



सत्यमेव जयते

वार्षिक रिपोर्ट

ANNUAL REPORT

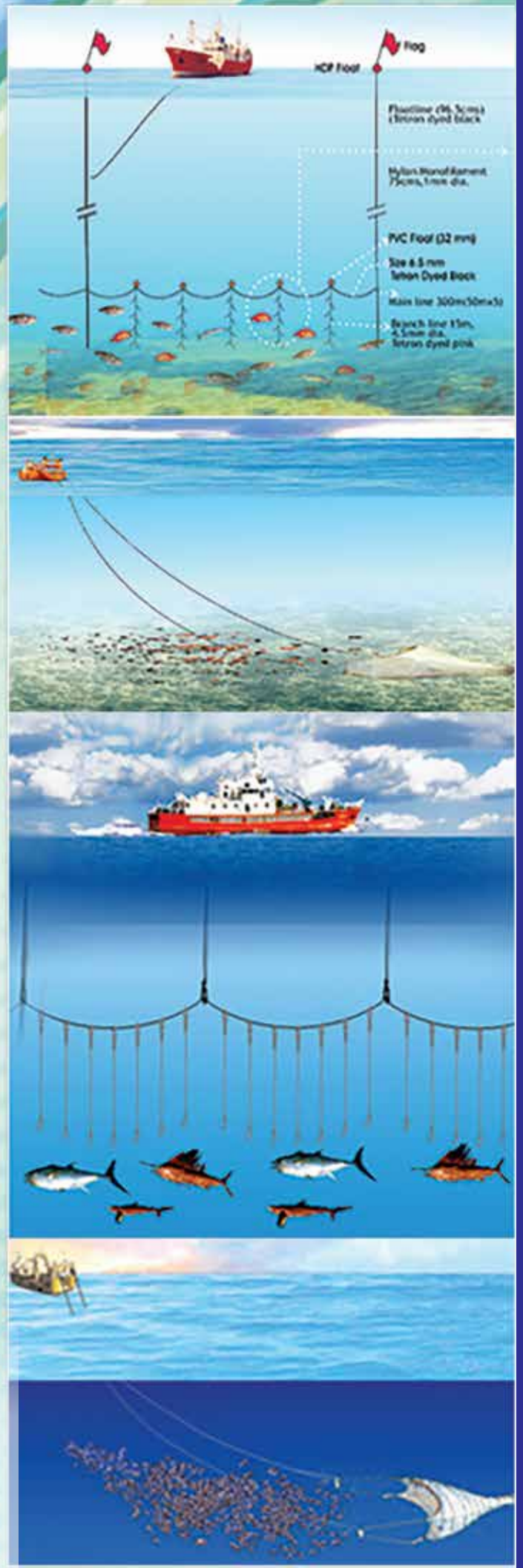
2017-18



भारतीय मात्स्यिकी सर्वेक्षण
पशुपालन, डेरी एवं मात्स्यिकी विभाग
कृषि एवं किसान कल्याण मंत्रालय

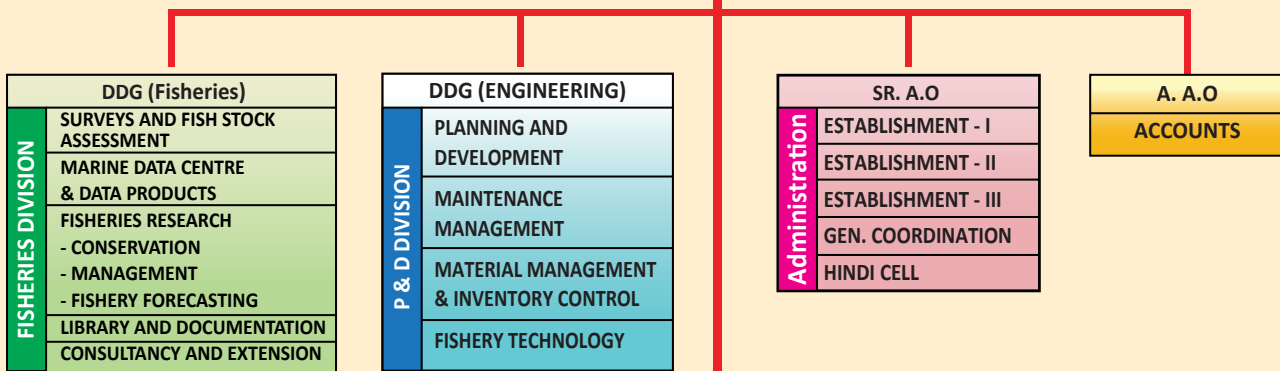
FISHERY SURVEY OF INDIA

Department of Animal Husbandry, Dairying & Fisheries
Ministry of Agriculture & Farmers' Welfare



ORGANIZATIONAL STRUCTURE

DIRECTOR GENERAL



Zonal Director

Operational Bases

OPERATION & MANAGEMENT

FISHING GEAR SECTION

ADMINISTRATION ACCOUNTS & STORES

WORKSHOP & ENGINEERING

FISHERIES LABORATORY

Porbandar#

Mumbai

Mormugao

Cochin*

Chennai

Visakhapatnam

Port Blair

Base is currently non-operational

* A Marine engineering division with Slipway Complex and workshop is attached to the Base

Department of Animal Husbandry, Dairying & Fisheries
 Ministry of Agriculture and Farmers Welfare
 Government of India
 Krishi Bhawan, New Delhi, India-110 001.

Website www.dadf.gov.in & <http://dahd.nic.in>

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From the Director General's Desk



Dr. L. Ramalingam

The Fishery Survey of India (FSI) is the nodal fisheries Institute of the Government of India under the aegis of Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture & Farmers' Welfare responsible for carrying out the Survey, Assessment and Monitoring of Marine Fishery resources of the Indian EEZ and to generate vital information for sustainable exploration of Marine Fishery resources. Besides implementation of the regular survey projects, the FSI also carried out diversified fishing methods including experimental fishing on mesh selectivity and comparative studies to understand efficiency of the fishing gears.

The FSI play a key role in popularization of modern fishing methods in the maritime states. This Annual Report present the highlights of ongoing survey-cum-research and allied activities accomplished during the year 2017-18. While accomplishing this task, the Institute disseminating the survey results, regional workshops, open houses and Marine Fisheries exhibitions in all the maritime states including Andaman & Nicobar Islands were conducted for the benefit of the fishers, fishing industry and other user groups. The Resources Information Series (RIS), a quarterly publication is published from all the operational Bases of FSI in English, Hindi and regional language of the respective maritime state where the Base is located.

Under the Inter-institutional Project on "Satellite Telemetry Studies on Migration Pattern of Tunas in Indian Seas" funded by INCOIS, tuna tagging experiments were conducted, wherein, 8 live tunas were tagged and released to its habitat. The project on "Remote Sensing and GIS for Ecosystem based Marine Living Resources Management" and the project "Identification, forecasting & monitoring of potential fishing zone for Tamil Nadu coastal offshore waters (SAMUDRA)" funded by SAC-ISRO are also being implemented by the institute.

As part of the capacity building programme on tuna longlining, about 37 fishermen sponsored by the Department of Fisheries, Tamil Nadu state were trained in association with CIFNET, Kochi and the training was funded by NFDB, Hyderabad. In collaboration

with the Directorate of Fisheries, Andaman & Nicobar Administration under the programme Blue Revolution/UT plan/Rashtriya Krishi Vigyan Yojana, 27 local fishermen including the tribals and Fisheries Inspector were taken on-board the vessel MFV Blue Marlin and they were trained on modern fishing techniques and electronic gadgets for safety at sea. The institute provides practical training to the CIFNET students onboard survey vessels of FSI for acquiring sea service.

During the year under report, FSI has successfully implemented and observed Swachhata Abhiyan by involving the officers and officials of the Institute for cleaning of office premises and nearby fishing harbours / landing centres. Vigilance Awareness Week was observed in order to create awareness among the employees of the institute to bring the transparency in the official work. Hindi Pakhwada was celebrated to create an atmosphere to work in Hindi and also Hindi workshops were conducted to update the knowledge in Hindi for day to day official work.

During the year the fleet of 11 vessels of the institute collectively achieved 964 days out at sea expending fishing effort of 1432 hours and 178665 hooks. Fish catch harvested during the survey was 49.84 tonnes, realizing a revenue of ₹ 17.18 lakhs towards the sale proceeds. The budget grant of the Institute for the year 2017-18 was ₹ 53.20 Crores and the expenditure was ₹ 51.07 Crores.

FSI is committed to serve the nation and its countrymen especially the fisherfolk and stake holders of marine fishing industry to achieve “Blue Revolution” “Neel Kranti”.



(Dr. L. Ramalingam)
Dy. Director General (Fy./
Director General (IC)

MANDATE

The Fishery Survey of India, Mumbai, under the Ministry of Agriculture and Farmers' Welfare, Department of Animal Husbandry, Dairying and Fisheries is the nodal agency for carrying out the survey, assessment and monitoring of the marine fishery resources of the Indian EEZ within the framework of a well defined mandate. The mandate of the Institute is tuned from time to time to match the developmental activities of the fisheries sector as well as to meet the national and global requirements. The mandate of the institute is given below:

- † Exploratory surveys, charting of fishing grounds, assessment of fish stocks in the Indian EEZ and adjoining high seas and research thereof besides the specific surveys on request from the States and the Union Territories.
- † Data collection and periodic re-validation of potential of fishery resources to provide advice on Fishery management issues enshrined in the national, regional and global conventions and agreements and other associated activities.
- † Monitoring survey of fishery resources in the exploited areas including coral reefs, application of Monitoring, Control and Surveillance (MCS) for regulating fishing activities and promoting Code of Conduct for Responsible Fisheries (CCRF) in the Indian EEZ.
- † Maintain Data Bank and disseminate information on fishery resources to the end - users and act as an interface between the State/UTs and the Ministry of Agriculture and Farmers' Welfare, Government of India for Marine and Inland fish production and related aspects.
- † Assessment of suitability of fishing gear, accessories and equipment with special reference to the preservation of environment and ecology of marine habitat.
- † Fish stock identification and biodiversity studies including application of genetic tools and techniques.
- † Marine Fisheries forecasting including application of Remote Sensing for the benefit of Artisanal, Mechanized and Industrial sectors.
- † Human Resources Development through the practical training of fishing operatives, fishermen, fisheries officials and students.

3. OPERATIONAL BASES AND SURVEY VESSELS

The survey fleet of the Institute comprised of 11 vessels. Details of these survey vessels and their major specifications are furnished below:



MFV Matsya Vrushti

OAL (m)	:	37.5
GRT (t)	:	465
BHP	:	1100
TYPE	:	Monofilament Longliner
YEAR	:	2005
BUILT	:	China
Operational Base	:	Mumbai (Maharashtra)



MFV Matsya Nireekshani

OAL (m)	:	40.5
GRT (t)	:	329.3
BHP	:	2030
TYPE	:	Stern trawler
YEAR	:	1978
BUILT	:	Holland
Operational Base	:	Mumbai (Maharashtra)



MFV Yellowfin

OAL (m)	:	35.7
GRT (t)	:	310
BHP	:	800
TYPE	:	Tuna Longliner
YEAR	:	1989
BUILT	:	Japan
Operational Base	:	Mormugao (Goa)



MFV Sagarika

OAL (m)	:	28.8
GRT (t)	:	189
BHP	:	650
TYPE	:	Stern Trawler
YEAR	:	1994
BUILT	:	Japan
Operational Base	:	Mormugao (Goa)

***MFV Matsya Varshini***

OAL (m)	: 36.5
GRT (t)	: 268.5
BHP	: 1160
TYPE	: Trawler-cum-purse-seiner
YEAR	: 1980
BUILT	: Denmark
Operational Base	: Cochin (Kerala)

***MFV Lavanika***

OAL (m)	: 24
GRT (t)	: 151
BHP	: 500
TYPE	: Stern trawler
YEAR	: 1995
BUILT	: India
Operational Base	: Cochin (Kerala)

***MFV Matsya Drushti***

OAL (m)	: 37.5
GRT (t)	: 465
BHP	: 1100
TYPE	: Monofilament Longliner
YEAR	: 2005
BUILT	: China
Operational Base	: Chennai (Tamilnadu)

***MFV Samudrika***

OAL (m)	: 28.8
GRT (t)	: 189
BHP	: 650
TYPE	: Stern Trawler
YEAR	: 1994
BUILT	: Japan
Operational Base	: Chennai (Tamilnadu)



MFV Matsya Shikari

OAL (m) : 39.8
GRT (t) : 352.4
BHP : 1740
TYPE : Stern Trawler
YEAR : 1979
BUILT : Holland
Operational Base : Visakhapatnam (Andhra Pradesh)



MFV Matsya Darshini

OAL (m) : 36.5
GRT (t) : 268.8
BHP : 1160
TYPE : Trawler-cum-purse-seiner
YEAR : 1980
BUILT : Denmark
Operational Base : Visakhapatnam (Andhra Pradesh)



MFV Blue Marlin

OAL (m) : 35.7
GRT (t) : 310
BHP : 800
TYPE : Tuna Longliner
YEAR : 1989
BUILT : Japan
Operational Base : Port Blair (A&N Islands)



4. MARINE FISHERY RESOURCES SURVEY, ASSESSMENT & RESEARCH PROJECTS

4.1 DEMERSAL AND PELAGIC RESOURCES SURVEY AND MONITORING WEST COAST

Project 1 Demersal fishery resources survey, assessment and monitoring of fish stocks along South-Maharashtra, Goa, Karnataka and North Kerala coast between latitude 12°N and 18°N.

Project components

1. Exploratory survey of demersal resources in 100-300 m depth.
2. Monitoring survey of demersal resources using fish trawl in 30-100 m depth.

Gear

- 27 m fish trawl
- 30 m shrimp trawl

Vessel *MFV Sagarika*

Base Mormugao

Project Co-ordinator Shri S. K. Jaiswal, Mechanical Marine Engineer

Project Leader Shri S. G. Patwari, Jr. Fisheries Scientist

Results

A. Catch per unit effort (kg/hr)

Latitude (°N)	Gear/ Depth zone (m)	
	Fish trawl	
	30-50	50-100
12	14.93	06.00
13	23.50	-
14	19.85	16.61
15	19.40	23.06
16	17.74	109.84
17	20.25	105.85
18 *	14.33	13.33
19 *	52.83	5.67

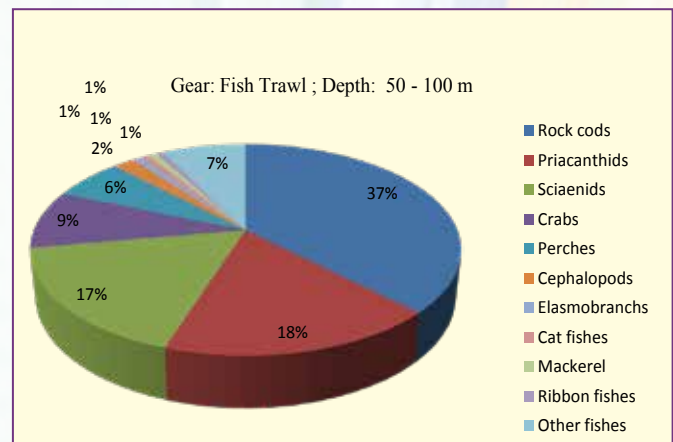
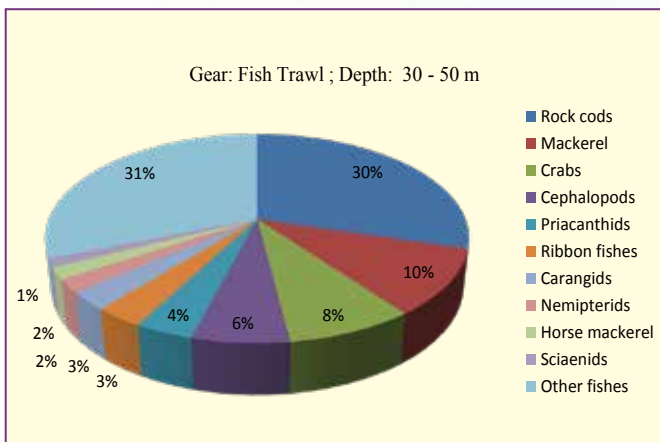
* Area Lat 18°N & 19°N were operated under the project "Time Series Oceanographic Observation off Mumbai."

B. Catch Composition (%)

Species/ Group	Gear/ Depth zone (m)	
	Fish trawl	
	30-50	50-100
Elasmobranchs	0.89	0.85
Cat fishes	0.62	0.74
Clupeoids	0.37	0.04
Lizard fishes	0.88	0.18
Priacanthids	3.78	17.66
Nemipterids	2.08	0.24
Perches	-	6.33
Sciaenids	1.33	17.23
Barracuda	1.02	0.57
Pomfrets	0.03	-

Species/ Group	Gear/ Depth zone (m)	
	Fish trawl	
	30-50	50-100
Carangids	2.77	0.20
Horse mackerel	1.80	0.36
Decapterids	0.97	0.60
Ribbon fishes	3.17	0.69
Mackerel	10.16	0.70
Seer fishes	0.34	0.09
Shrimps	0.06	-
Crabs	8.24	8.94
Cephalopods	6.26	1.94
Rock cods	29.50	37.46
Other fishes	25.72	5.24

Gear-wise and depth-wise catch composition of top 10 species for *MFV Sagarika*



C. Salient observations

- The highest catch rate of 109.84 kg/hr was recorded from 50-100 m depth zone in Lat. 16°N.
- Rock cods (29.50%), mackerel (10.16%), swarming crabs (8.94%), cephalopods (6.26%), priacanthids (3.78%), ribbon fishes (3.17%), carangids (2.77%), nemipterids (2.08), horse mackerel (1.80%) and sciaenids (1.33%) were the major components of the catch in 30- 50 m depth zone.
- Rock cods (37.46%), priacanthids (17.66%), sciaenids (17.23%), swarming crabs (8.94%), perches (6.33%), cephalopods (1.94%), elasmobranchs (0.85%), cat fishes (0.74%), mackerel (0.70%) and ribbon fishes (0.69%) were dominant in the catches from 50-100 m depth zone.

D. Biological studies

Total of 4226 specimens belonging to 29 species were examined for Length frequency studies and biological data of 2090 specimens belonging to 27 species were collected during the year.

E. Biomass estimation

Area : Lat. 12°N – 19°N

(in tonnes)

Species/Group	Depth zone (m)	
	30-50	50-100
Elasmobranchs	99	927
Cat fishes	69	800
Clupeoids	41	44
Lizard fishes	98	200
Priacanthids	420	19178
Nemipterids	231	256
Perches	-	6873
Sciaenids	147	18712
Barracuda	114	619
Pomfret	3	-

(in tonnes)

Species/Group	Depth zone (m)	
	30-50	50-100
Carangids	308	222
Horse mackerel	200	390
Decapterids	107	647
Ribbon fishes	352	751
Mackerel	1128	756
Seer fishes	38	98
Shrimps	6	-
Crabs	915	9711
Cephalopods	696	2106
Rock cods	3275	40689
Other fishes	2856	5689

Project 2**Demersal fishery resources survey, assessment and monitoring along South - West coast, Wadge Bank and Gulf of Mannar between latitude 7°N and 11°N.**

- Project components
1. Demersal resources survey in the South - West coast, Quilon Bank, Wadge Bank and Gulf of Mannar between Lat. 7°N and 11°N in 100-500 m depth.
 2. Monitoring survey of demersal resources using fish trawl in 30-100 m depth.
 3. Exploration of shellfish resources in 30-500 m depth.

- Gear
- Expo model fish trawl
 - 47 m shrimp trawl

Vessel *MFV Matsya Varshini*

Base Cochin

Project Co-ordinator Shri D. K. Gulati, Zonal Director

Project Leader Dr. S. Ramachandran, Sr. Fisheries Scientist

Results**A. Catch per unit effort (kg/hr)**

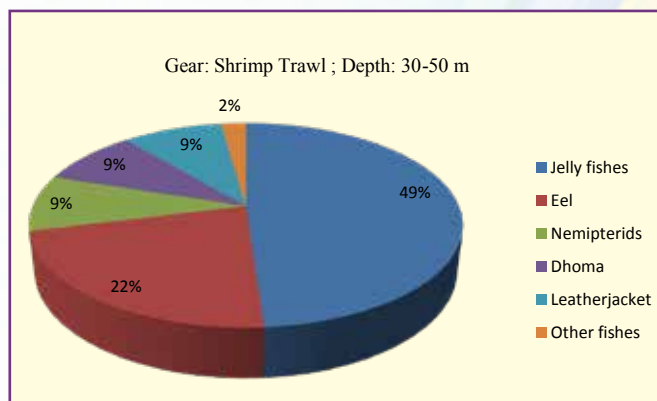
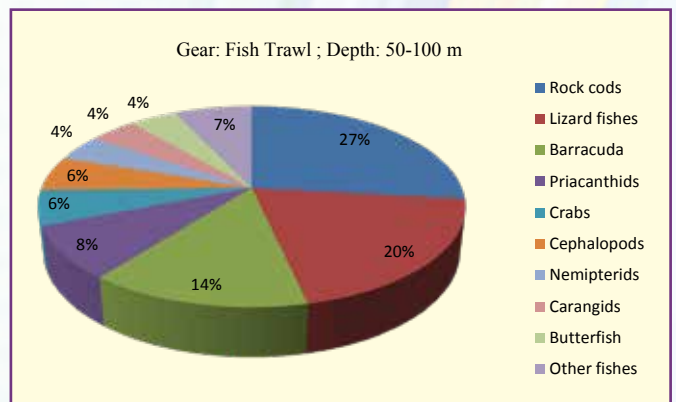
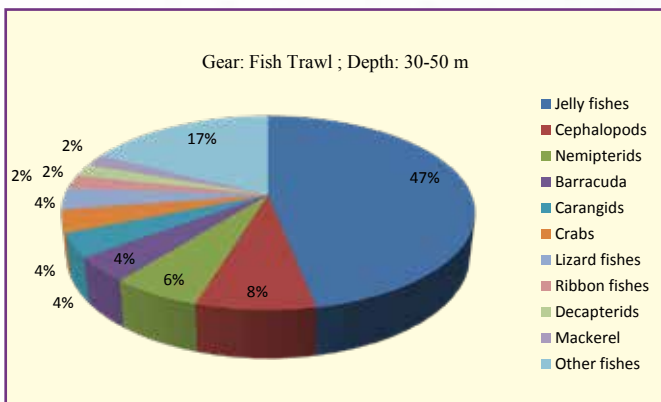
Latitude (°N)	Gear/ Depth zone (m)		
	Fish trawl		Shrimp trawl
	30-50	50-100	30-50
9	29.64	5.92	1.3
10	52.7	-	-

B. Catch Composition (%)

Species/Group	Gear/ Depth zone (m)		
	Fish trawl		Shrimp trawl
	30-50	50-100	30-50
Elasmobranchs	0.01	-	-
Eel	0.28	-	22.22
Anchovies	0.10	-	-
Lesser Sardine	0.04	-	-
Other Clupeoids	0.32	-	-
Lizard fishes	3.63	19.72	-
Priacanthids	1.27	8.45	-
Nemipterids	5.95	4.23	8.89
Rock cods	0.84	26.76	-
Upenoids	0.26	-	-
Sciaenids	0.01	-	-
Dhoma	0.19	-	8.89
Silverbellies	0.35	-	-
Lactarius	0.06	-	-
Barracuda	4.17	14.08	-
Pomfret	0.20	-	-
Carangids	3.93	4.23	-

Species/Group	Gear/ Depth zone (m)		
	Fish trawl		Shrimp trawl
	30-50	50-100	30-50
Horse mackerel	1.09	-	-
Decapterids	2.08	-	-
Leatherjacket	0.30	-	8.89
Ribbon fishes	2.29	-	-
Mackerel	1.95	-	-
Seer fishes	1.29	-	-
Gerrids	0.01	-	-
Moon fishes	0.03	-	-
Shrimps	0.03	-	-
Crabs	3.74	5.63	-
Cephalopods	7.85	5.63	-
Jelly fishes	46.89	-	48.89
Puffer fishes	0.86	-	-
Indian ruff	0.15	-	-
Butter fish	-	4.23	-
Other fishes	9.84	7.04	2.22

Gear-wise and depth-wise catch composition of top 10 species for MFV Matsya Varshini



C. Salient observations

- The highest catch rate of 52.7 kg/hr was recorded in the depth zone of 30-50 m in Lat. 10°N by fish trawl.
- Non-conventional fishery resource like Jelly fish was the dominant group in the catch from 30-50 m depth range during monsoon months.
- Among the fin fish resources, Nemipterids, barracuda, lizard fish and rock cods were the dominating species in the demersal fishery resources of South-West coast.

D. Biological studies

Total of 6565 specimens from 25 species were studied for the stock status, reproductive success and trophic interactions. The length structure, maturity, fecundity, diet and other biological parameters of important species were also studied during the period under report.

E. Biomass estimation

Area : Lat. 9°N –10°N

(in tonnes)

Species/ Group	Depth zone (m)	
	30-50	50-100
Elasmobranchs	151	-
Eel	406	-
Anchovies	104	-
Lesser Sardine	47	-
Other Clupeoids	343	-
Lizard fishes	4169	837
Priacanthids	1478	359
Nemipterids	7236	179
Rock cods	910	1137
Upenoids	382	-
Sciaenids	10	-
Dhoma	687	-
Silverbellies	401	-
Lactarius	60	-
Barracuda	4935	598
Pomfret	217	-
Carangids	4612	179

(in tonnes)

Species/ Group	Depth zone (m)	
	30-50	50-100
Horse mackerel	1261	-
Decapterids	2251	-
Leatherjackets	370	-
Ribbon fishes	2478	-
Mackerel	2139	-
Seer fishes	1399	-
Gerrids	10	-
Moon fishes	31	-
Shrimps	36	-
Crabs	4257	239
Cephalopods	8874	-
Jelly fishes	62011	-
Puffer fishes	932	-
Sand lobster	10	-
Indian ruff	229	-
Butter fish	-	179
Other fishes	10881	299

EAST COAST

Project 3 **Demersal fishery resources survey, assessment and monitoring along South-East coast between latitude 10°N and 16°N.**

- Project components**
1. Exploratory survey of demersal resources using fish trawl in 100-300 m depth.
 2. Monitoring survey of demersal resources using fish trawl and shrimp trawl in 30-100 m depth.
 3. Exploratory survey of demersal resources using shrimp trawl in 30-300 m depth.
 4. Exploratory survey using cephalopod trawl in 30-300 m depth.

