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The traditional fishery in the country has undergone significant changes, both structural as well as technological during the past three-four decades. While the number of certain types of crafts and gears increased significantly, certain other types of gears have ceased to be operational. Like other maritime states, one of the major technological changes along the Andhra Pradesh-Orissa coast was

the adoption of synthetic gear materials like polyamide (PA), polyethylene (PE) and polypropylene (PP), replacing almost totally the natural fibres. Introduction of fiberglass beach landing crafts and motorization were important changes related to the traditional crafts. The traditional fisheries sector in these states were not much fast in adopting new methods/gears of fishing compared to that of Kerala or Tamil

Nadu. Disco net (trammel gillnet) is perhaps the only important new fishing gear introduced in this region during the last quarter of the past century. However, in recent years, probably due to the dwindling catches in conventional gears as well as increasing interaction with fishermen of other states, the fishermen are adopting new methods of fishing. Of late certain types of gears proved good in other coasts have been introduced in this region with good results. This article presents the description of three such gears being used in the Andhra Pradesh-Orissa region with a specific mention of their impact in the fishery environment.

Ray Net

Known locally as *Tekku Vala* in north Andhra Pradesh and *Sankucha Jal* in Orissa, these nets are specialized gillnets meant for capturing rays. These nets are popular in Chintapalli area of Vizianagaram district though its distribution extends northwards up to Gopalpur in Ganjam District of Orissa and southwards up to Palamanpeta in Visakhapatnam District of Andhra Pradesh. There are about 50 units in operation at Chintapalli and nearly 20 units at Palamanpeta.

The net is typically like any other bottom set gill net, the difference being the extremely large meshed (45-50 cm) webbing made of No.6 Nylon (PA) multifilament twine ($\text{Ø} \approx 1.3$ mm) and dyed green. Floats (6 cm x 2.5 cm) are made of synthetic foam material and the sinkers (13 cm x 5.5 cm, 1.8 kg) are made indigenously of cement and sand. The net may vary in length from 1000 to 1200 m (27-32

pieces of webbing) and height is invariably 5.1 m. The gear details are shown below:

The net is generally operated between 5-15 m depth during night or early hours. The catch mainly comprises rays and occasionally hammerhead sharks and larger fishes. The rays weighing 15 to 50 kg fetch about Rs.8-10 per kg and an average boat landing 10-12 rays would earn Rs.1000 to 3000 on a normal fishing day. The net costing about Rs.25000 would last for two to three years.

A major problem with this gear is the threat it poses to marine turtles, which migrate to the near shore waters during nesting season (October to May). In Orissa where mass nesting beaches of olive ridley are situated, the operation of the net is prohibited during the nesting season. Since a recent investigation on gill nets of Orissa identified this particular gear as a potential threat to turtles, their seasonal/spatial restriction have to be thought of in north Andhra Pradesh also.

Ring Seine

Ring seine locally called ring vala is one of the most popular gears used by the traditional sector along the southwest coast. It is said that some fishermen in Ganjam District of Orissa brought this net from Goa during the year 2002. Fishermen along north Andhra Pradesh and south Orissa coast are currently operating the gear with fairly good catch.

The net is operated like a mini purse seine, with a line passing through rings along the footrope being used to purse the net. Earlier, used nets were purchased for Rs.25000-40000 a piece from west coast. Currently fishermen fabricate new nets, which may cost about

Rs.50000, by using locally available material and webbings. The mesh size of the net varies between 15-20 mm and the gear is operated throughout the day during all seasons. Encircling operation is generally on locating the shoals and sometimes by anticipating the abundance of ground fish. The catch mainly consists of mackerel, sardines and anchovies and occasionally tunas, seer fish, carangids and other species of ground fish. The net is operated by a single motorized fiberglass teppa engaging 12-14 people. The average landing is more than a tonne and average earnings about Rs.3000 per boat per day.

In Andhra Pradesh, there are about 56 units of ring seines at Donkuru, 20 units at Manchineelapeta and two units at Bhimunipatnam. In and around Patisonapur of Ganjam District in Orissa, about 40 units of ring seines are in operation. Some of the units operating ring nets undertake extensive migrations along the coast. The ring net operation has attracted protests from within the community as it is said to capture 'all the fish which could support 10 to 15 other traditional gears like gill nets'. It could be possible that catches of *alivi vala* and *pedda vala* (shore seines), which depend on nearshore shoals, would also be affected in areas of ring seine operation. In Orissa, there is restriction of operation of ring seines in the turtle congregation areas. Some fishermen groups are engaged in the process of imposing a voluntary ban of ring seine operation in certain localities of Andhra Pradesh.

Gastropod Net

Gastropod net locally called *Gullala vala* is a new type of gear introduced recently (early

2004) at a few landing centers along north Andhra Pradesh coast by some progressive fish merchants from Kerala. Two units of such nets were observed at Puligeddapalem, Vizianagaram District. The net essentially consists of a long main line (Ø 10 mm PP) from which rings made of iron rods (Ø 12 mm) with synthetic PE webbing are suspended by side lines (Ø 4 mm PP) (Fig-1). The rings are attached at a distance of 6 m and a single unit running 300 m will have a total of 50 rings.

The operation is generally during early hours in the muddy areas below 10 m depth. De-boned fillets of fishes such as sciaenids and rainbow sardine are used as bait. The gear is hauled after half an hour of shooting, as any

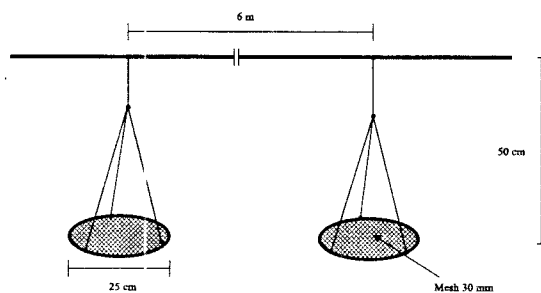


Fig 1. *Gullala vala*

delay would result in nil catch. The catch mainly comprising of gastropod species *Babylonia spirata* vary from 0.25 to 1 kg per ring. There are only a few units in operation along this area, rings and ropes being freely supplied by an agent who takes the catch at the rate of Rs.10 per kg. The gear is operated occasionally engaging 3-4 people per boat and the daily earning range between Rs.100 to 300.