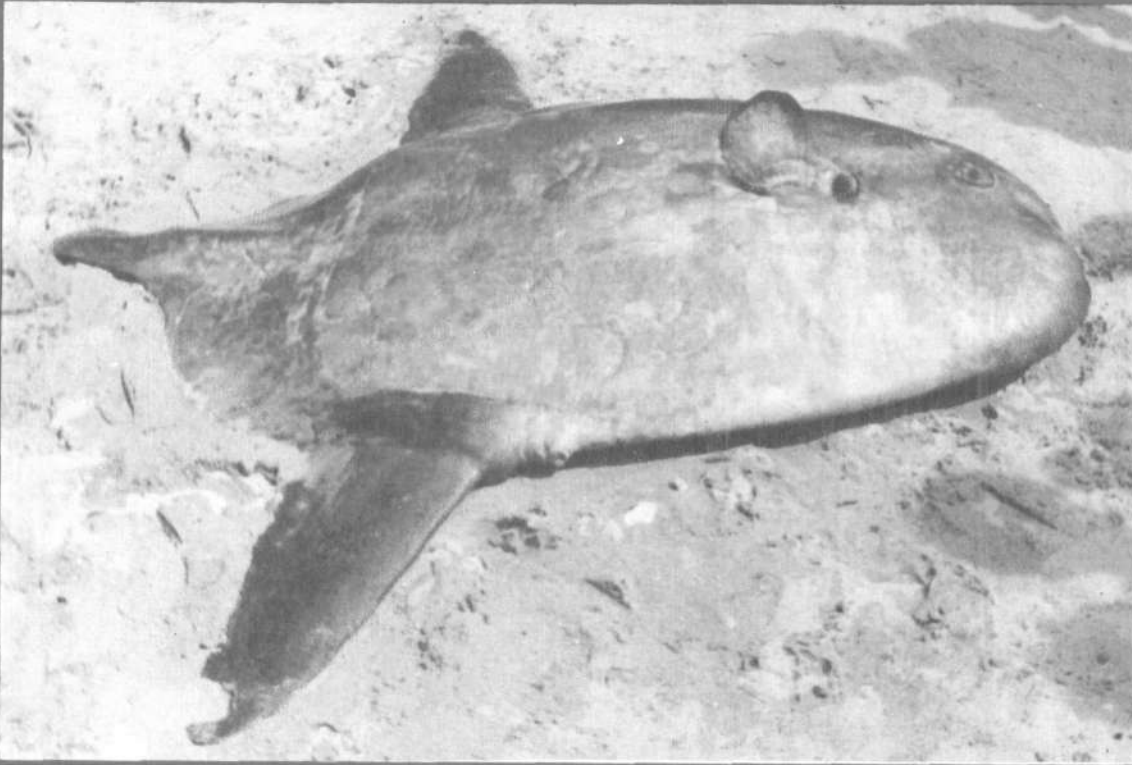




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SPECIFICATIONS OF DIFFERENT ARTISANAL AND MECHANISED FISHING CRAFT EMPLOYED IN MARINE FISHERIES ALONG TAMIL NADU COAST

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During the period 1980-'89 Tamil Nadu contributed an estimated annual average of 2.6 lakh tonnes of marine fish forming 16% of the total all India fish production. Apart from the traditional craft and gear operated along the inshore region, expansion of the mechanised vessels fleet especially trawlers has significantly contributed in exploiting the productive ground fish resources along the coast.

It has been estimated that during the period 1985-'89 the average estimated fish production by the artisanal and mechanised sectors were 1.4 and 1.2 tonnes respectively. As per the estimates of CMFRI in 1980 there were 2,600 mechanised boats in the state including 300 pablo-type drift gill-netters. Since then, an increase of nearly 50% in the number of mechanised boats have been reported recently in Tamil Nadu (Tamil Nadu Fisheries Statistics, 1992, Department of Fisher-

ies, Madras), the maximum concentration being along Ramanathapuram District followed by Tanjavur, Kanyakumari and South Arcot districts. There is diversification of trawling operations like voyage fishing and daily trip shrimp and fish trawling in some of the centres and the specifications of the vessels are found to vary to suit different types of operations.

