

Fishing gear

Fishing gear

- Fishing gear is a device that is used to catch fish.
- Different types of nets, traps, hooks, lines and spears are used as fishing gear.

Types of fishing gear

- Fishing nets
- Traps
- Hooks and lines
- Spears and harpoons
- Mechanized pumps

Net

Net is a meshed structure of indefinite shape and size, composed of one yarn or of one or more system of yarns interlaced or jointed (ISO, 1974).

80% of exploited fish are captured by nets.

116 types of nets are available in Bangladesh.

Types of net

Nets are classified on the basis of:

- The structure of net
- Use and efficiency of net
- Mode of operation
- Technology of operating the net

Nets of Bangladesh

1. Seine net
2. Gill net
3. Cast net
4. Dip net/lift net
5. Drag net/push net
6. Trawl net
7. Bag net
8. Barrier net

Seine net

Common name of seine net is *ber jal*. 50 types are found in Bangladesh

Structure and Materials

- Rectangular in shape, length is larger than width
- Mesh size varies from 4-9 cm depending on the fish species to be caught
- Two strong ropes are used at upper and lower end
- Floats are attached with head rope (float line)
- Floats may be made of bamboo, sola, polystyrene or wood
- Sinker may or may not be present on the sinker line
- Sinker are earthen or broken bricks or metals
- Both natural and artificial yarn are used. Twisted nylon or polyester yarn is used

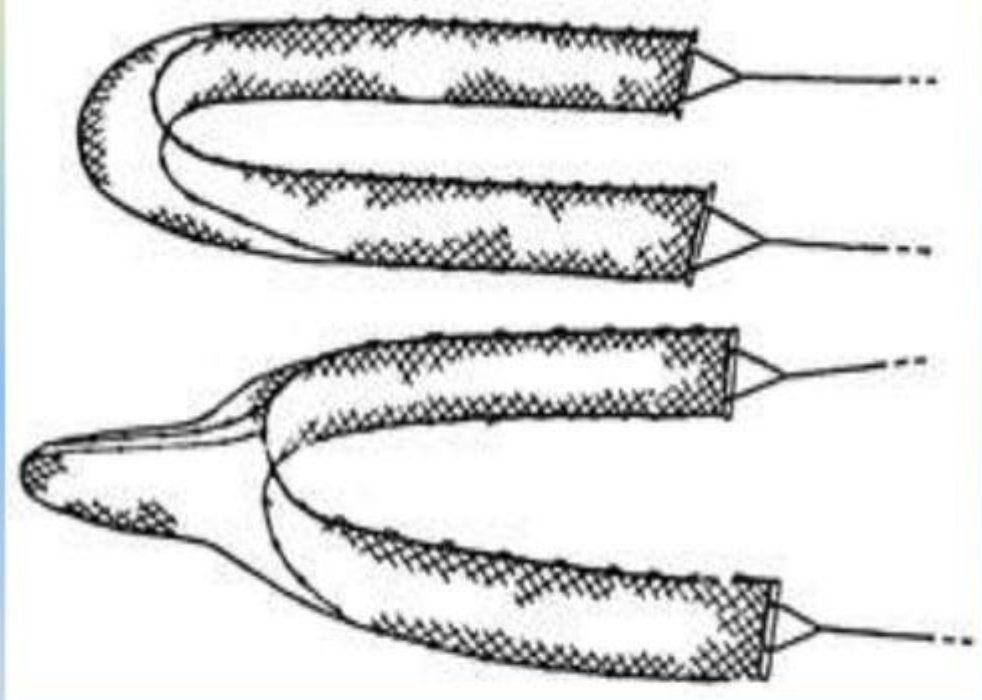
Types of seine net

On the basis of structure

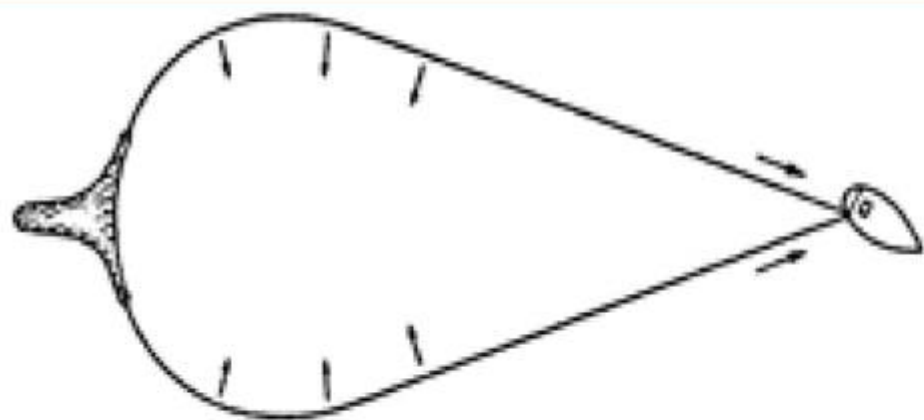
- a) Seine net with bag (e.g. Jagat Ber Jal, Kamba Vala Jal etc.)
- b) Seine net without bag (e.g. Angta Jal, Beshha Gulli Jal, Cheli Jal, Dal Jal, Choto Ber Jal, etc.)

