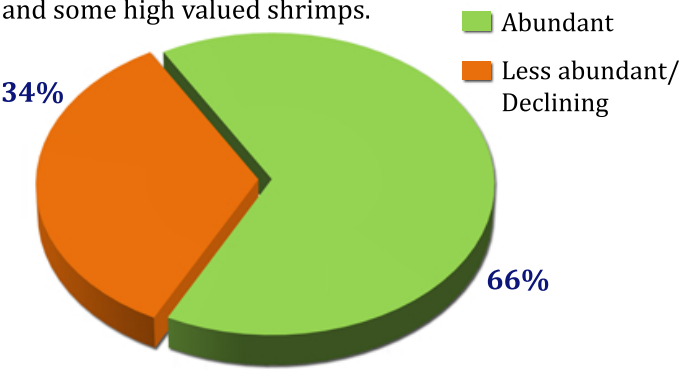


MARINE FISH STOCK STATUS

Length-based stock assessment methods (dynamic pool models/ yield per recruit models) and catch-based stock assessment methods (rapid stock assessment method- RSA and Bayesian Schaefer surplus production model- BSM) coupled with associated biological investigations have revealed an apparent sign of fatigue and decline in abundance for about 34% of the assessed stocks (i.e., 14 species) out of 41 prioritized commercially important species. The critical species which are under stress are Hilsa, Bombayduck, Threadfin breams, Indian mackerel and some high valued shrimps.



MARINE FISHERIES MANAGEMENT

The Orissa Marine Fishing Regulation Act, 1982 (OMFRA) provides the legal framework for sustainable fisheries management along Odisha’s coast. It seeks to balance the interests of traditional and mechanized fishers while protecting marine biodiversity, including Olive Ridley turtles, conserving fragile ecosystems, preventing overfishing, and minimizing conflicts. The Act empowers the state to regulate zones, seasonal bans, vessel operations, and fishing gear use to ensure equitable and responsible utilization of marine resources. Here are the 10 key regulations under OMFRA (1982) & Rules (1983):



- Traditional crafts:** Non-mechanised boats can operate freely throughout the year; waters up to 5 km from shore are reserved exclusively for them.
- Small mechanised vessels:** (<15 m) allowed only beyond 5 km.
- Large mechanised vessels:** (≥15 m / 25 GT) allowed only beyond 10 km.
- Distance limit:** No vessel may operate beyond 24 nautical miles.
- Navigation caution:** Mechanised/deep-sea vessels must avoid damaging other gear.
- Base limits:** Vessels must operate within their designated fishing base; shifting bases requires official permission.
- Gahirmatha ban:** Fishing prohibited year-round within 20 km of Gahirmatha Marine Sanctuary.
- Seasonal bans:** (i) April 15–June 14: two-month ban to allow fish breeding. (ii) Nov 1–May 31: seven-month turtle conservation ban near Dhamara, Devi & Rushikulya river mouths.
- Gear restriction:** Ring seines banned statewide year-round. Gill net made of monofilament (<0.5 mm twine) & multifilament (<0.7 mm twine) nets less than 300 m length & less than 140 mm mesh size is prohibited; 200 m gap is also required between nets.
- TED mandate:** All trawlers must use Turtle Excluder Devices.



RECOMMENDATIONS FOR SUSTAINABILITY

- Stock Conservation:** Implement minimum legal sizes for critical species. Introduce gear-specific licenses and marking systems. Strict implementation of square mesh and mesh-size regulation. Demarcation of area/ depth of operation to prevent overfishing and conflict.
- Socio-economic Empowerment:** Establish cooperatives and direct marketing channels to reduce dependency on intermediaries. Develop processing and value-addition facilities. Promote mariculture, eco-tourism, and seaweed farming as alternative livelihoods to reduce fishing pressure.
- Infrastructure and Capacity Building:** Improve basic amenities such as sanitation, healthcare, and education facilities. Conduct trainings on sustainable fishing practices. Regular dredging of fishing harbours and development of new jetty and harbours. Improving the road connectivity to FLCs.

