

SUBJECT: FISHERIES OCEANOGRAPHY

FISHEING GEARS & CRAFTS

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FISHING NETS

- It is other wise called as fishing gears
- Fish are harvested using a variety of different gears like nets, traps, hooks and lines etc.
- Fishing gears are often classified into two categories viz. *active gears* and *passive gears*
- Active gears are ones that have to be worked to catch the fish such as trawl nets
- Passive gears are ones that can be set and then left alone, they catch the fish just by sitting there. These include gear such as set nets, gill nets and traps.

TYPES OF NETS

There are three main types of nets

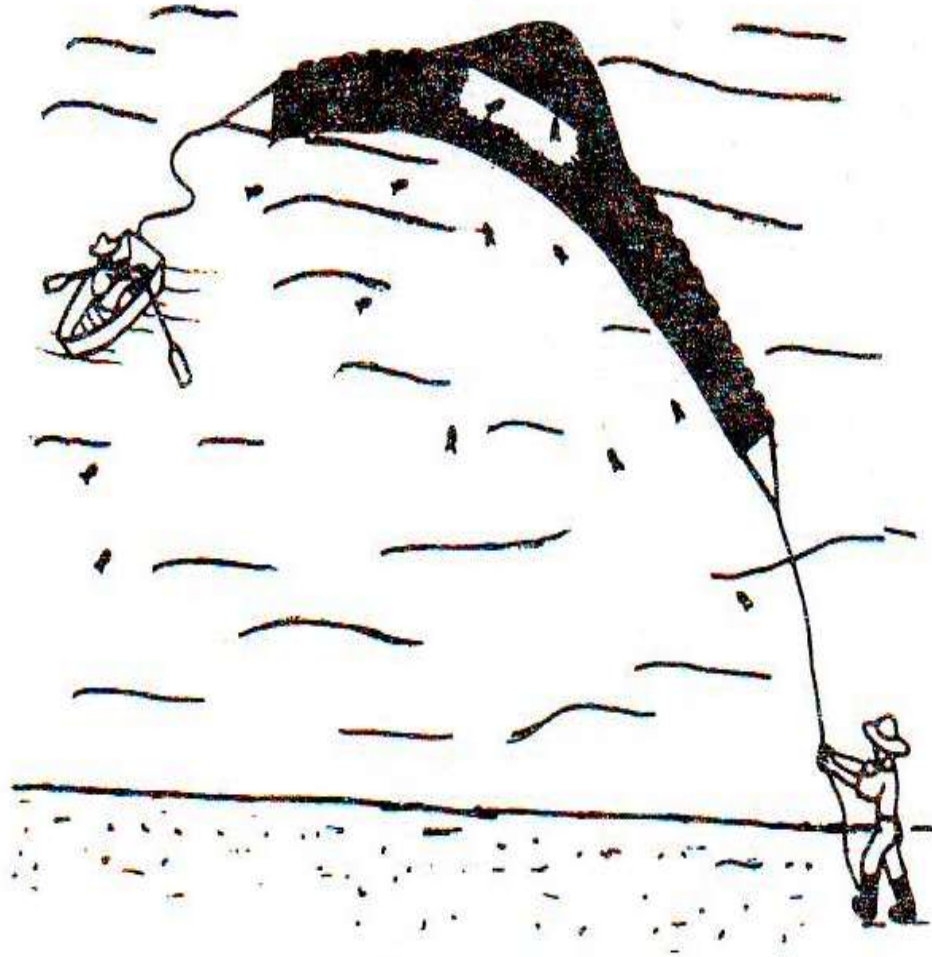
- Surround nets
seine nets, purse seines, lampara nets
- Trawl nets
Beam and otter trawls
- Other nets –
lift nets, cast nets and gill nets

SURROUND NETS

- Surround nets capture fish by surrounding them by both from the sides and sometimes underneath, thus preventing them from escaping in deep water by diving downwards.
- They are all surface nets with the surface line supported by floats
- Surround nets are set and towed over a large area.
- The type of nets has very long wings and may be designed with or without a collecting bag for the fish
- There are four main types of surround nets.
 - Beach seine
 - Boat seine
 - Purse seine
 - Lampara net