On the basis of operation techniques

- a) Shore seine net (e.g. Jagat Ber Jal, Patal Jal, Puti Pin Jal, Shounda Jal, etc.)
- b) Boat seine net (Bhesha Gulli Jal, Dhop Jal, Gulti Jal, etc.)

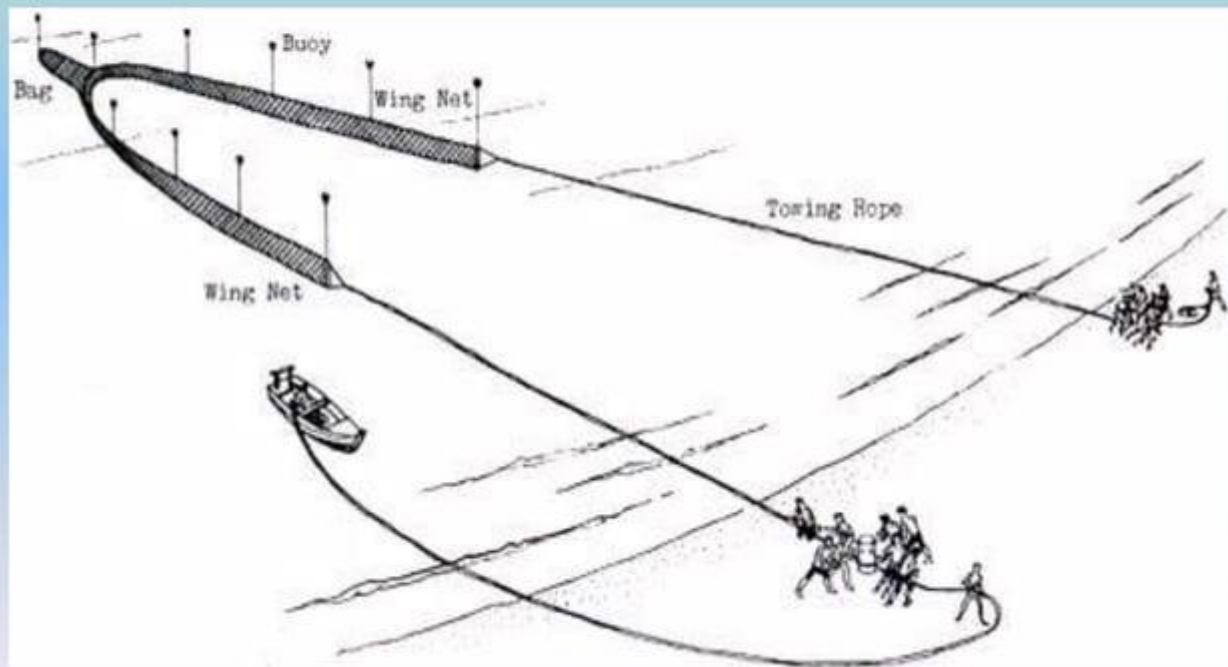


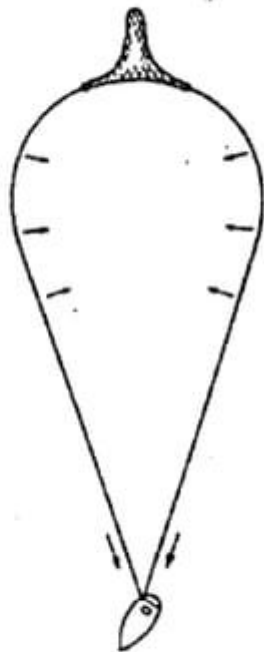
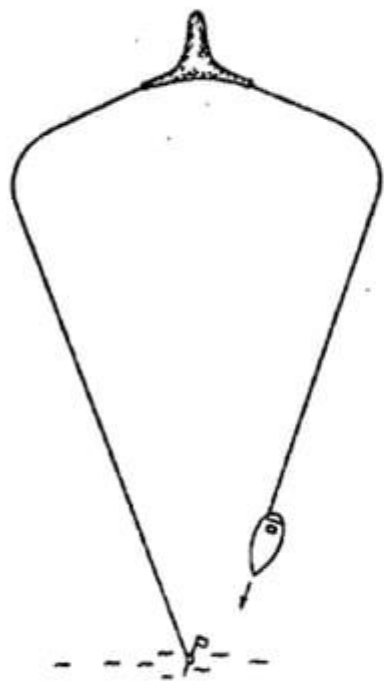
1. Shore seine net without bag
2. Shore seine net with bag

