

### **Guidelines for sustainable small-scale marine gillnet fishing**

- ◆ *Strict implementation of mesh size regulations: The minimum mesh size recommended for specific fishery are; sardine (33 mm), mackerel (50 mm), croaker (40 mm), pomfret (126 mm), tuna (80 mm), seer fish (104 mm) and shrimp (38 mm).*
- ◆ *Maximum allowable dimension (length x depth) for the net has to be specified for each fishery/state. The maximum dimensions to be allowed for small scale gillnet fishing are 2000 m length x 10 m depth.*
- ◆ *Measures such as reduction in height of the net, setting the net just below the surface, rigging the net with proper hanging (0.5 or above hanging coefficient), use of aquatic pingers etc. to reduce incidental & non-targeted catches.*
- ◆ *Avoiding very rough weather/areas with bottom obstructions, use of good quality gear materials, biodegradable materials for rigging floats and reduction in soaking time will reduce the chances of ALDFG and ghost fishing.*
- ◆ *Providing proper disposal facilities on shore for damaged nets*
- ◆ *Providing incentives to fishers for bringing damaged and retrieved nets to shore to reduce ALDFG which otherwise would contribute to marine plastic debris.*
- ◆ *Creating awareness among fishers to address these issues through meetings and workshops.*

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## **GUIDELINES** **Sustainable small-scale marine** **gillnet fishing in India**



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## Background

Gillnet remains as the most popular fishing gear in the small-scale fishing sector due to its simplicity in design, construction, operation and low investment. Gillnets constitute about 83% of the 5.1 million fishing units operated in India (DAHDF, 2005) and are considered as resource specific, eco-friendly and responsible, without imparting any damage to the ecosystem. Of late, unscrupulous expansion of the gear, use of very small mesh sizes and very thin monofilament material are making gillnets a threat to the ecosystem. This necessitates monitoring and intervention in the design and operation of gillnets.

## Small-scale marine gillnet fishing in India

Small-scale marine gillnet fishing in India is mainly confined to the non-motorised and the motorised sub-sectors using small wooden and FRP (Fibreglass Reinforced Plastic) vessels operating in coastal and near shore areas. Engine if used, is only for propulsion while the gear is operated manually.

Small (<45 mm) and medium mesh (45-70 mm) gillnets of 800 to 1000 m length are deployed by non-motorised

vessels undertaking single day operations targeting sardine, mackerel, shrimp, mullets, anchovies, crabs etc.

Motorised gillnetters undertake single day and multi-day (3-5 days) operations. Single day vessels target sardine, mackerel, pomfret, shrimp etc using small, medium and large mesh (>70 mm) nets of 800-3000 m length. Multiday vessels target seer fish, tuna, shark etc using large mesh nets ranging from 1000-8000 m in length.

## Gillnet design & operation

Gillnet is a long wall of netting kept erect in water by floats at the upper side and sinkers at the lower side.

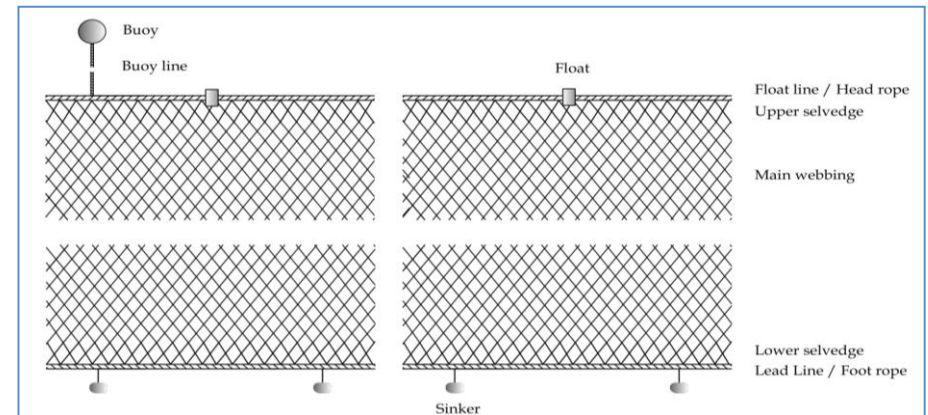
The net basically consists of a main netting panel (mostly polyamide/nylon monofilament or multifilament) of specific dimensions, twine size and mesh size, selvedge, float line, lead line, floats, sinkers, buoys and buoy lines.

Netting is rigged to head rope with 0.4-0.7 hanging coefficient, around 0.5

which determines the looseness of the netting and thereby the shape and opening of the mesh.

Nets are operated as drift nets (drifting freely with one end attached to a vessel), set nets (anchored or staked to sea bed) and encircling nets (fishes are surrounded and driven from the centre by noise and other means).

Once set in water, drift nets are soaked for 30 min to 6 h and set gillnets for 12 to 24 h.



## Issues in the sector

Juvenile catch: Use of multi-mesh nets and non-optimum mesh size leads to capture of juveniles and non-target species

Bycatch: Loosely hung drift nets entangle and incidentally catch vulnerable organisms such as marine mammals, sea turtles etc.

Abandoned, lost or otherwise discarded fishing gear (ALDFG): Lost and discarded gillnets leads to ghost fishing besides entangling marine mammals, seabirds, turtles etc.

Fishers discard nets damaged at sea due to lack of proper disposal facilities on shore.

Very long soaking time of nets gives more chances for ALDFG as well as quality deterioration of catch.

Deploying large volume of nets extending 8-10 kilometres increases the chances of gear losses.

Absence of Regulations on volume of gear in many states of India except Kerala (KMFRA rules & Act, 2018 amendment)