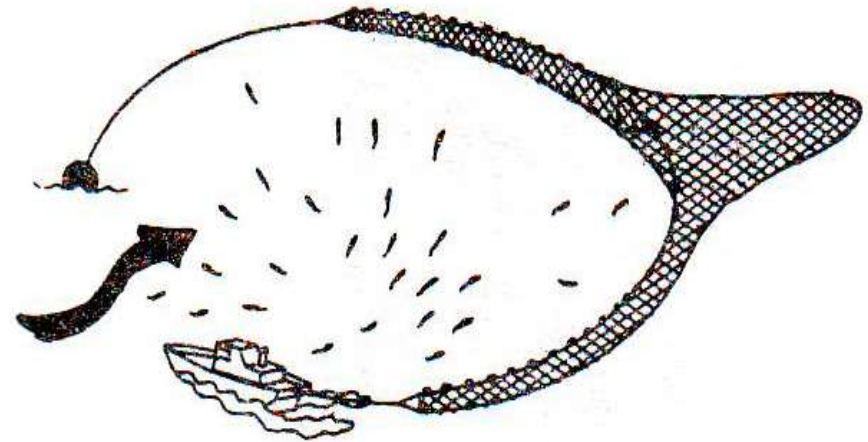
Beach Seine

- Beach seine nets are set from the shore in shallow water and pulled out in a wide arc back to the beach.
- The bottom and surface act as natural barrier when fish have been herded into the net.



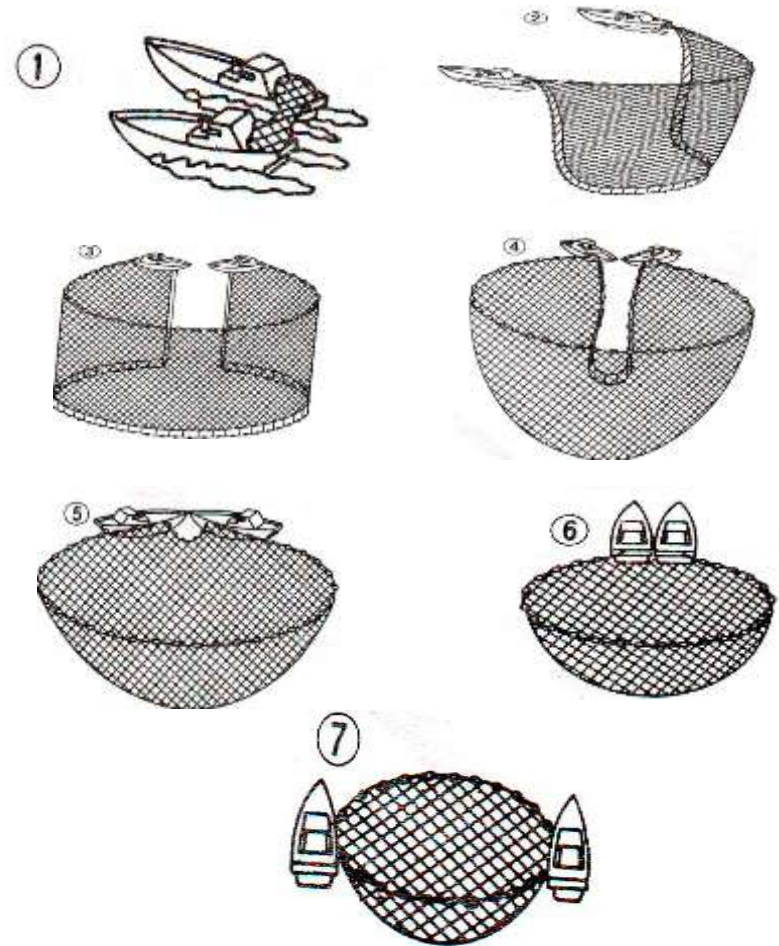
Boat Seine

- It is operated from the vessel and used for bottom fishing.
- Large length of rope laid along the ground in a diamond shape connect the net to the vessels
- The fish are caught by being herded into the path of the net by the ropes moving over the seabed.
- The gear is either hauled to an anchored vessel or hauled while towing slowly ahead.