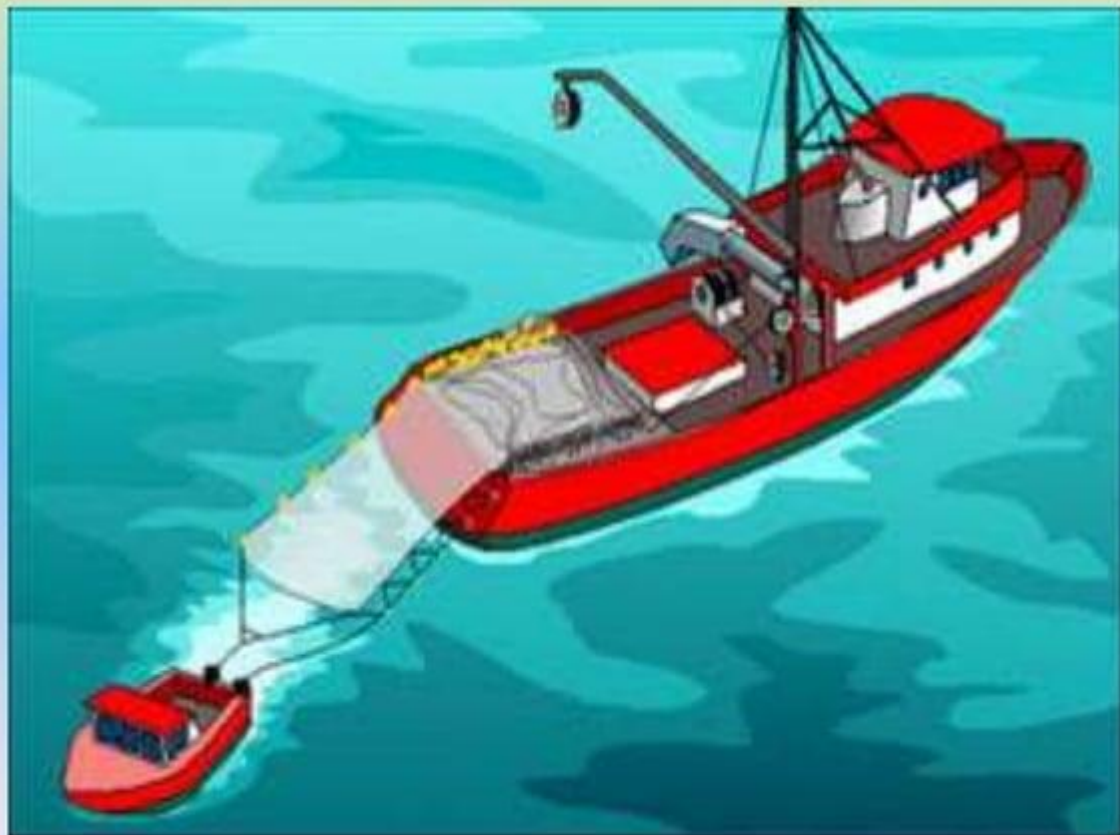


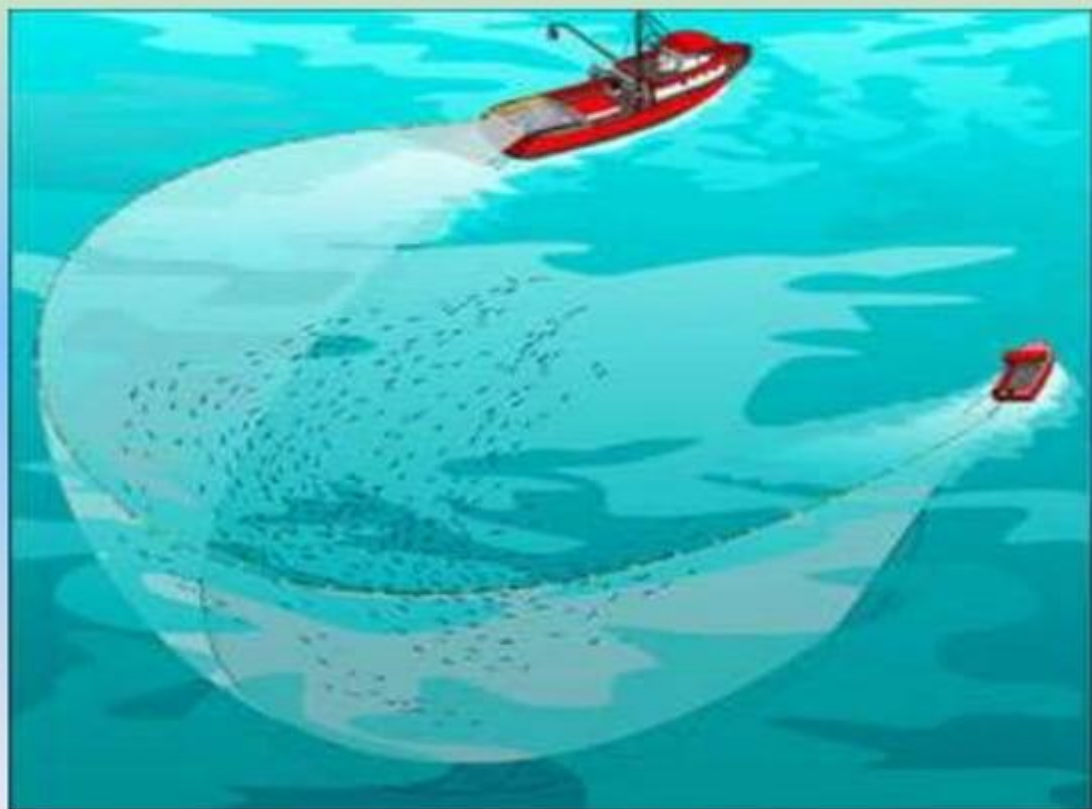
Boat seine net

Beach seining













Mode of operation:

