

The Impact of Bottom Trawling on Food Security, Sovereignty and Nutrition

Goa, India

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This case-study is part of the wider Transform Bottom Trawling Coalition research highlighting the global impact of bottom trawling on food security.

Introduction

Goa's coastal food systems are closely tied to marine fisheries, which sustain livelihoods, cultural continuity, and access to affordable animal protein. Small-scale fisheries (SSF) are central to this system, using shore seines (rampon), gillnets, hooks and lines, and small motorised canoes to supply local markets and household consumption. Interviewees consistently identified Indian mackerel and oil sardine as core food species, alongside mullets, pomfret, prawns, crabs, and squid, underscoring the importance of secure access to nearshore waters for food security and livelihoods.

Alongside SSF, Goa hosts a substantial mechanised fleet, including trawlers, bull (pair) trawlers, and LED-assisted vessels. Although the Goa Marine Fishing Regulation Act prohibits mechanised fishing within a 5 km inshore zone reserved for SSF, interviews, fisher-union submissions, and court filings document persistent violations, particularly at night and during the pre-monsoon period. Weak enforcement has led to repeated legal challenges, highlighting a governance gap in which regulations exist largely on paper despite a 2024 High Court order mandating stronger patrolling, seizure, and monitoring. Interviewees report ongoing disputes over compliance, while reliance on migrant labour in mechanised fisheries further separates industrial production from community-based food systems (Chakravarty & Sharma 2024).

Key Context

- There is an existing Inshore Exclusion Zone at 5 km from the coastline.
- Fleet composition: ~1,000 mechanized vs. ~3,000 artisanal boats.
- Primary diet species: Indian mackerel, oil sardine, squid, prawns and mullet.
- Participation in trawling: 100% Goan ownership; Crew is >90% migrant (India) labour.
- Major threats: LED fishing, Bull trawling and spatial encroachment.
- Weak enforcement, rather than absence of regulation, is a central driver of conflict and food-system

impacts

Key Informant Interviews

To deepen the understanding of these impacts, three interviews were conducted with key stakeholders:

- Interview 1: A representative from All Goa Small Scale Responsible Fisheries Union (AGSSRFU)
- Interview 2: Multiple members of AGSSRFU
- Interview 3: Working Committee member of the National Federation of Small-Scale Fish workers (NFSF)

The interviews focused on research questions regarding (1) negative competition; (2) participation in trawling; (3) nutritional impacts; and (4) prevailing narratives.

Results Based on Interviews

1. Negative competition and impact on small-scale fisheries

Spatial conflict is central to fisheries tensions in Goa. Despite the legal ban on trawling and purse seining within 5 km of shore, interviewees report persistent violations, especially at night, widely reflected in media coverage and formal complaints. These incursions displace small-scale gears, damage nets, and reduce local catches. Bull (pair) trawling and LED fishing are identified as particularly damaging due to seabed disturbance, juvenile catch, and depletion of inshore stocks. Interviewees describe a sustained decline in nearshore catches over the past 6–7 years, including an acute “fish famine” in 2025, with species disappearance affecting household consumption and local markets. Trawler nets are perceived as forming an offshore “wall” that limits fish movement toward shore-based gears, while bottom trawlers are reported to have moved further inshore as purse seine effort expands offshore. Market impacts compound these pressures: mechanised landings undercut SSF prices, vendors shift to trawler ports, and local fish becomes less affordable.

These impacts are unevenly distributed. Women, youth, and marginalised fishers are seen as most affected by declining stocks. Interviewees report declining participation of women in union meetings as many move into alternative livelihoods, while women’s mobility shapes access to markets and adaptation options. Although caste and landholding are cited as key vulnerability factors nationally, interviewees emphasise that in Goa the shrinking SSF sector and rising reliance on non-fishing income reflect the broader marginalisation of the entire fishing “humanscape” under sustained mechanised pressure.

2. Participating in trawling and food security

Interviewees explained that while trawler ownership in Goa is largely local, crews are predominantly migrant workers from other Indian states (Chakravarty & Sharma 2024). Trawl catches are described as primarily export-oriented, with only limited volumes entering local markets; bycatch is reportedly diverted to fishmeal.

As a result, contributions to local food and nutrition security and food sovereignty are minimal, uneven, or effectively absent.

3. Nutritional impacts and consumers

Interviewees identified mackerel, sardine, mullet, pomfret, prawns, crabs, squid, ribbonfish, and small crustaceans as locally important food species, with declining availability of sardine, mackerel, and pomfret in nearshore catches. Trawlers and purse seiners are reported to capture an increasing share of these species, reducing supply to SSF markets and increasing reliance on imports from other regions. Fish price inflation and declining SSF catches make local fish less affordable. Households with greater mobility—often women—may adapt through alternative employment or market purchases, while others experience reduced access to preferred foods.

4. Narratives and policy framing

Interviewees report that there is no known industry narrative supporting their activities, yet the government seems to turn a blind eye to illegal activities by the trawl fishing industry rather than openly supporting or regulating it. Nationally, industry discourse is described as shifting blame toward regulatory failure rather than acknowledging overcapacity, framing the problem as one of governance rather than industrial effort and illegal activities. Counter-narratives are advanced by small-scale fish worker unions and civil society through long-standing legal action and public advocacy. Court proceedings demonstrate that disputes centre on enforcement and surveillance rather than regulatory absence, with directives for enhanced patrolling, GPS tracking, and prosecution. Interviewees note that while India's regulatory framework references equity between small- and large-scale fisheries, it lacks effective enforcement mechanisms and does not explicitly integrate food-security objectives.

Conclusion

The Goa case highlights a complex tension between a locally owned mechanised fleet and a struggling small-scale sector dependent on inshore access for food security and livelihoods. Although trawlers are locally owned, their reliance on migrant labour means that the economic benefits of industrial fishing often bypass the coastal communities most affected by resource depletion.

Bottom trawling sits at the centre of this conflict. While the legal framework provides for a 5 km inshore exclusion zone and bans on bull/pair trawling and LED fishing, interviews and court records point to chronic enforcement failures. These translate into gear conflict, depletion of locally important food species, and reduced capacity of SSF to supply local markets (AGSSRFU v. State of Goa 2024; Goa Foundation v. State of Goa 2025).

Priority actions emerging from the evidence include:

1. Full implementation of court-mandated patrolling, vessel tracking, and prosecution of illegal mechanised fishing
2. Transparent monitoring of LED and bull/pair trawling bans
3. Protection and recovery of inshore stocks critical to local diets
4. Inclusive governance that formally integrates SSF organisations into decision-making and explicitly links fisheries management to food security and food sovereignty.

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