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Fishery Resources Assessment Division
ICAR - Central Marine Fisheries Research Institute
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Dr. A. Gopalakrishnan
Director
ICAR- Central Marine Fisheries Research Institute
P.B. No. 1603, Ernakulam North P.O.
Kochi - 682 018, Kerala, India

www.cmfri.org.in
E-mail : director@cmfri.org.in

Prepared by

Fishery Resources Assessment Division
CMFRI, Kochi

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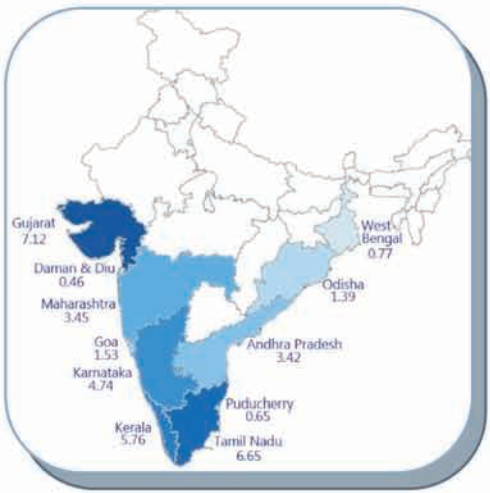
Fisheries sector plays an important role in Indian economy contributing nearly 1% to the nation's GDP. The marine fisheries sector provides livelihood to about 4 million fisherfolk population living in 8,65,000 households in 3,288 marine fishing villages in 9 maritime states and union territories of Puducherry and Daman & Diu. The Central Marine Fisheries Research Institute (CMFRI), Kochi has been monitoring the marine fish capture along the Indian coast for the past six decades by estimating the landings. Monitoring and assessment of exploited marine fishery resources of India is an important mandate of CMFRI. Towards this, the institute has developed a scientific sampling design for collection, classification and estimation of marine fish landings along with the fishing effort in terms of fishing units and hours of operation. The methodology which has been evolved over the years of research, divides the 1511 marine fish landing centres into homogeneous groups adding upto district level of the maritime states & U.Ts and estimates the month's landings based on sampled boats of all prevalent types. Every year 600 to 700 species are landed along the coastal waters of India. Over the years more than 1000 species have been reported to be landed, emphasizing the diversity of Indian marine resources. The data collected are centrally processed to arrive at species wise and gear wise estimates of landings for regions of different time-based and spatial resolution.

Spatial distribution

The marine fish landings from the main land of India shared by 9 maritime states and union territories of Puducherry and Daman & Diu for the year 2014 is estimated as 3.59 million tonnes, a decline of 5% compared to 2013.



Estimated Marine Fish Landings (tonnes) in India 2014

Pelagic finfish		Demersal finfish	
CLUPEIDS		ELASMOBRANCHS	
Wolf herring	20282	Sharks	22479
Oil sardine	544684	Skates	2471
Other sardines	206310	Rays	22334
Hilsa shad	5247	Eels	9544
Other shads	16578	Catfishes	68675
Anchovies		LIZARD FISHES	54202
Coilia	29751	PERCHES	
Setipinna	4850	Rock cods	32144
Stolephorus	57893	Snappers	8283
Thryssa	51051	Pig-face breams	13968
Other clupeids	69987	Threadfin breams	136931
BOMBAYDUCK	112646	Other perches	55037
HALF BEAKS & FULL BEAKS	6552	GOATFISHES	22085
FLYING FISHES	4004	THREADFINS	9499
RIBBON FISHES	209405	CROAKERS	161864
CARANGIDS		SILVERBELLIES	124535
Horse Mackerel	37822	BIG-JAWED JUMPER	6921
Scads	86172	POMFRETS	
Leather-jackets	15240	Black pomfret	18131
Other carangids	70935	Silver pomfret	30191
MACKERELS		Chinese pomfret	1870
Indian mackerel	237056	FLAT FISHES	
Other mackerels	375	Halibut	1784
SEER FISHES		Flounders	244
Scomberomorus commersoni	31412	Soles	51088
Scomberomorus guttatus	17684	**Crustaceans**	
Scomberomorus lineolatus	12	Penaeid prawns	205602
Acanthocybium spp.	101	Non-penaeid prawns	183405
TUNNIES		Lobsters	1568
Euthynnus affinis	36894	Crabs	46061
Auxis spp.	10991	Stomatopods	24266
Katsuwonus pelamis	11124	**Molluscs**	
Thunnus tonggol	9937	Mussels, Oysters and Clams	134235#
Thunnus albacares	16922	Other Bivalves	3828
Other tunnies	2973	Gastropods	1951
		Cephalopods	
BILL FISHES	9234	Squids	83223
BARRACUDAS	19609	Cuttlefish	84081
MULLETS	6792	Octopus	5909
UNICORN COD	395	**Others**	
		Seaweeds	18890 #
		MISCELLANEOUS	137759
		Total	**3745978**