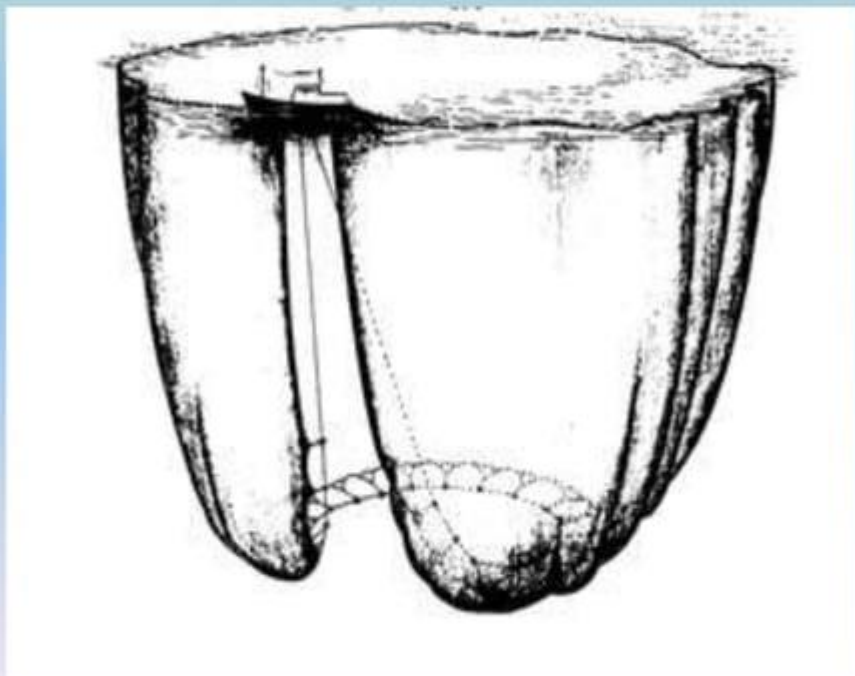
It is used for encircling stretches of water to catch fish manipulating head and bottom rope.

Species caught:

Usually all kinds of fish



Purse seine net



Gill net

- Rectangular nets employed as walls for enmeshing fish by gills.
- 44 types of gill nets are found in Bangladesh

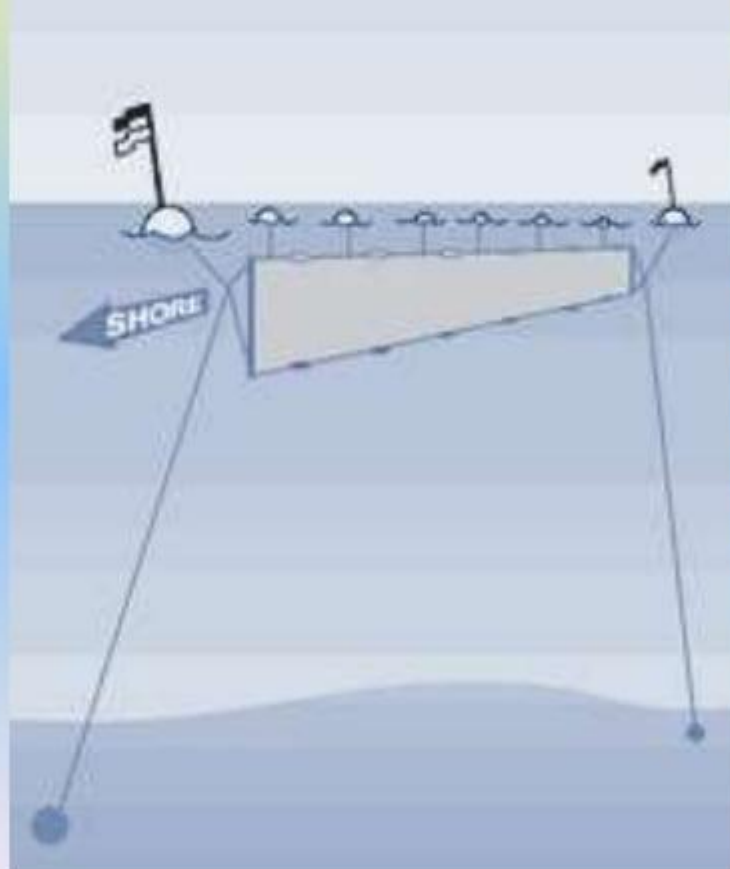
Structure and materials:

