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SOME RECENT OBSERVATIONS ON SMALL-SCALE FISHERY IN THE VICINITY OF MADRAS*

Madras zone is one of the important fishing centres on the east coast of India. The city has several landing centres, from where different types of indigenous gears are being operated in addition to trawls and gill nets by mechanised vessels. To understand the fish landings from different gears in Madras, three landing centres, viz., Kasimedu, Triplicane and Nochikuppam were selected. Kasimedu is about 8 km north of Triplicane and Nochikuppam is about 2 km south of Triplicane. Though these centres are nearer to each other, they were selected because of the variety of indigenous gears operated from these centres. Kasimedu supports mechanised fishing also but the present data relate only to the indigenous catch.

Data collected on indigenous gears for a four year period from 1980 to 1983 were analysed and presented

in this account. Biweekly observations were made on catch, effort and catch composition of each gear separately for the three landing centres from 6 A.M. to 6 P.M. and the data collected were weighted for the month. Indigenous gear landings occur only during day time in these centres. Principally, two types of bag net ('Eda valai' and 'Madha valai'), three types of gill net ('Kavala valai', 'Ara valai' and 'Trukka valai'), hooks & line, boat seine ('Thuri valai') and shore seine are operated in the three landing centres. In addition to these eight gears, three more gears ('Retta aruppa valai', 'Thatta kavala valai' and 'Kolamaram') are operated but they are not considered in this account since these gears are operated rarely and the catch from these gears formed only about 0.1% of the total catch.

Table 1. Gearwise estimated average annual effort (number of units), catch (tonnes), and CPUE (kg/unit) in three landing centres in Madras for the years 1980-'83

Gear		Kasimedu	Triplicane	Nochikuppam	Total
'Eda valai' (Bag net)	Effort	1,306	381	...	1,687
	Catch	152.2	20.7	...	172.9
	CPUE	116.6	54.4	...	102.5
'Madha valai' (Bag net)	Effort	46	231	90	367
	Catch	3.5	9.6	9.4	22.5
	CPUE	76.5	41.4	104.9	61.4
'Kavala valai' (Gill net)	Effort	973	473	6,894	8,340
	Catch	23.7	13.5	232.9	270.2
	CPUE	24.4	28.5	33.8	32.4
'Ara valai' (Gill net)	Effort	423	2,165	2,023	4,611
	Catch	3.8	19.4	18.6	41.7
	CPUE	8.9	9.0	9.2	9.1
'Trukka valai' (Gill net)	Effort	2	...	547	549
	Catch	0.1	...	16.0	16.0
	CPUE	50.0	...	29.2	29.2
Hooks & line	Effort	1,179	15	1,039	2,233
	Catch	45.2	0.4	9.3	54.9
	CPUE	38.3	26.7	8.9	24.6
'Thuri valai' (Boat seine)	Effort	71	2,317	...	2,388
	Catch	1.1	21.9	...	23.0
	CPUE	15.3	9.4	...	9.6
Shore seine	Effort	...	258	176	434
	Catch	...	5.2	9.3	14.5
	CPUE	...	20.2	52.9	33.5
TOTAL		229.6	90.7	295.5	615.7

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Table 2. Percentage contribution of important fish groups (data based on average annual landings by the indigenous gears) in the three landing centres in Madras for the years 1980-'83

Groups	'Eda valai'	'Madha valai'	'Kavala valai'	'Ara valai'	'Irukka valai'	Hooks & line	'Thuri valai'	Shore seine	Annual average (t)	% in total catch
Lesser sardines	8.9	0.2	88.9	0.1	...	...	...	1.9	250.3	40.7
<i>Hilsa</i>	99.7	0.3	...	...	...	...	...	...	64.9	10.5
<i>Caranx</i>	3.5	23.9	10.5	19.4	5.2	32.7	1.7	3.2	42.5	6.9
Mackerel	53.8	5.5	9.2	27.2	...	...	...	4.2	33.5	5.4
<i>Ilisha</i>	100.0	...	...	...	...	...	...	...	32.0	5.2
<i>Thryssa</i>	3.5	...	74.7	13.7	...	...	7.1	0.8	20.1	3.3
Sharks	...	...	...	...	10.7	89.3	...	...	19.5	3.2
<i>Scomberomorus</i>	...	...	...	17.8	25.9	54.7	...	1.3	17.2	2.8
<i>Dussumieria</i>	...	...	100.0	...	...	...	...	...	17.2	2.8
Mullet	97.5	1.9	...	...	...	...	...	0.6	17.1	2.8
Silverbellies	12.9	5.0	19.4	27.4	...	...	23.2	12.1	10.6	1.7
<i>Decapterus</i>	...	99.0	...	...	...	...	...	1.0	7.9	1.3
<i>Trichiurus</i>	...	...	...	...	...	...	100.0	...	7.7	1.3
Prawn	62.9	...	3.0	11.9	1.4	...	19.7	1.1	7.2	1.2
Miscellaneous	12.7	2.8	8.7	16.2	10.3	26.9	13.2	9.0	68.0	11.0
TOTAL	28.1	3.7	43.9	6.8	2.6	8.9	3.7	2.4	615.7	100.0

The annual average catch from the eight gears in the three landing centres was 615.7 tonnes (Table 1). 'Kavala valai' and 'Eda valai' contributed 43.9% and 28.1% of the total catch, respectively. Maximum effort was employed in 'Kavala valai' (8,340 units/year) and 'Ara valai' (4,611 units/year) but the maximum catch per unit effort was realised from the bag nets, viz., 'Eda valai' (102.5 kg/unit) and 'Madha valai' (61.4 kg/unit).

In the three landing centres, lesser sardines constituted 40.7% of the annual average landings of 615.7 tonnes. About 89% of the sardine catch was realised from 'Kavala valai' (Table 2), which is a specialised net for catching the sardines. Hilsa, which formed 10.5% of the total catch was landed exclusively from the bag nets. Large fishes like sharks and seerfish were landed mainly by Hooks & lines and 'Irukka valai' (which has

a larger mesh size than the other gill nets). Prawns, which formed 1.2% of the total catch, were landed by most of the eight gears, with major contribution (about 63%) from 'Eda valai.'

The traditional gears operating in Madras concentrate mainly on pelagic and mid-water fishes, as evidenced in this study. At present nearly 400 trawlers operate demersal trawl net off Madras and land about 6,200 tonnes every year. The major catch components from the demersal trawls of this area are silver bellies, thread-fin breams, sciaenids, lizardfish, prawns, squids and cuttlefish. These groups are landed in a meagre quantity by the traditional gears, thus maintaining compatibility between mechanised and non-mechanised gears in the exploitation of fishery resources off Madras.

