



सत्यमेव जयते

Annual Report | 2020-21  
वार्षिक प्रतिवेदन



## भारतीय मात्स्यिकी सर्वेक्षण FISHERY SURVEY OF INDIA

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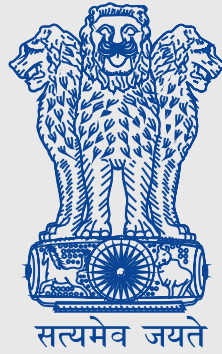
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# ANNUAL REPORT 2020 – 2021



## **FISHERY SURVEY OF INDIA**

Govt. of India  
Ministry of Fisheries, Animal Husbandry & Dairying  
Department of Fisheries  
Mumbai – 400 005

**ANNUAL REPORT 2020-2021**

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## From the Director General's Desk



The Fishery Survey of India (FSI) is a Nodal fishery Institute of Government of India under the administrative control of Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying. The Institute has been primarily mandated with marine fishery resources survey, assessment and monitoring in the Indian EEZ by deploying survey fleet and employing different fishing methods in addition to other mandated activities. The fishery resources data gathered through surveys in time and space is being disseminated regularly to the fishermen, fishing industry and other end users thereby supporting Government of India in National marine fishery resources management related policy decisions to meet the sustainability.

Fishery sector has been a major source of food, employment provider, export earner and socio-economic level raiser to those engaged in fishing and allied activities. As the sector is playing an important role in the economic development of the country, it is the need of the hour to upgrade the technologies for harvesting the marine fisheries resources on sustainable basis. Since inception of the Institute, the FSI has been experimenting diversified fishing methods and efficiency of the fishing gears for the benefit of the user groups in addition to the dissemination of information contributing to enhance fish production.

During the year the Fishery Survey of India has taken up an Inter-institutional project on "Survey and Assessment of Marine Mammals of Indian Economic Zone (EEZ)" in association with Marine Product Export Development Authority (MPEDA) and Central Marine Fisheries Research Institute (CMFRI). The objective of the project was to estimate the species diversity, abundance and population size of the marine mammals of the Indian EEZ and also to study the migration pattern, genetic diversity and environmental parameter in the Indian waters and adjacent seas.

The World Fisheries Day was celebrated in the Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, New Delhi on 21<sup>st</sup> November 2020. On this occasion five publications of FSI were released by the Hon'ble Minister Shri Giriraj Singh, Ministry of Fisheries, Animal Husbandry and Dairying. Simultaneously, Fishery Survey of India (HQs) and all its Zonal Bases also celebrated the World Fisheries Day – 2020 by conducting various programmes such as workshops, rallies, awareness programmes, etc.

The Fishery Survey of India had been actively associated with the Indian Ocean Tuna Commission (IOTC) and involved in submission of data



on tuna & allied resources and India's National Report to IOTC. The FSI scientists have also participated in various National, International Workshops, seminar/symposia/conferences and working parties of IOTC.

This Annual Report of Fishery Survey of India presents the highlights of survey-cum-research activities carried out during the year 2020-21. The Institute has also carried out various activities which are also presented including administrative & finance matters etc.

During the year, FSI had successfully implemented and observed **Swachata Abhiyaan** by involving the staff of the institute to clean the office premises, fishing harbours and fish markets. The Vigilance awareness week was observed in order to create awareness among the employees to bring transparency in official works. With regard to official language implementation **Hindi Pakhawada** and workshops were conducted in order to motivate the employees to work in Hindi. The **International Yoga day** and **International Womens day** were also celebrated during the year. The "Constitution Day" was observed in FSI (HQs) and Zonal Bases by reading Preamble of the Constitution of India.

The survey fleet of the institute collectively achieved 575 days out at sea, expending fishing effort of 1,532 hrs and 39,935 no. of hooks. Total catch of 41.7 tonnes was harvested and the revenue realised on fish sale proceeds was ₹ 8,24,403. The Budget Grant of the Institute for the year 2020-21 was ₹ 86.11 Cr. and the expenditure was ₹ 72.70 Cr.

After creation of new Ministry of Fisheries, Department of Fisheries, the responsibility of Fishery Survey of India has been enhanced and the institute will further strengthen the scientific activities to meet the requirement of fishermen and the fishing industry.

**Dr. R. Jeyabaskaran**  
Director General



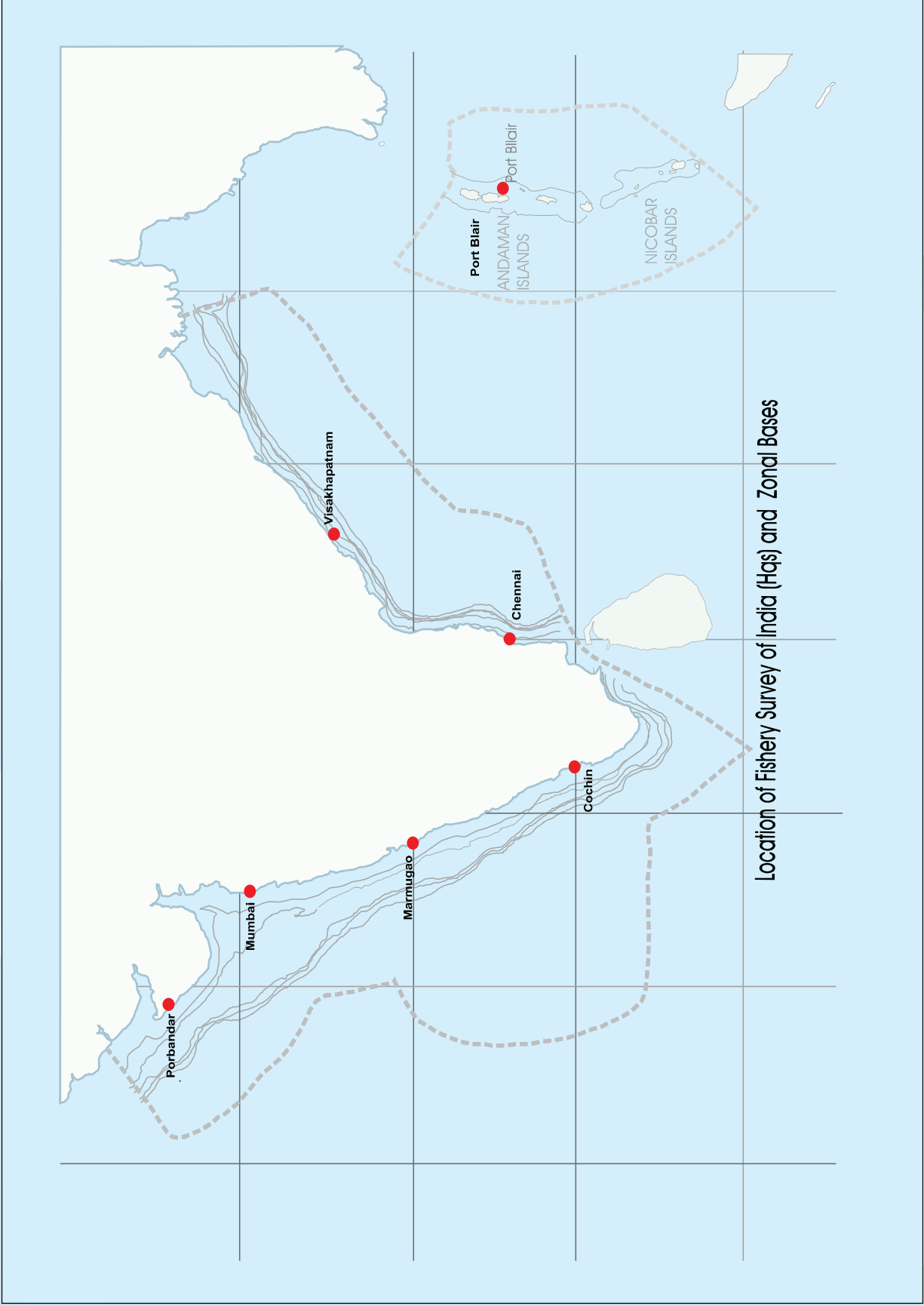


# MANDATE

The Fishery Survey of India, Mumbai, under the Ministry of Fisheries, Animal Husbandry and Dairying, Department of 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 (Tamil Nadu)



### ***MFV Samudrika***

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







**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 AND 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 North Maharashtra and Gujarat coast between latitude 18° and 23° N.**

#### Project components

1. Exploratory survey of demersal resources using fish trawl and shrimp trawl in 100-500 m depth.
2. Monitoring of demersal resources using fish trawl in 30-100 m depth.
3. Exploratory survey using shrimp trawl in 30-100 m depth.
4. Experiments for assessment of fishing gear efficiency
5. Mesh selectivity study with cod-end cover

Gear : > 34 m fish trawl  
 : > 45 m shrimp trawl

Vessel : *MFV Matsya Nireekshani*

Base : Mumbai

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

Project Leader : Dr. S. K. Dwivedi,  
 Fisheries Scientist

#### Results

MFV Matsya Nireekshani remained idle during the year for dry docking repairs and preparation of stability booklet.

##### Project 2

**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 & Project Leader :  
 Dr. H. D. Pradeep, Fisheries Scientist

#### Results

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

Latitude (N°)	Gear/Depth zone (m)		
	Fish trawl		
	30-50	50-100	100-300
12	6.98	7.44	-
13	11.23	-	-
14	26.45	26.13	5.33
15	28.27	17.60	3.78
16	24.03	22.36	13.05
17	17.40	10.38	-

##### B. Catch composition (%)

Species/Group	Depth zone (m)		
	Fish trawl		
	30-50	50-100	100-300
Elasmobranchs	0.14	-	-
Cat fishes	0.29	4.31	1.45
Lizard fishes	0.37	1.14	7.73
Priacanthids	0.48	1.14	39.13
Nemipterids	0.09	0.7	1.93
Rock cods	38.38	65.17	14.98



Sciaenids	0.29	-	1.93
Barracuda	0.66	1.32	-
Pomfret	0.52	-	-
Carangids	9.62	0.53	0.97
Horse mackerel	0.78	1.06	-
Decapterids	0.68	0.26	-
Ribbon fishes	0.14	0.53	-
Mackerel	2.31	0.79	-
Seer fishes	1.01	0.44	-
Balistids	0.10	2.46	-
Crabs	1.12	0.53	-
Squilla	16.66	2.64	-
Cephalopods	5.78	9.23	5.80
Jelly fishes	9.23	1.93	-
Puffer fishes	8.15	3.65	3.86
Others	3.18	2.77	22.22

**C. Salient observations**

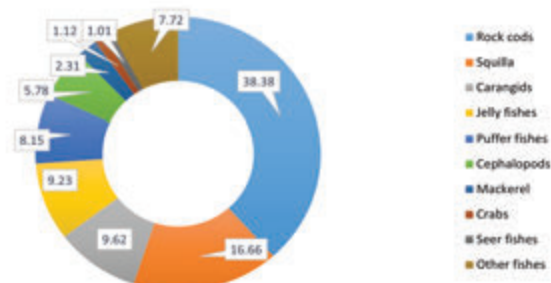
- ❖ The highest catch rate of 28.27 kg/hr. was recorded in the depth range of 30-50 m in Lat. 15°N. where Rock cods, carangids, squilla and jelly fishes were the major components of the catch. The second highest catch rate of 26.45 kg/hr was observed in Lat. 14°N.
- ❖ In 30-50 m depth zone, the catch was dominated by Rock cods (38.38%), followed by squilla (16.66%), carangids (9.62%), jelly fishes (8.15%) and cephalopods (5.78%).
- ❖ The catch of 50-100 m depth zone was mainly comprised of Rock cods (65.17%), cephalopods (9.23%), cat fishes (4.31%) and puffer fishes (3.65%). Whereas, in 100-300 m depth zone the catches were dominated by Priacanthids (39.13%), rock cods (14.98%), lizard fishes (7.73%) and cephalopods (5.80%).
- ❖ Rock cods, puffer fish and cephalopods were occurred in almost all the depth zones.

**D. Biological studies**

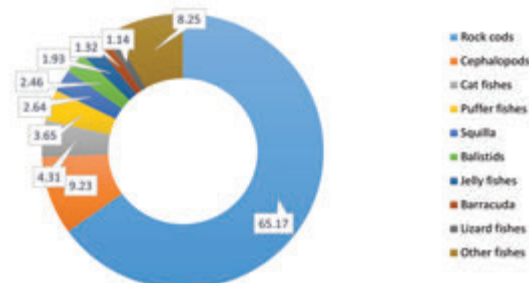
Total of 3235 nos. of specimens were measured for length frequency studies and the biological studies carried out for 898 nos. of specimens belonging to 14 species during the period.

**Gear-wise and depth-wise catch composition (%) of top ten species (MFV Sagarika)**

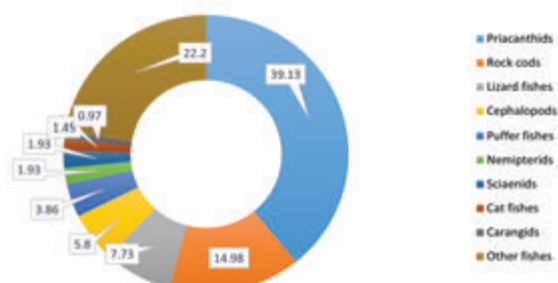
**Gear: Fish Trawl; Depth: 30 – 50 m**



**Gear: Fish Trawl; Depth: 50 – 100 m**



**Gear: Fish Trawl; Depth: 100 – 300 m**



**E. Biomass estimation**

Area Lat. 12°N – 17°N (in tonnes)

Species/Group	Depth zone (m)		
	30-50	50-100	100-300
Elasmobranchs	13	-	-
Cat fishes	27	932	36
Lizard fishes	35	247	193
Priacanthids	44	247	979
Nemipterids	9	152	48
Rock cods	3545	14092	375
Sciaenids	27	-	48
Barracuda	61	285	-



Pomfret	48	-	-
Carangids	888	114	24
Horse mackerel	72	228	-
Decapterids	63	57	-
Ribbon fishes	13	114	-
Mackerel	213	171	-
Seer fishes	94	95	-
Balistids	9	532	-
Crabs	103	114	-
Squilla	1539	571	-
Cephalopods	533	1997	145
Jelly fishes	853	418	-
Puffer fishes	753	789	97
Others	293	599	556

### Project 3

**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 fin fish 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	: ➤ Fish trawl
	: ➤ 47 m shrimp trawl
Vessel	: MFV <i>Matsya Varshini</i>
Base	: Cochin
Project Co-ordinator	: Dr. Sijo P. Varghese, Zonal Director
Project Leader	: Dr. S. Ramachandran, Sr. Fisheries Scientist

#### Results

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

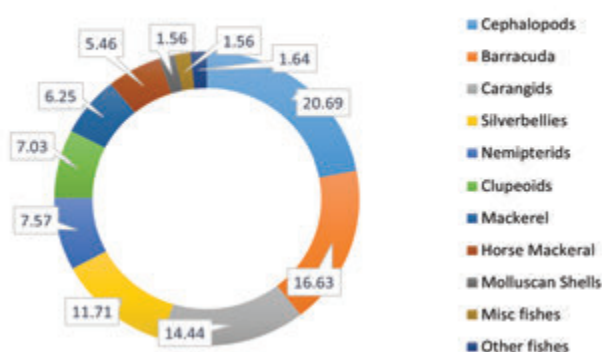
Latitude (°N)	Gear/Depth zone (m) Fish Trawl 30-100
9	6.86

##### B. Catch Composition (%)

Species/Group	Gear/Depth zone (m) Fish trawl 30-100
Clupeoids	7.03
Lizard fishes	0.31
Perches	0.31
Other perches	0.16
Nemipterids	7.57
Silverbellies	11.71
Lactarius sp.	0.16
Barracuda	16.63
Carangids	14.44
Horse Mackerel	5.46
Mackerel	6.25
Moon fishes	0.39
Crabs	0.31
Molluscan Shells	1.56
Cephalopods	20.69
Misc fishes	1.56

##### Gear-wise and depth-wise catch composition (%) of Top ten species (MFV *Matsya Varshini*)

**Gear: Fish Frawl; Depth: 30 – 100 m**



##### C. Salient observations

- ❖ MFV *Matsya Varshini* could make only one exploratory survey voyage during the year 2020-21 and the catch recorded was very low. During the voyage, the catch was dominated by Cephalopods (20.69%) followed by barracuda (16.63%), carangids (14.44%) and silverbellies (11.71%).





## D. Biological studies

Total of 675 nos. of specimens were measured for length frequency studies and the biological studies carried out for 120 nos. of specimens belonging to 6 species during the period.

### Project 4

#### Demersal fishery resources survey, assessment and monitoring along South - West coast between latitude 8°N and 11°N.

#### Project components

1. Demersal finfish resources survey in 30-100 m depth
2. Shellfish resources survey in 20-100 m depth

Gear : > 700 m fish trawl  
: > 28 m shrimp trawl

Vessel : MFV Lavanika

Base : Cochin

Project co-ordinator : Dr. Sijo P. Varghese

Project Leader : Shri A. E. Ayooob,  
Fishing Gear Technologist

## Results

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

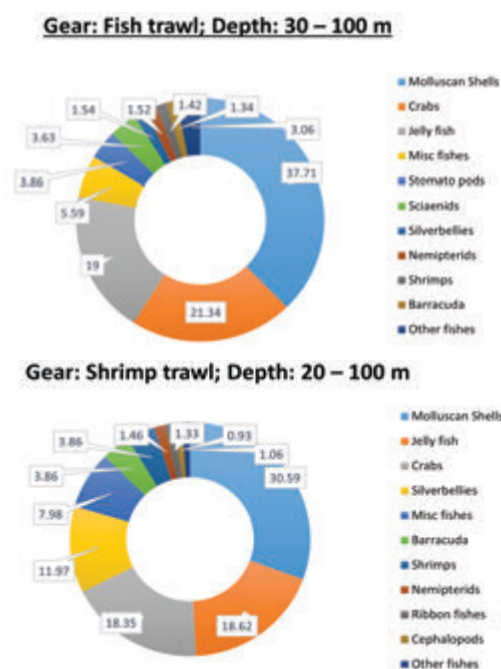
Latitude (°N)	Gear/Depth zone (m)	
	Fish trawl	Shrimp trawl
	30-100	20-100
8	28.78	8.0
9	34.82	14.67
10	29.0	-

### B. Catch Composition (%)

Species/ Group	Gear/ Depth zone (m)	
	Fish trawl	Shrimp trawl
	30-100	20-100
Eel	0.08	-
Clupeoids	0.49	-
Lizard fishes	0.72	-
Nemipterids	1.52	1.46

Rock cods	0.15	-
Upenoids	0.03	-
Sciaenids	3.63	-
Silverbellies	1.54	11.97
Barracuda	1.34	3.86
Decapterids	0.26	0.53
Ribbon fishes	-	1.33
Mackerel	0.15	0.53
Moon fishes	0.95	-
Shrimps	1.42	3.86
Crabs	21.34	18.35
Stomatopods	3.86	-
Cephalopods	0.23	0.93
Jelly fish	19.00	18.62
Molluscan Shells	37.71	30.59
Misc fishes	5.59	7.98

### Gear-wise and depth-wise catch composition (%) of Top ten species (MFV Lavanika)



### C. Salient observation

- > The highest catch rate of 34.82 kg/hrs was recorded in the depth zone of 30-100 m of lat. 9°N by fish trawl.
- > Molluscan shells (37.71%, 30.59%), Jelly fish (19.00%, 18.62%) and crabs (21.34%, 18.35%) were the dominant varieties in both 30-100 m and



20-100 m depth zone by fish trawl and shrimp trawl respectively.

- The decline in abundance indices were noticed in the survey area in comparison with previous year.

#### D. Biomass estimation

During the year, only limited fishing effort could be exerted in the survey area due to non operation of survey vessels during most of the months on account of prolonged dry docking/afloat repairs and also due to Covid-19 pandemic. Due to these limitations, survey effort and estimation of biomass did not give a realistic picture of the actual biomass and may lead to drawing of unrealistic conclusions on abundance of fishery resources in the survey area. Therefore, the biomass estimation could not be derived to avoid probable unrealistic conclusions.