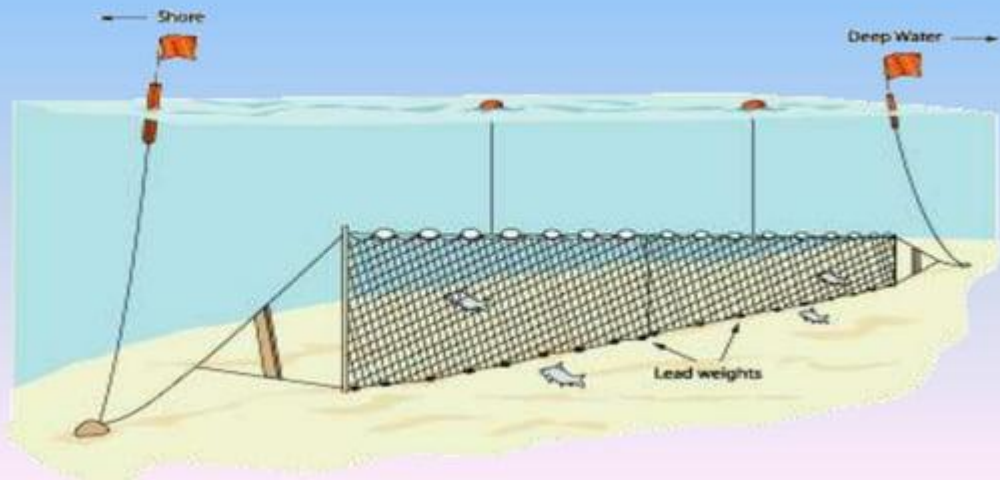
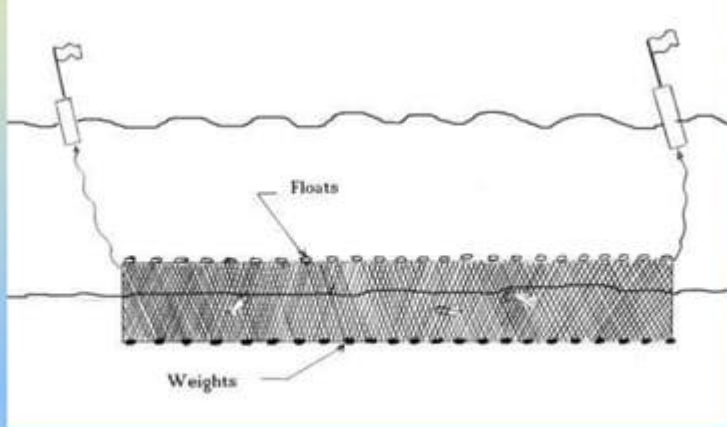
- Rectangular in shape
- Length is larger than depth and mesh size varies with water depth and target species
- Floats are attached with head rope and sinker may or may not be attached with the bottom rope
- Floats and sinkers are attached in such a way to keep the net in vertical position at any desired depth
- Both natural and artificial twine is used. Transparent polyester and polythene fibers are used

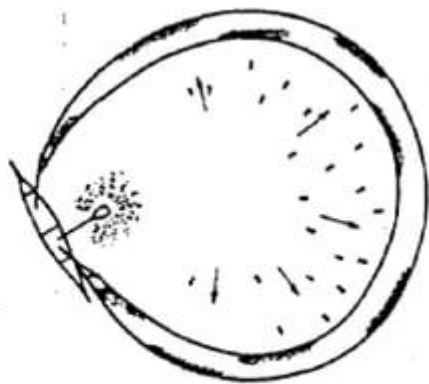
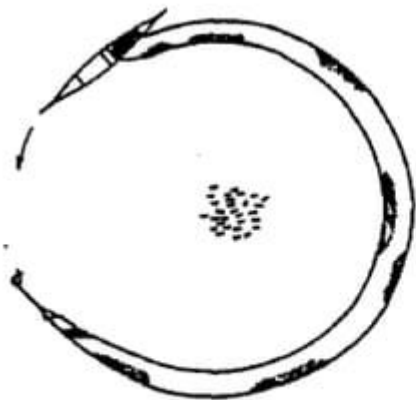
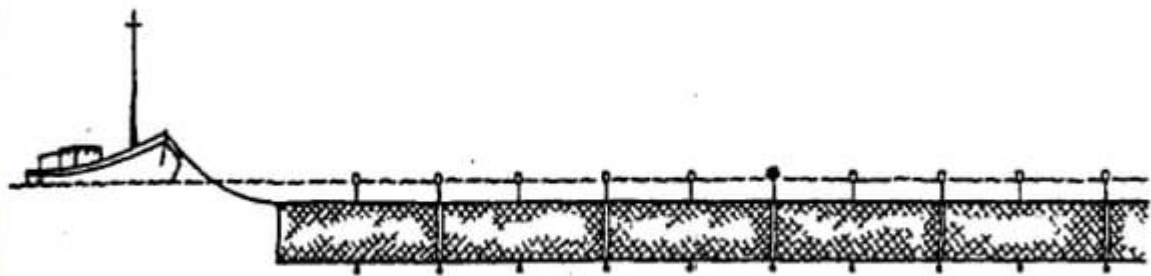
Types of gill net

On the basis of operation

- a) Set gill nets (fixed by using bamboo pole)
 - i) Surface water gill net (e.g. Aainapata jal, bachon jal, chapila jal, koi jal, shingi jal, etc.)
 - ii) Mid-water gill net (e.g. pangas jal, poa jal, etc.)
 - iii) Bottom water gill net (e.g. chingri jal, chota jal, etc.)
- b) Drift gill nets (e.g. Kanta vala jal)
- c) Encircling gill net







Mode of operation:

- Stakes or anchors are used to fix the net at different depth of water.
- Placed against water current in different water column.
- Fish trying to swim through the net and enmeshed by their gill or operculum.