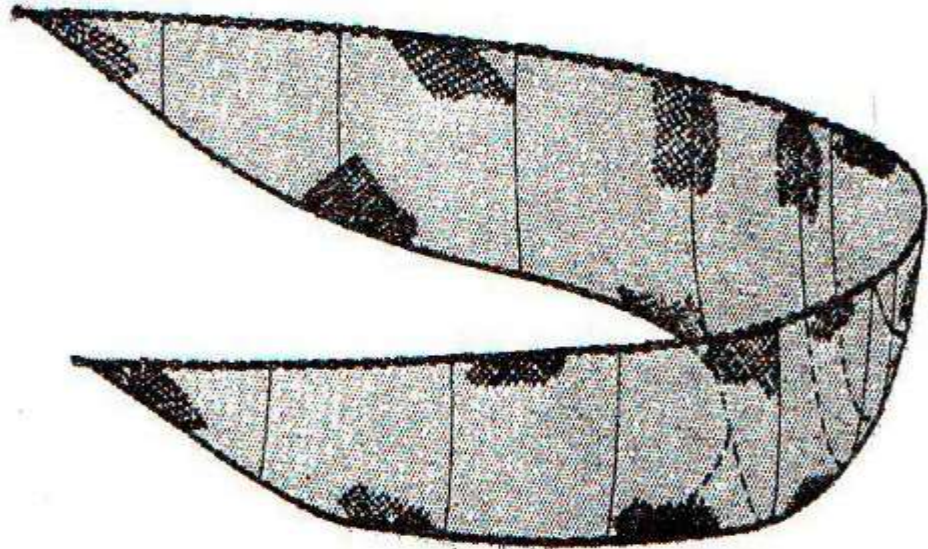
Purse seine

- Purse seine has a purse line along the bottom of the net.
- By pulling this line aboard whilst the net is shot in a large circle the bottom part of the net is closed off.
- This gear requires extensive mechanization and includes some of the largest fishing gear in the world



Lampara net

- It is a surround net with out purse line
- These are shot in a similar fashion to purse seiners
- They feature a tailored design with the head line being longer than the foot line and long wings
- During hauling the wings close up thus preventing escape, and the fish are remained in the bunt area.



TRAWLS

- Trawl nets are conically shaped nets with wings, towed through the water with fish being collected in the cod end
- They may be towed by one or two vessels and, according to the type used, on the bottom or off the bottom
- More than one net can be towed from the vessel
- The mouth of the net is kept open in one of two ways by use of: *Beam* and *Otter board*

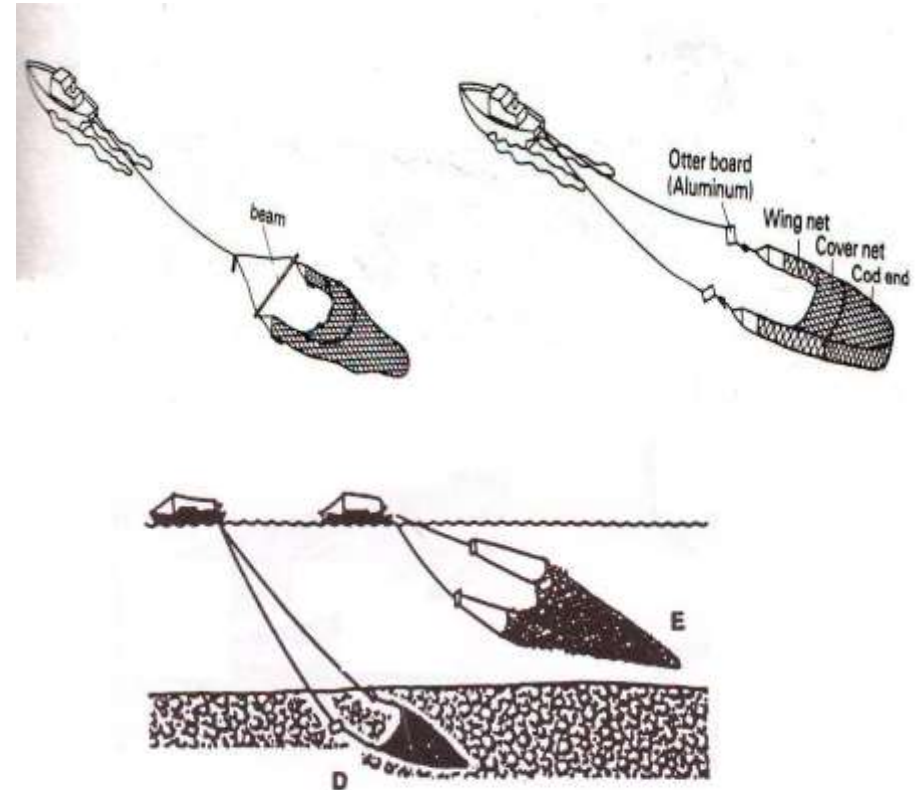
Beam Trawl & Otter Trawl

Beam trawl

- Beam trawl net has a fixed opening, the height (vertical opening) determined by the height of the shoe and width (horizontal opening) determined by the beam length.
- They are only suitable for species that have not adopted for vertical movement

