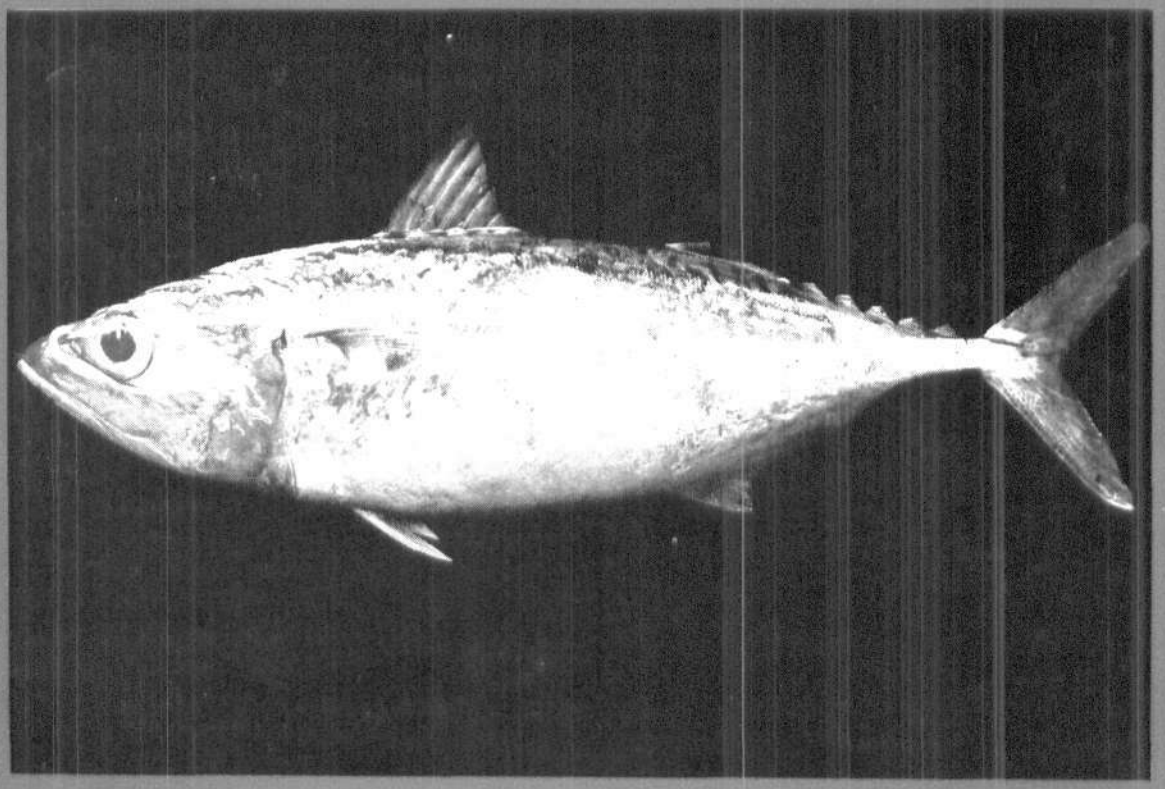
MARINE FISHERIES INFORMATION SERVICE



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THE MARINE FISHERIES INFORMATION SERVICE: Technical and Extension Series envisages the rapid dissemination of information on marine and brackish water fishery resources and allied data available with the National Marine Living Resources Data Centre (NMLRDC) and the Research Divisions of the Institute, results of proven researches for transfer of technology to the fish farmers and industry and of other relevant information needed for Research and Development efforts in the marine fisheries sector.

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THE *DISCO VALAI**

The *dico vali* (disco net) is an adaptation of the triple-walled entangling net, the trammel net, which, in India, has hitherto been confined to reservoir and estuarine fisheries. Recently (July, 1984) it has been introduced in the sea in Tamil Nadu, especially, in very large numbers, in Kanyakumari District, very successfully to entangle prawn. Never before in recent years were the fishermen of Kanyakumari district so fascinated with a particular type of net as with *disco valai* (or dance valai, as they sometimes call it). That thousands of these nets have been sold within a period of a month in the district is unprecedented, and stands proof to the impressive performance of the gear so far. This net has become a threat here to the existence of the prawn gill nets *(ral valai)* which had dominated the small-scale prawn fishing scene till now, for the prawn gill nets are being hastily transformed into *disco valai* by executing the essential changes in them. As this report is being prepared in August, 1984, the net has spread to the southern tip of Kerala coast (Trivandrum district) also in good numbers. Information on the net for this report was collected from fishing villages in Kanyakumari district.