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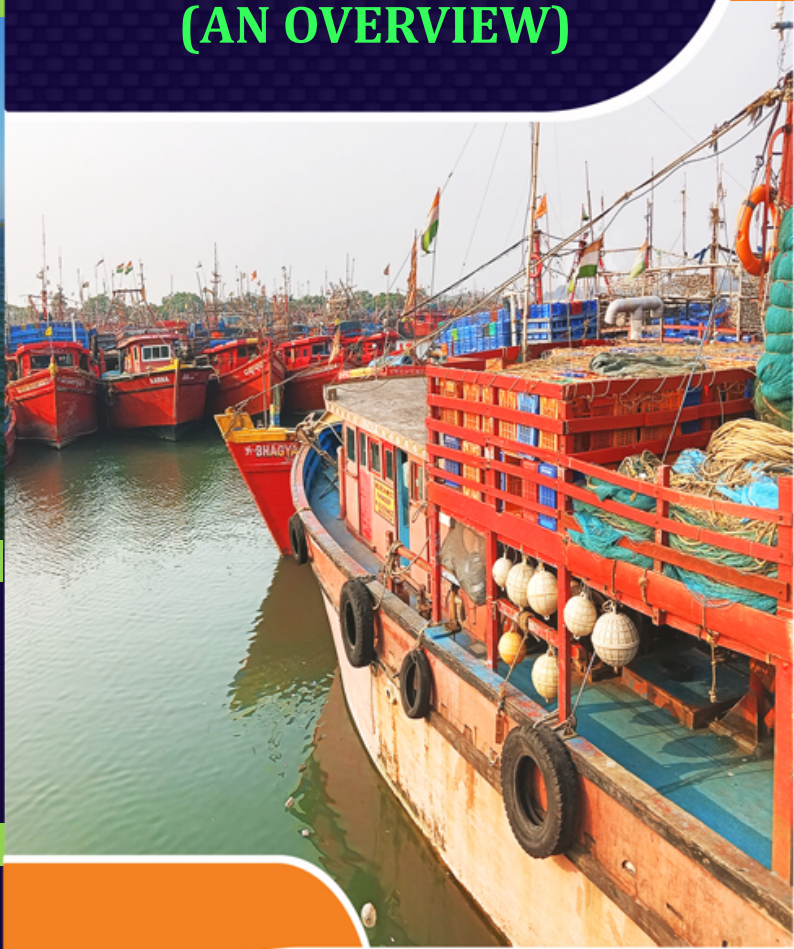
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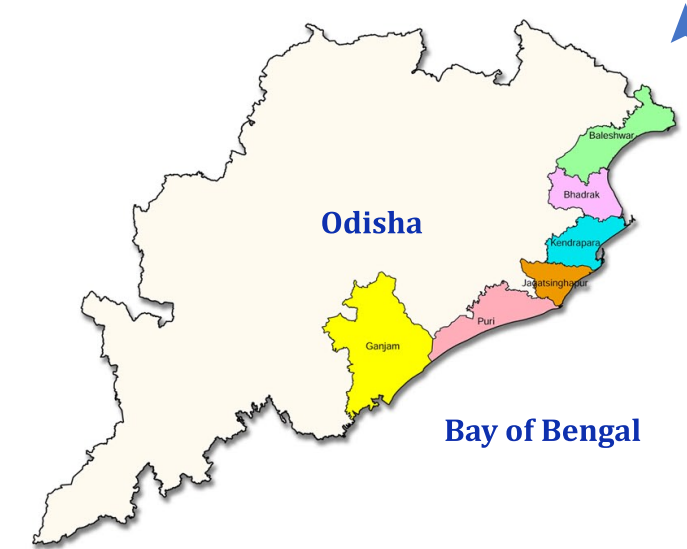
MARINE FISHERIES OF ODISHA (AN OVERVIEW)





