

A NOTE ON THE OPERATIONAL COST AND RETURNS OF SEASONAL "MIXTURE MADI" OPERATIONS ALONG KANYAKUMARI COAST

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The south west coast of Tamil Nadu extends about 58 Kms from Cape Comorin to Neerodi in Kanyakumari District. This district (lat. between $8^{\circ} 51'$ and $8^{\circ} 21'N$ and long; between $77^{\circ} 6'$ and $77^{\circ} 34'E$) is situated on the southern extremity of the Indian Peninsula. The inshore area is sandy strewn with rocky beds here and there. The Kuzhithurai, Valliyar and Pazhayar rivers join the sea on the west coast of this district. There are about 42 fish landing centres along this belt. Higher density of fishermen population, presence of maximum types of traditional fishing methods and high expertise on certain fishing techniques are some of the unique feature of this area. The fishery of this region was dealt with by Chacko and George (1958) Padmanaban (1966) and Lazarus and Joel (1979). The findings of the Pelagic fishery project have revealed the high fishery potential of this region. One of India's richest fishing grounds, the wadge Bank ($7^{\circ} 20'N$, $77^{\circ} 52'E$) about 10,000 Sq. km in area is situated about 56 km south of Cape Comorin. Colachel, which is a natural harbour, is the most important landing centre in this region.

The present report deals about the mechanised fish landings of Colachel, economics of its operations and distribution pattern of some of the commercially impor-

tant marine fish during July to September (1989).

Normally 10 to 20 mechanised boats regularly operate from Colachel landing centre. But during the south-west monsoon months (June to September (1989) the number of units gradually increased and reached the peak of about 100 by September. Data on average operational expenditure, Species wise catch particulars, marketing and distribution pattern of catch were collected on daily basis by direct observation at Colachel landing centre during this period.

Mechanised Units

The mechanised units go for fishing by about 4 A.M. and return to the shore between 2 to 5 P.M. The number of crew in each boat ranges from 6 to 8. They are operating fish trawl locally known as "mixture madi" or "rope madi". The net looks like the usual trawl net with a higher mesh size costing around Rs. 5000/-. Wages to the crew members are proportional to the catch as sharing system is followed in these units. The income after deducting the running costs such as fuel expenses, auction charges and other day to day expenses is divided into three shares. The owner of the unit gets two shares for boat and net and the remaining is equally divided among the crew members as

wages. Average fuel expenditure per trip works out to Rs. 400 and the average diesel requirement is about 100 litres per trip. The average number of mechanised boats operated at Colachel was 30 during June 1989, 42 during July, 80 during August and 90 during September. Since there is no jetty facilities at this centre the boats are stationed at a distance and the bundles of catches were tied in a rope and pulled to the shore by fishermen.

Fish landings

The estimated landings of Cuttle fish, Thread-fin breams and Lizard fish during July-September '89 at Colachel are given in table 1.

Maximum landings of cuttle fish, thread-fin-breams and Lizard fish were observed during September 1989. The average catch per trip was 501 kg during July, comprised of cuttle fish (60 kg) Threadfin breams (150 kg), Lizard fish (251 kg) and other varieties (40 kg). Although the number of units operating increased to 1920 during August the catch per trip decreased to 265 kg comprised of 30 kg of Cuttle fish, 60 kg of thread fin breams, 100 kg lizard fish and 75 kg of other varieties. The peak landings were observed during September with catch per trip of 660 kg constituted by 80 kg of Cuttle fish, 200 kg of thread fin breams, 250 kg of lizard fish and 130 kg of other varieties. The average number of actual fishing days were 23 for July, 24 for August and 25 for September. The daily average output at the landing centre was 21 tonnes catch during July and August and 59 tonnes during September.

Marketing and distribution pattern

The catches were disposed off by auctioning and then transported to interior

markets by head loads, cycles, tempos and lorries. The entire landings of cuttle fish were purchased by the agents of processing plants for exports. This cuttle fish was cleaned at the shore side itself and iced well before sending to Quilon region of Kerala for further processing and exports. With regard to Threadfin breams and Lizard fish the percentage distribution towards fresh, iced and cured forms during July-September is given below.

