

RESULTS OF PRELIMINARY FISHING TRIALS WITH 15.8 m SIX-SEAM OTTER TRAWL

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The paper deals with the results of trawling operations conducted along the Saurashtra Coast of Gujarat State with 15.8 m six-seam otter trawl. Fishing operations carried out from Fishtech No. 8 with this new net were the first of their kind in the country and the results proved to be encouraging. The design in question is passed on to private agencies for commercial operations.

INTRODUCTION

Trawling for capture of demersal fishes is now a popular commercial fishing method in most maritime states of India and several designs of otter trawls are used (Jayaraman *et al*, 1960; Miyamoto *et al*, 1962; Satyanarayana and Nair, 1962; Poliakov, 1962 and Kuriyan *et al*, 1964). The nets presently used are basically either two-seam or four-seam in construction. In countries like Japan trawl nets with more than four panels are fairly popular (Personal communication, T. Koyama). With a view to assess the catch efficiency of such a design, a 15.8 m six-seam nylon trawl was fabricated for conducting field trials and the results obtained are presented in this communication.

CRAFT AND GEAR USED

Investigational Fishing Vessel 'Fishtech VIII' (50' O. L. 82 H. P. Engine) was

employed for conducting the field trials. The design and constructional details of 15.8 m net along with the other accessories as used during the course of present operations are shown in Fig 1 and Table I. The otter boards used for the net were similar to the ones described by Satyanarayana and Nair (1962).

Fishing trials were carried out from 12-12-68 to 6-1-69 and 4 to 9 hauls were taken on each day. The grounds fished were same as described by Deshpande and Kartha (1964). During the period of experimentation a total of 100 hauls of 75 hours total duration were taken at depths ranging from 23 to 33 metres.

RESULTS AND DISCUSSION

Table II represents the total fishing effort along with the particulars of catches landed by the net.

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15.8M.SIX-SEAM TRAWL

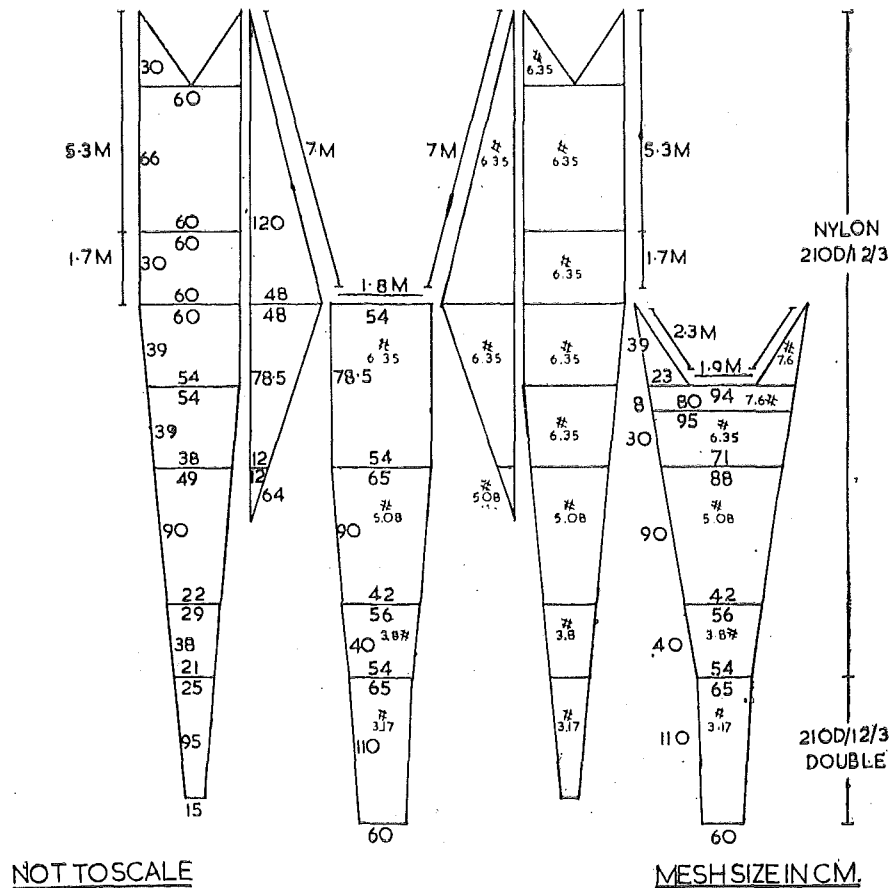


Fig 1. Constructional details of a 15.8m six-seam trawl used for experiment.

