MPEDA

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CPF-TURBO PROGRAM

The shrimp industry has seen major developments and tasted success over the years, And not only are we proud to be part of it, but also take pride in pioneering it. To ensure the success and profitability of the Indian Shrimp Industry, our highly determined team with committed Aquaculture specialists constantly provide the shrimp farmers with access to the latest and updated technology.

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CONTENTS FEBRUARY & MARCH 2020

25 years Ad - AquaTech / Size: 8.5 (w) X 11 (h) inches

25 YEARS
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25 Years of perfecting the science of aquaculture to help you dream bigger.

We are not just celebrating a milestone. We are celebrating India's rise as a powerhouse in shrimp production as we watch the Vannamei shrimp, that we fought to introduce, change the industry. We are celebrating countless seafood platters that our farmers brought to dinner tables all over the world. We are celebrating the success saga of our farmers, dealers, employees and partners. Join us, as we set our eyes on scaling newer heights.

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Mr. Penemetsa Bhima Raju, Shrimp farmer from Bhimavaram uses Waterbase Baywhite Enriched feed

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In the Platter

K. S. Srinivas IAS
Chairman

Dear Friends,

MPEDA along with Seafood Exporters Association has successfully organized the 22nd India International Seafood Show at Cochin during the month. The event has witnessed tremendous participation by the exporters for which I am thankful to the Seafood Exporters Association of India. The participation by buyers, machinery and equipment manufacturers, service providers and other stakeholders were overwhelming. The technical sessions organized on the sidelines of the show were well attended by exporters, traders, researchers and students.

MPEDA has also distributed its export awards for the years 2017-18 and 2018-19 under various categories during the show in a separate function. Two special awards were also constituted this year. Chairman's special awards for the most responsible exporter of the year and that for the lifetime contribution extended to the seafood sector of India. M/s Gadre Marine Export Pvt. Ltd., Ratnagiri was selected as the most responsible exporter of the year, while Mr. Abraham J. Tharakan, the Managing Director of M/s. Amalgam Group of Companies was recognized for his contributions to the seafood processing and export value chain with the Lifetime Achievement Award. I congratulate the winners of both these coveted awards.

MPEDA has also opened up formally its Microbiology-cum-Molecular Laboratory, which is aimed to analyze the food samples, especially seafood. It also has an advanced Molecular Biology Section for screening various aquatic pathogens. It is expected that the state-of-the-art Laboratory facility created by MPEDA at Cochin along with the Quality Control lab with advanced equipment will be of great use for the aqua farmers and seafood processors alike for their analytical needs. My sincere thanks to Secretary, Ministry of Food Processing Industries, Govt of India for funding the project.

Thank you.

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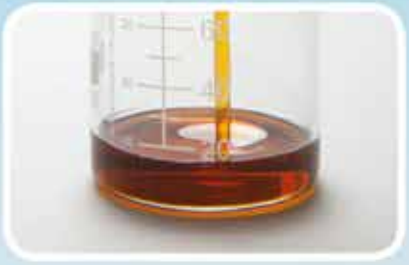
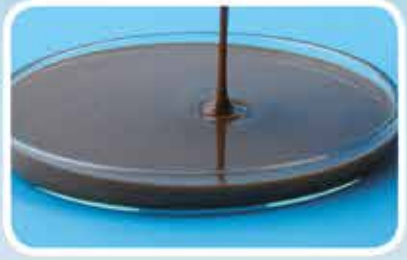

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INDIA INTERNATIONAL SEAFOOD SHOW 2020

Mr. Arif Mohammad Khan, Hon'ble Governor of Kerala inaugurates the India International Seafood Show 2020 by lighting the ceremonial lamp

The 22nd edition of the India International Seafood Show (IISS 2020) was held at Kochi, the commercial nerve centre of Kerala, from February 7 to 9, 2020 with 'Blue evolution: Beyond Production to Value Addition' as the focal theme. The objective was to bring into focus the latest technological interventions and advancements in aquaculture sector and highlight the country's commitment towards sustainability in the entire value chain of seafood products such as primary production, processing and transportation.

The biennial event was organised by the Marine Products Export Development Authority (MPEDA), the nodal agency of Union Ministry of Commerce & Industry, and the Seafood Export Association of India (SEAI). The three-day event, which was attended by more than 1,500 delegates, 50 of them from 12 foreign countries, witnessed deliberations on a host of current issues and challenges confronting the global marine products industry. Billed as one of Asia's largest seafood fairs, the IISS 2020 was held in Kochi after a gap of 12 years. It saw over 300 stalls, spread over 7,000 sq m, displaying a wide range of products based on automated and IT-aided pre-processing, processing and storage technologies for value addition.

Hon'ble Governor of Kerala Mr. Arif Mohammad Khan, while inaugurating the IISS 2020 at Lulu Bolgatty International Convention Centre, Hotel Grand Hyatt on February 7, called for making vigorous efforts to attract foreign direct investment (FDI) into the sector for increasing employment opportunities and boosting seafood production. He also unveiled a three-pronged strategy to boost seafood exports based on increased production, diversification and value addition.

The Governor expressed confidence that such a strategy would enable India to increase its share in global seafood trade from the present 4.1 per cent to 6.7 per cent by 2030. "Oceans and fisheries had always fascinated the imagination of Indians as the first incarnation of Lord Vishnu was in the form of a fish," he explained.

BEST IN MARKET

IMPORTED FROM SPAIN

MARBYS

MASTERS IN CEPHALOPODS ADDITIVES

PRODUCTS LIST

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Highlighting the importance of seafood, he said 40 per cent of the global population lives within 200 km from seacoasts and 12 of the 15 mega cities are on the coasts. In India alone, about 40.5 million people are involved in the fisheries sector, which also contributes one per cent to the GDP, he noted.

MPEDA Chairman Mr. K.S. Srinivas, in his welcome address, dwelt upon a three-pronged strategy to promote the sector — increase productivity, expand area under cultivation and diversify species. An increase of productivity from the present five metric tons per hectare to 10 metric tons is desired. A vision document in this regard has been submitted to the government in this connection, he pointed out.

"Improvement in infrastructure, focus on value addition, brand promotion and increase in the number of trade promotion offices would go a long way in achieving the trade target," he said.

Ms. Leena Nair and Mr. G. Mohan Kumar, who preceded Mr. Srinivas as the head of MPEDA, Kerala State Industrial Development Corporation (KSIDC) Chairman Dr. Christy Fernandez and SEAI National President Mr. Jagdish V Fofandi and Mr. Alex K Ninan, President, SEAI Kerala region were among those who attended the addressed inaugural session.

In his presidential address, Mr. Fernandez said the traditional markets were going down, giving way to new markets due to change in the consumers' preferences. Innovation, investment and integration would be the way out to overcome the hurdles, he pointed out.

Mr. Fofandi said the sector was hit this year by natural calamities, particularly the primary producers in aquaculture. Ms. Nair observed that the sector was on a roll since 2008-09 when it achieved the export target of two billion US dollars, but now the figure stood at 6.8 billion dollars. Mr. Kumar pointed out that India accounted for only five per cent in the global seafood trade, but had the potential to dominate the export scene, overcoming tariff and non-tariff barriers and moving forward from shrimp-centric focus through diversification, including black tiger revolution.

Inauguration of the exhibition hall

Welcome address by Mr. K. S. Srinivas IAS, Chairman, MPEDA

Dignitaries on the dais

Releasing of IISS 2020 Souvenir

Mr. Arif Mohammad Khan, Hon'ble Governor of Kerala delivers the inaugural address

Dr. Christy Fernandez, Chairman, Kerala State Industrial Development Corporation (KSIDC) felicitates the IISS 2020

Mr. Jagdish V. Fofandi, National President, SEAI felicitates the IISS 2020

Mr. G. Mohan Kumar IAS (Retd), former MPEDA Chairman felicitates the IISS 2020

Ms. Leena Nair IAS (Retd), former MPEDA Chairman felicitates the IISS 2020

Mr. Alex Ninan, President, SEAI (Kerala Region) felicitates the IISS 2020

Audience in the inaugural session of IISS 2020

Mr. Som Parkash, Union Minister of State for Commerce and Industry addressing the audience

Mrs. Mercykutty Amma, Kerala Fisheries Minister felicitates the IISS 2020

Mr. Hibi Eden, Member of Parliament felicitates the IISS 2020

Mr. T. K. A. Nair IAS (Retd), former MPEDA Chairman felicitates the IISS 2020

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Mr. Som Parkash, Union Minister of State for Commerce and Industry inaugurates the MPEDA Export Award function

Union Minister of State for Commerce and Industry Mr. Som Parkash, who addressed the summit on the second day (Feb 8), assured that the Central government would help the seafood sector in all possible ways to make India the number one exporter by "working together with a new vigour with all the stakeholders, including the state governments and the MPEDA."

Mr. Parkash said there was an urgent need to make India the prime producer of seafood, going up from the fourth position it was occupying now. Acknowledging that the sector was facing a plethora of problems in achieving the production and export targets without compromising on quality, he said the government was willing to address each one of them as this would contribute to the country's overall economic development and also improve employment opportunities. At present, the sector provides employment to about 14.5 million people.

"Whatever problems you have, the government is ready to address them," he assured the delegates and asked MPEDA to prepare and submit a memorandum, listing the sector's requirements.

Those who addressed the gathering on the second day included Kerala Fisheries Minister Mrs. J Mercykutty Amma; Mr. Hibi Eden, Member of Parliament; SEAI National President Mr. Jagdish V Fofandi; and former MPEDA Chairmen Mr. Jose Cyriac and Mr. T.K.A. Nair.

Mrs. Mercykutty Amma sought liberal financial assistance from the Centre for upgradation of the

fishing industry in Kerala, including for replacement of the kerosene engine with environment- friendly engines and for expansion of inland aquaculture. Mr. Eden said the new Department of Fisheries should work in tandem with the Union Commerce Ministry to help the sector overcome its unprecedented challenges.

Mr. Fofandi urged the Centre to send delegations, if necessary, to all those countries where the sector was facing export issues. He appealed to Hon'ble Prime Minister Mr. Narendra Modi to take up the issue with the European Union for the benefit of seafood exporters. The government should also ensure that the Chinese market remained open to India, particularly in view of the fact that the neighbouring country had become a net importer. He also made a plea for a relook at policy matters relating to primary producers and exports as the sector was working in a highly competitive environment. "There is need for placing the sector in the green zone, taking it from the brown zone, and upgrading the testing regime besides removal of regulations that result in the overlap of work by government agencies," he noted.

Mr. Cyriac commended the stakeholders for their role in achieving exponential growth of the sector. Shri Nair pointed out that Andhra Pradesh and a few other states had taken a march over Kerala in shrimp aquaculture and advised the producers to be extremely cautious on environmental issues.

IISS 2020 concluded with the MPEDA Chairman terming it as 'a milestone event' and 'a big success'. "Our seafood sector can improve with joint efforts of a handful of key ministries: Commerce, Fisheries, Environment and Health. This key point found highlight at IISS-2020, much to our pleasure," Mr. K. S. Srinivas said.

On the occasion, he also recalled that MPEDA had proposed to the Centre to renovate select 25 fishing harbours across the country. The plan is to start the Rs 2,500-crore project with upgradation and modernisation of the ones at Thoppumpady in Kochi and Nizampattanam in Andhra Pradesh. "We are readying a DPR (detailed project report) with Ernst and Young as the consultants. The document will be submitted next month. Once approved, we will form an SPV (special purpose vehicle) to implement the project."

MPEDA's Microbiology lab inaugurated

A prominent feature of the event was inauguration of the MPEDA's first state-of-the-art microbiology laboratory at Kochi, which will give a fillip to India's efforts to achieve the ambitious goal of taking the country's seafood exports to the next level by facilitating easy certification of marine products.

Union Minister of State for the Ministry of Food Processing Industries Mr. Rameswar Teli unveiled the laboratory and said it would help the seafood sector to overcome the stiff competition in the global export market, particularly on the quality front.

The laboratory can test all sorts of seafood at various stages, including during production and prior to export, to avoid the presence of any bacteria in seafood. It will ensure that the exporters are not faced with rejection of their products by any country on the grounds of sub-standard quality. The need for such a laboratory has become imperative because the USA, the European Union and other major seafood importers are tightening their quality norms to safeguard the health of their population.

MPEDA Secretary Mr. B .Sreekumar said the authority took just one year to set up the new lab from the conception stage. This microbiology laboratory would be in addition to the already existing Quality Control labs in Kochi (Kerala), Bhimavaram and Nellore (Andhra Pradesh) and Bhubaneswar (Odisha).