- Gear**
- 27.5 m fish trawl
 - 30 m shrimp trawl
 - 36.2 m cephalopod trawl

Vessel *MFV Samudrika*

Base Chennai

Project Co-ordinator Shri A. Tiburtius, Sr. Fisheries Scientist

Project Leader Shri J. E. Prabhakar Raj, Sr. Fisheries Scientist (April-May 2017) and Dr. A. John Chembian, Jr. Fisheries Scientist (June 2017 – March 2018)

Results

A. Catch per unit effort (kg/hr)

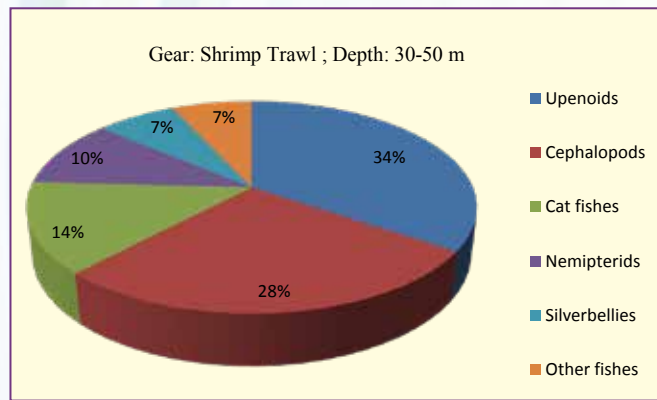
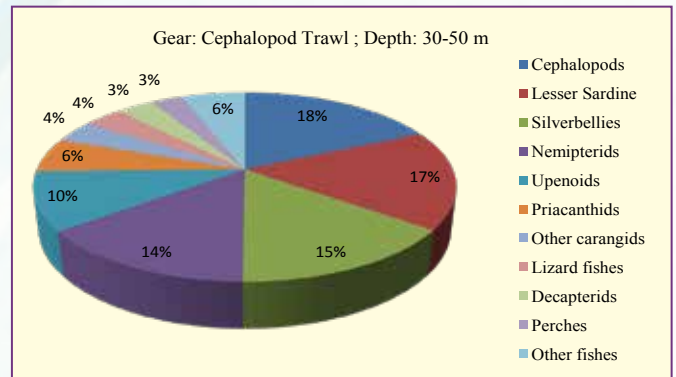
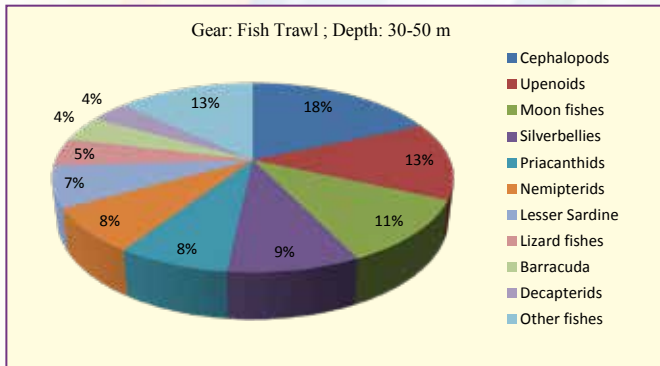
Latitude (°N)	Gear/ Depth zone (m)			
	Fish trawl		Cephalopod trawl	Shrimp trawl
	30-50	50-100	30-50	30-50
11	1.75	-	2.50	1.13
12	1.36	-	2.33	-
13	3.93	-	2.92	4.00
14	3.24	3.33	3.02	-
15	1.0	-	-	-

B. Catch Composition (%)

Species/ Group	Gear/ Depth zone (m)			
	Fish trawl		Cephalopod trawl	Shrimp trawl
	30-50	50-100	30-50	30-50
Elasmobranchs	1.20	-	1.34	-
Cat fishes	3.41	-	0.89	13.79
Lesser Sardine	7.01	-	17.00	-
Lizard fishes	4.81	-	3.58	-
Priacanthids	7.62	-	5.82	-
Nemipterids	7.62	-	14.54	10.34
Groupers	1.40	-	0.22	-
Perches	-	-	2.91	-
Upenoids	13.23	-	10.07	34.48
Silverbellies	9.02	-	14.99	6.90
Barracuda	4.41	100.00	-	-

Species/ Group	Gear/ Depth zone (m)			
	Fish trawl		Cephalopod trawl	Shrimp trawl
	30-50	50-100	30-50	30-50
Dagol	0.40	-	-	-
Horse Mackerel	-	-	1.57	-
Decapterids	3.61	-	3.36	-
King fishes	0.60	-	-	-
Other carangids	2.61	-	3.80	-
Ribbon fishes	1.00	-	-	-
Mackerel	1.80	-	0.45	-
Moon fishes	11.02	-	-	-
Cephalopods	18.44	-	18.12	27.59
Other fishes	0.80	-	1.34	6.90

Gear-wise and depth-wise catch composition of top 10 species for MFV Samudrika



C. Salient observations

- The highest catch rate of 4.00 kg/hr was recorded in 30-50 m depth zone in Lat 13°N by using shrimp trawl followed by 3.93 kg/hr by fish trawl.
- In the depth zone of 30-50 m the catch was dominated by Upenoids (34.48%) followed by cephalopods (27.59%) and cat fishes (13.79%) in the shrimp trawl, whereas in both fish trawl operations and cephalopod trawl operation, the catch was dominated by cephalopods (18.44%,18.12%) followed by upenoids (13.23%) and lesser sardine (17.00%) respectively.
- In 50-100 m depth zone Barracuda was the dominant species.

D. Biological studies

Total of 1657 nos. of specimens were measured for length frequency studies and the biological studies carried out for 541 Nos. of specimens belonging to 13 species during the period.

E. Biomass estimation

Area : Lat. 11°N –15°N

Species/Group	(in tonnes)	
	Depth zone (m)	
	30-100	
Elasmobranchs	1.0	
Cat fishes	32.6	
Lesser Sardine	12.1	
Lizard fishes	2.7	
Priacanthids	4.0	
Nemipterids	91.7	
Groupers	0.2	
Perches	2.0	
Upenoids	108.7	

Species/Group	(in tonnes)	
	Depth zone (m)	
	30-100	
Silverbellies	25.0	
Barracuda	0.1	
Horse Mackerel	1.1	
Decapterids	2.3	
Other carangids	2.7	
Mackerel	0.3	
Cephalopods	145	
Other fishes	19.0	

Project 4 Demersal fishery resources survey, assessment and monitoring along Upper East coast between latitude 16°N and 21°N.

- Project components
1. Exploratory survey of demersal resources using fish trawl in 100-200 m depth.
 2. Monitoring survey of demersal resources using fish trawl in 30-100 m depth.
 3. Exploratory survey using shrimp trawl in 30-200 m depth.
 4. Exploratory survey using resource specific gear in 30-100 m depth for Hilsa resources.
 5. Experiments for assessment of fishing gear efficiency.
 6. Mesh selectivity study with cod-end cover.

- Gear
- 34 m fish trawl
 - 34 m shrimp trawl
 - Resource specific fish trawl for Hilsa

Vessel *MFV Matsya Shikari*

Base Visakhapatnam

Project Co-ordinator Shri K. Govindaraj, Sr. Fisheries Scientist

Project Leader Dr. Annada Bhusan Kar, Fisheries Scientist

Results

A. Catch per unit effort (kg/hr)

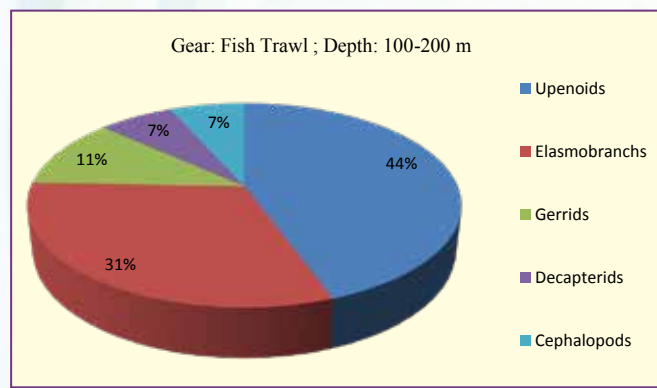
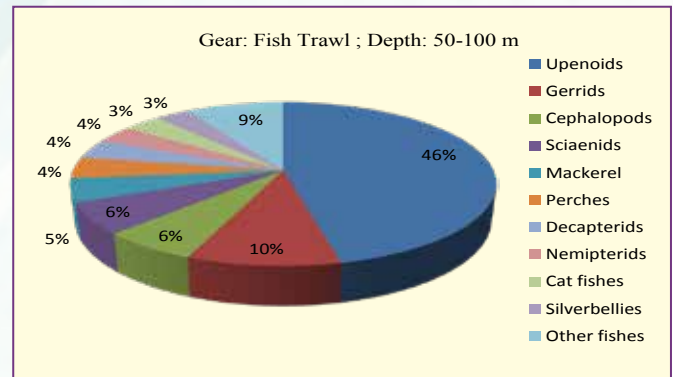
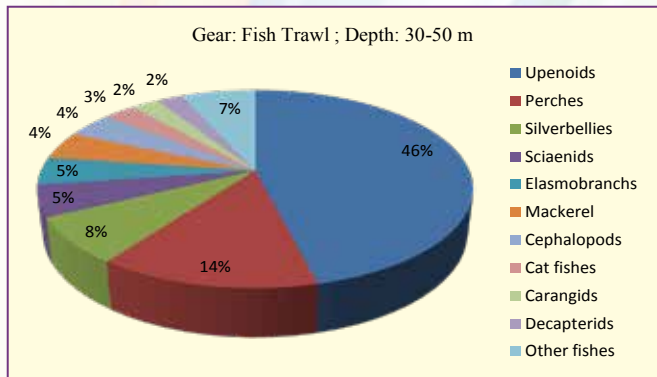
Latitude (°N)	Gear/ Depth zone (m)		
	Fish trawl		
	30-50	50-100	100-200
16	9.2	25.8	-
17	41.4	28.2	-
18	34.3	32.4	30.0

B. Catch Composition (%)

Species/Group	Gear/ Depth zone (m)		
	Fish trawl		
	30-50	50-100	100-200
Elasmobranchs	4.50	-	31.11
Cat fishes	2.84	3.35	-
Clupeoids	1.10	-	-
Anchovies	0.07	-	-
Lesser Sardine	1.17	0.51	-
Lizard fishes	1.43	0.87	-
Priacanthids	-	0.07	-
Nemipterids	0.50	3.50	-
Perches	13.81	4.23	-
Upenoids	45.96	46.28	44.44
Sciaenids	5.14	6.20	-
Silverbellies	7.54	3.06	-

Species/Group	Gear/ Depth zone (m)		
	Fish trawl		
	30-50	50-100	100-200
Flat fishes	0.10	0.36	-
Barracuda	0.17	0.22	-
Pomfret	0.13	0.07	-
Carangids	2.47	0.80	-
Horse mackerel	0.43	1.09	-
Decapterids	2.27	3.72	6.67
Ribbon fishes	0.73	2.26	-
Mackerel	4.48	4.66	-
Gerrids	0.57	9.99	11.11
Crabs	-	0.58	-
Cephalopods	4.07	6.27	6.67
Other fishes	0.17	1.90	-

Gear-wise and depth-wise catch composition of top 10 species for MFV Matsya Shikari



C. Salient observations

- The highest catch rate of 41.40 kg/hr was recorded in the depth zone of 30-50 m in the Lat 17°N by fish trawl.
- The species Upenoids, decapterids, gerrids and cephalopods were reported in all the depth zones during the year.
- 42 nos. of Olive Ridley sea turtles (*Lepidochelys olivacea*) were recorded with the male to female sex ratio of 1:2.8 during the month of January 2018.
- During month of February 2018, total of 2,630 kg of fish catch was recorded which was dominated by Goat fishes (44.2%) followed by saddle grunt (15.2%), pony fishes (6.2%), stingrays (4.2%), mackerels (4.1%) and squids (4.0%).
- Marine Pollution was reported in the trawl catch in the area Lat. 17° 13.4'N, Long. 82° 51.3'E and Lat. 17° 11.5'N and Long. 82° 48.5'E.

D. Biological studies

Total of 2875 specimens belonging to 20 species were examined for the length frequency studies, of which, 2078 specimens were investigated for biological studies.

Project 5 Demersal fishery resources survey, assessment and monitoring along the Upper-East coast between latitude 16°N and 21°N.

Project components	Survey of shrimp and demersal finfish resources using shrimp trawl and expo model fish trawl along the Upper East Coast between Lat. 16°N and 21°N in 30-200 m depth
Gear	<ul style="list-style-type: none"> ➤ 45.6 m expo model fish trawl ➤ 34 m shrimp trawl
Vessel	MFV Matsya Darshini
Base	Visakhapatnam
Project Co-ordinator	Shri K. Govindaraj, Sr. Fisheries Scientist
Project Leader	Shri N. Jagannadh, Jr. Fisheries Scientist

A. Results Catch per unit effort (kg/hr)

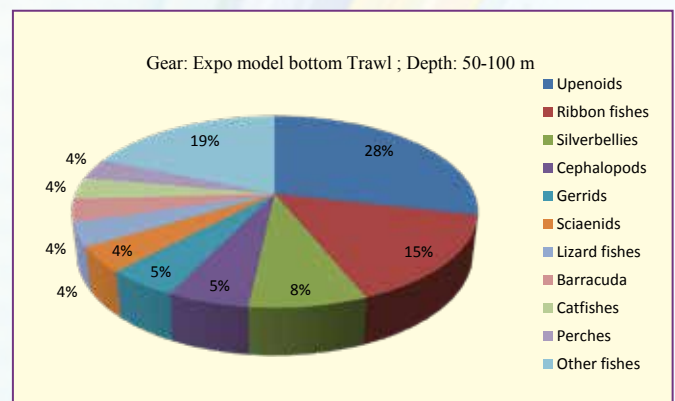
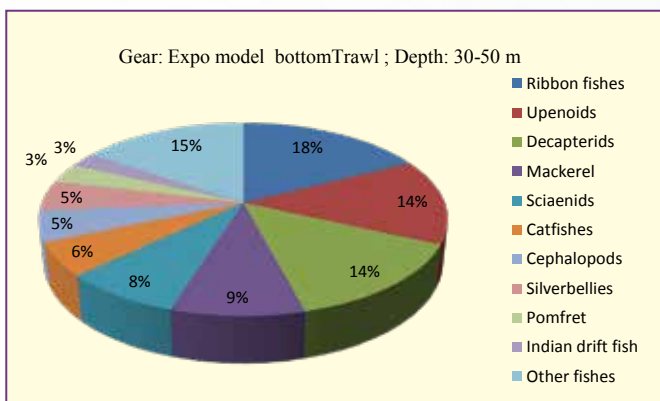
Latitude (°N)	Gear/ Depth zone (m)		
	Expo model bottom trawl		Shrimp trawl
	30-50	50-100	50-100
16	161.8	62.4	-
17	77.9	84.7	2.7
18	94.2	188.0	-

B. Catch Composition (%)

Species/Group	Gear/ Depth zone (m)		
	Expo model bottom trawl		Shrimp trawl
	30-50	50-100	50-100
Elasmobranchs	0.47	1.55	-
Eel	0.17	0.11	-
Cat fishes	5.60	3.61	-
Clupeoids	0.48	0.50	12.50
Chirocentrus spp.	0.04	0.02	-
Lizard fishes	2.22	3.95	-
Priacanthids	-	0.49	12.50
Nemipterids	1.01	1.85	-
Perches	1.60	3.54	25.00
Upenoids	14.34	28.52	25.00
Sciaenids	8.04	4.25	-
Silverbellies	5.09	7.91	-
Flat fishes	0.09	0.29	-
Indian drift fish	2.54	1.55	-

Species/Group	Gear/ Depth zone (m)		
	Expo model bottom trawl		Shrimp trawl
	30-50	50-100	50-100
Barracuda	2.39	3.92	-
Pomfret	3.23	2.07	-
Carangids	0.36	1.51	-
Horse mackerel	1.84	0.28	-
Decapterids	13.99	2.94	25.00
Ribbon fishes	17.50	15.29	-
Mackerel	9.02	2.84	-
Seer fishes	0.32	0.37	-
Gerrids	1.20	4.82	-
Crabs	1.62	0.37	-
Cephalopods	5.16	5.49	-
Other fishes	1.61	1.94	-

Gear-wise and depth-wise catch composition of top 10 species for MFV Matsya Darshini





C. Salient observations

- The highest catch rate of 188 kg/hr was recorded in the depth zone of 50-100 m in Lat 18°N followed by the catch rate of 161.8 kg/hr in the depth zone of 30-50 m in Lat.16°N by expo model bottom trawl.
- The species Decapterids, upenoids, perches and Clupeoids were reported in all the depth zones during the year.
- A bumper catch of 11.6 tonnes was recorded during May 2017 voyage wherein the catch was dominated by Goat fishes (23.8%) followed by ribbon fishes (18.3%), decapterids (11.4%), mackerels (9.3%), perches (5.3%) and cephalopods (4.5%).
- The highest CPUE of 228 kg/hr was recorded in the area 18° 07.3'N/ 84° 03'E (off Kalingapatnam) at the depth of 52 m followed by 146.7 kg/hr in the area 18° 07'N/ 84 07.9'E at a depth of 53m during the month of August 2017.

D. Biological studies

Total of 5186 specimens belonging to 38 species were examined for the length frequency studies, of which, 2276 specimens were investigated for biological studies.

E. Biomass estimation

Area : Lat. 16°N –18°N

(in tonnes)

Species/Group	Depth zone (m)		
	30-50	50-100	100-200
Elasmobranchs	46	108	718
Catfishes	182	276	-
Clupeoids	30	41	-
Lizard fishes	79	283	-
Priacanthids	-	36	-
Nemipterids	32	163	-
Perches	73	620	-
Upenoids	731	2535	1025
Sciaenids	536	451	-
Silverbellies	274	616	-
Flat fishes	3	23	-
Indian Drift fish	72	108	-

(in tonnes)

Species/Group	Depth zone (m)		
	30-50	50-100	100-200
Barracuda	67	275	-
Pomfret	93	144	-
Carangids	28	114	-
Horse mackerel	55	40	-
Decapterids	414	259	154
Ribbon fishes	707	1085	-
Mackerel	145	272	-
Seer fishes	9	26	-
Gerrids	7	96	256
Shrimps	7	6	-
Crabs	46	32	-
Cephalopods	194	441	154
Other fishes	43	258	-

4.2 OCEANIC TUNA RESOURCE SURVEY

Project 6 Survey of oceanic tuna and allied resources using regular longline in Indian EEZ along Central-West coast including Lakshadweep between latitude 8°N -18°N.

Project components Survey of oceanic tuna and allied resources by longlining in the Indian EEZ along Central-West coast including Lakshadweep

Gear Multifilament tuna long line with 5 hooks per basket

Vessel *MFV Yellow Fin*

Base Mormugao

Project Co-ordinator Shri S.K. Jaiswal, Mechanical Marine Engineer

Project Leader Dr. H. D. Pradeep, Fisheries Scientist

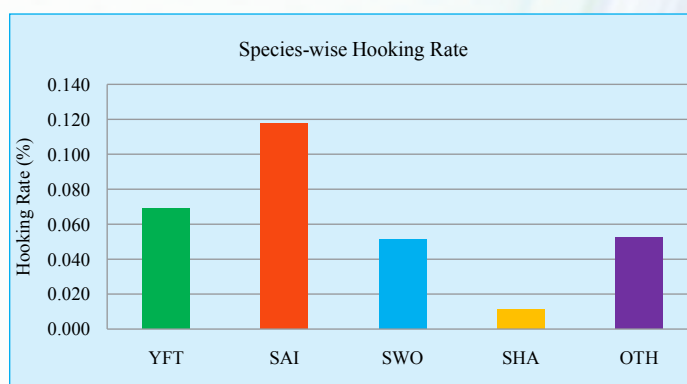
Results

A. Hooking rate (%)

Months	Hooks operated	Hooking rate (%)					
		YFT	SAI	SWO	SHA	OTH	TOTAL
April 2017	4200	0.10	0.14	0.02	0.02	0.07	0.36
May 2017	3350	0.03	0.09	0.09	-	0.03	0.24
June 2017	Vessel awaiting for dry-docking repairs						
July 2017	Vessel awaiting for dry-docking repairs						
August 2017	Vessel shifted to GSL, Goa on 17.08.2017 and awaiting slot for dry docking repairs						
September 2017	Vessel at GSL, Goa for dry-docking repairs						
October 2017	Vessel at GSL, Goa for dry-docking repairs						
November 2017	Vessel at GSL, Goa for dry-docking repairs						
December 2017	Vessel at GSL, Goa for dry-docking repairs						
January 2018	Vessel at GSL, Goa for dry-docking repairs						
February 2018	Vessel at GSL, Goa for dry-docking repairs						
March 2018	Vessel at GSL, Goa for dry-docking repairs						

YFT – Yellow fin tuna, SAI – Sail fish, SWO – Sword fish, SHA – Shark, OTH – Other fishes

Species-wise Hooking rate (%) for the vessel MFV Yellowfin



B. Salient observation

- The highest aggregate hooking rate of 0.36% was recorded during April 2017.
- The species Sail fish, yellow fin tuna, sword fish, sharks and other fishes were the main component of the catch during the period under report.

C. Biological studies

Total of 23 specimens belonging to 7 species were carried out for the length frequency and biological studies during the year under report.

Project 7

Tuna resources survey using monofilament longlining in the Bay of Bengal between latitude 10°N and 20°N.

Project components Tuna resources survey using monofilament longlining in Bay of Bengal between Lat.10°N and 20°N.

Gear Monofilament longline with 7 hooks per basket

Vessel *MFV Matsya Drushti*

Base Chennai

Project Co-ordinator Shri A. Tiburtius, Sr. Fisheries Scientist

Project Leader Dr. Jayachandra Dhas, Jr. Fisheries Scientist

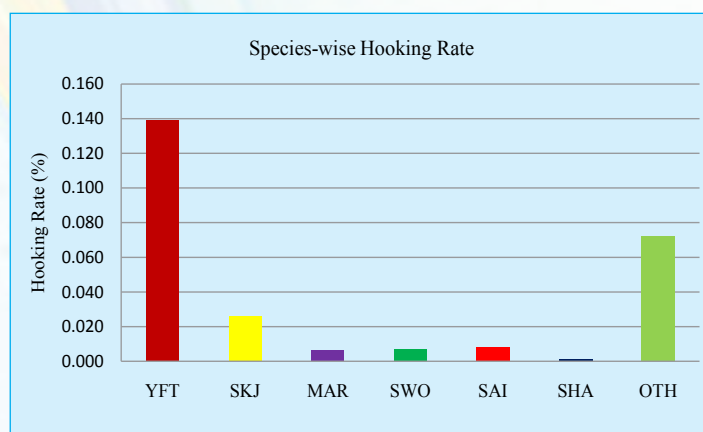
Results

A. Hooking rate (%)

Month	Hooks Operated	Hooking Rate (%)							
		YFT	SKJ	MAR	SWO	SAI	SHA	OTH	Total
April 2017	8820	0.05	0.02	-	-	-	-	0.03	0.10
May 2017	8190	0.02	0.01	-	-	0.02	-	0.02	0.09
June 2017	6930	0.09	-	0.01	-	-	0.01	0.12	0.23
July 2017	6300	0.05	-	-	0.05	0.02	-	0.16	0.27
August 2017	3780	0.03	-	0.03	0.03	0.03	-	0.24	0.34
September 2017	3150	0.16	-	0.03	-	-	-	0.13	0.32
October 2017	1890	0.11	0.16	-	-	-	-	0.05	0.32
November 2017	5390	0.43	0.07	0.02	-	-	-	0.02	0.54
December 2017	9450	0.19	0.04	-	-	-	-	0.02	0.25
January 2018	3500	0.56	0.10	-	-	0.03	-	0.17	0.87
February 2018	6300	0.10	-	-	-	-	-	-	0.10
March 2018	Dry Docking repairs at M/s. HSL, Vizag								

YFT - Yellow Fin tuna, SKJ - Skipjack tuna, MAR - Marlin, SWO - Sword fish, SAI - Sail fish, SHA - Shark, OTH - Other fishes

Species-wise Hooking rate (%) for the vessel *MFV Matsya Drushti*



B. Salient observation

- The highest aggregate hooking rate of 0.87%, 0.54% and 0.34% were recorded during January 2018, November 2017 and August 2017 respectively.
- The highest hooking rate of 0.56% and 0.43% was recorded for Yellowfin tuna during January 2018 and November 2017 respectively.

C. Biological studies

During the year biological studies such as Length frequency, Length-weight, Sex, Maturity and Food & Feeding habits were carried out for 157 specimen belonging to 18 Species viz. *Thunnus albacares*, *Kastuwonus pelamis*, *Xiphias gladius*, *Istiophorus platypterus*, *Makaira indica*, *Makaira mazara*.

Project 8 Tuna resources survey in Indian EEZ around Andaman and Nicobar Islands between latitude 5°N and 15°N.

- Project components
1. Survey of oceanic tunas and allied resources by using regular longlining in Andaman and Nicobar waters.
 2. Survey of Big-eye tuna resources by using modified deep longline gear in Andaman and Nicobar waters.
 3. Survey of Perch resources by using bottom set vertical longline in Andaman and Nicobar waters.
 4. Survey of Sword fish resources by using drift longline with light sticks in Andaman and Nicobar waters.

- Gear
- Multifilament tuna long line with five hooks per basket
 - Modified deep set long line with 7/9 hooks per basket for Big eye tuna
 - Bottom set vertical long line with 30 hooks per basket for perch resources.
 - Drift long line with 5 hooks per basket with light sticks for swordfish.

