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On-bottom culture of the green mussel *Perna viridis* in Kerala

Farming mussels by sowing the seed on the estuarine or coastal intertidal regions, a method which is popularly called on-bottom method of farming has become popular in Kerala. This method of farming was first started in the early 1990's at Koduvally near Thalasherry, in north Kerala long before the rack method of farming was introduced in the coastal waters. Mussel fishers and villagers used to collect the seed of mussel from the intertidal areas and sow them in areas with semi-hard substrates with more gravel, pebbles or shell grits and where tidal influx was strongly felt. This was done in small scale in a limited area. However, during the last three years on-bottom culture is done more systematically and during the period 2005-06, 1894 tonnes of mussel was produced through on-bottom farming in north Kerala and 26 tonnes from Kollam, in south Kerala. During the same period, the farmed mussel production in the country by the rack method

has been estimated as 8140 tonnes. On-bottom farming thus formed 19% of the total farmed mussel production (10060 tonnes) in the county.

A study was conducted to assess the production of on-bottom farmed mussel in the state. Details regarding the method of farming, location of farms, number of persons involved and the production rates were collected. During the period November 2005 to June 2006, on-bottom farming of mussels was done at Kannur, Kozhikode and Malappuram and to a small extent at Kollam. The mussel fishers, venders or other villagers who live in the coastal areas, stock mussel seed of length 25 to 40 mm in selected regions after the bottom is prepared by clearing the weeds and other unwanted material. Care is taken to sow the seed in a single layer. However, after a few days the seed mussels form clumps which the farmers carefully segregate. The stocking density is usually 6 kg^{-m²} which grows and

Table 1. Details regarding the on-bottom culture in Kerala

District	Estuary	Production in tonnes	Number of farmers
Kozhikode	Kallai	243	30
Kozhikode	Chaliyar	266	48
Malappuram	Kadalundi	558	62
Kannur	Koduvalli	744	10
Kannur	Dharmadam	81	25
TOTAL		1892	173

gives a three fold increase, $18 \text{ kg}^{-\text{m}^2}$ in four to five months.

Among the three districts, maximum production was from Kannur, 825t (Table. 1) contributing to 43.6% of the total on-bottom farmed mussel produced by 35 farmers in Koduvalli and Dharmadam estuaries. From Kadalundi estuary in Malapurram district, 558 t were produced by 62 farmers and this formed 29.4% of the total on-bottom cultured mussel. In Kallai and Chaliyar estuaries on-bottom farming of mussels was done by 76 farmers producing 511 t contributing to 27% of the total production.

Apart from this, another method of simple

fattening is also in vogue. When mussel demand is low or when the condition index is low, fishers/mussel venders stock the mussel in selected regions for a short period of two to three weeks and harvest it when the meat percentage increases.

The profit made by villagers who have adopted rack method of farming has prompted other villagers to take up on-bottom farming which does not require much investment other than the cost of seed. However, there is considerable risk since smothering by silt may lead to complete mortality of the stocked mussel.

Prepared by : V. Kripa and V.G. Surendranath, CRC of CMFRI, Calicut