Inauguration of the Microbiology Lab at Kochi by
Mr. Rameswar Teli, Hon'ble Union Minister of State for the Ministry of Food Processing Industries

Launch of 'Shaphari' - Aquaculture Certification System

IISS-2020 saw the launch of MPEDA's 'Shaphari', the 'Antibiotic-free Certification' system for aquaculture, which guarantees quality shrimp Post-Larvae (PL) and authenticates their quality in the highly competitive international market. It is an end-to-end solution that enables MPEDA to audit the Post Larvae's shrimps offered by hatcheries across the country.

The Shaphari certification system, developed in association with digital identification solution provider Syntizen Technologies, will be of immense help in the context of top world bodies having identified a rapid evolution of drug-resistant bacteria called superbugs. As the WHO and the UN have identified the emergence of antibiotic-resistant bacteria strains as a high-priority public health concern, farmers in India will buy antibiotic-free Post Larvae from hatcheries certified by a governing body.

The entire certification process will be online in tune with the e-governance programme of the Central Government. There are various offshore certifications systems like MSC and BAP, but these are unaffordable to the small and marginal Indian farmers. The new initiative is intended to make the certification scheme affordable to all such aqua farmers in the country. It will enable aqua farmers to freely validate online that the Post Larvae offered by hatcheries across the country are antibiotic-free.It can significantly boost exports from the country as exporters will use the certification as a credible proof of document while trading globally. It involves a real-time, four-phase audit recording. The scheme is in conformity with the FAO guidelines on certification of aquaculture.

Stalls at IISS 2020

An attention-grabbing feature of the event was a range of products and technologies for value addition that were unveiled at the 330-odd stalls. These stalls showcased products based on automated and IT-aided pre-processing, processing and storage technologies. In addition, they provided an opening for service providers such as logistics and certifying/testing segments.

Particularly interesting were handy jars filled with Vannamei shrimp-feed for use at various stages of growth of the aquatic species. These feeds, developed by Andhra Pradesh's Devi Seafoods Ltd, are fortified with vitamins and minerals and scientifically formulated to meet the complete nutritional requirement of the shrimp. The product with "balanced amino acid profile" caters to shrimps at their five stages of growth before harvest in a lifespan of three months.

Seafood India, an MPEDA initiative, put up its stall that was a one-stop shop retailing export-quality seafood products from across the country. The facility sold ready-to-cook and ready-to-eat value-added products, developed by prominent fisheries research institutions such as CMFRI, CIFT and NIFPHATT.

Chennai Mettex Lab displayed equipments that are used for testing of feeds, agri products and water. The company tests fishery products and does microbiological testing, final production inspection and container inspection.

For storage solutions, Godrej displayed pallet racking products such as 'Selective Double Deep' and 'Shuttle'. The racks carry products that need to be frozen. OctoFrost, a Swedish group that has an India office in Faridabad (Haryana), displayed quick-frozen food-processing lines that included tunnel freezers, impingement flash chillers, IF cookers and IF blanchers. Push Engineering, based near Pune in Maharashtra, showcased factory-assembled skid-mounted ice plant units that reduce not only the commissioning time at sites but also installation space requirements.

Mahadev Enterprise from Varaval in Gujarat displayed a range of outfits that suit working conditions in marine food factories. These included T-shirts, coats, salwar-kurta, caps, aprons, gumboots, shoes, gloves, masks and ear-strips.

Manjushree Group, based near Hyderabad, displayed products that cater to the market needs for flexible packaging. JISL of Mumbai displayed industrial weighing scales with multipurpose applications and label printers for final packing or shipping of products. Triton Trading Corporation, which has an office in suburban Kochi's Vennala, put up a stall to display its expertise in importing, exporting, manufacturing and distributing of food additives for local as well as international food suppliers.

Glimpses of IISS -2020

















Glimpses of IISS -2020










Technical Sessions

On all the three days of its duration, IISS 2020 brainstormed on a range of issues that are critical for sustenance and growth of seafood industry. Attended by industry stakeholders, policymakers and other experts, it provided an interactive platform for them to deliberate on matters like prospective markets & regulatory environment; live shrimp transportation; FDA regulations for seafood; energising blue revolution through sustainable fishing; prospects of Indian tuna in overseas markets; and Exporting sustainable seafood to North America & Europe in 2020. Internationally acclaimed experts from France, Singapore, the UK, USA, Japan, the Netherlands, Germany and Fiji besides India addressed these sessions. In addition, business presentations were made by DANFOSS Industries (P) Ltd and TCS.

During the session on 'prospective markets & regulatory environment', experts noted that China continues to be an important market for seafood import with its increasing presence of upper and middle classes who are keen on healthy food. Carson Roper, Seafood Industry Consultant, France, in his talk on 'China and Farm-Raised Shrimp', said the East Asian country is a major marine products market that remains largely untapped. Projections say that China will continue to feature among the world's top 11 seafood markets, he observed.

The marine food industry, though, must wake up to the fact that 'new retail' is the trend that is fast replacing 'online', where Chinese e-commerce giant Alibaba is building a retail ecosystem that innovatively blends online and offline channels in a unified way with the consumer at the centre. However, one should be wary of overreliance on China as a partner in seafood trade, the speakers pointed out.

Another session focused on 'tuna export value chain - better harvest practices' Mr Roper started the session with a presentation on 'country and brand loyalty: An exploration of successful (and not successful) national and corporate seafood marketing initiatives'. The other speakers at the session were Dr Lee Chee Wee of Singapore's Aquaculture Innovation Center (on 'live shrimp transportation'), Mr. Christopher Priddy, International Relations Specialist, USFDA, India ('overview of FDA regulations for seafood'), and Mr. R.M. Mandlik, Deputy Director-Marketing, MPEDA ('Importing country regulations and its impact on trade'). The session was moderated by Dr. C.N. Ravisankar, Director of Central Institute of Fisheries.

Mr. Mandlik spoke at length on how MPEDA ensures flow of seafood standard regulations to the country's aqua farmers. "The mechanisms on information dissemination are in place. The farmers do get the message well in time; only that we need to give them a push to act on it. We are working on it."

There was also a session on 'certification, traceability & value addition', which highlighted Andhra Pradesh's capacity to remain India's seafood capital.

Dr. C. N. Ravishankar, Director, ICAR-Central Institute of Fisheries Technology (CIFT) , Kochi

Mr. Carson Roper, Independent Consultant, France

Dr. Lee Chee Wee, Aquaculture Innovation Center, Singapore

Mr. Christopher Priddy, International Relations Specialist, USFDA, India

Mr. Raju Mandlik, Deputy Director, EIC, New Delhi

Prof. A. Ramachandran, Vice Chancellor, Kerala University of Fisheries and Ocean Studies , Kochi

Ms. Wendy Nordan, Director, Seafood Watch Science, USA

Mr. Kazuhiko Utsumi, Japan Fisheries Association, Tokyo, Japan

Mr. Marcelo Hidalgo, Standard Coordinator, The Netherlands

Dr. Renjith Susheelan, India Consultant, Marine Stewardship Council, London, United Kingdom

Mr. Udo Censkowsky, Blue Sensus, Germany

Dr. Praveen Puthran, Assistant Director General (Marine Fisheries), Indian Council of Agricultural Research, New Delhi

Mr. Shaji Mathew, Jude Foods India Pvt Ltd, Kanya Kumari, India

Mr. Satheesh Kshirasagar, Chief Executive Officer, Tripacific Marine Limited Tri Pacific, Fiji

Mr. P. Sridharan, M/s. Lakshmikumaran & Sridharan, Chennai

Mr. R. Srinivasan, M/s. Lakshmikumaran & Sridharan, Chennai


Mr. Satish Kshirasagar
Dr. Pravin Putra

IISS to Hold its 23rd Summit at Kolkata in 2022

The next session of IISS will be held at Kolkata in 2022. The biennial event is aimed at showcasing the latest technological interventions in aquaculture and deliberating on matters that can give a fillip to the country's marine products sector.

Awards

In a bid to recognise the achievements of exporters, the MPEDA has recently instituted The MPEDA Chairman's Award for Most Responsible Exporter of the Year. For the year 2018-19, it was presented to M/s. Gadre Marine Export Pvt. Ltd.,Ratnagiri, Maharashtra. The Lifetime Achievement Award, another new initiative, was bestowed upon Mr.Abraham J Tharakan, Chairman and Managing Director of Kerala's Amalgam Group.

Union Minister of State for Commerce and Industry Mr. Som Parkash and Kerala Fisheries Minister Mrs. J. Mercykutty Amma gave away MPEDA Awards to 60 companies and individuals for their excellent performance.

LIST OF AWARDEES FOR THE YEAR 2017-18

Category	Position	Awardee
I. Overall Exports		
(A) Value wise	1st	Devi Seafoods Ltd., Andhra Pradesh
	2nd	Nekkanti Seafoods Ltd., Andhra Pradesh
(B) Quantity wise	1st	Mukka Seafood Industries Ltd, Karnataka
	2nd	Ulka Seafoods Pvt. Ltd., Maharashtra
II. Commodity Wise		
(A) Frozen Shrimp	1st	Devi Seafoods Ltd., Andhra Pradesh
	2nd	Nekkanti Seafoods Ltd., Andhra Pradesh
(B) Frozen Cephalopods	1st	Profand Vayalat Marine Exports Pvt. Ltd., Kerala
	2nd	Silver Seafood, Gujarat
(C) Frozen Fin Fish	1st	Sun Exports, Gujarat
	2nd	Silver Seafood, Gujarat
(D) Chilled Marine Products	1st	Aqua World Exports Pvt. Ltd., Tamil Nadu
	2nd	Gold Marine Exports Pvt. Ltd., Tamil Nadu
(E) Dried Marine Products		
(i) Dried Marine Products other than Fish Meal, Fish Oil and Allied products	1st	Sanrhy Exim Pvt. Ltd., West Bengal
	2nd	Kolkata Marine Products Pvt. Ltd., West Bengal
(ii) Fish Meal, Fish Oil and Allied Products	1st	United Marine Products, Karnataka
	2nd	Mukka Seafood Industries Ltd, Karnataka
(F) Molluscs Other Than Cephalopods	1st	Seaboy Fisheries Pvt. Ltd., Kerala
	2nd	Capithan Exporting Co., Kerala
(G) Frozen Surimi	1st	Ulka Seafoods Pvt. Ltd., Maharashtra

	2nd	Amarsagar Seafoods Pvt. Ltd., Gujarat
III. Live Marine Products Other Than Aquarium Fish	1st	S A T Marine Export, Tamil Nadu
	2nd	Cresent Seafoods, Tamil Nadu
IV. Aquarium Fish	1st	Malabar Tropicals, West Bengal
	2nd	Aqualine Exports, Kerala
V. Special Efforts		
(A) Value Added Products	1st	Accelerated Freeze Drying Co. Ltd., Kerala
	2nd	HIC-ABF Special Foods Pvt. Ltd., Kerala
(B) New Product	1st	Andhra Medi Pharma India Pvt. Ltd, Andhra Pradesh – Item Glucosamine
(D) Woman Entrepreneur	1st	Ifaawin Marine Export India Pvt. Ltd., Tamil Nadu

LIST OF AWARDEES FOR THE YEAR 2018-19

Category	Position	Awardee
I. Overall Exports		
(A) Value wise	1st	Falcon Marine Exports Ltd., Odisha
	2nd	Devi Sea Foods Ltd., Andhra Pradesh
(B) Quantity wise	1st	Gadre Marine Export Pvt. Ltd., Maharashtra
	2nd	Mukka Seafood Industries Ltd, Karnataka
II. Commodity Wise		
(A) Frozen Shrimp	1st	Falcon Marine Exports Ltd., Odisha
	2nd	Devi Sea Foods Ltd., Andhra Pradesh
(B) Frozen Cephalopods	1st	Profand Vayalat Marine Exports Pvt. Ltd., Kerala
	2nd	Amulya Seafoods, Tamil Nadu
(C) Frozen Fin Fish	1st	Sun Exports, Gujarat
	2nd	St. Peter & Paul Seafood Exports Pvt. Ltd., Tamil Nadu
(D) Chilled Marine Products	1st	Aqua World Exports Pvt. Ltd., Tamil Nadu
	2nd	Gold Marine Exports Pvt. Ltd., Tamil Nadu
(E) Dried Marine Products		
(i) Dried Marine Products other than Fish Meal, Fish Oil and Allied products	1st	Kolkata Marine Products Pvt. Ltd., West Bengal
	2nd	K M C Enterprise, Maharashtra
(ii) Fish Meal, Fish Oil and Allied Products	1st	Mukka Sea Food Industries Ltd., Karnataka
	2nd	United Marine Products, Karnataka
(F) Molluscs Other Than Cephalopods	1st	Seaboy Fisheries Pvt. Ltd., Kerala
	2nd	AvlaNettos Exports, Kerala