Vessel *MFV Blue Marlin*

Base Port Blair

Project Co-ordinator Dr. Sijo P. Varghese, Sr. Fisheries Scientist & Project Leader

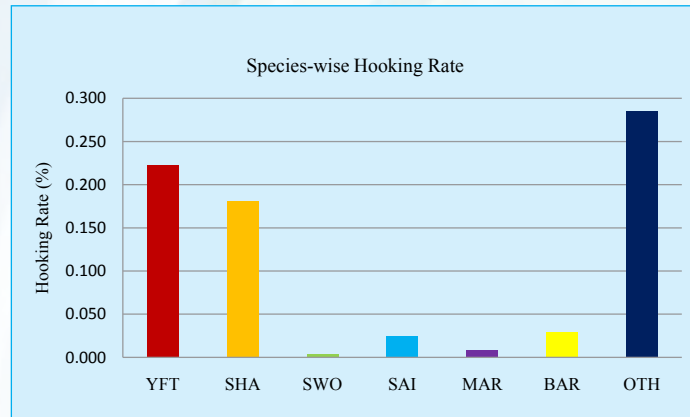
Results

A. Regulat tuna longlining - Hooking rate (%)

Month	Hooks operated	Hooking rate (%)							
		YFT	SHA	SWO	SAI	MAR	BAR	OTH	TOTAL
April 2017	8125	0.13	0.06	0.02	0.05	0.01	0.11	0.11	0.44
July 2017	7500	0.36	0.30	-	0.04	0.01	0.04	0.61	1.36
September 2017	8750	0.28	0.28	-	0.01	0.01	-	0.59	1.18
November 2017	2050	-	0.04	-	-	-	-	0.29	0.34
December 2017	3750	0.03	0.11	-	0.03	-	-	-	0.03
January 2018	10625	0.26	0.16	-	0.009	0.009	-	0.04	0.49

YFT – Yellow fin tuna, SHA – Shark, SWO – Sword fish, SAI – Sail fish, MAR – Marlin, BAR – Barracuda, OTH – Other fishes

Species-wise Hooking rate (%) for the vessel *MFV Blue Marlin* (Regular tuna longlining)

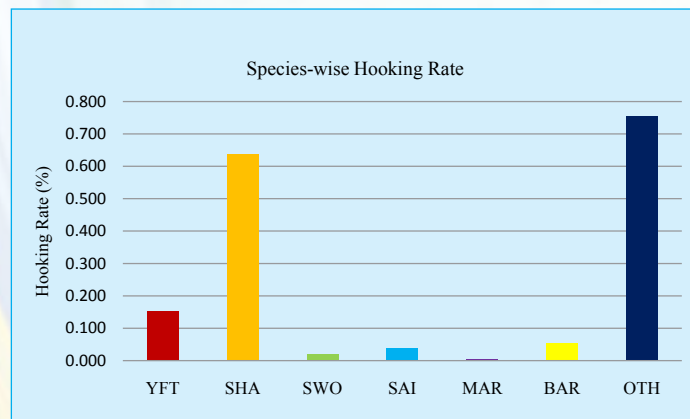


B. Modified deep longlining – Hooking rate (%)

Month	Hooks operated	Hooking rate (%)							
		YFT	SHA	SWO	SAI	MAR	BAR	OTH	TOTAL
May 2017	8820	0.06	1.17	0.02	0.05	0.01	-	0.89	2.23
October 2017	8610	0.25	0.09	0.02	0.03	-	0.11	0.62	1.16

YFT – Yellow fin tuna, SHA – Shark, SWO – Sword fish, SAI – Sail fish, MAR – Marlin, BAR – Barracuda, OTH – Other fishes

Species-wise Hooking rate (%) for the vessel *MFV Blue Marlin* (Modified deep longlining)

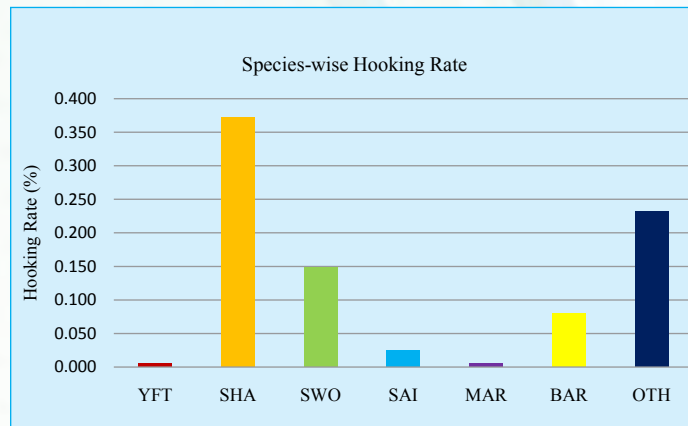


C. Drift long line with Light Sticks – Hooking rate (%)

Month	Hooks operated	Hooking rate (%)							
		YFT	SHA	SWO	SAI	MAR	BAR	OTH	TOTAL
February 2018	7500	-	0.17	0.13	-	-	-	0.36	0.66
March 2018	11875	0.008	0.50	0.16	0.04	0.008	0.13	0.15	1.01

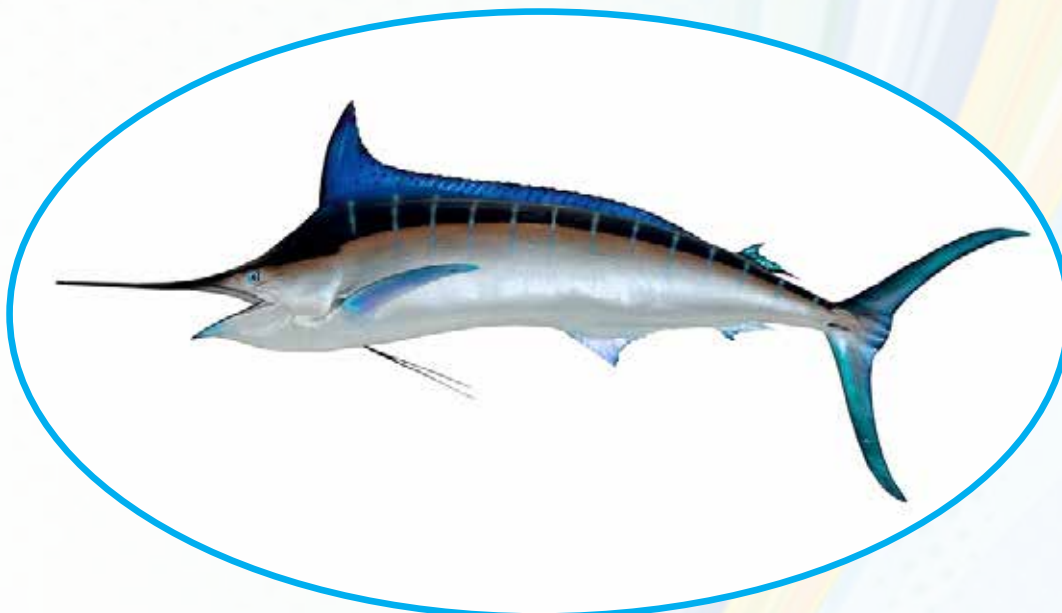
YFT – Yellow fin tuna, SHA – Shark, SWO – Sword fish, SAI – Sail fish, MAR – Marlin, BAR – Barracuda, OTH – Other fishes

Species-wise Hooking rate (%) for the vessel *MFV Blue Marlin* (Drift long line)



D. Salient observation

- In regular tuna longlining, the highest aggregate hooking rate of 1.36% was recorded during July 2017 followed by 1.18% during September 2017. For species, the highest hooking rate of 0.36% was recorded for yellowfin tuna followed by sharks with the hooking rate of 0.30% during the month of July 2017.
- Modified deep longlining gear operated during the month of May 2017 and October 2017. Highest aggregate hooking rate of 2.23% was recorded during May 2017. Shark dominated the catch with the hooking rate of 1.17% in the month of May 2017 followed by yellowfin tuna (0.25%) during October 2017.
- In drift longline with light sticks operation, the highest aggregate hooking rate (1.01%) for all fishes was recorded during March 2018. Shark was the dominant variety during the month of February 2018 and March 2018 with hooking rate of 0.17% and 0.50% respectively.



EXPERIMENTAL PROJECTS

Project 9 **Experimental Bottom set vertical longlining for perch resources along South-East coast between latitude 10°N and 20°N.**

Project components	Experimental fishing for perch resources by using bottom set vertical longlining along South-East coast in 30-150 m depth.
Gear	Bottom set vertical longline with 30 hooks per basket
Vessel	<i>MFV Matsya Drushti</i>
Base	Chennai
Project Co-ordinator	Shri A. Tiburtius, Sr. Fisheries Scientist
Project Leader	Shri J. E. Prabhakar Raj, Sr. Fisheries Scientist (March-May 2017) and Dr. A. John Chembian, Jr. Fisheries Scientist (June 2017- March 2018)

Results

A. Hooking rate (%)

Month	Hooks operated	Hooking rate (%)						
		Snappers	Groupers	Needle fish	Sucker fish	Trigger fish	Cat fish	Total
August 2017	4200	0.05	0.28	0.05	0.02	0.02	-	0.43
September 2017	4200	-	-	-	-	-	0.05	-

B. Salient observation

- Highest aggregate hooking rate of 0.43 % was obtained during August 2017. Groupers dominated the catch with 0.28% hooking rate followed by snappers and needle fish

C. Biological studies

The following species were observed and biological studies such as Length-weight, gut content analysis, maternity studies etc. were carried out. *Sphyraena barracuda*, *Acanthocybium solandri*, *Alepisaurus ferox*, *Rhizoprionodon acutus*, *Coryphaena hippurus*, *Cephalopholis sonneri*, *Epinephelus chlorostigma*, *Epinephelus aereolatus*, *Aphareus rutilans*, *Echeneis naucrates*, *Tylosurus crocodylus* and *Rachycentron canadum*.

Project 10 **Experimental Bottom set vertical longline survey in Andaman and Nicobar Islands between latitude 5°N and 15°N.**

Project components	Survey of perch resources by using bottom set vertical longline in Andaman and Nicobar Islands between latitude 5°N and 15°N.
Gear	Bottom set vertical longline with 30 hooks per basket.
Vessel	<i>MFV Blue Marlin</i>
Base	Port Blair
Project Co-ordinator & Project Leader	Dr. Sijo P. Varghese, Sr. Fisheries Scientist

Results

A. Hooking rate (%)

Month	Hooks operated	Hooking rate (%)				
		Snappers (<i>Lutjanidae</i>) (%)	Groupers (<i>Serranidae</i>) (%)	Emperors (<i>Lethrinidae</i>) (%)	Others (%)	Total
June 17	10,410	0.73	0.06	0.009	0.02	0.85
August 17	11,000	0.21	0.61	0.50	--	1.69

B. Salient observation

- Bottom set vertical longline gear operated during the month of June 2017 and August 2017. Highest aggregate hooking rate of 1.69 % was obtained during August 2017. Among the perches, snappers (*Lutjanidae*) dominated the catch with the hooking rate 0.73% during June 2017 where as the Groupers (*Serranidae*) dominated the catch with the hooking rate of 0.61% followed by the Emperors (*Lethrinidae*) 0.50 % in the month of August 2017.

Note: Projects with the Vessels MFV Matsya Vrushthi, MFV Matsya Nireekshani and MFV Lavanika are not implemented as the vessels are inoperative for long dry-docking period due to extremely old age of the vessel during the period under report.



5. PHYSICAL TARGET AND ACHIEVEMENTS

Physical targets and achievements in terms of voyages, days out at sea, fishing days and sampling effort of the survey vessels during 2017-18 are given below:

Base	Vessels	Target				Achievements			
		Voyages	Days out at sea	Fishing days	Sampling efforts	Voyages	Days out at sea	Fishing days	Sampling efforts
Mumbai	<i>MFV Matsya Vrushti</i> @	9	180	136	85680	-	-	-	-
	<i>MFV Matsya Nireekshani</i> *	9	180	144	675	-	-	-	-
Mormugao	<i>MFV Yellow Fin</i> @	9	180	136	85000	2	37	20	7550
	<i>MFV Sagarika</i> *	11	220	176	825	12	223	153	608
Cochin	<i>MFV Matsya Varshini</i> *	10	200	160	750	5	88	59	215
	<i>MFV Lavanika</i> *	20	200	160	750	1	9	5	18
Chennai	<i>MFV Matsya Drushti</i> @	10	200	137	71640	11	184	112	63700
	&				5100				8400
	<i>MFV Samudrika</i> *	10	200	160	750	4	63	44	184.5
Visakhapatnam	<i>MFV Matsya Shikari</i> *	11	220	176	825	3	56	39	150
	<i>MFV Matsya Darshini</i> *	11	180	144	525	5	87	64	256.5
	**				84				-
Port Blair	<i>MFV Blue Marlin</i> @	11	220	164	45000	12	217	158	40800
	&				18750				21410
	\$				18750				17430
	#				18750				19375
Efforts	Total	121	2180	1693		55	964	654	
*:Bottom trawling					5100				1432
**:Mid water trawling					84				-
@: Tuna longline (Hooks)					287320				112050
&: Bottom set vertical longline (Hooks)					23850				29810
\$:Deep longline (Hooks)					18750				17430
#: Drift longline with light stick (Hooks)					18750				19375

Note: Vessels *MFV Matsya Drushti* and *Nireekshani* were not operated due to long drydock repairs.

6. VESSEL-WISE CATCH AND VALUE

Catch and values registered by the FSI survey vessels during 2017-18

Base	Vessel	Catch (Kgs.)	Value (₹)
Mumbai	<i>MFV Matsya Vrushti</i>	-	-
	<i>MFV Matsya Nireekshani</i>	-	-
Mormugao	<i>MFV Yellow Fin</i>	481	44623
	<i>MFV Sagarika</i>	6083	206448
Cochin	<i>MFV Matsya Varshini</i>	1513	37455
	<i>MFV Lavanika</i>	-	-
Chennai	<i>MFV Matsya Drushti</i>	933	84392
	<i>MFV Samudrika</i>	230	12515
Visakhapatnam	<i>MFV Matsya Shikari</i>	3965	54140
	<i>MFV Matsya Darshini</i>	22182	351173
Port Blair	<i>MFV Blue Marin</i>	14454	928036
Total		49841	1718782



7. SCIENTIST PARTICIPATION IN SURVEY CRUISES

For collection of fishery resources data, Scientists of the institute regularly participate in survey cruises of the vessels. A detail of the Scientist participation during the year is given below.

Vessel	Name and Designation of Scientist participant	No. of cruises	Days out at sea
<i>MFV Matsya Vrushthi</i>	As the vessels remained idle during the period, there was no scientist participation for these vessels.		
<i>MFV Matsya Nireekshani</i>			
<i>MFV Yellow fin</i>	Shri Kanhu Charan Sahu, Jr. Research Fellow	1	20
	Shri A. Siva, Sr. Scientific Assistant	1	19
<i>MFV Sagarika</i>	Dr. H. D. Pradeep, Fisheries Scientist	1	20
	Shri Raju S. Nagpure, Sr. Scientific Assistant	2	40
	Shri Puran Singh, Sr. Scientific Assistant	3	50
	Shri Solly Solomon, Sr. Scientific Assistant	3	60
	Dr. Devanand E. Uikey, Sr. Scientific Assistant	1	16
	Shri Rahulkumar B Tailor, Sr. Scientific Assistant	1	20
	Shri Surender Kumar, Jr. Research Fellow	1	2
<i>MFV Matsya Varshini</i>	Dr. S. Ramachandran Sr. Fisheries scientist	2	25
	Shri P.Tamilarasan, Fisheries Scientist	1	19
	Shri N. Unnikrishnan, Jr. Fisheries Scientist	2	27
	Shri A. E. Ayooob, Jr. Fishing Gear Technologist	2	17
<i>MFV Matsya Drushthi</i>	Dr. J. Jaychandra Dhas, Jr. Fisheries Scientist	1	19
	Dr. M. K.Sinha, Jr. Fisheries Scientist	1	20
	Dr. A. John Chembian, Jr. Fisheries Scientist	2	36
	Shri C. Babu, Sr. Scientific Assistant	4	47
	Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	2	40
	Shri V. Murugan, Sr. Research Fellow	1	20
<i>MFV Samudrika</i>	Dr. A. John Chembian, Jr. Fisheries Scientist	1	20
	Shri Y. Tharumar, Sr. Scientific Assistant	1	18
	Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	1	05
	Shri V. Murugan, Sr. Research Fellow	1	20
<i>MFV Matsya Shikari</i>	Shri G. V. A. Prasad, Jr. Fisheries Scientist	1	20
	Shri S. K. Pattanayak, Senior Scientific Assistant	1	10
	Shri K. Silambarasan, Senior Scientific Assistant	2	26
<i>MFV Matsya Darshini</i>	Dr. Annada Bhusan Kar, Fisheries Scientist	1	12
	Shri G. V. A. Prasad, Jr. Fisheries Scientist	2	24
	Shri S. K. Pattanayak, Senior Scientific Assistant	2	23
	Shri K. Silambarasan, Senior Scientific Assistant	2	28
<i>MFV Blue Marlin</i>	Shri Swapnil S. Shirke, Sr. Scientific Assistant	03	49
	Shri Pratyush Das, Jr. Fishing Gear Technologist	04	76
	Shri Nashad M, Sr. Scientific Assistant	04	78
	Shri V. Murugan, JRF (SATTUNA) and Dr. Nimit Kumar, Project Scientist, INCOIS	01	14

8. FLEET MAINTENANCE

A. Dry-docking of the vessels undertaken during the year

Name of the vessel	Name of the shipyard	Period of Docking & Afloat Repairs	Supervisors
<i>MFV Yellow Fin</i>	M/s Goa Shipyard Ltd., Goa	Docked: 17.08.2017 Undocked :25.01.2018	Shri S. K. Jaiswal, Mech. Marine Engineer Shri Joseph K Ignatiouse, Chief Engineer Gr.I Shri K. P.Vinoji, Skipper
<i>MFV Matsya Nireekshani</i>	M/s Cochin Shipyard Ltd., Cochin	Docked: 04.11.2017 Undocked: 30.12.2017	Shri B.Balanayak, Service Engineer (Mech.) Shri Stanely, Chief Engineer Gr.II Shri G.Gopikrishnan, Skipper Shri Naresh Chand, Mech. Supervisor (Sr.)
<i>MFV Matsya Vrushti</i>	M/s Cochin Shipyard Ltd., Cochin	Docked: 02.02.2018 Undocked: Dry docking was in progress.	Shri B. Balanayak, Service Engineer (Mech.) Shri Joy Moothedan, Chief Engineer Gr.I Shri D.Mehalingam, Skipper Shri Naresh Chand, Mech. Supervisor (Sr.)
<i>MFV Lavanika</i>	M/s Cochin Shipyard Ltd., Cochin	Docked: 10.07.2017 Undocked:18.08.2017	Shri Manoj Kumar O.T, Service Engineer Shri Saji George, Chief Engineer Gr.I Shri K.L.Madhu, Skipper
<i>MFV Matsya Darshini</i>	M/s Hindusthan Shipyard Ltd., Visakhapatnam	Docked: 14.11.2017 Undocked: 28.03.2018	Shri C. Dhananjaya Rao, Mech. Marine Engineer Shri Paritosh Biswas, Skipper Shri S.Pasha, Mech. Supervisor (Sr.)
<i>MFV Matsya Varshini</i>	M/s Cochin Shipyard Ltd., Cochin	Docked: 02.02.2018 Undocked: Dry docking was in progress.	Shri Manoj Kumar O.T, Service Engineer Shri Saji George, Chief Engineer Gr.I Shri Arun Kumar, Skipper Shri Subhash, Mech. Supervisor (Sr.)
<i>MFV Matsya Drushti</i>	M/s Hindusthan Shipyard Ltd., Visakhapatnam	Docked: 07.03.2018 Undocked: Dry docking was in progress.	Shri D. Bhami Reddy, Mech. Marine Engineer Shri K. S. Joseph Paul, Skipper

B. Major Overhauling of the Machinery & Equipment

Name of the vessel	Machinery Overhauled	Period of the Overhauling	Agency	Supervision
<i>MFV Sagarika</i>	Main Engine	01.07.2017 to 25.07.2017	Dept. Workshop	Shri S. K. Jaiswal, Mech. Marine Engineer and Shri V. P. Sharma Mechanical Supervisor (Sr.)
<i>MFV Drushti</i>	Port Aux. Engine	07.10.2017 to 30.10.2017		Shri D. Bhami Reddy, Mech. Marine Engineer

C. Acquisition of Vessels for FSI

The proposal for acquisition of vessels is under consideration of the Ministry of Agriculture & Farmers' Welfare, New Delhi. Further, An EFC Memo in the revised format (Annex. IV-A) has been sent to the Ministry vide this office letter No. 30-9/2013-P&D dated 07.02.2018 for acquisition of two Mid Water Trawlers as the estimated cost of 96 crores on nomination basis through M/s. Cochin Shipyard Ltd., Cochin.

D. Import of spare parts for the maintenance of machinery and equipment of the fleet

Spare parts worth of ₹222.00 lakhs have been imported towards maintenance of the vessels from the different countries such as Denmark, UAE, Korea, etc. during the year.

9. INFRASTRUCTURE FACILITIES

9.1 Construction of Fishery Survey of India Facility Research Centre at Sagoon Dock, Colaba, Mumbai (HQs)

The construction of building in respect of civil aspects has been completed and occupied by HQs and Mumbai Base. But, the electrical works such as operationalisation of lifts and Air condition System of the building are yet to be made. The potable water connection is yet to be materialized. In this connection, these matters are being pursued with the CPWD/ MGMC.



9.2 Performance of Marine Engineering Division (MED), Kochi

Description	Supervision
A total no. of 72 vessels were hauled-up in the Slipway of the Marine Engineering Division for their under-water repair works and an amount of ₹54,05,642/- was realized during the year. Further, during the same period, 56 nos. of Life Rafts & HRU were serviced and an amount of ₹12,65,977/- was realized.	Shri B.Sathish Kumar, Assistant Engineer (Workshop) Shri Josh Asokan Chepalli, Superintendent (PS & C)

10. TRAINING

10.1 The following officers and staff attended various training programmes during the year 2017-18

Name	Designation	Subject/ Institute/ Place/ Period
Dr. Vinod Kumar Mudumala Shri J.E. Prabhakar Raj Dr. Ansuman Das Dr. S.K. Dwivedi Shri Ashok S. Kadam Shri Jacob Thomas Shri N. Jagannadh Shri N. Unnikrishnan Dr. Dewanand E. Uikey Shri Amod V. Tamhane Shri Raju S. Nagpure Shri A. Siva Miss Rajashree B. Sanadi Shri Rahul Kumar B. Tailor Shri Swapnil S. Shirke Miss Roshan Maria Peter Dr. Kiran S. Mali	Sr. Fisheries Scientist Sr. Fisheries Scientist Fisheries Scientist Fisheries Scientist Fisheries Scientist Jr. Fisheries Scientist Jr. Fisheries Scientist Jr. Fisheries Scientist Sr. Scientific Assistant Sr. Scientific Assistant Sr. Scientific Assistant Sr. Scientific Assistant Sr. Scientific Assistant Sr. Scientific Assistant Sr. Scientific Assistant Sr. Research Fellow	In-house training on “Application of Remote Sensing and Effect of Pollution on Marine Biodiversity” at FSI (HQs), Mumbai, 27 th - 28 th April 2017.
Dr. M. K. Sinha Smt. Ramalakshmi	Jr. Fisheries Scientist Upper Division Clerk	Training on PFMS organized by CPAO, New Delhi at CIPET, Chennai, 19 th May 2017.
Dr. Annada Bhusan Kar	Fisheries Scientist	Online training on TDS at Institute of Chartered Accountants, Visakhapatnam, 30 th June 2017.
Shri C.D. Rao Shri B. Balanayak Shri Manoj Kumar O.T Shri B. Satheesh Kumar Shri Joy Moothedan Shri Vinod Paily Shri Karthik Ramanujan Shri G. Elangovan Shri G.S.V. Sarma Shri S. Pasha Shri V.P. Sharma Shri R.B. Dokare Shri Naresh Chand Shri M. Subash	Mechanical Marine Engineer Service Engineer (Mech.) Service Engineer (Mech.) Assistant Engineer (W/S) Chief Engineer Gr.I Chief Engineer Gr.II Mechanical Supervisor (Sr.) Mechanical Supervisor (Sr.) Mechanical Supervisor (Sr.) Mechanical Supervisor (Sr.) Mechanical Supervisor (Sr.) Mechanical Supervisor (Sr.) Mechanical Supervisor (Sr.) Mechanical Supervisor (Sr.)	In-house training on “Management & Maintenance of vessels with special reference to Fuel conservation, Refrigeration and Safety at Sea” at FSI (HQs), Mumbai, 27 th -28 th July 2017.
Smt. K.K. Ambika Shri Dolamani Naik	Office Superintendent Lower Division Clerk	Training on “Pension related matters & working on Bhavishya Module” at International Centre, New Delhi, 24 th August 2017.
Smt. Sunita N. Motwani Shri S.C. Bala	Stenographer Gr.I Upper Division Clerk	Training on “e-Bhavishya” application at Regional Training Centre, Mumbai, 9 th October 2017
Shri Solly Solomon	Sr. Scientific Assistant	Training on “Next Generation Sequencing & its applications in fisheries & Agricultural Sciences for beginners”, at CMFRI, Kochi, 7 th -8 th November 2017.

Name	Designation	Subject/ Institute/ Place/ Period
Dr. Harshvardhan D. Joshi	Sr. Scientific Assistant	CAFT training on “Advance in Nano Technology Tools in Fisheries” at CIFE, Mumbai, 4 th - 13 th December 2017.
Shri S. G. Patwari Shri A.V.K.Jogi Raju Shri Ashok Kumar Khitha	Jr. Fisheries Scientist Office Superintendent Mechanical Supervisor(Sr.)	Pre-Retirement Counselling Workshop at Textile Committee Auditorium, Mumbai, 16 th January 2018.
Shri A. Udayakumar Shri C.N. Raithatha Shri N. Varadhan Shri Dolamani Naik Smt. Kusumlata Yadav	Stenographer Gr.I Upper Division Clerk Stenographer Gr.I Lower Division Clerk Multi Tasking Staff	Training on “PFMS EIS/ CDDO Module”, Regional Training Centre, Mumbai, 24 th - 25 th January 2018.
Shri B. Suresh Kumar Smt. Ramalakshmi	Upper Division Clerk Upper Division Clerk	Training on PFMS at RTC, Chennai, 24 th - 25 th January 2018.

10.2. Training to CIFNET trainees

As a part of Human Resources Development, the Institute continued to provide on-the-job-training to CIFNET trainees. The Base-wise details of onboard training imparted are given below:

Base	No. of Trainees			
	At the beginning of the year	Appointment during the year	Completed training during the year	At the end of the year
Mumbai	10	1	11	-
Mormugao	2	-	1	1

10.3 Capacity building programme and training to fishermen

10.3.1 Chennai Base

The Chennai Base of Fishery Survey of India conducted a special training programme on the Capacity building and hands-on-training on “*Tuna longline to traditional fishers*” in association with CIFNET, Chennai and Dept. of Fisheries, Govt. of Tamil Nadu with the financial assistance from National Fisheries Development Board (NFDB), Hyderabad during April 2017 to March 2018 onboard *Matsya Drushti*. Total of 37 fishermen from Tamil Nadu got benefitted from this programme. The Scientists of this Base under took the theory classes for the trainees at CIFNET, Chennai.

Sl. No	Training-Theory classes		No of Trainees	Onboard Practical training		No. of trainees
	Date of Commence	Date of Completion		Date of Commence	Date of Completion	
1	06.06.2017	09.06.2017	7	12.06.2017	16.06.2017	5
				17.06.2017	21.06.2017	2
2	05.09.2017	08.09.2017	14	11.09.2017	15.09.2017	5
3	04.10.2017	09.10.2017	14	10.10.2017	14.10.2017	5
4	06.11.2017	09.11.2017	15	10.11.2017	14.11.2017	5
5	14.11.2017	17.11.2017	12	20.11.2017	24.11.2017	5
6	02.01.2018	05.01.2018	15	08.01.2018	12.01.2018	5
7	22.01.2018	25.01.2018	14	29.01.2018	02.02.2018	5
Total			91	Total		37



10.3.2 Port Blair Base

The Directorate of Fisheries, Andaman and Nicobar Administration in collaboration with the Port Blair Base of FSI organized a *“Training-cum-Awareness programme on the schemes/ programmes under Blue Revolution/ UT Plan/ Rashtriya Krishi Vigyan Yojana”* at fish landing centre, Junglighat, Port Blair on 12th May 2017. The purpose of the training was to disseminate the information on schemes under *“Blue Revolution”* *“Neel Kranti”* and their optimum utilization for the benefit of the local fishermen and to train the fishermen on modern fishing techniques and electronic gadgets for safety at sea.

The Port Blair Base of FSI organized a one day demonstration fishing trip on 26th November 2017 at Campbell Bay, Great Nicobar District in order to impart hands on training on eco friendly fishing methods to the fishermen.

During the programme, 23 local fishermen including four tribal were taken onboard the vessel *M.F.V. Blue Marlin* along with Shri Abdul Arif, Fisheries Inspector, Campbell Bay. The fishermen were individually trained on operation of Electronic fish finding, Oceanographic, Navigational, Sea Safety and other communication equipments.



11. PUBLICATIONS

The Institute has been effectively disseminating the resources survey findings to the industry and other end-users through various publications such as Annual Report, Magazines, Charts, Special Publications, Bulletins, Resources Information Series (RIS), Scientific Papers etc. Some of the FSI Publications were translated into regional languages for the benefit of the local fishermen and mechanized boat operators. During the year following publications were released.

