





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.



CPF-TURBO PROGRAM -

Pioneering Successful and Profitable Shrimp Aquaculture

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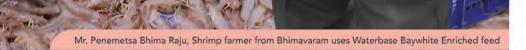




25 Years of perfecting the science of aquaculture to help you dream bigger.

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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LAYOUT

Robi Ambady

COVER PHOTO - Cast net fishing in Chilika Lake, Odisha **Dr. M. K. Ram Mohan**



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In the Platter



K. S. Srinivas IAS Chairman

Dear friends.

he month has marked history as far as aquaculture development under MPEDA is concerned with the inauguration of Multispecies Aquaculture Complex at Vallarpadom, Kochi by Mr. Suresh Prabhu, Hon'ble Union Minister for Commerce and Industry on 8th December 2018. The facility is one of its kind in India that features a hatchery for Black Tiger shrimp and nurseries for four varieties of fin fish, namely Seabass, GIFT (Genetically-Improved Farmed Tilapia), Silver Pompano and Cobia, besides a nursery for crablets of Mud crab. MPEDA is sure that this facility, which was once revered as the training hub for shrimp aquaculture in the country, will once again be a centre of activity to facilitate seed supply of export oriented species to the farming community of Kerala and neighboring states and would accelerate the species diversification initiatives in aquaculture to cater to the export as well as domestic markets. The proximity of facility to the Cochin International Airport will also help to transport the seeds to distant places by air.

Hon'ble Minister has also inaugurated a Signature Stall at MPEDA Headquarters on the same day, which displays a variety of value added seafood products made by our exporters. It also has an exhibition area with displays on candidate species in aquaculture, informative charts and interactive media on fishery and nutritional aspects, besides a video library facility with over 200 videos. The stall is open to the public and other visitors.

MPEDA has also conducted a workshop on valued added marine products at Visakhapatnam, which had stakeholder participation from all the maritime states. The workshop has come out with certain recommendations for policy decisions to transform India into a hub of value addition and reprocessing activities akin to those activities carried out in South East nations and China.

MPEDA is continuously working towards minimizing the post harvest losses and to reduce by catch, not only to sustain fishery population, but also to add value to what has been landed and traded. To impart awareness on the first mile connectivity gaps, MPEDA has convened a meeting of the senior officers from the fisheries departments of maritime states in December and drew up an action plan to identify and develop certain fishing harbours to international standards within the country. The plan also envisages capacity building exercises to bring out a sea change in the behavioral patterns of the stakeholders as far as juvenile fishing and hygienic handling is concerned. It is hoped that such measures will help to sustain the fishery and also improve the price realization of our fishery products.

I wish you and your families a Happy New Year 2019.

Thank you.





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MPEDA makes a mark at the 1st China International Import Exposition (CIIE)

The Expo

The first China International Import Expo (CIIE) was held in the global financial hub of Shanghai, China from November 5 to 10, 2019 at the National Convention & Exhibition Centre. The expo was hosted jointly by the Ministry of Commerce and the Shanghai municipal government. The event featured almost 3000 business exhibiting companies from 130 countries and regions. Around 94 guest countries participated in the country pavilion. The theme of the exposition was "New Era Shared Future", which means principle of inclusive development and shared benefits, in order to realize common development. The expo, which was world's largest and first of its kind in import exposition, was attended by more than 2,00,000 people from 172 countries. The participants were government officials, business communities, exhibitors and professional purchasers across the world.

During inaugural function, Chinese President Mr. Xi Jinping said that China's imported goods and services are estimated to exceed 30 trillion U. S. dollars in the next 15 years. Further he revealed that the Chinese economy is a sea, not a pond and asked overseas exporters and investors to grab this great opportunity, who want to deal directly with Chinese buyers.

National Exhibition and Convention Centre (Shanghai)

The National Exhibition and Convention Centre is a large exhibition centre with a total construction area of 1.47 million sq. m. of which 1.27 million square meters are above ground. It consists of exhibition halls, plaza, office buildings, hotel, and accommodation. China International Import Expo (CIIE) consists of Trade in Services, Automobiles, High end intelligent equipment, consumer electronics and appliances, apparel, accessories and consumer goods, medical equipment and health care products, food and agricultural products and country pavilions. China has put up very big country pavilion along with Hongkong, Maccau and Taiwan in the middle of hall, which was surrounded by gigantic country pavilions of Russia, Vietnam, Custom Union countries, and Pakistan showing interest in the Chinese market. Many major players of the trade such as South



Korea, Indonesia, Chile, Canada and Australia had put up attractive country pavilions.

India Pavilion

India's country pavilion was beautifully designed in tune with Indian culture and the 'Make in India' concept. The participation in the country pavilion was organized by Federation of Indian Export Organization (FIEO), set up by the Ministry of Commerce, Government of India at

Hall No. 5.2 of second floor. The pavilion covered 136 square meters. The participants were from four sectors – focusing on Food and Agro, Pharmaceuticals, IT & ITES and Tourism and Service.

Each sector has been given approximately 15 sq. m. to showcase their strengths through creative product displays. Besides that, two business lounges were prepared within the Country Pavilion. The lists of participants under the four sectors are follows.



View of Indian Pavilion

Food & Agro Sector	IT & ITES Sector	Pharmaceuticals	Tourism and Service Sector
Marine Products Export Development Authority (MPEDA)		Pharmaceuticals Export Promotion Council of India (Pharmexcil)	Ministry of Tourism
Agriculture and Processed Food Export Development Authority (APEDA)			Services Export Promotion Council (SEPC)
National Agricultural Co Operative Marketing Federation of India Limited (NAFED)			

MPEDA table space was provided under Food and Agro sector along with APEDA and NAFED on the back side of the country pavilion. The backdrop MPEDA's display was highlighted with the logo "Indian Seafood: Global benchmark for taste, flavour and quality". MPEDA's participation in the expo was organized by Dr. Shine Kumar C. S., Deputy Director and Mr. A. Sakthivel,

Assistant Director, MPEDA.

Even though the first China International Import Expo (CIIE), Shanghai, was a general expo, MPEDA received thirty notable trade enquires for frozen, live, chilled and dried seafood enquires, mostly from Chinese customers.

The products displayed in the stall were mainly ready-to-eat items like freeze dried shrimp, prawn curry, prawn biryani, canned tuna chunks in brine, canned tuna chunks in oil, canned sardine in oil and marine collagen peptide. APEDA and NAFED have also displayed their products. Agricultural products like Basmati Rice and

Organic Indian wine were displayed in the pavilion. During the exhibition, APEDA served biryani, Black and Red Indian wine, which attracted many delegates to the Indian pavilion. Further, the Indian delegation led by Commerce Secretary also visited to Food & Agro Sector of Indian Pavilion.



Dr. Shine Kumar C. S., Deputy Director & Mr. A. Sakthivel, Assistant Director, MPEDA having interaction with Chinese buyers



Delegation of Commerce secretary, Mr. Anup Wadhawan and other officials visiting the Indian Pavilion

Seafood Market of China

	China's Seafood Export & Import details							
Chapter	pter 3 1604 1605			тот	AL			
	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE
EXPORT	31,17,922	13,253	703,242	3,084	391,801	4,071	42,12,965	20407.98
IMPORT	28,93,498	8,071	18,765	83	38,356	143	29,50,619	8297.07

	China's Seafood Trade with India							
Chapter	3	3	16	04	160)5	тот	AL
	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE
Export to India	134	1	0	0	116	1	250	2.00
Import from India	24356	118	124	0	92	1	24572	119.00

Quantity: in Tons Value: in USD million

Seafood Consumption Pattern in China

According to Euro monitor, the Projected China processed seafood products consumption will increase to 51.4 Million tons by 2019, out of which chilled/fresh/live seafood consumption will be around 38.7 Million tons. Simultaneously, the per capita consumption of processed seafood products and fresh and live

seafood in China will be 47.2 Kg and 28.5 kg, which is much higher than global average of fresh/live seafood consumption, which is 13.6 kg.

It is clearly evident that most Chinese consumers still prefer live or fresh seafood than processed products. Especially, those consumers from the coastal provinces of East and South China.

Distribution of Seafood Products

Three major China Airports such as Shenzhen, Guangzhou and Shanghai are handling 90% fresh/live seafood of lobster, mud crab, grouper, baigai, freshwater eel, clam, mussels and oyster consignment from all over the world. The largest wholesale seafood markets located in these cities are the Shenzhen Yantian Seafood Market, Guangzhou's Huangsha Seafood Wholesale Market and the Shanghai Tong Chuan Seafood Market.

The distribution networks have been developed from here to major cities, including Beijing. The Guangzhou Huangsha wholesale market is the largest live and highend seafood market of its kind in all of Mainland China, Huangsha operates round-the-clock year round and generates over US\$3 million in daily sales. Huangsha houses around 300 companies, with 90% of these dealing in the sales of live seafood.

South China is the main destination for high value seafood. The majority of seafood processing facilities are concentrated in Zhejiang, Shandong, Fujian, and Guangdong provinces. Shandong ranks first for processing capacity, followed by Fujian.

These provinces are also major aquaculture producers and are equipped with port and cold storage facilities. Qingdao and Dalian are the two largest arrival ports for processed seafood products. Well-established facilities, including processing factories in Qingdao and Dalian, solidify their status as the largest seafood import hubs in China.

