

## Shoreseine (yendi) operations during the monsoons at Karwar, Uttar Kannada District of Karnataka

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After the introduction of trawlers in the 1970s and purseseiners in 1980s, the rampant shoreseine, which was a gear of primary importance along the Uttar Kannada coast, was phased out or replaced and has gradually disappeared. Legislation was promulgated on fishing by mechanised boats in coastal areas in the interest of traditional fishers who fish within 10 m depth. However, the fishing practices of mechanised boats precluded larger quantities and sizes of commercially important species from reaching the nearshore areas where shoreseines are

operated, resulting in landings of only small sized finfish and shellfish by shoreseines. Thus in due course of time, the labour intensive rampant fishery turned non-remunerative. Conversely, the yendi shoreseine, which was earlier used to harvest the catch impounded by the rampani net, has survived, though diminished in importance. The main reason for the continued existence of this fishery is that it targets areas and populations of fin- and shellfish not exploited by the trawler and purseseine fishery and caters to the local fresh and dry fish market.

Also, unlike the earlier rampan fishery, which exclusively targeted mackerel and sardine fishery during the October-March period, the yendi is now operated year round. In addition, the Government of Karnataka imposes a regular ban on mechanised fishery for boats powered with engines above 10 HP as a resource conservation effort. The ban normally extends over 47 days from 15<sup>th</sup> June to 31<sup>st</sup> July each year, covering monsoon months. During this period the local population depend mainly on shoreseines. The present study is an analysis of this fishery during the monsoon of 2008 at Karwar.

The yendi shoreseine operations were regularly monitored during the monsoon months (July and August) at Aligadda, the main landing centre for non-mechanised boats in Karwar. Data on species composition, catch, number of hauls and other details relevant to this fishery were collected.

Mesh size varies from 4 mm in the middle of the net, 6 mm in the lower middle and 8 mm at the ends of the net. The end portions of the net consist of nylon netting of no. 2 gauge, whereas the middle pieces are made of no. 3 gauge nylon netting (Fig. 1). The height of the net in the middle is approximately 25-26 feet and decreases to 13 ft height at both ends. The length of the net varies from 400 to 1000 m. The shoreseines weigh between 200 and 300 kg.

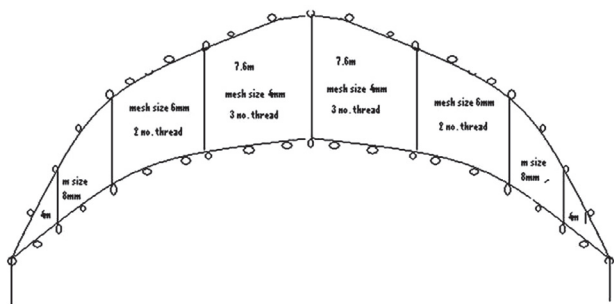


Fig. 1. Pictorial depiction of a conventional yendi shoreseine

The gear is operated at depths from 0 to 6 m. Operations take place normally from 0600 to 0830 hours. Operations are also launched during other daylight hours if shoals of fin- or shellfish are noticed. The shoreseine is operated by loading the net on to a small dhoni boat (8.5-10.7 m AOL), which then sails in a semicircular fashion, paying out the net, to a point at approximately 350-400 m from the starting point. This process is completed in

15-20 minutes. The net is hauled immediately after the dhoni reaches the end point. The hauling process is completed in 1½ to 2 h (Fig. 2).



Fig. 2. Hauling the shoreseine

The frequency of operation of this gear is dependant on the availability of the target species, penaeid shrimps and manpower. Around 36-40 fishers are required to complete one operation during the monsoon. The nets and boats are owned by individuals and fishers are employed for operations as labourers. Revenue generated by the sale of landings is shared between the net owner and the fishers with 30% going to the owner and 70% being distributed equally among the fishers, inclusive of the dhoni boatman. Initial investment required at present is Rs. 40,000/- for a new dhoni boat and Rs.1.5 lakhs for a net. The major remuneration from yendi operations during the monsoons comes from the sale of penaeid shrimp caught. Depending on the quantity and size of shrimps caught, remunerations per haul fetches Rs.3,000-15,000/-. In hauls where shrimps are absent, remuneration per haul fall to Rs. 2,000 - 2,500/-.

In Karwar area, there are 16 nets operated in Aligadda, 22 in Kajubagh area and 15 in Kodibagh area. Of these only 1-3 nets are used per beach on a day in Aligadda area and upto 5-6 nets per day in Kajubagh area, owing to the presence of a longer stretch of beach.