Hindi Magazine

Matsya Kiran by FSI (HQs), Mumbai (7th edition)

Matsya Darpan by Mumbai Base (6th edition)

Prayas by Port Blair Base

Meena News

Meena News Vol. XXXIII No. : 4 October - December 2016 (Bilingual)

Meena News Vol. XXXIV No. : 1 January - March 2017 (Bilingual)

Meena News Vol. XXXIV. No. : 2 April - June 2017 (Bilingual)

Meena News Vol. XXXIV. No. : 3 July - September 2017 (Bilingual)

Survey Programme

Fishery Resources Survey, Assessment & Research Programme 2017-18

Reports

Annual Report 2016-17 (Bilingual)

India's National Report to the Scientific Committee of the Indian Ocean Tuna Commission (IOTC) 2017.

Resources Information Series - 13 issues

Four issues from Chennai and three issues each from Mormugao, Visakhapatnam and Port Blair Bases were published in respective local languages for the benefit of fishermen.

Paper published/ printed by Scientist

Paper published in Journals / Magazines

M. Vinod Kumar, Kiran S. Mali, M. K. Farejiya and K Rama Rao (2017), Age, Growth and Mortality of *Thunnus tonggol* (Bleeker, 1851) exploited along the North west coast of India. European J. biotechnol. Biosci-5 p. ISSN: 2321 – 9122.

Mali Kiran S., Vinod Kumar M., M. K. Farejiya and A. K. Bhargava (2017), Food and feeding habits of two major lizardfishes (Family: Synodontidae) occurring along North-west coast of India between Lat. 18°-23° N. Int. J. Biol. Sci. 1039-1046 p.

Mali Kiran S., M. K. Farejiya, Vinod Kumar M., K. Rama Rao and A. K. Bhargava (2017), Population characteristics of greater lizardfish, *Saurida tumbil* (Bloch 1795) and brushtooth lizardfish, *Saurida undosquamis* (Richardson 1848) from the North western Indian EEZ. Int. J. fauna.biol. Stud. 124-130p.ISSN:2447-2677.

Farejiya M. K., A. K. Dixit, B. M. Raut, Ashish Kumar, Vinod Kumar M., K. Rama Rao and Kiran S. Mali (2017), Distribution, Growth, Instability and Trend analysis of marine fish production in the coastal states of India. Inter J. Curr Trends Sci Tech Vol. 7(9) 20347-20354 pp. ISSN: 0976-9730.

M. Vinod Kumar, M. K. Farejiya, A. K. Dixit, A. Siva, K. Rama Rao and Kiran S. Mali (2017), Proximate Composition, nutritive value and share of Protein to the diet of Coastal population from four neritic tunas occurring along north western Indian EEZ. IJERT Vol. 8(3)2017: 34-40pp. P-ISSN 0976-4089, E-ISSN: 2277-1557.

Mali Kiran S., Vinod Kumar M., M. K. Farejiya, K. Rama Rao and A. K. Bhargava (2017), Reproductive Biology of *Saurida tumbil* (Bloch1795) and *Saurida undosquamis* (Richardson 1848) inhabiting North West Coast of India. Int. J. Pure. App. Biosci. 5 (6): 957-964 (2017)ISSN: 2320-7051.

Farejiya M. K. and A. K. Dixit (2017), Fishing capacity management: A perspective in Indian context. European J. biotechnol. Biosci 1-7 p. ISSN: 2321 – 9122.

M. Vinod Kumar, M. K. Farejiya, Kiran S. Mali, K. Rama Rao, Pradnya A. Sawant and A. Siva (2017), Investigations on the age, growth and mortality parameters of Kawakawa *Euthynus affinis* (Cantor, 1849) from the North west coast of India. IJAB.

Babu C., K. Silambarasan and A. Tiburtius (2017), Observation of whale shark *Rhincodon typus* Smith, 1828 in oceanic waters of the Bay of Bengal, India. Journal of Fisheries, 5(3):531-534.

Joshi Harshavardhan D., V. K. Tiwari, Rupam Sharma, Subodh Gupta, W. S. Lakra and Upasana Sahoo (2017), Nanotechnological innovation for the production of daughter less Tilapia, *Oreochromis niloticus* (Linnaeus, 1758), Journal of Applied and Natural Science 9 (4): 1921 -1925 (2017).

M. Vinod Kumar, M. K. Farejiya, Kiran S. Mali, K. Rama Rao and A. Siva (2018), Studies on population characteristics of Frigate tuna, australian thazard (Lacepede, 1800) occurring in the North west coast of India. Int. J. Life Scir. Scienti. Res. 1639-1643pp.

M. Vinod Kumar, M. K. Farejiya, Kiran S. Mali, K. Rama Rao and Rajashree B. Sanadi (2018), Reproductive Biology of three neritic tunas (Family : Scombridae) inhabiting the North-western coastal waters of India. IJCRT Vol. 6 (1) 2320-2882.

Bhendarkar Mukesh P., Rajiv H. Rathod, Harshavardhan D. Joshi and Upasana Sahoo (2018), Study on the Fecundity and Gonadosomatic index of *Rastrelliger kanagurta* (Cuvier, 1817) of southern coast of Maharashtra, India, Journal of Applied and Natural Science 10 (1): 107 - 110 (2018).

Papers presented in other Workshops/ Seminars/ Symposiums

Prasad. G. V. A., 2017, “Marine Fishery Resources of East coast of India“ in the training programme on “IOT in Agriculture & Allied Sector” organized by Andhra Pradesh Human Resource Development Institute (APHRDI), Bapatla, Guntur District, Andhra Pradesh during 21st-23rd August 2017.

Bhargava. A. K. and Das. Pratyush., 2017, “Present status of the Indian marine fisheries with special reference to sardine and anchovy fishery along the Indian coasts - An analysis” at the seventh International Conference on the theme “New Era in Fisheries and Aquaculture” during 2nd-4th October 2017, Toronto, Canada.

Papers presented in the Workshops under extension activities of FSI

Mumbai Base

Papers presented in the regional workshop on “Marine Fishery Resources off Daman & Diu and Diversified Fishing Methods” held at Machhi Mahajan Hall, Nani Daman, (U.T. of Daman & Diu) on 16th May 2017.

Kadam. A. S., “Marine Fishery Resources off Daman & Diu and Oceanic Tuna Fishery”

Uikey. D. E., “Code of Conduct for Responsible Fisheries”

Dwivedi. S. K., “Safety at Sea”

Tamhane Amod., “Cleanliness and Hygiene at fish landing centres and fish Market”

Papers presented in the regional workshop on “Marine Fishery Resources off Daman & Diu and Diversified Fishing Methods” held at at Community Hall, Saudwadi, Diu (U.T. of Daman & Diu) on 15th September 2017.

Kadam. A. S., “Marine Fishery Resources off Daman & Diu and Oceanic Tuna Fishery”

Dwivedi. S. K., “Code of Conduct for Responsible Fisheries”

Tamhane. Amod., “Safety at Sea and Cleanliness and Hygiene”

Khitha. A. K., “Tips for fuel conservation and increasing profitability”

Mormugao Base

Papers presented in the regional workshop on “Marine Fishery Resources of Karnataka Coast: Sustainable Utilization, Conservation, Development and Management” held at the Auction Hall, Gangolli Fishing Harbour, Kundapura Taluk, Udupi Dist., Karnataka on 8th August 2017.

Nagpure. Raju S., “Demersal fisheries resources of Karnataka coast change over the decades”

Solomon. Solly, “Oceanic fisheries resources and harvesting method”

P. S. Sujith, “Sea Safety and Navigation”

Singh. Puran, “Code of Conduct for Responsible Fisheries”

Jaiswal. S. K., “Fuel Conservation”

Chennai Base

Papers presented in the workshop on “Marine Fishery Resources of Tamil Nadu Coast” held at Rajiv Gandhi Centre for Aquaculture Auditorium, Karaiedu, Sirkali, Nagapattinam District on 6th May 2017.

Babu. C., “Marine Fishery Resources of Tamil Nadu & Distribution and abundance of Oceanic Fishery Resources in East Coast of India”

Prabhakar Raj. J. E., “Oceanic and Deep sea Fishery Resources Survey and its Analysis in Indian Waters”

Chembian. John. A., “Onboard handling of Tuna fishes”

Papers presented in the workshop on “Marine Fishery Resources of Tamil Nadu and Puducherry Coasts of India” held at Karaikal, Puducherry on 27th October 2017.

Babu. C., “Distribution and abundance of Oceanic Fishery Resources of East Coast of India”

Chembian. John. A., “Tuna Fish Handling and Preservation”

Paper presented at the training programme on “Awareness on Safety at Sea” for Fishermen at Pedamagamayapalem, Bheemili Mandal, Visakhapatnam District on 15th February 2018.

Rao. Dhananjay., “Safety at Sea”

Visakhapatnam Base

Papers presented in the regional workshop on “Marine Fishery Resources of East Coast of India” held at the Office of the Fishery Development Officer, Kothuru, Bhimilipatnam, Andhra Pradesh on 31st August 2017.

Prasad. G. V. A., “Marine Fishery Resources off East Coast of India”

Babu. C., “Distribution and abundance of Oceanic Fishery Resources of East Coast of India”

Chembian. John. A. and Jagannadh. N., “Tuna Fish Handling and Preservation”

Paper presented at the awareness programme for fishermen at Chapalauppada, Bheemli, Visakhapatnam organized by the fishermen welfare society on 24th February 2018.

Jagannadh. N., 2018, “Oceanic Tuna Resources”

Prasad. G. V. A., 2018, “Marine Fishery Resources of the East coast of India” and “Code of Conduct for Responsible Fisheries”



12. RESEARCH AND SURVEY ACTIVITIES

12.1 Highlights of the Surveys/ Research

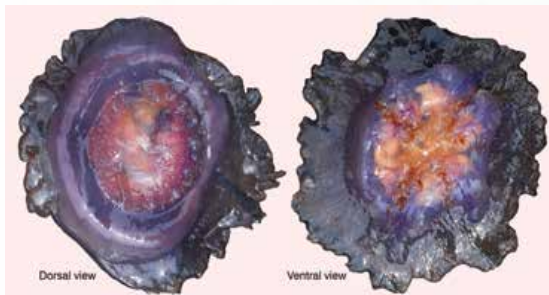
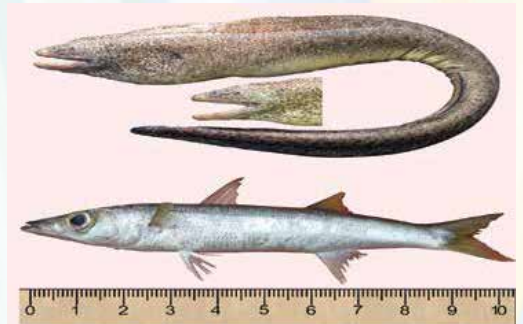
12.1.1 Bumper catch in the demersal fishery resources survey



The vessel *MFV Matsya Darshini* had conducted the survey of demersal fishery resources in the month of May 2017 by deploying 45.6 m expo model bottom trawl. During the survey, a bumper catch of 11.6 tonnes of fish was recorded, which was dominated by Goatfishes (23.8%) followed by ribbon fishes (18.3%), Indian scads (11.4%), Indian mackerels (9.3%), perches (5.3%) and squids (4.7%), with an aggregate CPUE of 180 kg/hr. From the survey operation, it was revealed that, 51-100 m depth zone was found to be more productive with a CPUE (193.5 kg/hr) followed by 31-50 m depth zone (166.8 kg/

hr).

Around 1.7 tonnes of fish catch was recorded in a single haul in the area Lat. 17°21.4'N/ Long. 82°58.2'E (off Pudimadaka) at a depth of 45-46 m comprising of Indian scads with 59% (*Decapterus russelli*, *D. macrosoma*, *D. tabl*) followed by *Rastrelliger kanagurta* (35%). The other fishery resources were also recorded including *Upeneus vittatus*, *Sphyræna forsteri*, *Gymnothorax flavimarginatus*, *Nemipterus japonicus*, *Saurida tumbil*, *Saurida undosquamis*, *Sepia aculeata* and *Ambasis gymnocephalus*.



A similar catch was also obtained in the area Lat. 18°13.9'N/ Long. 84°15.1'E (1063 kg), Lat. 18°22.1'N/ Long. 84°23.3'E (852 kg), Lat. 17°39.8'N/ Long. 83°27.2'E (722 kg) and Lat. 18°21.6'N/ Long. 84°18.0'E (620 kg) in a single haul during the survey period.

The jellyfish (*Netrosoma coeruleascens*) was found to be clogging in the net during the voyage. As per the record, after a period of more than three decades, this bumper catch was recorded onboard the vessel *MFV Matsya Darshini*.

12.1.2 Occurrence of the longfin mako, *Isurus paucus* in the Andaman and Nicobar waters

A specimen of *Isurus paucus* was hooked at a depth of 1837 m from the area Lat. 06°N/ Long. 93°E in May 2017 voyage of *MFV Blue Marlin*. The specimen was an immature female with a total length of 184 cm and weighing around 40 kg. The longfin mako, *Isurus paucus* (Guitart Manday, 1966) is an oceanic shark species in the family Lamnidae, found in temperate and tropical waters of the world oceans (Froese & Pauly 2017). The species is characterized by pectoral fins about as long as head or longer, relatively broad-tipped in young and adults, snout usually narrow to bluntly pointed, usually not acute, cusps of upper and lower anterior teeth straighter, with tips not reversed. The body colour is dark blue above, white below, with dusky markings on underside of snout, around mouth (Froese & Pauly 2017). In India, the species is being recorded from the Arabian Sea (Varghese *et al.*, 2015).



Review of the available literature indicates that the longfin makos are not so far reported from the Andaman and Nicobar waters and therefore the **present report will be the first documented report of this species from this area.**

12.1.3 Bumper catch of Sharks in Nicobar waters

The vessel *MFV Blue Marlin* was deployed for survey of tuna and allied resources in the Nicobar waters in May 2017 by deploying multifilament tuna longline gear. During the voyage the vessel was out at sea for 20 days. The catch comprises of 104 sharks of 4 different species. The shark catch was dominated by pelagic thresher, (*Alopias pelagicus*). Altogether, 95 nos. of pelagic thresher shark specimens, weighing 2,963 kg with total length (TL) ranging from 164-361 cm were reported. The other shark species recorded were *Alopias superciliosus* (6 nos.); size (TL) ranging from 104-302cm, weighing 335 kg; *Galeocerdo cuvieri* (2 nos.); size (TL) ranging from 191-242 cm, weighing 120 kg and *Isurusoxyrinchus* (1 no.); size (TL) ranging from 140 cm; weighing 40 kg. Highest hooking rate (3.49%) was obtained from the area Lat. 07°N/ Long. 94°E, followed by area Lat. 07°N/ Long. 93°E (3.01%) and Lat. 08°N/ Long. 93°E (1.74%). Aggregate hooking rate of 2.23 % was recorded during the month.



12.1.4 Report of tapeworm in the gut of Sailfish



The vessel *MFV Yellow fin*, a multifilament tuna longliner of Mormugao Base of FSI was deployed for carrying out exploratory survey of marine fishery resources off Karnataka and Goa coast in the month of May 2017. 6 nos. of sailfishes (*Istiophorus platypterus*) were hooked during the voyage. All the sailfishes were dissected for biological studies. Parasitic tapeworm (*Diphyllobothium spp.*) was found in the gut of one of the sailfish caught in the area Lat. 15°07.50'N/ Long. 072°40.15'E at a depth of 1447 m. A total of 7 nos. of tapeworm were recorded. Their size ranged 5-15 cm. The tapeworm removed was in live condition for one hour. Infestation of the tapeworm is rare occurrence to find in sailfishes.

12.1.5 Juvenile fish catch recorded during the uniform fishing ban period

The vessel *MFV Matsya Darshini* was deployed for demersal fishery resources survey in the upper east coast of India between Lat. 16°N-21°N. During April-June 2017, the survey was carried out by 45.6 m Expo-model bottom trawl and 34 m shrimp trawl for the duration of 90 minutes for each haul. The vessel was out at sea for 56 days with 41 fishing days and expended a fishing effort of 166.5 hrs.



The survey results indicated the abundance of juvenile fin fishes as well as cephalopods in the trawl catches. During the period, the juvenile of 12 species of 11 genera were recorded. The dominant families in the juvenile population recorded were Sciaenidae, Scombridae, Stromateidae, Priacanthidae, Haemulidae, Mullidae, Synodontidae, Gerridae, Trichiuridae, Plotosidae and Loliginidae. This indicates that the spawning period of most of the species fall under the uniform ban period (i.e., 15th April-14th June 2017) envisaged by the Govt. of India vide order No : 30035 /15/97- Fy (T-1). Vol.



IV dated : 10.03.2017.

The details of the juveniles recorded are given below:

Sl No.	Fish Species	April 2017		May 2017		June 2017	
		Length (cm)	Weight (cm)	Length (cm)	Weight (cm)	Length (cm)	Weight (cm)
1	<i>Otolithes ruber</i> (Tigertooth croacker)	13.5-16	20-100	-	-	15.0-19.0	50-100
2	<i>Rastrelliger kanagurta</i> (Indian mackerel)	9.0-13.0	50-100	23.0-25.0	100-160	-	-

Sl No.	Fish Species	April 2017		May 2017		June 2017	
		Length (cm)	Weight (cm)	Length (cm)	Weight (cm)	Length (cm)	Weight (cm)
3	<i>Parastromateus niger</i> (Black pomfret)	7.5-12.0	70-350	11.0-16.0	20-100	-	-
4	<i>Loligo duvaucelli</i> (Indian squid)	6.0-9.0	10-80	-	-	-	-
5	<i>Saurida tumbil</i> (Greater lizard fish)	13.0-16.0	60-170	21.0-28.0	70-300	-	-
6	<i>Priacanthus hamrur</i> (Red bulls eye)	9.0-11.0	80-110	14.0-30.0	50-300	-	-
7	<i>Pomadasyus argenteus</i> (Silvergrunt)	18.0-21.0	120-550	-	-	-	-
8	<i>Upeneus vittatus</i> (Striped goatfish)	7.0-17.0	20-60	15.0-19.0	50-90	12.0-18.0	40-110
9	<i>Upeneus moluccensis</i> (Goldband goatfish)	6.5-17.5	20-55	13.0-18.0	20-80	-	-
10	<i>Sphyræna obtusata</i> (Obtuse barracuda)	11.5-27.0	50-80	-	-	-	-
11	<i>Gerres filamentosus</i> (Whipfin silverbiddies)	11.0-15.0	20-300	-	-	-	-
12	<i>Lepturacanthus savala</i> (Hair tail Ribbon fish)	10.0-14.0	15-35	-	-	-	-
13	<i>Plotosus lineatus</i> (Striped eel catfish)	-	-	16.0-20.0	30-70		

12.1.6 Tagging of Yellowfin tuna and Sharks

P-SAT tagging operation was conducted onboard the vessel *MFV Blue Marlin*, a multifilament longliner attached to Port Blair Base of FSI. 4 nos. of yellowfin tunas and 4 nos. of sharks were tagged with P-SAT Pop-up tags in the Andaman and Nicobar waters during July 2017. The tagging details are as follows.

Sl No.	Date	Species Tagged	Tagging Area	FL (cm)	Wt (Kg)
1	20.07.2017	<i>Alopias pelagicus</i>	Lat. 11°16.07'N/ Long. 92°55.47'E	258	30
2	21.07.2017	<i>Thunnus albacores</i>	Lat. 10°40.69'N/ Long. 92°47.34'E	152	40
3	21.07.2017	<i>Thunnus albacores</i>	Lat. 10°36.57'N/ Long. 92°45.36'E	132	35
4	23.07.2017	<i>Charcharhinus falciformis</i>	Lat. 10°38.8'N/ Long. 92°45.9'E	150	25
5	23.07.2017	<i>Alopias pelagicus</i>	Lat. 10°38.3'N/ Long. 92°45.7'E	276	30
6	25.07.2017	<i>Thunnus albacores</i>	Lat. 11°27.85'N/ Long. 92°53.20'E	132	30
7	25.07.2017	<i>Galeocerdo cuvier</i>	Lat. 11°26.50'N/ Long. 92°53.20'E	197	60
8	26.07.2017	<i>Thunnus albacores</i>	Lat. 11°56.92'N/ Long. 93°15.56'E	123	27

The tagging operation was carried out under the INCOIS, Hyderabad funded Project “Satellite Telemetry Studies on Migration Pattern of Tunas in Indian Seas (SATTUNA)”. Shri V. Murugan, Jr. Research Fellow, Chennai Base of FSI and Dr. Nimit Kumar, Scientist, INCOIS, Hyderabad had participated during the voyage.



12.1.7 Report of rare Mimika bobtail squid, *Euprymna morsei* (Verrill, 1881) from west coast of India



The vessel *MFV Matsya Varshini* while conducting exploratory surveys during June and August 2017 using fish trawl in the area between Lat. 09°45.51'N, Long. 76°06.35'E and Lat. 09°49.6'N, Long. 76°04.9'E in 31 m depth from muddy sand bottom, a rare squid, *Euprymna morsei* belongs to the family Sepiolidae was recorded for the first time from west coast of India. There were three specimens recorded along with Cnidarians (jelly fishes) and Ctenophore (comb jellies). There are around 16 species hitherto reported as per World Registrar of Marine Species from various seas of the world (WoRMS, 2014). According to available literature, occurrence of this species (*E. morsei*) was reported from Japan coast, Philippines, Maldives, Andaman sea (Goodrich 1896) and Ceylon (Hoyle, 1904). This is a first record on exact habitat of occurrence of *E. morsei* in Indian waters.

12.1.8 Occurrence of Pistol shrimps

While conducting demersal trawl surveys in the south west coast during June and August 2017 in the area between Lat. 09°40.7'N; Long. 76° 05.8'E and Lat. 09° 45.1'N; Long. 76° 03.9'E at the depth of 33 m by the vessel *MFV Matsya Varshini*, two different species of Pistol shrimps of the genus *Alpheus* were observed in the trawl catches. The species were identified as *Alpheus euphorsyne* de Man, 1897 and *Alpheus* Fabricius, 1798 belonging to the family Alpheidae.



Another species was *Alpheus* sp. Fabricius, 1798 was collected from pores of a coral rock of 60 cm height. This coral rock has many pores which provided shelter not only for shrimps but also for other species such as three crabs of 25 mm Carapace Length, one species of fish belongs to the family gobiidae, polychaetes spp. etc. Morphometry of the *Alpheus* sp. recorded where Total length - 29.5 mm, Carapace Length - 10 mm, Rostrum length - 2.9 mm, Rostrum keel (bottom) height - 9 mm, Major chela length -

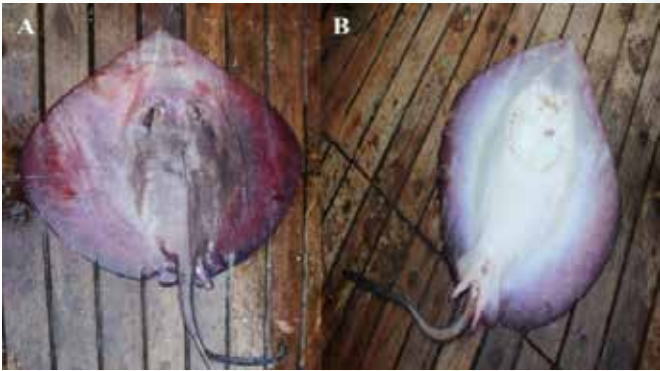
15 mm, Width of propodus - 6 mm, Dactylus length - 56.5 mm, Merus length - 4.2 mm, Merus of third preopod length - 5 mm and its width 0.5 mm, Telson - 3.9 mm and Tip of the telson is round.

12.1.9 Occurrence of banded mantis shrimp off Visakhapatnam coast

The vessel *MFV Matsya Darshini* conducted the survey, assessment and monitoring of demersal fishery resources by deploying 45.6 m expo model bottom trawl during the month of August 2017. During the voyage a single specimen of *Lysiosquilla tredecimdentata* (Golden Mantis Shrimp) belonging to the family Lysiosquillidae was recorded in the area Lat. 17°51.06'N / Long. 83°44.7'E (South off Bhimunipatnam) at a depth of 52 m. Total of 485 species belonging to 115 genus and 17 families of mantis shrimp are recorded worldwide (WoRMS, 2014). In India, 66 species were reported, of which 06 species are recorded from Andhra Pradesh coastal waters. According to Holthuis (1941), the distribution of *L. tredecimdentata* is from Yemen (Red sea) southward to Madagascar and South Africa; from India eastward to Thailand, Vietnam, Taiwan, Australia, Hawaii, Japan and the Indo-West Pacific, West coast and East coast of India.

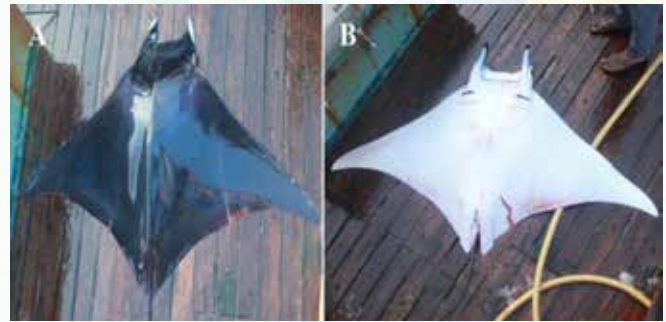


12.1.10 Rare deepwater rays hooked in longline gear along Andaman and Nicobar waters



The vessel *MFV Blue Marlin*, a multifilament tuna longliner, while conducting exploratory surveys in the eastern part of Andaman sea during October 2017 cruise, in area Lat. 11°31.4'N / Long. 92°56.3' E at a depth of 560 m, 2 nos. of deep water sting rays was hooked. The specimen of deep water stingray was identified as *Plesiobatis daviesi* (Family: Plesiobatidae). It is widely distributed in the Indo-Pacific region over the upper continental slope and is characterized by the presence of pointed triangular snout, oval pectoral fins and a leaf shaped caudal fin with narrow spine. The specimens were weighed 15 kg and had a total length (TL) of 2200 mm. Size and extent of calcification of the clasper indicated that the specimen hooked was mature. Digested teleosts and squids constituted the gut contents of *P. daviesi*.

Another single specimen of stingray was the giant devil ray, *Mobula mobular* belonging to family Mobulidae was caught from the area Lat. 10°19.32' N/ Long. 93°07' E. Giant devil ray is a highly mobile epipelagic, large zooplanktivorous ray circum-globally distributed within tropical to warm temperate waters of the Atlantic, Pacific and Indian Oceans (White *et al.*, 2006). Dorsal surface of the specimen was bluish-black with lighter shoulder patches, whitish belly with white tip on dorsal fin. White *et al.* (2006) reported that the size at maturity for male *M. mobular* is between 2050 and 2100 mm of Disc Width (DW) and females mature at about 2070 mm DW. The specimen studied in this report was a mature female with 3210 mm TL and 2200 mm DW and weighed 75 kg. Gut of the specimen was found empty.