Major Seafood Exporting Countries to China and their market Products displayed in CIIE, Shanghai

Korea	Taiwan	Thailand	Vietnam	Indonesia Singapore & Malaysia	Japan, New Zealand Canada & Latvia
Seaweed Snacks	Stir Fried Marlin and Tuna Fish Floss	Frozen Breaded Squid Rings	Tray Pack HON shrimp	Crispy Cuttle- fish	Frozen Snow Crab
Salted fish products Seasoned Cuttlefish, Octopus, Crab & Seaweed	Cyanobacterin Noodles	Shrimp wonden Soup with Noodles	Vacuum Packed Yellow Croker	Frozen Baigai	Fresh salmon fillet
Seaweed Sushi	Squid Noodles	Vannamei Breaded Shrimp	Pangassius Fish Fillets	Surimi Analog products	Omega 3 Fish Oil & Oyster +
Half Shell Chilled edible Oyster	Chlorella Noodles	Vannamei Cooked Su- shi Ebi Tray pack	Dried Shrimp	Sea Shell Meat	Canned sardine in transparent lid & Canned tuna in Gift pack
Shrimp Wafers	Shrimp Fries	Steamed fish ball & Fried fish ball	Chilled Yellow Croker	Shrimp Roll	Cooked Mussel & dried fish Maws

E- Commerce emerging trend in China

China food and drink e-commerce retailing in China reached US\$24.9 billion and is expected to reach US\$52.8 billion in 2021. E-commerce has greatly modified Chinese consumers' purchasing habits; creating opportunities for exporters all over the world.

Presently, China's digital shoppers' populations are more than 300 million consumers. Out of this young consumers between the ages of 20 to 29 make up more than half of the total digital shopper population. Chinese shops are undergoing a significant transition to meet out consumers' comfort with buying fresh and frozen seafood online.

China's e-commerce platforms such as yiguo.com, tmall.com, yummy77 and yihaodian.com have allowed American seafood suppliers to market their high-end seafood products, both live and frozen, directly to consumers across China, especially in second and third-tier cities that do not have access to modern supermarket retailers.

Canadian fish and seafood e-commerce retailers are expected to reach over 450 million Chinese consumers through the e-commerce pavilion established by Chinese online retailing giant Alibaba.

Analysis of Super Market & Wholesale Live Fish Market in China

Supermarkets are more recent introduction into China and they are becoming important outlets for retailing products, both live/fresh/processed and dried.

The largest foreign supermarket chains presently in China are: Carrefour (France); Jusco (Japan); Metro (Germany); and Wal-Mart (USA). Hypermarkets such as Metro are developing into true wholesale distributors;

receiving product directly from importers for sale to restaurants and small retail outlets. Another example is that of Carrefour from France, which has established five outlets in Beijing itself.

During the course of CIIE, Shanghai, the Indian team had opportunities to visit Carrefour Supermarket on November 08 and Jiang Yang live fish market on November 09 respectively, in order to understand market sale and supply chain on seafood.

Carrefour Super Market at Shanghai

We have noticed that major seafood items are sold in the form of live, fresh, frozen and dried in the super market. It was observed that the shrimp products marketed in the supermarkets are in the form of frozen head on tray pack, PDTO, breaded and dumpling shrimp. Frozen fishes are in the form of vacuum-packed products like fish steaks, gill gutted and chunks.

Frozen squids and cuttlefish are in the form of breaded and battered products. These items are mostly sold in the form of chilled/fresh and live in the super markets.



Frozen Shrimp Dumpling on Retail pack



Frozen Vaccum packed Seer Fish Steaks in Retail pack



Head on shell on shrimp and chilled silver pomfrets with retail price

The team also understood that live and fresh seafood products are fetching higher prices in the Chinese retail market. Chilled Ribbon fishes are sold for USD 9.70/kgs.(300 gms up), Silver Pomfret are sold for USD 8;00/kgs (300 gms up) and Silver Croaker for USD 5.50/kgs.(300 gms up), Chilled HON Shrimps for USD 11.5/Kgs(40 -50 Count) and live mud C=crab are sold for USD 13.5 to 18.5/kgs (300 gms - 500 gms).



Live Mud Crab with Retail Price

Jiang Yang live fish market at Shanghai

High value fishes are sold in the form of live and dried at Jiang yang live fish market. High-end live seafood items popular at the Jiangyang whole sale fish market are live crab, live lobster, live grouper, live baigai, oyster, mussel and live shrimp. Australian live lobster, Canadian king crab, Indian mud crab and lobster, Indonesia baigai and live shrimp from China are dominating the entire eastern and southern part of China market through well established logistics and distribution system.



Indian Mud crab are being graded at Jiang Yang live fish market, Shanghai

Dried Items like fish maws, dried Sea cucumber, dried cuttlefish, dried seaweeds, dried anchovies and dried shrimps are being dominating in the other area of the live fish market.



Dry fish maws & sea cucumber whole sale shop at Jiang Yang market, Shanghai

Live Fish Market and Packing Operations at Shanghai



Live fish market at Shanghai



View of a live fish handling centre

Marine Products export from India to China

The export of marine products to China during 2017-18 was 49,701 MT worth USD 227.39 million. The same period India's export to Vietnam was 4,13,518 MT worth USD 1773.75 million. The major items exported from India for the both countries are frozen ribbon fish, silver and



Visit to China Eastern Airlines pavilion at CIIE, Shanghai



Dr. Shine Kumar C. S., Deputy Director and Mr. A. Sakthivel, Assistant Director, MPEDA interacting with Chinese Customs officials at CIIE, Shangahai

yellow croaker, leather jacket, reef cod, silver pomfret, shrimp, squid, cuttlefish, surimi, live mud crab and lobster. It is understood that India's major proportions of the seafood are exported to Haiphong port of Vietnam and subsequently re-exported to China. Many importers are using this strategy for imports from India.

Conclusion

The first edition of CIIE 2018, Shanghai, organised by the Commerce Ministry of China, was successful in bringing the international business community to China and make them interact with Chinese entrepreneurs and exporters. The expo was exhibiting the import and export potentials of world trade with special reference to Chinese market, but the information related to import procedure are very limited. The Chinese customs authorities are not able to provide any kind of information other than the website details. However, CIIE 2018 was very informative and provided a better understanding about the international trade with special reference to China.

Government of India can also plan such a mega event (India International Import Expo) in Mumbai, the commercial capital of India and bring the international business community to India and introduce the Indian entrepreneurs, exporters and importers.

ADDITIONAL INFORMATION FOR EXPORTING TO CHINA

Steps for market access in China

1. Determine your product category

China's Ministry of Commerce (MOFCOM) is in charge of overseeing international and domestic trade in China. Goods are divided into the following categories: Free Import, Restricted Imports, and Prohibited Imports. At MOFCOM's website, you can find the list of goods subjected to an Automatic Imported License.

http://www.mofcom.gov.cn/article/b/c/201212/201212208496384.shtml

China Compulsory Certification (CCC)

Some products are subjected to the "China Compulsory Certificate", it is China's national safety and quality mark.

The Certification and Accreditation Administration (CNCA) and the China Quality Certification Centre (CQC) administer the CCC mark. CNCA's full catalogue of CCC mandatory products can be found here:

www.cnca.gov.cn/cnca/rdht/qzxcprz/rzml/images/20080701/4755.html

Other compulsory certifications that may apply to your products are the Sanitary Inspection Certificate (food and animals) and the Veterinary Inspection Certificate (animals). Both can be applied for at the Entry-exit inspection And Quarantine of the People's Republic Of China. Application documented can be downloaded at:

http://www.chinaimportexport.org/china-importand-export-documents-forms-and-samplescomplete-list/

2. Make sure your product meets the relevant standards.

There are compulsory and voluntary standards in China.

National standards

All Chinese National standards can be found in the database of SAC (Standardization Administration of China), which is searchable in English or Chinese:

http://www.sac.gov.cn/SACSearch/outlinetemplet/gjbzcx.jsp

Professional standards and local standards

The database of the CSSN (Chinese Social Science Net) can be researched in English or Chinese:

http://www.cssn.net.cn/

Food Safety and Import Regulation

If imported food products are not yet certified according to the safety standards of the country of origin, or if it is the first time that particular food products are imported into China, the importers must apply for an import permit. The importers must also submit a safety assessment report to the Food Administration Authority. The import permit will only be issued after the application is approved. Furthermore, producers and exporters of food products must be registered at the Entry-Exit Inspection & Quarantine Bureau, which periodically issues a list of foreign food producers and export agents.

3. Make sure your product meets all labeling and packaging requirements

Product labels need to be approved by China Inspection and Quarantine (CIQ) before they can be imported.

Packing and packing list

Packing must comply with commercial practices and contractual agreements. Details of the exporting goods are included in the packing list.

Shipping mark on the package

Cargo need to provide with the right shipping mark, information mark and handling instructions. (Transport Information Service. 2016)

List with labelling requirements

According to the Product Quality Law of the People's Republic of China, all exported products to China must have labels that describe the products.

This must be in simplified Chinese characters, so that it is understandable for Mainland Chinese consumers.

Exporter must ensure that such labels are clear and do not mislead consumers. It is also prohibited to use names similar to those of existing Chinese products, which may violate the copyright of those products.

