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962 On the green mussel (*Perna viridis*) fishery of Malpe

Along the Dakshina Kannada and Udupi coasts, the intertidal rocky stretches from Someshwara Uchila to Ullal (south of Mangalore); Surathkal, Padubidri, Kaup to Malpe; Gangolli to Byndoor and Bhatkal to Jali (north of Mangalore), harbour green mussel, *Perna viridis*. Beyond Malpe upto Gangolli coast, the area is devoid of rocky patches and there is no fishery for mussel in this region. Apart from the coastal rocks in the intertidal areas, subtidal rocks at a distance of about 6 km from the shore bear dense settlement of mussels. In these areas, rocks are adjacent to one another and can be considered as a continuous

rocky-stretch with intermittent sandy patches. The green mussel is locally known as *Ajir/Pachila*. Mussel picking was not popular in the area because of the lack of culinary preference of the locals for mussel. However, of late, mussel fishery is slowly picking up, aiming external markets in Kerala and Goa.

At Malpe, even though exploitation of mussel exist for the last one decade, it emerged as an important fishery only in the late 90's. The fishing season commences by late August and continues till May, with peak fishing from October-November onwards. One unit consists of two canoes (OAL 22-32 ft) with a crew of 4 to 6 men. These units operate for 15 to 20 days in a month. Generally only one canoe is propelled with an outboard engine and the other is towed along. The mussel fishers are mostly from various parts of Kerala State such as Tellichery, Mahe, Kozhikode and Quilon. They hire canoes from local fishermen by paying Rs. 100 per day and Rs. 50 for the outboard engine. About 25-45 units are engaged in picking mussels from subtidal mussel beds.

Fishing is done during the low tide preceding and following the new moon of full moon phase. Low tide, calm water conditions and sunny days are preferred. The fishermen use water goggles and dive up to a depth of 3 to 4 m. The mussels are either hand-picked (wearing rubber finger-caps) or removed with the help of iron chisel with or without wooden handle (Fig. 1) or a knife and are placed in a net bag tied around the waist. The bag is emptied into the canoe periodically. Each unit generally returns with 20 to 30 gunny bags of mussels. Fishing is not done daily by each unit, but as several units operate picking goes on a regular basis.

The mussels picked are landed at a site nearer to Malpe Fishing Harbour. They are sorted to remove smaller sized mussels and sold to the



Fig. 1 Fishermen with implements used for mussel picking.

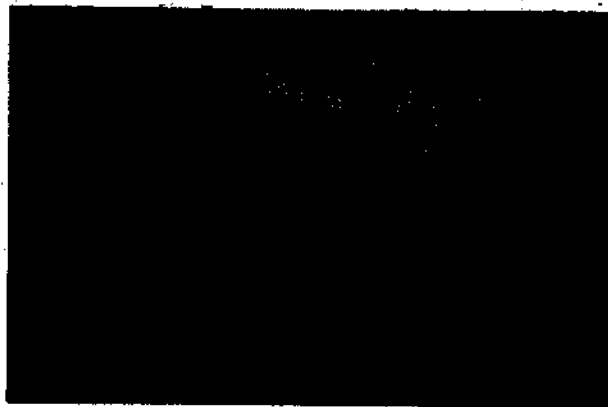


Fig. 2. Mussel picking in progress



Fig. 3 A view of the harvested mussels

local agents at the rate of Rs. 100 per bag (weighing 20-25 kg). There are about six agents actively engaged in mussel marketing. Agents dispose the mussel at Goa and Kerala (Calicut and Tellicherry) markets.

Production

The total mussel production from September 1999 to June 2000 at Malpe was estimated at 2,215

tonnes with the maximum landings during the month of January. The catch per unit effort varied from 350 to 675 kg/unit. The size range of mussel was 47-107 mm. Considerable quantity of mussel spat is removed from the mussel bed along with the adult mussel and is discarded.

Though the fishery is lucrative the local fishermen show little interest due to the difficulties in diving and inconveniences associated with this fishery. The local fishers nurture a strong belief that the stock of mussel in the submerged beds has an indirect bearing on the catch from the commercial fishing operations near the coastal area. During February 2000 the mussel picking in the Malpe area came to a standstill following the clash between mussel pickers and local fishermen. The fishing continued from April onwards till the onset of monsoon. It is now known that considerable quantities of mussels are fished every year. When stock decreases in an area some units move farther away towards north, to Gangolli or to Bhatkal.

Processing

In May 2000, 7500 kg of frozen half-shell-mussel meat were exported to South Africa with 50% of 30-50 count; 40% of 50-80 count and 10% of 80-100 count. Processed meat with half-shell of this species costs US\$ 1.73/kg in the year 2000. The total value of the export during 1999-2000 was US\$ 13,125 (Rs. 5,82,750) (MPEDA, Mangalore, Personal communication).

For processing, the mussels are separated, the surface of the shell scraped to remove encrusted fouling organisms and washed in clean seawater. They are then depurated in seawater for 12 hours. The depurated mussels are placed in net bags and immersed in boiling water for one minute. They are then cooled and the gaped mussels are opened manually. One half of the shell is removed and the meat along with the other half is packed and frozen as one-kg blocks.

Table 1. Estimated production of green mussel, *Perna viridis* at Malpe

Month 1999-2000	Catch (kg)	*Effort Nos.	C/E in Kg
September	0	0	0
October	47250	135	350.0
November	275000	500	550.0
December	371250	550	675.0
January	750000	1250	600.0
February	225000	500	450.0
March	0	0	0
April	319900	700	457.0
May	226875	412	550.7
June	0	0	0
Total	2215275	4047	547.4

* Units

Remarks

In contrast to the intertidal mussel fishery along the Kerala coast the mussel fishery at Malpe is subtidal. The annual mussel production, estimated at 2,215 tonnes, from Malpe comprises about 20% of the total mussel production which is about 10,000 tonnes through capture fishery. Detailed surveying of the submarine rocky areas may bring to light unexploited beds. Locating new beds and intensification of exploitation can increase mussel landings. At present the prime market is for the larger and medium sized mussels, the smaller sized mussels which are inadvertently picked are discarded. By resorting to relaying of unmarketable mussels in shallow areas, the production of the mussels can be increased.

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