12.1.11 Record of Alien Jelly fish swarm off Karnataka Coast



Swarm of a Cepheid scyphozoan, an Alien Jellyfish was recorded by the vessel *MFV Sagarika* during November 2017 survey cruise in the area Lat. 13°-14° N. A bulk quantity of 700 kg of swarm was recorded in a single haul in the area Lat. 13°12.1'N / Long. 74°33.1'E at a depth of 34 m. The species was identified as *Marivagia stellata*, Galil and Gershwin, 2010 (Scyphozoa: Rhizostomeae: Cepheidae) by its unique and remarkable morphology. The umbrella diameter and the wet weight of the collected specimen ranged from 13.0 – 18.0 cm. and 400 – 850 g respectively.

Morphometry: *Marivagia stellata* is a translucent bluish-white sea jelly fish, the exumbrella surface lacks central dome, warts, or knobs, ornamented with conspicuous pattern of reddish stars, dots and streaks clustered in centre third of exumbrella.

Galil and Gershwin, 2010 identified this species for the first time from the Mediterranean Sea. The first specimen of *Marivagia stellata* in the Indian Ocean was observed (but not collected) on 8 June 2013 among a swarm of beached Cepheid scyphozoans in Vizhinjam, Kerala, India (Lat. 08°22'N / Long. 76°59'E). Though initially identified as a non-indigenous species from Mediterranean waters, this species is a native of Indian Ocean.

12.1.12 Bumper catch of *Protonibea dicanthus* (Black spotted Croaker) recorded off Sindhudurg

During the month of December 2017, the vessel *MFV Sagarika* (OAL 28.8 m, Stern trawler) attached to Mormugao base of FSI carried out demersal fishery resources survey in the North west coast of Indian EEZ between Latitude 15°N to 19°N. During the cruise, 27.5 m Fish trawl was deployed at a depth of 63 m, a bumper catch of *Protonibeadicanthus* (Black spotted Croaker) was recorded in a single haul from the area Lat. 16°20.2'N and Long. 073°01.4'E and it weighed approximately 800 kg. In the same haul, Red snappers weighing around 300 kg were also recorded along with other marine fishery resources weighing about 38 kg.



12.1.13 Occurrence of Juvenile Spinycheek Grouper recorded off Mumbai Coast

During the month of December 2017, the vessel *MFV Sagarika* (OAL 28.8m, Stern trawler) attached to Mormugao Base of FSI carried out demersal fishery resources survey in the North West coast of Indian EEZ between Lat. 15°N - 19°N. During the cruise, 27.5 m Fish trawl was deployed at a depth of 46m, a juvenile catch of *Epinephelus diacanthus* (Spiny cheek Grouper) was recorded in



a single haul from the area Lat. 19°34.6'N / Long. 071°42.0'E length ranged from 9.8 – 19.1 cm and weighed approximately 700 kg. In the same haul, another species viz, *Nemipterus randalli* was observed along with the other marine fishery resources weighing around 29 kg.



12.1.14 Occurrence of Olive Ridley sea turtle (*Lepidochelys olivacea*) along the Andhra Pradesh coast

During January and February 2018 voyage, the survey vessel *MFV Matsya Shikari* attached to the Visakhapatnam Base of FSI was deployed for exploratory fishery survey in the area Lat. 16° N to Lat. 19° N (Andhra Pradesh Coast). During the above period, 57 nos. of *Lepidochelys olivacea* (Eschscholtz, 1829) commonly known as Olive Ridley sea turtle were recorded and they were released back to the sea in live condition after recording various parameters.



The Olive Ridley sea turtles are widely distributed in the Northern Indian Ocean. On the east coast of India, the major nesting grounds of Olive Ridley sea turtles are in Odisha coast (Rushikulya and Gahirmatha beach). They are also frequently observed along the Andhra Pradesh coast during the nesting season (November- January).

The sea turtle mortality occurs due to the commercial fishing operation viz., demersal trawling in the above area. Use of Turtle Excluder Device (TED) in the trawl net will be highly useful in mitigating the turtle by catch and mortality.

12.1.15 Record of Sipunculid worms off Maharashtra Coast



The exploratory fishery survey of *MFV Sagarika* in the month of February 2018 recorded the presence of sipunculid beds along the Lat.17° N as the sinkers of the bottom trawl operated was found to carry entangled sipunculids of various size ranges. The average total length of the samples recorded was around 15 cm with a trunk length of about 11 cm. The significant presence of the organism in this region draws an attention of more focused need of exploration of marine living resources in Indian waters for sustainable exploitation of diversified fishery resources.

Common to shallow waters, the all marine phylum, Sipuncula, comprises of unsegmented, coelomate, bilaterally symmetrical and soft bodied invertebrates inhabiting the sandy and muddy

habitats of marine and estuarine environments or inside a protective shelter of a discarded molluscan shell, foraminifera test or polychaete tube. They are popularly known as peanut worms. Though a small group, a wide range of biological diversity has been found in this taxon. The phylum has been divided into two classes which have been further subdivided into four orders and six families. Altogether 145 species under 17 genera have so far been reported from five oceans. Out of these, 35 species under 10 genera and 5 families have been reported from the Indian coast, sharing 24.1% of the world sipunculan species. The faunal component so far known is mainly reported from the intertidal belt of the coast of mainland and insular regions. If littoral and sublittoral zones are properly explored more number of species can be expected. So far as the distributional pattern of the sipunculan fauna is concerned the major areas of species concentration are Andamans, Nicobars, Lakshadweep, Gulf of Mannar, Tamil Nadu and Gujarat.

Being cylindroid in shape their body is regionated into a slender anterior introvert, and a plumper posterior trunk. The introvert is

highly muscular and retractile in nature and lies along the same axis of the trunk. The mouth lies at the anterior extremity of the introvert, the anterior end of the trunk is armed with a calcareous cap.

Though not a sorted item for consumption in Indian market they are widely used in North East Asian countries and various island nations of South East Asia. In India large sized species are used in the biological laboratories for different scientific experiments as well as in educational institutions for biological studies. They are also used as fish baits in the Lakshadweep and the Andamans respectively.

12.1.16 First record of *Lernaeolophus striatus* Wilson C.B., 1913 from Indian EEZ



Lernaeolophus striatus is a large tissue embedding parasitic copepod belonging to family Pennellidae. A single specimen of this parasite was collected from a great barracuda, *Sphyraena barracuda* of total length (TL) 94 cm caught from Lat. 11°16'N and Long. 91°45'E of Western part of Andaman Sea by the vessel *MFV Blue Marlin* during her March 2018 voyage.

Body of this parasite is divisible into flute like Cephalosome, neck and trunk. Cephalosome bears characteristic dendritic projections and is embedded in the host body. Caudal rami absent. In the present observation, the parasite was found embedded in the anterior region of anal fin of the host trailing its trunk and caudal projections. Cephalosome and dendritic projections were pale wine red colour and the trunk and caudal projections were darker red.



L. striatus can cause considerable damage to host and sometimes be fatal if infected in large numbers (*Williams and Bunkley-Williams, 1996*). Holotype specimen of this parasite was collected from Jamaica and described in 1913, and it was rediscovered by *Williams et al. (1996)* after 86 years from Caribbean waters. This work adds one more parasite to the genus *Lernaeolophus* from Indian waters other than *L. sultanus*.

12.2 Inter-institutional projects

Fishery Survey of India, jointly with other National Institutes, participated in implementation of the following Research projects relevant to Marine fisheries.

12.2.1 Satellite telemetric studies on migration pattern of tunas in Indian seas (SATTUNA)

Objectives:

1. To develop the baseline database on the environment and biological parameters influencing the tuna migration and breeding.
2. To develop and improve the tuna fishery forecast system with better accuracy levels in predicting the probable tuna fishing grounds.

Study Area	: Indian EEZ
Duration of the project	: 2011 to September 2017
Principal Investigator	: Shri Mahesh Kumar Farejiya, Director General (I/C), Fishery Survey of India
Co-Principal Investigators	: Dr. L. Ramalingam, Zonal Director, Mumbai Base Shri S. K. Jaiswal, Mech. Marine Engineer, Mormugao Base Shri A. Tiburtius, Sr. Fisheries Scientist, Chennai Base Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist, Mumbai (HQs)

Results

The tagging experiments are conducted in order to understand migration pattern, growth and breeding of the migratory fish i.e. Yellowfin tuna, under the project "Satellite telemetry studies on migration pattern of tunas in Indian seas" (SATTUNA) sponsored by Indian National Centre for Ocean Information Services (INCOIS), Hyderabad.

During the current year, the SATTUNA project was extended for 6 months to complete the tuna tagging programme as there were extra tags available. In this period, tuna tagging was carried out in the cruise by the vessels *MFV Blue Marlin* in the Andaman and

Nicobar Waters. Total 8 fishes were tagged by P-SAT tags. Sharks were also tagged for the first time during the cruise. The details of the tuna tagging is presented in the below Table.

Sl. No	Vessel Name	Sr. No./ Argos ID	Date of deployment	Area		FL (cm)	Wt (kg)
				Latitude °N	Longitude °E		
1	MFV <i>Blue Marlin</i> , A&N waters	18	25/07/2017	11°27.85'	92°53.20'	132	30
2		277*	25/07/2017	11°26.50'	92°53.20'	197	60
3		150	26/07/2017	11°56.92'	93°15.56'	123	27
4		1516*	20/07/2017	11°16.07'	92°65.47'	258	30
5		118	21/07/2017	10°40.69'	92°47.34'	152	40
6		991	21/07/2017	10°36.57'	92°45.36'	132	35
7		286*	23/07/2017	10°38.80'	92°45.90'	150	25
8		141*	23/07/2017	10°38.30'	92°45.70'	276	30

*P-SAT tagged on Shark

The scientists participant for the above tagging programme were Dr. Nimit Kumar, Project Scientist, INCOIS and Shri V. Murugan, JRF (SATTUNA).

12.2.2 Remote Sensing and GIS for Ecosystem Based Marine Living Resources Management

The Fishery Survey of India (FSI) has undertaken an inter-institutional project on “Remote Sensing and GIS for Ecosystem Based Marine Living Resources Management” with the Space Application Centre (SAC), Ahmedabad. The collaborative project funded by SAC commenced in November 2014 and concluded in March 2018.

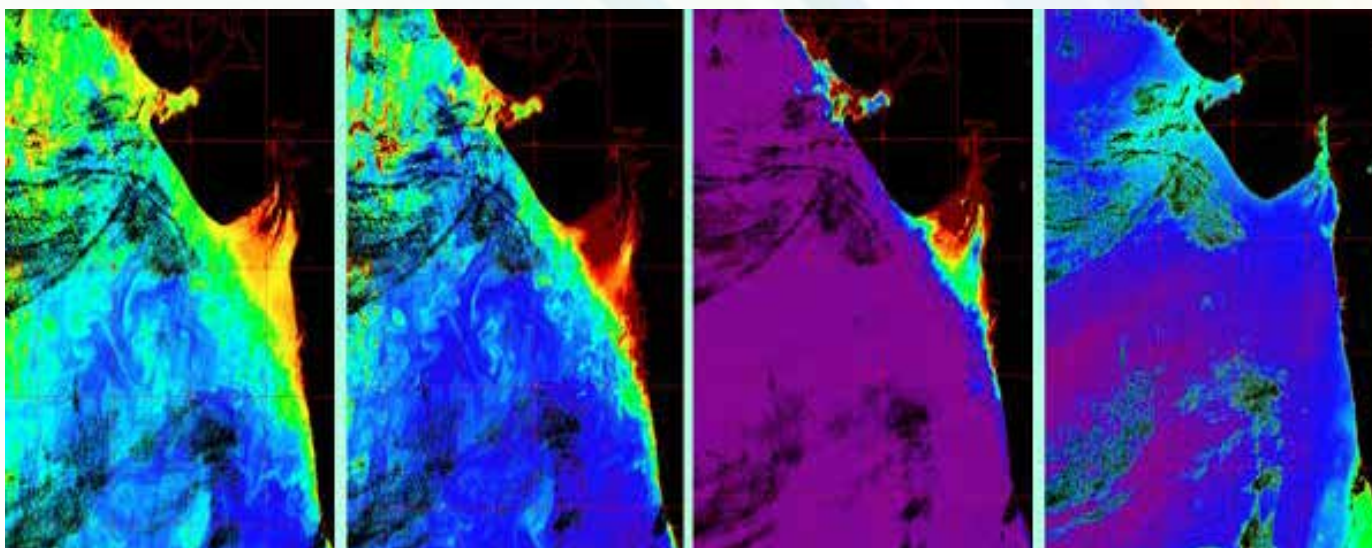
Objectives:

1. To designate marine fishery resources habitat for PFZs exploration/management and conservation using remote sensing and GIS.
2. To study signatures of oceanic variables synergistically.
3. To study patterns, spatio-temporal variability in oceanographic events/features with reference to their occurrence, intensity, persistence, re-occurrence and seasonality.
4. To derive essential fish habitat index based on statistical analysis and weights.
5. To designate PFZs and to designate sites, conservation sites for fishes through area/time/gear closure.
6. To transfer methodology for integrated PFZs and designated spatial zones to INCOIS for closure of PFZs forecast in designated areas.

Study Area : Arabian Sea
 Duration of the project : 2014 – 2018
 Principal Investigator : Dr. L. Ramalingam, Director General (I/C), Fishery Survey of India
 Co-Principal Investigators : Shri S. K. Jaiswal, Mech. Marine Engineer, Mormugao Base
 Shri A. Tiburtius, Sr. Fisheries Scientist, Chennai Base
 Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist, Mumbai (HQs)

Results

To accomplish the objectives and responsibilities of the project, FSI Scientists and Sr. Research Fellows participated onboard the departmental survey vessels *MFV Matsya Nireekshani* attached to Mumbai Base of FSI and *MFV Sagarika* attached to Mormugao Base of FSI. Both the vessels were deployed for survey, assessment and monitoring of demersal fishery resources off the Mid-West and North-West Coast between latitudes 11°-23°N. Altogether, both survey vessels were out at sea for a total of 951 days and conducted fishing operations for 687 days. The vessels operated 1850 hauls, expending total fishing effort of 2708 hrs. The demersal fishery catch data collected on-board the vessels were shared regularly with SAC, Ahmedabad for further evaluation of the catch data.



12.2.3 Identification, forecasting and monitoring of Potential Fishing Zone for Tamil Nadu coastal and offshore waters (SAMUDRA TDP R&D)

The Fishery Survey of India (FSI) has undertaken an inter-institutional project on “**Identification, forecasting and monitoring of Potential Fishing Zone for Tamil Nadu coastal and offshore waters (SAMUDRA TDP R&D)**” with the Space Application Centre (SAC), Ahmedabad. The ongoing collaborative project funded by SAC commenced in October 2017.

Objectives:

1. To collect water quality parameters in tandem with fish catch and to test the possible role of these parameters in influencing the fishery of the region.
2. The frequency of sampling and data collection shall be for 2 weeks duration every month along the cruise track of FSI vessel and forecasted track in the Tamil Nadu coastal/ off-shore water (along the track off Chennai, Pudhuchery, Cuddalore, Parangipettai, Karaikal, Nagapattinam coasts etc.).
3. To collect phytoplankton and zooplankton datasets.
4. To collect water quality data including the pigments, nutrients etc.
5. To collect geo-tagged fish catch data using fishing vessels in connection with PFZ forecast and validation.
6. Validation of satellite and model outputs with *in situ* parameters.
7. To assist in developing and validating fish track algorithm based outputs.

Study Area	: Coastal and offshore waters of Tamil Nadu
Duration of the project	: 2017 – 2019
Principal Investigator	: Dr. L. Ramalingam, Director General (I/C), Fishery Survey of India
Co-Principal Investigators	: Dr. Ansuman Das, Fisheries Scientist, Mumbai (HQs) Shri J. C. Dhas, Jr. Fisheries Scientist, Chennai Base

Results

FSI Fish catch data sets provided to Space Applications Centre (SAC)

During the month of September 2017, SAC Ahmedabad had requested for geo-tagged fish catch data (total catch data and CPUE at specific latitudes and longitudes) for offshore waters of Tamil Nadu coast and other parts of Bay of Bengal for the period January-June 2017 in order to analyse and interpret the data as a preliminary attempt. Accordingly, FSI had provided fish catch data in respect of survey vessels MFV Darshini and MFV Samudrika for the period January-March 2017. The SAC scientists are working on advanced algorithm development for identifying the fish catch locations and this data is extremely important for validation and stimulation of the algorithm.

Works carried out by the Research Associate at SAC

Dr. Kiran S. Mali, Research Associate (RA) carried out project work with survey catch data of vessels *MFV Samudrika* and *Matsya Darshini* and correlated it with the satellite based Chlorophyll and SST data. Using the software SURFER-15, 39 contour maps of CPUE, fishing depth and total catch were prepared and superimposed on Indian EEZ base map. Dr. R. K. Sarangi provided Moderate Resolution Imaging Spectroradiometer (MODIS) Chlorophyll and SST data for the year 2016. Using ENVI 4.4 software, the RA geo-corrected the Chl and SST images, made subsets, applied band math equation, masking of the image and creation of ASCII format which has been subsequently converted into grid and surfer images. Accordingly, month-wise 67 maps of Chl and SST were made. After this process, Chl and SST images were correlated with fish catch CPUE images and the results were derived.

Shri V. Murugan, Jr. Research Fellow participated onboard the vessel *MFV Matsya Drushti* and *MFV Samudrika* for 20 days each in the month of December 2017 and February 2018 for collection of sea truth as well as fishery resources survey data in the Bay of Bengal region.

Species Inventory

During the cruises participated by the project personnel species inventory studies were conducted and found that 78 species belonging to 62 Genera & 51 families were identified and found to occur in Tamilnadu waters. Category wise details are as follows:

Elasmobranchs	Finfishes	Crustaceans	Cephalopods
Family : 3	Family : 41	Family : 6	Family : 2
Genus: 3	Genus: 50	Genus: 7	Genus: 3
Species:4	Species:63	Species:8	Species:3

12.3 Strengthening of Database and Geographical Information System for Fisheries Sector (CSS)

Objectives:

- † Interacting with Maritime States and Union Territories for improving marine landing data collection by providing necessary training on the data collection methodology, data processing and fish taxonomy in collaboration with CMFRI at different places.
- † Printing of Handbook on Taxonomy in regional languages for the benefit of data enumerators.
- † Conducting Marine Fisheries Census of Andaman & Nicobar and Lakshadweep Islands.

Results

As per the objectives of the Central Sector Scheme (CSS) on “Strengthening of Database and Geographical Information System of the Fisheries Sector”, Government of India, the Fishery Survey of India had conducted the Marine Fisheries Census in Andaman & Nicobar and Lakshadweep Islands during February-March 2016 as part of the National Marine Fisheries Census – 2016 in collaboration with Fisheries Departments of both the Island groups. Collected census data were scrutinized at the Fishery Survey of India, Mumbai (HQs) and sent to the Central Marine Fisheries Research Institute (CMFRI), Kochi for data entry, processing and analysis for preparation and printing of the National Marine Fisheries Census Report - 2016.

13. ADMINISTRATION AND FINANCE

Shri Mahesh Kumar Farejiya, Director (Engineering) continued as the additional charge of the Director General (I/C) upto 04.03.2018 and after that Dr. L.Ramalingam, Deputy Director General (Fy.) assume the additional charge of the Director General (I/C) during the year under report.

13.1 Sanctioned posts

The category-wise numbers of sanctioned posts are furnished below:

Group	Category	No. of Posts		
		Headquarters	Bases	Total
A	Scientific	6	27	33
	Technical	4	14	18
	Administrative	1	0	1
B	Scientific	5	29	34
	Technical	6	35	41
	Administrative	13	37	50
	Floating staff	0	94	94
C	Scientific	0	1	1
	Technical	4	151	155
	Administrative	33	105	138
	Floating staff	0	184	184
Total		72	677	749

13.2 Officers in different stations

Name and designation of the officers of the Institutes as on 31st March 2018 are given below:

Headquarters, Mumbai

Dr. L. Ramalingam	Dy. Director General (Fy.)
Shri M.K. Farejiya	Director (Engg.)
Shri N.V. Ramanamurthy	System Analyst
Dr. Vinod Kumar Mudumala	Sr. Fisheries Scientist
Shri P. Chalapati Rao	Statistician
Dr. Ansuman Das	Fisheries Scientist
Smt. M. K. Sreemathi	Sr. Administrative Officer
Shri S.G. Patwari	Jr. Fisheries Scientist
Shri Chittajallu Bhaskar	Programmer
Shri Bapu M. Raut	Programmer
Shri Ashish Kumar	Programmer

Mumbai Base

Shri B. Balanayak	Service Engineer (Mech.)
Dr. S. K. Dwivedi	Fisheries Scientist
Shri A. S. Kadam	Fisheries Scientist
Shri Jacob Thomas	Jr. Fisheries Scientist

Mormugao Base

Shri S.K.Jaiswal	Mech. Marine Engineer
Shri H.D. Pradeep	Fisheries Scientist

Cochin Base

Shri D. K. Gulati	Zonal Director
Shri P. Tamilarasan	Fisheries Scientist
Shri B. Satheesh Kumar	Assistant Engineer (workshop)
Shri N. Unnikrishnan	Jr. Fisheries Scientist
Shri Manoj Kumar O.T.	Service Engineer (Mech.)

Chennai Base

Shri A. Tiburtius	Sr. Fisheries Scientist
Shri D. Bhami Reddy	Mech. Marine Engineer
Dr. Jeya Chandra Dhas	Jr. Fisheries Scientist
Dr. A. John Chembian	Jr. Fisheries Scientist

Visakhapatnam Base

Shri K. Govindaraj	Sr. Fisheries Scientist
Shri C. Dhananjaya Rao	Mech. Marine Engineer
Dr. Annada Bhushan kar	Fisheries Scientist
Shri N. Jagannadh	Jr. Fisheries Scientist
Shri G.V.A. Prasad	Jr. Fisheries Scientist

Port Blair Base

Dr. Sijo P. Varghese	Sr. Fisheries Scientist
Shri Dharamvir Singh	Mech. Marine Engineer

13.3 Budget and Accounts

The details of the Budget Grant and Expenditure of the Institute during the year

(₹ In Lakhs)

Particulars	Budget Grant	Actual Expenditure
Plan		
Capital	239.00	223.20
Sub-Total	239.00	223.20
Non-Plan		
Revenue	5066.76	4866.97
Capital	-	-
Dept. Canteen	15.00	17.68
Sub-Total	5081.76	4884.65
Grand Total	5320.76	5107.85

13.4 Appointments

The details of the appointments during the year

Name	Designation	Base/ HQs	Date
Shri Shakhawat Hussain	Stenographer Gr. II	Mumbai (HQs)	03.07.2017
Shri Hemant	Stenographer Gr. II	Mumbai	22.08.2017
Shri Yogender	Stenographer Gr. II	Chennai	24.08.2017

13.5 Transfers

The transfers effected during the year

Name	Designation	Base/ HQs		Date
		From	To	
Shri Dharamvir Singh	Mech. Marine Engineer	Cochin	Port Blair	07.04.2017
Shri Santosh Babu P. P.	Upper Division Clerk	Mumbai (HQs)	Cochin	13.04.2017
Shri T. R. Jayaprakash	Upper Division Clerk	Cochin	Mumbai (HQs)	02.05.2017
Shri R. Munusamy	Chief Engineer Gr-II	Port Blair	Chennai	07.06.2017
Shri A. Lawrence	Chief Engineer. Gr. II	Chennai	Port Blair	05.07.2017
Shri Muthukumar	Marine Electrician	Port Blair	Visakhapatnam	11.09.2017
Shri R. Yerra Naidu	Marine Electrician	Visakhapatnam	Port Blair	14.09.2017
Dr. L. Ramalingam	Zonal Director to Dy. Director General (Fy.)	Mumbai Base	Mumbai (HQs)	05.02.2018
Shri Kartik Ramanujam	Mechanical Supervisor(Sr)	Mormugao	Chennai	06.02.2018
Shri G.Elangovan	Mechanical Supervisor(Sr)	Chennai	Mormugao	14.02.2018
Shri S. G. Patwari	Jr. Fisheries Scientist	Mormugao	Mumbai (HQs)	26.02.2018
Shri Chelliah Murugan	Chief Engineer. Gr. II	Port Blair	Chennai	28.02.2018

13.6 Promotions

The promotions effected during the year

Name	Designation		Base/ HQs	Date
	From	To		
Dr. L. Ramalingam	Zonal Director	Deputy Director General (Fy.)	Mumbai (HQs)	05.02.2018

13.7 Grant of Modified Assurance Career Progression (MACP)

A total of 1 officer, 19 administrative & technical staff and 8 floating staff were granted MACP during the year.

13.8 Retirements

The details of retirements of officers/ staff during the year

Name	Designation	Base/ HQs	Superannuation/ Voluntary	Date
Shri Nemai Chandra Dey	Netmender	Port Blair	Superannuation	30.04.2017
Shri K. A. Chodankar	Netmender	Mormugao	Superannuation	31.05.2017
Shri J. E. Prabhakar Raj	Sr. Fisheries Scientist	Chennai	Superannuation	31.05.2017
Shri T. K. Peethambaran	Electronic Supervisor	Cochin	Superannuation	31.05.2017
Shri V. Valliah	Netmender	Port Blair	Superannuation	30.06.2017
Shri K. S. Balakrishnan	Service Assistant	Cochin	Superannuation	30.06.2017
Shri K. J. Boban Josy	Multi Tasking Staff	Mormugao	Superannuation	31.08.2017
Shri J. C. Mondal	Sr. Deckhand-cum-cook	Mumbai	Superannuation	30.09.2017
Shri G. Sankar Rao	Fitter	Visakhapatnam	Superannuation	31.10.21017
Shri T. Madhavraj	Sr. Deckhand-cum-cook	Chennai	Voluntarily	05.10.2017
Smt. Mamata Rani Halder	Multi Tasking Staff	Port Blair	Superannuation	30.11.2017
Shri S. Mony	Office Superintendent	Chennai	Superannuation	31.03.2018

13.9 Deputation

Dr. M. K. Sinha, Jr. Fisheries Scientist relieved from FSI on 09.10.2017 on his selection to the post of Sr. Executive on deputation in NFDB, Hyderabad.

13.10 Resignation

Name	Designation	Base/HQs	Resignation	Date
Shri Tejraj Singh	Multi Tasking Staff	Mumbai (HQs)	Technical Resignation	31.05.2017
Shri Upendra Kumar	Jr. Deckhand	Visakhapatnam	Resignation	09.10.2017

13.11 Obituary

Name	Designation	Base/HQs	Date
Shri R. Suresh	Netmender	Port Blair Base	05.04.2017

14. IMPORTANT EVENTS AT BASES AND HEADQUARTERS

14.1 Meetings

Half Yearly Review Meeting



Half Yearly Review of Operational and Scientific Activities (ROSA) meeting was held on 27th September 2017 in the Conference Hall of Cochin Zonal Base of Fishery Survey of India, Kochi. The meeting was chaired by Shri M. K. Farejiya, Director General (I/C). He expressed his views on importance of data collection during the survey cruises and emphasised that without vessels operation there will not be any survey data and the Institute will not be able to do justice to the science. He also requested the Scientists and Engineers to work together and put more effort in the scientific/ engineering activities and publish the scientific publications in their respective fields.

Consultative Committee Meetings

Mumbai Base

The 15th Consultative Group Meeting of Mumbai Base of FSI was held at the Conference Hall of Mumbai Base of FSI on 23rd February 2018 under the Chairmanship of Shri Govind Bodke, IAS, Commissioner of Fisheries, Govt. of Maharashtra. The proposed survey programme 2018-2019 of Mumbai Base was approved in the meeting by the Chairman of the Consultative Group.