All products exported to China must have their labels in Chinese, either printed directly on the package or pasted onto the original package. The label must describe the specification of goods including product origin, validity and ingredients.

Specific labelling - Food

For food items, labels must include the name of the product, country of origin, name and address of the producer, expiry date, quality guarantee and/or storage period, condition for storage, net weight, ingredients, names of food additives and all other items, which are mandatory under food safety regulations of China. All information needs to be translated into Chinese. The most important organization concerning labelling requirement of your food exports is the China Entry-Exit Inspection and Quarantine Bureau (CIQ). CIQ requirements change often. Before exporting your products to China check the most recent requirements for labelling and other product certifications.

Labelling requirements:

http://english.aqsiq.gov.cn

Packaging requirements:

www.worldpackaging.org

4. Provide required paperwork to Chinese customs

The goods exported to China need to be cleared by the Chinese customs. A number of documents need to be provided to the Chinese customs, which customer or the intermediary import company should take care of.

5. Pay relevant customs taxes and fee

Specific tariff and non-tariff measures applicable to the product can get on: http://www.macmap.org/

Russia-India Strategic Economic Dialogue



he Ministry of Economic Development of Russia, the National Institute for Transforming India and the Roscongress Foundation jointly organised the First Russia—India Strategic Economic Dialogue in St. Petersburg on November 25 and 26.

Maxim Oreshkin, Minister of Economic Development of the Russian Federation; Rajiv Kumar, Vice Chairman of the National Institute for Transforming India; Sergey Gorkov, Deputy Minister of Economic Development of the Russian Federation; Pavel Kadochnikov, Vice Rector for Research of the Russian Foreign Trade Academy and Bala Venkatesh Varma, Ambassador of the Republic of India to the Russian Federation, attended the plenary session. The meeting focused on the priorities of the economic development of Russia and India, the development strategies of trade, economic and investment cooperation between the two countries, as well as cooperation in banking. The speakers discussed the prospects for the transition to trade in national currencies and related issues of the development of banking cooperation and payments. Maxim Oreshkin, Minister of Economic Development of the Russian Federation, read out the welcoming speech

of the President of the Russian Federation Vladimir Putin to the guests of the First Russia—India Strategic Economic Dialogue, in which the President reminded that the event happened during the year of the 65th anniversary of the signing of the Trade Agreement between the governments of two countries, which in many ways laid the foundation for bilateral economic cooperation and that it was highly symbolic.

The business programme included five roundtables on the topics of transport, agriculture, and support for small and medium-sized businesses, digital transformation and industrial cooperation.

Experts touched upon issues such as the expansion of transport infrastructure in India with the participation of Russia, issues of access to agricultural markets of the two countries, possible points of interconnection of the National Digital Transformation Programmes of Russia and India, as well as ways to further foster trade between the two countries.

Addressing the gathering, Mr. Maxim Oreshkin said that the general hope is that the meeting will lead to a series

of joint projects as part of India's and Russia's national projects. One area which is clearly ripe for cooperation is digitalization. Russia has a Digital Economy programme, while India has its Digital India, Smart Cities, and Make in India initiatives. There is common ground to be found at the point where all these programmes intersect, he said.

The First Russia—India Strategic Economic Dialogue has given a new impetus to the development of bilateral relations, allowing it to expand business ties between Russia and India, as well as launch mutually beneficial joint initiatives, said Anton Kobyakov, Advisor to the President of the Russian Federation.

Transforming India (NITI) Aayog and the Ministry of Economic Development of the Russian Federation (MEDRF) during the 19th Bilateral Annual Summit held on October 5 in New Delhi.

The Strategic Economic Dialogue focused on five core areas – (a) Transport Infrastructure; (b) Agriculture and agro-processing sector; (c) Small & Medium Business support; (d) Digital Transformation & Frontier technologies; and (e) Industrial & Trade Cooperation – to identify areas where both the sides could work together to further improve their trade and economic cooperation. Discussions were held in the atmosphere of friendship and cooperation characteristic of India-



India-Russia Joint Statement for the 1st India-Russia Strategic Economic Dialogue (IR-SED)

Rajiv Kumar, Vice Chairman NITI Aayog, was extended an invitation from the SPIEF Organizing Committee, that was passed by Maxim Oreshkin. In effect, the bilateral dialogue is set to continue at the St. Petersburg International Economic Forum, which will take place on from June 6 to 8, 2019.

The first India-Russia Strategic Economic Dialogue held in St. Petersburg and led by Dr. Rajiv Kumar, Vice-Chairman, NITI Aayog and Mr. Maxim Oreshkin, Minister of MEDRF, was in continuation of a Memorandum of Understanding reached between two countries. The MoU was entered between National Institute of Russia relations and witnessed the presence of senior central and state government officials, noted academics and industry representatives from both Sides.

Both sides noted the significance of the dialogue taking place at the anniversary of the India-Russia Trade Agreement. They affirmed their commitment to exploit the existing necessary capacity and opportunity to move forward and further strengthen the economic foundation of their relationship. They agreed that the government, industry and academia of India and Russia must work together to enable this and also acknowledged the need to identify new areas, remove barriers, and create

conditions conducive for enhancing trade.

Development of Transport infrastructure and technologies

Both Indian and Russian sides agreed to focus on facilitating multi-modal transport connectivity between themselves, enabled with uniform digital documentation and satellite technology for cargo-movement monitoring for all countries part of the International North-South Transport Corridor (INSTC) transport corridor.

Both sides underscored the possibility of participation of Russian investors in development of waterways, roadways, railways, airports in collaboration with National Investment and Infrastructure Fund (NIIF), India and Russian Direct Investment Fund (RDIF), Russia.

There was stress on the importance of cooperating in the area of inland waterways, given the traffic on the route is projected to reach 150 million by 2022. They agreed to explore construction of shallow draft vessels and development of engine technology.

The Russian side suggested focusing on the shipbuilding sector along with the establishment of digital systems to reduce transaction costs. The Indian side suggested the possibility of building special techno-park/industrial corridors for Russian companies.

Both India and Russia discussed and agreed on speedy resolution of logistics-related issues such as preparation of Customs Protocol, Standardization of documentations for and ensuring the safety of cargos movements along the INSTC.

Development of Agriculture and Agro-Processing Sectors

During deliberation, it was noted that the total trade turnover remained below potential and efforts were needed to strengthen and update existing mechanisms to identify areas of respective comparative advantages and complementarities. The Indian side suggested also establishing a Working Group to resolve the issue of market access in sectors like agriculture, textiles and diamonds.

In order to increase trade in agriculture, both countries agreed to explore certain new areas such as soybeans, vegetable oils, nuts and kiwis from the Russian and meat, poultry and dairy products from the Indian side. The Indian delegation assured the Russian counterpart of the quality of its food products particularly meat, poultry and dairy.

Both the sides also discussed the possibility of investment in the agro-processing and food processing sectors. The fruits and vegetables sector, where India ranks second globally but loses approximately 30% due to wastage, and marine products were specifically highlighted.

Both teams noted the reduction in the number of students enrolled in Agricultural Universities. In order to address this, the countries agreed to focus on student/professional exchanges, joint projects and research in areas like (i) plants which are more resistant to climate change, and (ii) Energy Efficient Technology.

Small and Medium Business Support

Both countries observed that in order to advance support to the Small and Medium Enterprises (SMEs), institutionalizing knowledge sharing and exchanging best practices, was the need of the hour. The importance of creating digital portals for addressing information asymmetries in the sector, enabling credit access and identifying correct partners was also noted.

In order to institutionalize and enable informationsharing, a Joint Working Group dedicated to the SMEs sector was considered appropriate, which could also resolve all outstanding issues in this domain.

The need to create a robust regulatory environment, reducing barriers to entry and encouraging joint production in each other's territories was underlined as focus areas. Emphasis was also laid on encouraging joint studies for identifying and addressing bottlenecks in this area.

The delegations representing both countries agreed to prioritize on Business-to-Business (B2B) exchanges by means of sharing of one and a half year of calendar of exhibitions, identifying nodal points to interact on a regular basis, and dedicating a session on SMEs at St. Petersburg International Economic Forum (SPIEF) 2019. They agreed to work towards signing Mutual Recognition Agreements to overcome customs related barriers and to protect investments made by small firms. It was also decided to fix the target of reaching 1 billion USD in mutual trade in SME products by 2020.

Digital transformation and Frontier Technologies

The delegations noted that in order to capitalize on digital transformation, they needed to focus at both the federal and the regional level.

In order to give an impetus to the development of

digital transformation, they agreed to focus on digital governance (specifically e-governance); smart cities, intelligent- transportation and other innovative models for digital transformation.

Both the sides stressed on increasing collaboration in the areas of block chain technologies, FinTech, Artificial Intelligence (AI), quantum technology. They underscored the importance of collaborating on AI, including undertaking mutually beneficial projects and building on international collaboration. The Indian side suggested giving impetus to technology scanning and conducting pilot projects in sectors like healthcare, education and agriculture.

They agreed to explore the possibility of building an India-Russia FinTech bridge for working on biometric identification, payments, open API for exchange of technological capabilities and skills.



A view of the delegates

It was also agreed to work towards the development of Tech Competence Clusters at regional levels for both Indian and Russian states. They expressed interest in creating and conducting Joint training modules for skilling in frontier technologies.