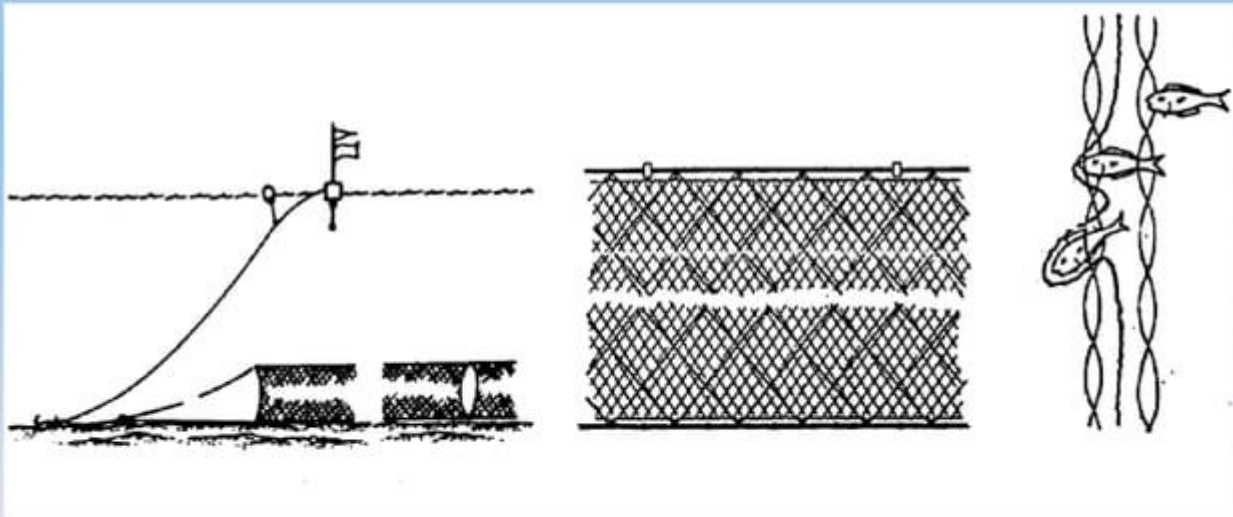
Species caught:

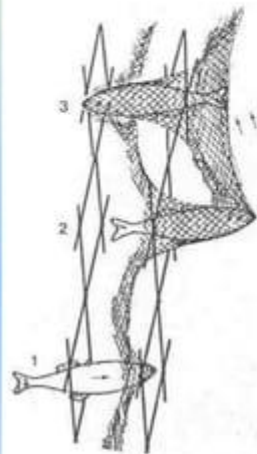
Punti, tengra, koi, poa, ilish, etc.

Trammel net

- Trammel nets are composed of three panels of mesh suspended from a float line to a single lead line
- Two outer panels of mesh are constructed of a larger mesh size than the inner panel

Trammel net





Left: Sketch of trammel net operation.
Right: Sketch of three-walled construction of trammel net



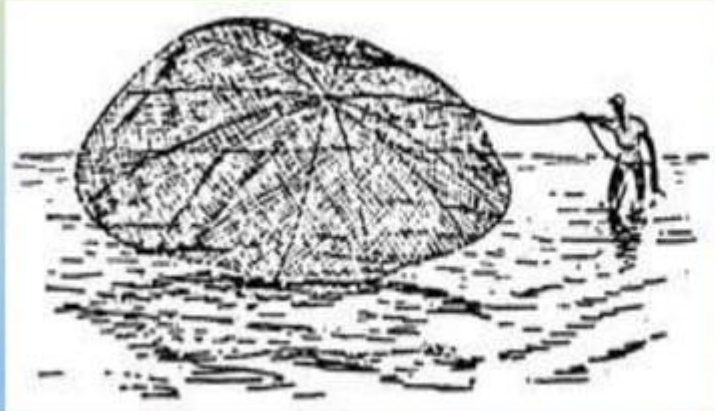
Cast net (Falling gear)

It is conical shaped net usually operated by one by throwing in water to cover fish.

17 kinds of cast net is present in Bangladesh (e.g. Basari jal, khapla jal)

Structure and materials:

- Conical in shape and made of a circular piece of net webbing
- Length (apex to base): 9-18 m
Diameter of mouth : 6-12 m
Mesh size: 2-10 m
- A hauling string at its apex
- The lower end is folded, doubled and attached to form pocket



Cast net



Mode of operation:

A man throw it by hand from boat or bank to cover a circular area of water. The net spreads like umbrella over a school of fish and quickly sinks due to sinkers. When the net is pulled up slowly the fish enter the pocket and is captured.