Mormugao Base



The 14th consultative group meeting of Mormugao Base of FSI was held on 11th May 2017 under the Chairmanship of Dr. Shamila Monterio, Director of Fisheries, Goa. Officials from Directorate of Fisheries of Goa, Maharashtra, Karnataka, Scientists from CMFRI, Regional Centre-Karwar, CSIR–NIO, Goa and Officers from MPT, GSL & MMD, Goa and the members from Mormugao Base of FSI participated in the meeting.

The 15th consultative group meeting of Mormugao Base of FSI was held on 2nd February 2018 under the chairmanship Shri H.S. Veerappa Gowda, Director of Fisheries, Govt. of Karnataka. A total 19 members from different organizations participated in this meeting.



Visakhapatnam Base

The Consultative Group Meeting of Visakhapatnam Base of FSI was held on 9th February 2018 at Central Institute of Fisheries, Nautical Engineering and Training (CIFNET), Visakhapatnam under the Chairmanship of Shri Rama Shankar Naik, IAS, Commissioner of Fisheries, Govt. of Andhra Pradesh in the presence of other members.



Meeting to fix MRP for disposal of fish catches by Mumbai Base

A meeting of the committee constituted by Mumbai Base of FSI to discuss and arrive at the minimum reserved price for the catches being landed by the vessels attached to the base was held on 1st February 2018 under the Chairmanship of Dr. L Ramalingam, Zonal Director. Shri Rajkumar Naik, Dy. Director, MPEDA, Mumbai attended the meeting, besides the scientific staff.



Meeting for revalidating the Potential Fishery Resources of Indian Exclusive Economic Zone

The first meeting of the Committee for Revalidating the Potential Fishery Resources of the Indian Exclusive Economic Zone (EEZ) was held on 4th November 2017 at Fishery Survey of India (HQs) under the Chairmanship of Shri M. K. Farejiya, Director General (I/C). Members from various organizations viz., Department of Animal Husbandry, Dairying & Fisheries (DADF), Central Marine Fisheries Research Institute (CMFRI), Centre for Marine Living Resources and Ecology (CMLRE), National Institute of Oceanography (NIO), National Institute of Ocean Technology (NIOT), Zoological Survey of India (ZSI) and Fishery Survey of India (FSI) attended the meeting. In the meeting, the crucial points required for analyzing and drafting of the Revalidation Report were highlighted. The issues such as source of data, duration of data to be considered, analysis of data collected, estimation of resources based on depth-wise/ region-wise/ state-wise, coast-wise and standard methodologies to be followed were discussed.



14.2 Participation of Director General and Scientists in various events

The Director General (I/C) participated in the following events:

Sl. No.	Events	Venue/ Date
1	As part of the Earth day, a meeting on the “ <i>Impact of Human activities and possible solutions on the Oceanic Environment</i> ” was organized by the expert group to study the impact of pollution in the oceanic environment and to suggest the strategies for reducing the impacts of pollution.	US consulate, Mumbai, 21 st April 2017
2	10 th meeting of “ <i>Working Group</i> ” constituted for monitoring and review of implementation of OTC resolution.	Krishi Bhavan, New Delhi, 2 nd May 2017
3	Attended the discussion on administrative matters and the proposal of <i>MFV Matsya Sugandhi</i> and <i>MFV Yellow Fin</i> .	Krishi Bhavan, New Delhi, 5 th June 2017
4	13 th meeting of Technical Monitoring Committee (TMC) to monitor the component of “ <i>Strengthening of Database and Geographical Information System for the Fisheries sector under the Blue Revolution: Integrated Development and management of Fisheries</i> ”.	Ujjain, Madhya Pradesh, 19 th June 2017
5	Video Conferencing with Joint Secretary, MoA&FW, Delhi to discuss the use of LED lights in fishing vessels off Goa coast at National Informatics Centre.	Mumbai, 21 st June 2017
6	Meeting to discuss the proposal for Collaborative Project on “ <i>Upwelling - driven near shore Hypoxia Signals and its implication on Biogeochemical processes in connection with coastal fisheries – A time series Approach</i> ”.	NIO, RC- Mumbai, 27 th June 2017
7	31 st meeting of the Executive Committee (EC) of NFDB .	NFDB, Hyderabad, 29 th July 2017
8	Half Yearly Review Meeting of Operational and Scientific Activities (ROSA) 2017-18 of FSI at Cochin Base of FSI.	Kochi, 27 th September 2017
9	Meeting on “ <i>Special Training and Capacity Building in Deep-sea Fishing and Onboard Handling of Tuna for traditional fishers</i> ”.	MoA & FW, New Delhi, 11 th October 2017
10	First meeting of the Expert Committee constituted for Revalidation of Potential Fishery Resources in the Indian EEZ at the Conference Hall of FSI (HQs).	Mumbai, 4 th November 2017
11	Meeting on “ <i>Swachhata Abhiyan-Road map</i> ”.	MoA & FW, New Delhi, 13 th - 14 th November 2017
12	Attended the “ <i>World Fisheries Day Celebration Programme</i> ” organized by Ministry of Agriculture & Farmers’ Welfare, New Delhi.	MoA & FW, New Delhi, 21 st November 2017
13	Consultative meeting on “ <i>Strategies for Effective Coastal Area Management</i> ”.	CSIR- NIO, RC-Mumbai, 22 nd December 2017
14	Fourth meeting of the Task Force on Fisheries Subsidies.	Krishi Bhavan, New Delhi 28 th February 2018
15	Second Meeting of Expert Committee for Revalidation of Potential Fishery Resources in the Indian EEZ.	CMFRI, Kochi, 9 th March 2018
16	Krishi Unnati Mela – 2018 at Mela Ground, IARI.	Pusa, New Delhi, 16 th -18 th March 2018

Involvement of scientists/ other officials in various programmes conducted by FSI and other organizations:

Sl No.	Name/ Designation	Events	Venue/ Date
1	Dr. Sijo P. Varghese, Sr. Fisheries Scientist	Attended IOTC Coastal States meeting on “ <i>Allocation principles</i> ” along with Shri Aditya Kumar Joshi, Jt. Secretary (Fy), DAHD&F, MoAFW, New Delhi.	Maldives, 14 th -15 th April 2017
2	Shri A. Tiburtius, Sr. Fisheries Scientist Shri J. E. Prabhakar Raj, Sr. Fisheries Scientist Shri C. Babu, Sr. Scientific Assistant	Attended Stakeholders meeting conducted by ICAR- Central Marine Fisheries Research Institute (CMFRI).	Kasimedu, Chennai, 17 th April 2017

Sl No.	Name/ Designation	Events	Venue/ Date
3	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist	As part of the Earth day, a meeting on the “ <i>Impact of Human activities and possible solutions on the Oceanic Environment</i> ” was organized by the expert group to study the impact of pollution in the oceanic environment.	US consulate, Mumbai, 21 st April 2017
4	Shri S. K. Pattnayak, Sr. Scientific Assistant Shri A. Udaya Kumar, Stenographer Gr. I	Meeting of the Central Govt. Employee’s Welfare Coordination Committee.	Income Tax office, Visakhapatnam, 24 th April 2017
5	Shri K. Govindaraj, Sr. Fisheries Scientist Dr. A. B. Kar, Fisheries Scientist Shri S. K. Pattnayak, Sr. Scientific Assistant Shri K. Silambarasan, Sr. Scientific Assistant	Attended the Golden Jubilee celebration of Central Institute of Fisheries Technology (CIFT)	Visakhapatnam, 29 th April 2017
6	Dr. Ansuman Das, Fisheries Scientist	To attend the meeting of SAMUDRA Project.	SAC, Ahmedabad, 2 nd May 2017
7	Shri N. Jagannadh, Jr. Fisheries Scientist	To serve as an Interview Board member for the post of Net Maker at Central Institute of Fisheries & Nautical Engineering and Training (CIFNET).	Visakhapatnam, 4 th -5 th May 2017
8	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist	To examine the progress of Dry-docking repairs of the vessel <i>MFV Matsya Shikari</i> .	HSL, Visakhapatnam, 11 th - 15 th May 2017
9	Miss Rajashree B. Sanadi, Sr. Scientific Assistant Shri Rahulkumar B. Tailor, Sr. Scientific Assistant Dr. Kiran S. Mali, Sr. Research Fellow	Delivered the lectures in regional language on Hygienic handling of fish and allied topics at Sassoon Dock fishing Harbour, Mumbai in connection with the “Swachhata Pakhwada” observed by FSI during 16 th -31 st May 2017.	Mumbai, 23 rd May 2017
10	Dr. Sijo P. Varghese, Sr. Fisheries Scientist	Attended a meeting at Secretariat, Port Blair to discuss about the modalities for inviting mainland based tuna fishing industry to fish in Andaman and Nicobar Island waters, under the Chairmanship of the Chief Secretary and Secretary (Fisheries), Andaman and Nicobar Administration.	Port Blair, 3 rd June 2017
11	Dr. Sijo P. Varghese, Sr. Fisheries Scientist	Attended meeting on “ <i>Establishing Tuna Hub in the Andaman and Nicobar Islands</i> ”.	Raj Niwas, Port Blair, 5 th June 2017
12	Shri A. Tiburtius, Sr. Fisheries Scientist Shri C. Babu, Sr. Scientific Assistant	Participated in an expert/stakeholder meeting on “ <i>Country’s present status, challenges and future in the area of Marine Biodiversity and Marine Genomics pertaining to the deep seas</i> ”.	NIOT, Chennai, 12 th June 2017
13	Shri Ashok S. Kadam, Fisheries Scientist	Quarterly meeting of the Agricultural Advisory Committee of Mumbai Doordarshan’s Krishidarshan programmes under the scheme “ <i>Mass media support to Agriculture Extension</i> ”.	Ahmednagar, Maharashtra & Shivajinagar, Pune 13 th June 2017 & 13 th March 2018
14	Dr. H. D. Pradeep, Fisheries Scientist	Attended Video Conferencing to discuss use of LED lights in fishing vessel beyond 12 nautical miles at NIC.	Goa, 21 st June 2017
15	Shri N. Jagannadh, Jr. Fisheries Scientist	Attended the Committee meeting for finalization of Minimum Reserve Price (MRP) for disposal of fish catches of both the vessels attached to Chennai Base of FSI.	Chennai, 23 rd June 2017
16	Shri K. Govindaraj, Sr. Fisheries Scientist Dr. A. B. Kar, Fisheries Scientist	Attended a meeting organized during the visit of Shri Sudarsan Bhagat, Hon’ble Union Minister of State for Agriculture and Farmers’s Welfare.	Circuit House, Visakhapatnam, 25 th June 2017

Sl No.	Name/ Designation	Events	Venue/ Date
17	Dr. Sijo P. Varghese, Sr. Fisheries Scientist	Attended a meeting to discuss about the proposal "Stakeholders meet for development of Tuna fisheries in ANI".	CIARI, Port Blair, 29 th June 2017
18	Dr. A. B. Kar, Fisheries Scientist	Attended the TDS seminar awareness programme organized by the TDS range, Visakhapatnam.	ICAI, Visakhapatnam, 30 th June 2017
19	Dr. S. Ramachandran, Sr. Fisheries Scientist	Attended the meeting on "Fish stock and assessment".	MPEDA, Kochi, 6 th July 2017
20	Dr. S. Ramachandran, Sr. Fisheries Scientist	Participated in the stakeholder's meet on "The development of Tuna Fisheries in Andaman & Nicobar Islands".	CIFT, Kochi, 9 th July 2017
21	Shri K. Govindaraj, Sr. Fisheries Scientist Shri C. Dhanunjaya Rao, Mech. Marine Engineer	Attended the Annual Day Celebration of the CIFNET.	Kochi, 14 th July 2017
22	Shri N. Unnikrishnan, Jr. Fisheries Scientist Shri A. E. Ayoob, Jr. Fishing Gear Technologist	Participated in the exhibition held in connection with "Matsyolsavam 2017" conducted by Dept. of Fisheries.	Marine Drive, Ernakulam, 25 th -27 th July 2017
23	Shri C. Dhananjaya Rao, Mech. Marine Engineer	Attended the meeting at CIFNET in connection with change in syllabus for the engine side trainees.	CIFNET, Kochi 3 rd August 2017
24	Dr. S. K. Dwivedi, Fisheries Scientist Shri Ashok Kadam, Fisheries Scientist Dr. Dewanand Uikey, Sr. Scientific Assistant Shri Amod Tamhane, Sr. Scientific Assistant Miss Roshan Maria Peter, Sr. Scientific Assistant	Attended the scientific meeting on "Shrimp Export" held at Conference Hall, FSI (HQs), Mumbai.	Mumbai, 4 th August 2017
25	Dr. Sijo P. Varghese, Sr. Fisheries Scientist	Attended a meeting to discuss about the dissemination of information on Potential Fishing Zone (PFZ) at the Secretariat, Andaman and Nicobar Administration.	Port Blair, 7 th August 2017
26	Dr. Sijo P. Varghese, Sr. Fisheries Scientist	Attended a meeting at the Secretariat, A & N Administration under the Chairmanship of the Chief Secretary, Andaman and Nicobar Administration to discuss the modalities for inviting mainland based tuna fishing industry to fish in Andaman and Nicobar waters.	Port Blair, 16 th August 2017
27	Shri G. V. A. Prasad, Jr. Fisheries Scientist	Attended a three day residential training programme on "IOT in Agriculture & Allied Sector" as a resource person organized by Andhra Pradesh Human Resource Development Institute (APHRDI).	Guntur, Andhra Pradesh, 21 st -23 rd August 2017
28	Shri Dharamvir Singh, Mech. Marine Engineer	Attended DPC meeting for confirmation of Group "C" employees at the Chamber of the Secretary (Fisheries), Andaman and Nicobar Administration.	Port Blair, 28 th August 2017
29	Shri Dharamvir Singh, Mech. Marine Engineer	Attended general body meeting of Central Government Employees Welfare Co-ordination Committee.	Port Blair, 29 th August 2017
30	Dr. A. John Chembian, Jr. Fisheries Scientist	Participated in one day International workshop on "Deep sea fishing in Tamil Nadu-Challenges and Opportunities (DFT-Sep '17)" organized by Fisheries College and Research Institute, Thoothukudi.	Institute of Post Graduate Studies, Vaniyanchavadi, Chennai, 8 th September 2017
31	Dr. Dewanand Uikey, Sr. Scientific Assistant	Quarterly meeting of the Agricultural Advisory Committee of Mumbai Doordarshan's Krishidarshan programmes under the scheme "Mass media support to Agriculture Extension".	Worli, Mumbai, 15 th September 2017
32	Dr. H. D. Pradeep, Fisheries Scientist	Attended the meeting on LED Light Fishing under the Chairmanship of Hon'ble Minister of Fisheries, Govt. of Goa.	Secretariat, Goa, 4 th October 2017

Sl No.	Name/ Designation	Events	Venue/ Date
33	Shri N.Unnikrishnan, Jr. Fisheries Scientist	Attended the Expert Committee meeting for recommending financial assistance for the installation of insulated fish hold and RT set onboard fishing boats.	MPEDA, Kochi, 23 rd October 2017
34	Dr. Dewanand Uikey, Sr. Scientific Assistant	Phone-in-talk on “ <i>Application of GPS Navigation Device for Fishermen</i> ” to Akashwani, Mumbai, which was broadcasted on 11 th November 2017.	Mumbai, 28 th October 2017
35	Dr. Sijo P. Varghese, Sr. Fisheries Scientist	Attended a meeting to discuss on “ <i>Prohibiting the use of bottom trawling gear in the territorial waters of Andaman and Nicobar Islands</i> ” convened under the Chairmanship of Secretary (Fisheries) at secretariat, Andaman and Nicobar Administration.	Port Blair, 3 rd November 2017
36	Shri C. Dhananjaya Rao, Mech. Marine Engineer	Attended the Chief Engineers and Engine Drivers examination syllabus finalization and discussion.	CIFNET, Visakhapatnam, 6 th November 2017
37	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist	Meeting on TSOOM Project.	NIO, Goa, 14 th November 2017
38	Dr. A. B. Kar, Fisheries Scientist Shri G.V.A. Prasad, Jr. Fisheries Scientist Shri K. Silambarasan, Sr. Scientific Assistant	Attended the National level Demonstration Workshop for Data collection through focus group discussion for “ <i>Best Trawling Practices</i> ”.	CMFRI-RC, Visakhapatnam, 14 th November 2017
39	Dr. Sijo P. Varghese, Sr. Fisheries Scientist	Attended a programme of Co-operatives for disadvantageous and economically weaker section jointly organised with co-operative department, NCUI project NABARD.	Port Blair, 18 th November 2017
40	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Shri G.V.A. Prasad, Jr. Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant Shri K. Silambarasan, Sr. Scientific Assistant	“ <i>World Fisheries Day Celebration Programme</i> ” organized by Ministry of Agriculture & Farmers’ Welfare.	MoA & FW, New Delhi, 21 st November 2017.
41	Dr. S. Ramachandran, Sr. Fisheries Scientist	Attended a meeting on “ <i>Regional dialogue on management of Highly migratory fish species in Bay of Bengal</i> ”.	Kochi, 23 rd November 2017
42	Shri K. Govindaraj, Sr. Fisheries Scientist Dr. A.B. Kar, Fisheries Scientist Shri N. Jagannadh, Jr. Fisheries Scientist	Attended the Review Meeting on “ <i>Blue Revolution: Assistance for Deep Sea Fishing-Fishery Potentiality of Bay of Bengal</i> ”.	Secretariat, Velagapudi, Andhra Pradesh, 28 th November 2017
43	Shri K. Govindaraj, Sr. Fisheries Scientist Dr. A.B. Kar, Fisheries Scientist Shri N. Jagannadh, Jr. Fisheries Scientist Shri S.K. Pattnayak, Sr. Scientific Assistant	Attended the meeting on “ <i>Deep Sea Fishing Policy</i> ”.	CMFRI-RC, Visakhapatnam, 2 nd December 2017
44	Shri Dharamvir Singh, Mech. Marine Engineer	Attended Trade committee meeting for finalization of course curricula for the trade of vessel navigator and marine fitter Craftsman Training Scheme (CTS).	ITI, Dollygunj, Andaman & Nicobar Islands, 6 th December 2017
45	Shri K. Govindaraj, Sr. Fisheries Scientist Dr. A.B. Kar, Fisheries Scientist Shri N. Jagannadh, Jr. Fisheries Scientist Shri G.V.A. Prasad, Jr. Fisheries Scientist	Attended the workshop on “ <i>Preparation of Detailed Project Report (DPR) on exploitation of deep sea fishery resources of Bay of Bengal</i> ” organized by Commissioner of Fisheries, Govt. of Andhra Pradesh.	CIFNET, Visakhapatnam, 14 th -15 th December 2017
46	Shri P. Tamilarasan, Fisheries Scientist	Attended a National Stakeholders workshop on “ <i>Assessment of food loss from selected gillnet and trammel net fisheries of India</i> ”.	CIFT, Kochi, 15 th December 2017
47	Dr. A.B. Kar, Fisheries Scientist Shri S.K. Pattnayak, Sr. Scientific Assistant	Attended the discussion on the “ <i>Collaborative Research Project</i> ” proposed to be undertaken with Zoological Survey of India.	Zoological Survey of India, Kolkata, 19 th -22 nd December 2017
48	Dr. Sijo P. Varghese, Sr. Fisheries Scientist	Served as a panel member of the interview board for the selection of AFDO post in the Department of Fisheries, Andaman and Nicobar Administration.	Port Blair, 20 th December 2017

Sl No.	Name/ Designation	Events	Venue/ Date
49	Shri N. Unnikrishnan, Jr. Fisheries Scientist B. SatheeshKumar, Assistant Engineer (MED)	Attended the meeting of Scientific institutions for formulation of scientific advice to the Government on the <i>Ockhi</i> cyclone.	CMFRI, Kochi, 9 th January 2018
50	Dr. Sijo P. Varghese, Sr. Fisheries Scientist	Attended a meeting at the Secretariat, Andaman and Nicobar Administration to have a preliminary discussion and to decide next course of action for implementation of “ <i>Draft Fisheries Policy for the Development of Tuna Fisheries in Andaman and Nicobar Islands</i> ”.	Port Blair, 15 th January 2018
51	Dr. Ansuman Das, Fisheries Scientist	Technical committee meeting of “Taraporevala Aquarium”.	Taraporevala Aquarium, Mumbai, 16 th January 2018
52	Shri A. Tiburtius, Sr. Fisheries Scientist Shri D. Bhami Reddy, Mech. Marine Engineer	Participated meeting–cum–workshop organized by Ministry of Agriculture & Farmers Welfare in association with Director General of Shipping, Ministry of Shipping and BOBP-IGO, Chennai to consider appropriate Systems/ Guidelines/ Regulatory Framework for Operation of Fishing Vessels to Prevent Collision with Merchant Vessels and Ensuring Safety of Fishermen and Fishing vessels.	Chennai, 23 rd -24 th January 2018
53	Shri K. Govindaraj, Sr. Fisheries Scientist Dr. A.B. Kar, Fisheries Scientist	Attended the lecture on “ <i>Current Status of Exploited Tuna Resources and its Distribution</i> ” organized by Visakhapatnam Chapter of Marine Biological Association.	CMFRI-RC, Visakhapatnam, 25 th January 2018
54	Dr. Sijo P. Varghese, Sr. Fisheries Scientist	Attended a meeting at Secretariat, Andaman and Nicobar Administration to discuss the <i>proposal for generating employment through Fisheries sector in Andaman and Nicobar Islands</i> .	Port Blair, 30 th January 2018
55	Shri D.K. Gulati, Zonal Director Shri N. Unnikrishnan, Jr. Fisheries Scientist	Attended 2 nd <i>Fishing Skill Advisory meeting</i> conducted by Agriculture Skill Council of India (ASCI), Ministry of Skill Development & Entrepreneurship (MSDE).	CIFNET, Kochi, 7 th February 2018
56	Shri C. Dhananjaya Rao, Mech. Marine Engineer	Attended the Training Programme on “ <i>Awareness on Safety at Sea</i> ” for Fishermen and served as a resource person.	Bheemili Mandal, Visakhapatnam, 15 th February 2018
57	Dr. A.B. Kar, Fisheries Scientist	Attended the Stake Holders Consultation meet for the finalization of the Detailed Project Report for the exploitation of “ <i>Deep Sea Fishery Resources</i> ”.	CIFNET, Visakhapatnam, 16 th February 2018
58	Dr. Sijo P. Varghese, Sr. Fisheries Scientist	Attended a meeting convened by Honb’le Union Minister of State for Ministry of Agriculture and Farmer’s Welfare, Smt. Krishna Rai to discuss about the status and prospects of Agriculture related activities of Andaman and Nicobar Islands.	CIARI, Port Blair, 21 st February 2018
59	Shri N. Jagannadh, Jr. Fisheries Scientist Shri G.V.A. Prasad, Jr. Fisheries Scientist	Attended the awareness programme for fishermen organized by fishermen welfare society and briefed on “ <i>Oceanic Tuna Resources</i> ” and “ <i>Marine Fishery Resources of the East coast of India</i> ” respectively.	Bheemili, Visakhapatnam, 24 th February 2018
60	Shri S. K. Jaiswal, Mech. Marine Engineer	Delivered a lecture and made presentation on “ <i>Operation of Fishing and Research vessel</i> ” at Naval War College, INS, Mandovi.	Goa, 27 th February 2018
61	Dr. H. D. Pradeep, Fisheries Scientist	Delivered a lecture on <i>Marine Biology</i> for the benefit of the students of Kendriya Vidyalaya No. 1, Vasco on the occasion of “ <i>National Science Day</i> ” Celebration.	Goa, 28 th February 2018

Sl No.	Name/ Designation	Events	Venue/ Date
62	Dr. S Ramachandran, Sr. Fisheries Scientist Shri P. Chalapati Rao, Statistician Shri Ashok Kadam, Fisheries Scientist Shri N. Unnikrishnan, Jr. Fisheries Scientist	Attended 2 nd meeting of Expert committee for Revalidation of Potential Fishery Resources in the Indian EEZ.	CMFRI, Kochi, 9 th March 2018
63	Shri A. Tibutius, Sr. Fisheries Scientist Shri C. Babu, Sr. Scientific Assistant	Participated in a National Consultative Workshop on Preparation of Fishery Performance Indicators for Yellowfin and Skipjack Tuna fisheries organized by BOBP-IGO	Chennai, 12 th -13 th March 2018
64	Shri K. Govindaraj, Sr Fisheries Scientist Shri C. Dhananjaya Rao, Mech. Marine Engineer Shri G. V. A Prasad, Jr. Fisheries Scientist	Attended the meeting on “Registration and Inspection of Fishing Boast” organized by Mercantile Marine Department, Visakhapatnam.	CIFNET, Visakhapatnam, 13 th March 2018
65	Shri Dharamvir Singh, Mech. Marine Engineer	Attended a meeting for Cost assessment of fishing boats constructed under UT Plan Scheme in the Director of Fisheries, Andaman and Nicobar Administration.	Port Blair, 23 rd March 2018
66	Shri K. Govindaraj, Sr. Fisheries Scientist Dr A. B. Kar, Fisheries Scientist	Attended a meeting with Shri Rama Sankar Naik, IAS, Commissioner of Fisheries, Govt. of Andhra Pradesh and discuss on various aspects of the “Deep Sea Fishing Project” to be implemented by Govt. of Andhra Pradesh.	Visakhapatnam, 27 th March 2018

14.3 Visitors / delegations

Following visitors and delegations visited at Fishery Survey of India (HQs) and the respective Base offices. HQs and Base scientists provided them the information on FSI activities including commercially important species, eco-friendly fishing methods, fishing gear technology, navigational and electronic equipments used onboard fishery survey vessels, etc. FSI publications / RIS were also made available to the dignitaries.

