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Design characteristics of mackerel encircling gill nets of Ratnagiri, Maharashtra

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ABSTRACT

Gill net fishing is one of the popular fishing methods along the west coast of India. The paper deals with design and general characteristics of mackerel encircling gill nets operated from Ratnagiri, Maharashtra. Webbing of the nets were found to be fabricated with polyamide (PA) monofilament of diameter 0.23 mm, mesh size ranged between 45 to 60 mm and hanging coefficient varied from 0.40 to 0.54. The hung length and hung depth of the encircling mackerel gill net ranged in between 38.88 to 76.92 m and 8.28 to 17.62 m, respectively with the total fleet length of 410 to 960 m. For this type of net 110 to 140 number of plastic floats and oval shape lead sinkers of 50 to 140 number were used. Ten to sixteen number of units were joined together to form netting fleet. The mackerel encircling gill nets are locally known as *Phatyachi rapan* and *Bangdyachi rapan*.

Key words : Design, Characteristics, Mackerel, Encircling, Gill net

INTRODUCTION

Gill nets, owing to their simplicity in design, construction, operation and the low investment needed, remain as the most popular gear in all the sectors especially in the traditional sector. Maharashtra state is one of the major marine fish landing states in India. It has 720 km coastal line spread all over the maritime districts viz. Thane, Mumbai, Raigad, Ratnagiri and Sindhudurg. The fishing fleet operating along the Maharashtra coast during the year 2006-07 comprised of 11,798 mechanized boats and 10,895 non mechanized boats. In Ratnagiri a total of 588 numbers of gill netters are in operation (Anonymous, 2007).

Design characteristics of marine gill nets of Kerala have been discussed by Thomas and Hridayanathan (2006) and Vijayan *et al.* (1993), gill nets of Gujarat by Pravin *et al.* (1998), of Andhra Pradesh by Ramarao *et al.* (2002).

Various aspects of mackerel gill nets of India were studied by Mathai *et al.* (1993), Thomas *et al.* (2005) and Meenakumari *et al.* (2009). The technical and design details of 'aila chalavala', the encircling gill nets for mackerel was reported by Satyanarayana and Sadanandan (1962). Encircling gill nets for mackerel were also recorded by Thomas *et al.* (2005) from Gujarat.

Many changes have taken place in the gillnets with

respect to the material used, net dimensions, mesh size, mode of operation (Vijayan *et al.*, 1993). The present day gill nets are mostly resource specific. The present study was undertaken with the objective of documenting the design characteristics of the mackerel encircling gill nets operated from Ratnagiri.

MATERIALS AND METHODS

The investigation was undertaken during the period August, 2009 to May, 2010 to study the design and general characteristics of mackerel encircling gill nets of Ratnagiri, Maharashtra. Ten important fish landing centres of Ratnagiri were selected for the present study, namely Mirkarwada which is a major fish landing and distribution centre while Sakhartar, Kasarveli, Mirya Bandar, Bhagwati Bandar, Bhatkarwada, Rajiwada, Karla, Bhatye and Phansop are the small fishing and landing centres. Structured data collection schedule formulated for the present study comprised of two major sections. The first section dealt with the particulars of gill net owner and the fishing vessel used for the gill net operation. The second section dealt with the design characteristics, rigging and the mode of operation of the mackerel encircling gill nets used by the fisherman of Ratnagiri. The information included in the first section was recorded according to