

An Introduction to Indigenous Bag Net (Dol Net) Operated along the Northwest Coast of India

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Abstract—To capture fish and other aquatic resources different methods by using gear or without gear have always been practiced. Although the basic principles, behind the fishing is the filtering the water, luring and outwitting the prey and hunting, on this basis most of the fishing gears have been discovered. A fishing gear is the tool with which aquatic resources are captured, whereas the fishing method is how the gear is used. 'Dol' net is an indigenous bag net operated along the northwest coast of India. This is the gear mainly used in the Bombay duck fishery. The present article attempts to compile all principal information regarding different parts of Dol net fishing gear, operation of Dol net and catch composition of Dol net.

Keywords: Dol net, Gujarat, Fishing Gear, bag net

1. INTRODUCTION

Dolnets are operated in three regions viz., Umbergaon to Kavi along the southern Gujarat, Siyalbet to Diu along the Saurashtra coast and Takkara to Modhwa in the Gulf of Kutch region (Nair *et al.* 2007). Among these, Saurashtra is the important region and the main fish landing centers are Jaffarabad, Rajpara, Navabunder and Goghla. Out of these the first three are the most important with more than 600 dol netters under operation (Manojkumar and Dineshababu 1999). The 'dol' net is one of the most important gear used in strong tidal current along the coasts of Maharashtra and Gujarat. The Bombay duck, *Harpodon nehereus* (Ham.) is the main constituent of the catch so much that the 'dol' net fishery has become synonymous with Bombay duck fishery. However, a detailed catch composition revealed that Bombay duck forms 68.6-77% of the total 'dol' net landings along the Saurashtra coast.

2. MATERIALS AND METHODS

In this communication an attempt has been made to give an overall view of the 'dol' net fishery of the Saurashtra Region of Gujarat. The method of 'dol' net operation, fishery, conditions and other factors prevailing in the three major landing centres namely Nawabunder, Rajpara and Jaffarabad are dealt with

based on regular observations carried out during September 2013 to May 2014.

3. RESULT AND DISCUSSION:

Vessel overview

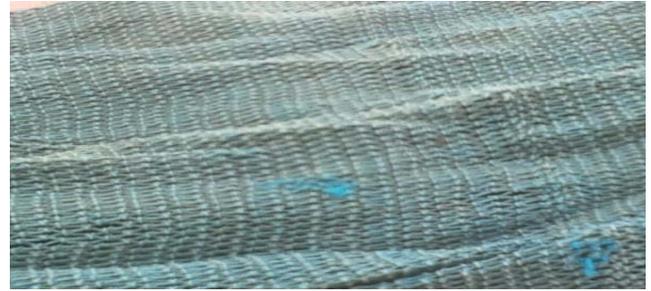
Boat is not necessary to operate stow nets. Various models of shrimp stow nets are set directly from the shoreline, in the inter-tidal zone. Boats operating "dol" net, in North West coast of India, are wooden boats, ranging from 12 m to 16 m in length, powered by marine diesel engines of 40-100 HP.

Craft, gear and area of operation

Dolnets are fixed bag nets using two steel poles at a fixed depth. Each boat carries 3-5 nets, which in turn makes 2-3 hauls, with duration of 6 hr/haul. Tidal fishing is done depending on the full moon day at different depths, changing the fishing depth twice in a year. Jaffarabad is one of the major landing centers with 350 dolnet units under operation, out of which 140 are 4 netters, 95 with 3 netters and the rest with 2 netters, operating at a depth of 10-50 m, South-east, South direction. Major landings were observed during April-May and October-December.

At Rajpara, around 230 dolnet units are operated, of which 120 are 4 netters, 60 are 3 netters and the rest with 2 nets, operating at a depth of 10- 50 m, South east, South direction. Peak fishery was noticed from April to May and from September to December. Navabunder is the second largest dolnet landing centre, with 280 dolnetters and 40-50 gill netters.

Cat fishes are landed in dolnets as well as gillnet operating at this centre at a depth of 30-40 m in South east and South west directions.

**Bochi****Patiya****Aor****Trijo****Bungu****Chothi****Target species**

Dolnet catch consists mainly of *Harpodon nehereus*, *Protonibea diacmthns*, penaeid prawns, non-penaeid argentens prawns, *Pampus argenteus*, *Trichiurus sp.*, carangids and catfishes. Bombay duck contributes a major share to the dolnet catches.

General remarks on catch composition

One important feature observed in all the three landing centres was the dominance of Bombay duck in the catch. This was the mainstay of 'dol' net fishery. Eventhough Bombay duck formed more than 50 % of the catch in all the three centres except in Nawabunder (44 %), there was a decrease in the percentage contribution of this species when compared to the values given by previous authors. Corresponding to the decrease in the percentage contribution of Bombay duck there was an increase in the next dominant group, the non-penaeids, which formed more than 15 % of the catch at all the centres. Among the non-penaeids, *Acetes spp.* was the dominant one. These species alone formed about 15 % at Nawabunder. At Rajpara this group formed about 13 % and at Jaffarabad about 11 %. The gold spotted anchovy (*Coilia dussumeri*) is also an important group landed in 'dol' nets. This group formed around 8 % in the dol net catches at all the centres.

Eventhough there was an increase in the total fish landed by the 'dol' nets, compared to the previous year. The high valued items such as bigger shrimp, lobsters, ghol, and bigger ribbon fishes etc., are preserved with ice in the boat and is purchased

by the exporters. The ghol, *Protonibea diacanthus* is priced about Rs. 1500 per kg because the air bladder of the fish fetches very good price. Some quantity of Bombay duck is consumed in the fresh form. The costly varieties such as shrimps, pomfrets, lobsters, ghol etc. are purchased by the agents of exporters and transported to Veraval. The trawl netters from Veraval occasionally land Bombay duck and other species usually appearing in the 'dol' nets, especially in the March-April months.

4. CONCLUSION

Compared to the previous year, the total fish landed by the 'dol' nets was increased. The high valued items such as bigger shrimp, lobsters, ghol, and bigger ribbon fishes etc., were frequently catching by this gear so it is an effective gear for sustainable fishery as well as economic point of view for fisherman community.

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