Mumbai HQs

Description	Date
Miss Chinmayee Bawkar and Miss Sonali Sawant from G. N. Khalsa College, Mumbai.	21 st June 2017
Shri Ajit S. Uimon and Shri Suarabh Nagre, Prem NGO.	21 st June 2017
27 students along with one Asst. Professor from the College of Fishery Science, Sri Venkateswara Veterinary University, Nellore, Andhra Pradesh.	3 rd July 2017
Miss Rajashree Solanki, Prem Punita – NGO, Mumbai.	31 st July 2017
Shri S. Shivkumar Higshte, Kissht Finance, Mumbai.	3 rd August 2017
Shri Viraj Belose from Tanmay Shipping and Shri Lalesh Khairnar from Terna College, Navi Mumbai.	3 rd August 2017
Shri Santosh Kadam from MPEDA, Netfish.	4 th August 2017
Mrs. Roopa Patel and Shri Nirbhay Patel, Mumbai.	14 th August 2017
A scientist from Central Institute of Fisheries Education (CIFE), Mumbai.	21 st September 2017
Dr. Simranjit Singh, Dy. Commandant, Coast Guard, Western region, ICGS, SAMRAT.	4 th October 2017
Shri Ravikant and Shri Vishwakarma from Mumbai.	11 th October 2017
Miss Veena Desai, Jr. Research Fellow, Dept. of Zoology, R. G. Ruparel College, Mahim, Mumbai.	10 th November 2017
Dr. Ranjit Kumar Sarangi, Scientist, Project Investigator of SAMUDRA Project, Space Application Centre, Ahmedabad.	18 th January 2018
Dr. A. Laxminarayana, Ex. Principal scientist of CMFRI & Fisheries consultant along with his two officers.	30 th January 2018
Mr. Welber wang, Manager & Mrs. Harjeet Kaur Gulati, Trade Promotion specialist from Taipei World Trade Centre, Mumbai.	21 st February 2018

Mumbai Base

Description	Date
27 students along with two staff members from College of Fishery Science, Sri Venkateswara Veterinary University, Nellore, Andhra Pradesh.	3 rd July 2017
Shri Govind Bodke, IAS, Commissioner of Fisheries, Govt. of Maharashtra	23 rd February 2018

Mormugao Base

Description	Date
Shri Jose Francisco D Souza, Vaco-da-Gama.	14 th & 25 th July 2017
16 students along with one faculty members from College of Dhempe college of Arts & Science, Panaji, Goa.	24 th July 2017
Smt. Sanchiliara Faria, Associate Professor, MES College of Arts & Commerce, Zuarinagar, Goa.	20 th September 2017
23 students along with two faculty members from School of Applied Life Science, M.G. University, Kerala.	4 th October 2017
41 students along with three faculty members from Dept. of Studies & Research in Zoology, Tumkur University, Karnataka.	30 th October 2017
22 students along with three faculty members from Karnatak University, Dept. of Studies in Marine Biology, Kodibag, Karwar, Karnataka.	17 th November 2017
10 fisher youths along with one lecturer from Fishing Training Institute, Directorate of Fisheries, Govt. of Goa.	29 th November 2017
One student from Deepvihar, Higher Secondary School, Headland Sada, Mormugao.	4 th December 2017
Dr. T. T. Ajith Kumar, Principal Scientist and Dr. Mrs. Tina Jayakumar T.K., Scientist, PMFGR centre, NBFGR, Kochi.	20 th -21 st December 2017
Shri Pitour Saldanha, Techno Engineers, Vaddem, Vasco- da- Gama and Shri Humbert Anto, PGL, Offshore Enterprise, Vasco-da-Gama.	18 th January 2018
Shri Michael Gama from Fr. Agnel College of Arts & Commerce, Pilar, Goa.	31 st January 2018

Cochin Base

Description	Date
23 MSc (Fisheries) students and three teachers from Vimala College, Thrisur visited the Survey vessels attached to the Base and Marine Engineering Division.	30 th June 2017
Shri Devendra Chaudhary, IAS, Secretary, DAHD&F, Ministry of Agriculture & Farmers' Welfare, New Delhi visited the Base and MED.	22 nd July 2017
Shri Rohit Mathur, Director (Finance) Dept. of AHD&F, Ministry of Agriculture & Farmer's Welfare, New Delhi visited the MED Kochi, survey vessels and MED Slipway.	11 th August 2017
43 students from Govt Vocational Higher Secondary School Thanoor, visited the workshop, life raft, slipway and vessel attached to the Base.	17 th August 2017
8 students from the Advance Vocational Training Institute, Kalamassery visited the slipway, workshop, life raft service station and onboard vessel <i>M.F.V. Matsya Varshini</i> attached to the Base.	9 th November 2017
28 students of Diploma of Fisheries Engineering from the college of Fisheries, Ratnagiri, Maharashtra visited the slipway, workshop, life raft service station and on board the vessel <i>M.F.V. Matsya Varshini</i> attached to the Base.	9 th November 2017
24 students of Nautical & Engineering training from GVHSS, Kaitharam visited the survey vessel <i>M.F.V. Matsya Varshini</i> attached to the Base and MED workshop.	6 th December 2017
45 B.F.Sc. students from Kerala University of Fisheries and Ocean Studies (KUFOS), Kochi visited on board <i>M.F.V. Matsya Varshini</i> attached to the Base and MED.	8 th December 2017
10 Trainees from Cochin Shipyard Ltd, Kochi visited on board <i>M.F.V. Matsya Varshini</i> attached to the Base.	18 th December 2017
26 students from Malappuram AFFBAH College visited on board the vessel attached to the Base.	12 th January 2018

Description	Date
15 students from Govt. IT Kalamassery visited on board the vessel attached to the Base.	17 th January 2018
45 students of Vessel Navigator and Marine Fitter course along with six faculty members from CIFNET, Chennai & Vizag visited the MED, workshop and MFV <i>Lavanika</i> attached to the Base.	16 th February 2018

Chennai Base

Description	Date
21 trainees including 9 Inspector of Fisheries and 12 Sub Inspector of Fisheries from the Fisheries Staff Training Institute, Tamil Nadu Fisheries University, Chennai.	5 th April 2017
Dr. S. R. Muthusamy and Shri P. Kamalakannan from ITCOT Consultancy and Services Ltd.	20 th April 2017
10 students of 1st Year M.Sc. Zoology of Pachaiappa's College, Chennai.	1 st -5 th May 2017
Smt. Fatima Bibi, Additional Director and Smt. J. Chandra, Joint Director, Deptt. of Fisheries Govt. of Tamil Nadu along with other staff members visited departmental survey vessel <i>MFV Matsya Drushti</i> .	12 th June 2017
Dr. R. K. Sarangi, Scientist, Space Application Centre (SAC), Ahmedabad for the discussion about SAMUDRA- PFZ a collaborative project of SAC-ISRO with FSI.	27 th July 2017
23 Students along with one faculty member from Ponneri Fisheries College and Research Centre visited the Base, Museum and the Department survey vessels <i>MFV Matsya Drushti</i> and <i>MFV Samudrika</i> .	6 th December 2017

Visakhapatnam Base

Description	Date
Dr S. R. Muthusamy, Fisheries Consultant, Industrial and Technical Consultant Organization of Tamil Nadu along with his colleague.	13 th April 2017
28 Marine fitter course students of CIFNET, Chennai with Shri M. Habibullha, Senior Instructor.	21 st April 2017
Dr. P. Paul Pandian, Fisheries Development Commissioner, Ministry of Agriculture & Farmers' Welfare, DAHD&F, New Delhi visited the Base and survey vessels <i>M.F.V. Matsya Darshini</i> and <i>MFV Matsya Shikari</i> attached to the Base.	15 th July 2017
Dr. Ramaneswari, Associate Professor & Head, Department of Zoology, Aadikavi Nannaya University, Rajamahendrawaram, East Godavari District, Andhra Pradesh along with 32 students of II nd year M.Sc. Aquaculture and Zoology visited the vessels <i>MFV Matsya Shikari</i> and <i>MFV Matsya Darshini</i> attached to the Base.	19 th September 2017
Smt. S. Saroja, PGT (Bio-science), A.P Residential School, Bheemunipatnam, Andhra Pradesh along with two of her colleagues.	7 th October 2017
Shri G.S.L. Murthy and his colleague from Cyclone Warning Centre, Visakhapatnam.	7 th December 2017
32 B.Sc. (Industrial Fisheries and Aquaculture) students from Ashutosh Fisheries College, Kolkata visited the Base and the vessel <i>MFV Matsya Shikari</i> attached to the Base.	13 th December 2017
Shri B. S. Rama Krishna, Staff Reporter, EENADU, Visakhapatnam.	20 th December 2017
Dr. B. R. Honnananda, Assistant Professor, College of Fisheries, Kawardha, Chattisgarh along with 23 students of III rd year B. F. Sc. (Aquaculture) visited the Base and the vessel <i>MFV Matsya Shikari</i> attached to the Base.	27 th December 2017
Shri P. Srinivas Rao, Fishery Entrepreneur.	6 th January 2018
60 students of B.Sc., (Biology) III rd Year from Government Degree College, Srikakulam.	10 th January 2018
Shri Zehan Nagpal, Fishery Entrepreneur along with his two colleagues from New Delhi.	21 st February 2018
29 Departmental officers of SIFT, Kakinada.	6 th March 2018
10 students from CIFNET, Chennai, visited the Base and the vessel <i>MFV Matsya Shikari</i> attached to the Base.	9 th March 2018
6 B.F.Sc. students from College of Fisheries, Dholi, Bihar.	12 th March 2018
Shri Pratik Gandhi, Sr. Urban Designer, INI Design studio, Visakhapatnam.	23 rd March 2018
Dr. P. Paul Pandian, Fisheries Development Commissioner, Ministry of Agriculture & Farmers' Welfare, DAHD&F, New Delhi.	28 th March 2018

Port Blair Base

Description	Date
Dr. P. Paul Pandian, Fisheries Development Commissioner, Ministry of Agriculture & Farmers' Welfare, DAHD&F, New Delhi.	24 th April 2017
Shri Mukhathar, I. P. Global, New Delhi.	23 rd July 2017
Shri Rahul Gandhi, Financial Consultant, SAVPRO.	2 nd August 2017
Shri Yoshikazu Nishino, representative partner for Nishino Solutions LLP, Gurgaon, Haryana.	4 th August 2017
30 M.Sc. Marine Biology students from the Department of Marine Biology and Ocean Studies, Pondicherry University, Brookshabad.	17 th August 2017
Shri Yawar Ali, Assistant Planner, IPE Global Assistant partner for NITI Ayog.	18 th August 2017
Shri D. Eswar Rao, Proprietor of Dolphin Sea Foods, Port Blair.	7 th September 2017
Miss Zoya Tyabji and Tanmay Wagh, Individual Researchers.	10 th November 2017
Shri Ritesh Kumar, Institute of Environment education and Research, Bharati Vidyapeeth University, Pune, Maharashtra.	20 th November 2017

14.4 Study Visit to Alibaug

As directed by the Secretary, Ministry of Agriculture & Farmers Welfare Dr. Sanjay Pandey, Assistant Commissioner of Fisheries along with Scientists of Fishery Survey of India, Central Marine Fisheries Research Institute & State Fisheries Officials visited to Navagaon, Mandwa at Alibaug, Raigad to study the phenomena of unusual catch of fishes occurred during 28th September-1st October 2017 along the coast. Shri Ashok S. Kadam, Fisheries Scientist from Mumbai Base of FSI was one of the members of this study team. The incidence occurred was a natural phenomena and was not due to pollution or any other unknown reason. The team informed the fishermen not to worry about the fish stocks. A detailed report was submitted by the Assistant Commissioner (Fy.) to the Secretary.



14.5 Participation in Trade Fair/ Exhibition/ Mela/ Symposium/ Seminar FSI (HQs)



On the eve of celebration of the “**World Fisheries Day**” on 21st November 2017 at National Agriculture Science Complex (NASC), Pusa, New Delhi organised by the National Fisheries Development Board (NFDB), Hyderabad, The Fishery Survey of India participated by putting up a stall and exhibited the institutional activities. Hon’ble Agriculture & Farmers Welfare Minister, Shri Radha Mohan Singh and Hon’ble Minister of State, Smt. Krishna Raj had visited the FSI stall. The Stakeholders, Farmers, Fishers and other general public interacted and shown interest during the exhibition. The Exhibition of the FSI stall was inaugurated by Shri Devendra Chaudhry, IAS., Secretary, Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture and Farmers’ Welfare, New Delhi. On the Occasion, Shri B. Kishore, IAS., Joint Secretary (Fisheries) and other officials from Deptt. AHD&F were present



Mumbai Base

Fishery Survey of India (FSI), Mumbai participated in “**Krishi Unnati Mela-2018**” organized by Ministry of Agriculture and Farmers’ Welfare, Department of Animal Husbandry Dairying and Fisheries, held at Mela Ground, IARI, Pusa, New Delhi from 16th -18th March 2018 by setting up an exhibition and stall displaying different types of fishing gear and crafts, model of fishery survey vessels, diversified and eco-friendly fishing methods, charts of fish and fisheries and navigational equipments. The stall had portrayed the mandate, objectives, scientific activities and the significance of the Institute in the field of marine fisheries research.



Mormugao Base

The Mormugao Base of FSI represented the Institute in the 4th edition of three days biennial event “**Aqua Aquaria India 2017**” exhibition organized by MPEDA at Nehru Maidan, Mangalore, Karnataka during 14th-16th May 2017 by setting up an exhibition stall. The stall had portrayed the mandate, objective, research activities and the significance of the institute in the field of marine

fisheries research, development and policy making in the marine fisheries sector.

The Mormugao Base of FSI had participated in the “**Aqua Goa Mega Fish Festival, 2017**” organized by Directorate of Fisheries, Govt. of Goa during 7th-10th December 2017 at SAG Campal Ground, Panaji, Goa. During the event FSI stall was set up exhibiting the activities of FSI, Marine Fishery Resources, Fishing



gear models etc.

Visakhapatnam Base

The Visakhapatnam Base of FSI had participated and put up an exhibition stall in the **15th Folk Fair & 8th Krishi Fair-2017** organized by Sreekhetra Soochana at the Mukதாகash Rangamanch, Saradhabali, Puri, Odisha during 15th-19th May 2017 and displayed various research and extensions activities of the Institute. Dignitaries from universities, colleges, schools and general public visited and appreciated the FSI activities.



14.6 Street play



The Chennai and Visakhapatnam Base of FSI jointly organized a **Street Play** on the theme “Code of Conduct for Responsible Fisheries” on 31st August 2017 at fishermen village, Mangamaripeta, Bhimuniapatnam, Andhra Pradesh to create awareness among the fishermen regarding conserving the resources for sustainable exploitation.

14.7 Vigilance awareness week

The “**Vigilance Awareness Week**” was observed by the Fishery Survey of India (Hqs.) and its Bases from 30th October 2017 to 4th November 2017. All the officials took oath on this occasion. The importance of the observance of this week was briefed by the respective Incharge of the Base offices.

Essay competition, quiz competition, workshops, awareness programmes, rallies, etc. were organized during the entire week by the FSI (HQs) and all its bases as part of vigilance sensitization programme.



Mumbai HQs



Mumbai Base



Mormugao Base



Port Blair Base

14.8 Swachhata Pakhwada/ Abhiyan observed by Fishery Survey of India HQs and Bases

Mumbai (HQs)



Fishery Survey of India (HQs), Mumbai had observed “**Swachhata Pakhwada**” during 16th -31st May 2017. The officials along with fishermen and stakeholders of Mumbai actively participated in the event. During the event, the banners, posters and pamphlets explaining cleanliness and hygienic condition of fishing harbour and fish market were prepared and distributed to the fishermen community to create the awareness about hygienic handling of fish. On 23rd May 2017, the scientists delivered the lectures in the regional language i.e. Marathi on “**Hygienic handling of fish and allied topics**” at Sassoon Dock fishing Harbour, Mumbai.



Fishery Survey of India (HQs), Mumbai observed “**Swachhata Hi Seva Campaign**” during 15th September-2nd October 2017. All the officers and staff members actively participated in the event as per the schedule. Weeding out of the old registers/ files, cleanliness drive in and around the office premises and along the fishing jetty etc., were undertaken. During the valedictory function, the Director General (I/C) highlighted the importance of cleanliness and requested all the officials to take this noble cause further as a matter of routine.

Mumbai Base

The Mumbai Base of Fishery Survey of India observed “**Swachhata Pakhwada**” from 16th-31st May 2017 in which various Swachhata Abhiyan activities like cleaning of Office Premises, New Fishing Jetty road and Sassoon Dock Fish Landing Center were undertaken. Rally-cum-Awareness Programmes on hygienic fish handling practices were organized at Cuffe-Parade Fishermen Colony, New Ferry Wharf, Fish Landing Center, Colaba fish market and Sassoon Dock harbour with speech, placards and slogans. A rally with placards and slogans was organized at Bhaucha Dhakka Fish Landing Center on 27th May 2017.



On the concluding day, an awareness rally from Colaba fish market to Sassoon dock, New fishing jetty was arranged by the Base



which was telecasted in “**Krishi Varta**” in Marathi language on Doordarshan Sahyadri channel on 2nd June 2017.

Under “**Swachhata Abhiyaan**” Mumbai Base celebrated “**Swachhata Hi Seva Campaign**” during the period 15.09.2017 to 02.10.2017. All the employees made “**Shramdaan**” and carried out “**Samagra Swachhata**” by undertaking cleanliness drive at their respective sections, gear section, workshop section, office premises, public places such as Sassoon Dock, nearby areas, approach roads, onboard dept. survey vessels etc. A special “**Tree Plantation**” programme was organized at FSI premises and nearby

areas on 23.09.2017 by involving Local Municipal Councilor Adv. Shri Makarand Narwekar. As per the Ministry's order, under "Sarvatra Swachhata" a special "Cleanliness" and "Sensitization" programme was organized on 29.09.2017 with the cooperation of the Danda Koli Vyavasayik Sahakari Sanstha, Khar Danda, Khar (W), Mumbai. On 02.10.2017 another cleanliness drive was organized by involving local Ex Minister and M.L.A., Adv. Shri Raj K. Purohit at Sassoon Dock, Colaba. The cleanliness campaign was concluded with a rally, emphasizing the importance of cleanliness and fish hygiene from Sassoon Dock gate to New fishing jetty.

Mormugao Base

The Mormugao Base of Fishery Survey of India was actively involved in cleaning of the office building and its premises, clearing off



weeds, wild plants and water logged areas during the "Swachhata Pakhwada" from 16th-31st May 2017. Base had taken efforts to clean the Vasco fish market and its premises with the permission of Vasco Municipal Council on 25th May 2017. Trilingual (Hindi, Kokani and English) pamphlets on hygienic market practices were distributed to the retailers to create the awareness among



the fishermen on hygienic handling of fish. On 27th May 2017, beach and fish landing centre cleaning campaign was undertaken at Baina, South Goa.

All the Officers and Staff of the Mormugao Base were actively involved in cleaning the office building and its Premises, clearing of wild plants and water logged areas during the "Swachhata Hi Seva Campaign" from 15th September-2nd October 2017.

Cochin Base



Cochin Base of Fishery Survey of India had conducted cleaning programmes at office premises during the "Swachhata Pakhwada" from 16th-31st May 2017. The staff members had taken efforts to clean the Thoppumpady fishing harbour, Kochi on 29.05.2017.

Chennai Base

Chennai Base of Fishery Survey of India conducted cleanliness drive with full fervour and enthusiasm at office premises during the "Swachhata Pakhwada" from 16th-31st May 2017. Along with the office premises efforts were put to clean the vessel attached to Base viz., *M.F.V. Matsya Drushti* which was berthed at the fishing harbour, Chennai.

The staff members had cleaned the Kasimedu fishing harbour and public road leading to fishing harbour and Approach road leading to office on 31st May 2017.

"Swachhata Hi Seva Campaign" was observed during 15th September-2nd October 2017 and the celebration of "Sewa Diwas"



was conducted on 17th September 2017 at Chennai Base of FSI which was followed by cleanliness drive programme within and around the office/ campus by the employees of the Base. The programme was scheduled from 1600 hrs to 1700 hrs every day during the campaign with the participation of all the Officers and Staff of the Base.

Visakhapatnam Base

Visakhapatnam Base of Fishery Survey of India had conducted cleaning programmes at office premises during the “Swachhata Pakhwada” from 16th-31st May 2017.



“Swachhata Hi Seva Campaign” was observed during 15th September-2nd October 2017 and all the officers and staff took part in the cleanliness drive at the office premises and at fishing harbour jetty no.6.

Port Blair Base



Port Blair Base of Fishery Survey of India had conducted cleaning programmes at office premises during the “Swachhata Pakhwada” from 16th-31st May 2017. The base also took the efforts for cleaning of Mohanpura fish market & Junglighat twin fish markets on 19th May 2017 & 22nd May 2017 respectively. On 26th May 2017, Guptapara fish landing centre was cleaned by all the staff members. A state level workshop on “Cleanliness in Fisheries and Aquaculture” was organized on the concluding day of “Swachhata Pakhwada” i.e. 31st May 2017.

14.9 International Yoga Day

“International Yoga Day” was celebrated by FSI (HQs), Mumbai and all the Base offices on 21st June 2017.



FSI HQs, Mumbai, Officers and staff had participated enthusiastically and practiced different asanas.



Mumbai Base of FSI, Officers and staff actively performing .



Mormugao Base of FSI, Officials with Shri Shyam Rasik Das, Prabhuji, ISKCON, Zuarinagar, Goa perform various *asanas* like Pranayam, etc.



Cochin Base of FSI, Officers and staff of Cochin Base office as well as at MED staff actively performing *Yogasan*.



Chennai Base of FSI, Officers and staff enthusiastically doing *Yogasan*s. Smt. T. K. Padma Rangan, Principal, Janaki Amma Memorial Siskhya Primary School and yoga Instructor was the Chief Instructor.



Visakhapatnam Base of FSI, International Yoga day celebrated and performed various *Yogasan*s by the Officers and staff.



Port Blair Base of FSI, Officials and their family members participated and performed various *Yogasan*s. Certificates were distributed to the active participants in the function.

14.10 Communal Harmony Week



Fishery Survey of India (HQs) and Bases observed the “Communal Harmony week” during 19th-25th November 2017. On Flag Day i.e. 24th November 2017, a workshop on Communal Harmony was organized at FSI (HQs). Prof (Dr.) Nandini Deshmukh was invited as a guest speaker on the theme of “Communal Harmony”. All the Officers and Staff members had participated in the said workshop and got benefited by the speech of guest speaker.

The officers and staff had generously contributed in order to provide the financial assistance to the National Foundation for Communal Harmony (NFCH) for the betterment of those children who becomes destitute and orphan in communal violence, ethnic or terrorist activities.



14.11 Workshop/open house conducted by the institute

As part of the extension activities, the Mumbai (HQs.) and Base offices of Fishery Survey of India organized regional workshops/ open houses at major marine fish landing centres in the maritime States/ UTs.

Mumbai Base



A one day regional workshop and exhibition on “*Marine Fishery Resources off Daman & Diu and Diversified Fishing Methods*” was organized on 16th May 2017 at Machhi Mahajan Hall, Nani Daman, (U.T. of Daman & Diu) for the benefit of the local fishermen. Shri Gopal K. Tandel, Chairman, Matsyodyog V.K.S. Society Ltd., Nani Daman was the Chief Guest and Dr. L. Ramalingam, Zonal Director, Mumbai Base of FSI presided over the function. A total of around 80 fishermen, boat owners and Fishery department officials attended the programme

An Open House on ‘**Marine Fisheries**’ was organized on 5th July 2017 onboard the vessel *Matsya Vrushti* and *Matsya Nireekshani* at Indira Dock of Mumbai Port Trust, Mumbai. The Open House and Exhibition was inaugurated by Dr. L. Ramalingam, Zonal Director, Mumbai Base of FSI. A brief insight on safety at sea, modern fishing technologies, gears, navigational equipments onboard the FSI vessels and marine fishery resources off Maharashtra coast was provided to the participants. A total of 52 Science students and 07 faculty members from two colleges, viz. Maharshi Dayanand College of Arts, Science & Commerce, Parel and Wilson College, Girgaon, visited FSI vessels and participated in the open house.



The second one day regional workshop and exhibition on “*Marine Fishery Resources off Diu and Diversified Fishing Methods*”



Mormugao Base

was organized on 15th September 2017 at Community hall, Saudwadi, Diu (U.T. of Daman & Diu) for the benefit of the local fishermen. Shri Hemant Kumar, IAS, District Collector, Diu was the Chief Guest and Dr. L. Ramalingam, Zonal Director, Mumbai Base of FSI delivered the keynote address. A total of around 125 fishermen, boat owners and Fishery Department officials attended the programme.



A one day regional workshop on *“Marine Fishery Resources of Karnataka Coast: Sustainable Utilization, Conservation, Development and Management”* was organized on 8th August 2017 at the Auction Hall, Gangolli Fishing Harbour, Kundapura Taluk, Udupi Dist., Karnataka. Shri P. Parshwanath Deputy Director of Fisheries, Udupi, Govt. of Karnataka, was the Chief Guest. Shri S. K. Jaiswal, Mechanical Marine Engineer, FSI, Mormugao Base had presided over the function. The Honorable Guests appreciated the objectives of the workshop and advised fishermen to do the fishing in a sustainable manner for restoring the fish stocks for future generation and asked the fishermen and boat owners to make use of services being rendered by the FSI.

A total of 126 fishermen from Kundapura (Gangolli), Karnataka and officials from the Dept. of Fisheries, Govt. of Karnataka participated in the workshop.

A one day *“Open house”* was conducted for the students of Dhempe college of Arts & Science, Panaji, Goa. Total of 16 students of final year B.Sc. Zoology and 01 faculty member had visited the Mormugao Base on 24th July 2017 as a part of their study tour. The students were familiarized with activities of FSI, Marine fishery resources of Goa coast and Eco-friendly fishing methods through power point presentation. During the programme, Exhibition of gear models, fishery charts and screening of FSI documentary film were also arranged.



One day *“Open house-cum-Marine Exhibition”* for the students and faculty members from Dept. of Study & Research in Zoology, Tumkur University, Karnataka during their visit on 30th October 2017 as a part of their study tour. A total of 41 students and 3 faculty members participated in the event.



Second *“Open house-cum-Marine Exhibition”* was organized on 17th November 2017 by Mormugao Base of FSI for the students and faculty members from Karnataka University, Dept. of Studies in Marine Biology, Kodibag, Karwar, Karnataka. A total of 22 students and 3 faculty members participated in the event. During the programme, the students were familiarized with activities of

FSI, Marine fishery resources of Goa & Karnataka coast and also Eco-friendly fishing methods through power point presentation. An Exhibition and screening of FSI documentary films were also arranged.

Cochin Base

One day regional workshop on **“Sustainable Utilization of Oceanic Resource of Lakshadweep Sea”** at Archaeological Museum, Agatti Island, Lakshadweep on 19th January 2018.

Chennai Base



Workshop organised on **“Marine fishery Resources of Tamil Nadu”** on 6th May 2017 at Rajiv Gandhi Centre for Aquaculture Auditorium, Karaimedu, Sirkali, Nagapattinam District. Shri R. Ravichandran, Asst Director of Fisheries, Govt. of Tamil Nadu inaugurated the workshop in presence of Dr. S. Kandan, Project Director, RGCA and Shri S. Selvaraj, Field officer, MSSRF. Shri J. E. Prabhakar Raj, Sr. Fisheries Scientist welcomed the guests and the gatherings. Shri A. Tiburtius, Sr. Fisheries Scientist delivered the Keynote address. About 115 fishermen, fisherwomen, public and State fishery officials attended the workshop and benefitted out of it. The fishing gear materials, accessories and models, charts etc. were also displayed at the venue for the benefit of fisher folk of the region.

The Chennai and Visakhapatnam Base of FSI jointly in association with the Department of Fisheries, Govt. of Andhra Pradesh at the Office of the Fishery Development Officer, Kothuru, Bhimuniapatnam, Andhra Pradesh organized a regional workshop on the subject **“Marine Fishery Resources of East Coast of India”** on 31st August 2017. During the workshop disseminate the information on the survey findings along the east coast for the benefit of local fishermen of Bhimuniapatnam and adjoining areas. Dr. V. Shankar Rao, Joint Director of Fisheries, Government of Andhra Pradesh, Visakhapatnam was the Chief Guest. The function was presided over by Shri K. Govindaraj, Senior Fisheries Scientist, FSI, Visakhapatnam Base. Shri A. Tiburtius, Senior Fisheries Scientist, FSI, Chennai Base felicitated the members. During the workshop Marine Fisheries exhibition was also organized at the venue wherein, charts & photographs displaying FSI activities, fishery resources and eco-friendly fishing gears were exhibited.