The following three types of artisanal fishing crafts are being employed at present along the coast for fishing operations.

1. Catamarans

This is a keel-less craft made by lashing 3-7 or 8 light weight logs together which are cut square at one end and curved into a rough cone at the other. The conical end rises slightly above the level of the craft and forms the stern of the catamaran.

2. Plank-built boats

These are double ended crafts made of planks and stitched together with coir or polyethelene twine. The joints are plugged together for achieving water tightness. The craft propelled by oars is mainly used for setting beach seine in calm waters.

3. Dug-out canoes

This is made by scooping out the wood from a single log of mango or jungle jack tree. The keel portion is thicker than the sides. Often it is not possible to get the total symmetrical shape from the log and patches have to be made with planks of teak wood which are rivetted on to the main body with nails.

Excepting Pudukottai and Ramanathapuram districts, catamaran is the most common craft used for fishing operations and constitute about 73% of the total artisanal fishing craft which have recorded a 3% increase in their number during the past one decade. In order to facilitate mobility and fishing efficiency, the catamarans are fitted with outboard engines since recently in some of the centres along the coast. Besides, in-board engines are also being fitted to artisanal plank built boats in certain centres. The details are shown in Table 1.

A multiplicity of artisanal gear are being used at present along the coast including the brackish water areas. A detailed classification and specifications of these have already been published (*Mar. Fish. Infor. Serv., T & E Ser., No. 114 : 16-28, 1991*). The different types of the artisanal fishing crafts employed along the coast

TABLE 1. Specifications of the artisanal crafts fitted with inboard engine

1. Type of fishing vessel	— Country craft with inboard engine
2. Vernacular name	— 'Vallam'
3. Specification	
a. Length	— 8.5 m
b. Breadth	— 1.5-1.75 m
c. Depth/draught	— 1.5 m
4. Material	— Ayini, Vagai, Poovarasu
5. Cost	— Rs.30-50 thousand
6. Power of inboard engine fitted	— 10-22 HP
7. Type of engine	— Kirlokar 1-2 cylinder
8. Speed/hour	— 5 km
9. Capacity	
a. Engine oil	— 0.25 litres
b. Diesel oil (HRD)	— 2-3 litres for one cylinder 6 litres for cylinder
10. Number of crew	— 4-5 persons
11. Depth of operation	— 10-25 m
12. Tonnage of the vessel	
a. Gross tonnage	
b. Net tonnage	— 1 tonne including in-board engine
13. Navigational aid	— Compass
14. Communication system	— Nil
15. Life of the boat	— About 10 years
16. Gear	
a. Gill-net made of monofilament No.4	
b. Gill-net made of monofilament No.2	

exhibit variations in their specifications to suit different mode of fishing (Table 2). No information is available hitherto detailing the specification of the different types of artisanal craft operated along the coast. Hence the present

TABLE 2. Artisanal gear and craft combination in fishing operations along Tamil Nadu coast

Artisanal gear	Artisanal craft	Type of fishing carried out
1. Bag net	Catamarans with 3-5 or 6 logs	Pelagic fishing
2. Inshore drag net or shore seine	Boat/ <i>Padagu</i>	Shallow water fishing
3. Encircling net	Catamaran with 3-4 or 8 logs	'Kola fishing' for flying fish
4. Gill-nets		
a. Drift gill-nets	Catamarans with 3-4 or 6 logs	Pelagic fishing
b. Set gill-nets	-do-	Midwater fishing
i. Midwater gill-net	-do-	Pelagic fishing
ii. Bottom-set gill-net	-do-	Demersal fishing
5. Hooks and line		
a. Hand line	Catamarans with 3-5 logs	Hooks and line fishing
b. Long line	-do-	-do-
6. Traps		
a. One entrance trap	Catamarans with 3-4 logs	Bottom-set fishing
b. Two entrance trap	-do-	-do-