#### EAST COAST

##### Project 5

**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 of demersal resources using fish trawl and shrimp trawl in 30-100 m depth.
3. Exploratory survey 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,  
 Zonal Director

Project Leader : Dr. A. John Chembian,  
 Jr. Fisheries Scientist

## Results

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

Latitude (°N)	Gear/ Depth zone (m)					
	Fish trawl		Cephalopod trawl	Shrimp trawl		
	30-50	100-200	30-50	30-50	50-100	100-200
13	141.50	-	-	16.12	1.78	2.67
14	14.93	128	3.47	15.33	-	-
15	6.00	-	-	-	-	-
16	8.67	-	-	-	-	-

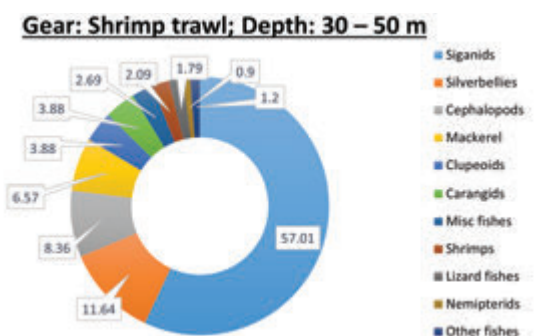
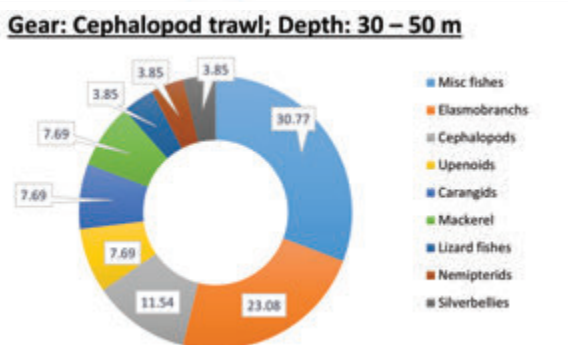
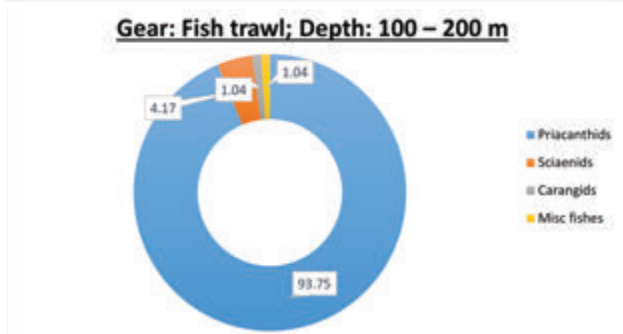
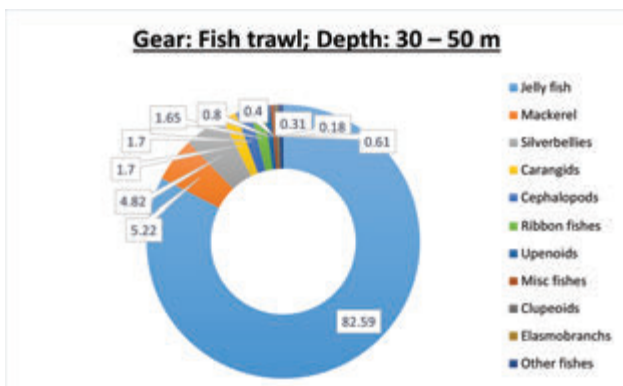
### B. Catch Composition (%)

Species/ Group	Gear/ Depth zone (m)					
	Fish trawl		Cephalopod trawl	Shrimp trawl		
	30-50	100-200	30-50	30-50	50-100	100-200
Elasmobranchs	0.18	-	23.08	-	-	-
Clupeoids	0.31	-	-	3.88	-	-
Lizard fishes	0.13	-	3.85	1.79	-	-
Priacanthids	0.04	93.75	-	-	25	50
Nemipterids	0.13	-	3.85	0.90	25.00	-
Siganids	-	-	-	57.01	-	-
Upenoids	0.80	-	7.69	-	-	-
Sciaenids	-	4.17	-	-	-	-
Silver bellies	4.82	-	3.85	11.64	-	-
Pomfrets	0.09	-	-	-	-	-
Carangids	1.70	1.04	7.69	3.88	-	-
Horse Mackerel	0.13	-	-	0.60	-	-
Ribbon fishes	1.65	-	-	0.60	-	-
Mackerel	5.22	-	7.69	6.57	-	-
Gerrids	0.09	-	-	-	-	-
Misc fishes	0.40	1.04	30.77	2.69	37.50	50

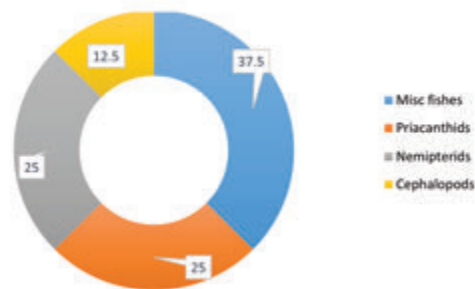


Shrimps	-	-	-	2.09	-	-
Cephalo-pods	1.70	-	11.54	8.36	12.50	-
Jelly fish	82.59	-	-	-	-	-

**Gear-wise and depth-wise catch composition (%) of Top ten species (MFV Samudrika)**



**Gear: Shrimp trawl; Depth: 50 – 100 m**



**Gear: Shrimp trawl; Depth: 100 – 200 m**



**C. Salient observations**

- > The highest catch rate of 141.50 kg/hr was recorded in 30-50 m depth zone of Lat 13°N followed by 128 kg/hr in 100-200 m depth of Lat 14°N by fish trawl.
- > In the depth zone 30-50 m, the catch was dominated by Jelly fish (82.59%) followed by mackerel (5.22%) and silverbellies (4.82%) by fish trawl, whereas elasmobranchs (23.08%) and cephalopods (11.54%) were the dominant species obtained by cephalopod trawl operation. Siganids (57.01%) and silverbellies (11.64%) were the major component in the same depth zone by shrimp trawl.
- > Priacanthids, nemipterids and cephalopods were the prominent fishes occurred in 50-100 m depth zone by shrimp trawl.
- > In the depth zone 100-200 m, Priacanthids dominated the catch with 93.75 % and 50 % by fish trawl and shrimp trawl respectively.
- > Biomass estimation revealed that 100-200 m depth contour is more productive.

**D. Biological studies**

Total of 1127 nos. of specimens were measured for length frequency and biological studies for 22 species during the period.

**E. Biomass estimation**

Area : Lat. 10°N –16°N



### Gear-wise and depth-wise catch composition (%) of Top ten species (MFV Samudrika)

Species/Group	Depth zone (m)		
	30-50	50-100	100-200
Elasmobranchs	57	-	-
Clupeoids	114	-	-
Lizard fishes	57	-	-
Priacanthids	6	157	21451
Nemipterids	40	157	-
Siganids	1089	-	-
Upenoids	114	-	-
Sciaenids	-	-	943
Silverbellies	844	-	-
Pomfrets	11	-	-
Carangids	302	-	236
Horse Mackerel	29	-	-
Ribbon fishes	222	-	-
Mackerel	804	-	-
Gerrids	11	-	-
Misc fishes	148	236	471
Shrimps	40	-	-
Cephalopods	394	78	-
Jelly fish	10551	-	-

### Project 6

#### 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 34 m shrimp trawl in 30-200 m depth.
4. Experiments for assessment of fishing gear efficiency.
5. Mesh selectivity study with cod-end cover.

Gear : > 34 m Fish trawl  
 : > 34 m shrimp trawl

Vessel : MFV *Matsya Shikari*

Base : Visakhapatnam

Project Co-ordinator : Shri D. Bhami Reddy,  
 Mechanical Marine Engineer

Project Leader : Dr. Annada Bhusan Kar,  
 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	50-100
16	27.8	36.2	9.6	-
17	38.5	31.2	66.1	36.2
18	42.5	50.6	35.9	54.0
19	28.4	19.3	23.0	-

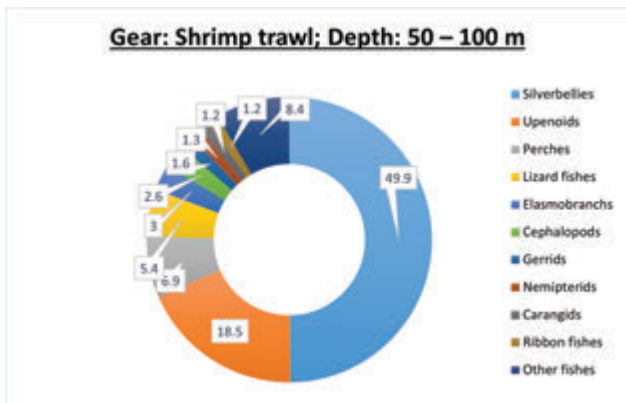
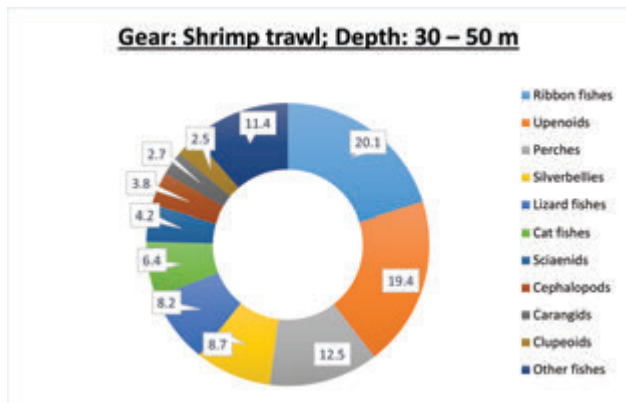
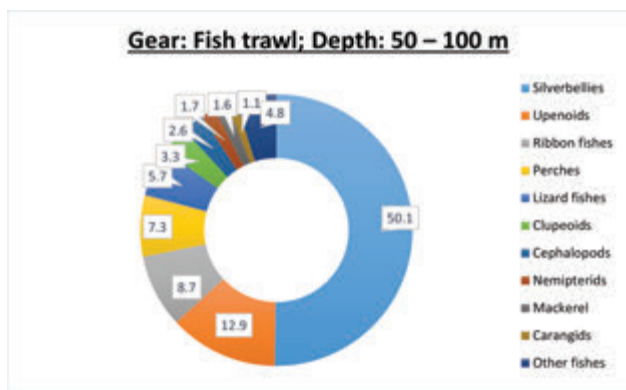
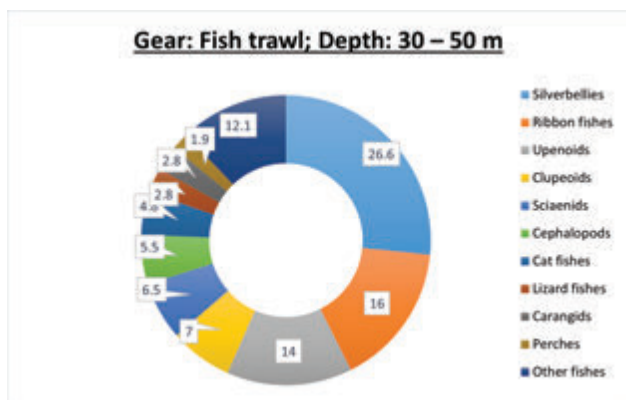
#### B. Catch Composition (%)

Species/ Group	Gear/ Depth zone (m)			
	Fish trawl		Shrimp trawl	
	30-50	50-100	30-50	50-100
Elasmobranchs	0.7	0.9	1.6	3.0
Cat fishes	4.8	0.4	6.4	0.3
Clupeoids	7.0	3.3	2.5	0.6
Lizard fishes	2.8	5.7	8.2	5.4
Priacanthids	0.2	0.1	-	0.1
Nemipterids	0.7	1.7	1.2	1.3
Perches	1.9	7.3	12.5	6.9
Upenoids	14.0	12.9	19.4	18.5
Sciaenids	6.5	0.1	4.2	0.1
Polynemids	0.3	-	0.1	-
Silverbellies	26.6	50.1	8.7	49.9
Flat fishes	0.1	0.3	0.3	0.3
Indian drift fish	0.3	-	-	-
Barracuda	0.8	0.2	1.0	0.2
Pomfrets	1.4	0.1	0.9	0.1
Carangids	2.8	1.1	2.7	1.2
Horse mackerel	0.6	0.1	0.1	0.2
Decapterids	0.2	0.2	-	0.5
Ribbon fishes	16.0	8.7	20.1	1.2
Mackerel	0.7	1.6	0.2	0.1
Seer fishes	0.3	0.3	0.2	0.1
Gerrids	-	0.9	-	1.6
Moon fishes	0.1	0.2	0.6	0.1
Shrimps	0.2	-	0.4	0.1
Crabs	1.0	0.4	0.5	0.2
Cephalopods	5.5	2.6	3.8	2.6
Others	4.5	0.6	4.3	5.4





**Gear-wise and depth-wise catch composition (%) of Top ten species (MFV Matsya Shikari)**



**C. Salient observations**

- > The highest catch rate of 66.1 kg/hr was recorded in the depth zone 30-50 m of the Lat 17°N by shrimp trawl, whereas, the highest catch rate of 50.6 kg/hr was recorded in the depth zone of 50-100 m of the Lat 18°N by fish trawl.
- > In the depth zone 30-50 m, the catch was dominated by Silverbellies (26.6%, 8.7%), ribbon fishes (20.1%, 16.0%) and upenoids (19.4%, 14.0%) were the dominant varieties recorded by fish trawl and shrimp trawl respectively. Similarly, in the depth zone 50-100 m, the catches were dominated by Silverbellies (50.1%, 49.9%) and upenoids (12.9%, 18.5%) by fish trawl and shrimp trawl.
- > Total catch of 3736 kgs was recorded during the month of November 2020 wherein the catch was dominated by Goat fishes (23.1%) followed by ribbon fishes (20.5%), pony fishes (17.8%), lizard fishes (10.4%) and cat fishes (7.6%).
- > During the month of December 2020, a catch of 676 kg (CPUE of 451 kg/hr) was recorded in a single haul in the area Lat 17°46.8'N/ Long. 83°28.8'E at a depth of 36-37 m off Bheemunipatnam. The catch comprised of ribbon fishes (71%), croakers (13%) and cat fishes (10%).

**D. Biological studies**

Total of 6256 specimens were examined for the length frequency distribution and 2671 specimens were investigated for detailed biological studies of 37 species.

**Project 7**

**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 : > 45.6 m expo model fish trawl  
> 34 m shrimp trawl

Vessel : MFV Matsya Darshini

Base : Visakhapatnam



Project Co-ordinator : Shri D. Bhami Reddy,  
Mechanical Marine Engineer  
Project Leader : Shri G. V. A. Prasad,  
Jr. Fisheries Scientist

**Results**

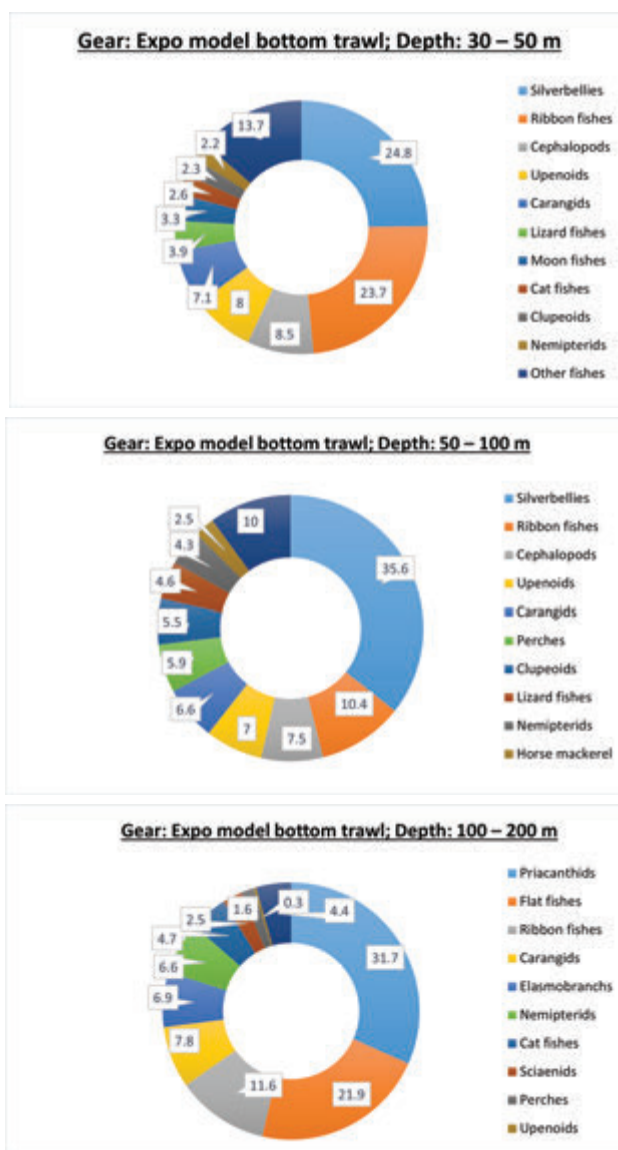
**A. Catch per unit effort (kg/hr)**

Latitude (°N)	Gear/ Depth zone (m)		
	Expo model bottom trawl		
	30-50	50-100	100-200
16	48.8	29.0	29.3
17	64.0	65.0	13.0
18	95.8	70.5	-
19	57.9	211.3	-

**B. Catch Composition (%)**

Species/Groups	Gear/ Depth zone (m)		
	Expo model bottom trawl		
	30-50	50-100	100-200
Elasmobranchs	0.3	1.6	6.9
Cat fishes	2.6	0.6	4.7
Clupeoids	2.3	5.5	-
Lizard fishes	3.9	4.6	-
Priacanthids	0.3	0.8	31.7
Nemipterids	2.2	4.3	6.6
Perches	1.2	5.9	1.6
Upenoids	8.0	7.0	0.3
Sciaenids	1.8	1.3	2.5
Silverbellies	24.8	35.6	-
Flat fishes	0.4	0.5	21.9
Indian drift fish	0.2	0.1	-
Barracuda	0.4	0.1	-
Pomfret	1.3	0.5	-
Carangids	7.1	6.6	7.8
Horse mackerel	2.0	2.5	-
Decapterids	0.4	0.3	-
Ribbon fishes	23.7	10.4	11.6
Mackerel	0.3	0.9	-
Seer fishes	0.6	0.5	-
Gerrids	-	0.1	-
Moon fishes	3.3	-	-
Crabs	1.5	0.8	-
Cephalopods	8.5	7.5	-
P. Maculatum	0.1	-	-
Others	2.9	1.9	4.4

**Gear-wise and depth-wise catch composition (%) of Top ten species (MFV Samudrika)**



**C. Salient observations**

- ❖ The highest catch rate of 211.3 kg/hr was recorded in the depth zone 50-100 m from the Lat. 19°N followed by the catch rate of 95.8 kg/hr in 30-50 m depth zone in the Lat. 18°N.
- ❖ In 30-50 m depth zone, Silverbellies (24.8 %), ribbon fishes (23.7 %), cephalopods (8.5 %) and upenoids (8.0 %) were the dominant species, whereas in 50-100 m depth zone also, the same set of species i.e. Silverbellies (35.6 %), ribbon fishes (10.4 %), cephalopods (7.5 %) and upenoids (7.0 %) were dominant species.



- ❖ Priacanthids (31.7 %) was the dominant species followed by flat fishes (21.9 %) and ribbon fishes (11.6 %) in the depth zone of 100-200 m.
- ❖ The highest catch of 5229 kgs were recorded during the month of January 2021 which was dominated by Goat fishes (20.8%) followed by pony fishes (20.8%), ribbon fishes (14.6%), scads (10.0%) and Japanese threadfin breems (4.2%).
- ❖ During the month of December 2020, deep sea species i.e *Saurida pseudotumbil*, *Nemipterus zysron*, *Parasclopsis aspinosa*, *Cynoglossus carpenteri*, *Bembrops caudimacula*, *Halieutaea indica*, *Ostichthys acanthorinus*, *Pterygotrigla hemistica*, *Lepidotrigla bispinosa*, *Acropoma japonicum*, *Solenocera hextii*, *Calappa exanthematos*, *Encephaloides armstrongii* and *Tibia delicatula* were recorded at a depth 116-118 m in the area Lat. 16° 57.2'N/Long. 82° 40.7'E (off Kakinada).
- ❖ Brassy trevally *Caranx papuensis* was recorded during the month of March 2021 in the area Lat. 18°13.0'N Long. 84°10.7'E (north off Kalingapatnam) at a depth of 38 m which is a new distributional records of this species in the Andhra Pradesh coast.

#### D. Biological studies

A total of 6924 specimens were examined for the length frequency distribution and 4558 specimens were investigated for detailed biological studies of 27 species.

#### E. Biomass estimation

Area : Lat. 16°N –21°N (in tonnes)

Species/Group	Depth zone (m)		
	30-50	50-100	100-200
Elasmobranchs	41	179	339
Cat fishes	230	224	200
Clupeoids	298	155	-
Lizard fishes	288	462	-
Priacanthids	13	63	1554
Nemipterids	95	353	308
Perches	347	590	77
Upenoids	1003	1867	-
Polynemids	4	2	-
Sciaenids	179	100	123
Silverbellies	1311	4172	-

Flat fishes	19	40	1077
Indian drift fish	9	6	-
Barracuda	67	41	-
Pomfret	61	44	-
Carangids	311	533	-
Horse mackerel	126	196	-
Decapterids	21	37	-
Ribbon fishes	1113	965	415
Mackerel	51	101	-
Seer fishes	26	44	-
Gerrids	1	52	-
Moon fishes	123	6	-
Shrimps	7	1	-
Crabs	71	65	-
Cephalopods	413	634	-
<i>P. Maculatum</i>	11	2	-
Others	214	563	646

## 4.2 OCEANIC TUNA RESOURCES SURVEY

### Project 8

**Tuna resources survey using monofilament longlining along the West-coast of India between latitude 4° and 23°N.**

#### Project components

1. Estimation of abundance indices of oceanic tuna and allied resources.
2. Identifying spatio-temporal distribution pattern of the tuna and allied resources.
3. Study of biological parameters in respect of important species.
4. Stock assessment of important resources.
5. Study of the oceanographic parameters.
6. Imparting training in fishing techniques and demonstrations of modern equipment on board to the fishermen, fishing industry representatives and entrepreneurs.

Gear : ➤ Monofilament long line with 7 hooks/ basket

Vessel : MFV Matsya Vrushti

Base : Mumbai

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

Project Leader : Shri Ashok S. Kadam,  
Fisheries Scientist

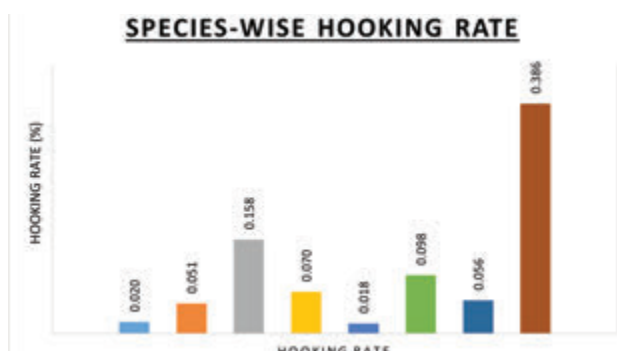


## Results

### A. Hooking rate (%)

Month	Hooks Operated	YFT	SKJ	SHA	SWO	MAR	SAI	DOL	OTH	Total
April 2020										
May 2020										
June 2020										
July 2020										
August 2020										
September 2020										
October 2020										
November 2020										
December 2020										
Vessel remained idle due to dry-docking repairs.										
January 2021	4410	0.02	0.022	0.2	0	0	0.09	0.11	0.136	0.59
February 2021	4410	0.02	0.16	0.27	0	0	0.23	0.09	0	0.77
March 2021	6930	0.02	0	0.06	0.16	0.04	0.02	0	0.79	1.05

### Species-wise Hooking rate (%) for the vessel MFV Matsya Vrushti



### B. Salient observations

- > An aggregate hooking rate of 0.77% was recorded for all fishes, wherein, Yellow fin tuna hooking rate was 0.02% during the year.
- > The overall catch for the year 2020-21 was dominated by the other fishes with an aggregate hooking rate of 0.35%.
- > During the year, the catch was mainly comprised of Shark (18.73%), Sail fish (12.78%), Skipjack Tuna

(9.02%), Swordfish (8.27%), Dolphin fish (6.77%), Yellow fin tuna (2.26%), Marlin (0.75%) and other fishes (41.35%).