The estimates are based on an alternate method and are excluded from the comparisons made. The comparisons are based on the total landings of **3592853** tonnes (3745978-153125=3592853).

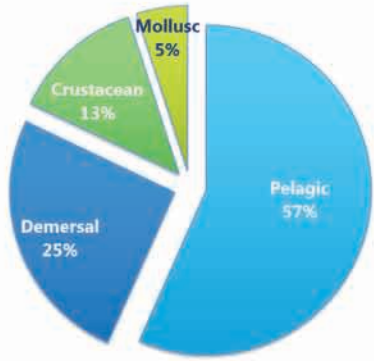
Landings from the west coast was 64% of the total landings and the remaining 36% was from east coast. Southwest coast accounted for 33.5% of the landings, northwest coast 30.7%, southeast coast 29.8% and northeast coast only 6%.

Region 2014	
Southwest	33.5%
Northwest	30.7%
Southeast	29.8%
Northeast	6.0%

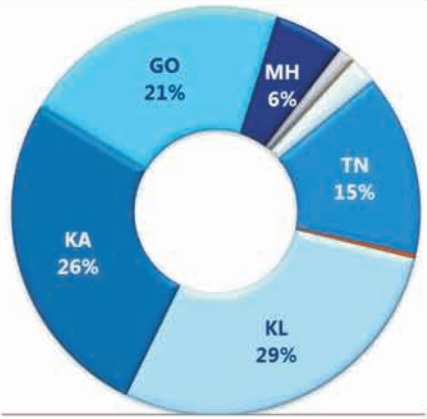
Among the coastal states maximum contribution towards total landings in 2014 was from Gujarat (19.8%) followed by Tamil Nadu (18.5%) and Kerala (16.0%) whereas the minimum contribution was from West Bengal (2.1%). Landings in Gujarat, Tamil Nadu, Kerala, Maharashtra, West Bengal and Daman & Diu were less than that in 2013 where as Karnataka, Andhra Pradesh, Goa and Odisha had increased landings. The major trend turning dip is in West Bengal where the marine fish landings reduced by nearly 1.85 lakh tonnes, 71% reduction compared to 2013 landings. One of the reasons attributed to reduced landings in West Bengal is due to considerable reduction in the operation of mechanized fishing crafts due to non-profitability. The mechanized sector of West Bengal had traditionally been targeting the high-value hilsa shad and hence the marked drop in their activity has resulted steep decline (87%) in landings of this resource. In Kerala, the reduction in landings can be attributed to the decreased landings of oil sardine.

Resource Profile

All the four assemblage groups, namely pelagic, demersal, crustacean and molluscan landings in 2014 was less compared to 2013. Pelagic fishes are those living predominantly in the upper layer of the sea which include oil sardine, mackerel, ribbon fish, tuna etc. and contributed 57% to the total landings. Demersal finfishes are those found usually at deeper layers of the sea and 25% of the total landings in 2014 was by this assemblage group. Prominent demersal fishes in Indian waters are croakers, threadfin breams, silverbellies and catfish. Crustaceans include high value resources like prawns, crabs and lobsters and the contribution from this assemblage group to the total landings was 13%. Molluscs include squids, cuttlefish, clams and oysters which accounted for the remaining 5% in the landings.



Oil sardine— State-wise contribution



KL	Kerala	GO	Goa
KA	Karnataka	MH	Maharashtra
TN	Tamil Nadu		

Oil sardine continued to be the major resource with estimated landings of 5.45 lakh tonnes (15.2%) though landings reduced by 9% compared to 2013. For the first time this resource was found significantly landed, which may signal imminent fisheries in almost all maritime states, southern states being the major contributors.