The delegations representing both sides agreed on the need to establish a broader dialogue between Central Banks, set up a Joint Program to leverage each country's potential to stay ahead of the technology curve and to explore setting up of a India-Russia Investment Fund. The Indian side proposed establishing a Working Group on Technology to calibrate the joint working arrangements, enable Business-to-Business (B2B) exchanges and through other forms of collaboration.

Industrial and Trade Cooperation

Both countries affirmed their commitment to the timely implementation of the India-Eurasian Economic Union (EaEU) FTA, address Non-Tariff Barriers(NTB), work towards facilitating single window clearance, conduct

regular reviews and assign specific ministries to tackle particular issues.

They agreed to explore the potential of this mechanism in utilizing strengths and incorporating standards in their respective national programmes like Make in India and Made in Russia. It was also agreed to address issues related to harmonization of standards; dispute settlement; tariff reduction and tagging of services and investment into the FTA.

Both the sides affirmed their commitment to setting up fast-track trade dispute resolution mechanisms for both parties. The significance of augmenting Inter-regional cooperation between India and Russia was highlighted. The Regional Government of Moscow proposed establishing Indian industrial parks in Russia and vice versa and suggested setting up a joint management company for which land can be given by Moscow regional Government on reciprocal basis.

The discussions underlined the necessity of addressing anti-dumping investigations and adopting focus-start-ups and innovative alternative investment mechanisms such as venture capital and umbrella funds. They also agreed to explore new technologies for the same. The Russian delegation highlighted the possibility of conducting roadshows. The Indian team underscored the role that the Russian Federation could play in joint project development of tourist sites, creation of investment zones and joint collaboration and development in third countries.

Both the countries expressed their satisfaction at the conduct and outcomes of the dialogue and noted their shared interests and the need for the IR-SED mechanism to further strengthen and carry their economic relationship forward. They reaffirmed their commitment to closely cooperate and address outstanding issues in a time-bound and mutually beneficial way. Dr. Rajiv Kumar, Vice-Chairman, NITI Aayog, in his concluding remarks thanked the Russian Side for its hospitality and also stated that an India-Russia Bilateral Council would be established within NITI Aayog tasked to take the above actions forward. He requested MEDR to consider having a similar establishment.

Dr. Kumar invited Mr. Maxim Oreshkin, Minister of Economic Development to visit India for the second India-Russia Strategic Economic Dialogue to be held at the end of July or beginning of August 2019, which was accepted by the Minister. MPEDA was represented in the dialogue by Mr. T. Dola Sankar IOFS, Director (Marketing).



The visit of US DOS and NMFS to Odisha



Interaction meeting chaired by Mr. Vishal Gagan IAS, Commissioner-cum- Secretary, Fisheries & ARD Department, Government of Odisha

three member technical team of US Department of State/National Marine Fisheries Service (NMFS) (listed below) visited Paradip Fishing Harbour, Paradip, Jagatsingpur district on 03/11/2018 and Chilika lake near Hatabaradihi village of Khurda district on 04/11/2018 to verify fishing methods in connection with section 609 of the US Public Law, US Sea Turtle Conservation program while shrimp is caught



Mr. P K Senapati IAS, Director of Fisheries explains Chilika fisheries

from sea. The team comprised of Mr. Joseph A. Fette, Environment Officer, Office of Marine Conservation, Section 609 Turtle Exclude Devices(TEDs) Programme, US Dept of State, Bureau of Oceans and International Environmental and Scientific Affairs, Mr. Jeff Gearhart, Research Fisheries Biologist, National Marine Fisheries Service Centre, Mississippi laboratory, USA and Ms. Isabella, Deputy Minister Counselor, US Embassy, New Delhi.

Prior to fishing observations, an interaction meeting with stakeholders was organized in the conference hall of the Fishing Harbor Management Society, Paradip under the Chairmanship of Mr. Vishal Gagan IAS, Commissioner-cum- Secretary, Fisheries & ARD Department, Government of Odisha. The meeting was attended by three member US team, Mr. John Kingsly IAS, Resident Director, MPEDA TPO, New York, Mr. P K Senapati IAS, Director of Fisheries, Odisha, Dr. Ram Mohan M. K., Joint Director, MPEDA, Kochi, Dr. Kamalesh Mishra, President SEAI (Odisha Region), Mr. Srikanta Parida, President, Odisha Marine Fish



US team inspect trawl nets

Producers Association, Paradip, Mr. Bimal Acharya, Divisional Forest Officer (Wild life), Rajnagar, Mr. Dhanesh R, Asst. Commandant, Indian Coast Guard, Paradip, trawler owners, officers of MPEDA and Fisheries Dept, Sea food Exporters etc.

Mr John Kingsly IAS, Resident Director, TPO, MPEDA, New York gave an introductory address and informed on the purpose of the visit and the concern on sea turtle Olive ridley conservation in Odisha coast which is known as a nesting ground for them.

Mr. Vishal Gagan, IAS, Commissioner-cum- Secretary, Fisheries & ARD Department, welcomed the participants after introducing them to the US team. He gave an account of turtle conservation measures taken up by the State Government. Mr Joseph A Fette, Environment Officer of the US explained US law Section 609 through a power point presentation on the various turtle species, their migration, protection and conservation measures by fishers. He gave a detailed account on various provisions in the law and the format of reporting source of wild catch, their inspection programmes etc.

Mr. Bimal Acharya, Divisional Forest Officer (Wild life), Rajnagar, Mr. Pratap Ranjan Rout, Joint Director (Coastal), Dept of Fisheries and Mr. Dhanesh R, Asst. Commandant, Indian Coast Guard also spoke.



Team inspecting trawler

The interaction meeting was followed by visit to the Paradip Fishing Harbour. The team inspected boats using gill nets and trawlers and interacted with the fishermen and the officials on the fishing methods, mesh size of net, variety of fishes caught etc.



US team observe Chilika fisheries

The visiting US team proceeded to Chilika lake near Hatabaradihi village of Khurda district on 4th November 2018. There was a warm welcome by the villagers belonging to local fishermen cooperative society.

The team was then led to the fishing jetty hall and a brief interaction with fishermen was organized where Mr. P K Senapati IAS, Director of Fisheries and Mr. Surjya Kumar Mohanty, Joint Director of Fisheries (Retd.) and consultant to Chilika Development Authority gave a brief note on Chilika fisheries, fishing methods

adopted and the livelihood of fishermen. Dr. D. S. Samrat Gauda IFS, Addl. Chief, CDA, Mr. John Kingsly IAS, Resident Director, MPEDA, Dr. Ram Mohan M. K., Joint Director, MPEDA, Kochi and other officials from MPEDA/Fisheries department were present. The team and the officials went inside the lake and observed various traditional fishing methods, viz., Khanda trap, Bahana, cast netting, hooks & lines etc.

(Retd.) and consultant to Chilika Development Authority The US team expressed their satisfaction on the Chilika gave a brief note on Chilika fisheries, fishing methods lake visit and the traditional fishing methods adopted.





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Propagative Casual Price Transmission in Indian Shrimp Exports Markets¹

NOEREM DINESH SINGH² AND M. KRISHNAN

he history of seafood exports of India can be traced to the year 1950 and even before. Till the year 1990, seafood exports were not a major exports activity. The New Economic Policy 1991, came to being in the light of the foreign exchange crisis that the country experienced. The year 1991, saw the dawn of commercial aquaculture in India as it was identified as a quick foreign exchange grosser. Horizontal expansion of shrimp aquaculture and forward-looking policies of the state government of maritime states ensured the quick expansion of commercial shrimp aquaculture in India.

After the New Economic Policy in 1991, shrimp production increased, leading to rise in shrimp exports from 95,724 tons 4,34,486 tons during 1995-96 to 2016-17. Shrimp is the flagship seafood export product from India and the country is the 4th largest exporter of shrimp from Asia with a 2.43 percent share in the 50-billion-dollar world seafood market.

When commercial aquaculture started in India thanks to the opening of economy, shrimp aquaculture also developed in a big way across the world, more so in Asia, South-East Asia and South Asian countries. Shrimp aquaculture also developed in a big way in Latin American countries. This resulted in expansion of markets and cutthroat competition ensued. Even though volumes are up for individual countries, price competition ensured and resulted in greater efficiency and cost-cutting strategies in farming operations. The trade volumes, diversifying markets, product differentiation, niche markets, transaction costs led to serious issues in price transmission in vertically coordinated markets for *Penaeus monodon* and *Litopenaeus vannamei*.

The export of frozen shrimp from India has been rising over the past few years and in 2015-16 it contributed almost 66 percent of the total marine products exported from the country in value terms. However, in quantitative terms, its contribution was only 39 percent indicating high unit value realisation of the products. In 2015-16, USA become the leading market for shrimp exporter of India with a market share of 36 percent by the quantity and 40 percent of the value. Other shrimp export markets are the European Union, Japan and South East Asia.

The Indian seafood market enjoys a charmed existence. The market is so huge and unexploited that a fall in exports to captive markets is quickly compensated by the advent of a new market, thus easing off the pain of losing a steady market. One of the main reasons for the lack of rigour in fish and fishery export market is that it is a seller's market. But of late owing to many new entrants in the market like the Latin American countries, is putting pressure on the old boys. But nevertheless, owing to the buyers' stringent quality control rules and regulations and their effective enforcement, the sellers have to hard sell their fish abroad. The sellers being largely an unorganised lot, have to succumb to both price and non-price pressures resulting in price discovery that seems to be seller oriented.