INTRODUCTION

Odisha, with a coastline of 575 km and a continental shelf area of approximately 24,000 square km, spread across six coastal districts (Balasore, Bhadrak, Keonjhar, Jagatsinghpur, Puri and Ganjam), holds significant marine fisheries potential. The heavy nutrient influx from six major river systems like Mahanadi, Brahmani, Baitarani, Budhabalanga, Subarnarekha, and Rushikulya makes it one of the highly productive and biodiversity rich marine ecosystem that support a wide variety of fishery resources. Apart from this the coastal zone of Odisha encompasses Asia's largest brackish water lake (Chilika lagoon), India's second-largest mangrove forest Bhitarkanika), and also the world's most significant rookery of Olive Ridley (Gahirmatha). With only about 5% of India's coastline and land area, Odisha harbors nearly 14% of the marine fisherfolk of India (about 5.2 lakh), which are spread across 739 marine fishing villages, which is also the highest in India. Nearly about 1.2 lakh active fishermen and 0.75 lakh fisheries allied workers earn their livelihood directly from the marine fisheries sector of Odisha. Marine fisheries play a vital role in the food security, employment generation, and economic growth of the coastal communities of Odisha.



SOCIO-ECONOMIC STATUS

Odisha has 1.15 lakh marine fishing households, about 13% of India's total, with 80% being traditional fisherfolk. Positively, poverty levels are lower here (42% below BPL) compared to the national average (67%). Odisha also

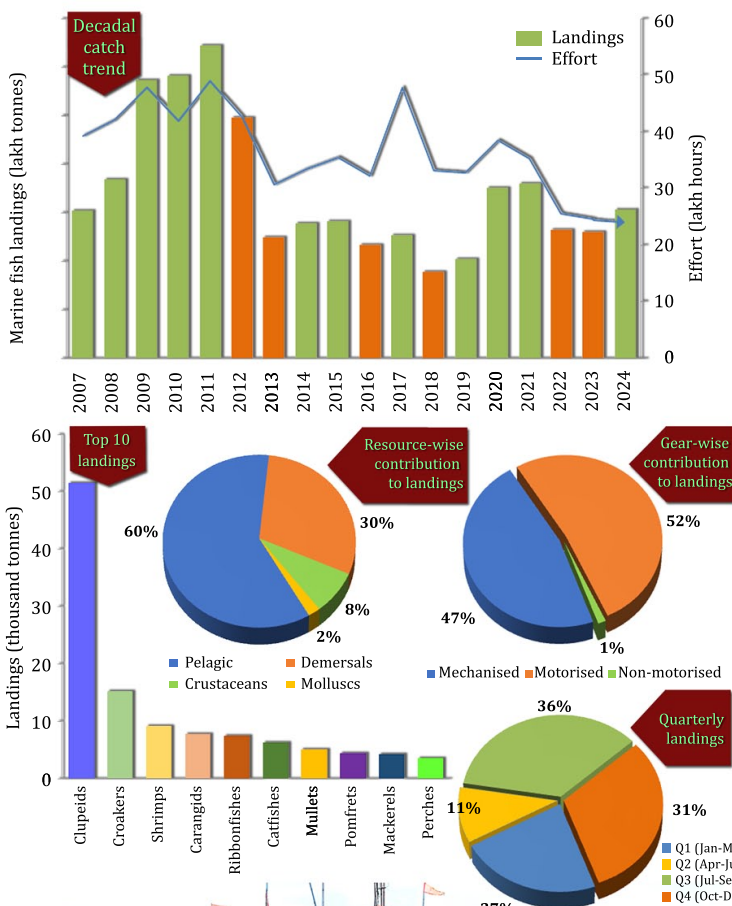
plays a vital role in inclusive representation, with Scheduled Castes and Tribes making up nearly 55% of its fishing communities which is highest in India. Odisha is home to 45% of India's SC & ST marine fishers. However, significant socio-economic gaps remain. Most households live in kutcha houses (64% vs. 30% nationally), lack toilets (77% vs. 41% nationally), and have limited access to safe drinking water (10% vs. 52% nationally). Electricity coverage (80%) is good but still below the national norm (94%). Education is a concern, with 39% unschooled against India's 34%. Participation in cooperatives is low (27% vs. 63% nationally), restricting credit and collective growth. Strengthening housing, sanitation, education, and cooperative membership—while leveraging Odisha's lower poverty levels and strong community representation—can significantly enhance fisherfolk livelihoods and resilience.

