BYCATCH TO *BUY*CATCH: Reduction Fisheries, a Policy Blind Spot in Sustainable Fisheries Management in India

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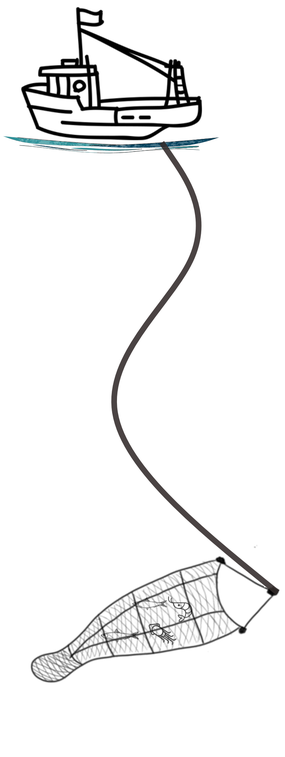


BACKGROUND

- **Reduction** refers to the process of converting fish into fishmeal & fish oil (FMFO), which is used in aquaculture and poultry.
- Non-selective fishing, such as **trawling**, causes havoc on oceans' ecosystems as it catches large quantities of non-targeted groups.
- Low-value bycatch, earlier discarded, is now **utilized** as feed for **export-oriented** aquaculture and poultry sector.
- FMFO sector potentially diverts **affordable, accessible** and **nutritious** seafood away from marginalised communities.
- 2017-19, Indian trawl fisheries landed **30-60% of low-value** catch which was sent to produce FMFO [1].

AIM

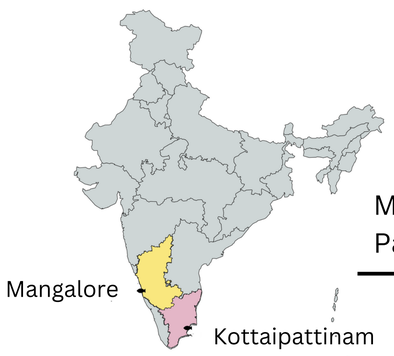
Understand the reduction fisheries sector and its social-ecological implications in two major coastal states: Karnataka (Mangalore) and Palk Bay, Tamil Nadu (Kottaipattinam).

OBJECTIVES

- Assessing the composition and utilisation of the low-value trawl bycatch diverted to make FMFO.
- Mapping all actors across the reduction fisheries supply chains and their interdependencies.

*Although multiple studies on trawl bycatch exist, there is a **lack of holistic information** on the **scale**, **functioning**, and **detailed socio-economic implications** of the reduction fisheries sector across the Indian coast, making it a **policy blind spot.***

METHODOLOGY



Site scoping & Key Informant interviews

Mangalore- Feb'22
Palk Bay- Aug'22

Mangalore- Apr-Jun'22
Palk Bay- Sept-Oct'22

Biological Characterisation

- Randomly collected 1 Kg of sample from each boat. N=20 (Mangalore), 10 (Palk Bay)
- Specimens measured, weighed, and identified.
- Recorded fishing data: fishing depth, gear, hauls.

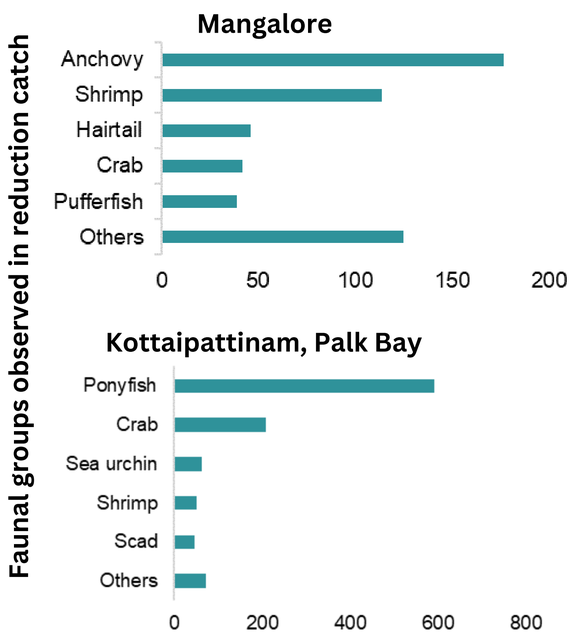
Reduction fisheries Supply chain mapping