(G) Frozen Surimi	1st	Gadre Marine Export Pvt. Ltd., Maharashtra
	2nd	Ulka Seafoods Pvt. Ltd., Maharashtra
III. Live Marine Products Other Than Aquarium Fish	1st	Puja Export House, West Bengal
	2nd	Scanet Trading Pvt. Ltd., Tamil Nadu
IV. Aquarium Fish	1st	Malabar Tropicals, West Bengal
	2nd	Aqualine Exports, Kerala
V. Special Efforts		
(A) Value Added Products	1st	Gadre Marine Export Pvt. Ltd., Maharashtra
	2nd	Accelerated Freeze Drying Co. Ltd., Kerala
(C) New Market	1st	BlueFin Frozen Foods Pvt. Ltd, Maharashtra - Country :Jamaica
(D) Woman Entrepreneur	1st	Vasai Frozen Foods, Maharashtra
VI. Chairman's special award for the most Responsible Exporter of the year	1st	Gadre Marine Export Pvt. Ltd., Maharashtra
VII. Life Time Achievement Award	1st	Mr. Abraham J Tharakan, Chairman & Managing Director, Amalgam Group

Glimpses of MPEDA export award distribution

Glimpses of MPEDA export award distribution

Glimpses of MPEDA export award distribution

M/s. Gadre Marine Export P. Ltd., Ratnagiri receiving Chairman's special award for the most Responsible Exporter of the year

Mr. Abraham J. Tharakan, Chairman & MD, Amalgam Group receives MPEDA Life Time Achievement Award

MPEDA Chairman inaugurates 'Marine Shippers Meet 2020'

Inauguration of the Marine Shippers Meet

Panel Discussion during the Marine Shippers Meet

The third edition of the 'Marine Shippers Meet 2020' of GMR Hyderabad Air Cargo was inaugurated by MPEDA Chairman Mr. K. S. Srinivas IAS on January 24, 2020, at Vizag.

The objective of the Meet was to create an ideal platform for marine exporters & importers, hatcheries, airlines, airports and logistics service providers to share and receive trade insights including expectations, challenges and opportunities.

A panel discussion was held at the Meet. The members of the panel were Mr. Saurabh Kumar, CEO, GMR Cargo, Mr. Sanjeev Gupta, CEO, Spicejet Cargo, Mr. K S Srinivas, Chairman, MPEDA, Dr. R. Raghu Prakash, Principal Scientist & Scientist-In-Charge, CIFT, Dr. I. Ismail—MD. AAA Sea Foods & State Secretary, Tamil Nadu Fishermen Congress, Mr. Pawan Kumar, Secretary, Seafood Exporters Association, Mr. Praveen Kumar, Head Cargo Sales & Services, Hyderabad and Mr. Phani Prakash, Joint Director, State Fisheries Department.

Welcome speech was given by Ms. Parul Kulshreshtha, Head, Business Development, GMR Cargo. Mr. Saurabh Kumar, CEO, GMR Cargo started the panel discussion by welcoming all the delegates and presenting an overview of the Hyderabad Air Cargo Terminal and its expansion plans. He also unveiled the futuristic plan of the new cargo terminal with an exclusive perishable terminal earmarked specifically for the handling of the marine products.

Mr. Sanjeev Gupta, CEO, Spicejet Cargo announced the starting of a dedicated domestic cargo freighter for the movement of shrimps produced from the coastal areas of Andhra Pradesh. The freighter will operate along Hyderabad-Visakhapatanam-Kolkatta & Hyderabad-Visakhapatanam-Surat on alternate days. He also noted that it is the first time in the history of domestic air cargo wherein an airline is starting a dedicated freighter for a specific commodity for a defined period of time.

MPEDA Chairman Mr. K. S. Srinivas IAS explained the current market of the marine products in India, particularly in Andhra Pradesh. He also discussed the plans to facilitate trade by providing MPEDA-approved pack houses and other facilities. He stressed on better utilisation of the resources so that the marine products do not lose its freshness and quality. MPEDA Chairman also made a presentation on Seafood Exports through Airports and on the action required to increase the live/ chilled fish exports from India.

Dr. R. Raghu Prakash, Principal Scientist & Scientist-In-Charge, CIFT shared his view on the adaption of scientific methods in the entire process of marine processing, particularly in packaging. He also suggested an MoU be signed between CIFT and airports, pack houses etc which, according to him, will benefit the trade in the long-term.

MPEDA Chairman Mr. K. S. Srinivas IAS delivering the inaugural address at Marine Shippers Meet

Appreciating the facilities at the Hyderabad airport, Dr. I. Ismail, MD, AAA Sea Foods & State Secretary, Tamil Nadu Fishermen Congress, said he will start exports from Hyderabad Airport and very soon, half of his total exports will be from Hyderabad.

Mr. Pawan Kumar, Secretary, Seafood Exporters Association, discussed the current challenges faced by the exporters. He called for a cumulative effort by all regulatory bodies to facilitate the exports of marine products.Mr. Praveen Kumar, Head Cargo Sales & Service, Thai Airways, Hyderabad said that to promote the export of marine products, exporters need to commit a certain fixed volume.

Mr. Phani Prakash, Joint Director, State Fisheries Department, said the state of Andhra Pradesh is providing all necessary facilities to promote export of marine products. All infrastructure and policy-related issues are being addressed by the state on top priority. Mr. Saurabh Kumar, CEO GMR Cargo, delivered the vote of thanks.

Delegates at the Marine Shippers Meet

Meeting held with stakeholders & investors during Bengal Fish Fest, 2020

Conference on Challenges and Opportunities in Brackish water sector

The Department of Fisheries, Government of West Bengal, organised the 5th Bengal Fish Fest 2020, jointly with Indian Chamber of Commerce at Nalban Food Park, Salt Lake, Kolkata from January 10 to 12, 2020.

The objective of the Fest was to explore domestic and international market linkages, investments with the promotion of new and advanced technologies and knowledge dissemination to all the key stakeholders in the Fisheries and Marine sectors of West Bengal.

Mr. Archiman Lahiri, Dy. Director from MPEDA, Regional Division, Kolkata attended the conference on Challenges and Opportunities in Brackish water sector and Investors Conference.

Each Conference was attended by 45-50 farmers/ investors. During the conference on Challenges and Opportunities in Brackish water sector, a presentation on Export Issues on Shrimp- Regulations and Need was made. And during the Investors Conference, a presentation was made on Marine Export Potential and Investment Opportunities in West Bengal.

Three-day Bengal Fish Fest 2020 held at Kolkata

The fifth edition of the 'Bengal fish Fest 2020' was held at Nalban Food Park, Salt Lake, Kolkata from January 10 to 12, 2020. The Fest was jointly organized by the Department of Fisheries, Government of West Bengal, and the Indian Chamber of Commerce with an aim to explore domestic and international market linkages, investments with the promotion of new and advanced technologies and knowledge dissemination to all the key stake holders in the Fisheries and Marine sectors of West Bengal.

The Fest was inaugurated on January 10. The welcome address was delivered by Dr. S. Kishore, IAS Addl. Chief Secretary, Department of Fisheries, Government of West Bengal. Dr. Rajeev Singh, Director General, Indian Chamber of Commerce and Mr. Pradip Majumdar, Advisor to Hon'ble Chief Minister of West Bengal (Agriculture & Allied Sector) also spoke on the occasion. Chief Guests of Honour were Mrs. Krishna Chakraborty, Hon'ble Mayor, Bidhannagar Municipal Corporation, Mr. Sujit Bose, Hon'ble Minister of State (I/C), Dept. of Fire & Emergency Services, Government of West Bengal and Mr. Biman Bandyopadhyay, Hon'ble Speaker, West Bengal Legislative Assembly. The function was presided over by Mr. Chandra Nath Sinha, Hon'ble Minister, Department of Fisheries, Government of West Bengal. Vote of thanks was delivered by Mrs. Esha Sengupta, Director, Department of Fisheries, Government of West Bengal.

The event was attended by representatives of companies & business houses / Fisheries University & Institutes/ Fisher-Fishermen /stakeholders and the public. Fish farmers / Fishermen Co-op Societies / CFCS etc were felicitated and awarded for the outstanding performance during the year 2017.

MPEDA at Bengal Fish Fest 2020

View of MPEDA stall at BFF 2020

Mr. Archiman Lahiri, Deputy Director and Mr. Johnson D' Cruz in discussion with farmers

MPEDA participation in the Bengal Fish Fest attracted special attention. BMP on culture practices, diversification in aquaculture, value addition in seafood were the main themes of the stall put up by MPEDA with video display of films. Canvassing for the 'India International Seafood Show 2020' held at Kochi from 7-8 February was also successfully carried out at the Fest venue.

MPEDA publication and chart were displayed for the visitors for sale and reference. Around 80 serious interactions were held during the three days of the event, apart from other visitors and students.

MPEDA Chairman visits Kakinada fishing harbour

Kakinada Harbour visit by MPEDA Chairman Mr. K. S. Srinivas IAS

Mr. K. S. Srinivas IAS, Chairman, MPEDA visited Kakinada Fishing Harbour on 25th January 2020 to monitor the hygienic handling of the catch by the fishermen and the development of the infrastructure facilities. The Director, Kakinada Port, Joint Director, Fisheries, AD Fisheries, FDO, NETFISH - HDC and MPEDA Officials accompanied the Chairman during the visit.

Kakinada Port Director briefed the Chairman about the fishing harbour requirements. The Chairman asked the Director to list out the requirements for improving the facilities and hygienic standards at Harbour and intimate the same to MPEDA for further action. He also urged the State Fisheries Officials to improve the catch reporting system. He also appreciated NETFISH for their efforts towards implementation of the daily catch reporting system.

Microplastics: An Emerging Threat to Seafood

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Introduction

Since the development of commercially viable plastics in the 1950's, the plastics became increasingly important packaging material worldwide because of its versatility, high strength, lightweight, durability and low cost. Due to its multi-utility, social benefits and ease of production, plastics have integrated seamlessly into our everyday lives and now it has become unavoidable. Since its introduction as packaging material, plastics production has increased by approximately 8.7% annually, now evolving into a 600 billion US dollar global industry. In 1950 the world produced only 2 million tons of plastic. Since then annual production has increased nearly 200-fold, reaching 381 million tons in 2018. In 2017, the total amount of plastic produced was 8.3 billion tons.6.3 billion had turned into plastic waste. Only 9 per cent of that waste was recycled and 12 per cent was incinerated. And 79 per cent ended up in landfills or the environment (Plastics Europe, 2019). According to researchers since the early 1950s around 8.3 billion tons of plastic have been created by humans. Due to their continuous discharge in the marine environment for decades these plastics are ubiquitous in the marine environment and are omnipresent from seashore to open sea and sea surface to sea bottom thus became an environmental hazard and are under increasing environmental scrutiny. By 2050, plastic will equal and likely surpass fish stocks in certain oceans by weight (Moore et al., 2001).

Microplastics in the Marine Environment - Trending Global Environmental Issue

Larger plastic particles which ultimately reaches oceans in due course of time degrades into smaller micro and nano plastics because of photo-oxidation due to sunlight, wave abrasion due to water waves physical stress. Microplastics are defined as plastic materials or fragments of length 1μm to 5000 μm (5 mm), are most likely the most numerically abundant plastic debris items in the ocean today. In 2014, the estimated number of floating plastic particles in the world's oceans was 5.25 trillion, out of which 4.85 trillion particles were microplastics (GESAMP, 2019). Microplastics are being classified as primary and secondary microplastics. Primary microplastics are those engineered plastic particles which are manufactured as microbeads, capsules, fibres or pellets and are used in the manufacture of several cosmetic products, paints etc. and the plastics materials which due to several biological, chemical and physical processes disintegrate to smaller plastic fragments in course of time are known as secondary microplastics.

