Ring Seine, Shore Seine, Boat Seine, Stake Nets, and Dip Nets

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Ring Seine

The ring seine is a minipurse seine, a modified version of the crustwhile thanguvala operated along the Kerala Coast. The Ring Seine belt extends from Quilon to Kasargode. Each region has its own peculiarities in construction and operation of the gear.

The ring seines come under the class encircling gears. The gear is largely rectangular except for the extreme ends where the depth decreases. The main parts of gear are:

1. The bunt - made of horizontally placed rectangular pieces of webbing. The top most piece is made of HDPE twisted monofilament and the rest made of nylon knotless webbing of 20 mm.

2. The Wings - made of rectangular piece attached side by side vertically. The required shape is given by reducing the depth of last 4 pieces towards the ends. The wings are made of nylon knotless webbing of 20 mm mesh size.

3. The chuttum vala - This is a long piece of webbing to which the main body of the net is attached along the top and bottom portions. It is made of HDPE twisted monofilament in 20 mm mesh size

4. Selvedges - forms the top and bottom of the net. The top selvedge is made of HDPE and bottom one with nylon twine in 80 mm mesh size. The selvedges are hung on to 4 mm dia head and foot ropes.

5. Floats and sinkers - Floats are cylindrical in shape and made of aeroplant and the lead sinkers are sprindle shaped. The floats and sinkers are hung on 10 mm dia pp ropes and attached to the head and foot ropes.

6. Rings - Brass rings each weighing 500g and an external dia of 130 mm are attached to the chuttum vala by triple bridle arrangement. The purse line is passed through the rings.

Ring sienes are used for catching pelagic shoaling fishes like sardine, mackerel, anchovies etc. The net is shot after scouting and locating the shoal. The gear is shot very fast encircling the should taking into consideration the wind direction, current movement of fish and speed. The purse line is pulled swiftly closing the bottom of the net thereby impounding the shoal. The success of fishing depends on the speed with which the shoal is encircled and pursed. The net is hauled up from either ends and fish bailed out.

Shore Seines

A shore seine may be defined as a long length of netting shot from a boat as it is paddled or rowed from the beach and back again in a semi circle having the shore as the chord of its arc, in the endeavour to enclose any fishes that may be in the area with in the semicircular course taken by the boat. A long rope, the warp is attached to each end of the net, one end is left in charge of the shore party when the boat loaded with the net leaves the shore, the other is brought ashore the moment the boat returns to land after shooting the net. The two warps are then hauled in evenly and as quickly as possible until the two ends of the net are brought to land. After that the hauling continues and the fishes are trapped in the diminishing semi circle. When at last the two ends are brought together and the net hauled up further the catch of fish is concentrated in a more or less definite pocket at the centre of the net. This is carried ashore and the catch emptied on beach for sorting.

Rampani Seine

The net is a typical long haul shore seine of splendid catching power. Apart from its length it has no special features of construction. An ordinary Rampani net measures on an average about 600 m in length, the depth increases in gradually from the outer end of latch wing where it is about 2 m to 5,7,8,m progressively towards the Centre. The mesh size decreases from 55 mm at the wings to 25 mm in the central region. The increased depth at the centre is given to compensate for the lack of a deep bunt or cod end.

So long and heavy is the net that is requires 50 to 60 men to haul it ashore and to man the vessel which shoots it. The Rampani net is shot only when a shoal of fish noticed coming close enough to the shore to warrant an attempt to surround it with the net. As the shoals (Sardine and mackerel) are often of enormous size, a successful haul may prove exceedingly profitable.

Boat seines

The boat seines are shot and hauled with the help of two canoes operated from some distance from the shore.

Odam vala

Odam vala is the most typical of the class of boat seine. In essential the net consists of three parts ; a), a rather short wide mouthed bag b) a platform in front of the mouth and forming a continuation of the floor of the bag region and c) two long wings one on either side of the mouth. A short section of each wing forms one side to the mouth platform. The whole net resembles an otter trawl. A stout rope, the warp is attached to the free end of each wing.

The bag part is made up of three funnel shaped sections laced end to end. To the distal end of the bag is laced a blind terminal section. All these are formed of cylindrical bands made up of squares of netting sewn together. Each netting piece measures 50 meshes each way, but the size of the mesh varies from 10

mm to 40 mm with its position in the bag. The length of the bag is 14 - 16 m with a circumference at the mouth of about 50 m. From the tail end of the mouth of the bag the rounds of netting increase gradually in cicurmference in order to give the necessary increase in the width of the bag. Each successive band progressing towards the mouth contains four more square netting than the one distal to it. To allow for the necessary taper, triangular gussets are inserted where necessary.

The platform section consists of a wide floor bordered on each side by a curved vertical wall 20 m long with 400 m m mesh.