The important local markets for fresh fish are Monday Market, Vadaserry, Thuckalay, Friday Market, Thoduvetty and Kaliakkavilai. Fish in fresh form are taken to the innumerable other retail centres of Kanyakumari District. The iced fish was supplied to distant markets like Vilupuram, Thiruchi and Madurai during the times of bumper landings in addition to catering the needs of markets like Neyyattinkara, Amaravilai, Trivandrum and other centres in Kerala border and Vadakkankulam, Valliyoore and Palayamkottai in Thirunelvely Kattabomman District. The bulk of the cured product was transported to Tuticorin for export to Sri Lanka and the rest to Madras, Villupuram, Koilpatti, Nazareth, Melapalayam, Thenkasi, Pasumalai, Madurai, Thiruchi and Arakonam in the State itself.

Price structure and revenue

The average price prevailed at Colachel landing centre during July-Sept. 1989 is given in table 3.

Wide variation in the price of cuttle fish was noted mainly due to its size and species composition. The species *Loligo duvaucelii* constituted maximum during July and *Sepia pharaonis* during August and September. Higher prices for Thread fin breams and Lizard fish were observed during August '89 not only due to lesser landings but

also due to higher demand from Kerala markets as there was ban on monsoon mechanised fishing there. The price rate slashed at the lowest for Threadfin breams and Lizard fish during September due to bumper catches associated with the availability of other better varieties and fall in demand from Kerala markets.

Each boat requires about 100 litres of diesel oil per day of operation. Excluding labour the average operational cost was worked out at Rs. 500 per trip. The gross revenue realized per trip was Rs. 2172 in July, Rs. 1875 in August and Rs. 2685 in September. Labour cost per trip was estimated at Rs. 557, Rs. 458 and Rs. 728 for July, August and September respectively. The net operating income (gross income-operational expenses) of the boats per trip was found to be Rs. 1115 in July, Rs. 917 in August and Rs. 1457 in September. Each crew of the mechanised boats earn about Rs. 80 per day in July, 65 per day in August and Rs. 104 per day in September.

Colachel is one of the most important fish landing centres of the Kanyakumari coast. But it is unfortunate to note that even proper jetty facilities are not available at this centre. Considering the enormous potential for fisheries development of this region, necessary steps may be taken for construction of jetty facilities. The present system of auction sales of the landings provide competitive price to the fishermen except during the time of glut when the system doesn't work effectively.

The study reveals that huge landings of thread fin breams and lizard fish leading to steep fall in prices which paradoxically resulted in lack of buyers at landing centres. Lack of sufficient curing yards and drying yards at the vicinity of the landing centres is the main reason for the same. Some of the

buyers take these varieties all along to the Thirunelveli coast for drying purposes. Since these varieties have good dry fish market during lean season, curing and drying facilities should be developed atleast on cooperative basis in this region which will enable to get reasonable price to fishermen and provide substantial employment.

Several studies conducted in this region about fisheries have indicated enormous potential of cuttle fish resources. Introduction of outboard motors on the traditional crafts during the seventies by the Indo-Blegium project at muttom (near Colachel) served to expand fishing activities beyond the traditional fishing grounds and catching more cuttle fishes. However, high maintenance costs and lesser returns led the operation of these units uneconomic and led to failure of the scheme on those days. But, now there is tremendous increase in the phase of motorisation of traditional crafts all along the Kanyakumari coast. The higher value of cuttle fish due to the export demand generated in recent years and the general rise in price of other varieties of fish in the domestic market led to this change. Earlier, most of the mechanised units owned by the people of this region used to operate outside the district throughout the year. The recent expansion of motorisation of country crafts and the concentration of more mechanised boats here in season, further indicates the resource potential of high valued exportable varieties of cuttle fish and prawns along this coast. However, lack of infrastructure facilities in this region resulted in the transportation of export varieties to far off processing plants involving additional costs depriving of a good number of employment opportunities to this over crowded belt. Provision of more berthing facilities and establishment of processing and storage plants in this region will help to boost not only the marine fish

landings but also the employment opportunities in the subsidiary industries.

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OBITUARY

It is with deep sense of regret we report the sad demise of Mrs. **Aleyamma Mathew**, (Kunjumole) Partner of M/s. Seastar Industries Cochin on 9th January 1991