

## Role of co-operative societies in black clam fishery and trade in Vembanad Lake

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Lime shells and live clams are distributed in large quantities in the backwaters and estuaries of Kerala. Vembanad, the largest lake of Kerala, also holds a vast resource of lime shells and live clam, comprising several species. The major species that account for the clam fishery of Vembanad Lake is the black clam *Villorita cyprinoides*. The lime shells that contribute to the fishery are broadly classified as the 'white shells' and the 'black shells'. The so-called 'white shells' are sub-soil deposits of fossilized shells and are known to extend upto 7 feet below the lake bottom. The black shells are obtained from the living population of *V. cyprinoides*, which contribute more than 90% of the clams from this lake.

The lime shell is mainly used for the manufacture of cement, calcium carbide and sand lime bricks. They are also used for lime burning, for construction, in paddy field / fish farms for neutralizing acid soil and as slaked lime. This is used as a raw material for the manufacture of distemper, glass, rayon, paper and sugar.

### Shell Control Act

The Government of India has listed lime shell as a minor mineral under the Mineral Concession Rules, 1949, Section 5 of the Mines and Minerals. The acquisition, sale, supply and distribution of lime shell in the State are at present controlled by the Kerala Lime Shells Control Act, 1958. According to this act, licenses for collection of lime shells should be issued only in favor of co-operative societies formed exclusively of lime shell fishermen. Though the first co-operative society started functioning in 1945, all the black clam co-operative societies were brought under the provisions of the Act after 1958. At present, there are 11 lime shell industrial co-operative societies in the Vembanad area, out of which eight organize black clam lime shell fishery (Fig. 1) and three white shell fishery. This article concentrates only on the functioning and activities of black clam lime shell co-operative societies.



Fig. 1. Location of black clam lime shell industrial co-operative societies

### Black clam lime shell industrial co-operative societies

The black clam lime shell industrial co-operative societies are located in Kottayam and Alappuzha districts that flank Vembanad Lake. Almost four to five clam fishing villages come under the jurisdiction of each society. The area allotted for each society and other details, obtained from the records maintained by the societies are given in Table 1.

Though a total of 4,163 licenses were issued for black lime shell fishing, only 2,980 are actually recorded as engaged in fishing. The societies collect the shell from clam fishermen at the rate of

Table 1. Details on black clam lime shell industrial co-operative societies

Name of the society	Year of establishment	Registration No.	No. of staff	No. of average members		Annual shell production (tonnes)	Value (in Rs. lakhs)		Area covered	Establishment cost (in lakhs)
				Registered	Functioning		Purchase	Sale		
Vechoor Black Clam Lime Shell Industrial Co-operative Society	1945	2407	1	250	110	2189	31.74	37.21	Vechoor Thalayazham Kumarakom	2.20
Aaryad Black Clam Lime Shell Industrial Co-operative Society	1946	2462	2	583	560	3236	49.99	58.11	Mannanchery Komalapuram Aaryad North Aaryad South	2.53
Muhamma Black Clam Lime Shell Industrial Co-operative Society	1948	2551	2	525	474	22000	152.01	168.94	Thanneermukkom South Thanneermukkom North Cherthala Kokkothamangalam	3.39
Pallippurathussery Black Clam Lime Shell Industrial Co-operative Society	1951	3145	2	428	190	5456	73.29	82.66	Vaikom Naduvilepakuthi Vadakkemuri Kulasekharamangalam Chempu	3.61
Thycattussery Black Clam Lime Shell Industrial Co-operative Society	1968	A239	2	855	600	2963	44.45	58.34	Pallippuram Thycattussery Panavally Vayalar	3.30
Kuthiathode Black Clam Lime Shell Industrial Co-operative Society	1969	A193	2	745	560	5960	79.0	96.30	Aroor Kodamthuruthu Ezhupunna Thuravoor North Thuravoor South	3.33
Kavalam Black Clam Lime Shell Industrial Co-operative Society	1994	A886	1	252	76	700	9.67	11.98	Kavalam Kainakary Pulimkunnu Kunnumma	1.68
Muhamma Clam Marketing, Processing and General Marketing Co-operative Society	2002	A1078	1	525	410	3688	48.50	56.57	Thanneermukkom South  Thanneermukkom North Cherthala Kokkothamangalam	2.11
<b>Total</b>			<b>13</b>	<b>4163</b>	<b>2980</b>	<b>46192</b>	<b>488.65</b>	<b>570.11</b>		<b>22.15</b>

Rs. 28-31 per kg. A total of 46,192 t of black clam shells were sold, mainly to the carbide factories of Tamil Nadu through the societies during 2008-09, which is worth a total sale value of Rs. 570 lakhs. The societies earn a margin from the sale of shells which forms the working capital for the society. Few societies also sell the shells to agriculturists through Krishi Bhavans at a price of Rs. 26-28 per kg.

### **Benefits to fishermen from society**

The societies are involved in the implementation of welfare schemes for the members based on their fishing output. During lean period, when fishing is not possible, the society supplies 4 kg rice to fishermen per tonne of clam sold during the fishing season to the society. The society gives a maximum credit facility of Rs. 5,000 to the members at an interest rate of 4.5% per month to purchase fishing craft or gear or for the maintenance of canoes. The society has a welfare fund, from which members can avail financial assistance during emergencies such as medical treatment, marriage or death. There is a provision for festival allowance also. A bonus of Rs. 1.50 to 2.00 is given to the members for each 20 kg of lime shell sold to the society. The society also takes initiatives in motivating them to join in saving and insurance schemes of Government agencies. The installment for the same is deducted out of the earning of each fisherman from the sale of shell and the balance is handed over. Societies provide merit scholarships for the children of its

members. After a considerable period of selfless service, recently these societies got a grant of Rupees 1 Crore sanctioned from the Government of Kerala, which would be utilized for purchase of canoes, utensils and initiation of re-laying practices in demarked areas.

### **Problems of fishermen/societies**

It was observed from a survey conducted among the clam fishermen of the Vembanad Lake, that only 65% of the respondents were satisfied with the present functioning style of the society. Almost 27% were moderately satisfied and 13% were not satisfied. The dissatisfaction among the members is mainly due to the low staff strength in the societies, which affects its regular and effective functioning. The respondents also expressed their concern over the illegal fishing by non-licensed persons, indiscriminate fishing of juveniles and also the illegal excavation of white shells. Hence, as a management measure for the sustainable development of black clam fishery, more number of black clam lime shell co-operative societies with sufficient staff strength need to be started. It is desirable for the benefit of members that the lime shell co-operative societies pay attention to the whole business of collecting the lime shell, burning it to lime, transporting, marketing and also in making handcrafted curios out of these shells for catering to the tourism industry.