Bioaccumulation and Biomagnification of Microplastics in Aquatic Organisms and Humans

Microplastics are a major cause of concern because their size range mimics the prey size ingested by many aquatic organisms. Majority aquatic organisms, including zooplankton, invertebrates, fish, bivalves, birds, cetaceans, and larger mammals incidentally consume MPs from sediment or the water column, mistaking them as food. These plastics are eaten by lower-tropic-level organisms such as mussels, oysters or copepods, small fishes, then biomagnified to animals at higher tropic levels which feed on them. Obviously, humans are exposed to microplastics through the consumption of the species of commercial importance for fisheries and aquaculture. About 690 marine species are known to encounter marine litter

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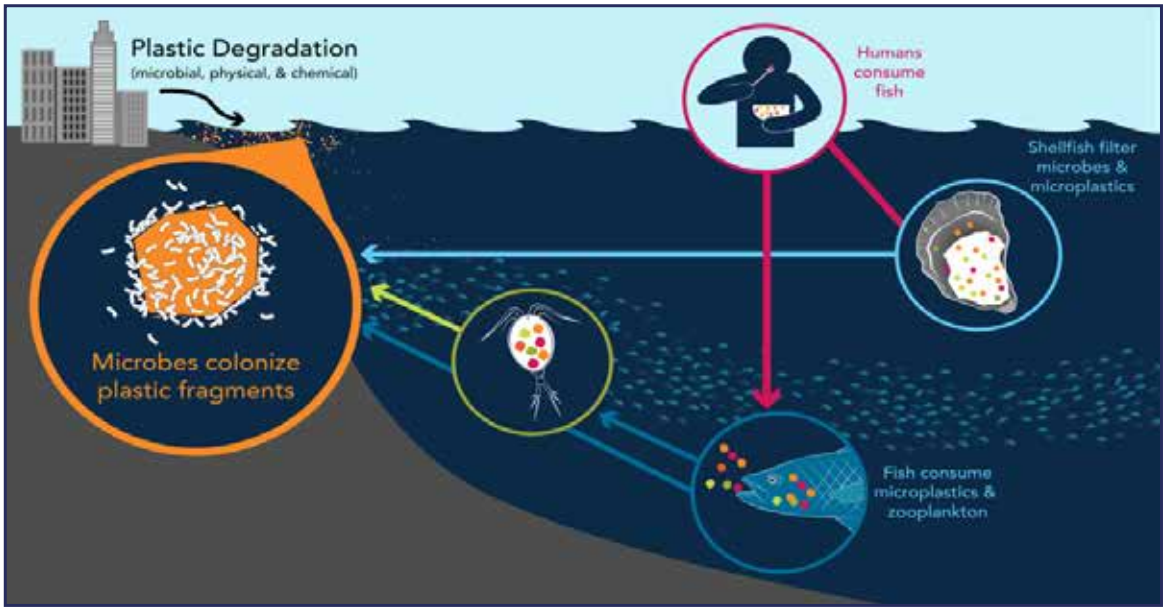
and microplastics. Plastics contain a variety of chemical additives including fillers, plasticizers, flame retardants, UV and thermal stabilizers, pigments and antimicrobial agents which are introduced during the manufacturing process to achieve the desired performance and appearance criteria which on disintegration may pose several health impacts as it can alter the hormonal balance of the living organism and the additive PCBs is a carcinogenic compound. The physical and chemical properties of microplastics facilitate the sorption of contaminants to the particle surface, serving as a vector of contaminants to organisms following ingestion and pose potential health effects. Many recent research studies on Indian beaches, coastal waters and in commercially available finfish and shellfish (especially shrimp and bivalves) revealed the occurrence of microplastics. Recent research reveals that globally on an average each human is ingesting 5 grams of plastic every week, the equivalent of a credit card in the form of microplastics (reported by University of Newcastle, Australia, 2019). Various studies have confirmed the presence of microplastics in a broad range of marine organisms (Gambardella et al., 2017). The ingestion of these microplastics can be extremely hazardous to organisms, as they can cause blockages in the digestive tract, oxidative and pathological stress, inhibit growth rate and reproductive disorders. From the available studies, microplastics have been observed in the gastro-intestinal tract in 11 out of the 20 most important species and genera of finfish that contribute to global marine fisheries (FAO, 2016) and in shrimps and lobsters of coastal waters of Europe (Devriese et al., 2015).

Microplastics in Commercially Important Seafood Items

The ubiquitous spread of microplastics in Indian marine waters results in inevitable interaction with a lot of commercially significant organisms like shrimp, bivalves, predatory fishes, etc. Among these organisms bivalves are excellent filter feeders and are of particular interest because their extensive filter-feeding activity exposes them directly to microplastics present in the water column. Incidence of microplastics accumulation in bivalves is 27 times higher than fish and approximately filter 24 litres per day and accumulate these micro-plastics in their gut (Claessens et al., 2013). Thus they can be used as bioindicators for plastic pollution status of that region. Certain commercially important bivalves and gastropods such as green mussel (Perna viridis), Yellow clam (Meritrix casta) etc. are reported to contain microplastics from certain coasts. Commercially consumed bivalves from Chinese waters are estimated to contain 2.1 to 10.5 items/gram (Jiana Li et al., 2016), bivalves from European waters of France, Germany, Belgium, Norway are estimated to contain an average of 0.5 - 1 items/gram (Van Cauwenberghe et al., 2014). Such a situation will prompt stricter regulations from different markets.

Implications For Human Health, Food Security and Indian International Trade

Nearly 70% of Indian exports earnings obtained from the USA, Japan and Southeast Asian countries for the year 2017-18 (MPEDA 2019). Recently the USA has banned Indian wild-caught shrimp and it could cost Indian fishermen a whopping amount of USD 300 million. Now microplastics have gained increased attention from regulatory bodies of different countries over the past few years as they may cause reduced body growth, intestinal damage, physiological or oxidative stress, inflammation, effects on the immune system, hormonal dysregulation, aberrant development, cell death, general toxicity and altered lipid metabolism in humans. Some jurisdictions like California have passed laws related to microplastics requiring state regulators to develop standards and incorporate them into regulations. Fish (finfish and shellfish) and its products are major important products among Indian agricultural exports earning US$ 6.3 million (45,106.89 crore INR) in 2017-18. Seafood composes 10% of the total exports of India and nearly 20% of all agricultural exports and India has approximately 20-22% of the world shrimp trade. As microplastics became a global environmental concern and now as it's under continuous global scrutiny. Considering the deleterious health effects caused by microplastics due to the chemical additives added to them, toxic chemicals sorbed to their surface and harmful pathogens attached to them in near future many countries may categorize it as a food hazard associated with fish/shellfish and may include it in mandatory fish product quality and safety standards.



Biomagnification of microplastics in the marine environment

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MPEDA Receives CSI SIG e-Governance Award

The Marine Products Exports Development Authority received the CSI SIG e-Governance Award 2019 for the 'Online Pre-Harvest Test System' under Projects-Sustenance category.

The award has given MPEDA an opportunity to showcase its e-Governance journey and the impact of ICT interventions contributing to the nation's economy and benefiting the stakeholders.

Aquaculture shrimp is the major export item from India contributing nearly US$2.5 billion. The aqua farms producing shrimp for export are mandated to be enrolled with MPEDA and other agencies by the competent authority.

The aqua farms details are collected through a series of campaigns in the farming clusters by the representatives of MPEDA. The information collected is digitized into several attributes of aqua farms database. The data entry started in December 2012. The database covers basic information related to farm, farmer and the geographical coordinates of the farm. Each farm requested for enrolment is physically verified to obtain Geo Spatial information through capturing co-ordinates of the aqua farm with the help of a GPS instrument and capturing other requisite information by the representative of MPEDA.

Each application for enrolment is given an acknowledgment number, a copy of which is available with the farmer and is recognized by a unique identification number of 8 characters. The GIS data is processed in a sophisticated GIS software (ArcGIS) to arrive at the unique GIS reference - the centroid of the farm recognized by its latitude and longitude.

More than 70,000 applications are received by MPEDA for enrolment purposes, of which 52,500 have been physically verified and a unique GIS reference is recorded for more than 45000 farms. MPEDA started issuing Enrolment cards to the Farmers for the farms for which GIS reference are recorded and as of now around 33417 enrolment cards are issued to the Aqua Farmers based on the status of ownership of the farm. The farm enrolment is a continuous process and database is a multipurpose database.

The boundary coordinates (waypoints) of the farms are collected with the help of a GPS instrument and polygons are also created using GIS software (ArcGIS). Now all the spatial data is being mapped onto bharatmaps.gov.in, the Multi-Layer GIS Platform named "Bharat Maps", which is an end to end geo-spatial electronics delivery systems as part of Mission Mode Projects in the national e-Governance domain.

MPEDA Officers receiving the award from Mr. Tusharkanti Behera, Hon'ble Minister of State Electronics & IT, Sports & Youth Services, Govt. of Odisha during the award ceremony at Kalinga Institute of Industrial Technology, Bhubaneswar

The data of one district in Andhra Pradesh is given to the team to map it in Bharat Maps, they agreed to provide an interface to MPEDA to manage the data in Bharat Maps.

As part of the guarantees provided by Govt. of India to leading importing countries/markets, aquaculture shrimp exported to the EU should have a PHT certificate. A sample of shrimps is collected before the harvest is done and tested for residues of any antibiotics which are banned. The manual system of pre-harvest test was in operation since April 2009 till March 2013. The whole process of request for a sample, sample collection, testing in the lab, further testing in high-end labs, generation of certificates, printing of certificates, verifying the authenticity of certificates, verification of sample collectors' visit to the farm, identification of farm by the sample collector, etc. were incorporated in the PHT system which relied on the farm enrolment database.

The online database is the backbone of Pre-Harvest Test system which evolved as a mandatory requirement for exports of aquaculture products to the European Union. At present, 11 ELISA Screening laboratories are functioning across the country where aquaculture farm produce aimed for exports are tested for the presence of banned anti-biotic residues like Nitrofuran metabolites and Chloramphenicol and Pre-harvest test certificates are issued. The on-line Pre-Harvest Certificate system started on 15th April 2013. An exhaustive set of reports for monitoring of the PHT system, operation and maintenance of the labs/chemicals, employee work assessment, production-related reports etc, are generated.

The application is now enhanced with the additional feature of Farmer login and digitally signed PHT Certificate. The farmer can log in to the system using their Farm ID and OTP received in the registered mobile. The farmer can submit a request for sample collection by giving harvest details (Harvest period, approximate production, species, size of the shrimp etc) for getting Pre Harvest Test (PHT) certificate. The farmer can pay the required fee online using the payment gateway. Sample Request status and Certificate status are available in the Farmer login. The digitally signed PHT certificate is generated in the system and the farmer can download the certificate. The Exporters use the PHT certificates for getting Health Certificates from EIC (Export Inspection Council) for export purpose. Hence the new enhancements will be hosted after linking it with EIC system for issuing Health Certificates.

Highlights of Marine Fish Landings in Selected Harbours of India during December 2019

Afsal V.V., N.F. Neethu and Joice V. Thomas, NETFISH-MPEDA

To facilitate the Catch Certification Scheme of MPEDA, data on boat arrivals and marine fish landings at major harbours of India are collected daily through the Harbour Data Collectors appointed through NETFISH. The information gathered also helps to understand the trend of marine landings of the country which can be useful in fishery resources management.

This report presents the major highlights on the fish landings and boat arrivals reported during December 2019.

Data Collection & Analysis

Fish landings and Boat arrivals at the 97 selected harbours across the 9 maritime states of India (see Table 1) were obtained on a day-to-day basis. The name, registration number and type of fishing vessels arrived as well as the approximate quantity of major fishery items landed at the harbour were recorded through primary and secondary sources. The data is further analysed using online applications and MS office (Excel) tools to arrive at species-wise, region-wise, state-wise and harbour-wise estimations.