The fishery during the period July-August 2008 was constituted mainly by the burrowing goby *Trypuachen vagina* (Fig. 3), forming 62.5% with a CPUE of 190 kg, followed by the tail eyed goby *Parachaeturichthys polynema* (Fig. 4) forming 12% with a CPUE of 36.2 kg, shrimps (10.81%) with a

CPUE of 32.7 kg, *Ambassis* sp. (7.74%) with a CPUE 23.43 kg, portunid crabs (4.48%) with a CPUE of 13.5 kg and other fishes (Table 1). *T. vagina* commonly called "loote" formed the dominant species in the landings, with the proportions of the catch increasing in August. Size range varied from 95-200 mm TL. The catch, having no market locally, was sold to agents from Goa who transported it in boxes with ice. The tail eyed goby *P. polynema* (Fig. 4), commonly called "mannuli", formed the next major constituent of the fishery. Its catch declined during August. Size range recorded was from 84 to 104 mm TL. Sciaenids landed are mainly constituted by *Johnius belangeri* and *J. carutta*. Six species of leiognathids were landed, namely *Leiognathus bindus*, *L. blochii*, *L. brevirostris*, *L. splendens*, *Secutor insidator* and *S. ruconis*. Of these *L. blochii*

and *S. ruconis* were dominant. *Pisodonophis cancrivorus* was the main eel species landed. *Thryssa malabaricus*, *T. setirostris* and *T. vittirostris* were the major engraulids landed. The major penaeid shrimps landed were *Penaeus merguensis* and *Fenneropenaeus indicus*. Portunid crabs landed were *Portunus sanguinolentus* and *P. pelagicus*.

Juveniles of *Scomberomorus commerson*, *Leiognathus* spp., *Alectis ciliaris*, *A. indicus*, *Gnathonodon speciosus*, *Trachynotus blochii*, *Lutjanus russelli*, *L. johni* and *Sardinella* spp. were regularly observed during the fishery.

The catch is sorted and washed at the landing centre itself and sold in auction by the fisher ladies. During the monsoon season dealers from Goa frequent this landing centre for purchases. *T. vagina*

Table 1. Species composition of yendi shoreseine landings (kg) during the monsoon months

Species	July	August	Total	CPUE	%
<i>Trypauchen vagina</i>	14529	37688	52217	189.19	62.53
<i>Parachaeturichthys polynema</i>	7363	2638	10001	36.24	11.98
<i>Ambassis</i> sp.	6019	448	6467	23.43	7.74
<i>Lactarius lactarius</i>	124	243	367	1.33	0.44
Penaeid shrimps	2077	6953	9030	32.72	10.81
Portunid crabs	1917	1826	3743	13.56	4.48
<i>Platycephalus crocodilus</i>	134		134	0.49	0.16
Eels	388	37	425	1.54	0.51
<i>Scomberomorus commerson</i> (juvenile)	93		93	0.34	0.11
<i>Lagocephalus inermis</i>	326		326	1.18	0.39
<i>Johnius</i> spp.	93		93	0.34	0.11
<i>Cynoglossus macrostomus</i>	109		109	0.39	0.13
<i>Solea elongata</i>		75	75	0.27	0.09
<i>Leiognathus</i> spp.		53	53	0.19	0.06
<i>Thryssa</i> spp.		252	252	0.91	0.3
Miscellaneous	62	62	124	0.45	0.15
Total	33234	50275	83509	302.57	100
No. of boat trips	155	121	276	1	



Fig. 3. *Trypauchen vagina*



Fig. 4. *Parachaeturichthys polynema*

fetches a price of Rs.6-8/kg. When there is demand from the dealers, *P. polynema* is sold for Rs. 3/kg. Otherwise the catch is discarded on the beach itself.

The annually recurring increased occurrence of *T. vagina* and *P. polynema* in the yendi shoreseine fishery is purely a monsoon phenomenon and is absent during other seasons of the year. As these fishes are poor swimmers and most of the catch is comprised of adults, it is possible that they are ordinarily denizens of the Kali river mouth, which is 2 km north of the current fishing ground, and that they get transported to the nearshore areas by local currents during the monsoons. A southerly drift of currents along the North Kanara coast has been mentioned by earlier workers (Noble, 1968). Dominant commercial species such as *Sardinella longiceps* and *Rastrelliger kanagurta* fail to make any

significant contribution to the shoreseine monsoon fishery unlike in other months. Their absence is probably due to the lowering of surface salinity (6-15.5 ppt) in nearshore areas due to heavy river discharge during the monsoon, these species being highly susceptible to definite changes in hydrological conditions. The smooth blaspop *Lagocephalus inermis*, which causes loss to shoreseine fishers by damaging the gear is also absent during this period.

The yendi shoreseine fishery provides income to traditional fishers during the monsoon months and also fresh fish to local communities. Being a comparatively non-destructive gear and the mainstay of livelihood during the lean period, this fishery should be encouraged with better marketing facilities and value addition of catch.