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Disco valai is tri-walled and designed to be set at the bottom. It has a fine net of smaller meshes hung loosely between vertical walls of coarser net of much larger meshes so that fish passing through the outer wall carry some part of the finer net through the wall of the other side and are entangled in the pocket thus formed. Though mainly operated for prawn, this net also pockets other crustaceans, molluscs and fishes that move near the bottom of the sea. Gilling of larger fishes in the outer walls has also been reported.

The inner wall which has 4,500 horizontal and 72 vertical meshes of 20 mm bar is made of nylon twine (No. 1/2). The outer walls made of No. 2 nylon twines have 583 horizontal and eight vertical meshes of 135 mm bar. The webbing in both are rhomboidal. Polyethylene ropes (4 mm diameter) constitute the float line, the sinker line, the buoy rope, the pull rope and the mounting lines which form an integral part of the net. The head rope proper 100 m in length is formed of two ropes, the float line and the mounting line. Likewise, the foot rope, 100 m in length, is also comprised of two ropes, the sinker line and the mounting line. The floats numbering 168 in all are synthetic and round (50 mm diameter and 10 mm thick). The sinkers (500 numbers)

are lead and barrel-shaped (20 mm long, 15 mm and 10 mm thick at the centre and sides respectively), each weighing 20 g.

The inner netting is hung from the mounting line of the head rope whereas the outer walls are tied at their upper and lower extremities to the inner wall two to four meshes away from the mounting lines. The floats are passed through the float line. The mounting and the float lines are rigged by rigging twines at intervals of 20 cm and 40 cm alternately, with one float in each 20 cm interval. Similarly the sinkers have been fixed on the sinker line by rigging the mounting and the sinker lines at regularly repeated intervals of 2 cm and 18 cm with one sinker in each 2 cm interval. Two granite stones, each weighing 1/2 kg are tied to each end of the foot rope to anchor the net in position. A marker buoy (alkathene jerry-can of 10 litre capacity) is attached to the buoy rope (40-45 m in length) which is the continuation of the head rope. This is used to locate the position of the gear in operation. The proximal ends of the head and the foot ropes are continued 3 m from each side, united at ends and prolonged further as the pull rope of 40–45 m length.

The proportion of the mesh size of the inner wall of the net to the outer is 1:6.75. The horizontal hanging coefficient of the inner wall is 0.55 and the outer 0.63. The required slackness of the inner wall to facilitate entanglement of the fish is effected by the relatively shorter distance between the upper and lower lines of attachment of the outer walls.

A net with 100 m-long head and foot ropes normally has a depth of 2.5 to 3 m. The length of a net is usually mentioned in the fishing villages in terms of the number of sinkers it has, say, a net with 500 sinkers, one with 750 sinkers and so on. While a net with 500 sinkers is common, those with sinkers up to 900 are also in use. The spacing in between floats and in between sinkers is uniform in different nets, but the length and depth vary, the latter being seldom more than 3.5 m.

The net at present is operated from catamaran of any length by one or two persons at depths up to 35 m.