Table 1. List of landing sites selected for data collection

Sl. No.	State	Harbour
1	Gujarat	Jafrabad
2		Veraval
3		Mangrol
4		Ghoghla
5		Kotada
6		Sutrapada
7		Vanakbara
8		Dwarka Rupen
9		Dholai
10		Umargam
11		Chorwad
12		Porbandar
13	Maharashtra	Alibagh Koliwada
14		Arnala
15		Vasai
16		Dahanu
17		Harne
18		Malvan
19		New Ferry Wharf
20		Onni Bhatti Dabhol
21		Ratnagiri
22		Sakharinate
23		Sasoon Dock
24		Satpati
25		Taramumbri Devgad
26		Uttan
27		Versova
28	Goa	Cutbona

29		Malim
30		Vasco
31		Chapora
32	Karnataka	Amdalli
33		Belekeri
34		Bhatkal
35		Gangolli
36		Honnavar
37		Karwar
38		Malpe
39		Tadri
40	Kerala	Koyilandi
41		Cheruvathur
42		Mopla Bay
43		Azheekkal
44		Thangassery
45		Vaadi
46		Neendakara
47		Chellanam
48		Ponnani
49		Chettuva
50		Vypin
51		Munambam
52		Thoppumpady
53		Puthiyappa
54		Beypore
55		Kayamkulam
56		Thottappally
57		Vizhinjam
58		Sakthikulangara
59	Tamil Nadu	Chennai
60		Chinnamuttom
61		Colachel
62		Cuddalore
63		Karaikal
64		Kodiyakarai
65		Kottaipatnam
66		Mallipatnam
67		Mandapam
68		Mudasalodai
69		Nagapattinam
70		Pamban
71		Pazhayar
72		Pondicherry
73		Poompuhar
74		Pulicat
75		Rameswaram
76		Tharuvaikulam
77		Thengaipattinam
78		Tuticorin
79	Andhra Pradesh	Kakinada
80		Machilipatnam
81		Nizampatnam
82		Pudimadaka
83		Visakhapatnam
84		Vodarevu
85		Yanam
86	Odisha	Bahabalpur
87		Balramgadi
88		Balugaon
89		Dhamara
90		Paradeep
91	West Bengal	Deshapran
92		Fraser Ganj
93		Kakdwip
94		Namkhana
95		Raidighi
96		Sankarpur
97		Soula

Estimations on fish landings

A total of 94227.72 tons of landings of marine fishery resources was recorded from the selected landing sites during December 2019, which comprise of 37139.48 tons (39%) of Pelagic finfish resources, 27008.64 tons (29%) of Demersal finfishes and 30079.60 tons (32%) of shellfish resources (Fig.1).

The shellfish landing was composed of 16124.36 tons of molluscs (squid, cuttlefish, octopus) and 13955.24 tons of crustaceans (shrimps, crabs, lobsters).

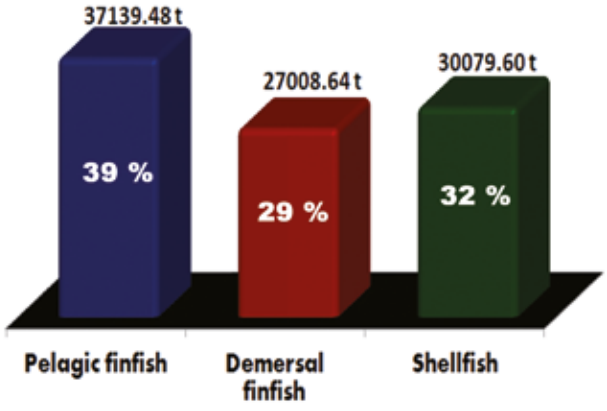

Fig. 1. Category-wise fish landings during December 2019

About 253 species of fishery items were reported landed at the harbours and the major contributors were Ribbon fish, Cuttlefish, Croaker, Squid and Japanese Threadfin bream (Fig. 2), which together formed 39% of the total catch. The other major landings were of Scads, Tunas, Bombay duck and Indian Mackerel, each item contributing more than 3000 tons.

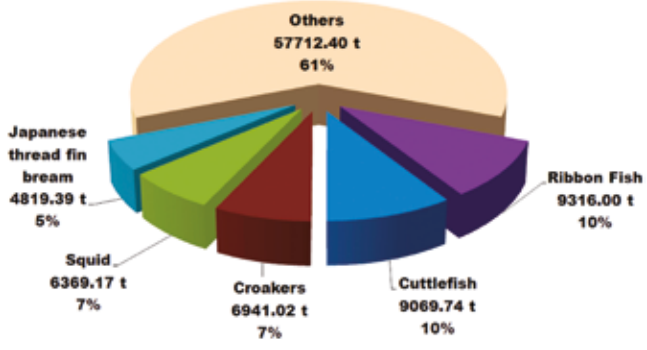

Fig. 2. Major fishery items landed during December 2019

Table 2 presents the quantity-wise catch of various categories of fishery items recorded during December 2019. Among the Pelagic finfish resources, Ribbon fish, Scads and Tunas were the major contributors whereas, among Demersal finfishes, the major contributors were Croakers and Japanese threadfin bream. Major items among Shellfishes were Cuttlefish, Squid and Coastal shrimps. The highest contributor among the coastal shrimps was the Karikkadi shrimp which registered a landing to the tune of 2946.50 tons.

Table 2. Category-wise landing of various fishery items during December 2019

Fishery item	Quantity in tons	% of total catch
Pelagic finfishes		
Ribbon Fish	9316.00	9.89
Scads	4448.29	4.72
Tunas	4189.01	4.45
Bombay Duck	3340.61	3.55
Indian Mackerel	3219.13	3.42
Anchovies	2899.56	3.08
Indian Oil Sardine	1874.23	1.99
Seerfish	1405.68	1.49
Lesser Sardines	1334.48	1.42
Shads	631.93	0.67
Sword Fish	521.80	0.55
Barracudas	510.18	0.54
Dolphin Fish	470.93	0.50
Sailfish	440.03	0.47
Herrings	436.06	0.46
Trevallies	336.91	0.36
Leatherjacket	314.21	0.33
Indian Salmon	290.70	0.31
Mullets	252.19	0.27
Marlins	197.43	0.21

Cobia	184.03	0.20
White Fish	181.91	0.19
Queenfish	140.39	0.15
Needlefish	59.00	0.06
Silver Biddy	52.74	0.06
Halfbeaks	24.94	0.03
Sillago	21.81	0.02
Pompano	11.73	0.01
Milk Fish	11.50	0.01
Flyingfish	8.86	0.01
Seabass	8.63	0.01
Indian Threadfish	2.33	0.00
Sweet Lip	1.18	0.00
Wahoo	0.71	0.00
Drift Fish	0.40	0.00
Total	**37139.48**	**39.41**
Demersal finfishes		
Croakers	6941.02	7.37
Japanese Thread Fin Bream	4819.39	5.11
Catfishes	2750.84	2.92
Lizardfish	2216.79	2.35
Pomfrets	1950.06	2.07
Sole Fishes	1856.23	1.97
Moon Fish	891.12	0.95
Reefcods	853.16	0.91
Bullseyes	778.50	0.83
Sharks	713.10	0.76
Triggerfishes	660.43	0.70
Thread Fin Breams	480.30	0.51
Goat Fishes	464.00	0.49
Ponyfishes	370.96	0.39
Eels	352.52	0.37
Rays	311.57	0.33
Threadfins	145.34	0.15
Emperors	130.10	0.14
Snappers	117.59	0.12
Spinefoots	72.92	0.08
Perch	48.65	0.05
Seabream	28.94	0.03
Flatfish	26.66	0.03
Groupers	12.84	0.01
Parrotfish	7.90	0.01
Rabbit Fish	5.22	0.01
Spade Fish	1.15	0.00
Sickle Fish	1.12	0.00
Surgeonfish	0.23	0.00
Total	**27008.41**	**28.66**
Shellfish		
Coastal Shrimps	9958.87	10.57
Cuttlefish	9069.74	9.63
Squid	6369.17	6.76
Sea Carb	2101.54	2.23
Deepsea Shrimp	1822.55	1.93
Octopus	680.22	0.72
Lobster	38.47	0.04
Mud Crab	33.80	0.04
Whelk	5.22	0.01
Total	**30079.60**	**31.92**
Grand Total	**94227.72**	**100.00**

Region-wise landings

The maximum quantity of fish landings was reported from the North West coast, where a total of 53618.17 tons (57% of total catch) was landed at the selected harbours of Maharashtra & Gujarat. The South West coast comprising Kerala, Karnataka and Goa had contributed 17065.36 tons (18%) to the total catch. In South-East coast, landings recorded from the selected harbours in Tamil Nadu & Andhra Pradesh totalled 12863.64 tons (14%) whereas along the North East coast 10680.55 tons (11%) of the fish catch was recorded all together from the selected harbours of West Bengal and Odisha (Fig. 3).

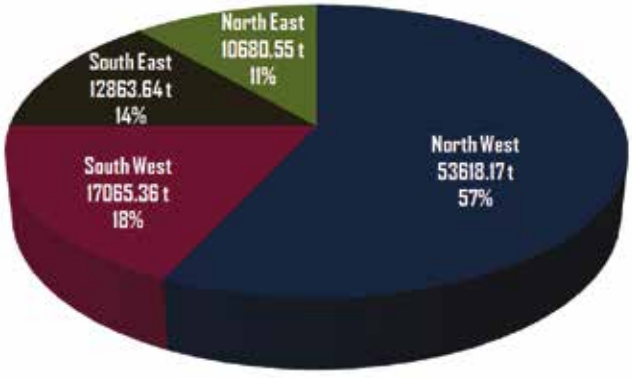

Fig. 3. Region-wise landings (in tons) recorded during December 2019

State-wise landings

On comparing state-wise total landings, Gujarat recorded the maximum landing to the tune of 29119.65 tons (31% of total catch) (Fig. 4). This was followed by Maharashtra with 24498.52 tons (26%) and then by Kerala with a landing of 10104.39 tons (11%). The state which reported the least landing during the period was Goa, where only 2865.09 tons (3%) of the marine fish catch was recorded

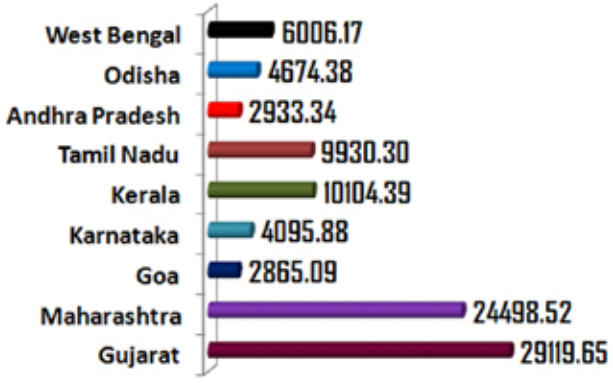

Fig.4. State-wise fish landings (in tons) during December 2019

Harbour-wise landings

The fish landings recorded during the month at the selected harbours are presented in Table 3. Of the 97 harbours, Veraval harbour had registered the maximum landing of 12814.36 tons (14%) and then by the New Ferry Wharf with a landing of 12130.84 tons (13%). The least quantity of marine fish catch was recorded from Vizhinjam harbour in Kerala (18.28 tons).

Table 3. Harbours-wise catch quantity reported during December 2019

State	Harbour	Quantity (Tons)
Gujarat	Veraval	12814.36
	Mangrol	6863.35
	Vanakbara	2712.05
	Porbandar	1976.44
	Jafrabad	1689.69
	Kotada	1436.08
	Dwarka Rupen	634.25
	Dholai	279.51
	Chorwad	234.84
	Sutrapada	194.39
	Umargam	146.91
	Ghoghla	137.79
Maharashtra	New Ferry Wharf	12130.84
	Sasoon Dock	4555.03
	Harne	1605.02
	Ratnagiri	1599.76
	Arnala	1491.32
	Satpati	1169.10
	Versova	537.98
	Vasai	303.58
	Uttan	257.54
	Alibagh Koliwada	239.48
	Sakharinate	204.13
	Malvan	188.14
	Dahanu	110.99
	Onni Bhatti Dabhol	64.13
	Taramumbri Devgad	41.49
Goa	Malim	1749.77
	Cutbona	684.96
	Vasco	358.13
	Chapora	72.24
Karnataka	Malpe	3143.26
	Tadri	254.03
	Karwar	200.27
	Gangolli	186.22
	Bhatkal	178.46
	Amdalli	63.52
	Belekeri	36.18
	Honnavar	33.95

Kerala	Thoppumpady Cochin	2609.19
	Munambam	1861.29
	Sakthikulangara	967.64
	Vypin	752.77
	Neendakara	688.75
	Beypore	678.18
	Ponnani	388.76
	Azheekkal	334.15
	Kayamkulam	312.14
	Chellanam	308.18
	Puthiyappa	228.08
	Cheruvathur	205.53
	Thottappally	175.13
	Koyilandi	140.64
	Mopla Bay	134.32
	Vaadi	111.36
	Chettuva	101.96
	Thangassery	88.07
	Vizhinjam	18.28
Tamil Nadu	Chennai	2871.19
	Nagapattinam	2084.16
	Thengaipattinam	1321.49
	Karaikal	1239.85
	Colachel	704.16
	Tharuvaikulam	411.35
	Cuddalore	266.07
	Pazhayar	179.69
	Poompuhar	120.00
	Pondicherry	118.39
	Mallipatnam	87.98
	Pamban	77.32
	Mudasalodi	77.25
	Rameswaram	73.91
	Tuticorin	67.56
	Chinnamuttom	59.70
	Mandapam	55.22
	Kodiyakarai	44.15
	Kottaipatnam	40.22
	Pulicat	30.64
Andhra Pradesh	Visakhapatnam	1391.83
	Kakinada	515.27
	Nizampatnam	331.48
	Vodarevu	258.32
	Machilipatnam	181.31
	Yanam	179.17
	Pudimadaka	75.96
Odisha	Paradeep	1653.11
	Dhamara	1214.75
	Balramgadi	859.32
	Bahabalpur	747.77
	Balugaon	199.44
West Bengal	Namkhana	1673.99
	Petuaghat Deshpran	1267.83
	Digha Sankarpur	1068.64
	Raidighi	573.45
	Kakdwip	572.56
	Fraser Ganj	492.23
	Soula	357.47

Estimations on boat arrivals

A total of 52507 numbers of boat arrivals were recorded during December 2019, of which the highest recording was from Veraval harbour (3738 nos.), and it was followed by Mangrol harbour with 2853 numbers of boat arrivals and New Ferry Wharf harbour with 1780 boats. The Pamban harbour had registered the least boat arrival (62 nos.) during the month. The top ten harbours in terms of boat arrivals are enlisted in Table 4.