TABLE I PARTICULARS OF ACCESSORY GEAR

Head-rope	: Manila, 15.9 m, Dia: 12.7 mm.
Foot-rope	: Manila, 20.5 m, Dia: 19.1 mm.
Sweeps:-	
Head-rope	: Manila, 11.8 m, Dia: 12.7 mm.
Foot-rope	: Manila, 11.8 m, Dia: 19.1 mm.
No. of floats	: 15
Total extra-buoyancy of floats attached	: 12.5 kg
Total weight attached along the foot-rope	: 27 kg (1.3 kg/m)
Particulars of otterboards:-	
Type	: Rectangular flat
Size	: 1.4 m x 0.63 m
Weight	: 55 kg each.
Towing warp	: 12.5 mm dia, galvan- ised, flexible, steel, wire-rope.

It would be evident from Table II that a total of 2337 kg of prawns and 15728 kg of fishes were landed by the six-seam trawl net. The average catch per trawling hour was also worked out and comes to 31 kg of prawns and 210 kg of fish.

Table III shows the varieties and quantities of fishes caught along with their percentages. Except pomfret and pellona sp the other varieties landed by six-seam trawl were same when compared with those landed by two-seam and four-seam trawls (Deshpande *et al*, 1968).

The horizontal spread between doors in action was measured following the method suggested by Benyami (1959) and Deshpande (1960). The average horizontal

TABLE II RESULTS OF FISHING OPERATIONS WITH SIX-SEAM TRAWL

Date	Depth in metres	Length of warp used (m)	Towing speed (knots)	No of hauls	Duration of hauls		Catch in kg		Total	Av. catch per hour (kg)	
					hrs	mts	Prawns	Fish		Prawn	Fish
12-12-'68	23-27	150	2	6	5	45	152.25	1173.80	1326.05	26.50	204.31
16-12-'68	23-25	„	2-2.25	5	3	45	118.00	816.70	934.70	31.50	217.80
17-12-'68	24-26	„	2	5	5	00	263.50	1037.75	1301.25	52.70	207.55
18-12-'68	„	„	2-2.25	4	3	15	120.50	641.10	761.60	37.10	197.26
20-12-'68	23-27	„	„	9	7	00	102.50	1761.90	1864.40	14.64	251.70
21-12-'68	23-28	175	2	9	7	20	109.40	2260.65	2370.05	14.92	308.27
22-12-'68	30-33	„	„	5	3	35	54.15	1192.00	1246.15	15.11	332.65
27-12-'68	24-25	150-175	„	9	6	35	449.75	1370.65	1820.40	68.30	158.20
28-12-'68	23½-25	„	„	8	6	15	296.10	784.50	1080.60	47.38	125.50
29-12-'68	24-26	„	„	9	6	53	209.75	1226.00	1435.75	30.47	178.10
30-12-'68	24-24½	150	„	8	5	47	209.00	598.20	807.20	36.14	103.40
3--1-'69	25-27	150-175	„	7	4	21	71.60	1046.15	1117.75	16.46	240.50
4--1-'69	25-30	„	„	„	4	21	40.55	1074.95	1115.50	9.32	267.10
6--1-'69	24-26	175	„	9	5	08	140.25	743.50	883.75	27.32	144.81
TOTAL & AVERAGE		..	...	100	75	00	2337.30	15727.85	18065.15	30.56	209.79

TABLE III VARIETIES AND QUANTITIES OF
FISHES LANDED

Variety	Total catch (kg)	% in the total
Prawn	2337.30	12.94
Lobster	151.90	0.84
Sciaenids	3168.00	17.53
Polynemids	374.40	2.04
Eels	447.00	2.47
Elasmobranchs	1228.00	6.80
Perches	154.75	0.85
Pomfrets	123.30	0.68
Ribbon fish	47.40	0.26
Chirocentrus sp.	154.40	0.85
Pellona sp.	396.15	2.19
Miscellaneous	9482.55	52.55
TOTAL	18061.15	100

opening between otter boards during operation when calculated comes to 22.6 meters which in turn works out to 57.3% of the buoy-line including sweeps. The towing resistance offered by the gear, on both the warps, during present trials was recorded with the help of a tension meter described by Satyanarayana and Nair (1960) and was observed to be 506 kg only.

SUMMARY

The communication deals with the results of fishing operations with a 15.8 m six-seam nylon otter-trawl. The design details along with the varieties and quantities of fish landed have been described to conclude that

- i) The average catch per hour of prawns and fishes landed by the net works out to 31 kg and 210 kg

respectively,

- ii) The horizontal opening of the net in action was observed to be 57.3% of the buoy-line including sweeps, and
- iii) The tension offered by the entire gear works out to 506 kg only.

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