TABLE 3. Details on the specification of non-mechanised fishing crafts operated along the Tamil Nadu coast

	Coromandal coast			Palk Bay coast			Gulf of Mannar coast		
1. Fishing crafts	Dug-out canoe	Plank built boat	Catamarans	Dug-out canoe	Plank built boat	Catamarans	Dug-out canoe	Plank built boat	Catamarans
2. Vernacular name	Odam, Thony, Kattu vallam	Masula boat, Padagu, Periya valai padagu	Catamaran, Maram, Mela maram, Periya thoondil maram, Karai thoondil maram	Thony, Kanna, Vallam	Theppam, Sirgu kattai vallam, Vallam, Vathai, Vatha	Maram, Mela thoondil maram, Periya thoondil maram	Kanna, Vallam	Vallam, Tuticorin vallam, Vathai, Vatha, Thony	Maram, Thoora-thoondil maram, Line maram, Ayiramkal thoondil maram, Thamani kayaru
3. Dimensions	Small Large		Small log	Small	Large	Each log	Small	Large	Each log
a. Length (m)	7.30 9.70	8-10	7-8	7.8-10.5	8-10	7-8	7.5-10.0	7-12	7-8
b. Breadth (m)	0.90 1.00	2-3	0.30	1.2-2	2-3	0.20	1.0-1.2	2-3	0.20
c. Depth (m)	0.45 0.70	2	0.20	0.5-0.8	2	0.30	0.5-0.75	1-2	0.30
	(Thoney) (Odam)								
4. Material	Wood Ayini (Artocarpus hirsuta)	Wood Ayini	Wood (Melia dubia, Albizzia logs)	Wood Ayini	Wood Ayini	Wood Melia dubia	Wood Ayini	Wood Ayini, Vagai, Poovarasu	Wood Melia dubia
5. Cost (Rs.)	5,000-6,000	6,000-7,000	2,000-5,000	4,000-5,000	4,500-5,500	1,500-4,500	4,000-5,000	4,000-10,000	1,500-5,000

TABLE 4. Specifications of mechanised fishing crafts operated along the Tamil Nadu coast