Dip net/lift net

30 types of lift nets are found in Bangladesh

Structure and materials:

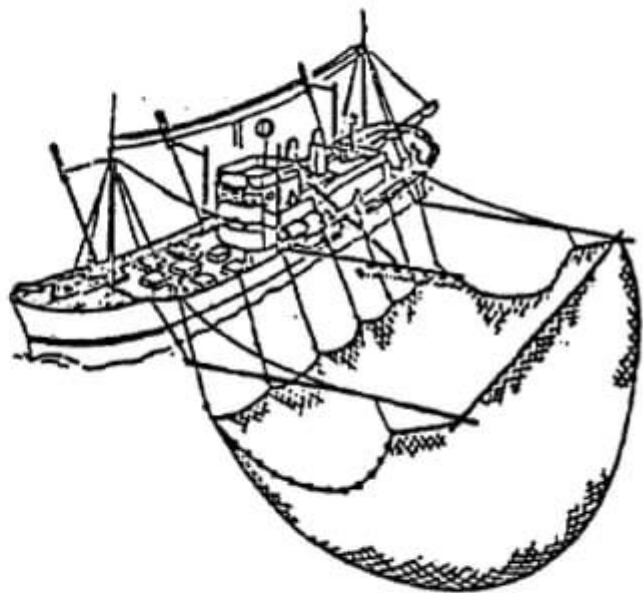
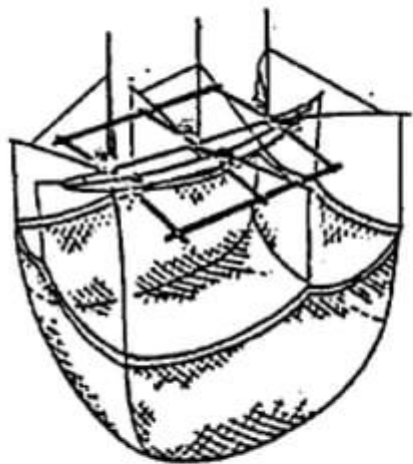
- i) These are comparatively small net and rectangular or triangular in shape
- ii) The net is fixed into a bamboo frame possessing a long handle. Handle is 1-12 m long
- iii) Natural or artificial twine is used

Types of lift net:

On the basis of operation

- i) Hand lift net (e.g. chai jal, chhotki jal, dharma jal)
- ii) Boat lift net (e.g. tar jal)
- iii) Set lift net (e.g. chotki jal, khara jal, dharma jal)









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Drag net/push net

These nets are held apart with triangular or rectangular bamboo frame and pushed manually. They are used in fishing in the traditional waters of beels and floodplains, locally called Thela Jal and Moiya Jal.



Thela Jal





Moiya Jal



Bor/Boa/Lathi jal

Trawl net

- It is a bag net of synthetic twine which is drawn along the seabed to harvest fish on or near the bottom
- cone-shaped net (made from two, four or more panels) which are towed, by one or two boats, on the bottom or in midwater (pelagic).
- The cone-shaped body ends in a bag or coded. The horizontal opening of the gear while it is towed is maintained by beams, otter boards or by the distance between the two towing vessels (pair trawling).
- Floats and weights and/or hydrodynamic devices provide for the vertical opening. Two parallel trawls might be rigged between two otter boards (twin trawls).

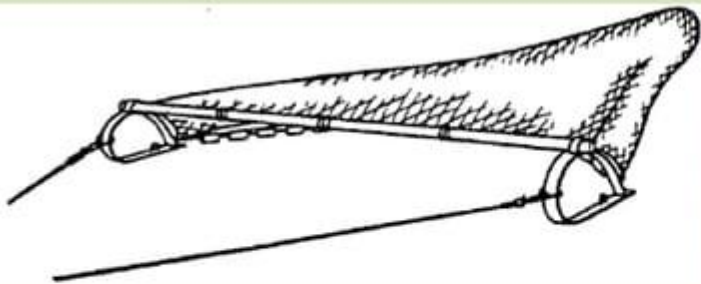
Types of trawl nets

a) Bottom trawls

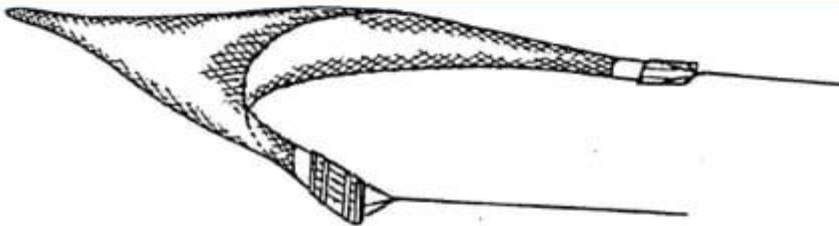
- I. Beam trawls
- II. Bottom Otter trawls
- III. Bottom pair trawls