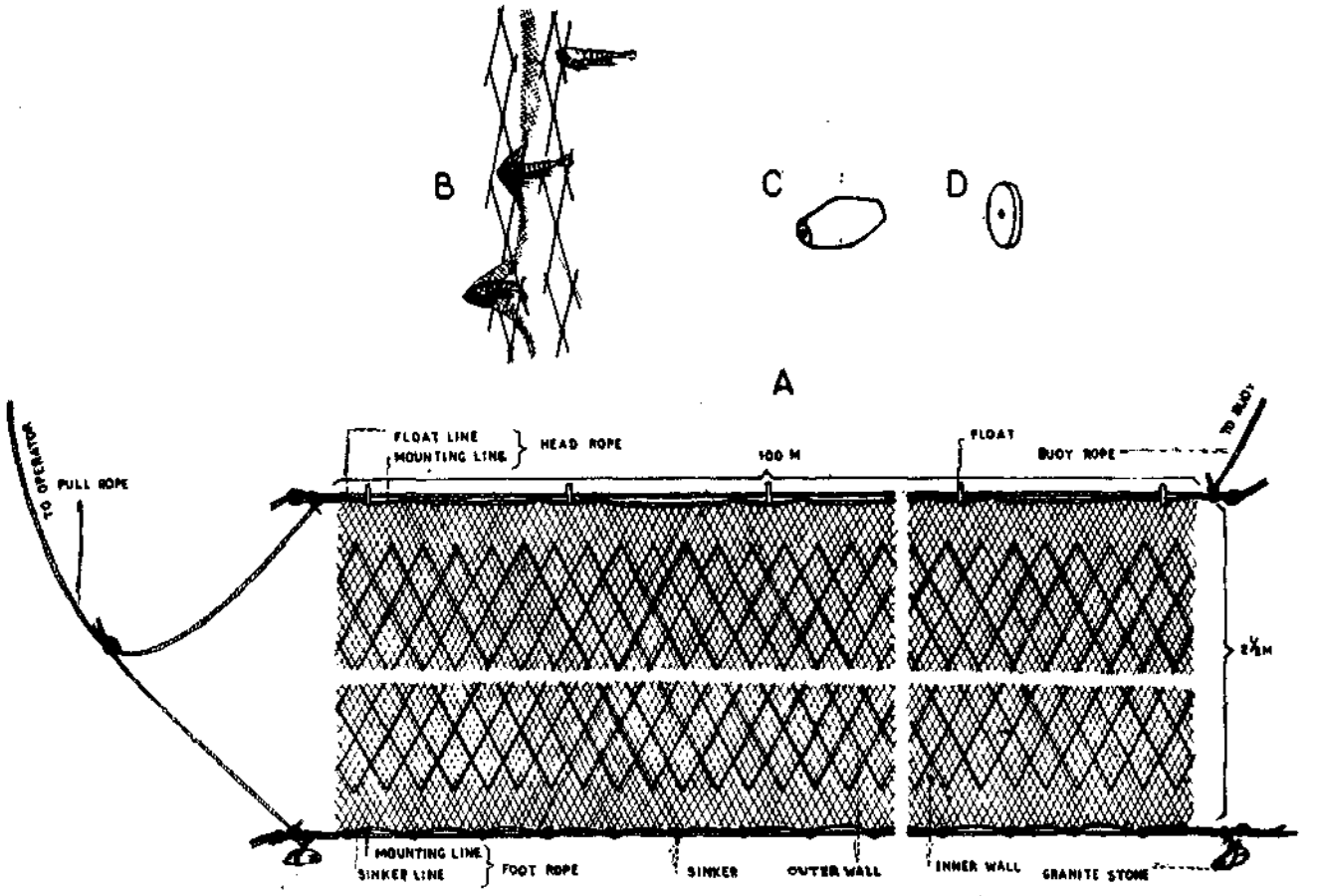

Fig. 1. (A) Design of a *disco valai*, (B) Mode of entanglement of prawn, (C) Sinker, and (D) Float.

The mode of operation is like that of any other bottom-set net.

At the time the net was introduced in Kanyakumari District during July 1984, a net with 500 sinkers cost about Rs. 1,355/- the approximate price details being:

5 kg polyethylene rope (4 mm dia.) @ Rs. 30/- per kg	—	Rs. 150.00
2.5 kg webbed (20 mm bar mesh) nylon twine code No. 1/2 @ Rs. 170/- per kg	—	Rs. 425.00
1 kg webbed (135 mm bar mesh) nylon twine code No. 2 @ Rs. 140/- per kg	—	Rs. 140.00
10 kg lead sinkers (20 g each) @ Rs. 25/- per kg	—	Rs. 250.00
170 synthetic floats (50 mm dia., 10 mm thick) @ Rs. 0.40 per piece	—	Rs. 68.00
1 alkathene jerry can (10 litre capacity)	—	Rs. 22.00
Labour charges	—	Rs. 300.00

But as the demand for the net is increasing day by day, the price of all components of the net has hiked up to 15% by August 1984, the net now costing Rs. 150/- to Rs. 200/- more than a month ago, especially, as fishermen from neighbouring Kerala State, who are unfamiliar with the know-how of its making, rush to Kanyakumari District to procure this net. The increase in price, however, does not seem to deter anyone from buying it since the intended catch is the highly priced foreign exchange earner, the prawn.