Table 4. List of top ten harbours which recorded more boat arrivals during December 2019

Sl. No.	Harbour	No. of boat arrival
1	Veraval	3738
2	Mangrol	2853
3	New Ferry Wharf	1780
4	Harne	1464
5	Porbandar	1323
6	Vanakbara	1242
7	Umargam	1153
8	Malpe	1089
9	Munambam	1005
10	Malvan	907

Summary

In December 2019, a total of 94227.72 tons of marine landings and 52507 nos. of boat arrivals were reported from the major fishing harbours of India. The Pelagic finfishes were the major contributors to the landings and the Ribbon fish was the most landed fishery item. About 75% of the Total Catch was from the West Coast and the North West coast had registered the highest catch. The state of Gujarat recorded the maximum landing during the month and the Veraval harbour had reported the highest landing as well as the maximum boat arrivals.

Consultative workshop for the 'Refinement of marine fishing regulations of West Bengal'

The NETFISH-MPEDA and the State Fisheries of West Bengal jointly organized a one-day stakeholder consultative workshop for the 'Refinement of marine fishing regulations of West Bengal' by amending the 'West Bengal Marine Fishing Regulation Act' to ensure sustainable fishing. The workshop was conducted on December 6, 2019 at the ICAR- Central Institute of Fisheries Education, Salt Lake, Kolkata, with financial support from NFDB. As many as 68 participants including officials from State Fisheries Department, Fisheries Research Institute, fisheries colleges, other fisheries-related organizations, MPEDA, NETFISH and NGOs and members of boat owners' associations and fisherman Associations attended the workshop.

Dr. S. Kishore IAS, Additional Chief Secretary to the Government of West Bengal, Department of Fisheries, chaired the workshop. Mr. R.K. Sinha, IAS, Secretary to the Government of West Bengal, Department of Fisheries; Mr. Parvez Ahmed Khan, Secretary, SEAI, West Bengal and Dr. Joice V. Thomas, Chief Executive, NETFISH, were present. Mr. Archiman Lahiri, Deputy Director MPEDA, Kolkata, welcomed those present.

During the technical session, Dr. N.A. Talwar, Professor and Head of the Department of Fisheries Engineering, West Bengal University of Animal and Fishery Sciences (WBUAFS), presented on National Marine Fisheries Bill 2019 and it was followed by a presentation by Dr. Saptarsh Biswas, Deputy Director of Fisheries, Government of West Bengal, on the present status of Marine Fishing Regulations in West Bengal. Then, Dr. Joice V. Thomas, Chief Executive, NETFISH did a presentation showing different phases of development in marine fisheries in Kerala, various amendment took place in the recent years in Kerala to conserve marine resources such as colour coding in the fishing vessel, life span of fishing vessel, uses of different communication and navigational system, application of life saving appliances, engine capacity based on length of fishing vessels, regulation and prohibition of different types of fishing gears, implementation and impact of square mesh in trawl cod end, Minimum Legal Size in fisheries, different fees structure for registration and license of fishing boat, boat building yard etc. He also highlighted on constitution of fisheries management councils.

After the presentations, the stakeholders were requested to give their views and suggestions on amendments to be made in West Bengal MFRA towards better fisheries management.

The stakeholders participated in the workshop included Mr. Parvez Ahmed Khan, Secretary, Seafood Exporter Association of India, Kolkata, Mr. Pranab Kar, President of WBUFA and Chairman of Digha Fisherman and Fish Traders Association, Mr. Joy Krishna Halder, Secretary, WEUFA, Mr. Bibhas Koley, Secretary, Freserganj Fisherman Association, Mr. Narayan Das, Assistant Secretary, Akshay Nagar Fisherman Association, Dr. B. K. Mohapatra, Principal Scientist, CIFE, Kolkata, Mr. Gopal Pramanik, President of Dash mile Fisherman Association, Mr. Tarun Kr. Giri, EC Member, MPEDA – NETFISH, Mr. Laxmi Narayan Jana, Secretary of Daksin Banga Matsya Sukha Khuti Samabai Samity Limited, Mr. Priyabrata Maity, Secretary of Kakdwip Fisherman Association, Mr. Satinath Patra, Secretary of Samudrik Matsyajibi Sramik Union, Kakdwip and others.

A view of the stakeholder workshop

Mr. S. Kishore, IAS, Additional Chief Secretary, Government of West Bengal inaugurating the workshop as Mr. R.K. Sinha, IAS, Secretary, Department of Fisheries, Government of West Bengal and Mr. Mohammed Parveez Khan, Secretary, SEAI, West Bengal Region

Mr. A. Lahiri, Deputy Director, MPEDA and Mr. Atanu Ray, State Coordinator, MPEDA- NETFISH co-ordinated the arrangements. The workshop concluded with Mr. Johnson D'Cruz, Assistant Director, MPEDA, proposing the vote of thanks.

Interactive session during the workshop

Awareness programme on MPEDA procedures and seafood exports

Mrs. Nikita Pawar, IAS, Secretary (Fisheries),Union Territory of Andaman and Nicobar Island addressing the gathering

MPEDA conducted an awareness programme with fish traders and exporters on 'procedures to be followed for seafood export from Andaman and Nicobar Islands' on January 03, 2020. Around 35 fish exporters and traders of these islands actively participated in the meeting held at the conference hall of Registrar of Cooperative Societies.

Dr. Utpal Kumar Sar, Director of Fisheries, welcomed the gathering and briefed the initiatives taken by the Administration for the opening of MPEDA and EIA desk office in the Andaman and Nicobar Islands. He urged the gathering to make use of the desk office for the development of processing and export infrastructures in these Islands.

Mr. Archiman Lahiri, Deputy Director, MPEDA, delivering his talk on export procedures, marketing and extensions

Mr. Archiman Lahiri, Deputy Director, MPEDA, gave a detailed presentation on the process of marine product export, extension, marketing and the current scenario of Indian fishery export. The participants raised queries regarding Customs clearance for direct export, quality standards for different countries, MPEDA welfare schemes etc. The programme concluded with the remark by Mrs. Nitika Pawar, IAS, Secretary (Fisheries), and she assured all possible assistance of Administration to the fish traders and exporters from the Andaman and Nicobar Islands. She reminded the gathering that the Islanders have to take up the activities in full swing to facilitate direct export by utilising the MPEDA & EIA desk office for the improvement of Islands' economy. She also informed the gathering that similar types of workshop will be conducted on regular basis by inviting the experts from MPEDA & EIC for improving the fishery export sector.

MPEDA Participates BTSF Training on "Food Safety Risk Analysis" at Thailand

Indian participants: (from left) Mr. Pushpendrakumar Sharma, Department of Commerce; Mr. Prashant Waghmare, APEDA; Mr. Shailender Kumar, FSSAI; Mr. Wasi Asghar, EIC; Mr. Vaniya Kishorkumar, MPEDA and Dr. Pankaj Goyal, NABL

The Department of Commerce and Competent Authority nominated Vaniya Kishorkumar Vashrambhai, Technical Officer (Quality Control) of MPEDA Sub Regional Divison, Porbandar to participate in the training courses on Food Safety Risk Analysis held at Bangkok from December 16 to 19, 2019. The Consumers, Heath and Food Executive Agency (CHFEA), acting under powers delegated by the European Commission, has invited for training on principles and methods of Food Safety Risk Analysis (FSRA) under the Better Training for Safer Food (BTSF) initiative.

Around 40 participants, including 6 Indian participants, from different countries took part in the training. Presentations on various subjects like the EU General Food law, three pillars of risk analysis, plant health, authorized products, pesticide and veterinary medicine

products residues, food contact material, chemical contaminants, zoonosis and animal welfare and European Official Control were presented by subject specialists from European member states. After each session, on-line quiz was conducted through 'Kahoot' mobile App. During closing session, dissemination strategies of India also presented. On successful completion of training, certificates were distributed to the participants.

Participants at the workshop along with tutors

Presentation of India's dissemination strategies during closing session

View of classroom during training

NaCSA to assist Ambedkar Aqua Farmer Welfare Society, Kakinada to realize their dream

Mr. K.S. Srinivas IAS, Chairman, MPEDA and President of NaCSA, laid the foundation stone for the Crossover Bridge construction on Vodalanali brackish water creek at Lakshmipathipuram village of Gadimoga Panchayat, Kakinada in East Godavari. Around 300 Aqua Farmer Welfare (AFW) Society farmers including local people and officials from various departments of Government of Andhra Pradesh, attended the foundation stone laying ceremony held on 25th January 2020.

Mrs. Chinta Anuradha, Member of Parliament, Amalapuram Constituency, Mr. Ponnada Venkata Satish Kumar, Member of Legislative Assembly-Mummidivaram Constituency, Mr. D. Muralidhar Reddy IAS., District Magistrate and Collector of East Godavari District attended the event. Officials from State Fisheries Department and Mr. Y. Vijay Kumar, Joint Director, (Aqua) from MPEDA Regional Division, Vijayawada, Mr. Hakkim, Deputy Director, MPEDA Sub Regional Division, Bhimavaram, were also present.

Mr. K.S. Srinivas IAS, Chairman MPEDA & President, NaCSA laying the foundation stone for Crossover bridge construction on Vodalanali brackish water creek at Lakshmipathipuram village of Gadimoga Panchayat, East Godavari in presence of Mrs. Chinta Anuradha, MP, Amalapuram, Mr. Ponnada Venkata Satish Kumar, MLA, Mummidivaram, Mr. D. Muralidhar Reddy IAS, District Magistrate & Collector and Mr. K. Shanmukha Rao, CEO, NaCSA.

Chairman, MPEDA & President, NaCSA addressing the gathering

Speaking on the occasion, Mrs. Chinta Anuradha touched upon the problems faced by the local aqua farmers and thanked MPEDA for sanctioning fund for the construction of crossover bridge. She also thanked CEO, NaCSA for taking up the proposal.

Mr. Ponnada Venkata Satish Kumar lauded NaCSA for responding to the request of farmers and taking up the matter with MPEDA for fundraising through CSR funds. He also noted that this project would help the weaker section of aqua farmers to sustain their livelihood. Talking about the subsidy provided by the government for the farmers, he said middlemen can be eliminated if storage units and training centres are set up jointly by the State Government and the Central Government.

Mr. D. Muralidhar Reddy IAS said after the initial discussion with CEO, NaCSA, a ground-level survey was carried out for the project. This was followed by sanctioning of Rs. 6,25,000 through CSR fund. He noted that these types of financial assistance would help uplift the lives of farmers.

Addressing the farmers, Mr. K.S. Srinivas IAS, explained how NaCSA is encouraging small and marginal scale farmers through cluster-based approach for producing quality aqua products in a sustainable way. He noted that NaCSA organized 941 active societies in 7 maritime states and explained how NaCSA is helping the aqua farmers by giving technical and financial assistance. He also shared his pleasure of having been able to provide more funds to create common infrastructure facilities for the weaker sections of farmers, in addition to the regular NaCSA financial schemes.