### C. Biological studies

A total of 75 specimens belonging to 08 species were examined for length frequency and length-weight.

#### Project 9

**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 & Project Leader :  
Dr. H. D. Pradeep, Fisheries Scientist

## Results

**MFV Yellow Fin** remained idle during the year due to dry- docking repairs.

### Project 10

**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. Tibutius,  
Zonal Director

Project Leader : Dr. J. Jeyachandra Dhas,  
Jr. Fisheries Scientist

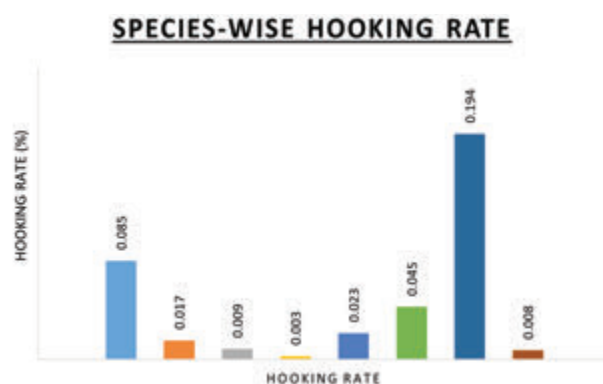
## Results

### A. Hooking rate (%)

Months	Hooks Operated	Hooking rate (%)								
		YFT	SKJ	BAR	SWO	RAY	DOL	LAN	OTH	Total
April 2020		The vessel could not conduct the survey programme due to Pandemic Covid-19 lockdown in Chennai.								
May 2020										
June 2020										
July 2020										
August 2020										
September 2020	1260	0.31	-	-	-	-	-	0.95	-	1.26
October 2020	7560	0.05	0.03	0.03	0.01	0.03	0.03	0.20	-	0.38
November 2020	6545	0.09	-	-	-	0.05	0.12	0.18	0.03	0.47
December 2020	8820	0.08	0.02	-	-	-	0.01	0.09	-	0.20
January 2021		Dry docking repairs at HSL, Visakhapatnam.								
February 2021										
March 2021										

YFT – Yellow Fin tuna, SKJ – Skipjack tuna, BAR – Barracuda, MAR – Marlin, SWO – Sword fish, RAY – Rays, DOL – Dolphin fish, LAN – Lancet fish, OTH – Other fishes

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



### B. Salient observations

- ❖ The highest aggregate hooking rate of 1.26% was recorded during September 2020.
- ❖ The highest hooking rate of 0.31% of Yellowfin tuna was observed during September 2020.
- ❖ Yellowfin tuna and lancet fishes were occurred in all months during September 2020 – December 2020.



### C. Biological studies

Biological studies of all parameters such as Length frequency, Length-weight, Sex, Maturity and food and Feeding habits were made for 74 specimens viz., *Thunnus albacares*, *Kastuwonus pelamis*, *Xiphias gladius*, *Istiophorus platypterus*, *Alepisaurus ferox*, *Coryphaena hippurus*, *Sphyraena jello* were carried out during the year.

#### Project II

**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 Sword fish by using drift longline with light sticks in Andaman and Nicobar waters.
3. Survey of Oil shark resources by using bottom set longline gear in Andaman and Nicobar waters.

4. Survey of Perch resources by using bottom set vertical longline in Andaman and Nicobar waters.

- Gear : ➤ Multifilament tuna long line with five hooks per basket
- Bottom set longline with 625 hooks per set
- 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 & Project Leader :  
Shri Dharmvir Singh,  
Mechanical Marine Engineer

#### Results

**The vessel *MFV Blue Marlin* was idle during the period April 2020 – March 2021 for want of repairs to damaged propeller.**





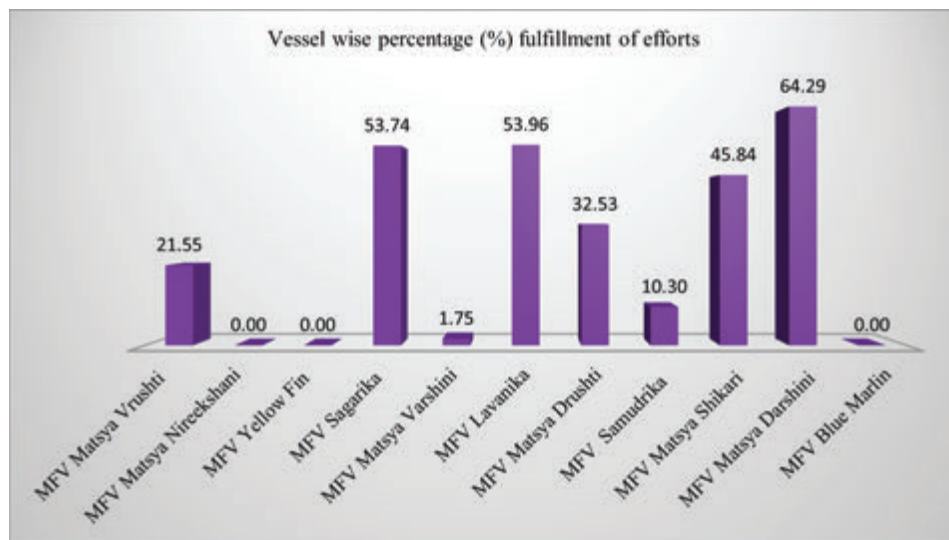
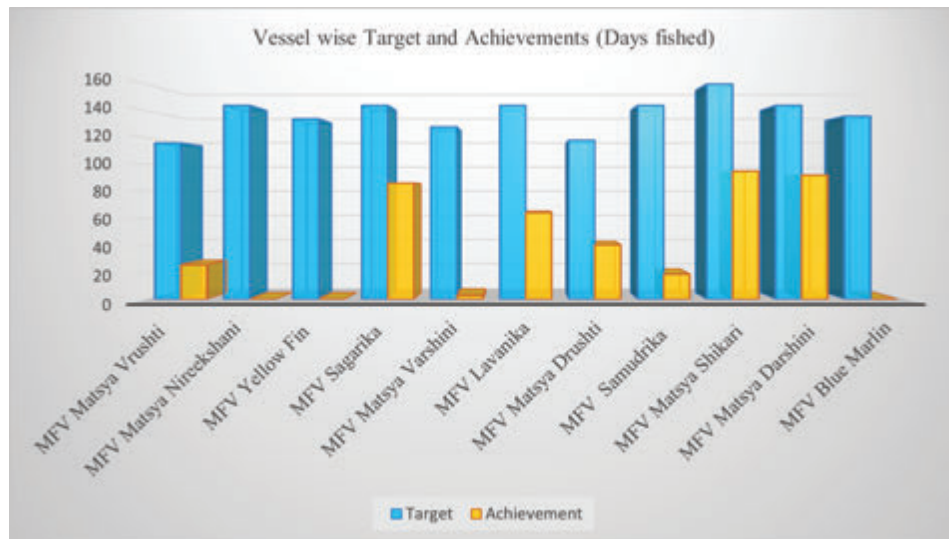
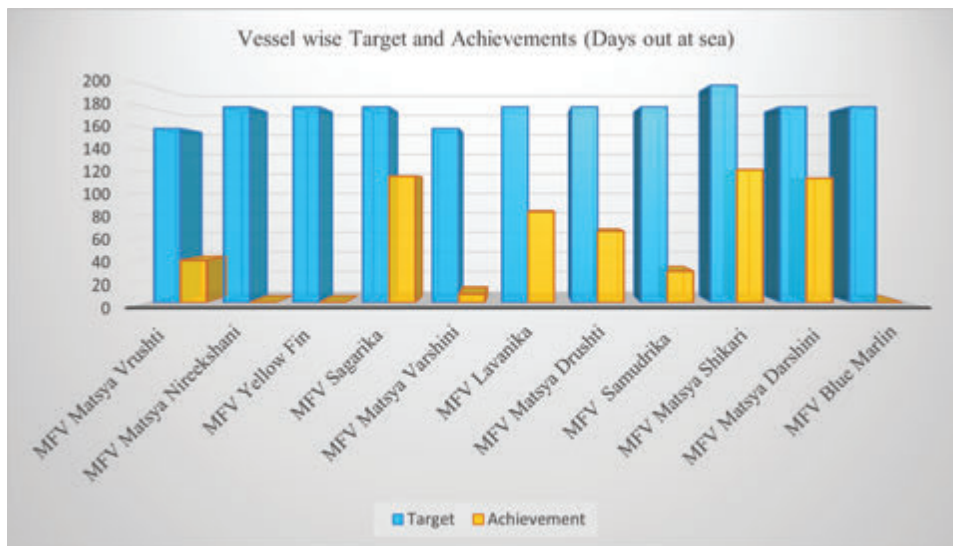
## 5. PHYSICAL TARGET AND ACHIEVEMENTS

Physical targets and achievements in terms of voyages, days out at sea, fishing days and sampling effort of the survey vessels during 2020-21 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	MFV Matsya Vrushti @	8	160	116	73080	3	38	25	15750
	MFV Matsya Nireekshani *	9	180	144	675	0	0	0	0
Mormugao	MFV Yellow Fin @	9	180	134	83750	0	0	0	0
	MFV Sagarika *	9	180	144	675	6	116	86	362.77
Cochin	MFV Matsya Varshini * %	8	160	128	600	1	8	3	10.5
	MFV Lavanika *	18	180	144	675	9	83	64	213.75 150.8 &&
Chennai	MFV Matsya Drushti @ &	9	180	118	74340	4	65	40	24185
	MFV Samudrika *	9	180	144	675	3	28	18	69.5
Visakha patnam	MFV Matsya Shikari *	10	200	160	750	7	122	95	343.8
	MFV Matsya Darshini * * *	9	180	144	525 84	6	114	92	391.5 0
Port Blair	MFV Blue Marlin @ & \$ #	9	180	136	28750 18750 18750 18750	0	0	0	0
Efforts	<b>Total</b>	<b>107</b>	<b>1960</b>	<b>1512</b>		<b>39</b>	<b>574</b>	<b>423</b>	
*:Bottom trawling					4575				1532
**:Mid water trawling					84				-
@: Tuna longline (Hooks)					259920				39935
&: Bottom set vertical longline (Hooks)					18750				-
\$:Bottom set longline (Hooks)					18750				-
#: Drift longline with light stick (Hooks)					18750				-

&&: Sampling efforts were done for Marine Mammal Survey.





## 6. VESSEL-WISE REASONS FOR SHORTFALL IN ACHIEVING THE TARGET DURING 2020-21

Vessels	Reasons
<i>MFV Yellowfin</i>	Annual drydock repairs and afloat repair.
<i>MFV Matsya Vrushti</i>	Drydocking repairs discontinued due to Covid-19, Underwent Drydocking repairs / port side generator, Afloat repairs and delay due to clearance certificate.
<i>MFV Matsya Nireekshani</i>	Drydocking repairs / port side generator overhauling, Afloat repairs and procurement of items and LSA/FFA survey.
<i>MFV Sagarika</i>	Annual dry-docking repairs at GSL Goa and Aux. engine No.1 & 2 repairs.
<i>MFV Matsya Varshini</i>	Lockdown due to Covid-19 pandemic, awaiting dock, drydocking repairs, Afloat repairs, inclination test conducted and failed and abnormal sound in main engine- severe damage to the drive bevel gear.
<i>MFV Lavanika</i>	Lockdown due to Covid-19 pandemic, dry dock repairs, Afloat repairs and LSA/FFA survey.
<i>MFV Matsya Drushti</i>	Lockdown due to Covid-19 pandemic, LSA/FFA survey, dry docking repairs.
<i>MFV Samudrika</i>	LSA/FFA survey could not be conducted due to COVID-19 lockdown, dry docking repairs, damage in Trawl winch shaft in the STBD side, trawl winch shaft repairs, crack in Main Engine crank shaft.
<i>MFV Matsya Shikari</i>	Lockdown due to Covid-19 pandemic, split winch repairs (axial play of the drum).
<i>MFV Matsya Darshini</i>	Lockdown due to Covid-19 pandemic, want of Certificate of Inspection and prepared for LSA/FFA survey, general maintenance.
<i>MFV Blue Marlin</i>	Repairs to damaged propeller.

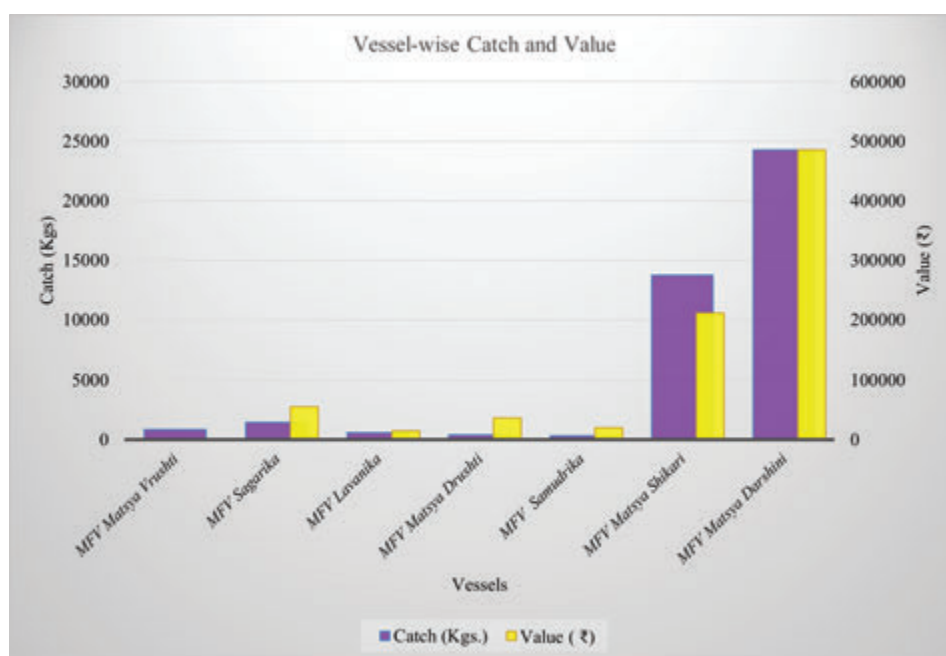


## 7. VESSEL-WISE CATCH AND VALUE

The catch and values registered by the FSI survey vessels during 2020-21

Base	Vessel	Catch (Kgs.)	Value (in ₹)
Mumbai	MFV Matsya Vrushti	855	CNU*
	MFV Matsya Nireekshani	-	-
Mormugao	MFV Yellow Fin	-	-
	MFV Sagarika	1466	55720
Cochin	MFV Matsya Varshini	-	-
	MFV Lavanika	581	15136
Chennai	MFV Matsya Drushti	423	36528
	MFV Samudrika	350	20119
Visakhapatnam	MFV Matsya Shikari	13747	211035
	MFV Matsya Darshini	24300	485865
Port Blair	MFV Blue Marlin	-	-
<b>Total</b>		<b>41722</b>	<b>824403</b>

\*CNU: Catch Not Unloaded



## 8. SCIENTIST PARTICIPATION IN SURVEY CRUISES

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

Vessel	Name and Designation of Scientist participant	No. of cruises	Days out at sea
MFV Matsya Vrushti	Shri A. Siva, Sr. Scientific Assistant	1	11
	Shri Swapnil Shirke, Sr. Scientific Assistant	1	16
	Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	1	11
MFV Matsya Nireekshani	No scientist participation due to major repairs.		
MFV Yellow fin			
MFV Sagarika	Shri Puran Singh, Sr. Scientific Assistant	2	40
	Shri Solly Solomon, Sr. Scientific Assistant	2	40
MFV Matsya Varshini	Shri A. E. Ayooob, Jr. Fishing Gear Technologist	1	7
MFV Lavanika	Shri N. Unnikrishnan, Jr. Fisheries Scientist	2	18
MFV Matsya Drushti	Dr. J. Jeychandra Dhas, Jr. Fisheries Scientist	1	20
	Dr. A. John Chembian, Jr. Fisheries Scientist	1	20
	Shri Y. Tharumar, Sr. Scientific Assistant	1	5
	Shri Rahulkumar B. Tailor, Sr. Scientific Assistant	1	20
MFV Samudrika	Dr. A. John Chembian, Jr. Fisheries Scientist	1	4
	Shri Y. Tharumar, Sr. Scientific Assistant	1	4
	Shri Nashad M., Sr. Scientific Assistant	1	20
MFV Matsya Shikari	Dr. Annada Bhusan Kar, Fisheries Scientist	1	20
	Shri G. V. A. Prasad, Jr. Fisheries Scientist	1	20
	Shri Pratyush Das, Jr. Fishing Gear Technologist	2	31
	Dr. S. K. Pattanayak, Senior Scientific Assistant	2	30
	Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	1	20
MFV Matsya Darshini	Shri G. V. A. Prasad, Jr. Fisheries Scientist	1	20
	Shri Pratyush Das, Jr. Fishing Gear Technologist	1	20
	Dr. K. Silambarasan, Senior Scientific Assistant	3	54
	Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	1	20
MFV Blue Marlin	-	-	-





## 9. RESEARCH AND SURVEY ACTIVITIES

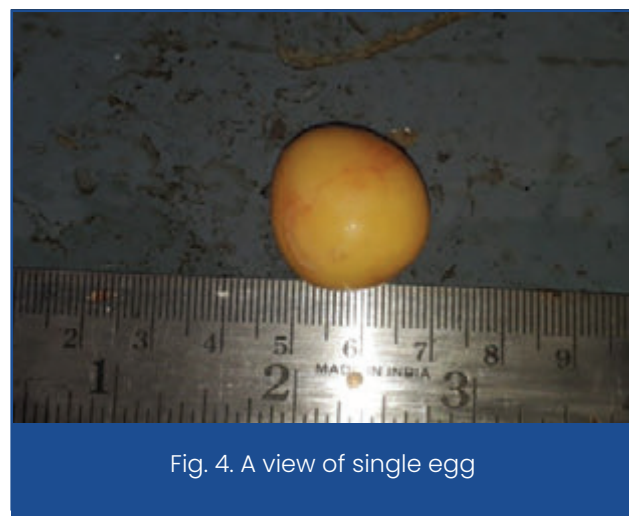
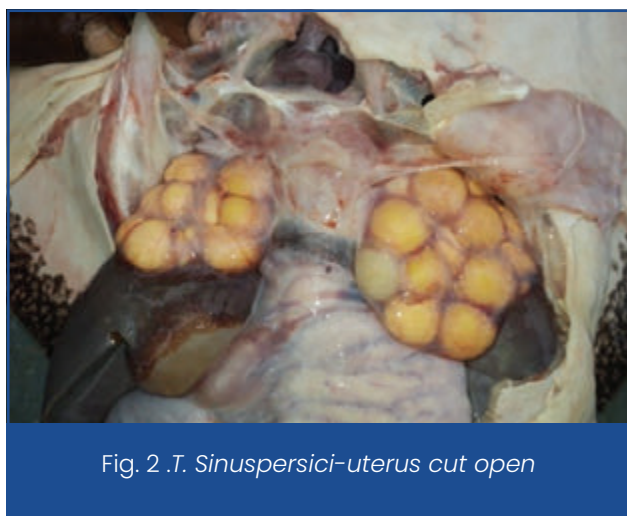
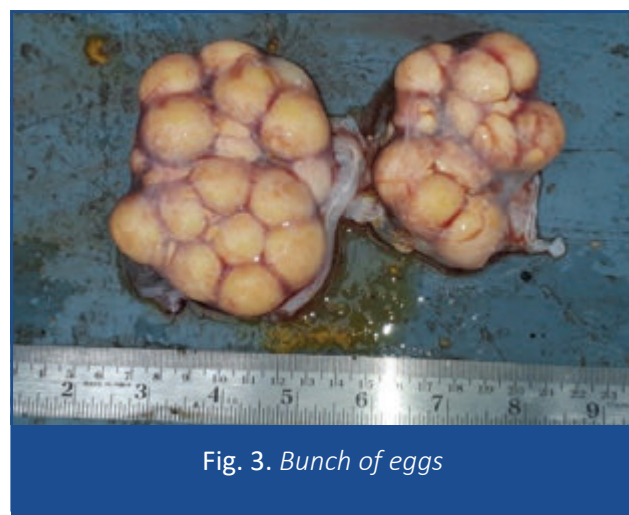
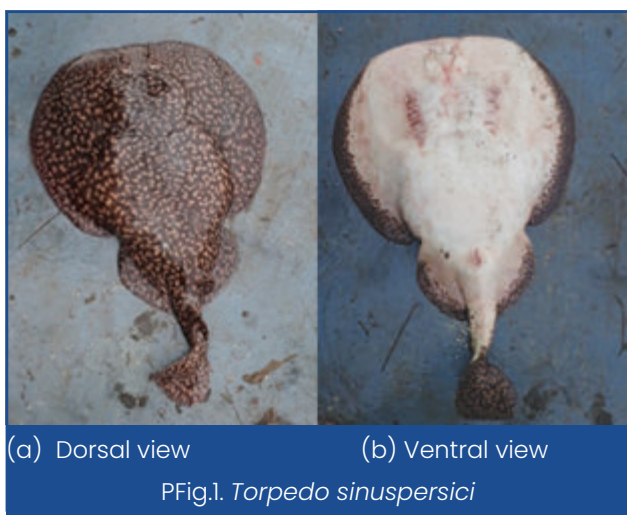
### 9.1 Highlights of the Surveys/ Research

#### 9.1.1. Some biological aspects of variable torpedo ray, *Torpedo sinuspersici* Olfers, 1831 caught from Visakhapatnam coast

During October' 2020, the vessel *MFV Matsya Darshini* carried out regular exploratory fishery resources survey for assessment and monitoring the demersal fishery resources along the upper east coast of India between Lat 16°N-21°N. A single gravid female specimen of the variable torpedo ray, *Torpedo sinuspersici* was collected in the area of Lat. 17°49.9'N / Long. 83°38.4'E (off Visakhapatnam) at a depth range of 47-48m. The torpedo ray measured 540 mm in total

length (TL), 360 mm in disc width, 300 mm in disc length and weighed 1.3 kg. The specimen was dissected and recorded the presence of eggs arranged freely on uteri (Egg cases) located in both sides of stomach. Total of 25 eggs were observed, right uterus had 14 eggs and left uterus had 11 eggs. Each egg was measured in the size range of 16-21 mm (Fig. 1-4).

