



समुद्री मात्स्यिका सूचना सेवा MARINE FISHERIES INFORMATION SERVICE

No. 167

January, February, March 2001



तकनीकी एवं TECHNICAL AND
विस्तार अंकावली EXTENSION SERIES

केन्द्रीय समुद्री मात्स्यिकी CENTRAL MARINE FISHERIES
अनुसंधान संस्थान RESEARCH INSTITUTE
कोचिन, भारत COCHIN, INDIA

भारतीय कृषि अनुसंधान परिषद
INDIAN COUNCIL OF AGRICULTURAL RESEARCH

**953 EXPLOITATION OF THE BROWN MUSSEL *PERNA INDICA*
(KURIAKOSE AND NAIR) FROM SELECTED CENTRES ALONG
THE WEST COAST OF TAMIL NADU**

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The brown mussel, *Perna indica*, is found abundantly on intertidal and subtidal rocks along

the southwest coast of India. The species is edible and has been under exploitation for a long time.

This study was undertaken to determine the current level of exploitation from selected centres along the west coast of Tamil Nadu, since estimates of catch and effort form part of the basic information required for fishery management.

Based on a preliminary survey of the coastal mussel fishing areas, three major centres, namely Enayam, Colachel and Kadiapatanam were selected for collection of data. Description of these areas and the details of the method of mussel fishing are given in Appukuttan *et al* (CMFRI Bull.42(2): 257-263, 1988) and Joel and Ebenezer (Mar. Fish. Infor. Serv., T & E Ser., 100: 9-13, 1989). Data on catch (in weight) and fishing effort were collected from the year 1994-'95 to 1998-'99 and estimates were made according to the method described by Prabhu and Dhulkhed (*Indian J. Fish.* 17: 57-75, 1970), except that the fishing effort was recorded in mandays.

The mussel fishing season extended from October - November to March - April (Table 1). The fishery was in its peak during November - January and started to decline from February (Fig.1). In an earlier study conducted by Appukuttan *et al* (*op.cit.*) for the period 1982 - '84, maximum catch was recorded during November - December and the pattern of mussel landings continued to remain more or less the same.

The estimated annual catch (C), fishing effort (E) and catch per effort (D/E) at the three

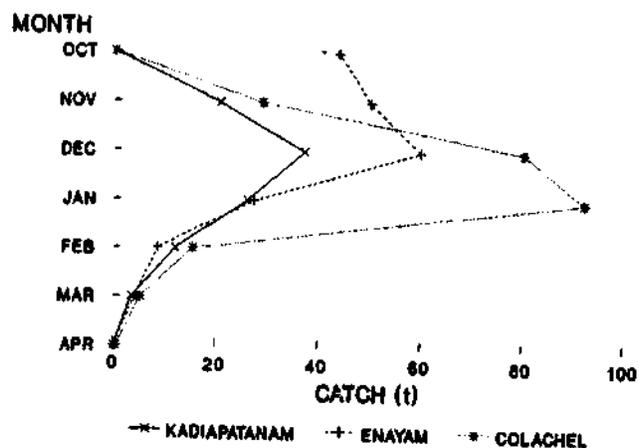


Fig. 1: Monthly (average) variations in the catch of *Perna indica* at the three centres

centres are presented in Table 2. The catch, effort and catch per effort decreased gradually after the considerable increase noticed in 1996 - '97. The catch showed wide annual fluctuations (Fig.2) and such variations were reported by earlier workers too. Similarly, average monthly variations were also quite prominent.

The catch per unit effort, which is generally considered proportional to index of abundance, has decreased slightly at Enayam in 1998 - '99 when compared to 1994 - '95, the beginning year of the present study. At Colachel, the C/E remained almost the same in 1994 - '99. At Kadiapatanam, the lowest value was in 1997 - '98 and was increasing subsequently although it had not reached the level of 1994 - '95 (Fig.3).