FISHERIES INFRASTRUCTURE

Odisha hosts the largest share of marine fishing villages in India (21%), reflecting its central role in the sector. With about 8682 fishing crafts, Odisha represents only about 5% of India's fishing fleet strength. The state has made progress in modernisation, with 20% mechanised crafts, 65% of traditional crafts motorised, while still preserving



artisanal fishing, which sustains 15% of the fleet. Strong primary handling capacity—54 ice factories and 29 peeling sheds—supports efficient catch management and shrimp handling, benefitting both local markets and exports. However, gaps in infrastructure constrain growth. With only 22 jetties, 55 FLCs, 44 markets, and 20 auction sheds across 739 villages, facilities remain limited. Similarly, value-addition potential is underutilised, as just 5 freezing plants, 10 cold storages, and 11 processing plants exist, alongside minimal by-product conversion facilities. Life-saving equipment ownership (5%) and limited use of modern communication tools indicate safety concerns. By expanding cold-chain, processing, and by-product facilities, while strengthening safety and cooperative infrastructure,



the second quarter (April–June) contributes the least (11%) (CMFRI, 2025). Species composition highlights Odisha's rich biodiversity. Clupeids (sardines and anchovies) dominate, alongside croakers, penaeid shrimps, carangids, ribbonfishes, catfishes, mullets, pomfrets, mackerels, and perches—together forming 80% of landings. Pelagic resources contribute 60%, with clupeids alone making up 69%, followed by carangids (9%), ribbonfishes (7%), Bombay ducks (7%), mackerels (4%), and seerfishes (2%). Demersal groups (30%) are led by croakers (37%), and followed by catfishes (16%), silverbellies (12%), mullets (10%), pomfrets (10%), perches (8%), flatfishes (6%), eels (3%), and threadfins (2%). Crustaceans form 8% of landings, dominated by penaeid shrimps (68%), particularly *Parapenaeopsis* spp., *Metapenaeus* spp., *Solenocera* spp., and *Penaeus* spp. Crabs (32%) mainly include *Portunus sanguinolentus*, *Charybdis feriata*, and *P. pelagicus*. Lobsters, though minimal, feature *Panulirus polyphagus*. Molluscs contribute 2%, exclusively cephalopods—chiefly cuttlefish (75%), squids (20%), and octopus (5%), represented by species like *Sepiella inermis*, *Sepia aculeata*, *Uroteuthis duvaucelii*, *Sepia phararonis*, and *Sepia elliptica*.

Odisha can enhance profitability, and competitiveness.

MARINE FISH LANDINGS

Marine fish landings in Odisha witnessed a surge between 2007 and 2011, peaking at 3.2 lakh tonnes in 2011 due to a rapid shift from non-motorised to motorised and mechanised vessels. A sharp decline followed in 2012 (2.5 lakh tonnes), after which annual landings stabilised at 1.2–1.8 lakh tonnes, averaging 1.5 lakh tonnes, about 5% of India's total. Currently, 52% of resources are harvested by the motorised sector, 47% by mechanised vessels, and just 1% by traditional crafts. Seasonally, the third quarter (July–September) accounts for the highest landings (36%), while

