

Multiday ring seine fishing for tunas - A new initiative at Cuddalore, Tamil Nadu

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The introduction of ring seine in Tamil Nadu was to target shoaling fishes like oil sardine. The volume of oil sardine landings in Tamil Nadu showed tremendous improvement after the use of this gear. Though Tamil Nadu government banned the operation of this gear in 2000, it is still active in certain parts of Tamil Nadu like Cuddalore which is the most important ring seine fishery centre. In Cuddalore, the mechanized ring seine fishery started in 2009. The units were bought from Kerala and hence the size of the boat and engine power, size of net and operation of the gear were similar to those used in Kerala. The normal operation of ring seine is within 30 to 50 m area and very close to the shore, The catch is brought to the landing centre in carrier boats on the same day. The oil sardine fishery in 2017 was a failure because of which the operation of ring seines was almost suspended. The failure of oil sardine fishery continued in January and February 2018. In order to tide over this difficult period, the fishermen having bigger ring seiners (> 70 ft OAL with engines of >500hp) ventured into deep sea fishing targeting oceanic tunas in February 2018. Normally 50 persons are engaged in each boat. The net has an overall length of 2000 to 2100 m with the height varying from 100 to 120 m with a mesh size of 110 mm. Though the net is made of cotton, the lower part with a height of 9 to 10 m is made of nylon net to which the usual lead weight and rings are attached. According to the fishermen, the nylon net which is their innovation, breaks easily and thus helps in the easy retrieval of the net whenever it gets entangled as it passes over rocky surfaces.

The tuna fishing grounds are approximately 50 to 80 nautical miles (nmi) away, where the depth is

more than 1000 m and takes 8 hours to reach. The total fishing days in each voyage vary from 3 to 4. The net is operated during day time only and depending on the shoal strength, two to four hauls are made in a day. Carrier boats are not employed and the catch is directly unloaded from the boat in the Cuddalore Fisheries Harbour. Hence there is no ambiguity regarding estimating the actual catch of a mother boat usually associated with the ring net fishery for small pelagics such as sardines. Initially, the yellow fin tunas caught were of sizes above 30 kg. Occasionally as on the observation days on 26 and 27th February, yellowfin catch was dominated by smaller size groups, weighing less than 5 kg (Table 1, Fig. 1). Other fishes caught were mainly little tunny, frigate tuna and dolphinfish.

Table 1. Catch details of multiday ring netters on observation days

Date	Unit landed	Catch (t)			Total (t)
		Yellowfin tuna	Skipjack tuna	Other fishes	
12.2.18	1	24	12	0	36
	2	16	10	0	26
13.2.18	1	10	3	0	13
	2	7	2	0	9
	3	5	2	0	7
21.2.18	1	18	0.9	0	18.9
	2	15	0.9	0	15.9
	3	8	0.3	0	8.3
22.2.18	1	12	0.3	0.5	12.8
	2	15	0.4	0.6	16
	3	8	0.5	0.9	9.4
26.2.18	1	10	0.5	0.5	11
27.2.18	1	3	10	2	15
	2	3	9.8	2.3	15.1



Fig. 1. Yellow fin tuna caught

The catches were disposed through open auction. The rate for yellow fin tuna ranged from ₹ 80 to ₹ 95 per kilogram and that of skipjack tuna around ₹ 60/-. The entire tuna catch was transported to Kerala for further disposal. Economics of each trip was estimated. Each fishing unit is normally owned by a group of 10 to 15 persons. It requires 3000 l of diesel besides 250-300 ice bars each weighing 50 kg for preservation of the tunas and other fishes caught. They take 100 cans of fresh water for drinking besides food items. The operational cost for one trip is around ₹ 2 lakhs. The total proceeds are shared on 40: 60 among workers and owners respectively. The operational expense is met from

owners share. Present operations are perceived to be profitable for the owners and the workers also get a decent share.

This is yet another example of using their own wisdom to tide over their crisis and has certain positive points besides the economic aspects. The fishing is conducted in areas far away from the conventional fishing grounds and traditional fishermen. Targeting a resource (oceanic tunas) which the government is emphasizing as part of diversification of fishing and augmentation of fish catch is also achieved.

Generally, the deep sea multiday drift gill netters used to catch the bigger yellowfin tuna occurring during this time of the year but in a few numbers only. However, this year, the gillnetters based at Chennai and Thoothukudi got very good catches of bigger yellowfin tuna during this period. These were fully mature suggesting spawning shoals. A gradual decrease in the quantity of bigger yellowfin tuna landed along with dominance of smaller size ones in the catches during the end of February was recorded. Hence, it is not clear how long this fishery trend will continue and requires further monitoring.