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Catch composition survey of trawlers operating from Veraval fishing harbour, Gujarat

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Abstract

The present survey was envisaged to know the overall catch composition of trawlers operating from Veraval fishing harbour from February 2021 to March 2021. Throughout the study period total 14 marine species were recorded. Cuttle fish, squid, Ribbon fish, tuna, mackerel, thread fin bream major caught by trawlers. Major proportion of a catch Ribbon fish, cuttle fish, leather jacket, squid and cat fish. In Veraval fishing harbour majority of fisherman were using trawl net with 40 mm mesh size. Generally trawler with 30-35 ton capacity (40-45ft length) are used for fishing by the fisherman of Veraval harbour.

Keywords: trawl net, catch composition, Veraval

Introduction

Fishing is the art of catching aquatic living beings. Various methods are adopted for the capture of fishes. Due to advancement of Science and Technology many progressive changes have been introduced in design, construction and operation of fishing gear. The introduction of trawls and trawling is one of the important developments in the history of fishing technology. The modern trawl net is basically a large conical shaped; bag netting which is drawn along the sea bed just above the bottom or in the water column to catch bottom fishes or shell fishes. Initially trawling gear were all for bottom fishes and in later years more complicated innovation were devised^[1]. Fisherman made single day cruise starting from the vase early in the morning and returned in the evening after making 3-4 haul of about one hour duration each. In India, trawlers have contributed the major part of the total marine fish production account more than 50%. Veraval is the largest fish landing center of Gujarat^[2]. The landing center have a capacity of 5000 boats. Initially trawling gear was all for bottom fishes and in later years more complicated innovation were device.

Background information

- Name of landing centre: Veraval
- Period of survey: February 2021 to March 2021
- Total no. of fishing boat: Over 8000 boats
- Materials of boat: Mostly Wooden & Fibre
- Average length of boats: About 45-60 ft.

Facilities of landing centre

- Auction hall
- Bad road facilities (unclean roads, rough roads)
- No availability of freshwater
- Fish Markets
- Poor hygienic condition in boat & auction hall
- Transportation of fishes by rickshaw

Duration: 20-22 days

Methodology

The present survey was undertaken to study the catch composition of the trawl netters operating trawl net of Veraval fishing harbour, Gujarat. The survey of carried out for a period of one month February 2021 to March 2021. Randomly five boats were selected and data was collected viz., fish catch, craft specification, Net specification, fishing ground and fishing season.

Result

The primary goal on this survey was to find out catch composition of trawl net operated from Veraval fishing harbour. Trawl net catch was composed of a highly

diversified fishes, crustaceans and cephalopods, since the trawl nets were non-selective. The data were collected from February 2021 to March 2021. Throughout the survey total 14 marine species were recorded in the fishery.

Table 1: Craft and gear analysis

No.	Question	Boat 1	Boat 2	Boat 3
Craft details and specification				
1	Boat name	Jay Maheshwari	Ajay Sagar	Rameshwar Sagar
2	Boat Reg. No.	IND- GJ-11-MM-3493	IND- GJ-11-MM-5704	IND- GJ-11-MM-76
3	Owner name	Dineshbhai Sikotariya	Naranbhai Vaisya	Dharambhai Baraiya
4	Type of craft	Trawl net	Trawl net	Trawl net
5	Storage capacity of craft	30ton	25 ton	30 ton
6	Length overall	48 Ft	46 Ft	55 Ft
7	Gross tonnage	15 ton	10 ton	10 ton
8	Net tonnage	Depend upon the availability of catch(800Kg.)	Depend upon the availability of catch(500Kg.)	Depend upon the availability of catch(500Kg.)
9	Crew member	6-7 member	6-7 member	6-7 member
10	Ice capacity	70-80block of ice	100block of ice	100block of ice
11	Engine	180 HP	205 HP	140 HP
12	Fuel capacity	3000 lit. Diesel	4000 lit. Diesel	3000 lit. Diesel
Gear specification				
13	Type of gear	Trawl net	Trawl net	Trawl net
14	Mesh size	40 mm	40 mm	40 mm
15	Material used for gear fabrication	Nylon	Nylon	Nylon
Fishing ground				
16	fishing location	Maharashtra	Diu, Porbandar	Maharashtra, Dwarka
Fishing season				
17	Closed season	May – august	May – august	May –august
18	Duration of one trip	15 days	18days	15 days
19	Catch per unit effort (CPUE)	500-700 kg	600-700 kg	500-700 kg

Table 2: Craft and gear analysis

No.	Question	Boat 4	Boat 5
Craft details and specification			
1	Boat name	Usha Kiran	Amar Shiv
2	Boat Reg. No.	IND- GJ-11-MM-2239	IND- GJ-11-MM-3516
3	Owner name	Deviben Sikotariya	Kalubhai Baraiya
4	Type of craft	Trawl net	Trawl net
5	Storage capacity of craft	40 ton	35 ton
6	Length overall	57 Ft	52 Ft
7	Gross tonnage	8 ton	10 ton
8	Net tonnage	Depend upon the availability of catch (300Kg.)	Depend upon the availability of catch (500Kg.)
9	Crew member	6 member	7 member
10	Ice capacity	125 block of ice	80-90 block of ice
11	Engine	160 HP	140 HP
12	Fuel capacity	4000 lit. Diesel	3000 lit. Diesel
Gear specification			
13	Type of gear	Trawl net	Trawl net
14	Mesh size	40 mm	40 mm
15	Material used for gear fabrication	Nylon	HDPE
Fishing ground			
16	fishing location	Vanakbara, Jakkho	Dwarka, Diu, Porbandar
Fishing season			
17	Closed season	May – august	May – august
18	Duration of one trip	21 days	20 days
19	Catch per unit effort (CPUE)	700-800 kg.	600-700 kg.