This research thus focussed on the trends in the performance of Indian frozen shrimp in the international markets, the price transmission in export markets across time-space and form, explore and forecast the prices of Indian shrimp in the export markets and suggest appropriate measures for controlling trade risk and uncertainty of markets supply and demand. The shrimp export price data compiled from various

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price indicator of marine products export (PRIME) published by Marine Products Exports Development Authority (MPEDA) on weekly basis were used for the study. The major export markets i.e. two markets, USA and Japan along with different grade size of with one larger count and one smaller (16-20 and 26-30 counts) of the shrimp species i.e. Penaeus monodon and Litopenaeus vannamei were considered for the study. Since the USA and Japan markets are the single largest shrimp export market from India, these markets were studied. Total of 10-year data i.e. (520 weekly data points approx.) for the period 2007-2017 were used for the study. But due to unavailability of data for Litopenaeus vannamei, since it was introduced in India in 2009 and its export statistics starts from late 2010. Therefore, data points for Litopenaeus vannamei was considered from 2010 onwards.

Compound growth rates, export competitiveness index, revealed comparative advantage, the Simpson diversity index, co-integration analysis, artificial neural network analysis, value at risk models, SWOC analysis and various advanced tests of significance were the tools used for analysing the data.

India's fish and fishery products exports have registered a positive growth over the years, indicating a healthy trend with a growth rate of 6.46% during the period 1995-96 to 2015-16. India lost its market share in the European Union, China, and Japan by 20 percent, 5 percent and 8 percent respectively and South East Asia became the leading contributor (36 percent) during the period 2015-16. In value terms, USA, South East Asia and the European Union were the leading markets for Indian seafood during 2015-16 by contributing about 28 percent, 24 percent and 21 percent respectively. The export of frozen shrimp from India has been rising over the past few years, and in 2015-16 it contributed almost 66% of the total marine products exported from the country in value terms.

However, in quantitative terms, its contribution was only 39%, indicating high unit value realisation of the products. This development in the shrimp farming sector has led not only to growth in shrimp farming but also the discovery of new markets, price discovery, product differentiation, niche markets and challenges of foreign exchange rate fluctuation. India claimed the top spot in shrimp exports to the global market in 2015-16 with an unprecedented 14.5 percent growth over the previous year, according FAO's Globefish. India has emerged as the largest exporter of shrimp to the USA with 32 percent growth during 2016-17. During the period, USA imported 664,119 tons of shrimps out of which US imported more than 32 percent of shrimps

from India. Lower anti-dumping duty and opening up of market by the US buyers has allowed Indian exporters to send more output to the USA.

Though the exports competitive index for frozen shrimp from India is found to be fluctuating in nature, India has export competitiveness in frozen shrimp exports. India also attained its comparative advantage for shrimp export in international markets. The revealed symmetric comparative advantage of frozen shrimp exports from India during 1995-2014 registered a positive trend indicating that India had the comparative advantage of the product (frozen shrimp). But RSCA values for India showed a fluctuating trend, this may be due to high dependency on wild capture or a relative shift of exports towards low-value alternatives like finfish and diversification of the exports basket.

It can also be seen that there is lot of volatility in the price trend of export and import for P. monodon and L. vannamei of small (26-30) and large (16-20) count. These trends were explained by 26 weeks (6 months approx.) moving average which smoothed out price action by filtering out the "noise" from random price fluctuations and gave the average price taken over a specific period of time. The fluctuation or volatility in the trend lines of the export and import prices is explained by factors such as supply (increased in production due to introduction of L. vannamei in 2009 in India, scientific management, etc.), demand (larger count mainly targets to USA and Japan while smaller count to EU, South East Asia, etc.), competition from other markets (decline in production in other countries such as Thailand, Vietnam, Indonesia, etc. due to disease breakout), trade and non-trade tariffs (anti-dumping duties and countervailing duties), etc.

The export and import prices of *P. monodon* to Japan from India for large and small counts ranged from US \$9 to 21 and US \$7 to 18 per Kg. It was found that P. monodon fetched higher average prices than L. vannamei in the same size group. Johansen's cointegration tests was carried out to determine the long run relationship between the two price series i.e import and export prices to the USA and Japan markets from India during the period 2007-2012. It was also found that co-integration (long run equilibrium relationship) exists between export prices and import prices of frozen shrimp of both larger and small count to USA and Japan from India. Von Taubadel approach of Error Correction model (ECM) was performed for estimating asymmetric price transmission (APT) between the export and import prices of frozen shrimp of large and small counts to the USA and Japan from India during the period 2007-17.

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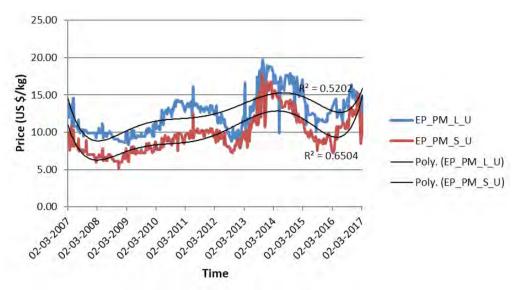


Fig. 1. Trend in export prices to L. vannamei to USA from India (2007-17)

It was found that increase in export price will lead to increase in import price in a weeks' time period but decrease in export price does not affect the import price in the same period. The positive deviations of import price from long-run equilibrium are reduced faster in a weeks' time period than the negative deviations in Japan. It can also be said that both values are statistically significant but ECT+ induces a greater change in the import price than ECT- in Japan. This asymmetric price transmission implies that trade is not free and fair which might be from trade barriers such as anti-dumping duties and countervailing duties.

The short run (α 1) and long run (β) relationship between the export and import prices of frozen shrimp of large and small counts to USA and Japan from India during the period 2007-2017 were established using ECM model. It was found that the import prices of frozen shrimp i.e. P. monodon and L. vannamei of large and small counts to the USA from India would adjust by 17, 8, 49 and 24 percent respectively in short run and in long run, with 1 percent rise in export prices of L. vannamei of larger and smaller count in India, would result in 0.87, 0.88, 0.96 and 0.91 percent increase in the import prices in the USA respectively. While import prices L. vannamei of large (16-20) and small (26-30) counts to Japan from India would adjust by 11 and 14 percent in short run and long run, with 1 percent rise in export prices of L. vannamei of larger and smaller count in India would result in 0.91 and 0.90 percent increase in the import prices in Japan.

It can be seen that forecasted prices of import of *P. monodon* of larger count (16-20) to Japan from India has increased from US \$14.45 to 14.75 per Kg while

the prices of the smaller count (26-30) of the same to Japan from India has slightly decreased from US \$ 12.65 to 12.59 per Kg. Import prices of *L. vannamei* of larger count (16-20) and smaller count (26-30) to Japan from India has also decreased slightly from US \$ 11.482 to 11.477 per Kg and US \$ 8.29 to 7.82 per Kg. It can be seen from table that forecasted prices of import of *P. monodon* of larger count (16-20) to the USA from India has increased slightly from US \$ 18.25 to 18.29 per Kg while the prices of the smaller count (26-30) of the same to the USA from India has slightly decreased from US \$ 14.56 to 14.54 per Kg. The export prices of *L. vannamei* of larger count (16-20) and smaller count (26-30) to Japan from India has also increased from US \$ 11.834 to 11.833 per Kg and US \$ 9.42 to 9.66 per Kg.

Value at risk was calculated for both the export and import prices of P. monodon and L. vannamei of larger (16-20) and smaller (26-30) count to Japan and USA using normal distribution VAR and historical VAR at 90 percent and 95 percent confidence limits. It can be said that import price of L. vannamei has the maximum price risk while import price of P. monodon has least price risk to Japan from India. It can be said that export and import prices of P. monodon and L. vannamei has the maximum price risk to Japan while export and import prices of P. monodon and L. vannamei has least price risk to the USA from India. This may be due to the reason that India is the major shrimp exporter (about 32 percent by volume; 2016-17) to the USA but Vietnam is the major shrimp exporter to Japan where India contributed only 16 percent by volume to Japan.

SWOC analysis was also performed to summarize the condition of Indian shrimp export based on its Strengths,

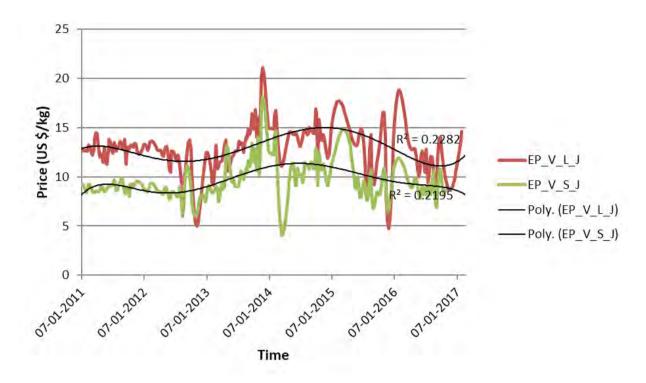


Fig. 2. Trend in export prices of L. vannamei to Japan from India (2011-17)

Weaknesses, Opportunities, and Challenges (SWOC). In strengths, India has vast water resources for fisheries and shrimp aquaculture but only 12 percent was utilized leaving huge scope for horizontal expansion. Also, India enjoys higher average unit price for frozen shrimp than the world frozen shrimp price. Disease outbreak in shrimp farming, lack of value added product and high price volatility were major weaknesses for Indian shrimp export. India also enjoys certain opportunities in shrimp export such as export competitive advantage and diversifying export commodity basket to frozen shrimp.

