

ABSTRACT

The results of a comparative study of the trawl fishery for prawns in Negombo and Chilaw carried out during January to April, 1991 is presented. The by-catch production and factors of the environment were also analysed.

Trawl fishery of Negombo is carried out by non-mechanised sail driven canoes and in Chilaw it is done by mechanised 3.5 ton boats. In both these areas prawn trawling is carried out close to the coast in depths of around 10m which lies within areas of the shelf considered to be relatively smooth. In the trawling ground the salinities varied from 34.9‰ to 35.5‰ at temperatures around 26° c. Both trawling areas had sandy, silty, clay soil.

Three major species of prawns and fourteen major groups of by-catch were recorded during the study. The highest production of prawns were recorded in April from both areas. There was a considerable variation in the production of prawns and by-catch between the stations and between months. An overall prawns: by-catch ratio of 1:0.23 and 1:1.92 were observed in Negombo and Chilaw respectively.

Morphometric studies indicate that stocks of Penaeus indicus from Negombo and Chilaw have a probability of less than 0.5 to be a unit stock. The probability of sexes to be equally distributed of P. indicus and Metapenaeus dobsoni could be accepted during some of the months only. From Negombo the highest percentage of ovigerous females of both P. indicus and M. dobsoni was observed in April and from Chilaw this

values were highest in March for P. indicus and April for M. dobsoni.

Pollution due to oil and industrial effluents is high in Negombo lagoon. But in Chilaw lagoon pollution is mainly due to coir retting and fertilizers washed from adjacent agricultural land. The length frequency distribution of major species of prawns recorded in Negombo is lower than that of Chilaw which may be related to the higher levels of pollution in the Negombo lagoon.

Comparison of data on length of by-catch by Jayakody (1984) with data of the present study shows a difference in size of the catch. Further studies are necessary to determine whether this relates to increasing pollution over the period of time.