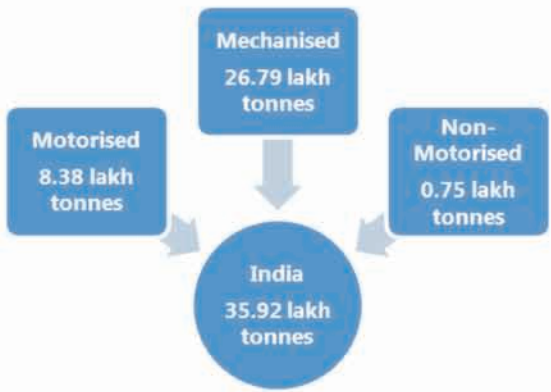
Some of the other resources, which contributed significantly towards total landings in 2014 were Indian mackerel 2.37 lakh tonnes, carangids 2.10 lakh tonnes, ribbonfish 2.09 lakh tonnes, penaeid prawns 2.06 lakh tonnes, lesser sardines 2.06 lakh tonnes, non-penaeid prawns 1.83 lakh tonnes, cephalopods 1.73 lakh tonnes and croakers 1.62 lakh tonnes. Among these marine fishery resources oil sardine, ribbon fish, carangids, non-penaeid prawns, cephalopods and croakers showed decreased landings. Indian mackerel, penaeid prawns and lesser sardines had increased landings compared to 2013.

Major resources landed and percentage of maximum contributing state

Oil sardine	5.45	Kerala	28%
Indian mackerel	2.37	Karnataka	29%
Perches	2.46	Gujarat	25%
Carangids	2.10	Kerala	26%
Ribbonfishes	2.09	Gujarat	48%
Penaeid prawns	2.06	Kerala	19%
Other sardines	2.06	Tamil Nadu	54%
Non-penaeid prawns	1.83	Gujarat	58%
Cephalopods	1.73	Gujarat	33%
Croakers	1.62	Gujarat	34%

Sectoral pattern

The marine fishery resources from the Indian seas are harvested using more than 35 different types of craft gear combinations. Among the different gears operated along the Indian coast, trawlnets accounted for nearly half of the landings. Among the three different categories of crafts used namely mechanised, motorised and non-motorised, the contribution from mechanised sector was 75%, whereas contribution from motorised sector was 23% and that from artisanal sector was 2%.



Mechanised multi-day trawlers accounted for nearly 13.74 lakh tonnes (38.2%) landings followed by 4.48 lakh tonnes (12.5%) by single day trawlers, 3.46 lakh tonnes (9.6%) by outboard ring seines, 3.28 lakh tonnes (9.1%) by outboard gillnetters and 3.07 lakh tonnes (8.6%) by mechanised dolnetters. Compared to the landings in 2013 there was 39% increase in landings by outboard ring seines and 12% increase in landings by outboard gillnets whereas mechanised ring seines and mechanised gillnetters showed decrease in landings to the tune of 54% and 48% respectively.

Among the major gears mechanised ring seines had the highest catch rate of 822 (kg per hour of fishing) though there was a 25% reduction compared to 2013. The catch rates of multi-day and single day trawlers are 43 kg/h and 64 kg/h respectively and there is not much difference in the catch rates of these gears as compared to 2013.