Otter trawl

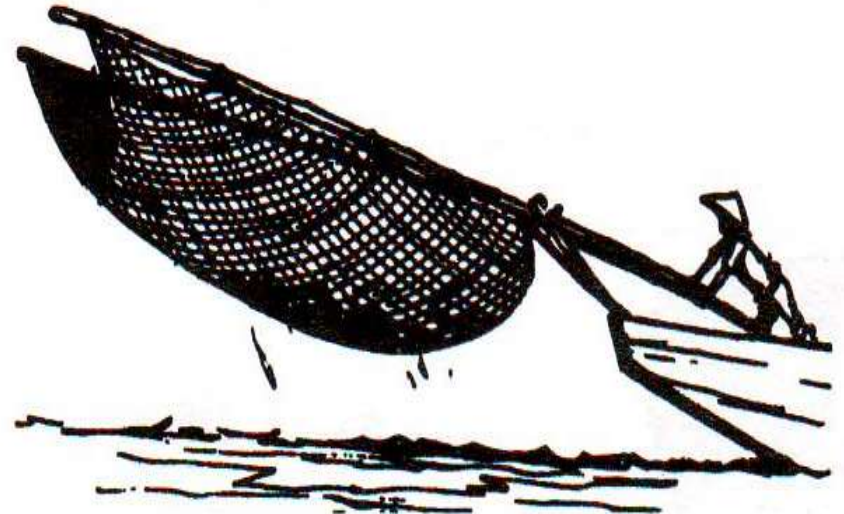
- Otter trawl nets are towed being a single boat with the horizontal spread of the net achieved by the use of otter boards (hydrodynamic kites)
- They may be rigged with varying arrangement of floats on the head line or lead weights on the bottom line of the net opening.
- Different riggings allow the trawl net to operate
 - On the surface
 - Mid-water
 - On the bottom



Others Nets

Lift Nets

- It consists of horizontal netting panels or a bag shaped like a pyramid or cone with opening facing upwards
- The fish may be attracted to light or bait
- After being submerged at the required depth, the nets are hauled out of the water by hand or mechanically from the shore or from a boat
- The fish that are above the net are retained in it when the water runs out



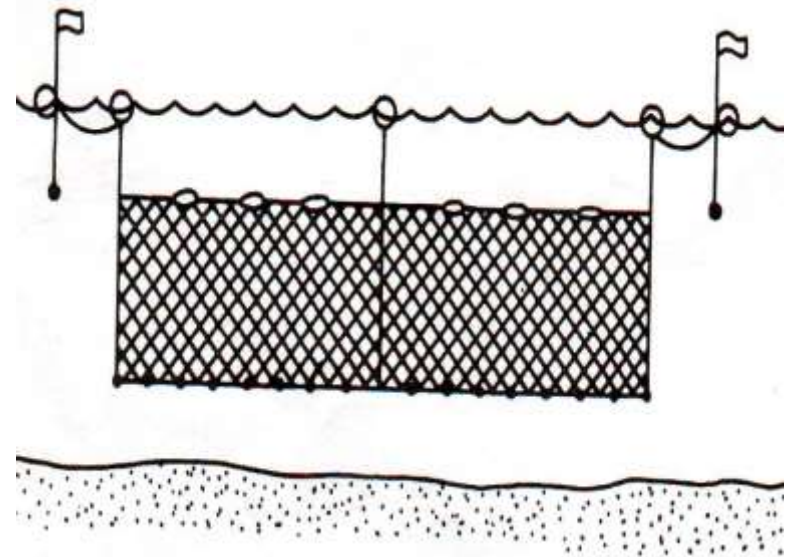
Cast nets

- Cast nets, cast from the shore or from a boat, catch fish by falling on them and usually closing in on them
- Their use is usually restricted to shallow waters