Different mesh size of trawl net and their catch

Fisherman was using generally two seam net. For catching

finfish and shellfish fisherman were using different size of mesh net and colour.

Table 3: Different Mesh size of trawl net

Mesh size	Colour	Fish catch
160-200 mm	Dark blue	Croacker, lizard fish
260 mm	Bluish	Cuttle & squid
3000 mm	Dark blue	Ribbon fish & squid
4000 mm	Dark blue	Ribbon fish & squid

Table 4: Species composition of different boats

Boat 1: Catch composition analysis

Scientific Name	Common Name	Local Name	Weight
<i>Lepturacanthus savala</i>	Silver Ribbon fish	Baga	500
<i>Priacanthus hamrus</i>	Bulls eye	Dola	400
<i>Loligo duvaceli</i>	Squid	Narsinga	20
<i>Sepiellainermis</i>	Spineless cuttle fish	Goti	200
<i>Nemipterus japonicas</i>	Thread fin bream	Rani fish	300
<i>Solencera crassicornis</i>	Coastal mud prawn	Lalkolmi	10

Boat 2: Catch composition analysis

Scientific Name	Common Name	Local Name	Weight
<i>Epinephalustavina</i>	Grouper	vekhlu	50
<i>Charybdis cruciata</i>	Cross crab	Lalkarachalo	20
<i>Lepturacanthus savala</i>	Silver ribbon fish	Baga	400
<i>Rastrelliger kanagurta</i>	Indian mackerel	Malbari bangdi	300
<i>Perapeaeopsis stylifera</i>	Kiddy prawn	Tiny	15
<i>Loligo duvaceli</i>	Squid	Narsinga	20

Boat 3: Catch composition analysis

Scientific Name	Common Name	Local Name	Weight
<i>Scomberomorus guttatus</i>	Streaked seer fish	Chapri	20
<i>Scomberomorus commersonii</i>	Barred seer fish	Surmai	200
<i>Rastrilliger kanagurta</i>	Indian mackerel	Bangada	200
<i>Euthynnu affinis</i>	Little tuna	Gedara	50

Boat 4: Catch composition analysis

Scientific Name	Common Name	Local Name	Weight
<i>Rastrelliger kanagurta</i>	Indian mackerel	Malbaribangri	200
<i>Loligo duvaceli</i>	Squid	Narsinga	20
<i>Scomberomorus commerson</i>	Barred seer fish	Surmai	150
<i>Scomberomorus guttatus</i>	Spotted seer fish	Chapri	30
<i>Thannus tonggol</i>	Long tail tuna	Serva	80

Boat 5: Catch composition analysis

Scientific Name	Common Name	Local Name	Weight
<i>Epinephalus tauvina</i>	Grouper	vekhlu	50
<i>Sepiellainermis</i>	Spineless cuttle fish	Goti	200
<i>Lepturacanthus savala</i>	Silver ribbon fish	Baga	400
<i>Rastrelliger kanagurta</i>	Indian mackerel	Malbari bangdi	300
<i>Perapeaeopsis stylifera</i>	Kiddy prawn	Tiny	150
<i>Loligo duvaceli</i>	Squid	Narsinga	20



Fig 1: Catch composition

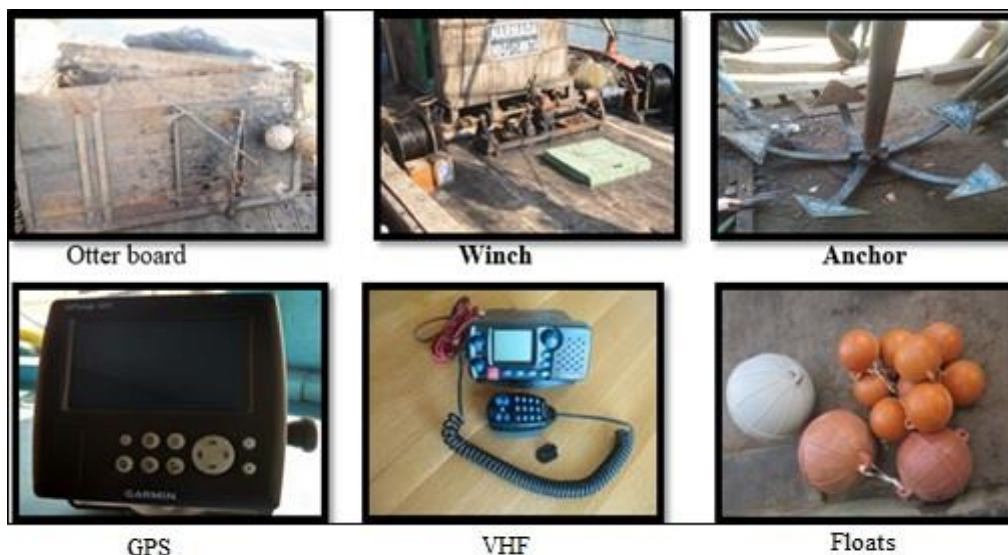


Fig 2: Accessories

Conclusion

Generally Trawler with 30-35 ton capacity (40-45 ft length) are used for fishing by the fishermen of Veraval harbors. They used trawl net with 40 mm mesh size. Mostly they caught Bull’s eye, Coastal mud prawn, squid, Cuttle fish and Silver ribbon fish, Kiddy prawn, Grouper, Cross crab and Indian mackerel by doing fishing from Veraval to Maharashtra.

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