Despite these prices forecasting of frozen shrimp export from India shows increasing trend which shows that the future is bright in respect of shrimp exports of India. Some of the major challenges faced by the Indian exporters were international trade barriers such as anti-dumping and countervailing duties imposed by USA on Indian shrimp exports; high competition from other shrimp exporting countries like Thailand, Vietnam and Indonesia and asymmetric price transmissions for shrimp trade.

The strengths should be maintained as India's advantages are more competitive in international market. The weaknesses should be eliminated as they are India's obstacles to increase India's shrimp exports. The opportunities should be exploited to increase India's shrimp exports and the challenges should be combated to access additional share in the international markets.

Acknowledgements

The authors sincerely thank Chairman, MPEDA, Kochi and other senior officers for data and full support during the course of this work. The first author thanks the ICAR for financial support of the Senior Research Fellowship during 2015-18.

Highlights of marine fish landings in selected harbours of India during November 2018

JIGNESH VISAVADIA, V. V. AFSAL, N. J. NEETHU AND JOICE V. THOMAS NETFISH-MPEDA

TETFISH records the marine fish landings and boat arrivals from the major harbours of India as part of the Catch Certification scheme of MPEDA. This report presents the analysis result of harbour data attained during November 2018.

Data Collection & Analysis

The fishery data were collected on a daily basis, both from primary and secondary sources, by the Harbour Data Collectors stationed at selected harbours of India along the 9 coastal states (see Table 1). Approximate quantity of various fish species that are landed in a day at the harbour was obtained by eye estimation. The name, registration number and type of fishing vessels arrived at the harbour were also recorded. Data obtained were further analysed using online applications and MS office (Excel) tools to arrive at species-wise, region-wise, state-wise and harbour-wise estimations. Data from 43 harbours belonging to 9 maritime states were obtained during the month which was analysed for this report.

Table 1. List of landing sites selected for data collection

Sl. No.	State	Fishing harbour
1		Deshapran
2	VV/a at Dayagal	Namkhana
3	West Bengal	Raidighi
4		Digha (Sankarpur)
5		Paradeep
6	Odisha	Balaramgadi
7	Odisha	Bahabalapur
8		Dhamara
9	Andhra Pradesh	Visakhapatnam

10	: Andhra Pradesh	Nizampatnam
11	Andhra Pradesh	Machilipatnam
12		Nagapattinam
13		Karaikal
14		Chennai
15		Pazhaiyar
16	Tamil Nadu	Cuddalore
17	Tarriil Nadu	Pondicherry
18		Chinnamuttom
19		Mandapam
20		Tuticorin
21		Colachel
22		Thoppumpady
23		Vizhinjam
24		Thottappally
25	Kerala	Kayamkulam
26	Nerala	Beypore
27		Sakthikulangara
28		Munambam
29		Puthiyappa
30		Tadri
31		Karwar
32	Karnataka	Mangalore
33	NdMaldKa	Honnavar
34		Malpe
35		Gangoli
36	Goa	Cutbona
37	Goa	Malim

38	Maharashtra	Ratnagiri (Mirkarwada)
39		Sasson Dock
40		Harne
41	Culoret	Veraval
42	Gujarat	Mangrol
43		Porbandar

Appraisal of fish landings

A total of 86132.22 tons of marine fish landings was recorded from 43 landing sites during November 2018. The Pelagic finfishes was the highest contributor during the month by registering a quantity of 41079.77 tons (48%) and the demersal finfishes held the second position with a quantity of 24008.92 tons, forming 28% of total catch (Fig.1). The Shellfishes had contributed 21043.52 tons (24%), which was comprised of 13254.66

tons of Molluscs and 7788.87 tons of Crustaceans.

The total catch comprised of 112 varieties of marine fishery items, among which the top five contributors in the chronological order were Ribbon fish, Indian Mackerel, Cuttlefish, Indian Oil Sardine and Squid (Fig. 2).

These 5 fishery items together formed 42% of the total catch. The other major contributors to the total catch were Japanese thread fin bream and Dusky finned Bull's eye, each recording more than 4000 tons. The species which registered least landing during the month was the Great Barracuda, with a quantity of 0.05 tons.

Table 2 enlists the quantity of various fishery items recorded during November 2018. Among the Pelagic finfish resources, Ribbon fish and Indian mackerel were the major contributors and among demersal finfishes, Bull's eyes and Japanese threadfin bream contributed most. Major items among Shellfish resources were Penaeid Shrimps, Cuttlefish and Squid.

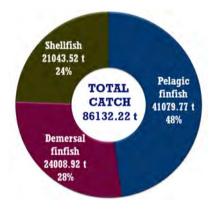


Fig. 1. Category-wise fish landings during November 2018

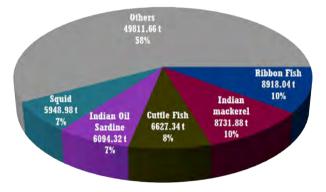


Fig. 2. Major fishery items landed during November 2018

Table 2. Category-wise landing of various fishery items during November 2018

Fishery item	Quantity in tons	% of total catch
Pelagic finfishes		
Ribbon Fish	8918.04	10.4
Indian mackerel	8731.88	10.1
Indian Oil Sardine	6094.32	7.1
Horse mackerel	3488.68	4.1
Tunas	2514.57	2.9
Scads	1987.35	2.3
Seer Fish	1535.19	1.8
Trevally	1386.48	1.6

Anchovies	1246.56	1.4
Dolphin fish	1246.39	1.4
Bombay Duck	827.50	1.0
Barracudas	665.36	0.8
Lesser Sardines	579.48	0.7
Herrings	490.96	0.6
Queen fish	377.40	0.4
Leather jacket	331.74	0.4
Hilsa	131.79	0.2
Oriental Bonito	126.00	0.1
Sail fish	108.95	0.1

10	00.00	
Indian ilisha	80.00	0.1
Mullet	75.42	0.1
Marlins	47.85	0.1
Indian salmon	30.73	0.0
Cobia	25.18	0.0
Rainbow runner	13.00	0.0
Sea bass	9.67	0.0
Needle fish	4.24	0.0
Silver sillago	3.30	0.0
Flat needle fish	1.51	0.0
Indian thread fish	0.25	0.0
Total	41079.77	47.7
Demersal finfishes		
Bull's eyes	5509.97	6.4
Japanese Thread fin bream	4869.39	5.7
Croakers	3373.14	3.9
Reef cods	3002.05	3.5
Cat fish	1958.78	2.3
Sole fish	1242.86	1.4
Lizard fish	1146.07	1.3
Pomfrets	1052.10	1.2
Filefish	640.65	0.7
Snappers	264.32	0.3
Eel	241.01	0.3
Goat fishes	165.33	0.2
Moon fish	155.43	0.2
Pony fish	150.60	0.2
Rays	115.22	0.1
Indian Halibut	39.73	0.0
Ghol	30.97	0.0
Whip fin silver biddy	12.40	0.0
Parrot fish	10.97	0.0
Glassy perchlets	10.82	0.0
Batfish	9.10	0.0
Tiger Perch	4.74	0.0
Emperor Bream	2.19	0.0

Guitar fish	0.30	0.0
Yellow fin sea bream	0.30	0.0
Spine foot	0.30	0.0
Black tip shark	0.20	0.0
Total	24008.92	27.9
Shellfishes		
Penaeid Shrimps	6712.71	7.8
Cuttlefish	6627.34	7.7
Squid	5948.98	6.9
Sea Crabs	838.07	1.0
Octopus	678.34	0.8
Non Penaeid Shrimps	216.06	0.3
Lobsters	17.63	0.0
Mud Crab	4.40	0.0
Total Shellfish	21043.52	24.4
Grand Total	86132.22	100.0

Region-wise landings

In November 2018, the maximum quantity of fish landings was recorded from the North West coast, where a total of 41207.39 tons (48% of total catch) of fish catch was reported from the selected harbours of Maharashtra and Gujarat. The South West coast comprised of Kerala, Karnataka and Goa had contributed 29589.06 tons (34%) to the total catch and thus held the second position. In South East coast, landings recorded from 13 harbours in Tamil Nadu and Andhra Pradesh was totalled to 4108.73 tons (5%), whereas along the North East coast 11227.03 tons (13%) of fish catch was recorded altogether from 8 harbours of West Bengal and Odisha (Fig. 3).

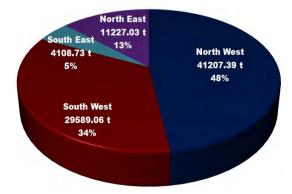


Fig. 3 Region-wise landings recorded during November 2018

The five major fishery items which had contributed predominantly to the landings in each region are given in Table 3.

Table 3. Major items landed in each region during
November 2018

Item	Quantity in tons	% of total landings of the region			
South West					
Indian mackerel	5916.66	20.00			
Indian Oil Sardine	5309.19	17.94			
Ribbon Fish	2339.26	7.91			
Bull's eye- dusky finned	2337.78	7.90			
Squid	1641.84	5.55			
North West					
Ribbon Fish	5633.15	13.67			
Cuttlefish	4899.77	11.89			

State-	wise	landings
	44 120	tallalligs.