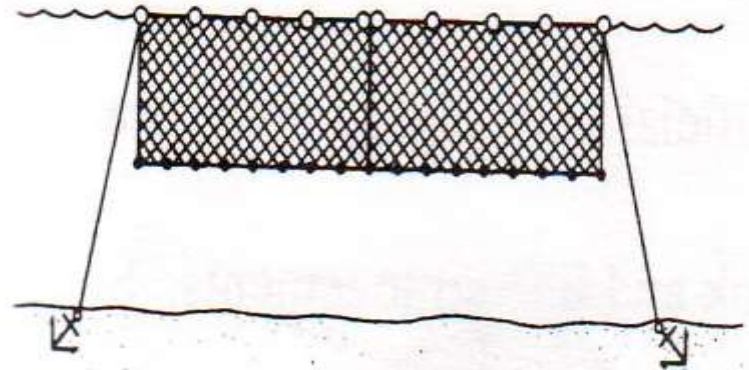
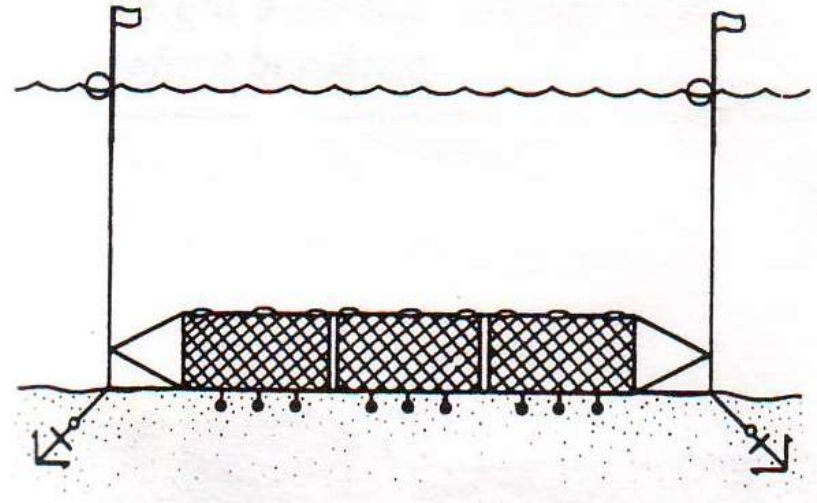
Drift nets

- It is kept on the surface of at a set distance below it (flotation greater than weight making it positively buoyant)
- These nets drift freely with the current or more often with the boat to which they are attached



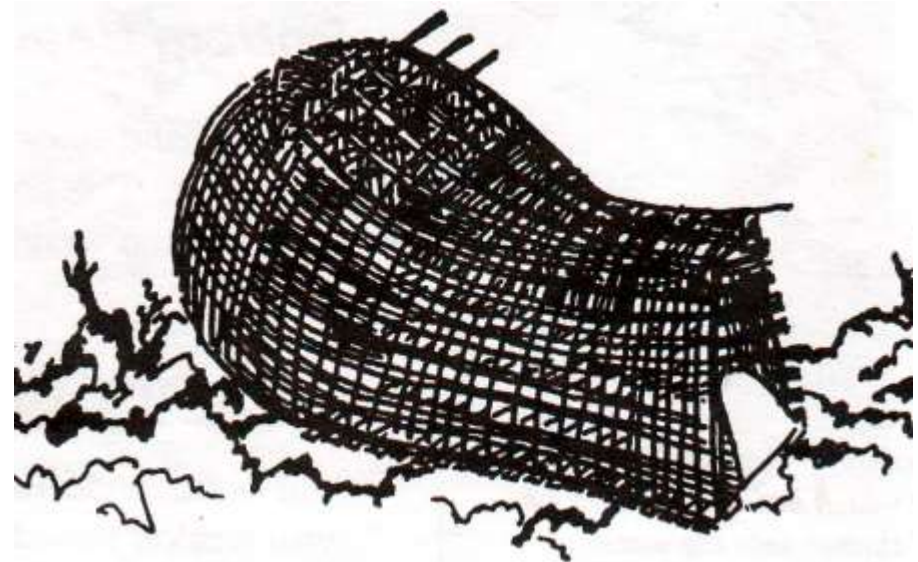
Gill Nets

- Gill net entangle the fish in the netting
- Gill nets entangle the fish by the gills
- The nets are used either alone or as is more usual, in large numbers placed in file.
- According to their design, ballasting and buoyance they may be able to fish on the surface, in mid water or on the bottom
- Set gill nets are fixed to the bottom or some distance above it by an anchor at each end.
- The net is held open by a combination of floats on the headline and weight on the ground line (weight is greater than flotation thus making the net stay down)



Traps

- Fish enter traps voluntarily but are prevented from escaping in some way
- This can be through the use of a funnel entrance, maze like entrance or, in fact, any device that may hinder their escape
- There are wide variety of traps in use.



THANK YOU