A view of the gathering

He further directed NaCSA to complete the construction of the bridge within three months of the proposed date by considering the next summer crop season. Later, the Chairman distributed Permanent Registration Certificates to the society farmers.

Speaking at the event, Mr. K. Shanmukha Rao CEO, NaCSA said that aqua farmers are facing several problems related to aquaculture practices. He also spoke about the importance of the aqua sector in the country and the role of farmers in the development of the sector.

He noted that NaCSA's mission is to enable aquaculture farmers to adopt sustainable and environment-friendly farming practices to produce quality and safe aquatic products. On behalf of NaCSA, he thanked MPEDA Chairman for sanctioning the project and also thanked the District Collector for granting financial assistance for the same.

Training programme on eco-friendly and sustainable shrimp farming

Mr. Shri Maruti D. Yaligar, Deputy Director, MPEDA delivering the inaugural speech at Sachin. Mr. Upen K Pandya, Assistant Director is also seen

A five-day training programme on 'Eco-friendly and sustainable shrimp farming was organised by MPEDA Regional Division, Valsad, at Sachin, Surat from January 6 to 10, 2020.

The objective of the training programme, which was attended by 82 beneficiaries, was to promote shrimp farming practice in coastal villages of Surat District.

Inaugurating the programme, Mr. Maruti D. Yaligar, Deputy Director, MPEDA, explained the purpose of the training programme and the role of MPEDA in the development of shrimp farming.

Following the inaugural session, MPEDA officials conducted classes on various technical aspects of shrimp farming. Mr. Maruti D. Yaligar, Mr. Upen K. Pandya, Assistant Director, MPEDA and Mr. Bhavin M. Gheravra, Field Supervisor, MPEDA delivered a lecture on topics such as 'Introduction to Shrimp Farming, Role of MPEDA on Eco-friendly & Sustainable Shrimp Farming and Identification and Life Cycle of Shrimp and Pond Preparation'.

The next day, Mr. Bhavin delivered a lecture on seed selection, packing, transportation, acclimatization and stocking, water quality management, on-site selection and farm construction.

On the third day of the programme, Mr. Upen K. Pandya conducted a class on topics including land leasing policy and procedure for submission of application to the collector/ Department of Fisheries for allotment

A view of participants in the training programme at Sachin

of government land for development of shrimp farming, uses of Pro-Biotic and abuse of Antibiotics in Aquaculture, Harvesting & Post Harvest management, Marketing and HACCP in aquaculture.

The next day, the trainees were taken for a field visit to shrimp farm of Mr. Nirajbhai Patel at Gabheni village in Surat District where practical aspects of farm construction, management, Bio Security measures, Good Management Practices (GMPs) and use of field equipment for testing of various water quality parameters were explained to the trainees. Mr. Nirajbhai, the owner of the farm, shared his experiences and Vannamei shrimp culture method to them.

On the final day of the programme, Mr. Maruti D Yaligar and Mr. Bhavin led sessions on 'Diseases Prevention and Control, Aquaculture Authority Guideline, License Application Procedures, *P. vannamei* Culture and Bio Security Measures. The training concluded with Mr. Maruti D. Yaligar delivering the valedictory address and distributing certificates to trainees.

Training programme on sustainable shrimp farming & aquaculture diversification

MPEDA Sub Regional Division, Ratnagiri organised a three-day training programme on Eco-friendly and sustainable shrimp farming & aquaculture of diversified species at Jakhinwadi village in Satara District from January 10 to 12, 2020.

Jakhinwadi village in Satara District is gifted with freshwater resources and with vast low saline lands unfit for agriculture purposes. Hence there is ample scope for the culture of freshwater fishes such as Tilapia and freshwater prawns like Scampi. The farmers in the region are at present practising culture of less profitable fishes such as Indian Major Carps.

The programme was organized by keeping all these points in mind. Local progressive farmers Mr. Ratnadeep Shinde and Mr. Sandip Kale offered assistance for organising the programme.

The objective of the programme, which was attended by 27 beneficiaries, was to help local fish farmers as well as new entrepreneurs to upgrade their culture techniques and thereby increasing their profit.

The programme was inaugurated by Mr. Pandit Chawan, progressive Tilapia farmer from Neera in Pune. Dr. T. R. Gibinkumar, Deputy Director, MPEDA, briefed the trainees on the purpose of the training and the role of MPEDA in the development of shrimp/prawn farming.

During the three-day-long training, various topics

Dr. T.R. Gibinkumar, Deputy Director, MPEDA speaking at the inaugural function

Participants with MPEDA officials

were discussed in depth by MPEDA officials Dr. T. R. Gibinkumar (Deputy Director) and Dr. Vishnudas Gunaga, Junior Technical Officer.

On the first day of the programme, Mr. Pandit Chawan delivered a lecture on 'Farming of GIFT Tilapia'. On the second day, Mr. Ramesh Pawar from M/s Golden Farms, Satara, led class on 'Tilapia farming with biofloc techniques'.

The third and final day of the training programme had Mr. Milind Sarang, an ornamental fish entrepreneur from Sindhudurg, conducting a class on 'Ornamental fish breeding'. Mr. Arun Alsae, freshwater farmer from Akiwat, Kolhapur, shared his experience on Vannamei farming in low saline lands. Mr. Vipul Patel, an innovative Vannamei farmer, spoke about 'Rearing of Vannmei through biofloc systems', while Mrs.Shradha Angolkar, Dealer of Grow Best Feeds, led a session on the 'Management of water quality in freshwater farms'.

The final session of the third day was led by Mr. Anand Rao Salunke, Assistant Commissioner of Fisheries, Satara who delivered a lecture on the “Schemes of state fisheries department for the benefit of aqua farmers".

The programme concluded with the valedictory session followed by the vote of thanks. Mr. Anand Rao Salunke, Assistant Commissioner of Fisheries, Satara distributed the certificates to the trainees.

Mr. Anand Rao Salunke, Assistant Commissioner of Fisheries, Satara, distributing certificates to participants

Training programmes on eco-friendly and sustainable aquaculture in West Bengal

A field visit by trainees

MPEDA Regional Division, Kolkata conducted five-day training programmes on 'Eco-friendly and sustainable aquaculture' in different parts of West Bengal.

The first training was held from December 9-13 for the benefit of SC/ST candidates at Raghabpur, Hasnabad, North 24 Parganas district, in which 20 farmers attended. The main objective was to educate the farmers on adoption of farming methods to practice eco-friendly and sustainable aquaculture with special emphasis on diversification.

The programme was inaugurated by Mr. Tapas Bar, President of Makhalghacha Grama Panchayat. Mrs. Sulochana Sarkar, District Forest Officer, North 24 Parganas district; Mr. Johnson D'Cruz, Assistant Director and Mr. Anshuman Manna, Field Supervisor Trainee, MPEDA Regional Division, Kolkata, spoke on the occasion. During the 5-day training programme,

View of the inaugural function

A view of the training session

various topics related to the subject were handled by Dr. Y. Bangaramma, Junior Technical Officer; Mr. Johnson D'Cruz, Assistant Director; Mr. Anshuman Manna, Field Supervisor Trainee, MPEDA Regional Division, Kolkata; Mr. Pradip Maity, Field Manager, NaCSA; and Mr. Pinaki Bose AFO, North 24 Parganas district. Certificates, stipend and allowances were distributed by Mr. Johnson D' Cruz, Assistant Director, MPEDA at the valedictory function.

MPEDA Regional Division, Kolkata organised two more training programmes from December 16 - 20 on Eco Friendly and Sustainable Aquaculture for the benefit of SC/ST candidates at Gangrachar, Nandigram-I, Purba Midnapur district. As many as 45 candidates registered for the two training programmes.

Dr. Y. Bangaramma, Junior Technical Officer, MPEDA, Regional Division, Kolkata, inaugurated the programme and besides Dr. Bangaramma, Mr. R. Karim, Field Manager, NaCSA; Mr. Prasanth Manna, Field Extension Officer, Contai; Mr. Asim Kumar Mahanta, Assistant Director, Department of Fisheries, Contai, Purbha Midnapur district, led different sessions at the programme.

On December 19, 2019, the participants visited Mr. Paresh Gopal's Vannemei shrimp farm for practical knowledge. Mrs. Gita Rani Mondal, President of Saudikali Jalpai panchayat, Grandrachar, distributed certificates and stipend to the trainees.

Mr. Johnson D' Cruz, Assistant Director, MPEDA distributing the certificates

Training programme on Better Management Practices for sustainable aquaculture

Mr. S. K. Chand Basha, Assistant Director of Fisheries, Gudur inaugurating the training programme

A training programme on Better Management Practices for sustainable aquaculture was organised by MPEDA Satellite Centre, Nellore at Putchalapalli, Kota Mandal from December 16 - 18, 2019, in which 15 people attended.

Mr. S.K. Chand Basha, Assistant Director of Fisheries, Gudur Mandal, Nellore district inaugurated the training programme on December 16, 2019. Dr. Ganesh K., Assistant Director in his address emphasized that MPEDA is taking stringent steps to avoid any sort of export rejections, and farmers should unite and should work hard to avoid any such incidents in the future.

Inaugural session was followed by technical sessions and detailed technical sessions on shrimp aquaculture, diversification in aquaculture with special reference to seabass, crab, cobia and

pompano and also proactive disease management and surveillance programme, SIMP and trade barriers for the next three days. The technical sessions were handled by Dr. Ganesh K, Mr. Y. Sai Maharshi, Field Technical Officer and Mr. P Ravindra Babu, Field Manager, NaCSA. Special sessions were handled on certification schemes of MPEDA for aquaculture sector and also on the need and scope of society formation.

On the third day Mr. J. Venkataramana, Regional Coordinator, NaCSA interacted with the farmers and during which, farmers discussed with the faculty regarding various issues faced by shrimp aquaculture sector, especially the fluctuating shrimp price and mitigation methods for disease outbreaks.

Participants on successful completion of the training programme

Training programme on eco-friendly and sustainable aquaculture

The Sub Regional Division of MPEDA at Karwar has scheduled 12 training programmes this year as part of the extension programmes assigned to the division. In connection with this, a three days training programme on 'Eco-friendly sustainable aquaculture and diversification' was organised at the panchayat meeting hall, Basavakalyan in Bidar district from December 9 - 11, 2019, in which 30 active and progressive farmers and new entrepreneurs attended.

The candidates were selected by Mr. Gautham, Assistant Director of Fisheries-Grade-II, Basavakalyan, as requested by the division. Classes and a field visit to a private major carp farm were included in the programme. The theory classes were handled by Mr. Gautham, Assistant Director, Department of Fisheries, Basavakalyan; Mr. G. Ramar, Junior Technical Officer, MPEDA; Mr. S. M. Shirodkar, Junior Technical Officer, MPEDA, and Mr. Dasharath Jadhav, Technical Assistant, Department of Fisheries, Basavakalyan.

The Department of Agriculture under Government of Karnataka extends financial assistance to set up 'Krishi Honda' or freshwater reservoir, which are used for fish culture as well as irrigation. Majority of these reservoirs are used for stocking major carp varieties like catla, rohu, mrigal, grass carp, silver carp etc. These ponds or reservoirs can be used for stocking export-oriented species as well. Training classes were mainly focused on the export-oriented candidate species like ***P. vannamei*** in freshwater, Pangasius, Tilapia, Seabass and Scampi. The district of Bidar is located in inland area, where minor reservoirs are set up for irrigation purposes. Scampi culture is now being undertaken in the panchayat reservoirs namely Chulki Nala and Mulamuri by stocking hatchery-raised seeds. These seeds are leased out to the local fishermen co-operative societies. It is learnt that around 5-7 MT of scampi is harvested every year and sold in the local market.

The training session discussed subjects related to the biology of the export-oriented candidate species such as Penaeid shrimp, Seabass, GIFT Tilapia, scampi, Pangasius, and other major carps, site selection and construction of ponds, preparation of pond and water with special emphasis on application of lime and usage of probiotics, seed selection criteria in the hatchery, transportation and acclimatization of seed in the farm, water quality management, selection of suitable feed and its management, bio-security of the farm and controlling of predators, health management of the candidate species, banned antibiotics in aquatic farms and harvesting and packing techniques.