The wings are each 54 m in length with a mesh size of 2m. The reason for this great size of mesh is that these wings are mere guides intended to direct the fish towards the mouth of the bag which forms the net proper. Along the upper and lower margins of the wings run the head and foot ropes to which floats and sinkers are attached.

Two large canoes are necessary, each manned by a crew of 5 to 7 men. After half the net has been loaded into the stern of each, the two canoes paddle side by side to the fishing ground. When a shoal is seen the connoes get into position ahead of them, separates and takes a course away from one another and across the course of the shoal. T2he man in the stern of each shoot his portion of the net as quickly as possible. The canoes begin to alter its caurse to complete a semi circle and comes together again. The net is hauled into the canoes and catch taken to one of the canoes.

Stake nets

Stake nets are typical of the class of nets termed filter nets. It is a conical bag net set in streams and tidal waters to filter out what ever small fish and prawns swept along in its course. Larger fishes which have the habit of entering back waters on the flood tide are also liable to be caught on their return with the ebb.

These nets are confined entirely to the tidal back waters and constitute the most important method of back water fishing.

Stake nets can be used effectively only where and when a strong current runs i.e., during spring tides when both flow and ebb run swiftly.

As the name implies the stake net is a stationary one, held in position by posts or stakes driven into the muddy bottom. Two vertical stakes are necessary for the support of each net, set 1-1.5 m apart.

The net itself is a conical bag with an elongated tapered tail or cod end. The length of the net usually varies between 7 - 10m, the largest size may run to about 17 m in length. Typically a net is made up of eleven cylindrical sections diminishing in diameter progressively from the mouth towards the tail as also does the mesh size. The two sections immediately behind the mouth are of HDPE twine and the rest nylon. (Mesh size 22-25 cm at the mouth and 1 cm in the cod end). A 12 mm dia meter rope encircle the mouth and at four equidistant points loops are made.

When a net is to be set the fishermen paddle out to the stakes in dug out canoes and slip the loops of the lower corners of the mouth of the net over the tops of the two stakes. With the aid of a pole, forked at one end the loops are pushed down to the bottom. The loops at the upper corners are afterwards slipped on the posts and made fast at a height sufficient to extend the sides of the net to their full extent. This setting of the net is done soon after the tide has turned and begun to ebb. When the tide begins to slake the fishermen return to the stakes and lift the net into their canoes and paddle for the shore.

Dip nets:

Two kinds of dip nets are in use, one simple in construction and quite small in size, is used to catch crabs, the other is of much large size as to require a highly complex mechanism for its manipulation.

The Hand dip net

It consists of a shallow conical bag suspended form the ends of two curved sticks which cross at their mid length at right angles. Each of the four ends is attached to the mouth of th net at equidistant points. They thus perform the function of keeping the mouth open. One end of a length of cord is tied at the crossing of the two mouth sticks and by this the net is let down vertically into the water. To attract crabs for which this method of fishing is used a bait is tied at the centre of the net.

The Chinese dip net

This is a highly specialised net used in the Cochin harbour and surrounding areas.

A typical net may be described as similar in form to the hand net described above, but so increased in size and complexity that mechanical means have to be employed to operate it. It consists of a complicated, counterpoised movable frame work by means of which a large net is alternately let down into the water and raised again at short intervals.

The net part is a square mouthed shallow bag net, terminating in a narrow cod end. Each side of the mouth is 10-12 m long, Arching over the mouth to keep it distended are two long compound poles, about 22 -24 m long, these cross one another at mid length and are there lashed together at right angles. This arrangement gives four arms curved down wards radiating from a common centre. Their distal extremities are attached to the four corners of the mouth of the net.

The crossed poles are slung from the outer end of a long lever (10 - 12 m) in the form of a two limbed crane. The crane lever consists of two poles, the base stretched to about 2 m. The spread lower ends are pivoted upon a horizontal bar

fixed between the heads of two stout posts firmly implanted in the bottom. Each end of the horizontal bar fits in to a socket hole in the side of its respective post.

To partly balance the crane lever a similar balance crane is set at a diverging angle and pivoted to the horizontal bar. The apices of the two crane frames are connected and stayed by a long bamboo pole. Three to five heavy stones are slung on ropes disposed at short intervals upon the arm of the balance crane and two long ropes attached to its apex to pull down the head. of the balance crane.

All being ready, a stop which holds the head of the balance crane is released, this allows the net crane to be dragged down by the weight of the net and its fitting and net goes under water. After a short interval during which the net has rested on or near the bottom, the ropes running to the apex of the balance crane is pulled down and aided by the weight of the counter poising stones, the net crane is pulled upwards and the net comes out of water. The cord attached in side the net at the centre of the cod end is hauled and catch scooped out.