The present study indicates that the gestation period of the species could be in October month in this region of Bay of Bengal. Further studies on embryonic development, fecundity, maturity stages and reproduction is essential to provide suitable guidelines for the conservation, management and sustainable exploitation of this species.





### 9.1.2. Fishing grounds of saddle grunts in the South off Kalingapatnam

During the month of November' 2020, the vessel *MFV Matsya Darshini* while carrying out regular exploratory fishery resources survey along the upper east coast of India, a shoal of silver grunts (*Pomadasy argenteus*) were recorded in the area Lat.18° 04.9'N/ Long. 84° 03.3'E at a depth range of 52-53 m. A total of 125 kg of fish catch was recorded in the haul, which was dominated by Silver grunts (52%) and Silverbellies (48%).

The total length of the *P. argenteus* ranged between 32.0-61.5 cm and weighed between 450-2200 gm. Biological studies revealed that out of 60 specimens, 37 fishes were found to be male and 23 were female. The females were in the 4<sup>th</sup> stages of maturity. The dietary analysis indicates diverse groups of semi-digested fishes, squids, crabs, shrimps and squilla were noticed.



### 9.1.3. Rich fin fish grounds recorded off Bhimilipatnam and Shantapalli

The vessel *M.F.V. Matsya Shikari* was deployed for demersal fishery resources survey in the upper east coast of India (Lat. 16°N – 19°N) during December' 2020. The vessel was out at sea for 20 days and engaged in fishing operation for 17 days. The vessel recorded a fish catch of 2603 kg by expending a fishing effort of 57.0 hrs. During the voyage, a catch of 676 kg (CPUE of 451 kg/hr) was recorded in the area Lat 17° 46.8'N / Long 83° 28.8'E at a depth range 36-37m (off Bhimilipatnam). The catch comprised of Ribbonfishes (71.0%), Croakers (13.0%), Catfishes (10.0%), Sardines (1.0%) etc.

Similarly, a catch of 551 kg (CPUE of 367 kg/hr) was recorded in the area Lat. 17° 52.4'N / Long. 83°36.5'E

(off Shantapalli) at a depth range of 34-35m. The catch comprised of Moonfish (96.0%), Scads (1.0%), Black pomfrets (1.0%), Japanese threadfin breams (1.0%) etc.



Fish catch Off Bhimilipatnam



Fish catch Off Shantapalli

### 9.1.4. Abundance of moon fish resources off Bheemunipatnam

The vessel *M.F.V. Matsya Darshini* conducted the survey, assessment and monitoring of demersal fishery resources by deploying 45.6 m Expo model bottom trawl during December 2020, a shoal of Moonfishes (*Mene maculata*) was recorded in the area Lat. 17°53.4'N / Long. 83°38.4'E (off Bheemunipatnam) at a depth range of 38-39m

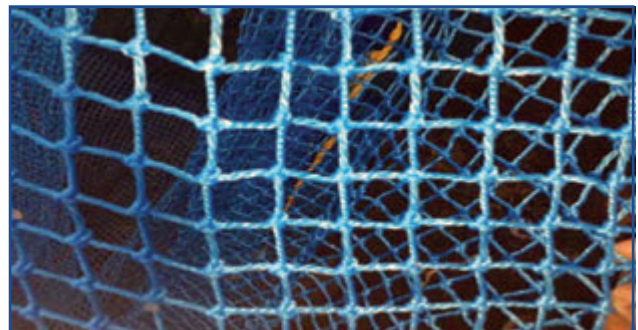


Total of 470 kg of fish catch was recorded in a single haul which was dominated by Moonfishes (84%) followed by Lesser sardines (11%), Lizardfishes (1%) etc. Biological observations were carried out for 54 specimens. The total length of *M. maculata* ranged between 12.0-16.0 cm and weight range between 30.0-80.0 gm. Sex wise analysis indicates that the male population is predominance (45 nos.) compare to females (09 nos.). The maturity stages of the females are IIIrd stage (maturing phase) only. Dietary analysis indicates that maximum stomachs are empty and few stomachs with semi digested matters.

of species were recorded in the diamond mesh codend than the square mesh codend. The size of the species recorded in the square mesh was found to be bigger than diamond mesh. In the operational aspects square mesh is easier to operate than the diamond mesh.



30 mm Diamond mesh codend



30 mm Square mesh codend

**9.1.5. Comparative study of 30 mm diamond mesh codend & 30 mm square mesh codend during the month of November & December 2020**

During November & December' 2020 the comparative study of 30 mm diamond mesh codend and 30 mm square mesh codend of the 45.6 m Expo model bottom trawl was undertaken onboard *MFV Matsya Darshini*. Total of 16 hauls, 08 hauls square mesh & 08 hauls diamond mesh were operated in the same area and same depth. The study indicated higher catch rate (CPUE) in the diamond mesh than the square mesh. Variation in the species composition of both the cod ends was noticed & more number



*Uranoscopus cognatus* (9.5-10.7cm)



*Uranoscopus cognatus* (11.0-16.0 cm)



*Stolephorus indicus* (9.8-12.0 cm)



*Stolephorus indicus* (6.5-13.0 cm)







*Uroteuthis duvaucelii*  
(10.5–33.1 cm)



*Uroteuthis duvaucelii*  
(15.5–27.1 cm)



*Uroteuthis duvaucelii*  
(10.5–33.1 cm)



*Uroteuthis duvaucelii*  
(15.5–27.1 cm)

#### 9.1.6. Abundance of marine plastic litter trawled-up in the fishing grounds off Pudimadaka

While conducting the exploratory fishery resources survey, assessment and monitoring along the upper east coast of India by the survey vessel *M.F.V. Matsya Darshini* during November 2020, abundance of marine plastic litter trawled-up in the fishing grounds (Lat. 17°27.9'N/Long. 83°04.4'E) off Pudimadaka at a depth range of 32–33 m. A total of 650 pieces of plastic litters (200 kg weight approx) were noticed in a single haul. Plastic based litters shared maximum (70%) to the total litters collected in numbers with, plastic bags, polythene covers, food wrappers and abandoned nets were dominant. The study highlights the evidence of marine litter found in the trawling grounds of Pudimadaka in the Visakhapatnam Coast of India. The present study is the first of its kind in estimating the quantity of marine litter in the trawling grounds in the upper east coast of India. More information needed on the marine plastic litters from other fishing grounds which will help to mitigate the issue of marine plastic litters at sea.



#### 9.1.7. “New record of narrowbar reefgoby, *Priolepis profunda* (Actinopterygii: Perciformes: Gobiidae) from Indian waters”

“New record of narrowbar reefgoby, *Priolepis profunda* (Actinopterygii: Perciformes: Gobiidae), from Indian waters” reports the first record of the narrowbar reefgoby, *Priolepis profunda* (Weber, 1909) from the Indian coast. Two specimens (33.5 and 38.5 mm of TL), were caught during a demersal trawling survey conducted by the vessel *MFV Matsya Varshini* in the area between Lat. 9°40.7'N / Long. 76°05.8'E and Lat. 9°45.1'N / Long. 76°03.9'E at 33 m during June 2017. The specimens were collected from a coral rock which entered in the trawl net during the demersal resources survey.



#### 9.1.8. New record of blunt head puffer fish *Spherooides pachygaster* (Muller & Torchel, 1948) from Indian waters

Blunthead pufferfish, *Spherooides pachygaster* (Muller and Troschel 1948) was recorded for the first time in Indian seas. A female specimen of *S. pachygaster* was caught in bottom trawl operation while carrying out survey operation by the survey vessel *MFV Matsya Varshini* during August' 2020 in the area between Lat. 8° 41'N; / Long. 76°06'E and Lat. 8°44'N / Long.76°04'E at 263–310m depth in the eastern Arabian sea.

Morphometric and meristic description were studied in detail to compare with the pertinent records available elsewhere. Wide variations in meristic counts were observed among specimens of this species collected from various locations. The specimen collected was a fully matured with the Gonado Somatic Index (GSI) of 17.9. Gonad occupied two-third of abdominal cavity, ova diameters



ranged between 0.45 to 0.6 mm and fecundity estimated was 0.238 million eggs. Histological studies revealed that, this species performs single spawning strategy and it is the first information on reproduction of *S. pachygaster* in India. Available reports on the occurrence this species indicates distribution in the Mediterranean Sea, Atlantic, Indian and Pacific Oceans and the present record confirms its distribution in the Arabian Sea.



**9.1.9. Plastic pieces in the stomach of Silky Shark caught in the oceanic fishery survey**

The vessel *MFV Matsya Vrushti*, a monofilament tuna longliner attached to Mumbai Base of Fishery Survey of India, was deployed for Oceanic Fishery Resources survey in the area between

Lat. 18°N – 20°N during the month of January'2021. A Silky Shark (*Carcharhinus falciformis*) caught off Lat. 19°51.70'N/Long. 067°58.80'E in the depth of 3060 m was observed with 03 Nos. of plastic pieces in its gut. The size of the plastic materials varied from 5-7cm is a clear indication of plastic pollution in marine ecosystem.



Plastic sheet in the stomach of Silky Shark, Jan, 2021 M.Vrushti, North West Coast, India

**9.1.10. HDPE rope piece in the gut of Dolphin fish**

During January 2021 voyage, the vessel *MFV Matsya Vrushti* assigned to survey in North West coast of India between Lat.18°N-20°N. While operating longline in the area of Lat. 20°11.88'N/ Long. 068°38.36'E at the depth of 2900 m, a male Dolphin fish (*Coryphaena hippurus*) was caught and observed with a piece of High Density Polyethylene Monofilament (HDPE) rope in its stomach. The length of the HDPE rope piece was 4.7 cm.

**HDPE rope in the gut of Dolphin fish  
Jan, 2021, Matsya Vrushti, North-west coast, India**



**9.1.11. Report of Epizootic Cirripede, *Conchoderma virgatum* (Spengler, 1790) on *Pennella instructa* (Wilson, 1917) parasitized on Indo-Pacific Sailfish *Istiophorus platypterus***

This is a new record on the occurrence of *Conchoderma virgatum* and *Pennella instructa* parasitized on *Istiophorus platypterus* from the Arabian Sea. This is a new locality record which confirms the range extension of the species to North-west of Arabian Sea.

All 16 Numbers of parasite specimens were collected, 08 specimens each from either side of the dorsal fin Base of a male Indo-Pacific sailfish, *Istiophorus platypterus*. The fish was caught by the Monofilament tuna longline vessel

*MFV Matsya Vrushti* during February' 2021 voyage in the area of Lat. 16°25.32'N / Long. 070°52.86'E at a depth of 3010 m. Among 16 *P. instructa* specimens, all were hosting the striped goose barnacle *Conchoderma virgatum*.







### 9.1.12. Exploratory fishery resources survey indicates productive fishing grounds off Kalingapatnam waters

During March' 2021, the vessel *MFV Matsya Darshini* carried out exploratory fishery resources survey, assessment and monitoring along the upper east coast of India between Lat. 16°N-21°N. The survey indicated productive fishing grounds off Kalingapatnam waters.

Abundance of perch *Pomadasys argenteus* commonly known as Saddle grunts were noticed in the above area. They are one of the commercially important marine fishery resources along the Andhra Pradesh coasts due to their high market price and good nutritional value.

The biological studies indicated that the total length ranged from 21.9 cm to 52.2 cm and weight range varied in between 160 gm and 2.0 kg. Dominance of male was noticed in the population, maturity stages of most specimens were observed to be in the advanced stage only.

The dietary analysis indicated diverse groups of prey items in the gut viz., *oratosquilla* spp., frog crabs, digested crab shells and semi digested fish parts respectively.



## 9.2 Multi-institutional projects

### Marine Mammal Stock Assessment

The Fishery Survey of India in collaboration with Marine Products Export Development Authority (MPEDA) and Central Marine Fisheries Research Institute (CMFRI) initiated implementation of a project as Marine Mammal Stock Assessment under the multi-institutional collaborative programme. It is a statutory requirement for the seafood exporting countries to USA to have regulatory programmes by assessing marine mammal stocks, estimating by-catch, calculating by-catch limits, and reducing total by-catch of marine mammals. In this regard MPEDA had taken up a programme to study the marine mammal stocks of the Indian EEZ, estimation of the incidental catch in the fishery and by-catch reduction devices for the Indian seas.

The research and survey programme was launched on 22<sup>nd</sup> February 2021 onboard FSI survey/research vessel *MFV Lavanika* and a flagging off ceremony was organised at the FSI-MED Jetty, Kochi. Shri K. S. Srinivas IAS, Chairman, MPEDA, Kochi flagged off the first voyage of FSI vessel identified for the survey and research on marine mammal stocks of the western Indian EEZ. The programme was attended by Dr. A. Gopalakrishnan, Director, CMFRI, Dr. L. Ramalingam, Director General (IC), FSI, Dr. R. Jeyabaskaran, Principal Investigator, CMFRI, Dr. Sijo P. Varghese, Zonal Director, FSI Cochin, Shri A. K. Choudhury, Director, CIFNET, Dr. J. S. Meena, Director, NIFPHATT along with Scientists and other Technicians. A team of Scientists are regularly participating onboard the vessel for marine mammal survey and research which will throw light on the distribution, abundance and migratory patterns of the marine mammals of the Indian EEZ.



## Results

In the survey conducted onboard *MFV Lavanika* during the period 22<sup>nd</sup>-28<sup>th</sup> February 2021, more than 500 numbers of dolphins belonging to 6 species and 2 species of sea turtles sighted in the 400 nautical mile cruise track. Oceanographic parameters were collected from 4 stations.

During the marine mammal survey conducted in March 2021, Six Bryde whales, *Balaenoptera edeni* were sighted from the following area.

- Lat. 08° 42.064 N/ long. 074° 15.98 E at 2750 m depth - (1 no),
- Lat. 08° 41.5 N/ long. 074° 15.475 E at 1500 m - (2nos),
- Lat. 08° 39.204 N/ 074° 12.56 E at 2760m - (1 no),
- Lat. 8° 39.704 N/074° 12.56 E at 1720 m - (1 no)

In addition, 588 numbers of Dolphins were sighted and the species identified as Spinner dolphin (*Stenella longirostris*) and Striped dolphin, *Stenella coeruleoalba*.



Flagging off the Marine Mammal Stock Assessment Project





**9.3 Ph.D. Awarded**



Ms. Roshan Maria Peter, Sr. Scientific Assistant of Chennai Base of FSI was awarded with Doctor of Philosophy (Ph.D.) degree by ICAR- Central Institute of Fisheries Education, Mumbai on 10<sup>th</sup> February 2020. Her thesis was on the topic "Evaluation of potassium supplementation on physiological response of *Etroplus suratensis* (Bloch, 1790) and yield of tomato in recirculating aquaponic system". For her thesis she worked under the guidance of Dr. A. K. Verma, Sr. Scientist, ARS, ICAR- Central Institute of Fisheries Education, Mumbai.



Shri C. Babu, Sr. Scientific Assistant of Chennai Base of FSI was awarded the Degree of Doctor of Philosophy (Ph.D.) by the University of Madras on 23<sup>rd</sup> September 2020. His thesis was on the topic entitled "Studies on some aspects of biology and fishery characteristics of tunas in Indian waters". For his thesis he worked under the guidance of Dr. A. Anrose, Retd. Zonal Director of FSI.

**9.4 Awards/ Patent**



Dr. Harshavardhan D. Joshi, Senior Scientific Assistant of Mumbai Base of FSI was awarded and granted Patent on 3<sup>rd</sup> March 2021 for an invention entitled "Formulation of Fadrazole loaded Nanoparticle feed for efficient masculinization of *Poecilia reticulata* for the term of 20 years.



## 10. EXTENSION ACTIVITIES FOR DISSEMINATION OF SURVEY FINDINGS

### 10.1 Workshop/ open house/ rally conducted by the institute

As a part of extension activities, the FSI HQs and Base offices of Fishery Survey of India organized regional workshops/ open houses/ rallies at major marine fish landing centres in the Maritime States/ UTs.

#### Mumbai Base

On the occasion of "World Fisheries Day", a workshop on "Sustainable Marine Fisheries Resource Management and Safety measures needs to be taken while working on board the vessel and landing centres during the pandemic COVID-19 situation" was organized by the Base to create an awareness among the fishers and workers related to fishing at peeling shed of M/s Arya Sea Food, Sassoon Dock, Colaba on 21<sup>st</sup> November 2020.

Shri. D. K. Gulati, Zonal Director presided over the function. Shri Rajan S. Sawant, Proprietor of M/s Arya Sea Foods, Sassoon Dock, Colaba, Mumbai was the Chief Guest. Dr. Mahesh Kumar Farejiya, Deputy Director General (Engg.), Shri S. K. Jaiswal, Director (Engg.), Fishery Survey of India, Headquarters, were the Guests of honour. A total of around 50 fishermen and fish workers working on Sassoon Dock, attended the programme. Shri D. K. Gulati, Zonal Director, Mumbai Base of FSI delivered the Keynote address. In his keynote, he highlighted the need to generate awareness regarding huge catches of juvenile in fisheries; chemical pollution etc. He explained about the eco-friendly fishing practices like long lining; squid jigging, trap fishing etc. carried out by FSI to create awareness among the fishermen population. On the above occasion a publication was released on "**The standardization of hooking rate for Yellowfin Tuna in the Indian Ocean**".

The Chief Guest Shri Rajan S. Sawant, in his address, appreciated the efforts taken by FSI, Mumbai base for organising the workshop. Dr. Mahesh Kumar Farejiya, Deputy Director General (Engg.), in his address, talked about the precautionary measures needs to be taken during the COVID 19 Pandemic situation. Shri S. K. Jaiswal, Director (Engg.) requested the participants to take care of hygienic handling of fish on board the vessel as well as landing centre.



During the workshop Sanitizers, Mask and Hand Gloves were distributed to all participants.

Workshop on "Sustainable Marine Fisheries Resource Management and Safety measures needs to be taken while working on board the vessel and landing centres during the pandemic COVID-19 situation" organized by Mumbai Base on 21.11.2020.





### Mormugao Base

The Mormugao Base organized an event on World Fisheries Day 2020 on 21<sup>st</sup> November 2020 at Baina Pamponker and Fishing Canoe Owners Society, Katem Baina, Vasco da Gama, Goa. The event was attended by society members, fishermen and fisherwomen from the area. The participants were explained about the need of ecofriendly and sustainable fishing and the necessity of hygienic and safe fish handling practices. On the above occasion, a fishermen rally was also organized to spread the message of "safe and sustainable fishing practices". The scientists also visited the Municipal market and briefed the fisherwomen about the world fisheries day and its significance. They were provided with the pamphlets on hygienic practices. The event of world fisheries day was also celebrated onboard the vessel MFV Sagarika.

Mormugao Base of FSI organized an Open House on "Activities of FSI Mormugao Zonal Base" on 4<sup>th</sup> March 2021 in the Base office. 34 students and 4 faculty members of MSc Zoology department from Goa University participated in the same. Dr. H. D. Pradeep,



*World Fisheries Days celebration and Various Events organized by Mormugao Base on 21.11.2020*





Fisheries Scientist welcomed the participants and briefed the activities of FSI. Shri Solly Solomon, Sr. Scientific Assistant delivered a talk on the status of fish and fisheries in India, Shri Raju S. Nagpure, Sr. Scientific Assistant explained the various crafts and gears being used for fishing in general with special reference to those used onboard FSI Survey vessels.



Open House on "Activities of FSI Mormugao Zonal Base" organized by Mormugao Base on 04.03.2021

**Cochin Base**

As a part of the World Fisheries Day 2020 celebrations, the Cochin Base organized an awareness workshop for the fishermen along with the release and distribution of newly printed "Indian Samudrangalile manjachoora, billfishukal, sraavukalennivayude matsyabandhana chart (in Malayalam) ie, Fishery Charts of tunas, billfishes and sharks of Indian seas" at the Cochin Fisheries Harbour, Thoppumpady on 21<sup>st</sup> November 2020. Dr. Sijo P Varghese, Zonal Director briefed on the theme of the World Fisheries Day 2020 and an importance of healthy oceans ecosystems and to ensure sustainable stocks of fisheries in the

world. At the Fisheries harbour, a fishermen rally was organized to mark the occasion. The rally was led by the Zonal Director of the Base. The scientists of the Base, boat owners, fishermen and buying agents also participated in the rally, holding placards inscribing the slogans on impact of plastic pollution of the marine environment and its adverse effect on the marine life. More than 100 participants, including actual fishermen of gill net boats, boat owners, representatives of various fishermen associations attended the programme.

In addition, an "Open House programme" was also organized at the Cochin Base in Kochangady, wherein the laboratory, workshop, museum, fishing gear section etc. were opened for the general public. A large gathering, including fishermen, senior citizens and children thronged the venue to have glimpses of the rare fishes in the museum, fishing gears and equipments required for fishing and vessel maintenance. Scientists of the Base explained the gathering on each and every exhibit.



Open House / Workshop and Fishermen Rally organized by Cochin Base on 21.11.2020



**Chennai Base**

The Chennai Base of FSI organized various events such as Workshop, Open house and Marine Fisheries Exhibition on 21<sup>st</sup> November 2020 as part of the World Fisheries Day. Besides, an awareness rally was also organized to spread awareness on marine fisheries

and sea safety during the occasion with local fishermen and fisherwomen. Zonal Director flagged off the rally from the Base office premises which culminated at fish market in the Kasimedu fishing harbor campus.



*Open House/Workshop and Fishermen Rally organized by Chennai Base on 21.11.2020*

**Visakhapatnam Base**

The Visakhapatnam Base celebrated World Fisheries Day in association with the Department of Fisheries, Govt. of Andhra Pradesh at Mangamaripeta fishing village, Bheemunipatnam, Visakhapatnam district, Andhra Pradesh on 21<sup>st</sup> November 2020. In the fishermen rally, the fishermen were holding the placards duly depicting the code of Conduct for Responsible Fisheries (CCRF) slogans in Telgu. The rally was followed by an awareness programme which was organized in the Net mending Hall of the village where about 50 fishers attended along with their representatives. Smt. N. Sudha, Village Fisheries Assistant, Dept. of Fisheries, Mangamaripeta, Andhra

Pradesh and Shri Yellaiah, President, Fishermen Society, Shri Chinna Rao, Youth leader, and Shri Achuta Rao, Village head were present during the event. Scientists of the Base addressed the gathering where they explained the purpose of celebrating World Fisheries Day. Masks and Sanitizers were distributed to the participants with an appeal to extend their support for maintaining the sea health for a better tomorrow.