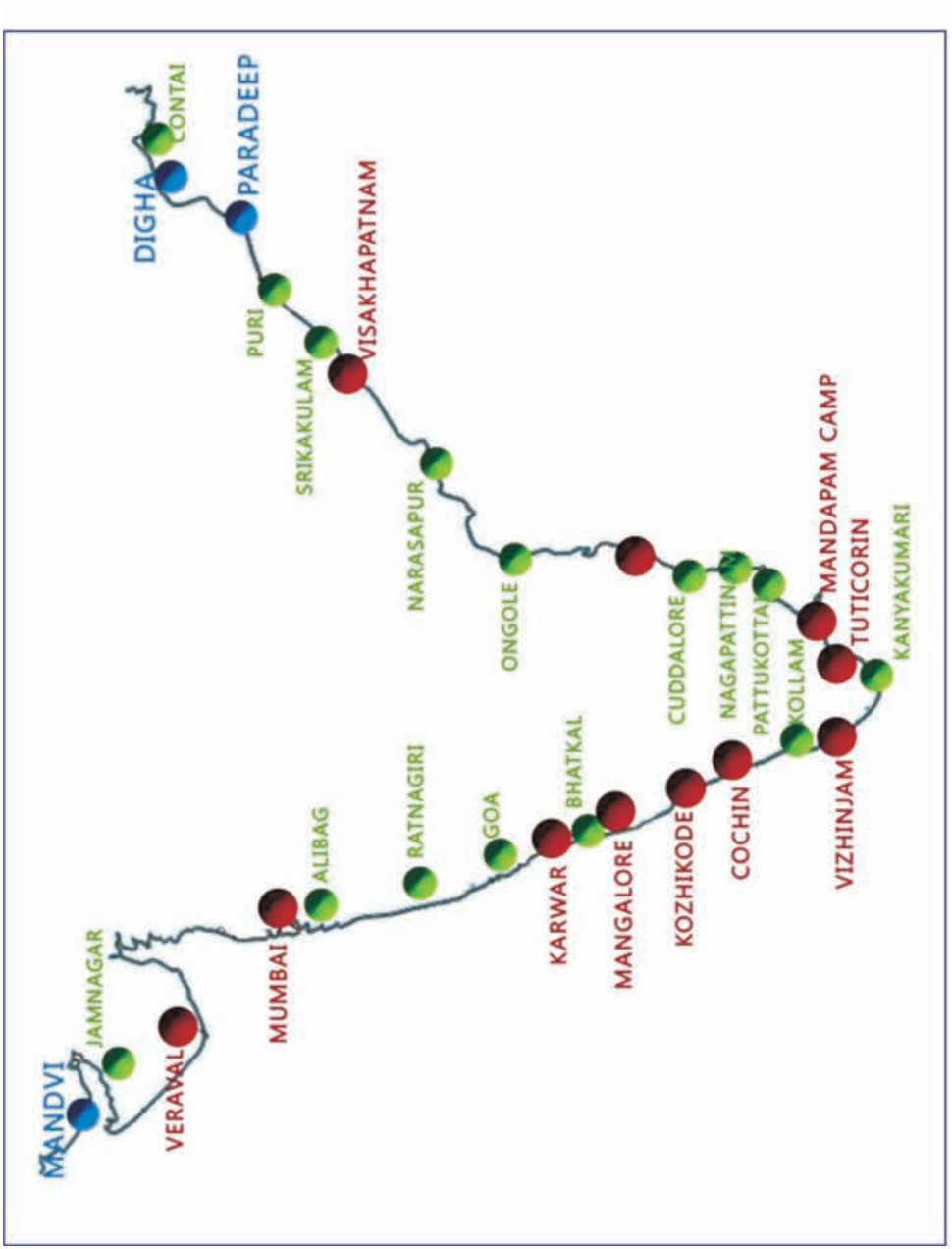
Valuation of fish landings

The value of marine fish landings during 2014 at landing centre level was ₹ 31,754 crores. At the retail level, the estimated value is ₹ 52,363 crores registering an increase of 12.1 percent over the year 2013. Amidst being third in the fish landings in the country the state of Kerala has the highest realization of prices at the landing center and retail centers registering a growth of 18.28 percent and 19.38 percent respectively over 2013.

Valuation of fish landings across states (₹ in crores)

State	Landing Centre Valuation		Retail Centre Valuation	
	2013	2014	2013	2014
Kerala	5690	6732	8980	10721
Gujarat	5320	5720	8850	9632
Tamil Nadu	3530	4510	6410	7780
Karnataka	2490	3422	4550	6260
Odisha	3340	3420	4110	4450
Maharashtra	3020	3180	5130	5470
Andhra Pradesh	2180	2290	3480	3820
West Bengal	2980	1000	4100	1160
Goa	720	820	950	1920
Daman Diu	550	550	NA	890
Puducherry	100	110	150	260

Data Collection Network of CMFRI



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www.cmfri.org.in, E-mail : director@cmfri.org.in