

Indian Deepsea Fishing: Status and Challenges

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Introduction

Deepsea fishing takes place at great depths namely Exclusive Economic Zone and high seas. Ever since, the expansion of the fisheries sector following industrialization in capacity attained a multi-fold increase, and venturing into new areas for fishing has also become a focal point. This leads to conflict in the area of fishing as the sea adjoining the land is commanded by the land itself. Hence, the jurisdiction has always been a hurdle for fishery managers and the concept of EEZ, territorial waters and contiguous zone were introduced globally. These regulations are also applied to the conservation of resources. Recent development in the fisheries sector required expansion and the deep-sea resources were targeted as a new area of development. Technological advancements have prepared the sector to face much higher challenges. The onset of FAO International Guidelines for the Management of Deep-sea Fisheries and High Seas led to the adoption of specific recommendations to follow in the scenario.

The Indian economy has been supported by the fisheries sector since industrialization and the sector contributes significantly to the export market. Also, the nutritional security and employment generation of the country depends on it greatly. Even though, the country is unable to reach the annual per capita fish consumption of 11 kg /year, the present per capita consumption is around 9 kg, which shows the need for an immediate additional nutritional requirement for the country. Blessed with a huge coastline of 8129 km, India holds the right to explore the Indian Ocean up to 200 nautical miles from the coastline and our production has reached 3.05 million tonnes in 2021 against the projected potential of 4.41 million tonnes.

Studies concluded that the fishery resources being harvested are mostly from the coastal waters and more than 90% of the catch is obtained from within 50-meter depth. It leads to increased fishing pressure in the nearshore waters. As there are plenty of uncharted areas of high potential, exploitation at deeper waters with increased capacity is recommended by many fishery managers. Though keeping high expectations in the exploitation of resources, management strategies are crucial in ensuring sustainable fishing practices.

Indian deepsea fishing is ongoing since the introduction of the industrial strategy called the First Five Year Plan (1951-56) where chartering ventures were invited from foreign countries. The government also encouraged the mechanization of indigenous fishing vessels with motor power. One of the outcomes of this mechanization programme was the design popularly known as Pablo boat. Twelve standard designs of wooden fishing boats in the size range of 7.67 to 15.24 m were developed and introduced by ICAR-CIFT, Cochin which gave a major boost to the mechanization program of Indian fisheries. By the end of 60's, about 3000 indigenous boats were mechanized with the ability to venture deep into the sea. Maritime Zones of India Act, 1981 enforced the first regulation of fishing by foreign vessels in Indian waters and paved the way for the deep-sea fishing policy in 1991. Though it was practised for a considerable long time till 1997 and additional licenses were not given due to protests from

local fishermen. From 200-2001, the EXIM policy by the Ministry of Commerce and Industry again introduced a Special License Scheme to invite foreign vessels into the Indian EEZ followed by the first set of regulations issued by the GOI that allowed specific fishing practices in the deep sea such as long lining and purse seining for tuna, squid jigging and hand lining, mid-water pelagic trawling and trap fishing. The Guidelines also defined deep sea fishing (fishing activities beyond 12 nautical miles from the shore line i.e. the Territorial Waters) and deep sea fishing vessels (fishing vessels of 20 meter overall length and above). In 2004 hook and line fishing and pole and line fishing were also incorporated under the resource-specific fishing methods. It is reported that up to 200 vessels were exploiting offshore tuna resources, and deep-water species such as shrimp and lobster as per the charter/joint venture system which was existed at the beginning of 1990s. Following the 1996 abolition of the charter/joint venture system, numbers of industrial scale vessels operating in the EEZ came down to below 60, but have subsequently picked up again under the guidelines on deep-sea fishing, promulgated by Government in 2002.

Major Deep Sea resources

Based on the report of 2010, Revalidation Committee, the total potential of oceanic waters is estimated at 216 500 tonnes, including Yellowfin tuna (37%) and Skipjack tuna (46%). Other major species include Bigeye tuna, Billfishes, Sharks, Barracuda, Dolphin fish, Wahoo, etc., and comprise about 17 per cent of the total. From the species composition, it is clear that the primary objective of exploring oceanic fishery should be to exploit quality Yellowfin tuna resources and complement this with skipjack tuna and other resources such as Bigeye tuna and Billfishes. India is still a small player in global tuna fisheries. Except the Lakshadweep group of Islands, there is hardly any organized tuna fishery in India. Synonymous with tuna fishing, the Lakshadweep Islands abound in skipjack followed by yellow fin. Fish aggregating devices such as 'payao' were introduced in Lakshadweep for increasing tuna catch and have performed well. Similarly, the Lakshadweep Administration is introducing larger fishing vessels (12- and 17-meters overall length) for increasing tuna catches from its waters. Baitfish fishing also forms an important component of the pole and line tuna fishing of Lakshadweep and could become a constraint in future if not managed sustainably.

