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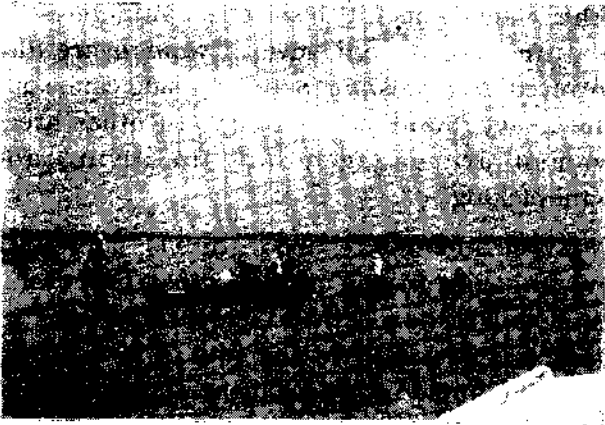
COCHIN, INDIA

(INDIAN COUNCIL OF AGRICULTURAL RESEARCH)

**968 A report on the organised fishing for the black clam
(*Villorita cyprinoides*) in Aryad, Vembanad lake, Kerala**

The Vembanad lake is one of the largest estuarine water bodies extending over three districts of Kerala, covering 32 fishing villages and supports a rich fishery of fish and clams. The black clam *Villorita cyprinoides* is the major clam resource in the lake. Its production from the Vembanad lake comes to over 70% of the total clam production in the country.

The clam exploitation in the Vembanad lake is mainly by diving and picking by women or by raking up the clam from a canoe, with the hand dredge, locally known as "Kolli" or "Varandi". Fishing is generally done by the licensed fishers of seven black clam co-operative societies established with a view to organize the clam fishers as well as the black clam shell trade. The



Black clam fishing ground—Aryad, Vembanad lake

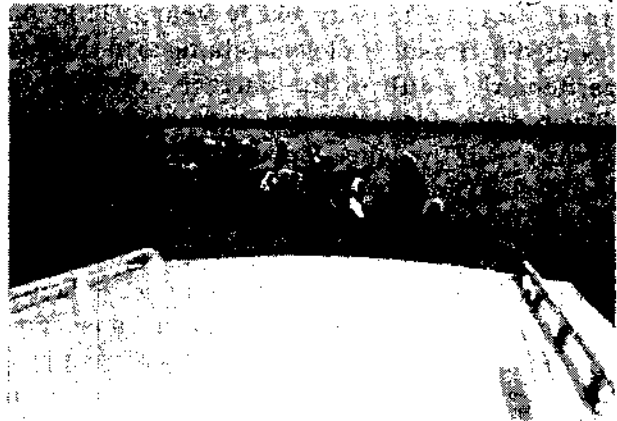


Black clam fishing with hand—dredge, note weeds in the background, hampering fishing activity



A days' haul of black clam

license for clam fishing is given by the Geology and Mining department of the State Government to the black clam lime shell co-operative



The canoes being tugged by the boat, after fishing is over

societies viz; Kuthiathode black clam lime shell co-operative society, Thycattussery black clam lime shell co-operative society, Muhamma black clam lime shell co-operative society, Komalapuram black clam lime shell co-operative society, Vechoor black clam lime shell co-operative society, Valkom black clam lime shell co-operative society and Chempu black clam lime shell cooperative society.

These societies collect the shell from the clam fishers at the rate of Rs 600-700 per tonne. These in turn are sold to the agents from Tamil Nadu and Kerala for supply to the lime, pharmaceutical and cement industries. The clam fishers sell the meat locally at the rate of Rs. 5-10/Kg depending on demand.

Although the clam fishing in the Vembanad lake is apparently organized by the various co-operative societies, a lot of illegal fishing by non-licensed persons, indiscriminate fishing of juvenile clams and illegal sub-fossil excavation both by hand and mechanized dredging, is rampant in most parts of Vembanad lake. The fishers have often expressed their concern over the illegal fishing and fossil excavation.

Besides the above factors, the closure of the Thaneermukham Barrage has led to the dramatic change in the salinity profile of the lake. The Thaneermukham Barrage was constructed to prevent salt-water incursion and to promote two crops of paddy in about 50,000 ha of low-lying fields in the area. The Thaneermukham Barrage has been functional since 1976 and remains closed

from January to May every year. This has resulted in drastic ecological changes in the lake, particularly south of the barrage, affecting the distribution, survival and abundance of the living resources in the lake, especially depletion of the black clam in several parts of the lake. The dredging in several parts of the Vembanad lake has aggravated this situation. The major concern of the fishers has been the lack of settlement of clam seed due to fresh water influx and suspended silt, due to dredging. However, repeated appeals by the co-operative societies to open the Thaneermukham Barrage and limit the dredging activities in the lake have found no response from the concerned departments.

The Komalapuram black clam lime shell co-operative society has taken a major initiative to help the distressed members of their society. There has been no seed settlement in the south Aryad region extending from Muhamma to Komalapuram due to the above mentioned factors. Added to this, the heavy infestation of the African weed *Salvinia* sp. and the water hyacinth, *Elchornia crassipes* in the Vembanad lake also affects the fishing activities, especially during the monsoon and post - monsoon months. The society has, therefore, taken up the responsibility of hiring two mechanized boats (hiring charge Rs. 650/boat) and transport the clam fishers along with their canoes and fishing gears to the more potential clam beds in the Kumarakom waters (Kottayam district), beyond South Aryad. The fishing area (Kumarakom) is about 12 Km from South Aryad. The canoes of the clam fishers are tugged to the fishing area in the early hours (at about 0500 Hrs) and allowed to fish upto noon and are tugged back to South Aryad. The fishers pay a nominal fee of Rs. 20/- towards tugging charges and Rs.15/- for hiring the canoe. The fishers are able to fish about 10-16 tins/day/canoe as against 4-5 tins/day yielded earlier. This is almost double the catch compared to the earlier years, when fishing was done in the nearby areas within Aryad. Also, this reduces the effort expended for fishing in the weed-infested areas.

This system of organized, collective fishing was initiated in October 1998 by the society and has become tremendously successful with more members of the society getting involved in the programme. This system is worth emulating, by

other clam co-operative societies. An interesting feature here is that several women are also involved in this fishing activity, using canoe and the heavy "Kolli" for fishing. In other areas women are engaged only in diving and handpicking.

The other interesting feature is that women are engaged in the post-harvest processing (shucking of the meat) and marketing. The clam meat is sold locally at the rate of Rs.5-10/Kg. There is ample scope to further organize these women to develop value-added products such as pickles, clam curry etc. and extend their markets to other potential areas.

The Komalapuram society also implements other welfare schemes for the members. During the off season (June-July), when fishing cannot be carried out, the society provides financial assistance to the fishers based on their fishing output. Each fisher can avail 2 Kg of rice per tin of clam sold to the society and loan for the purchase of provisions, during the lean season.

However, for the long-term sustained development and management of the black clam fishery, a more integrated and responsible approach is mandatory. The significant regulatory and management measures to be adopted are:

- Restriction on mesh size fishing (the scoop net of the hand dredge should be larger than 25 mm) and ban on fishing of juveniles
- Ban on fishing during peak season
- Strict vigilance at the check posts to restrict large - scale movement of shells of under-sized clams for use in various industries
- Hatchery production of seed for ranching
- Mariculture practices such as transplantation / relaying / semi culture of clam seed for increasing production and reducing pressure on the juvenile stock
- Optimum utilization of clam meat, through value addition (clam pickles, clam meat curry etc.) and market promotion (at both domestic and international levels) by the State fisheries departments.

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