A one-day regional workshop on **“Marine Fishery Resources of Andhra Pradesh and Eco-friendly Fishing Methods”** was organized with the Department of Fisheries, Govt. of Andhra Pradesh at Community Hall, Bhavanapadu, Srikakulam







*Fishermen rally and an awareness programme organized by Visakhapatnam Base on 21.11.2020 at the Base office.*

district, Andhra Pradesh on 27<sup>th</sup> March 2021. Shri. P.V. Srinivasa Rao, Jt. Director of Fisheries, Govt. of Andhra Pradesh, Srikakulam was the Chief Guest. Prior to the workshop a fishermen rally was also conducted wherein fishermen holding the placards and slogans on code of conduct for responsible fisheries reached the workshop venue.

In the technical session Scientists of the Base presented scientific papers for the benefit of the fishermen and State officials. An exhibition was also organized during the workshop wherein, charts on fishery resources, photographs of fishes etc. and eco-friendly fishing gears were displayed.







*Regional Workshop on Marine Fishery Resources of Andhra Pradesh and Eco-friendly Fishing Methods and a fishermen rally organized by Visakhapatnam Base on 27.03.2021 at Srikakulam, Andhra Pradesh*

### **Port Blair Base**

The Port Blair Base of Fishery Survey of India has organized an Open House onboard the vessel MFV Blue Marlin at Junglighat jetty, Port Blair on 20<sup>th</sup> November 2020 in connection with World Fisheries Day 2020. The programme was inaugurated by Ms. Vedita Reddy, IAS, Secretary (Fisheries) in presence of Dr. Utpal Kumar Sar, Director of Fisheries, Andaman and Nicobar Administration and Shri Dharamvir Singh, Mechanical Marine Engineer, FSI, Port Blair Base. Around 50 progressive fishermen, stakeholders and entrepreneurs visited the vessels *MFV Blue Marlin* and became familiar with advanced mechanized fishing vessel.

Various fishing gears and accessories, navigational, engineering and oceanographic equipments were displayed and demonstrated during the occasion. Shri A. P. Udayappan, Skipper *MFV Blue Marlin* explained about the GPS, RADAR, SONAR, Communication systems used in navigation and management of fishing operation to the gathering. Shri Nashad M., Sr. Scientific Assistant briefed about the use of hydrographic winch and importance of thermocline depth in tuna fishing. Various aspects on safety at sea and Code of Conduct for Responsible Fisheries were explained to fishermen and other participants.

Ms. Vedita Reddy, IAS Secretary appreciated the efforts taken by staff of Fishery Survey of India, Port Blair for organizing open house for the benefit of fishermen community and also emphasized to impart training on long lining operation and Sashimi grade tuna preparation for the local fishermen.

About 100 fishermen, stakeholders, entrepreneurs and fishery officials attended the programme.

### **10.2 World Fisheries Day Celebration**

Globally the World Fisheries Day – 2020 was celebrated on 21<sup>st</sup> November 2020.

The Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying has celebrated the world fisheries day at NASC Complex, New Delhi. The programme was co-ordinated by the National Fisheries Development Board (NFDB), Hyderabad. During the event, Shri Pratap Chandra Sarangi, Hon'ble Minister of State, Fisheries, Govt. of India was the Chief Guest. Shri Laxmi Narayan Chaudhary, Hon'ble Minister of Fisheries, Uttar Pradesh was also present in the celebration programme. Dr. Rajeev Ranjan, Secretary, Department of Fisheries, Dr. J. Balaji, Joint Secretary (Marine Fisheries), Shri Sagar Mehra, Joint Secretary (Inland Fisheries & Admin) from Ministry and Dr. L. Ramalingam, Director General (I/C) and Dr. Vinodkumar Mudumala, Sr. Fisheries Scientist from Fishery Survey of India participated in the celebration.

The celebration started with the inaugural address by Shri Sagar Mehra, Joint Secretary (Inland Fisheries) in which he enlightened the significance of world fisheries day. Thereafter, five publications of Fishery Survey of India (FSI) were released by the Hon'ble Minister Shri Pratap Chandra Sarangi, Ministry of Fisheries, Animal Husbandry and Dairying.

While releasing the FSI publications, Shri Mukesh, Director (Statistics), Department of Fisheries, New Delhi highlighted the contents of each publication of FSI as detailed below:



1. Bulletin No. 33: "Decadal observations of exploratory surveys for ocean tuna and allied resources in the Indian EEZ", wherein the FSI has analysed the geo-referred data for 30 years for tuna and allied resources in the Indian EEZ are presented.
2. Extension Series No. 03: The extension activities carried out by FSI for the past five years are presented in the series.
3. Special publication No. 07 (Vol.I&II): "Scientific Contributions of Scientists of FSI" were presented in both the volumes.
4. Special publication No. 08: "Record of Rare species, new species and first records of the Indian EEZ", wherein the rare specimen, new specimens collected during the exploratory surveys have been presented.



*All the dignitaries expressed their happiness on the publications of FSI being released during the World Fisheries Day.*

### 10.3 Assistance Rendered to Fishing Industry

The Fishery Survey of India (HQs and different Zonal Bases of FSI) have rendered assistance to the fishermen, marine fishing industry and the students of different colleges/ institutes in many ways. FSI provided them the in-house training as well as 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 also provided various publications to the end users. The details are given below:

#### Mumbai Base

Description	Date
Ms. Soma Raj Laxmi, Fisheries Entrepreneur, Pune.	20 <sup>th</sup> October 2020
Mr. Mayuresh Sarang, Fisheries Entrepreneur, Thane.	11 <sup>th</sup> November 2020
Shri Mahendra Koli, Fisheries Entrepreneur, Karanja.	17 <sup>th</sup> November 2020
Shri Surykant Koli, Chairman, Mora Koliwada Macchhimar Sahakari Socy. Ltd., Mora Uran.	22 <sup>nd</sup> March 2021



**Mormugao Base**

Description	Date
34 MSc. students along with 4 faculty members of Zoology Department, Goa University.	4 <sup>th</sup> March 2021

**Cochin Base**

Description	Date
Shri M. Majid, Gill net fisherman.	22 <sup>nd</sup> October 2020
Smt. Jisha of Bworld Corporate Solutions.	15 <sup>th</sup> December 2020
Shri T. V. Shenoy and Shri K. P. Majid both fishermen.	16 <sup>th</sup> December 2020
Shri Biju Prakasham, Hobbydrome, Palarivattom, Kochi.	20 <sup>th</sup> January 2021
Shri John Joy Nereveetil, Fisheries Entrepreneur.	2 <sup>nd</sup> February 2021
Dr. C. Unnikrishnan, Resource Person Logistic Sector and former Head of Operation, JNPT Mumbai.	9 <sup>th</sup> February 2021

**Visakhapatnam Base**

Description	Date
Shri Sherif Ahmed from Alexandria, Egypt, Research Scholar in Dept. of Zoology, Andhra University, Visakhapatnam.	31 <sup>st</sup> August 2020
Dr. Y. Rambabu, Professor of Biotechnology from GITAM University, Visakhapatnam.	3 <sup>rd</sup> September 2020
Shri B. V .K. Raju, Fishery Entrepreneur, Visakhapatnam.	3 <sup>rd</sup> September 2020
3 students from the Department of Zoology, Andhra University, Visakhapatnam, pursuing their MSc. project work at this Institute carried out the biological studies on <i>Upeneus vittatus</i> . The specimens for the above studies were provided to them from the departmental survey vessels.	November 2020 – March 2021.
Dr. Sherif Ahmad, Post Doctoral Fellow, Department of Zoology, Andhra University, Visakhapatnam.	3 <sup>rd</sup> – 4 <sup>th</sup> February 2021
38 B. Sc. (Zoology) final year students along with two faculty members of St. Joseph's College for Women, Gnanapuram, Visakhapatnam visited the Base and the vessels MFV Matsya Shikari and MFV Matsya Darshini.	6 <sup>th</sup> February 2021
25 B. F. Sc. students from College of Fisheries, Telangana.	11 <sup>th</sup> March 2021
The MSFS group, Visakhapatnam visited the Base and the vessel MFV Matsya Darshini.	23 <sup>rd</sup> March 2021
32 students along with two faculty members of St. Anthony's Boarding Home, Maharanipecta, Visakhapatnam visited the Base and the vessel MFV Matsya Darshini.	29 <sup>th</sup> March 2021





Visitors at Visakhapatnam Base of FSI and MFV Matsya Shikari

### Port Blair Base

Description	Date
Shri Anand Jaiswal, Jaiswal Group of Companies, Entrepreneur, Port Blair.	18 <sup>th</sup> June 2020
Shri Abi Talik, Island Cartridge Solutions, Entrepreneur, Port Blair.	23 <sup>rd</sup> June 2020
Shri Alan Mathew and Shri Rachael Jain, Entrepreneurs, Port Blair.	15 <sup>th</sup> July 2020
Shri Kumar Roy, Entrepreneur, Unique Enterprises, Port Blair.	23 <sup>rd</sup> July 2020
Shri M. Rama Rao, Junglighat Fishermen Colony, Port Blair.	27 <sup>th</sup> March 2021

### 10.4 Dissemination of Information

- ❖ Information pertaining to average catch per unit effort (Kg/hr) of Odisha coast for the year 2015-2020 was disseminated to the Director of Fisheries, Govt. of Odisha, Cuttack on 10<sup>th</sup> December 2020.
  - ❖ Shri.D.BhamiReddy, Mechanical Marine Engineer delivered an awareness talk on "Swachhata Hi Seva" and "Code of Conduct for Responsible Fisheries" at All India Radio, Visakhapatnam on 27<sup>th</sup> January 2021.
  - ❖ The survey findings of both the vessels i.e. MFV Matsya Shikari and MFV Matsya Darshini
- for the months January and February of were disseminated through All India Radio, Visakhapatnam in PADI-PANTALU programme at 0635 hrs on 9<sup>th</sup> February 2021 and 3<sup>rd</sup> March 2021 respectively.
- ❖ The survey findings of both the vessels i.e. *Matsya Shikari* and *Matsya Darshini* for the month of February were disseminated through All India Radio, Cuttack, Odisha on 9<sup>th</sup> March 2021.
  - ❖ PFZ advisory maps received from INCOIS, Hyderabad were communicated to Mechanized Boat Owners Associations / Co - op Societies in Goa.

### 10.5 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	-	4	-	4
Mormugao	1	1	-	2
Cochin	2	2	2	2
Chennai	0	4	2	2
Visakhapatnam	-	2	-	2





## 11. VISITORS / DIGNITARIES

The Dignitaries from the Ministry / State Fisheries Departments visited Fishery Survey of India (HQs) and the respective Base offices during the period is given below:

- ❖ Shri K. Kanna Babu, IAS, Commissioner of Fisheries, Government of Andhra Pradesh visited Visakhapatnam Base of FSI on 6<sup>th</sup> June 2020.
- ❖ Shri S. B. Rangari, Deputy Director (I/c.), Central Institute of Fisheries Technology Nautical Engineering & Training, Visakhapatnam and Shri K. Naveen, Assistant Executive Engineer, Directorate of Light House and Light Ships, Visakhapatnam visited the Visakhapatnam Base of FSI on 6<sup>th</sup> February 2021 in connection with the selection for the post of Fitter (Ex-servicemen) and served as committee members for the selection.
- ❖ Shri Giriraj Singh, Hon'ble Minister of Fisheries, Animal Husbandry & Dairying, Govt of India along with Joint Secretary (Fy.) and Assistant Commissioner of Fisheries (Fy.) conducted a meeting with Director General (IC), Fishery Survey of India, Mumbai, Directors of ICAR-CCARI, NIO, NCPOR and State Fisheries Department on 5<sup>th</sup> February 2021 at Rajbhawan, Panaji, Goa. Hon'ble Union Cabinet Minister Shri Giriraj Singh also visited onboard *MFV Sagarika* attached to Mormugao Base of FSI berthed at MPT, Goa along with Dr. J. Balaji, Joint Secretary (Marine Fisheries), Shri Raj Kumar Digvijay, PA to Minister, Shri Jai Krishna, APS to Minister, Dr. Sanjay Pandey, Assistant Commissioner of Fisheries (Fy.) on 7<sup>th</sup> February 2021. Dy. Director General (Engg.), Director (Engg.), Fishery Survey of India, Hqs. Mumbai, Fisheries Scientist, Mormugao Base of FSI, Dy. Chairman, MPT, Govt. of Goa and other officials from FSI, MPT, CISF, PIB and state Govt.were also present on the occassion.
- ❖ Mr. Bosle Bruno, Country Director of Agence Francaise de Development (AFD - French Development Agency) visited Cochin Base of FSI on 30<sup>th</sup> March 2021 as a part of projects in respect of blue economy sector under Indo-French partnership/initiative related to sustainable marine resources management with Asian and Indian Ocean region partners, which is aiming to share experiences and expertise in order to augment fishery resource management.



*Shri Giriraj Singh, Hon'ble Union cabinet Minister of Fisheries AH&D, Govt. of India along with Dr. J Balaji, Joint Secretary (Marine) having interaction meeting with all the central/state Govt. officials of Fisheries and Animal Husbandry departments at Governor's Bungalow, Panaji, Goa on 5.02.2021*





*Shri. Giriraj Singh ,Hon'ble Union cabinet Minister of Fisheries AH&D, Govt. of India, along with Dr. J Balaji, Joint Secretary (Marine), Department of Fisheries and officials from Ministry and FSI HQs visited the vessel MFV Sagarika on 07.02.2021*



*Shri K. Kanna Babu, IAS, Commissioner of Fisheries, Government of Andhra Pradesh at Visakhapatnam Base of FSI on 06.06.2020*



*Visit of Mr. Bosle Bruno, Country Director of Agence Francaise de Development (AFD- French Development Agency) to Cochin Base of FSI on 30.3.2021*





## 12. PUBLICATIONS

The Institute has been effectively disseminating the resources survey findings to the fishermen and fishing industry and other end-users through various publications such as Annual Report, 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

The 8<sup>th</sup> issue of departmental hindi publication "Matsyakreethi" of Mormugao Baase was released by the Chief Guest Shri Rajendra Singh, Ex. Senior Secretary of MPT and Hindi Officer (Retd.) on 14<sup>th</sup> September 2020.

### Meena News

Meena News Vol. XXXVII No.: I & II January – June 2020

### Survey Programme

Fishery Resources Survey, Assessment & Research Programme 2020-21

### Reports

India's National Report to the Scientific Committee of the Indian Ocean Tuna Commission (IOTC) 2020. Annual Report 2019-20 of the Institute.

### Resources Information Series – 5 issues

Two issues each from Mormugao and Visakhapatnam Bases and one issue from Mumbai Base were published in respective local languages for the benefit of fishermen.

### Bulletin No. 33

"Decadal observations of exploratory surveys for ocean tuna and allied resources in the Indian EEZ"

### Extension Series No. 03

The extension activities carried out by FSI for the past five years are presented in the series.

### Special Publication

Special publication No. 07 (Vol.I&II): "Scientific Contributions of Scientists of FSI".

Special publication No. 08: "Record of Rare species, new species and first records of the Indian EEZ".



Release of Hindi in-house magazine of Mormugao Base on 14.09.2020



Special publication on "The standardization of hooking rate for Yellowfin Tuna in the Indian Ocean".

### Papers published by scientists in Journals / Magazines

Kar A.B., K.Silambarasan, Solly Solomon, Sijo P. Varghese and L. Ramalingam, 2020. Trend in bycatch in the tuna longline fishery in India with reference to the biology of dominant species of pelagic sharks. *IOTC-2020-WPEB16-12*.

Silambarasan K., K. Govindaraj, A. B. Kar, G. V. A. Prasad, S. K. Pattnayak and L. Ramalingam, 2021. Saddleback Syndrome in wild black pomfret *Parastromateus niger* (Bloch, 1795), from Southeast coast of India. *Thalassas: An International Journal of Marine Sciences*, 37: 209-214. DOI: 10.1007/s41208-021-00287-3.

Ramachandran S., K. Marimuthu and L. Ramalingam, 2020. New record of narrow bar reefgoby, *Priolepis profunda* (Actinopterygii: Perciformes: Gobidae) from Indian waters, *Acta Ichthyologica at Piscatoria* 50(4): 465-469.

Shirke Swapnil S., Nashad M., Sijo P. Varghese, Mohamed Hatha, Mondalisha Devi Sukham and L. Ramalingam, 2020. Novel records of three remoras from Andaman and Nicobar waters, India. *Fishtaxa* 18 :30-38.

Nashad M., Anil Mohapatra, Sijo P. Varghese, L. Ramalingam, Swarup Ranjan Mohanty, 2020.

A new white-spotted moray eel, *Gymnothorax aurocephalus* sp. nov. (Muraenidae Muraeninae) from Andaman Sea, India. *Zootaxa* 4877 (2): 361-372.

Nashad M., Sijo P. Varghese, A. A. Mohamed Hatha, K. K. Bineesh, S. Rajendra, C. Sivaperuman and L. Ramalingam, 2020. *Sphyraena barracuda* (Edwards, 1771), a new host for *Lernaelophus sultanus* (Milne Edwards, 1840) (Siphonostomatoida; Pennellidae) from Andaman and Nicobar waters, India. *Journal of the Marine Biological Association of India*, 62 (2) 117-120.

### Papers presented by scientists under extension activities of FSI

#### Visakhapatnam Base

*Papers presented at the Regional Workshops held at Community Hall, Bhavanapadu, Srikakulam district, Andhra Pradesh on 27<sup>th</sup> March 2021.*

Reddy D. Bhami., 2021 "Safety at Sea"

Prasad G. V. A., 2021 "Marine Fishery Resources of Andhra Pradesh Coast and Eco-Friendly Fishing Methods"

Prasad G. V. A., 2021 "Code of Conduct for Responsible Fisheries"

Naidu R. Y., 2021 "Hygienic Fish Handling and Preservation"



## 13. MEETINGS

### Annual ROSA Meeting

The annual Review of Operational and Scientific Activities (ROSA) meeting for the year 2019-20 of Fishery Survey of India was initially scheduled to be held during 16<sup>th</sup> – 17<sup>th</sup> April, 2020 at Cochin Base but it was not possible to conduct the meeting in the wake of COVID 19 pandemic situation and complete lock down declared across the country. After Un-lock-2.0 it was conducted on 24<sup>th</sup> July 2020 through webinar on Webex platform under the Chairmanship of Dr. L. Ramalingam, Director General (i/c). Dr. M. K. Farejiya, Dy. Director General (Engg.) and all Base-in-Charges

along with the Scientists/ Engineers had attended the meeting.

The Annual Review of Operational and Scientific Activities (ROSA) meeting for the year 2020-21 was conducted during 18<sup>th</sup> - 19<sup>th</sup> March 2021 at Visakhapatnam Base of FSI. The Heads of offices, Scientists & Engineers of FSI (HQs) and all its Bases attended the meeting. Dr. P. Paul Pandian, Fisheries Development Commissioner, Ministry of Fisheries, Animal Husbandry and Dairying, Department of Fisheries, New Delhi was virtually present in the review meeting.



Annual ROSA meeting held at Visakhapatnam Base of FSI during 18<sup>th</sup> – 19<sup>th</sup> March 2021

### Consultative Committee Meeting:

#### Mumbai Base

The 17<sup>th</sup> Consultative group meeting of Mumbai Base of FSI was held on 16<sup>th</sup> March 2021 at the Conference hall of the Commissioner of Fisheries, Govt. of Maharashtra under the Chairmanship of Shri Atul Patne, IAS, Commissioner of Fisheries, Govt. of Maharashtra. Dr. L. Ramalingam, Deputy Director General (Fy)/ Director General (IC) along with Shri

Ashok S. Kadam, Fisheries Scientist, Shri Kanthen, Service Engineer (Mech.) and Shri Rahulkumar B. Tailor, Sr. Scientific Assistant attended the meeting. The Chairman requested FSI to prepare documentary film of monofilament tuna longlining for the benefit of local fishermen of Maharashtra. The Chairman also desired to have five days trip onboard *MFV Matsya Vrushti* to see the actual tuna longline fishing technique and handling of tunas on board.



