheries and gender issues
- Reducing greenhouse gas emission by the fishing sector by following norms
- Raising awareness and preparedness among coastal population


For more information, please contact

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**The marine climate**

- Among the warmest coastal water stretch in India, with summer maxima >30°C.
- Monsoon pattern differs from rest of India; copious rainfall during north-east monsoon.
- Anomaly in rainfall intensity increasing.
- Coastal areas regularly hit by cyclones and depression during monsoon.

There is perceptible rise in SST from 1906 to 2014. Increase in SST is pronounced off Kanyakumari. Rise in temperature affects other ocean parameters like salinity, pH, dissolved oxygen and productivity. Changing marine climate will impact marine ecosystems, biodiversity and marine fishery.

**Phenological changes – shift in spawning season of fishes**

- Overexploitation, fishing down food web, pollution, habitat degradation and transboundary issues along Palk Bay are causes for concern.

**Changes in environmental conditions influence spatial distribution of marine fishes, and cause phenological changes and changes in fish production.**

- Indian oil sardine showed a gradual shift from January-March during 1977-’78 to June in 2011-12.
- There is perceptible rise in SST from 1906 to 2014. Increase in SST is pronounced off Kanyakumari. Rise in temperature affects other ocean parameters like salinity, pH, dissolved oxygen and productivity. Changing marine climate will impact marine ecosystems, biodiversity and marine fishery.

**Rich biodiversity.**

**Exploited fish species:**
- Coromandel coast: 750
- Palk Bay: 462
- Gulf of Mannar: 657

**Human interferences:**
- Overexploitation, fishing down food web, pollution, habitat degradation and transboundary issues along Palk Bay are causes for concern.

**Gulf of Mannar**
- Reef ecosystem will experience annual or biannual bleaching events in the next 30-50 years.
- Reef building corals may lose dominance between 2050 and 2070 in this ecosystem.
- Marine macrophytes in PB & GoM have the potential to utilize 9,052 t CO2/day

**Shift in spawning season of threadfin breams towards cooler months off Chennai:**
- Will have changes in months of recruitment.

**Reef building corals may lose dominance between 2050 and 2070 in this ecosystem.**