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Design aspects of small meshed purse seine nets without pocket

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ABSTRACT

The small meshed purse seine net without pocket was locally called '*ghan*' in Ratnagiri because of smaller mesh size of the main webbing of the net. The study deals specifically with the design, construction and operational details of the small meshed purse seine nets (*ghan*) without pocket operated from Ratnagiri. The nets were made of polyamide (PA) with knotted netting having small mesh size of 30 mm. The total length and stretched depth of purse seines in Ratnagiri was 521.5 to 1112.4 m and 33 to 82.35 m, respectively. The hanging coefficient along the floatline was 0.52 to 0.88 while along the lead line was 0.59 to 0.95. The gear was operated using the single boat with the aid of an unpowered skiff. The depth of operation was always less than the depth of the net. The time required for setting, pursing, hauling and brailing varied from two to two and half hours.

Key words : Design, Small meshed purse seines, Purse seines without pocket.

The purse seine has been in operation commercially for more than two decades in Ratnagiri. The purse seine was basically designed and operated for sardine and mackerels, other fishes like ghol, shrimps, cat fishes, pomfrets, ribbon fishes etc., are also often caught by the net.

Aspects of classification, structure and operation of purse seine nets have been discussed by, Ben-Yami (1987, 1994), Sainsbury (1996) and others. The design, construction and operational details of purse seines have been reported by many authors (Sedanandan *et al*., 1975; Verghese, 1976; Mukundan *et al*., 1980; Iitaka, 1971).

The purse seine operation for sardine and mackerel on the Indian coast was first attempted by the FAO experts working on the Malabar (Kerala) coast and Mangalore (Karnataka) coast during the year 1970's to 1980's (Sadanandan *et al.,* 1975). In Maharashtra, this type of fishery was initiated in the year 1983 along the coast of Ratnagiri. The total marine fish production of Ratnagiri district was 1,03,184 metric tonnes (Anonymous, 2007). Purse seine fishing accounts for 25 to 30% to the total world marine catch (Ben Yami, 1994).

This communication presents the design, technical specifications and rigging of the small meshed purse seine net without pocket operated from Ratnagiri.

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MATERIALS AND METHODS

The total number of purse-seiners in Maharashtra was 288, out of which 167 were operated from Ratnagiri (Anonymous, 2007). The present investigation was undertaken during the period August, 2009 to May, 2010. The detail information regarding design and construction of purse seine nets was undertaken by physically sampling the unit and recording the data according to Sadanandan *et al*. (1975) and Hellevang (1971) whereas, the particulars of the purse seine net operators of Ratnagiri and the vessel details were recorded according to Sreekrishna and Shenoy (2001). The design of the gear was documented according to Nedelec (1975). Data were analyzed with the appropriate statistical procedures wherever required.

RESULTS AND DISCUSSION

The technical specifications of the small meshed purse seine net without pocket operated from Ratnagiri are presented in Table 1 and its design is presented in Fig.1 and 2. The net was locally known by the name, *Ghan* because of smaller mesh size of the main webbing of the net. The main parts of the net were the bunt (*Mand*), shoulder, main webbing and wing (*Kan*). A total 32 to 55 number of rectangular sections of webbing were joined vertically to form a full length net. The stretched height of all the sections of main webbing was same in the purse seine without pocket. The bunt part was located at one end of the net and wing at the other end. At the both end of the net choke with bridles were provided with thicker twines. The depth of bunt and wing was less than the