b) Mid water trawls

- i) Mid water otter trawls
- ii) Mid water pair trawls
- iii) Otter twin trawls

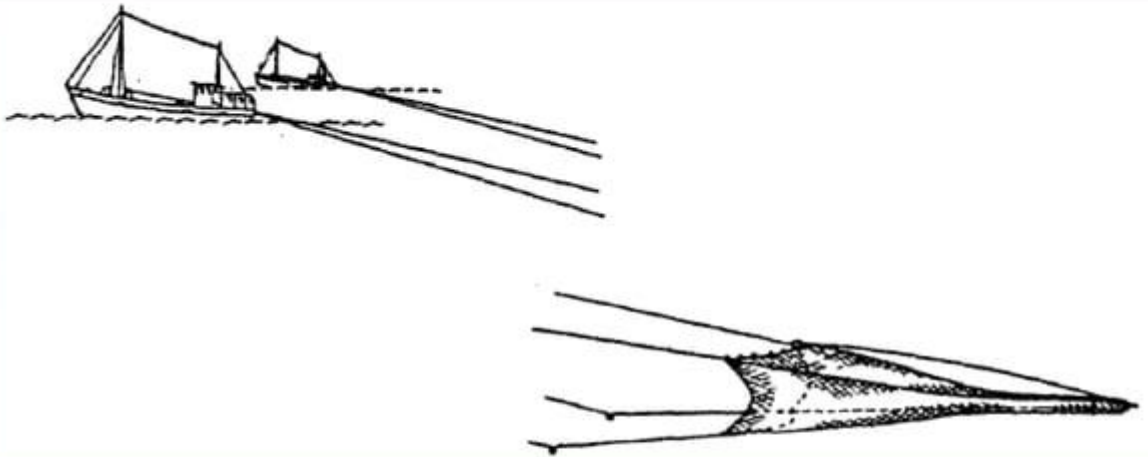


- I. Beam trawls
- II. Bottom Otter trawls
- III. Bottom pair trawls

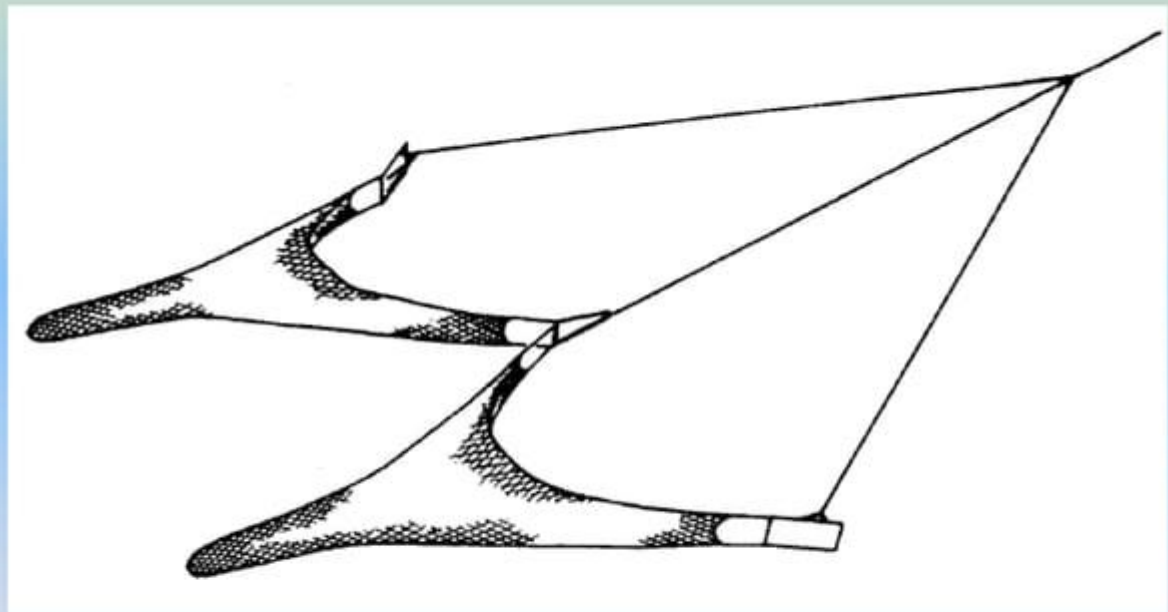




Mid water trawling



Mid water pair trawls



Otter twin trawls

Bag net

Kept vertically open by a frame and held horizontally stretched by the water current. They can be kept set in water against the water current, as for example Behundi net and Sabadh net, Nets of similar shape but smaller in size are dredged and towed with the hand.

Structure and materials

- i) Bag nets are rounded or rectangular or conical in shape
- ii) Bamboo handle present or absent
- iii) Synthetic or artificial fibre is used





bengalpix



Barrier net

Structure and materials

- Rectangular in shape
- Length may be 1600 m to 2000 m and width may be 3 to 4 m
- Bamboo stake are used to set in
- Mesh size 4-5 cm at upper portion and 1-2 cm at lower portion
- No pocket present in the net