In the Bay of Bengal, the Andaman and Nicobar Islands offer some of the best tuna fishing grounds in the Indian EEZ. However, due to lack of capacity and weak forward and backward linkages prevailing in the Islands, tuna resources from the Andaman and Nicobar waters have largely remained unexploited. Since the oceanic tunas are migratory in nature, the tunas that could have been caught by the Indian fleet in the Andaman and Nicobar waters mostly get harvested in the EEZs of the neighbouring countries or in the high seas by the fleet of the distant water fishing nations. Simultaneously, the small-scale fishing sector, especially off the coast of Visakhapatnam and in some coastal districts of southern Tamil Nadu has also ventured into tuna fishing. These initiatives include the targeting of Skipjack and Yellow fin tunas (particularly in Vishakapatnam) using troll line, hand line, gill nets and hook and line. In southern Tamil Nadu (Nagapattinam area), large floating devices are being developed to aggregate tuna and tuna-like species. Tuna fishing on the east coast is seasonal and takes place for about 7-8 months (August -March). Further, in Nagapattinam and other fishing centres located on Palk Bay, fishers are also seriously considering converting their trawlers into long liners and moving offshore for fishing tuna and tuna-like species.

In the indigenous expertise on offshore fishing for tuna and tuna-like species, the Toothoor-based (in Kanyakumari district of Tamil Nadu) artisanal fishermen deserve particular mention. The Toothoor deep sea fishermen are not only fishing in different areas of the Indian EEZ (mostly in the Arabian sea), but also in Areas Beyond National Jurisdiction (ABNJ). Since 2006 onwards, MPEDA has also initiated conversion of trawlers into tuna long liners and most of such conversions have taken place in southern districts of Tamil Nadu.

Categories of deep-sea fishing fleet of India

The deep-sea fishing fleet in India can be broadly categorized under four heads. The first comprises fishing trawlers converted to tuna long liners under a scheme implemented by the MPEDA. The second category includes the vessels of 20-meter OAL and above brought through the Letter of Permission (LOPs) issued by the Department of Animal Husbandry, Dairying and Fisheries (DAHD&F), Ministry of Agriculture. The deep sea going fishing vessels of Thoothoor in Kanyakumari district form the third category. These vessels also have a collective called the Association of Deep Sea Going Artisanal Fishermen (ADSGAF). The fourth category of vessels is from Visakhapatnam and they also fish in the deeper waters off the coast of Andhra Pradesh. These vessels apart from deeper waters of our EEZ also carry out fishing in the area beyond our national jurisdiction i.e. international waters.

Issues in deep sea fishing industry

1. Policy limitations

Introduction of deep-sea fishing vessels under charter policy was targeting the export market alone, as opined by the local fishermen. Without proper monitoring, many vessels have approached nearshore waters and resulting in conflict between the artisanal sector and the mechanized sector weakening the financial stability of the domestic market. Recommendation of buffer zone, opening off shore completely for joint venture and foreign vessels until domestic fishermen attain capacity, uniform ban on monsoon fishery have made the imbalance in the resource exploitation as they have created agitation among fishermen.

2. Marketing hurdles

Indian fish marketing is still facing problems due to the weak linkage between the consumer and the producer. Middlemen interventions are still playing at large by controlling price spread has been demanding government interventions. Also, not all deep-sea resources are marketed due to differential demand as tuna, shrimp, sharks are having better acceptance. The price disparity between primary auction and retail price has been varying highly in case of high demanded species also.

3. Capital investment and recurring cost

Deep sea fishing is an expensive venture compared to coastal fishing due to the increased scouting and market unpredictability. Limited schemes from the government are not found to be reaching many fishermen due to the lack of financial capacity by the fishermen.

4. Demanding skilled fishermen

In India, when the deep-sea fishing sector is not organized this is well known that there will be no or adequate manpower with technical competency. Almost all the deep-sea boat owners surveyed felt that the longer duration of fishing in this sector is a major limiting factor for the non-availability of Skilled manpower.

Recommendations

- 1) Training to improve the skills of deep-sea fishermen to achieve a better income

- 2) Financial assistance along with the current plan of conversion of trawlers to deep sea longliner cum gillnetter.
- 3) Policy interventions to improve the fishing scenario and to attract more fishermen to venture into deep sea fishing.
- 4) Direct market support to ensure demand for the deep-sea commodity throughout the season.
- 5) Direct marketing of the deep-sea commodity by regulating the middleman intervention and also constituting fisheries societies to ensure minimum market price for the commodities.

Conclusion

Fishing rights and the responsibilities it entails in the deep-sea sector have been a vexing issue since the early 80's due to sectoral conflicts. While there is enormous potential for the exploitation of oceanic larger pelagic from the pelagic region of deeper waters and non-conventional resources from the mesopelagic realms of deeper waters, it is essential to develop value-added products for domestic and export markets. It is also essential to create awareness of the edible qualities and the nutrient values of the non-conventional resources among the public through various print and electronic media so as to generate a free market for many such deep-sea resources. Research and development programmes should be strengthened through projects on exploratory deep-sea surveys for pelagic, mesopelagic and bathypelagic resources and their tropic and population dynamics. Many targeted deep-sea resources are seasonal which affects the market for the species. Constant support from the Government as a policy or direct allowance of incentives can support the sector to a great extent. The sector still requires research and awareness among the consumer as well as the fisherfolk to attract towards the deep-sea fishery as many of the resources are non-conventional. Hopefully, the sector is expected to achieve its full potential through constant support from legislation as well as research.