- Identified and conducted in-depth supply chain actors' interviews through snowballing and connections built during scoping.
- Number of interviews N= 12 (Mangalore), 23 (Palk Bay)

Data Analysis using MS Office and NVivo Software

RESULTS

BIOLOGICAL CHARACTERISATION



NUTRITIONAL IMPLICATIONS

70% faunal groups & juveniles observed in FMFO were also consumed locally, including anchovies, shrimps, hairtail, crabs, ponyfish, squids, sardines, goatfish, and moonfish

SCALE OF OPERATIONS

45% of total catch in **Mangalore** diverted for reduction

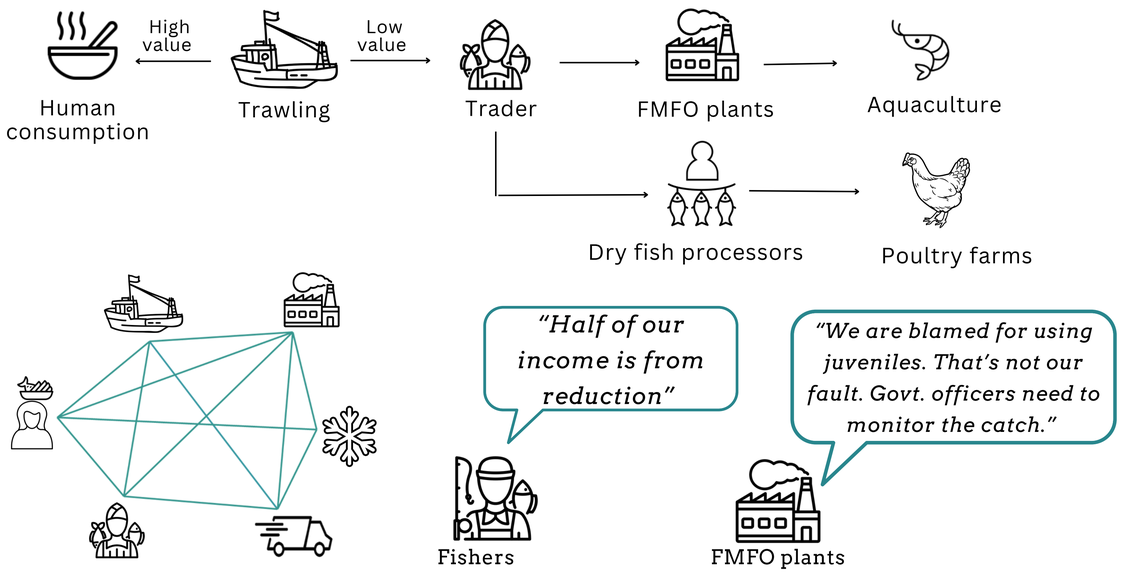
*(4.5 tonnes per boat on average)**

70% of total catch in **Kottaipattinam** diverted for reduction

*(345 kg per boat on average)**

*Based on information provided by fishers

MAPPING OF SUPPLY CHAIN & INTERDEPENDENCIES



Complex socio-economic interdependencies, diverse actors' perspectives, and **dynamic supply chains** challenge the sector for sustainable management actions.

CONCLUSION

High-value catch was also observed to be diverted for FMFO due to **market fluctuations** and **regional preferences**. This may have serious consequences for the **nutritional security** of the ocean-dependent marginalized communities.

Trawling is becoming economically unviable due to inflation and catch decline. Reduction fisheries **incentivise** trawlers to catch entire biomass, including **juveniles and threatened** species, impacting **oceans** and **fishers' livelihoods** in the long run.

The reduction sector contributes significantly to the fisheries economy. Therefore, **laws and regulations** on FMFO or trawling need to include the **livelihood concerns** of those involved.

-Need **longer studies** capturing **seasonal** variations & cross-sectional aspects of **gender and migration** in reduction fisheries.
-Study the **interlinkages** with other industries like cosmetics and pharma to understand drivers of demand for FMFO.
-Need **informed, bottom-up** measures considering the complex interdependencies.

REFERENCES

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ACKNOWLEDGEMENTS

We extend our gratitude to WWF-India for collaborating the study. We thank Dr. Bhatta, Dr. Murugan and Dr. Balaji along with our interns, Abhishek Gerald and Chetan S, for their invaluable support throughout the study.
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