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Design aspects of ring seine nets without pocket of Ratnagiri, Maharashtra

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ABSTRACT

Ring seine was a very recent introduction in Ratnagiri and was operated mainly to catch oil sardine and mackerel shoals moving in the surface and column waters. The ring seine was operated from small fibre glass reinforced plastic (FRP) craft fitted without board motor (OBM). The design, construction and operational details of the ring seine without pocket operated from Ratnagiri have been described in this paper. The total length of the ring seine without pocket was in the range of 336.6 to 540 m with depth of 36 to 45 m. The webbing of the ring seines were made of polyamide (PA) knotted netting having mesh size of 14 to 20 mm. Ring seine without pocket were mostly operated near to the coast in the depth less than 30 m using the basic principle of encircling the shoal with the help of 8 to 12 crew members.

Key words : Design, Ring seine without pocket, Ring seine, Polyamide

INTRODUCTION

Marine fisheries sector of Ratnagiri has witnessed many technological innovations during the past decades. Ring seine was a very recent introduction in Ratnagiri and was operated mainly to catch oil sardine and mackerel shoals moving in the surface and column waters. Ring seines have been used by small scale fishermen and was operated from small craft made of fibre glass reinforced plastic (FRP) fitted with out board motor (OBM).

The Central Institute of Fisheries Technology (CIFT), Cochin developed and introduced ring seine in Kerala in the year 1982-83 (Panicker *et al.*, 1985). Ring seine fishery of Kerala and other parts of India has been subjected to several studies (Balan *et al.*, 1989; Anonymous, 1991; Rajan, 1993, Edwin and Hridaynathan, 1996 and Vijaykumar and Chittibabu, 2005).

This paper presents the variations observed with respect to the design, material used, net dimensions, mesh size, etc of the ring seine without pocket. Rigging of the nets and method of operation have also been described.

MATERIALS AND METHODS

The present investigation was undertaken during the period August, 2009 to May, 2010. Structured schedule comprising of two major sections was formulated for the present study. The first section dealt with the particulars

of the ring seine net operators of Ratnagiri and the vessel details were recorded according to Sreekrishna and Shenoy (2001) and the second section for the design and technical specifications of the net which was undertaken by physically sampling the unit and recording the data according to Sadanandan *et al.* (1975) and Hellevang (1971). The design of the gear was documented according to Nedelec (1975). Data was analyzed with the appropriate statistical procedures wherever required.

RESULTS AND ANALYSIS

The technical specifications of the ring seine without pocket operated from Ratnagiri are presented in Table 1 and its design is presented in Fig. 1. The main parts of the net were the bunt (*Mand*), shoulder, main body, wing (*Kan*) on either sides of the bunt and selvedge (*Palgi*). Edwin and Hridaynathan (1996) reported that ring seine of Kerala has three main parts *viz.*, the central bunt portion (*adi vala*) and two wing portions (*kaivaram*) on either side of the bunt. The full length net was formed by joining a total of 20 to 27 number of rectangular pieces. The stretched height of all the sections of main webbing was same in the ring seine without pocket. The selvedge pieces with rigged floats and sinkers are laced to the respective sides of each sections of the main webbing separately by Polyamide (PA) twine of size 210D/4/3. The bunt part is located at one end of the net. At both ends of the net,

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