17<sup>th</sup> Consultative Group Meeting of the Mumbai Base of FSI on 16.03.2021



## 14. PARTICIPATION OF DIRECTOR GENERAL AND OTHER OFFICIALS IN VARIOUS EVENTS

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

Sl. No.	Events	Venue/ Date
1	The meeting under the Chairmanship of Joint Secretary (Marine Fisheries) and Joint Secretary (Inland Fisheries and Administration) in connection with the Review of Performance of Fisheries Institutions viz., FSI, CIFNET, CICEF and NIFPHATT.	Online 22 <sup>nd</sup> -23 <sup>rd</sup> July 2020
2	The Annual Review of Operational and Scientific Activities (ROSA) meeting 2019-20 of Fishery Survey of India.	Online, Webex platform 24 <sup>th</sup> July 2020
3	The meeting with the Joint Secretary (Marine Fisheries) and Joint Secretary (Inland Fisheries and Administration) in connection with the Road Map of FSI.	Online 2 <sup>nd</sup> August 2020
4	A meeting to discuss the recommendations of the Expert Committee for "Examination of veracity of various tracking / communication devices available and being used by different category of marine fishing vessels".	Online 18 <sup>th</sup> August 2020
5	A virtual Workshop on Revision & Rationalization of QPS & Circular on Mari culture segment by ASCI.	Online 18 <sup>th</sup> September 2020
6	A meeting with MPEDA officials for availing services of FSI/CIFNET vessels for marine mammal stock assessment.	Online -----
7	A meeting with the Technical Committee and Data Preparatory Group of IOTC (FSI, Ministry, CMFRI) on "IOTC - Compliance report - CoC17-2020".	Online 2 <sup>nd</sup> October 2020
8	A meeting with the Joint Secretary (Marine Fisheries), Joint Secretary (Inland Fisheries & Admin), Officers of Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, New Delhi along with Base-in-Charges and Engineers of FSI on "Performance review of survey vessels of FSI".	Online 9 <sup>th</sup> October 2020
9	A meeting with the FSI Base-in-Charges, Skippers & Engineers and other Officers from the FSI (HQs.) on "Vessel Operations/Repairs including Dry-Docking Repairs of FSI survey vessels".	Online 15 <sup>th</sup> October 2020
10	A meeting with Scientists and Engineers from FSI (HQs) and Base offices on "FSI contribution to Fishery Sector" with the Joint Secretary (Marine) and other Officers of Dept. of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, New Delhi.	Online 26 <sup>th</sup> October 2020
11	The 24 <sup>th</sup> Session of the Indian Ocean Tuna Commission (IOTC).	Online 2 <sup>nd</sup> - 6 <sup>th</sup> November 2020
12	A meeting on "The National Plan of Action for Conservation and Management of Sharks (NPOA- Sharks)".	Online 3 <sup>rd</sup> November 2020





13	The 15 <sup>th</sup> Technical Monitoring Committee (TMC) meeting for the validation of Statistical figures of the "Draft Handbook on Fisheries Statistics-2020" under the Chairmanship of Director, Indian Agricultural Statistics Research Institute (IASRI).	Online 4 <sup>th</sup> November 2020
14	A meeting of Research Advisory and Monitoring Committee (RAMC) of Zoological Survey of India, Kolkata.	Online 19 <sup>th</sup> November 2020
15	Participation in the celebration of World Fisheries Day – 2020, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, New Delhi and to release the five new publications of FSI.	New Delhi 20 <sup>th</sup> – 21 <sup>st</sup> November 2020
16	Review of overall functioning of Marine Institutes organised by the Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, New Delhi.	Online 10 <sup>th</sup> December 2020
17	A meeting of the Committee for re-drafting the Marine Fisheries (Regulation and Management) Bill, 2020.	Online 17 <sup>th</sup> & 23 <sup>rd</sup> December 2020
18	A meeting on Performance of Fisheries Institutions like FSI, CIFNET NIFPHATT and CICEF under the Chairmanship of Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying, New Delhi.	Online 17 <sup>th</sup> December 2020
19	A meeting of 16 <sup>th</sup> meeting of the working group (sub-committee) for monitoring and review of implementation of IOTC Resolutions.	Online 1 <sup>st</sup> February 2021
20	A meeting with Hon'ble Minister of Fisheries, Animal Husbandry and Dairying Shri Giriraj Singh on various development issues in Fisheries Sector.	Goa 5 <sup>th</sup> – 7 <sup>th</sup> February 2021
21	The DPC meeting for the post of Service Engineer (Mech.)/ Service Engineer (Inventory & Control) of FSI.	UPSC, New Delhi 9 <sup>th</sup> February 2021
22	The GloLitter Kick Off Meeting.	Online 18 <sup>th</sup> February 2021
23	A meeting to discuss the plan of action of Collaborative project of MPEDA with ICAR-CMFRI & FSI on the Marine Mammal Stock Assessment Study.	CMFRI, Kochi 20 <sup>th</sup> February 2021
24	A meeting with Dr. R. Jeyabhaskaran, Sr. Scientist, CMFRI, the Principal Investigator of Marine Mammal Stock Assessment Project to discuss implementation of the project.	CMFRI, Kochi 22 <sup>nd</sup> February 2021
25	A National Conference on "Deep Sea Bio-resources in Indian Ocean" organized by Zoological Survey of India, Port Blair.	Online 25 <sup>th</sup> – 26 <sup>th</sup> February 2021
26	An IOTC meeting on MSE Task Force.	Online 1 <sup>st</sup> – 5 <sup>th</sup> March 2021
27	A meeting with the Joint Secretary (Inland Fisheries) and Joint Secretary (Marine Fisheries) to discuss the head-wise fund allocation, expenditure and plan of action for utilization of remaining unspent amount of all the Fisheries Institutes and Secretariat Economic Services during the Financial Year 2020-21.	Online 3 <sup>rd</sup> March 2021





28	An IOTC Special Session (SS4) meeting.	Online 8 <sup>th</sup> – 12 <sup>th</sup> March 2021
29	The Consultative Group meeting of Mumbai Base.	Office of Commissioner of Fisheries, Govt. of Maharashtra, Mumbai 16 <sup>th</sup> March 2021
30	An IOTC meeting on Technical Committee on allocation Criteria (TCAC07).	Online 22 <sup>nd</sup> – 25 <sup>th</sup> March 2021

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

Sl. No.	Name/ Designation	Events	Venue/ Date
1	Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	Webinar on "Aquaculture in Action during Pandemic" organized by Dr. MGR Fisheries College and Research Institute, Ponneri.	Online 19 <sup>th</sup> April 2020
2	Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	Webinar on "Big Data in Marine Science" organized by European Marine Board.	Online 29 <sup>th</sup> April 2020
3	Dr. S. K. Dwivedi, Fisheries Scientist Shri Ashok S. Kadam, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Shri Swapnil S. Shirke, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	National webinar on "Aquaculture Today" organized by Centre of Excellence in Aquaculture, Kamdhenu University, Ukai, Gujrat.	Online 2 <sup>nd</sup> May 2020
4	Dr. S. K. Dwivedi, Fisheries Scientist Shri Ashok S. Kadam, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Shri Swapnil S. Shirke, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	Webinar on "Waste Reduction and the Circular Economy in the Seafood Industry with As do Mar Tuna Case Study" organized by World Sustainability Organization (WSO).	Online 20 <sup>th</sup> May 2020
5	Dr. Rajashree U. Pawar, Sr. Scientific Assistant Shri Rahulkumar B. Tailor, Sr. Scientific Assistant	Participated in the quiz on "Fisheries and Aquaculture" conducted by the Department of Zoology, Government Degree College, Tekkali, Andhra Pradesh.	Online 1 <sup>st</sup> June 2020
6	Dr. Rajashree U. Pawar, Sr. Scientific Assistant	Presented the poster titled "Environmental Footprints Today and Tomorrow" in the one-day National Webinar on "Paryavaranam 2020" organized by Department of Zoology and Biotechnology under the DBT – Star Status, B. K. Birla College of Arts, Science and Commerce, Kalyan.	Online 5 <sup>th</sup> June 2020



7	Dr. S. K. Dwivedi, Fisheries Scientist Shri Ashok S. Kadam, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Shri Swapnil S. Shirke, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	International webinar on "Marine Policy-How to get Published" organized by National Oceanic and Atmospheric Administration (NOAA) Central Library.	Online 6 <sup>th</sup> June 2020
8	Dr. S. K. Dwivedi, Fisheries Scientist Shri Ashok S. Kadam, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Shri Swapnil S. Shirke, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	Webinar on "Launch of The State of the World Fisheries and Aquaculture" organized by Food and Agriculture Organization of the United Nations (FAO).	Online 8 <sup>th</sup> June 2020
9	Shri Ashok S. Kadam, Fisheries Scientist Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	National webinar on "Voice of youth for Oceans" organized by Department of Aquatic Biology and Fisheries, University of Kerala.	Online 8 <sup>th</sup> June 2020
10	Shri D. Bhammi Reddy, Mech. Marine Engineer	Served as a member of the expert Committee for recommending the condemnation of the vessel CIFTECH-I attached to ICAR-CIFT, Visakhapatnam and to assess the value of the vessel for disposal by public auction.	ICAR- CIFT, Visakhapatnam 19 <sup>th</sup> June 2020
11	Dr. S. K. Dwivedi, Fisheries Scientist	National webinar on "Drug-Re-purposing against Covid-19" organized by Department of Zoology, Nehru Gram Bharti (Deemed to be University), Prayagraj, U. P.	Online 21 <sup>st</sup> June 2020
12	Shri Nashad M., Sr. Scientific Assistant	Inspected seven pelagic trawlers along with gears berthed at Junglighat fishing harbour for the Directorate of Fisheries, Andaman and Nicobar Administration.	Junglighat fishing harbor, A & N 25 <sup>th</sup> June 2020
13	Shri Dharmvir Singh, Mech. Marine Engineer Shri Nashad M., Sr. Scientific Assistant	Consultative meeting on "National Plan of action for conservation and management of Shark (NPOA Shark)" organised by the Director of Fisheries, Port Blair.	Dept. of Fisheries, A & N Administration 1 <sup>st</sup> July 2020
14	Dr. Sijo P. Varghese, Zonal Director Dr. S. Ramachandran, Sr. Fisheries Scientist Shri Manojkumar O. T., Chief Engineer	Preliminary meeting between FSI and Cochin Shipyard Ltd. for discussing about the acquisition of four numbers of fishery survey vessels.	CSL, Kochi 3 <sup>rd</sup> July 2020
15	Dr. S. Ramachandran, Sr. Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	IOTC meeting of the 10 <sup>th</sup> Working Party meeting on Neritic Tunas (10 <sup>th</sup> - WPNT).	Online 6 <sup>th</sup> -8 <sup>th</sup> July 2020



16	Dr. S. K. Dwivedi, Fisheries Scientist Shri Ashok S. Kadam, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Shri Swapnil S. Shirke, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	National webinar on "Strategies for enhancing fish production through sustainable aquaculture interventions" to celebrate National Fish Farmer Day organized by College of Fisheries (GADVASU), Ludhiana, Punjab.	Online 10 <sup>th</sup> July 2020
17	Dr. S. K. Dwivedi, Fisheries Scientist Shri Ashok S. Kadam, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Shri Swapnil S. Shirke, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	National webinar on "Fisheries and Aquaculture Industry in COVID Times: Challenges and a Roadmap Ahead" organized by ASSOCHAM wherein the Chief Guest was Shri Pratap Chandra Sarangi, Hon'ble Minister of State, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India and Guest of Honor was Dr. Rajeev Ranjan, IAS, Secretary (Fy.), Ministry of Fisheries, Animal Husbandry and Dairying, Government of India.	Online 16 <sup>th</sup> July 2020
18	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist	Guided 4 M.Sc. (Research) students of K. J. Somaiya College of Arts, Science and Commerce, affiliated to the University of Mumbai to get their research degrees.	Mumbai 22 <sup>nd</sup> July 2020
19	Dr. S. K. Dwivedi, Fisheries Scientist Shri Ashok S. Kadam, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Shri Swapnil S. Shirke, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	National Webinar with Panel Discussion on "Post COVID Fishery Economics in Indian milieu" organized by D. B. J. College, Chiplun, Dist. Ratnagiri (MS) in association with Mumbai University's Vishwabhusan Bharatrantra Dr. Babasaheb Ambedkar College, Dist Ratanagiri (MS) and Vijayalakshmi Vishwanath Dalvie College, NH-66, Talere, Kankavali, Dist. Sindhudurg (MS).	Online 22 <sup>nd</sup> July 2020
20	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Dr. S. K. Dwivedi, Fisheries Scientist Shri Ashok S. Kadam, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Shri A. Siva, Sr. Scientific Assistant Shri Swapnil S. Shirke, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	ICAR-NAHEP sponsored webinar on "Human Centric Innovations" organized by ICAR-Central Institute of Fisheries Education, Mumbai.	Online 24 <sup>th</sup> July 2020



21	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	Seminar on "New Normal in fisheries sector Amidst and Post Covid-19 in India" organized by Dr. J. Jayalalitha Fisheries University, Institute of Fisheries Post-Graduate Studies, Chennai.	Online 31 <sup>st</sup> July – 2 <sup>nd</sup> August 2020
22	Shri A. Siva, Sr. Scientific Assistant	National Webinar on "Conservation of Biodiversity and Wildlife" organized by the PG and Research Department of Zoology, Arignar Anna Govt. Arts College – Cheyyar, Tamilnadu.	Online 2 <sup>nd</sup> August 2020
23	Dr. S. K. Dwivedi, Fisheries Scientist Shri Ashok S. Kadam, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Shri Swapnil S. Shirke, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	National Online Quiz Competition on "Fisheries and Aquaculture" Skill Development Cell, College of Fishery Science, Nagpur.	Online 5 <sup>th</sup> August 2020
24	Shri Ashok S. Kadam, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	National Virtual Conference on "Challenges and Opportunities in Applied Zoology" organized by Department of Zoology, School of Applied Science, Centurion University of Technology and Management	Online 8 <sup>th</sup> August 2020
25	Dr. Sijo P. Varghese, Zonal Director Dr. S. Ramachandran, Sr. Fisheries Scientist	Inception workshop on "Assessment of Marine Mammals stock and By-catch of Marine Mammals and Sea Turtles" organised by CMFRI.	Online 12 <sup>th</sup> August 2020
26	Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	National Webinar on "Landslide Disasters in Kerala" organized by the School of Earth System Sciences, University of Kerala, Thiruvananthapuram.	Online 13 <sup>th</sup> August 2020
27	Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	Workshop on "Aquaculture and Fisheries: Development and Sustainability" organized by Guru Nanak College (Autonomous), PG & Research Department of Advanced Zoology and Biotechnology.	Online 13 <sup>th</sup> – 19 <sup>th</sup> August 2020
28	Shri A. Siva, Sr. Scientific Assistant Dr. Rajashree U. Pawar, Sr. Scientific Assistant	Webinar on "Development of technology in fisheries and Aquaculture with special reference to the fish production & Processing" organized by Dept. of Industrial Fish & Fisheries and IQAC Asutosh College Organizers.	Online 17 <sup>th</sup> – 18 <sup>th</sup> August 2020





29	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	Webinar on "Meet the Expert: Let us discuss Biodiversity understanding Insect Diversity- praying Mantids" organised by Zoological survey of India, Estuarine Biology Regional Centre, Odisha.	Online 18 <sup>th</sup> August 2020
30	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant Dr. Rajashree U. Pawar, Sr. Scientific Assistant	Webinar on "Socio-Economical Challenges of Costal people of Kerala during Covid-19" conducted by Dept. of Environmental Science, University of Kerala.	Online 22 <sup>nd</sup> August 2020
31	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	National Webinar on "Advanced Molecular Diagnostic Techniques" organized by T. John College of Pharmacy, Bangalore.	Online 24 <sup>th</sup> August 2020
32	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	Webinar on "Meet the Expert: Let us discuss Biodiversity using GIS and Remote sensing in Faunal Studies" organized by Zoological survey of India, Estuarine Biology Regional Centre, Odisha.	Online 27 <sup>th</sup> August 2020
33	Dr. S. Ramachandran, Sr. Fisheries Scientist	18 <sup>th</sup> Meeting of the Indian Ocean Tuna Commission (IOTC) Working Party on Billfishes.	Online 2 <sup>nd</sup> - 4 <sup>th</sup> September 2020
34	Dr. Ansuman Das, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Shri Swapnil S. Shirke, Sr. Scientific Assistant	"International workshop on recent trends in advancement in Aquaculture and Fisheries" organized by Guru Nanak Centre for research, Guru Nanak College, Chennai.	Online 3 <sup>rd</sup> - 10 <sup>th</sup> September 2020
35	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	National webinar on "Amazing World of coastal Marine Fishes: Diversity and Distribution in India" organized by Zoological Survey of India, Odisha.	Online 4 <sup>th</sup> September 2020
36	Dr. A. B. Kar, Fisheries Scientist Dr. K. Silambarasan, Sr. Scientific Assistant Shri Solly Solomon, Sr. Scientific Assistant	IOTC working party on Ecosystems and Bycatch (WPEB-16).	Online 7 <sup>th</sup> - 10 <sup>th</sup> September 2020
37	Dr. Sijo P. Varghese, Zonal Director	Meeting to discuss about the fish stock assessment methodologies organized by the Ministry of Fisheries, Animal Husbandry and Dairying.	Online 10 <sup>th</sup> September 2020



38	Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	Webinar on "Mammalian Diversity & Their Conservation in India" organized by the Zoological Survey of India, EBRC, Gopalpur-on-Sea, Odisha.	Online 11 <sup>th</sup> September 2020
39	Dr. Sijo P. Varghese, Zonal Director Dr. S. Ramachandran, Sr. Fisheries Scientist Shri Solly Solomon, Sr. Scientific Assistant	14 <sup>th</sup> meeting (online) of Working Group for monitoring and review of implementation of IOTC Resolutions.	Online 11 <sup>th</sup> September 2020
40	Dr. A. B. Kar, Fisheries Scientist Dr. K. Silambarasan, Sr. Scientific Assistant Shri Solly Solomon, Sr. Scientific Assistant	Meeting with the Joint Secretary (Fy.), Dept. of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying, Govt. of India for discussion on the Allocation Criteria for the 6 <sup>th</sup> session of the Technical Committee on Fixation Criteria of IOTC.	Online 11 <sup>th</sup> September 2020
41	Shri A. Siva, Sr. Scientific Assistant	Resouce person in National Webinar on "Fishery Resources and Future Fisheries" organized by the PG and Research Department of Zoology, Arignar Anna Govt. Arts College, Cheyyar, Tamilnadu.	Online 13 <sup>th</sup> September 2020
42	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	Webinar on "Parasitic Hymenoptera of India – An overview" organized by the Zoological Survey of India, EBRC, Gopalpur-on-Sea, Odisha.	Online 18 <sup>th</sup> September 2020
43	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	Webinar on "Parasitic Hymenoptera of India – An overview" organized by the Zoological Survey of India, EBRC, Gopalpur-on-Sea, Odisha.	Online 18 <sup>th</sup> September 2020
44	Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	Webinar on "Perspective on fish taxonomy" organized by the Rajkul Milani Mahavidyalaya, West Bengal.	Online 20 <sup>th</sup> September 2020
45	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	Webinar on "A Journey to the top of the Globe: ARCTIC FAUNA" organized by the Zoological Survey of India, EBRC, Gopalpur-on-Sea, Odisha.	Online 25 <sup>th</sup> September 2020
46	Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	Gave a lecture on "Commercially Important Ornamental Fishes and their propagation" organized by Department of Zoology, School of Applied Sciences, Centurion University of Technology and Management, Odisha.	Online 25 <sup>th</sup> – 26 <sup>th</sup> September 2020



47	Shri A. V. Tamhane, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	A series of webinars on teachings of "The Mahatma on agriculture, rural development, poverty alleviation and women empowerment" conducted by ICAR-NIASM, Baramati, Maharashtra.	Online 25 <sup>th</sup> – 29 <sup>th</sup> September 2020
48	Shri A. Siva, Sr. Scientific Assistant	National webinar on "The Scope and development of research activity at college level" organized by the S.S.B. College, Egra, West Bengal.	Online 28 <sup>th</sup> – 29 <sup>th</sup> September 2020
49	Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	Webinar on "Scorpions, the incredible Arachnids" organized by the Zoological Survey of India, EBRC, Gopalpur-on-Sea, Odisha.	Online 1 <sup>st</sup> October 2020
50	Shri A. Siva, Sr. Scientific Assistant	Meeting with the Technical Committee and Data Preparatory Group of IOTC (FSI, Ministry, CMFRI) on "IOTC - Compliance report - CoC17-2020".	Online 2 <sup>nd</sup> October 2020
51	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	Webinar on "Wildlife Conservation: Contributions from Odisha to National Projects" organized by the Zoological Survey of India, EBRC, Gopalpur-on-Sea, Odisha.	Online 9 <sup>th</sup> October 2020
52	Dr. Mahesh Kumar Farejiya, Dy. Director General (Engg.) Shri S. K. Jaiswal, Director (Engg.) Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant Shri A. Tiburtius, Zonal Director Shri C. D. Rao, Mech. Marine Engineer Dr. A. B. Kar, Fisheries Scientist Dr. H. D. Pradeep, Fisheries Scientist Shri G.V.A Prasad, Jr. Fisheries Scientist Dr. Jeyachandra Dhas, Jr. Fisheries Scientist Dr. A. John Chembian, Jr. Fisheries Scientist Shri Pratyush Das, Jr. Fishing Gear Technologist Shri G.S.V Sarma, Mechanical Supervisor (Sr.) Shri G. Elangovan, Mechanical Supervisor (Sr.) Shri A. Karthik Ramanujam, Mechanical Supervisor (Sr.) Dr. K. Silambarasan, Sr. Scientific Assistant	Two meetings separately convened by the Jt. Secretary (Marine) and Dr. P. Paul Pandian, FDC, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, New Delhi to review the performances of the FSI survey vessels.	Online 9 <sup>th</sup> October 2020 16 <sup>th</sup> October 2020



53	Shri Deepak Kumar Gulati, Zonal Director Dr. A. B. Kar, Fisheries Scientist Dr. H. D. Pradeep, Fisheries Scientist Shri Nashad M., Sr. Scientific Assistant	11 <sup>th</sup> IOTC Working Party on Methods (WPM 11).	Online 14 <sup>th</sup> – 15 <sup>th</sup> October 2020
54	Dr. Ansuman Das, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	Webinar on “Taxidermy as a Science towards Preservation of our Animal Wealth” organized by the Zoological Survey of India, EBRC, Gopalpur-on-Sea, Odisha.	Online 16 <sup>th</sup> October 2020
55	Dr. Sijo P Varghese, Zonal Director Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Dr. S. Ramachandran, Sr. Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	22 <sup>nd</sup> IOTC Working Party on Tropical Tunas (WPTT22).	Online 19 <sup>th</sup> – 23 <sup>rd</sup> October 2020
56	Shri A. Tiburtius, Zonal Director Shri C. D. Rao, Mech. Marine Engineer Dr. H. D. Pradeep, Fisheries Scientist Dr. Jeyachandra Dhas, Jr. Fisheries Scientist Dr. A. John Chembian, Jr. Fisheries Scientist Shri A. Karthik Ramanujam, Mechanical Supervisor (Sr.)	Meeting convened by the Jt. Secretary (Marine), Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, New Delhi to review the performances of the FSI survey vessels attached to the Chennai and Mormugao Base.	Online 26 <sup>th</sup> October 2020
57	Shri A. Siva, Sr. Scientific Assistant	International Webinar on “Nutrition and Health” organized by the Department of Physical Education, Mangalore University.	Online 27 <sup>th</sup> October 2020
58	Dr. Sijo P Varghese, Zonal Director	24 <sup>th</sup> session of the IOTC.	Online 2 <sup>nd</sup> – 6 <sup>th</sup> November 2020
59	Shri Bapu M. Raut, Programmer Shri Ashish Kumar, Programmer	15 <sup>th</sup> Technical Monitoring Committee (TMC) meeting for the validation of Statistical figures of the “Draft Handbook on Fisheries Statistics-2020” under the Chairmanship of Director, Indian Agricultural Statistics	Online 14 <sup>th</sup> November 2020
60	Dr. Ansuman Das, Fisheries Scientist Dr. Rajashree U. Pawar, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	ITCO ocean course on “Fishery Oceanography for future professionals (Level: Basic, Batch - 1)” organised by INCOIS, Hyderabad.	Online 16 <sup>th</sup> – 20 <sup>th</sup> November 2020