Third regional workshop on **“Marine Fishery Resources of Tamil Nadu and Puducherry Coast”** at Karaikal, Puducherry UT for the benefit of local fishermen on 27th October 2017. The workshop was organized for the benefit of local fishermen. The workshop was inaugurated by Shri Rajendran, Asst. Director of Fisheries, Govt. of Puducherry. Shri A. Tiburtius, Sr. Fisheries Scientist, Chennai Base of Fishery Survey of India, delivered the keynote address and briefed about the objective of the workshop, organizational setup of FSI and potential of Oceanic tuna resources in Indian waters.

Port Blair Base



A one day regional workshop-cum-open house on **“Marine Fisheries Resources of Andaman and Nicobar Islands and Eco-friendly Fishing Methods”** was organized on 21st June 2017 at Yerrata-Long Island, North and Middle Andaman for the benefit of local fishermen. About 100 fishermen of the area participated in the event. The workshop was inaugurated by Shri Mahadev Mal, Pradhan and presided over by Smt. G. Lakshmi, Member, Sabri Gram Panchayath, North and Middle Andaman. Open house was arranged onboard vessel *MFV Blue Marlin*. 17 fishermen were taken onboard *M.F.V. Blue Marlin* for a demonstration of tuna longline fishing operation and to impart hands-on-training on eco-friendly fishing methods.



Second one-day regional workshop on “*Sustainable Utilization of Marine Fishery Resources of Nicobar Waters (SUMAFIN-2017)*” was conducted on 27th November 2017 at Campbell Bay, Great Nicobar Island. Shri Ranjeet Kumar Singh, DANICS, Assistant Commissioner, Campbell Bay inaugurated the workshop and the function was chaired by Smt. Rosaliya Kullu, Pradhan, Campbell Bay. Dr. Sijo P. Varghese, Sr. Fisheries Scientist delivered the key note address. The main aim of the workshop was to disseminate the information to the local fisher folks of Campbell Bay on the potential and availability of Oceanic as well as Perch resources of Nicobar waters, Diversified fishing methods to exploit these abundant resources, Significance of optimum utilization of fishery resources and to safeguard the marine environment, etc. A total of 100 participants including fisher folks, delegates from Department of Fisheries, Nicobar District attended the workshop.

Open House was conducted onboard the vessel *M.F.V. Blue Marlin* for the benefit of school & college students, fishermen and general public during 26th - 27th November 2017 at Campbell Bay, Great Nicobar Island. Various fishing gears and accessories, navigational, engineering and oceanographic equipments, various aspects on safety at sea and Code of Conduct for Responsible Fisheries were displayed and demonstrated during the occasion. Students from schools & colleges, fishermen and local citizens visited the vessel *M.F.V. Blue Marlin* berthed at the Campbell Bay harbour.

14.12 Official Language Activities

Hindi workshops and seminars

Mumbai (HQs)



A one-day Hindi workshop was organized by FSI (HQs) on 15th June 2017 at the conference hall of the FSI (HQs), Mumbai in order to encourage the staff members to work in Hindi. Shri Naresh Kumar, Assistant Director, Central Translation Bureau, New Mumbai was invited to deliver a lecture on “*Translation in Hindi*”. He gave some simple tips to choose the correct word for Translation. He also gave some practical training in Translation. Altogether fifteen staff members actively participated in the workshop.

Second Hindi Workshop was organized on 22nd September 2017 to encourage the staff members to work in Hindi. Shri Damodhar Gaud, Assistant Director, Hindi Teaching Scheme was invited to deliver a lecture on “*Hindi correspondence*”. Altogether twenty staff members actively participated in the workshop.

Third Hindi workshop was organized on 12th December 2017 in order to encourage the staff members to work in Hindi. Shri Vinod Kumar Sharma, Assistant Director, Hindi Teaching Scheme, Navi Mumbai was the subject expert for the workshop. He delivered a lecture on “*How to eradicate the common errors while writing in Hindi*”. He gave some examples to write Hindi without any grammatical mistakes. Altogether seventeen staff members actively participated in the workshop.

Fourth Hindi workshop was organized on 28th February 2018 to create an atmosphere and also to encourage the staff members to work in Hindi. Shri Naresh Kumar, Assistant. Director, Central Translation Bureau, Navi Mumbai was invited as Chief Guest to deliver a lecture on “*Hindi Translation & Technical terminology*”. He gave some simple tips to choose the proper word for Hindi Translation. He also gave some practical training in Translation. Altogether twenty staff members actively participated in the workshop.

Mumbai Base



A one day Hindi workshop on “**Hindi Correspondence**” was organized at the conference hall of FSI on 2nd May 2017. Mrs. Vatsala Joglekar, Jr. Translator, Regional Meteorological Department, Colaba, Mumbai delivered the lecture on the importance of Hindi correspondence in day to day official works. The workshop was attended by all the officers and staff of the Base.



Second Hindi workshop was organized on “**Hindi Correspondence & Exercise**” on 18th August 2017. Smt. Meera Vellan Rajiv, Jr. Translator, Fishery Survey of India (HQs), Mumbai was resource person and delivered a lecture on Importance of Hindi Correspondence in day to day official works.



Third Hindi workshop was organized on “**Karyalayeen kamkaj me Hindi ka prayog**” on 24th November 2017 at the conference hall of FSI. Dr. Sushil Kumar Sharma, Deputy General Manager (Rajbhasha), Western railway HQ, Churchgate, Mumbai was the Chief Guest. He spoke on “**Hindi vartani aur kaamkaaj me me aane waali kathinaaiyaan**”.

Fourth Hindi workshop was organized on “**Samanya Tippaniya aur Patrachar**” on 08th March 2018. Shri B. Balanayak, Chairman of Hindi Committee welcomed the subject specialist, Dr. Vinod Kumar Sharma, Assistant Director, Hindi Teaching Scheme, Belapur. He gave guidance about noting in the files and writing official letters in Hindi.

Mormugao Base



A one day Hindi workshop was organized on 14th June 2017. Dr. Amrish Sinha, Head of Department (OL), New India Assurance Co. Ltd., Mumbai was the Chief Guest on this occasion. He had delivered a lecture on “**Digital India and Hindi**”. Shri S. K. Jaiswal, Mechanical Marine Engineer, welcomed the gathering and urged Base staff to utilize the knowledge in day to day official work.



Second Hindi workshop was organized on “**Unicode and Official Language Policy**” on 20th September 2017. Dr. (Smt.) Shubhrata Mishra, Hindi Freelance Writer was invited as a resource person on this occasion. Shri S. K. Jaiswal, Mechanical Marine Engineer had welcomed the gathering and urged the staff members to utilize the knowledge in day to day official works as well as in personal life.

Third Hindi workshop was organized on “**Unicode and Official Language Policy**” on 21st December 2017. Shri Satish Eknath Dhuri, Sr. Translator, Konkan Railway, Madgaon was present on this occasion as a resource person.

Cochin Base

A Hindi workshop was organised for the Officers and staff on 28th June 2017. Smt. Leena T. P., Jr. Translator of Cochin Base delivered a lecture on “**Hindi noting and drafting**”.

Second Hindi workshop was organized on 26th September 2017 for the Staff. Smt. Urmila K. K., Asst. Director (OL) Retd. from NPOL was the faculty during the workshop. 15 employees took part in the workshop. Smt. Leena T. P., Jr. Translator had imparted training on usage of Hindi to the Staff.

Third Hindi workshop was organized on 21st December 2017, wherein, Shri K. Vijaykumar, Deputy Director (OL) Retd. took classroom session on Hindi grammar with reference to Noting and Drafting. A total of 15 employees participated in the workshop.

Fourth Hindi workshop was organized for the Officers and staff on 28th March 2018. Smt. Leena T. P., Jr. Translator of Cochin Base was the resource person.

Visakhapatnam Base



A Hindi workshop was organized on 20th June 2017. Shri Arun Trivedi, Hindi Teaching Scheme, Visakhapatnam was the resource person on the occasion. He delivered the lecture on “**Hindi as official language and day to day use of Hindi in Govt. offices**”. The Officers and Staff of the Base had attended the workshop.

Second Hindi workshop was conducted on 27th September 2017. Smt. P. Umarani, Chief Manager (Rajbhasha), State Bank of India, Administrative office, Visakhapatnam was the resource person on the occasion. She had delivered a lecture on various aspects of Hindi as official language and also day to day use of Hindi in Govt. offices. She appreciated the implementation of the Official Language by the Base.

Third Hindi workshop was conducted on 22nd December 2017. Shri Upendra Kumar Patro, Sr. Hindi Translator, Eastern Naval Command Headquarters, Visakhapatnam was the resource person. He delivered a lecture on “**Various aspects of Parliamentary Committee visit for official language implementation and the procedures to fill up the questionnaires of the material for the inspection**”.

Fourth Hindi workshop conducted on 6th March 2018. Mrs G. Deepthi, Jr. Hindi Translator, Income tax Department, Daba Gardens, Visakhapatnam was the resource person. She delivered a lecture on various aspects of Hindi Technical Terminology and Conservation of Basic form of Hindi Language.

Port Blair Base

A Hindi workshop was organized by Port Blair Base of FSI on 19th June 2017. Shri Dharamvir Singh, Mechanical Marine Engineer was the resource person during the workshop.

Second Hindi workshop was organized on 19th September 2017, wherein Shri Dharamvir Singh, Mechanical Marine Engineer was a resource person. He spoke on importance of Official Language and its implementation and taught the participants about use of Hindi in day to day activities in the office.

Third Hindi workshop was organized on 27th December 2017. Miss. Banita Behera, Hindi Liaison Officer, Head of Office (C.D), Anthropological Survey of India, Port Blair functioned as subject specialist. A lecture and practical training on “**Assistance of Information Technology tools used in implementation of official language**”, was delivered by the subject specialist.

Fourth Hindi workshop was organized on 23rd March 2018. Shri Dharamvir Singh, Mechanical Marine Engineer served as a subject specialist on this occasion. Primarily, he discussed important Acts and regulations related to Official Language, Noting writing in Hindi, Office Memorandum, Orders and Note.



Hindi Day and Hindi Fortnight Celebration

Mumbai (HQs)

The Fishery Survey of India (HQs), Mumbai observed “Hindi Day” on 14th September 2017 and “Hindi Fortnight” during 14th-28th September 2017. The inaugural function of “Hindi Day” and “Hindi Fortnight” was held on 14th September 2017 at FSI (HQs) under the Chairmanship of Shri Mahesh Kumar Farejiya, Director General (IC). He inaugurated the function by lighting the lamp. In his address, he requested all the staff members to make Hindi very popular and increase its use in the official work. He also requested all the employees to participate in all the competitions to be organized during Hindi Pakhawada and win the prizes. Smt. Meera Vellan Rajiv read out the “Appeal” on this occasion of “Hindi Day” received from the Hon’ble Home Minister Shri Rajnath Singh. In the “Appeal”, the Hon’ble Minister requested all the officers and employees to do more and more work in Hindi.

During the Hindi Fortnight, five competitions were conducted viz. Hindi essay writing, Technical terminology and translation, Antakshari on Hindi Film songs, Hindi dictation and Hindi Poem recitation. As many as twenty-five staff members participated in the competitions with fervour and enthusiasm.



The valedictory function of the Hindi Fortnight was held on 28th September 2017. The function was presided over by Shri Mahesh Kumar Farejiya, Director General (IC). The Competition on Hindi poem recitation was conducted on the same day and a total of seven employees participated in that competition. Dr. Susheel Kumar Sharma, Dy. General Manager (O.L) Western Railway and Secretary, Town Official Language Implementation Committee was the Chief Guest for the function. The Chief Guest in his address enlightened the gathering about the growth of Official Language Hindi as a link language and gave some guidelines to implement the Official Language. He gave away the prizes to the winners of various competitions. The valedictory function concluded with vote of thanks by Smt. Meera Vellan Rajiv.

Mumbai Base



The Mumbai Base of FSI celebrated “Hindi Day” on 14th September 2017 and “Hindi Fortnight” for the period 14th-28th September 2017. The inaugural function was held on 14th September 2017 at Mumbai Base office under the Chairmanship of Shri B. Balanayak, Service Engineer (Mech.). During Hindi Fortnight, a total of five competitions were conducted viz. Essay Writing, Hindi Dictation, General Knowledge, Hindi Drafting &

Noting and Hindi Antakshari. The valedictory function commenced with the welcome address by Dr. L. Ramalingam, Zonal Director. Shri Naresh Kumar, Assistant Director, Central Translation Bureau was the Chief Guest in the function. During the function awards were also conferred upon to the winners.



Mormugao Base



The Mormugao Base celebrated “*Hindi Fortnight*” from 14th-29th September 2017. The programme was inaugurated by Dr. Vagesh Pandey, In-charge, Central Integrated Pesticide Management Centre, Harbour, Goa. Capt. Shri Manoj Joshi, Harbour Master, MPT, Goa was the Chief Guest on the concluding day and he awarded the prizes to the winners of various Hindi competitions conducted during the fortnight.

Cochin Base

Hindi fortnight was celebrated during 14th-28th September 2017. Various competitions like Hindi quiz, Hindi news reading, Essay writing, Hand writing etc., were organized during the occasion. Dr. Jai Singh Meena, Director (I/C), NIFPHATT, Kochi was the Chief Guest for the valedictory function.



Chennai Base

Hindi fortnight was observed during 1st-14th September 2017 at the conference hall. During this period many Hindi competitions were conducted. Officers and Staff members participated in these competitions and winners were given away prizes. Valedictory Function was held on 14th September 2017. Shri A. K. Chaudhari, Mech. Marine Enginner, CIFNET, Chennai was the Chief Guest on this function.

Visakhapatnam Base



Hindi Day and Hindi Fortnight were observed during 11th-25th September 2017 at the conference hall of the office. During the fortnight, various competitions i.e., copying the text, noting competition, extempore speech, quiz competition etc. were conducted for the Staff and their family members. Shri K. Prabhakar, Assistant Commissioner of Police (Traffic), Visakhapatnam city was the Chief Guest during the valedictory function held on 25th September 2017. He distributed the prizes to the winners of various competitions.

Port Blair Base

Hindi Fortnight was celebrated by Base office during 13th-27th September 2017. Dr. Sijo P. Varghese, Sr. Fisheries Scientist inaugurated the event by lighting the lamp. On 14th September 2017, a Quiz competition was organized, wherein all the Officers and Staff of the Base participated. On 27th September 2017, the



closing ceremony of Hindi Fortnight was organized. Shri Mahendra Pratap Mishra, Hindi Officer, BSNL, Port Blair was the Chief Guest. During the closing ceremony, extempore speech competition was organized. Chief Guest distributed prizes to the winners of various competitions organized during the fortnight.

Participation in TOLIC Meetings

Participant(s)	Designation	Venue and Date
Dr. Vinod Kumar M. Smt. Meera Vellan Rajiv	Sr. Fisheries Scientist Jr. Translator	Western Rly (Hqrs.) Mumbai, 31 May 2017
Dr. Sijo P. Varghese Shri Shahnawaz	Senior Fisheries Scientist Junior Translator	CIARI, Port Blair, 28 th July 2017
Shri Mahesh Kumar Farejiya Smt. Meera Vellan Rajiv	Director General (IC) Jr. Translator	Western Rly (Hqrs.) Mumbai, 25 October 2017
Shri M. Govinda Rao	Radio Telephone Operator	Divisional Railways Manager office, Visakhapatnam, 31 st October 2017
Shri D. K. Gulati Smt. Leena T.P	Zonal Director Jr. Translator	Cochin, 8 th November 2017

Joint Hindi Week

Cochin Base of FSI took part in the Joint Hindi week celebrations organized by the Cochin TOLIC during 20th–24th 2017. Smt. R. Sripriya, MTS and Shri K. C. Joshy, Marine Electrician of the Base won the Hindi quiz competition conducted during this period.

Inspection/ Review

Shri Nirmal Dubey, Research Officer (Officer-In-Charge), Regional Implementation office of Official Language, Kolkata inspected the status of official language implementation in the Port Blair Base of FSI on 28th July 2017.

As a part of Official Language Implementation, the performance of the Port Blair Base of FSI was reviewed by Departmental Official Language Implementation Committee, Port Blair on 16th December 2017.

A Hindi Quarterly Review meeting was conducted at Visakhapatnam Base of FSI on 21st December 2017. Dr. Rita Trivedi, Officer-in-Charge, Hindi Teaching Scheme, Visakhapatnam was the reviewing officer. While reviewing the activities of the Base, she appreciated the efforts made towards the Official Language implementation by the Base.

Participation in Hindi Workshop

Shri Pratyush Das, Jr. Fishing Gear Technologist and Shri Shahnawaz, Jr. Translator from Port Blair Base of FSI had attended the *Hindi Workshop* organized by Town Official Language Implementation Committee (TOLIC) in the conference hall of Central Islands Agriculture Research Institute, Port Blair on 3rd April 2017.

Conferences/ Seminars

Smt. Leena T. P., Jr. Translator attended the *Regional Official Language Conference* organized at Visakhapatnam on 8th December 2017.

Shri K. Govindaraj, Sr. Fisheries Scientist, Shri N. Jagannadh, Jr. Fisheries Scientist and Shri M. Govinda Rao, Radio Telephone Operator attended the South and South-Western *Regional Rajbhasha Conference* on 8th December 2017 at the Multipurpose Hall of Rashtriya Ispat Nigam Ltd., Visakhapatnam organized by Department of Official Language, Ministry of Home Affairs, Govt. of India, New Delhi.

Smt. Leena T. P., Jr. Translator took part in the Technical seminar organized by the Cochin TOLIC on 8th January 2018.

Smt. Meera Vellan Rajiv, Jr. Translator participated in *Joint Regional Official Language Conference* of Western and Central Region held on 12th January 2018 at Rashtriya Chemical & Fertilizers Ltd., Chembur. The Conference was organized by the Regional Implementation Office (Western Region), C B D, Belapur, Navi Mumbai.

Hindi Training

Sl.No	Name/Designation	Subject	Place /Date
1	Shri B. L. Anjana, Jr. Translator	Re-designed Translation Training programme	CBD Belapur, Navi Mumbai 3 rd April -16 th May 2017.
2	Shri K. Venkateswar Rao, Upper Division Clerk	Hindi in Computer	Swarna Jayanthi Bhawan, Visakhapatnam. 24 th -28 th July 2017
3	Shri G.V.A. Prasad, Jr. Fisheries Scientist	Hindi in Computer	Swarna Jayanthi Bhawan, Visakhapatnam. 9 th -13 th October 2017
4	Shri Shahnawaz, Jr. Translator	Solutions of problems arising during filling up of questionnaire related to Parliamentary Inspection Committee of Official Language”	Central Islands Agriculture Research Institute (CIARI), Port Blair 23 rd December 2017

Exam passed

Shri Chetan Raithatha, UDC and Shri Vikas Kumar Mishra, LDC/Hindi from FSI (HQs) passed Hindi Parangat examination with 66.50% and 68.50% of marks respectively under Hindi Teaching Scheme in May 2017.

Incentive Scheme for doing official work in Hindi

Under the Incentive Scheme introduced by the Department of Official Language, Ministry of Home Affairs, Govt. of India for doing original official work in Hindi, Cash Award were given to the following employees for the year 2016-17 as per the recommendation of the Assessment Committee constituted for the purpose.

Frist Prize

Shri Shubhrajit Das, Stenographer Gr. II

Shri Rakesh Kumar, LDC/Hindi Typist

Second Prize

Shri Chetan Raithatha , UDC

Smt. Vandana C. Waghmare, UDC

Shri Vishal K. Kharat, LDC/Hindi Typist

Third Prize

Shri Vikas Kumar Mishra, LDC/Hindi Typist

Shri Chandragupt Kumar, LDC/Hindi Typist

15. CO-OPERATION AND ASSOCIATION WITH NATIONAL AND INTERNATIONAL ACTIVITIES

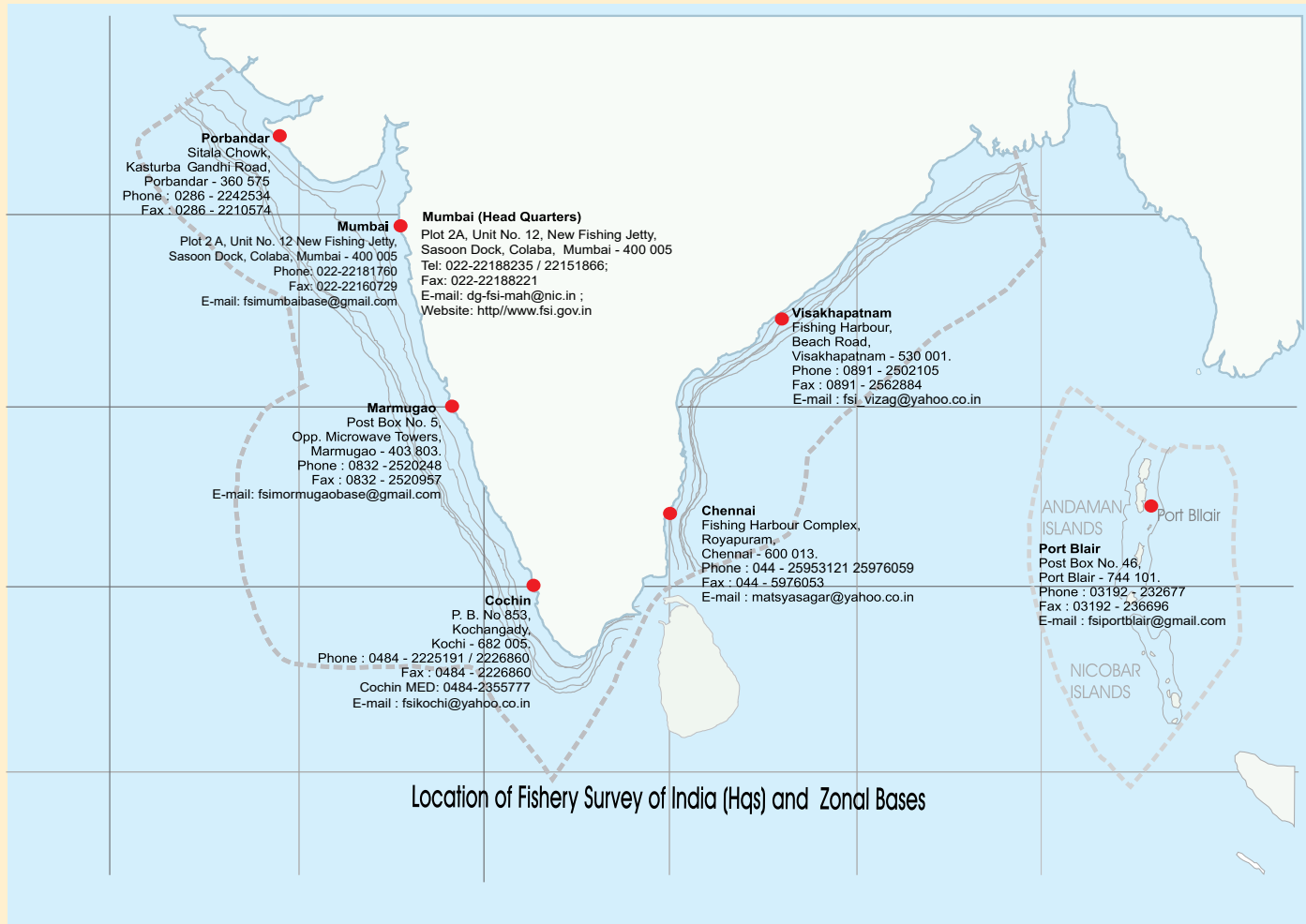
1. Committee to consider the proposal for introduction of Vessel Monitoring System (VMS).
2. Inter-Ministerial Empowered Committee on Marine Fisheries.
3. Working Group constituted for monitoring and review of implementation of Indian Ocean Tuna Commission resolutions.
4. Working Group for review and revision of data on tuna for submission to the Indian Ocean Tuna Commission.
5. Committee to assess the impact of the fishing ban and to review its duration.
6. Working Group of Experts committee for revalidation of potential fishery resources in the Indian EEZ.
7. Scientific Advisory Committee of Centre for Marine Living Resources and Ecology (CMLRE), MoES, Kochi.
8. Technical Advisory Committee of BOBP-IGO, Chennai.
11. Committee for revalidation of fish catch potential from In-land and Marine Cages.
12. Committee to consider various issues relating to Fisheries/ Security to fishermen.
13. Working group on Animal Committee.
14. Committee on FAO's Technical Consultation on Flag state performance.

16. ABBREVIATIONS

BOBLME	: Bay of Bengal Large Marine Ecosystem
BOBP-IGO	: Bay of Bengal Programme – Inter Governmental Organisation
CCRF	: Code of Conduct for Responsible Fisheries
CIFNET	: Central Institute of Fisheries Nautical Engineering & Training
CIFRI	: Central Inland Fisheries Research Institute
CIFT	: Central Institute of Fisheries Technology
CMFRI	: Central Marine Fisheries Research Institute
CMLRE	: Centre for Marine Living Resources and Ecology
EEZ	: Exclusive Economic Zone
FSI	: Fishery Survey of India
GIS	: Geological Information System
GoI	: Government of India
IFCO	: International Foster Care Organisation
IITF	: India International Trade Fair
IMS	: Indian Meteorological Society
INCOIS	: Indian National Centre for Ocean Information Science
IOTC	: Indian Ocean Tuna Commission
IOTCSC	: Indian Ocean Tuna Commission Scientific Committee
ITPO	: Indian Trade Promotion Organisation
MCS	: Monitoring Control and Surveillance
NASC	: National Aeronautics and Space Council
NFDB	: National Fisheries Development Board
NIC	: National Informatics Centre
NIOT	: National Institute of Ocean Technology
PSC	: Project Steering Committee
RAC	: Research Advisory Committee
RALBAM	: Recent Advances in Lobster Biology, Aquaculture and Management
SAC	: Space Applications Centre
SAC-MLRP	: Scientific Advisory Committee on Marine Living Resources Programme
SIFT	: State Institute of Fisheries Technology
TOLIC	: Town Official Language Implementation Committee
VMS	: Vessel Monitoring System

Species:

YFT	: Yellow fin tuna
SKJ	: Skipjack tuna
MAR	: Marlin
SWO	: Sword fish
SAI	: Sail fish
SHA	: Shark
DOL	: Dolphin
OTH	: Other fishes



Department of Animal Husbandry, Dairying & Fisheries
Ministry of Agriculture and Farmers Welfare
Government of India
Krishi Bhawan, New Delhi, India-110 001.

Website www.dadf.gov.in & <http://dahd.nic.in>
KISAAN PORTAL Website: www.farmer.gov.in / www.mkisan.gov.in
For more information, call: 1800-180-1551
Send "KISAAN GOV HELP" as SMS to 51969 (Service provider rates apply)
Poultry Development: www.facebook.com/poultryinindia-242959095864252
Fodder Development: www.facebook.com/fodderinindia
Sheep and Goat Development www.facebook.com/sheepgoatsindia
Twitter: twitter.com/poultryinindia & twitter.com/cpdoti
Facebook page of DADF-[www.facebook.com/ Animal-Husbandry-Dairying-Fisheries-India-161942617536286](https://www.facebook.com/Animal-Husbandry-Dairying-Fisheries-India-161942617536286)
Twitter handle of DADF - twitter.com/DOAHDF