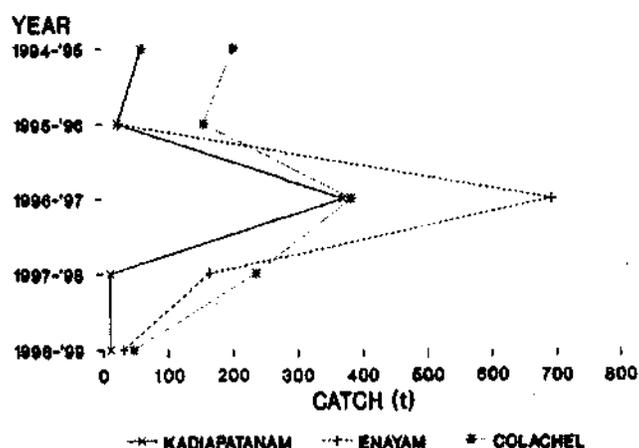


Fig. 2: Annual variations in the catch of *Perna indica* at the three centres

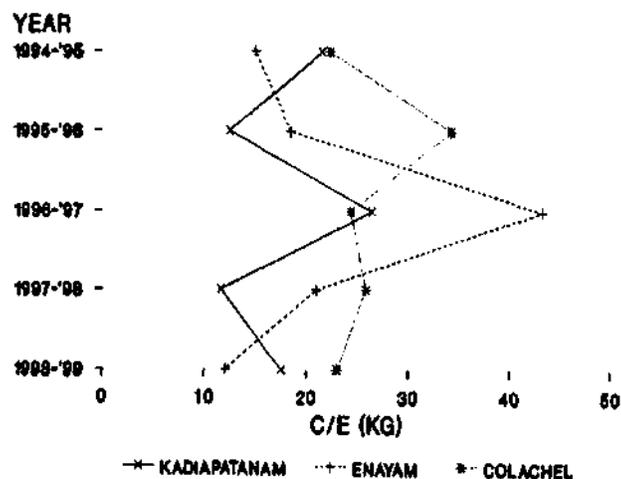


Fig. 3: Annual variations in the catch per effort of *Perna indica* at the three centres

TABLE 1. Details of monthly (average of five years) catch, effort and C/E at Enayam, Colachel and Kadiapatnam

| Month | Enayam | | | Colachel | | | Kadiapatnam | | |
|----------|------------------|------------------------|-------------|------------------|------------------------|-------------|------------------|------------------------|-------------|
| | Catch(C) (kg) | Effort(E) (mandays) | C/E (kg) | Catch(C) (kg) | Effort(E) (mandays) | C/E (kg) | Catch(C) (kg) | Effort(E) (mandays) | C/E (kg) |
| October | 43728 | 1028 | 42.54 | 0 | 0 | 0 | 0 | 0 | 0 |
| November | 50110 | 1330 | 37.68 | 29142 | 1311 | 22.23 | 20754 | 631 | 32.89 |
| December | 59958 | 1800 | 33.31 | 80243 | 3012 | 26.64 | 37323 | 1496 | 24.95 |
| January | 27559 | 1165 | 23.66 | 92228 | 2595 | 35.54 | 26174 | 1187 | 22.05 |
| February | 8647 | 638 | 13.55 | 15584 | 1120 | 13.91 | 12148 | 613 | 19.82 |
| March | 4173 | 370 | 11.28 | 5257 | 496 | 10.60 | 3555 | 320 | 11.11 |
| April | 0 | 0 | 0 | 528 | 66 | 8.00 | 0 | 0 | 0 |

TABLE 2. Details of annual variations of catch, effort and C/E at Enayam, Colachel and Kadiapatnam

| Month | Enayam | | | Colachel | | | Kadiapatnam | | |
|---------|------------------|------------------------|-------------|------------------|------------------------|-------------|------------------|------------------------|-------------|
| | Catch(C) (kg) | Effort(E) (mandays) | C/E (kg) | Catch(C) (kg) | Effort(E) (mandays) | C/E (kg) | Catch(C) (kg) | Effort(E) (mandays) | C/E (kg) |
| 1994-95 | 60778 | 4036 | 15.06 | 201542 | 9000 | 22.39 | 59058 | 2740 | 21.55 |
| 1995-96 | 23-62 | 1248 | 18.48 | 154902 | 4514 | 34.32 | 21580 | 1716 | 12.58 |
| 1996-97 | 692317 | 15990 | 43.30 | 383188 | 15716 | 24.38 | 370789 | 14014 | 26.46 |
| 1997-98 | 163775 | 7812 | 20.96 | 236088 | 9136 | 25.84 | 10943 | 938 | 11.67 |
| 1998-99 | 30946 | 2568 | 12.05 | 46958 | 2044 | 22.97 | 11220 | 640 | 17.53 |
| Average | 194176 | 6331 | 30.67 | 204536 | 8082 | 25.31 | 94718 | 4010 | 23.62 |

Since exploitation takes place only during a part of the year (October - April), avoiding the peak period of spawning and settlement of mussels along the southwest coast of India, the population gets time and opportunity to re-establish on coastal rocks in these areas.

Acknowledgements

The authors are grateful to the Director, Central Marine Fisheries Research Institute, Cochin, the Head, Molluscan Fisheries Division of the Institute, and the Officer in - charge, VRC of CMFRI, Vizhinjam for their encouragement as well as for providing facilities for this study.