61	Shri Dharamvir Singh, Mech. Marine Engineer	Meeting on preliminary discussion on possibilities of establishing the Seafood cluster in A & N Islands.	Chamber of Director of Fisheries, A & N 17 <sup>th</sup> November 2020
62	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist	Participated in the celebration of World Fisheries Day – 2020 and release of five new publications of FSI.	MoFAH&D, New Delhi 20 <sup>th</sup> – 21 <sup>st</sup> November 2020
63	Dr. H. D. Pradeep, Fisheries Scientist	First inspection of the Expert committee for zonation and demarcation of marine waters for Mariculture (North Goa).	Directorate of Fisheries, Govt. of Goa 23 <sup>rd</sup> November 2020
64	Dr. S. K. Dwivedi, Fisheries Scientist Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	Technical Bid Evaluation Meeting of e-tender service provider for installation, Operation and Maintenance of Filtration Unit of Taraporewala Aquarium.	Taraporewala Aquarium, Mumbai 24 <sup>th</sup> November 2020
65	Shri A. E. Ayoob, Fishning Gear Technologist Shri N. Unnikrishnan, Jr. Fisheries Scientist	Meeting of State Fisheries Management Council (SFMC).	Online 25 <sup>th</sup> November 2020
66	Dr. Sijo P Varghese, Zonal Director	WTO meeting to discuss the fisheries subsidies negotiation.	Online 30 <sup>th</sup> November 2020
67	Dr. A. B. Kar, Fisheries Scientist Dr. Ansuman Das, Fisheries Scientist Shri Bapu M. Raut, Programmer	16 <sup>th</sup> IOTC working party on data collection and statistics (IOTC-PDCS 16).	Online 30 <sup>th</sup> November – 3 <sup>rd</sup> December 2020
68	Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist	Meeting for Curb on Unsustainable marine fish capture practices and sustainable fisheries in Maharashtra organized by ICAR – CIFE, Mumbai.	Online 1 <sup>st</sup> December 2020
69	Shri D. Bhami Reddy, Mechanical Marine Engineer Dr. A. B. Kar, Fisheries Scientist	Meeting with the General Manager (SR.) and Deputy General Manager (SR.) of M/s. Hindustan Shipyard Ltd., Visakhapatnam in connection with negotiations of dry docking repairs invoice of the vessel Matsya Shikari.	HSL, Visakhapatnam 5 <sup>th</sup> & 7 <sup>th</sup> December 2020





70	Shri A. Tiburtius, Zonal Director Dr. Sijo P Varghese, Zonal Director Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist Dr. S. Ramachandran, Sr. Fisheries Scientist	23 <sup>rd</sup> Scientific Committee of Indian Ocean Tuna Commission (IOTC).	Online 7 <sup>th</sup> – 11 <sup>th</sup> December 2020
71	Shri Ashok S. Kadam, Fisheries Scientist Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	Technical Bid Evaluation Meeting of e-tender service provider for installation, Operation and Maintenance of Filtration Unit of Taraporewala Aquarium.	Taraporewala Aquarium, Mumbai 9 <sup>th</sup> December 2020
72	Shri D. Bhami Reddy, Mechanical Marine Engineer	Inspection of fishing boats (07 Nos.) for conversion of trawlers into resource specific deep sea fishing vessels.	Kakinada fishing harbor 17 <sup>th</sup> December 2020
73	Shri Ashok S. Kadam, Fisheries Scientist	Stakeholders meeting on Matsya Dushkal (Fish Famine) under the Chairmanship of Chief Secretary, Govt. of Maharashtra.	Mantralaya, Mumbai 11 <sup>th</sup> January 2021
74	Dr. Sijo P Varghese, Zonal Director	Meeting with Dr. P. Jayashankar and Dr. R. Jeyabaskaran, CMFRI scientists regarding project proposal on survey and assessment of Marine Mammals of Indian EEZ.	CMFRI, Kochi 15 <sup>th</sup> January 2021
75	Dr. Mahesh Kumar Farejiya, Dy. Director General (Engineering)	15 <sup>th</sup> meeting of the Working Group for monitoring and review of implementation of IOTC resolutions under the Chairmanship of the Joint Secretary (Marine Fisheries).	Online 18 <sup>th</sup> January 2021
76	Shri G.V.A. Prasad, Junior Fisheries Scientist	Discussion with the Station Director of All India Radio, Visakhapatnam regarding modalities to disseminate survey findings of marine fisheries to the end users on All India Radio.	All India Radio, Visakhapatnam 18 <sup>th</sup> January 2021
77	Dr. H. D. Pradeep, Fisheries Scientist	Interaction with HODs of all Central Govt. entities based in Goa, convened by the Hon'ble Chief Minister of Goa Dr. Pramod Sawant to discuss on the areas of coordination among the State and Central Govt. departments and specific requirements that needs to be enacted.	Secretariat Complex, Porvorim, Goa 19 <sup>th</sup> January 2021



78	Shri D. Bhami Reddy, Mechanical Marine Engineer Dr. A. B. Kar, Fisheries Scientist	Meeting with Traffic Manager and the Chief Engineer (Civil) of Visakhapatnam Port Trust, Joint Director of Fisheries and Dock Inspector to discuss on proper mooring facilities and effective hygienic condition of Jetty No. 6.	Visakhapatnam Port Trust 19 <sup>th</sup> January 2021
79	Dr. S. K. Dwivedi, Fisheries Scientist Shri Ashok S. Kadam, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Shri Swapnil S. Shirke, Sr. Scientific Assistant	Webinar on "Preparation of Value-added Fish Products for Boosting Fishpreneurship" organised by ICAR-CIFT, Mumbai in collaboration with NFDB.	Online 20 <sup>th</sup> – 21 <sup>st</sup> January 2021
80	Shri A. Tiburtius, Zonal Director Dr. S. Ramachandran, Sr. Fisheries Scientist Dr. Jeyachandra Dhas, Jr. Fisheries Scientist	Attended foundation stone laying ceremony for Aquatic Animal quarantine Unit and Disease Diagnostic Laboratory by Hon'ble Union Minister of Fisheries Animal Husbandry and Dairying.	Padappai, Tamilnadu 21 <sup>st</sup> January 2021
81	Shri A. Tiburtius, Zonal Director Dr. S. Ramachandran, Sr. Fisheries Scientist Dr. Jeyachandra Dhas, Jr. Fisheries Scientist	Fishermen Meet with Hon'ble Union Minister of Fisheries, Animal Husbandry and Dairying.	Fishing Harbour, Chennai 22 <sup>nd</sup> January 2021
82	Dr. Mahesh Kumar Farejiya, Dy. Director General (Engineering)	Meeting on Marine Mammal Protection Act (MMPA) to discuss about the plan of action on MMPA study.	Online 29 <sup>th</sup> January 2021
83	Dr. Mahesh Kumar Farejiya, Dy. Director General (Engineering) Shri S. K. Jaiswal, Director (Engineering) Dr. H. D. Pradeep, Fisheries Scientist Shri G. Elangovan, Mechanical Supervisor (Sr.)	Meeting with GSL officials regarding settlement of outstanding of dry-docking bills of MFV Sagarika.	GSL, Goa 4 <sup>th</sup> – 5 <sup>th</sup> February 2021
84	Dr. S. K. Dwivedi, Fisheries Scientist Shri Ashok S. Kadam, Fisheries Scientist Shri A. V. Tamhane, Sr. Scientific Assistant Shri Swapnil S. Shirke, Sr. Scientific Assistant Dr. Harshavardhan D. Joshi, Sr. Scientific Assistant	"Online Training Programme on Fishing Crafts and Gears" in Hindi organized by CIFT, Mumbai.	Online 5 <sup>th</sup> February 2021
85	Dr. Ansuman Das, Fisheries Scientist Shri Raju S. Nagpure, Sr. Scientific Assistant Shri Rahulkumar B. Tailor, Sr. Scientific Assistant Dr. K. Silambarasan, Sr. Scientific Assistant	4 <sup>th</sup> meeting of the IOTC Working Party on Implementation of Conservation and Management Measures (WPICMM-04) in video conferencing.	Online 15 <sup>th</sup> – 17 <sup>th</sup> February 2021



86	Shri D. Bhami Reddy, Mechanical Marine Engineer Dr. A. B. Kar, Fisheries Scientist	Meeting with Spl. Chief Secretary, AH DD&Fisheries, Govt. of Andhra Pradesh to discuss on the organizational activities / contribution of the Central Govt. Fisheries Institutes for the fishing industry and discussion on renovation of fishing harbour, Visakhapatnam.	Online 16 <sup>th</sup> February 2021
87	Shri S. K. Jaiswal, Director (Engineering)	Meeting on Decommissioning of Vessel MFV Saraswati, ICAR-CIFE, Mumbai.	Online 17 <sup>th</sup> February 2021
88	Dr. S. Ramachandran, Sr. Fisheries Scientist	20 <sup>th</sup> State Level Administrative Committee (SLAC) meeting convened under the scheme on "50% subsidy assistance for procurement of new Tuna long liner cum gill netters".	Directorate of Fisheries, Government of Tamil Nadu, Nandanam, Chennai 19 <sup>th</sup> February 2021
89	Dr. Sijo P. Varghese, Zonal Director Shri N. Unnikrishnan, Jr. Fisheries Scientist	Meeting on survey and assessment of Marine Mammals of Indian EEZ.	CMFRI, Kochi 20 <sup>th</sup> February 2021
90	Shri D. Bhami Reddy, Mechanical Marine Engineer	Discussion with the General Manager (SR) and Dy. General Manager (SRC) of Hindustan Shipyard Limited, Visakhapatnam on the allotment of the dock slot for the vessel Matsya Darshini and discussed about the procurement of under water propeller spare parts and Gen sets.	Hindustan Shipyard Limited, Visakhapatnam 23 <sup>rd</sup> February 2021
91	Dr. Sijo P. Varghese, Zonal Director Dr. Vinod Kumar Mudumala, Sr. Fisheries Scientist	IOTC meeting on MSE Task force of the WPM.	Online 1 <sup>st</sup> - 5 <sup>th</sup> March 2021
92	Dr. Sijo P. Varghese, Zonal Director Dr. S. Ramachandran, Sr. Fisheries Scientist	Indian Ocean Tuna Commission (IOTC) Special Session (SS4).	Online 8 <sup>th</sup> - 12 <sup>th</sup> March 2021
93	Dr. Sijo P. Varghese, Zonal Director	Attended Special Session of the IOTC.	Online 12 <sup>th</sup> - 14 <sup>th</sup> March 2021



94	Dr. Sijo P. Varghese, Zonal Director Dr. S. Ramachandran, Sr. Fisheries Scientist Shri Ashok S. Kadam, Fisheries Scientist Shri A. Siva, Sr. Scientific Assistant	IOTC Technical Committee on Allocation Criteria (TCAC07).	Online 22 <sup>nd</sup> - 25 <sup>th</sup> March 2021
95	Shri B. Balanayak, Mechanical Marine Engineer Dr. H. D. Pradeep, Fisheries Scientist	Meeting on "58 <sup>th</sup> National Maritime Day" celebration Committee convened by Mercantile Marine Department (MMD).	Online 25 <sup>th</sup> March 2021



*The Hon'ble Chief Minister of Goa, Dr. Pramod Sawant had convened a meeting of all HODs of central Govt. entities based in Goa to elicit feedback on 'the areas of coordination and specific requirements that needs to be enacted' on 19.01.2021*





## 15. FLEET MAINTENANCE

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

Name of the Vessel/ Base	Name of the yard	Period of Docking & Afloat Repairs	Work supervised
MFV Lavanika	M/s CSL, Cochin	Docked: 17.06.20 & 15.07.20 Undocked: 17.10.2020	Service Engineer (Mech) Chief Engineer Gr.I Skipper, Mech. Supervisor (Sr.)
MFV Matsya Varshini	M/s CSL, Cochin	Docked: 17.06.2020 Undocked: 21.09.2020 (Afloat repair completed on 26.01.2021)	Service Engineer (Mech) Chief Engineer Gr.I Skipper, Mech. Supervisor (Sr.)
MFV Matsya Vrushti	M/s CSL, Mumbai Ship Repair Unit	Docked: 18.03.2020 Undocked: 21.09.2020 (Afloat repair works completed on 20.01.2021)	Service Engineer (Mech) Chief Engineer Gr.I Skipper Mech. Supervisor (Sr.)
MFV Matsya Nireekshani	M/s CSL, Mumbai Ship Repair Unit	Docked: 18.03.2020 and 20.11.2020 Undocked: 21.09.2020 and 13.01.21	Service Engineer (Mech) Chief Engineer Gr.I Skipper Mech. Supervisor (Sr.)
MFV Yellow Fin	M/s GSL, Goa	Docked: 27.05.2020 Undocked: 16.02.2021	Chief Engineer Gr.I Skipper Mech. Supervisor (Sr.)
MFV Matsya Drushti	M/s. Hindustan Shipyard, Ltd., Visakhapatnam	Docked: 10.01.2021 Undocked: 30.03.2021	Mech. Marine Engineer Chief Engineer Gr.I Skipper
MFV Blue Marlin	NSRY, Port Blair	Docked: 16.02.2021 Undocked: 06.03.2021	Mech. Marine Engineer Service Engineer (Mech) Chief Engineer Gr.I Skipper

### B. Major Overhauling of the Machinery & Equipment

Name of the vessel/Base	Machinery Overhauled	Period of the Overhauling	Agency	Supervision
MFV Matsya Varshini	Main Engine	23.05.2020 to 03.12.2020	Dept. Workshop MED Cochin	Service Engineer (Mech.), Mechanical Supervisor (Sr.) and Fitter



**C. Acquisition of New Vessels:**

The proposal for acquisition of new vessels is under consideration of the Ministry of Fisheries, Animal Husbandry & Dairying, New Delhi.

**D. Import of spare parts:**

Spare parts worth of ₹ 103.00 lakhs have been imported towards the maintenance of the vessels during the year 2020-21.

Sl. No.	Name of the vessel	Name of the Machinery/Equipment	Name of the supplier	Cost of the spare parts including customs duty etc. (₹)
1	<i>MFV Samudrika</i>	Gear Box Spares	M/s. Neptunus Global Trading FZE, UAE	7,96,362
2	<i>MFV Samudrika</i>	Auxiliary Engine spares	M/s. Yanmar Engineering Co. Ltd., Japan	31,98,327
3	<i>MFV Yellow fin</i>	Niigata Auxiliary Engine Spares	M/s. Neptunus Global Trading FZE, UAE.	63,29,111
<b>Total (₹)</b>				<b>1,03,23,800</b>



## 16. INFRASTRUCTURE FACILITIES

### Performance of Marine Engineering Division (MED), Kochi

The details of number of vessels hauled up in the Slip-way and Servicing in Life Raft during the year 2020-21

Sl. No.	Month	No. of Vessel Hauled-up	Amount realized (₹)	No. of ILR/HRU Services	Amount realized (₹)
1.	April 2020	08	1,14,464	-	-
2.	May 2020	09	1,73,750	01 (ILR) 1 (utility)	1,75,544 1,475
3.	June 2020	08	4,63,562	16 (ILR) 04 (utility)	4,72,328 51,631
4.	July 2020	08	9,62,959	11 (ILR) 03 (utility)	2,46,528 1,37,036
5.	August 2020	06	5,19,143	01 (ILR) 01 (utility)	2,121 6,844
6.	October 2020	06	3,50,620	06 (ILR) 01 (utility)	3,67,773 8,732
7.	November 2020	08	6,29,623	05 (ILR) 03 (utility)	2,34,044 82,954
8.	December 2020	11	15,78,303	03 (ILR) 02 (utility)	88,707 12,195
9.	January 2021	06	4,56,754	04 (ILR) 04 (utility)	1,06,980 94,404
10.	February 2021	10	3,68,147	03 (ILR) 03 (utility)	20,202 18,974
11.	March 2021	11	8,07,999	02 (ILR) 06 (utility)	41,584 1,58,071
	<b>Total</b>	<b>91</b>	<b>64,25,324</b>	<b>52-ILR 28 (utility)</b>	<b>23,28,127</b>



## 17. ADMINISTRATION AND FINANCE

### 17.1 Sanctioned posts

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

Group	Category	No. of Posts		
		Filled	Vacant	Total
A	Scientific	10	15	25
	Technical	12	07	19
	Administrative	01	-	01
B	Scientific	23	11	34
	Technical	21	20	41
	Administrative	15	35	50
	Floating staff	24	70	94
C	Scientific	-	01	01
	Technical	67	88	155
	Administrative	77	62	139
	Floating staff	39	145	184
	<b>Total</b>	<b>289</b>	<b>454</b>	<b>743</b>

### 17.2 Officers in different stations

Name and designation of the officers of the Institutes as on 31<sup>st</sup> March 2021 are given below:

HEAD QUARTERS		
Sl. No.	Name	Designation
1	Dr. L. Ramalingam	Deputy Director General (Fisheries) / Director General (I/C)
2	Dr. M.K. Farejija	Deputy Director General (Engg.)
3	Shri S. K. Jaiswal	Mech. Marine Engineer
4	Shri N.V. Ramanamurthy	System Analyst
5	Dr. Vinod Kumar Mudumala	Sr. Fisheries Scientist
6	Dr. Ansuman Das	Fisheries Scientist
7	Smt. M. K. Sreemathi	Sr. Administrative Officer
8	Shri Chittajallu Bhaskar	Programmer
9	Shri Bapu M. Raut	Programmer
10	Shri Ashish Kumar	Programmer
11	Shri Pradeep Kumar Shukla	Asst. Accounts Officer





MUMBAI BASE		
Sl. No.	Name	Designation
1	Shri A. S. Kadam	Fisheries Scientist
2	Shri S. Kanthen	Service Engineer (Mech.)

MOURMUGAO BASE		
Sl. No.	Name	Designation
1	Shri B. Balanayak	Service Engineer (Mech.)
2	Dr. H. D Pradeep	Fisheries Scientist

COCHIN BASE		
Sl. No.	Name	Designation
1	Dr. Sijo P. Varghese	Zonal Director
2	Shri Manoj Kumar O.T.	Service Engineer (Mech.)
3	Shri A.E. Ayooob	Fishing Gear Technologist
4	Shri N. Unnikrishnan	Jr. Fisheries Scientist
5	Shri B. Satheesh Kumar	Assistant Engineer (Workshop)

CHENNAI BASE		
Sl. No.	Name	Designation
1	Shri A.Tiburtius	Zonal Director
2	Dr. S. Ramachandran	Sr. Fisheries Scientist
3	Shri C. D. Rao	Mech. Marine Engineer
4	Shri M. Subhash	Service Engineer (Mech.)
5	Dr. Jaya Chandra Dhas	Jr. Fisheries Scientist
6	Dr. A. John Chembian	Jr. Fisheries Scientist

VISAKHAPATNAM BASE		
Sl. No.	Name	Designation
1	Shri D. Bhami Reddy	Mechanical Marine Engineer
2	Dr. Annada Bhusan Kar	Fisheries Scientist
3	Shri G. V. A. Prasad	Jr. Fisheries Scientist



PORTBLAIR BASE		
Sl. No.	Name	Designation
1	Shri Dharamvir Singh	Mech. Marine Engineer
2	Shri Rajendra B. Dokare	Service Engineer (Mech.)

### 17.3 Budget and Accounts

The details of the Budget Grant and Expenditure of the Institute during the year 2020-21 (₹ In Lakhs)

Particulars	Budget Grant	Actual Expenditure
<b>Plan</b>		
Capital	306.50	27.19
<b>Sub-Total</b>	<b>306.50</b>	<b>27.19</b>
<b>Non-Plan</b>		
Revenue	8305.48	7243.72
Capital	-	-
<b>Sub-Total</b>	<b>8305.48</b>	<b>7243.72</b>
<b>Grand Total</b>	<b>8611.98</b>	<b>7270.91</b>

### 17.4 Transfers

The transfers effected during the year

Name	Designation	Base/ HQs	
		From	To
Dr. S. Ramachandran	Sr. Fisheries Scientist	Cochin	Chennai
Shri B. Balanayak	Service Engineer (Mech.)	Mumbai	Mormugao
Shri S. Kanthen	Service Engineer (Mech.)	Chennai	Mumbai
Shri M. Subhash	Service Engineer (Mech.)	Cochin	Chennai
Shri Jacob Thomas	Jr. Fisheries Scientist	Mumbai	Cochin
Shri Rajendra B Dokare	Service Engineer (Mech.)	Mumbai (HQs)	Port Blair
Shri Vinod Paily	Chief Engineer Gr.II	Mumbai	Mormugao
Shri Puran Singh	Sr. Scientific Assistant	Mormugao	Port Blair
Shri Rahulkumar Tailor	Sr. Scientific Assistant	Mumbai (HQs)	Port Blair
Shri M. Nashad	Sr. Scientific Assistant	Port Blair	Mormugao
Shri B. K. Singh	Lower Division Clerk	Visakhapatnam	Mormugao
Shri S. Kamraj	Welder	Port Blair	Chennai



### 17.5 Promotions

The promotions effected during the year

Name	Designation		Base/ HQs	Date
	From	To		
Shri S. K. Jaiswal	Mechanical Marine Engineer	Director (Engineering)	Mumbai (HQs)	30.07.2020
Shri Namdev T. Kerkar	Staff Car Driver Gr. II	Staff Car Driver Gr. I	Mormugao	20.11.2020
Shri M. Subhash	Mechanical Supervisor (Sr.)	Service Engineer (Mech.)	Cochin	01.03.2021
Shri Shahinsha Pasha	Mechanical Supervisor (Sr.)	Service Engineer (Mech.)	Port Blair	24.02.2021
Shri S. Kanthen	Mechanical Supervisor (Sr.)	Service Engineer (Mech.)	Chennai	05.03.2021
Shri Rajendra Dokare	Mechanical Supervisor (Sr.)	Service Engineer (Mech.)	Mumbai (HQs)	10.03.2021
Smt. Kavita Nayak	Multi Tasking Staff	Lower Division Clerk	Mumbai (HQs)	23.03.2021
Smt. Sajina P. M.	Multi Tasking Staff	Lower Division Clerk	Cochin	23.03.2021

### 17.6 Grant of Modified Assurance Career Progression (MACP)

Total of 34 staff were granted MACP and 5 staff were granted ACP during the year.