The maximum landing during the month was recorded from Gujarat, which was to the tune of 31949.68 tons, forming more than 37% of total catch (Fig. 4). This was followed by Karnataka with 22049.21 tons (26%) and then by Maharashtra with a contribution of 9257.71 tons (11%). The state which reported least landing during the period was Andhra Pradesh, where only 1788.85 tons (2%) of marine fish catch was recorded. The West coast states together formed more than 82% of the total catch and the rest of the 18% only belonged to the East coast states.

The major five fishery items which had contributed significantly to the landings in each state during November are given in Table 4.

Japanese Thread fin bream	4570.23	11.09	
Squid	3771.47	9.15	
Reef cod	2884.94	7.00	
South East	South East		
Cuttlefish	556.18	13.54	
Tuna	504.68	12.28	
Ribbon Fish	274.93	6.69	
Sea Crab	211.26	5.14	
Squid	206.72	5.03	
North East			
Croaker	1282.41	11.42	
Marine Shrimp (<i>Karikkadi</i>)	766.18	6.82	
Indian Oil Sardine	700.56	6.24	
Ribbon Fish	670.71	5.97	
Indian mackerel	617.35	5.50	



Fig. 4. State-wise fish landings (in tons) during November 2018

Table 4. Major items landed in various states during November 2018

Item	Quantity in tons	% of total landings of the state	
Kerala			
Ribbon Fish	833.12	15.48	
Indian Oil Sardine	752.68	13.99	
Cuttlefish	627.94	11.67	
Squid	535.62	9.96	

Indian mackerel	501.57	9.32			
Karnataka	· · · · · · · · · · · · · · · · · · ·				
Indian mackerel	4758.39	21.58			
Indian Oil Sardine	4230.72	19.19			
Bull's eye- dusky finned	2337.78	10.60			
Ribbon Fish	1235.24	5.60			
Trevally	1183.49	5.37			
Goa					
Indian mackerel	656.70	30.41			
Indian Oil Sardine	325.80	15.09			
Ribbon Fish	270.90	12.54			
Horse mackerel	152.50	7.06			
Dolphin fish	113.30	5.25			
Maharashtra					
Horse mackerel	1995.96	21.56			
Indian mackerel	1271.63	13.74			
Japanese Thread fin bream	798.23	8.62			
Ribbon Fish	731.15	7.90			
Cat fish	458.48	4.95			
Gujarat					
Ribbon Fish	4902.00	15.34			
Cuttlefish	4620.00	14.46			
Japanese Thread fin bream	3772.00	11.81			
Squid	3443.00	10.78			
Reef cod	2510.00	7.86			
Tamil Nadu					
Cuttlefish	511.21	22.04			
Tuna	185.11	7.98			
Squid	161.23	6.95			
Sea Crab	120.15	5.18			
Indian Scad	91.40	3.94			
Andhra Pradesh					
Tuna	319.57	17.86			
Ribbon Fish	223.37	12.49			
Brown Shrimp	163.43	9.14			
White Prawn	125.96	7.04			
Sea Crab	91.11	5.09			

Odisha			
Croaker	630.98	20.29	
Marine Shrimp (<i>Karikkadi</i>)	384.97	12.38	
Ribbon Fish	288.15	9.27	
Tuna	143.69	4.62	
Indian mackerel	140.13	4.51	
West Bengal			
Croaker	651.43	8.02	
Indian Oil Sardine	570.96	7.03	
Bombay Duck	537.55	6.62	
Indian mackerel	477.22	5.88	
Sea Crab	406.21	5.00	

Harbour-wise landings

Figures 5 and 6 represent the fish landings recorded during the month at the selected harbours of West coast and East coast respectively. Of the 43 harbours, Veraval harbour in Gujarat registered the maximum landing of 15479.40 tons (18%) and it was followed by Malpe harbour with a contribution of 8912.66 tons (10%). The Deshapran harbour with a quantity of 3107.69 tons

(4%) could attain the seventh position and it was the harbour along East coast that registered the maximum landing.

In November, 19 out of the 43 harbours had registered more than 1000 tons of fish catch which consisted of 13 harbours of West coast and 6 harbours of East coast. The least quantity of marine fish catch was recorded from Chinnamuttom harbour in Tamil Nadu (38.27 tons).

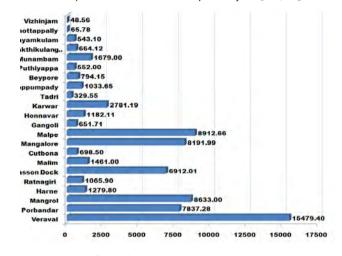


Fig. 5. Landings (in tons) recorded at harbours in west coast during November 2018

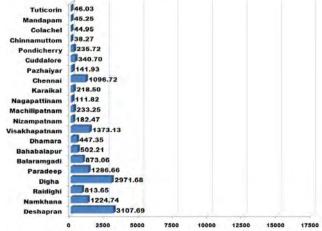


Fig. 6. Landings (in tons) recorded at harbours in east coast during November 2018

Appraisal of boat arrivals

A total of 28,483 boat arrivals were recorded during November 2018, of which the highest number was recorded at Veraval harbour (4190). The Mangrol harbour with 2947 boat arrivals held the next position. About 80% of the fishing vessels which landed their catch at the harbours belonged to the category of Trawlers and the remaining landings were by Purse seiners, Gill

netters, Long liners and Traditional crafts.

Comparative analysis

Table 5 presents the comparison of data of November 2018 with that of previous months. The total fish catch had recorded an increase by around 3000 tons during November when compared to that of October. On analysing the catch compositions for the month, Pelagic

finfish continued as the highest contributor, with a 2% increase in the percentage share.

The demersal finfish, attaining the subsequent position, too recorded a 2% increase in the share, whereas the shellfish share was found decreasing over the months. Ribbon fish continued as the topmost contributor among the various fishery items landed during the period.

Gujarat and the Veraval harbour in the state remained in the top position in terms of quantity of fish landed, as in previous months. The total number of boat arrivals recorded had decreased in November when compared to that of October.

Summary

In November 2018, a total landing of 86,132.22 tons of marine fishery resources were recorded from the 43 major fishing harbours of India, where in Pelagic finfish contributed the major quantity than the demersal finfish and shellfish stocks. Considering the fishery item-wise landings, though Ribbon fish was the major contributor. Indian mackerel too recorded nearly same quantity during the month. About 82% of the total catch recorded during November was from the West coast. Gujarat recorded maximum landing during the period and the Veraval harbour had registered the highest landing as well as the maximum number of boat arrivals.

Table 5. Comparative analysis of the data

	September 2018	October 2018	November 2018
Total Catch	83878.88 t	83264.15 t	86132.22 t
Landing of Pelagic finfishes	30605.87 t (36%)	38139.34 t (46%)	41079.77 t (48%)
Landing of Demersal finfishes	23239.71 t (28%)	22024.97 t (26%)	24008.92 t (28%)
Landing of Shellfishes	30033.30 t (36%)	23099.84 t (28%)	21043.52 t (24%)
Species recorded highest landing	Squid (15%)	Ribbon fish (9%)	Ribbon fish(10%)
State recorded highest landing	Gujarat (38%)	Gujarat (39%)	Gujarat (37%)
Harbour recorded highest landing	Veraval (22%)	Veraval (21%)	Veraval(18%)
Total Boat Arrivals	29333	30126	28483



*Percentage of total catch

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'World Fisheries Day' observed



Free Medical Camp at Jettyghat, Freserganj on the occasion of World Fisheries Day

Torld fisheries day is observed on November 21 across the world, to highlight the importance of healthy oceans and to ensure sustainability of fisheries resources. To mark the occasion, NETFISH organised programmes like clean-ups, awareness meetings, medical camp and a few other events at selected places.

West Bengal

A medical camp was conducted for the welfare of the fishermen community at Jetty Ghat, Freserganj, South 24 Parganas, West Bengal on November 22.

The camp started at 11.30 am and continued till 4.30 pm and had participation from around 100 sea going fishermen and their family members engaged in coastal fishing in the area of Freserganj. Mr. Atanu Ray, State Coordinator NETFISH, Mr. Tarun Kr. Giri and Mr. Bimal Kr. Sengupta of The Science Association of Bengal, explained to the fisher folk about the need to celebrate World Fisheries Day and about the importance of personal hygiene for better health.

Mr. S. S. Naskar, Cooperative Development Officer (Marine) represented the office of Assistant Director of Fisheries (Marine). Check-up for general health, blood pressure, blood sugar, gynaecological and

ophthalmological issues were done by the medical team led by Prof. Dr. Shymesh Mondal, Dr. Gour Hari Mandol and Dr. Soumen Kayal of Bankura Medical Collage and Hospital and free medicines were dispensed.

Kerala

The World Fisheries Day celebration in Kerala North region was held on November 29 with a mass awareness programme on sea safety and distribution of life jackets to 160 fishermen of Munakkakadavu fish landing centre in Thrissur. Mr. P.K. Basheer, Kadappuram Grama Panchayat President, distributed the life jackets in a function presided over by Dr. Joice V. Thomas, CEO, NETFISH. Mr. K. Suhair, Deputy Director of Fisheries Department delivered the key note address.