Particulars	Coromandal coast			Palk Bay coast			Gulf of Mannar coast		
	Fish trawler	Shrimp trawler	Gill-netter	Fish trawler	Shrimp trawler	Gill-netter	Fish trawler	Shrimp trawler	Gill-netter
1. Type of fishing vessel	Fish trawler	Shrimp trawler	Gill-netter	Fish trawler	Shrimp trawler	Gill-netter	Fish trawler	Shrimp trawler	Gill-netter
2. Locally used name	Launch trawler, Madai boat	Era boat, trawler	Chinna launch	Launch, Trawler	Era trawler Trawler	Gillnet boat	Trawler, STB, Launch, Visai padagu	Trawler, STB, Rai boat, Visai padagu	Trawler, STB, Gillnet boat, Visai padagu
3. Dimensions									
a. Length (m)	9.5-16.5	9.5-16.5	7-9	10.5-15.5	10.5-15.5	8.3-10.5	10.5-16.0	10.5-16.0	8.5-10.5
b. Breadth/Beam (m)	3.5-5.0	3.5-5.0	2.3-2.6	3.3-5.0	3.3-5.0	2.5-3.5	3.5-5.5	3.5-5.5	2.5-3.5
c. Depth/Draught (m)	1.2-2.5	1.2-2.5	0.7-0.9	1.3-2	1.3-2	1.0-2.5	1.3-2.0	1.3-2.0	1.0-2.5
4. Material	Wood Ayini, Teak	Wood Ayini, Teak	Wood Ayini, teak	Wood Ayini, Teak	Wood Ayini, Teak	Wood Ayini, Teak	Wood Ayini, Teak	Wood Ayini, Teak	Wood Ayini, Teak
3. Cost (rupees)	8 lakhs	8 lakhs	6 lakhs	6 lakhs	6 lakhs	4 lakhs	4 lakhs	4 lakhs	1.5 lakhs
6. Make of engine	Ashok Leyland	Ashok Leyland	Ashok Leyland	Ruston, Ashok Leyland	Ruston, Ashok Leyland	Ruston, Ashok Leyland	Ruston, Kirloskar, Ashok Leyland	Ruston, Kirloskar, Ashok Leyland	Ashok Leyland
b. Engine power (BHP)	68-120	68-120	68	50-120	50-120	68	68-120	68-120	68
7. Speed/hour (in knots)	6-9	6-9	5-6	6-8	6-8	6-8	10	8	6
8. Capacities									
a. Fuel oil (Engine oil) (litres)	10-20 (10 days)	10-20 (10 days)	5-10	10-15	10-15	5-10	10-20	10-15	5-10
b. Diesel oil (HSD) (litres)	500-3,000 (10 days)	500-3,000 (10 days)	500-700 (10 days)	500-3,500	500-3,500	500-600	400-2,000	450-2,500	400-600
c. Freshwater (litres)	500-700	500-700	100-250	400-700	400-700	100-200	500-700	500-700	100-250
d. Fishhold capacity	4 fibre glass chambers with ice	6 fibre glass chambers with ice	2 fibre glass chambers with ice	4 fibre glass chambers with ice	6 fibre glass chambers with ice	2 fibre glass chambers with ice	4 fibre glass chambers with ice	6 fibre glass chambers with ice	2 fibre glass chambers with ice
e. Freezing (ice blocks in kg)	100-3,000	1,000-3,500	750-1,000	1,500-1,300	1,000-3,500	700-1,000	1,000-3,500	1,500-3,500	700-1,000
9. Number of crew/vessel	6-8	6-8	4-5	5-7	5-6	3-5	6-8	6-8	4-5
10. Depth of operation (m)	10-60	10-30	10-50	10-40	10-40	20-50	10-40	10-40	10-50
11. Winches	Mechanical winch with G.I. wire rope								
12. Tonnage of the vessel	14-18	14-18	10-14	15-20	15-20	12-15	15-20	15-20	12-15
Gross tonnage (net-tonnage)	(5)	(5)	(4)	(5)	(5)	(4)	(5)	(5)	(5)
13. Life of boat (approximately) in years	15-20	15-20	15-20	15-20	15-20	15-20	12-15	12-15	12-15

report on this aspect with special reference to the dimensions, material used, approximate cost etc. of the artisanal fishing craft operated along the Tamil Nadu coast with the prevalent local name in Tamil in the various coastal geographical divisions viz., Coromandal, Palk Bay and Gulf of Mannar regions will be useful to those interested in the fishing industry (Table 3).

With the diversification of fishing operations by the trawlers, several changes have been made in the specification of trawler vessels also in recent years. The present report also covers the specifications of various type of trawling vessels operated along the coast in addition to the Pablo-type boats used exclusively for drift gill-net fishery (Table 4). The specification and dimensions of various artisanal and mechanised craft listed in the present report are similar to that of

the craft operated along the Pondicherry coast as the Union Territory is contiguous with Tamil Nadu.

The size of the trawlers based at Madras at present is mostly higher with length of 12 m to 15 m compared to that in earlier decades, when the vessels were only 7.5 m to 9 m in length. The fishermen have started using larger vessels as they go to deeper waters with depth 50-70 m or far off along the coast off Nellore or Mahabalipuram and they remain at sea for three days to one week doing fishing and keeping catches in the fish holds stocked with good quantities of ice.

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