### 17.7 Retirements



The details of retirements of officers/ staff during the year


Name	Designation	Base/HQs	Superannuation/ Voluntary	Date
Shri Ramesh Dhanu	Multi Tasking Staff	Mumbai	Superannuation	30.06.2020
Shri Chandraprakash Goel	Welder	Mumbai	Superannuation	30.11.2020
Shri Y. Yella Rao	MTS (Mazdoor)	Visakhapatnam	Superannuation	31.01.2021
Shri P. Sudalai	Carpenter	Cochin	Superannuation	31.01.2021
Shri Deepak Kumar Gulati	Zonal Director	Mumbai	Superannuation	28.02.2021
Shri Shahinsha Pasha	Service Engineer (Mech.)	Port Blair	Superannuation	28.02.2021
Dr. L. Ramalingam	DDG (Fy.)	Mumbai (HQs)	Superannuation	31.03.2021
Shri Lakshman Rao	Sr. Deckhand-cum-Cook	Visakhapatnam	Superannuation	31.03.2021

### 17.8 Deputation

Shri Madhu K. L., Skipper from Cochin Base of FSI transferred on deputation to CIFNET w.e.f. 31.01.2021. Dr. Shailendra Kumar Dwivedi, Fisheries Scientist relieved w.e.f. 23.02.2021 AN from Mumbai base of FSI, on his selection to the post of Assistant Commissioner of Fisheries on deputation basis in Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, New Delhi.

### 17.9 Obituary

	Shri B. Kondal Rao, Welder passed away on 07.07.2020 due to COVID 19. He had been working at Visakhapatnam Base of FSI since 19.03.1982.
	Shri S. Appa Rao, Driver Gr-I passed away on 15.12.2020. He had been working at Visakhapatnam Base of FSI since 09.06.1992.

	Smt. Anmol K. C., Multi Skilled Employee passed away on 28.04.2020. She had been working in Cochin Base of FSI.
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## 18. TRAINING TO FSI STAFF

The following officers and staff attended various training programmes during the year 2020-21

Name	Designation	Subject/ Institute/ Place/ Period
Dr. Harshavardhan D. Joshi	Senior Scientific Assistant	MOOC (Massive Open Online Course) on "Enterpreneurship Development" organized by Centre of Excellence in Aquaculture, Kamdhenu University, Gujarat Online 14 <sup>th</sup> -18 <sup>th</sup> May 2020
Shri A. E. Ayooob Shri Josh Cheppalli Smt. R. Sreeja Shri Pradeep Raghav Shri Sandeep Kushwaha Shri Felix Raison	Fishing Gear Technologist Superintendent (PSC) Upper Division Clerk Lower Division Clerk Lower Division Clerk Multi Tasking Staff	Online GeM technical training session 17 <sup>th</sup> July 2020
Dr. Ansuman Das Dr. Harshavardhan D. Joshi	Fisheries Scientist Senior Scientific Assistant	"One week QGIS Training Programme" conducted by Geotech GIS Training Institute, Aurangabad, Maharashtra Online 12 <sup>th</sup> -18 <sup>th</sup> August 2020
Dr. S. Ramachandran Shri A.E. Ayooob Shri Josh Cheppalli Smt. R. Sreeja Shri Pradeep Raghav Shri Sandeep Kushwaha Shri Felix Raison	Sr. Fisheries scientist Fishing Gear Technologist Superintendent (PSC) Upper Division Clerk Lower Division Clerk Lower Division Clerk Multi Tasking Staff	GeM technical and training session Online 17 <sup>th</sup> August 2020
Dr. Harshavardhan D. Joshi	Senior Scientific Assistant	"Fishery Oceanography for future professionals" organized by ITC ocean/ INCOIS Hyderabad Online 16 <sup>th</sup> -20 <sup>th</sup> November 2020
Shri N. V. Ramana Murthy Shri Ch. Bhaskar Shri Bapu M. Raut Shri Ashish Kumar	System Analyst Programmer Programmer Programmer	"Chief Information Security Officer's Deep Dive Training" organized by National E-Governance Division NEGD, Department Of Electronics And Information Technology under Cyber Surakshit Bharat initiative Online 30 <sup>th</sup> November - 5 <sup>th</sup> December 2020.





## 19. OFFICIAL LANGUAGE ACTIVITIES

### 19.1 Hindi workshops and seminars

#### Mumbai (HQs)

A one day online Hindi Workshop was organized on 29<sup>th</sup> September 2020 at FSI (HQs), Mumbai in order to encourage the staff members to work in Hindi. Shri Vinod Kumar Sharma, Astt. Director, Hindi Teaching Scheme, CBD, Belapur was the subject expert for the event. He deliberated on “*Karyalayeen Patrachar Me Saralataam Prayog*”. About 15 staff members participated in the online workshop.

Second Hindi workshop was organized on 7<sup>th</sup> December 2020 in FSI (HQs), Mumbai on “Official

Language Policy of the Union, Official Language Act and Rules and Regulation”. The resource person for the workshop was Dr. Sushil Kumar Sharma, Deputy General Manager (TOLIC), Western Railways, Churchgate, Mumbai. 15 staff members actively participated in the workshop and benefited.

Third Hindi workshop was organized on 26<sup>th</sup> February 2021 at FSI (HQ's), Mumbai. Dr. Sunita Yadav, Retired Dy. Director, Regional Implementation Office (Western Region), Navi Mumbai was the resource person. Altogether 12 staff members actively participated in the above workshop and got benefited.



*Hindi Workshop at FSI (HQs), Mumbai on 26.02.2021*

#### Mumbai Base

A Hindi workshop was organized on 23<sup>rd</sup> December 2020 on the topic “General Correspondence”. The resource person for the workshop was Dr. Vinodkumar

Sharma, Assistant Director, Hindi Shikshan Yojana, Belapur, Navi Mumbai. All the officers and staff members participated in the workshop.



*Hindi Workshop at Mumbai Base of FSI on 23.12.2020*



Second Hindi workshop was organized on 26<sup>th</sup> February 2021 on the topic "General Correspondence". Dr. Sunita Yadav, Retired Dy. Director, Regional

Implementation Office (Western Region), Navi Mumbai was the resource person.



*Hindi Workshop at Mumbai Base of FSI on 26.02.2021*

### **Mormugao Base**

A Hindi workshop was organized on "Constitutional status of Hindi and its use in offices" on 14<sup>th</sup> September 2020 for the benefit of officers and staff members

of the Base. Shri Rajendra Singh, Senior Secretary (retired), MPT, Goa was the resource person during the workshop.



*Hindi Workshop at Mormugao Base of FSI on 14.09.2020*

Second Hindi workshop was organized on "Linguistic diversity in India" on 27<sup>th</sup> March 2021 for the benefit of officers and staff members of the Base. Dr. Subhrata Mishra, Freelancer, Goa was the resource person on this occasion.

terminology on 29<sup>th</sup> March 2021. Smt. Uma E. K., Chief Technical Officer (OL) from CMFRI was the faculty on this occasion.

### **Cochin Base**

An online Hindi workshop on Official language implementation and Hindi Noting was organized on 30<sup>th</sup> June 2020 through *Google Meet*. The workshop was attended by Director General (IC), Jr. Translation Officer, and Sr. Scientific Assistant from Mumbai (HQs) and the staff of Cochin Base. In total, 5 officers and 12 employees participated in the workshop. Smt. Leena T. P., Jr. Translation Officer was the resource person on this occasion.

### **Visakhapatnam Base**

A Hindi Workshop was organized on 24<sup>th</sup> June 2020. Shri Shahnawaz, Jr. Translation Officer was the resource person on this occasion. He delivered lecture on the importance of Hindi as official language as well as Procedure of official language implementation in Government offices. The officers and staff members of the Base attended the workshop.

Second Hindi workshop was organized online on fish

Second Hindi workshop was conducted on 23<sup>rd</sup> September 2020. On this occasion Shri Shahnawaz, Jr. Translation Officer delivered the lecture on Unicode, Google transliteration and Unikruti.





Third Hindi workshop was conducted on 29<sup>th</sup> December 2020. Dr. Rita Trivedi, Hindi Pradhyapak, Hindi Teaching Scheme, Visakhapatnam was the resource person. She delivered the lecture on importance of Hindi as official language and its implementation. 15 Officials attended the workshop and benefited.



Fourth Hindi workshop was conducted on 12<sup>th</sup> March 2021. Shri Shankar Dora, Hindi Pradhyapak, Hindi Teaching Scheme, Visakhapatnam was the resource person and he delivered a lecture on Hindi vocabulary and its usage in day to day office work.



*Hindi Workshop at Visakhapatnam Base of FSI on 24.06.2020, 23.09.2020 & 29.12.2020*

### Port Blair Base

A one Day Hindi Workshop was organized on 16<sup>th</sup> June 2020 at the conference hall of the Base. Shri K. V. Sathyanad, Sr. Translator, Secretariat, Andaman and Nicobar Administration was the resource person and delivered lecture on Installation and usage of Hindi fonts in computers.

Second Hindi workshop was organized on 28<sup>th</sup> September 2020. Shri Subhrajit Das, Stenographer Grade- II delivered lecture on Implementation of official language and use of Hindi in day to day activities in the office.



*Hindi Workshop at Port Blair Base of FSI on 28.09.2020*



## 19.2 Hindi Day and Hindi Fortnight Celebration

### Mumbai (HQs)

The Fishery Survey of India (HQs), Mumbai observed **"Hindi Day"** on 14.09.2019 and **"Hindi Fortnight"** during 14<sup>th</sup>–28<sup>th</sup> September 2020. Dr. L. Ramalingam, DDG (Fy)/ Director General (I/C) inaugurated the function by lighting the traditional lamp. Shri S. K. Jaiswal, Director (Engineering) read out the Appeal, received from Hon'ble Home Minister Shri Amit Shah. Smt. Meera Vellan Rajiv, Jr. Translation officer gave brief information about the competitions to be organized during Hindi Fortnight and requested all the staff members to

do more and more official work originally in Hindi. During the Hindi Fortnight, five competitions were conducted viz. 1) Hindi essay writing 2) Hindi dictation 3) Hindi typing 4) Hindi Poem recitation. As many as 15 staff members participated in the competitions enthusiastically. The valedictory function of Hindi Fortnight was held on 28<sup>th</sup> September 2020. The Director General (I/C), Deputy Director General (Engg.) and Director (Engg.) distributed the prizes to all the winners of the competitions. The programme was concluded with vote of thanks given by Smt. Meera Vellan Rajiv, Jr. Translation officer.



*Hindi Day and Hindi Fortnight celebrations in FSI (HQs)*

### Mumbai Base

Mumbai Base celebrated **"Hindi Day"** on 14<sup>th</sup> September 2020 and **"Hindi Fortnight"** for a period from 14<sup>th</sup>–28<sup>th</sup> September 2020. The inaugural function of Hindi Day & Hindi Fortnight was held on 14<sup>th</sup> September 2020 at the Base Office under the Chairmanship of Shri B. Balanayak, Service Engineer (Mech.).

During the fortnight, total of two competitions were conducted viz. 1) Hindi Dictation 2) Hand Writing. 25 staff members participated in the above competitions. A valedictory function of Hindi fortnight was held on 28<sup>th</sup> September 2019. Shri Deepak Kumar Gulati was the Chief Guest on the occasion. During the function, the prizes were distributed to the winners of various competitions.







*Hindi Fortnight celebrations and Prize distribution in Mumbai Base of FSI*

### Mormugao Base

Mormugao Base celebrated **"Hindi Day"** on 14<sup>th</sup> September 2020. Shri Rajendra Singh, Sr. Secretary (Retired) was the Chief Guest of the function. On this occasion, Dr. H. D. Pradeep, Fisheries Scientist presided over the function. He emphasized about the importance of the Official language. The programme was concluded with the vote of thanks given by Shri B. L. Anjana, Jr. Translation Officer.

### Cochin Base

The **"Hindi Fortnight"** was celebrated during the period 14<sup>th</sup> – 29<sup>th</sup> September 2020 with various programmes and competitions in Hindi for the staff. Dr. Sijo P. Varghese, Zonal Director read the Home Minister's message related to Hindi Day and inaugurated Hindi Day and Fortnight by lighting the lamp. During Hindi Fortnight, competitions in Hindi Essay and Hindi Story were organized for officers and employees. The valedictory function was conducted online on 29<sup>th</sup> September 2020 and the winners were awarded cash prizes.



*Hindi Day celebrations in Mormugao Base of FSI*

### Chennai Base

**"Hindi Fortnight"** was observed during 14<sup>th</sup>–28<sup>th</sup> September 2020. Hindi Day was celebrated on 14<sup>th</sup> September 2020. Hindi quiz competition was conducted on 28<sup>th</sup> September 2020 and prizes were distributed to the winners. Officers and staff this Base Office actively participated in the event.



*Hindi Fortnight celebrations in Chennai Base of FSI*



### Visakhapatnam Base

“Hindi Fortnight” was observed during 11<sup>th</sup> – 25<sup>th</sup> September 2020. During the fortnight, various competitions in Hindi such as Prasna Manch, Noting & Drafting and Extempore Speech were conducted among the staff members.



The valedictory function was organized on 25<sup>th</sup> September 2020, during which a speech competition on “Corona Pandemic” was organized for the staff of this office. Prizes were distributed to the winners of various competitions.



*Hindi Fortnight celebrations in Visakhapatnam Base of FSI*

### Port Blair Base

“Hindi Fortnight” was celebrated from 14<sup>th</sup> – 28<sup>th</sup> September 2020. The valedictory function of Hindi fortnight was organized on 28<sup>th</sup> September 2020, wherein Shri Dharmvir Singh, Officer-in-charge distributed prizes to the winners of various competition organized during the fortnight.



*Hindi Fortnight celebrations in Port Blair Base of FSI*

### 19.3 Participation in TOLIC Meetings

Participant(s)	Designation	Venue and Date
Dr. H. D. Pradeep	Fisheries Scientist	MPT Conference Hall, Goa 28 <sup>th</sup> September 2020
Smt. Meera Vellan Rajiv	Jr. Translation Officer	Western Railway (HQs), Churchgate, Mumbai (online mode) 20 <sup>th</sup> October 2020
Smt. T. P. Leena	Jr. Translation Officer	Online 6 <sup>th</sup> November 2020

### 19.4 Inspection / Review

Dr. H. D. Pradeep, Fisheries Scientist along with Shri B. L. Anjana, Jr. Translation Officer attended the online inspection of the progress of official language conducted by Smt. Sushmita Bhattacharya, Dy. Director, Dept. of official Languages (Mumbai) on 27<sup>th</sup> October 2020.

As a part of Official language implementation, Dr. Rita Trivedi, Hindi Professor, Hindi Teaching Scheme, Visakhapatnam reviewed the Hindi office work of the Visakhapatnam Base on 29<sup>th</sup> December 2020. She appreciated the efforts of the Base towards the successful implementation of Official language implementation.



### **19.5 Participation in Hindi Workshop/Seminars/ Webinars**

Smt T. P. Leena, Jr. Translation Officer attended Official language webinar on "Efforts towards minimising the challenges in New Techniques of Official language Implementantation" organized from Delhi on 26<sup>th</sup> June 2020.

Smt T. P. Leena, Jr. Translation Officer delivered speech on Official language implementation in the online meeting organized by Kendriya Vidyalaya, Bhandup, Mumbai in connection with the Hindi Fortnight programme on 22<sup>nd</sup> September 2020.

Smt T. P. Leena, Jr. Translation Officer acted as a judge in the online Hindi extempore competition organized at the National level by the COIR Board on 28<sup>th</sup> September 2020.

### **19.6 Training in Hindi**

Smt. Sunita Motwani, Stenographer Gr. II and Smt. Kavita Naik, Lower Division Clerk from FSI (HQs),

Mumbai were nominated for Hindi Parangat classes under Hindi Teaching Scheme, during January 2021.

### **19.7 Incentive Scheme for doing official work originally 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 Awards were given to the following employees for the year 2019-20 as per the recommendation of the Assessment Committee constituted for the purpose.

#### **First Prize**

1. Shri Vishal K. Kharat, LDC/Hindi Typist
2. Shri Chetan N. Raithatha, UDC

#### **Second Prize**

1. Shri D. K. Pandya, UDC
2. Smt. Kavita Naik, MTS





## 20. OTHER ACTIVITIES

### 20.1 International Yoga Day

Fishery Survey of India (HQs) and the Bases of FSI observed International Yoga Day on 21<sup>st</sup> June 2020. All the officials actively participated and performed Yoga asanas during the event.



*Yoga asanas performed by FSI (HQs) and Base office staffs on 21.06.2020*

### 20.2 Vigilance Awareness Week

"Vigilance Awareness Campaign" was observed by FSI (HQs) and all the Bases from 27<sup>th</sup> October 2020 to 2<sup>nd</sup> November 2020. As a part of campaign the integrity pledge was taken by all the officers and staff members on 27<sup>th</sup> October 2020.



*Observance of Vigilance Awareness Week in FSI (HQs) and Bases*

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

Visakhapatnam Base of FSI observed "Swaccha Hi Sewa" campaign by undertaking the cleanliness drive at Visakhapatnam fishing harbour from entrance to jetty no. 5 & 6 and its surrounding areas on 4<sup>th</sup> February 2021.



*"Swacchata Hi Sewa" campaign at Visakhapatnam Base of FSI*





## 20.4 Constitution Day

As per the communications received from the Ministry, the “Constitution Day” was observed at FSI (HQs.), Mumbai and all its Bases and the survey vessels with reading of Preamble to the constitution of India on 26<sup>th</sup> November 2020.



*Observance of Constitution Day in FSI (HQs,) Bases and Survey Vessels*

## 20.5 International Women’s Day

Fishery Survey of India (HQs.) and Base offices celebrated the International Women’s Day on 9<sup>th</sup> March 2021.



## 21. CO-OPERATION AND ASSOCIATION WITH NATIONAL AND INTERNATIONAL ORGANIZATIONS

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. Expert 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.
9. Committee to consider various issues relating to Fisheries/ Security to fishermen.
10. Working group on Animal Committee.
11. Committee on FAO's Technical Consultation on Flag state performance.
12. Central Approval and Monitoring Committee (CAMC) for approval of both administrative and financial angle for central financial assistance under CSS.
13. Committee for re-drafting of Marine Fisheries Regulation and Management Bill.
14. Research Advisory and Monitoring Committee (RAMC) for Zoological Survey of India.
15. Task Force on Fisheries Subsidies
16. Committee to look into the aspects of use of high power engine boats for trawling Committee
17. Committee to work out fleet plan for Indian EEZ.
18. Project Management Council (PMC) of Ocean Observation System (OOS), SIBER and GEOTRACES.



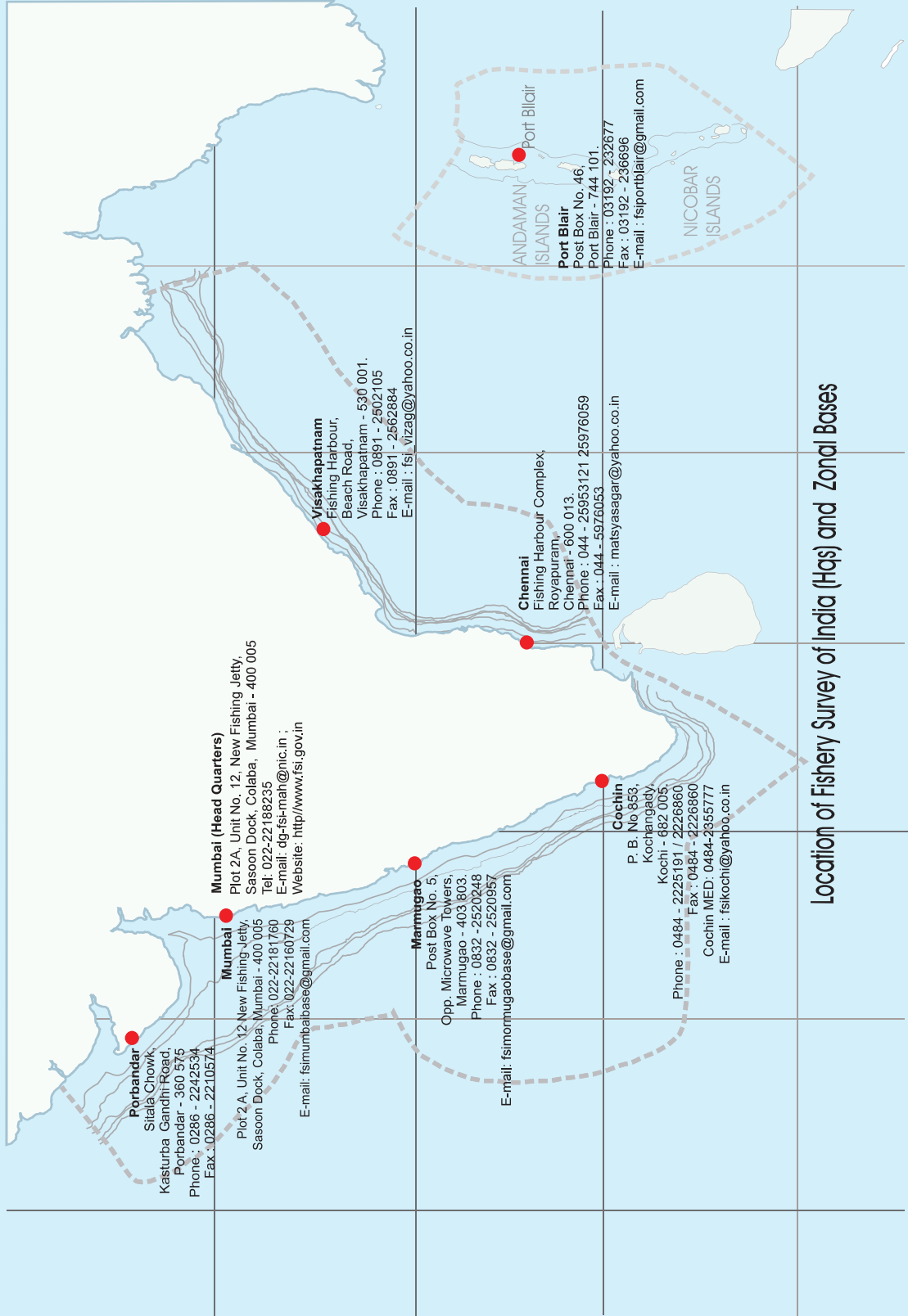
## 22. ABBREVIATIONS

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









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**Location of Fishery Survey of India (Hqs) and Zonal Bases**



## FISHERY SURVEY OF INDIA

Government of India

Ministry of Fisheries, Animal Husbandry & Dairying  
 Department of Fisheries

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