During field trip on the third day, the participants visited a pond at Ladwanti village of Basavakalyan taluk owned by Mr. Annarao Keshrao, who was constructed the pond PP lined and stocked 25,000 fry of major carp in February 2019. So far, he made intermittent harvest of 400 kgs of fish. Trainees were briefed on the farming activities, including site selection, construction pond, slice gates, installation feed check tray and catwalk. Doubts raised by the trainees were clarified at the spot.

Mr. Gautham, Assistant Director of Fisheries–Grade-II, Basavakalyan, distributed the participation certificates and stipend to the trainees. Even though 30 trainees attended the programme, stipend was restricted to only 20 of them. Mr. S. M. Shirodkar proposed the vote of thanks to mark the conclusion of the programme.

Awareness campaigns held in Karnataka

Awareness Programme on diversification progressing at KUPG Centre, Kodibag

Sub Regional Division of MPEDA in Karwar organised awareness programme on December 05, 2019, for making farmers in Karwar aware about banned antibiotics used in aquaculture and to stock antibiotic-free seed for eco-friendly shrimp farming.

Mr. Sheshendra Shirodkar, Junior Technical Officer, explained about banned antibiotics and chemicals used in aquaculture. He also distributed list of banned antibiotics, and spoke in detail about Best Management Practices in aquaculture, the farm enrolment procedure, National Monitoring Control Plan (NRCP) sample and how MPEDA developed traceability system for detecting positive antibiotic cases. The programme has a participation of 15 farmers.

In order to promote diversified export-oriented aquaculture, another programme on diverification in aquaculture was organized on December 12, 2019 at the Marine Biology –KUPG centre in Kodibag village, Uttar Kannada. This programme, which was aimed at new entrepreneurs, was attended by 35 participants.

Mr. Sheshendra Shirodkar, Junior Technical Officer, introduced MPEDA's functions, promotional activities and the role in aquaculture development and export promotion. He explained the participants about farming techniques involved in tilapia, mud crab, and seabass. Doubts raised by the participants were cleared.

A view of the awarness programme on misuse of antibiotics

Campaign against use of banned antibiotics in aquaculture

Dr. Y. Bangaramma, MPEDA, Regional Division, Kolkata leading a session
Aqua farmers attending the campaign

MPEDA Regional Division, Kolkata and NaCSA organized a campaign against use of banned antibiotics in aquaculture at Saudkali and Gangrachar, Nandigram-I in Purba Midnapur district on December 17, 2019.

The main objective of the campaign was to educate the farmers on ill-effects of banned antibiotics in aquaculture. They were also given a class on diversification of species in aquaculture. The programme was attended by 25 farmers in Saudkali Jalpai and 27 farmers in Gangrachar. Dr.Y.Bangaramma, Junior Technical Officer, MPEDA, Regional Division, Kolkata, and Mr. R. Karim, Field Manager, NaCSA, led different classes on related subjects during the campaign. Posters on the theme were also displayed at the venue.

A view of the awarness programme on misuse of antibiotics

Indian institute introduces new device to analyze freshness of fish

The Kochi-based Central Institute of Fisheries Technology (CIFT) has developed a new simple, low-cost, and easy-to-operate device to assess the freshness of fish in a market, The Hindu BusinessLine reported on December 24, 2019.

The device is described as a paper-based disc that's stored inside a pack, without coming into direct contact with the fish. The disc absorbs the chemical compounds released during the storage period, and changes colour depending on the amount of compounds released.

Users just need to watch the changes in the colour of the disc to identify the freshness of the fish with which it is stored, without having to do any costly laboratory tests.

According to C.O. Mohan, CIFT' senior scientist at the Fish Processing Division, this low-cost test will not affect the sale price of fish and can be used on chilled, refrigerated and iced fish.The freshness indicator will improve the monitoring of supply chains, which helps consumers get better quality fish, Mohan said.

As there are reports of merchants using adulterants to maintain the freshness of fish, the device is expected to help build trust among consumers. The device will also encourage traders to maintain the quality of their fish.

Normally, fish freshness is either ensured by sensory attributes or by analytical methods, which is time-consuming, costly, and not real-time, Mohan said.

In January 2018, the Indian government launched two rapid-detection kits, also developed by CIFT, for checking whether fresh fish had been adulterated with formaldehyde and ammonia. The tests consist of simple paper strips, a reagent solution, and a standard chart for comparing results, the Press Trust of India reported in January 2018.
Continuous ingestion of ammonia and formaldehyde can lead to many health issues including abdominal pain, vomiting, unconsciousness, and sometimes can even cause death.

-www.seafoodsource.com

India's first maritime museum coming at Lothal in Gujarat

Underwater or marine archaeology in India is all set to get a boost with the government deciding to establish a National Maritime Heritage Museum at Lothal, a Harappan site on the Saurashtra coast in Gujarat.

The museum will also be an independent research centre of underwater archaeology for reconstruction of maritime history, archaeology of boat building and materials traded. It will have on display salvaged material from shipwreck sites in the Indian Ocean waters. The museum is being set up with technical help from the Portuguese Maritime Heritage Museum. The central government has appointed the first Director General for the museum which will be attached to the Maritime Board of the Gujarat government. Lothal is the site of one of the oldest ports in India dating to the Bronze Age.

Underwater archaeology

Underwater archaeology is a specialized branch of archaeology that involves recovering submerged remains such as ports, shipwrecks and studying proxy records of maritime activity from archaeological excavations as well as archival and historical records.

There are an estimated three million undiscovered shipwrecks lying on the ocean floor, according to the UNESCO.Between 1824 and 1962, over 12,000 sailing ships and war vessels were lost at sea. Many of them got wrecked in Indian coastal waters.

In India, shipwreck studies were initiated in 1989 off Sunchi Reef in Goa waters. Later on, shipwrecks were excavated and studied off St George's Reef, Amee Shoals of Goa as well as in Poompuhar, Konark and Lakshadweep waters by the marine archaeology centre at the Goa-based CSIR-National Institute of Oceanography (NIO).

These studies have vast potential, given the fact that India has a rich maritime history. Archaeological evidence from the Persian Gulf and Southeast Asia shows that Indian maritime voyagers ventured into western and eastern seas of the Indian Ocean some 4,000 years ago, according to researchers Sila Tripati (NIO) and Ravi Korisettar (UGC Emeritus Fellow, Karnataka University).

Documented shipwrecks

The Indian marine studies have covered wooden and steel hulled shipwrecks off Sunchi Reef dating

back to the 17th century Indo-Portuguese trade and commerce network. The St George's Reef shipwreck dates to the 19th century. The Amee shoals shipwreck was probably of British origin, dating to the 1880s or later. Steam engine shipwrecks have been explored and documented in the Minicoy waters. An 18th century wooden hulled shipwreck has been explored off Poompuhar in Tamil Nadu. Details of a ship-wreck off Konark coast of Odisha are still being reconstructed, according to a series of research papers published in journal Current Science."Archival records have revealed a series of wreckages off the coast of Goa that occurred probably owing to a collision with reefs, sand bars and storm over the sea. The Portuguese records of 1497–1612 mention that 806 ships sailed from Lisbon to India. Out of these 20 ships ran aground, 66 were shipwrecked, the enemy captured four, six were burnt, 285 remained in India, and the rest returned to Portugal," researchers said.

Portuguese ships that were wrecked include S. Cristovam which was caught in a storm on August 17, 1594; nau Santo Andre which capsized off Goa coast in May 1608; Nossa Sra Dos and Remedios were hit by a severe storm and sank on January 28, 1616. Another 12 Portuguese ships enroute to Calcutta from Goa, were reported sunk near Aguada Bay due to an unseasonable storm in 1648."All the documented shipwrecks belong to the 17th to 20th centuries. This period is the transition phase between wood to iron and sail to steam. The hitherto discovered shipwrecks, namely the Konark, Vizag and Poompuhar, deserve further studies for reconstructing their detailed history," pointed out Tripatiand Korisettar.

Experts have called for greater collaboration among marine archaeologists in India. "I would like to see collaboration between marine archaeologists based in NIO and those from NIOT in Chennai and the department of marine Archaeology at Tamil University in Thanjavur. The artefacts collected through underwater survey at Dwarka, Poompuhar-Kaveripattinam, Mahabalipuram, Tranquebar, Lakshadweep, Konark and in the Goa waters are with the NIO, but only a few of them such as stone anchors are on display due to lack of facilities and preservation conditions," Korisettar told India Science Wire.

Studying sunken ships could also fill the gaps in India's maritime history and trade links with other countries. Some shipwrecks are of great of historical importance, researchers said. The Dart Mouth belonging to the East India Company, for instance, was carrying treasure when it is said to have sunk off Masulipatnam in 1719. Governor Keating, carrying King's Stores sank in a storm in 1812 near Nellore, Andhra Pradesh. Some Indian ships are also lying in foreign waters, such as P&O Liner Indus which carried the Buddhist sculptures of Bharhut stupa and is known to have sunk in 1882 to the seabed of Sri Lankan waters.

-www.thehindubusinessline.com

Artificial Intelligence to help Indian aquaculture farmers to tackle shrimp diseases

Professor Kenton Morgan joined hand with Aquaconnect, IDH, The Sustainable Trade Initiative, and for a project to predict shrimp diseases by using machine learning.

The project aims to benefit 13.000 ha of farm area in India in the next two years.

Shrimp diseases cause significant economic losses. The Asian shrimp industry alone reported to have lost at least USD 20 billion in a decade. Diseases in the State of Andhra Pradesh, that constitutes of nearly 70 per cent of Indian shrimp production, are expected to cut down production by 40 per cent this year. Diseases have economic, social and environmental consequences as natural resources such as shrimp feed, are wasted.

Artificial Intelligence to Analyse Feed and Growth Patterns

Aquaconnect helps Indian shrimp farmers to manage their farm operations efficiently and improving productivity by using artificial intelligence. Aquaconnect's FarmMOJO mobile app uses machine learning technology to analyse feed and growth patterns in relation to animal health. The app provides insights to the farmers and suggests appropriate advice for better disease management.

Rajamanohar, CEO of Aquaconnect: "The Government of India is ramping up support for the aquaculture sector, launching the Pradhan Mantri Matsya Sampada Yojana (PMMSY) to catalyse Blue Revolution 2.0. We are excited to partner with IDH and Prof. Kenton Morgan on pioneering the machine learning efforts in shrimp epidemiology studies to help the Indian farmers to mitigate the risks due to diseases and support long term sustainability of this Industry."

Aquaconnect aims to enhance FarmMOJO's disease prediction model by using Aquatic Epidemiology, provided by Prof. Kenton Morgan. Professor Kenton Morgan, University of Liverpool has over 40 years of experience in epidemiology.

The IDH Aquaculture Program aims to link aquatic epidemiology to the sector.

IDH supports and pilots the linkage in several geographies as to tackle feed and disease issues. Flavio Corsin, the Program Director Aquaculture at IDH, the Sustainable Trade Initiative, and a trained aquatic epidemiologist: Shrimp farming practices and environment change continuously, and these changes can affect disease occurrence in complex and unpredictable ways. Integrating epidemiological tools into Aquaconnect's farm management app will allow farmers to benefit from Artificial Intelligence in their efforts to understand, predict and prevent diseases.

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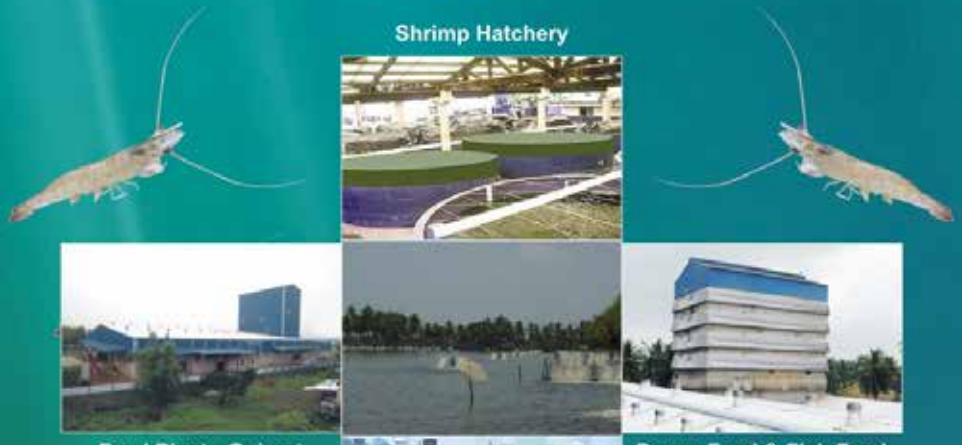

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