Mr. Ashkar Ali and Mrs. Sreeba Ratheesh, ward members of Kadappuram Grama Panchayat, Mr. Alwyn P. Gopal Assistant Engineer of Harbour Engineering Department, and Mr. Hameed Mon P. K., representative of the boat owners felicitated on the occasion. Mr. Santhosh N. K., NETFISH State Coordinator welcomed the gathering and Mr. P. A. Siddiq, President, Labour Union Coordination Committee proposed the vote of thanks.

The awareness class on sea safety to fishermen was handled by the NETFISH State Coordinator.



Dr. Joice V. Thomas, CEO and Mr. Santhosh N. K., State Coordinator, NETFISH along with fishermen who received the life jackets



Mr. P. K. Basheer, Kadappuram Grama Panchayat President inaugurates the distribution of life jackets to fishermen

Maharashtra

A beach cleaning programme was arranged on November 24 at Rewas-Bodni rocky beach in Maharashtra to create awareness among fishers about pollution and its effects and to involve fishers in activities that keep sea and its shores clean and pollution free.

In all, 22 participants including fishermen, fisherwomen, members of Managing Committee of Malhari Martand Machchimar V.K.S. Sanstha, Mr. Santosh Kadam State Coordinator, NETFISH and Mr. Prakalp Wani, Chairman, Kalarang Sanskrutik Samajik Sanstha, Raigad were involved in the clean-up drive. They collected about two tons of debris which included plastic sheets, pet bottles, foot wears, thermocol, tyres, cement bags, cans, plastic glass and pieces of fishing nets, cartons, life jackets, clothes and bamboo baskets. Mr. Santosh Kadam, spoke about the importance of World Fisheries Day and explained the effects of pollution on marine environment and fish population.

T-shirts and Caps printed with NETFISH and MPEDA names and logos were distributed to all the participants.



A view of the clean-up programme at Rewas Bodni beach, Maharashtra

Andhra Pradesh

NETFISH in Andhra Pradesh, along with the member NGO District Fishermen Youth Welfare Association (DFYWA), celebrated the World Fisheries Day with a



Mass awareness meeting at Pudimadaka

mass awareness meeting and a boat registration drive on November 22 at Pudimadaka, is a beach landing centre in Visakhapatnam famous for good tuna landing throughout the year. Fibre boat owners here bring tuna caught both by hook and line fishing. The exporters are unable to purchase the catch from unregistered boats due to catch certification system.

The focus of the event was on explaining the significance of World Fisheries Day celebrations and to generate awareness among active fishers of Jalaripalem village, Pudimadaka on the need of registration of their fishing boats to get better price for catch. Mr. Hanumantha Rao, State Coordinator NETFISH, talked about the need for conservation of fishery resources and measures to be taken for sustainable fisheries. He also explained about IUU fishing, catch certification system and fishing boat registration to the boat owners. The Society President Mr. Jaggarao made the fishers understand about the problem of open defecation and he ensured his cooperation in setting up new toilet blocks.

Tamil Nadu

In Tamil Nadu, clean-up programmes were organised on November 21 and 30 at Cuddalore and Karaikal harbours respectively to commemorate the Day. NETFISH, Chennai and SOHES, Cuddalore jointly organized a coastal and harbour clean-up programme at Cuddalore Fishing Harbour in collaboration with the Fisheries department, which had participation of 50 fishers in and around Cuddalore and more than 50 fishers from association.

Mr. Gangadharan, Assistant Director of Fisheries, explained the importance of World Fisheries Day and about marine pollution and its impact on Marine

ecosystem. Dr. R. Balasubramanian, State Coordinator NETFISH, highlighted the importance of clean fishing harbours and the role of NETFISH-MPEDA in this process. Village panchayat leaders also spoke on the importance of harbour cleanliness. About 200 kgs of solid wastes were collected from the harbour premises.



Cleanup programmes at Cuddalore & Karaikal

The other clean-up at Karaikal harbour was conducted by NETFISH and FPO in association with Fisheries Department and had participation of 80 fisherfolks in and around Karaikal. They collected 400 kgs of solid waste dumped in and around Karaikal Fishing harbour.

Odisha

NETFISH in Odisha organised a sports programme at Paradeep Fishing Harbour on November 28 with the active participation of around 100 people including trawler association owners, fishermen, net menders,



Sports programme in Paradeep

boat crews, and harbour cleaning staffs. Mr. S.K. Mohapatra, State Coordinator, NETFISH, highlighted the importance of the World Fisheries Day and significance of sports events in the harbour. He also told the participants about importance of hygiene and cleanliness of fishing harbour as well as personal hygiene and sanitation of fishers. Sports Events such as 100m race, sack race, brinjal race and tug-of-war were conducted for the participants. The winners were given medals and trophies.



Workshop on Good Agricultural Practices



A view of the programme

r. T. R. Gibinkumar, Deputy Director represented MPEDA in the brainstorming session-cumworkshop on Good Agricultural practices (GAP) - Current Status and Way Forward organised by the Agricultural Extension Division of (Indian Council of Agricultural Research) on November 26 at the Training Hall of National Agricultural Science Complex (NASC) at New Delhi.

In order to have an assessment on the implementation levels of GAP in various sectors and comprehend the issues associated with it, the stakeholders including directors of various research institutes under ICAR, scientists, farmers, extension officers of State Development Agencies, certification agencies, APEDA, MPEDA and exporters were invited to share their views and develop a future roadmap for better awareness and adoption of GAP in agriculture and allied sectors.

The specific objectives were

- Assess the present status of Good Agricultural Practices in agriculture and allied sectors
- Identify the gaps in adoption of GAP across sectors
- Formulate strategies and implementation through partnership with stakeholders.

The programme started with Dr. A. K. Singh, DDG (AE), welcoming the participants and presenting an overview by the work shop, which was divided in to four sessions - (1) Status presentations (2) Good Agricultural practices (GAP) in crops, (3) GAP in Fisheries and Animal Sciences and (4) GAP in Natural Resources and Post harvest management.

In the first session, presentations were made by APEDA, MPEDA, National Bee Board (NBB) and All India Rice Exporters Association. Dr. T. R. Gibinkumar, Deputy Director made a presentation on "Status and Issues of Exporting Fish Products". In the second session on Good Agricultural practices (GAP) in crops, presentations were made by Indian Institute of Millets Research (IIMR) Hyderabad, Indian Institute of Rice Research (IIRR) Hyderabad, Indian Institute of Horticultural Research (IIHR), Bengaluru, Indian Institute of Vegetable Research (IIVR), Varanasi, Directorate of Floricultural Research (DFR) Pune, Indian Institute of Spices Research (IISR) Kozikode.

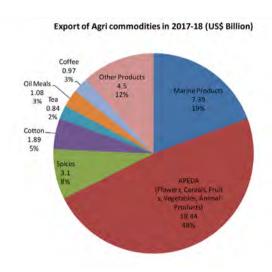
In the third session on GAP in Fisheries & Animal Sciences, presentations were made by Central Institute of Fisheries Technology (CIFT) Cochin, Directorate of Poultry Research (DPR) Hyderabad, National Dairy

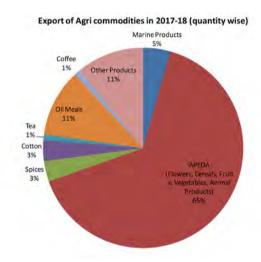
Research Institute (NDRI) Karnal, National Research Centre On Meat (NRC Meat) Hyderabad.

In the fourth session on GAP in Natural Resources and Post harvest management, presentations were made by Central Arid Zone Research Institute (CAZRI) Jodhpur, Central Soil Salinity Research Institute (CSSRI) Karnal, Indian Institute of Farming Systems Research (IIFSR) Modipuram Meerut, Central Institute of Post Harvest Engineering & Technology (CIPHET) Ludhiana and Central Institute of Agricultural Engineering (CIAE) Bhopal.

practices (GAP). GAPs are the practices that address environmental, economic and social sustainability for on-farm processes and result in safe and quality food and non-food agricultural products. GAP stands on four pillars namely economic viability, environmental sustainability, social acceptability and food safety and quality. GAP codes, standards and regulations are guidelines which have been developed in recent years by the food industry, producers' organizations, governments and NGOs aiming to codify agricultural practices at farm level for a range of commodities. These came into existence due to growing concerns

Marine products contribute 19% in value and 5% in quantity of total agriculture exports





Background Information

India is known as an agrarian county as majority of the population (nearly 60%) is dependent on agriculture for living. India suffered a shortage of agricultural products before 1960s. However, during the mid-1960s, green revolution revolutionised the agricultural sector. The focus so far has been largely production centric. In the present era, orienting the farmers and stakeholders towards value addition, processing and marketing is important to make agriculture a viable occupation. Farming in India has to develop on the lines of commercialization and need to meet quality standards to compete in the national and international market.

During 2017-18, the total agricultural commodity exports were 3.23 crore MT valued Rs. 2,46,336.12 crore and US\$ 38.21 billion. Marine products contributed 19% of the total foreign exchange earnings from agri exports and continues to be the top most commodity in the agriculture exports from India in terms of foreign exchange earnings. Following the trend, FAO (2003) formulated global safety standard of Good Agricultural

about food quality and safety worldwide, fulfilment of trade and government regulatory requirements, specific requirements especially for niche markets, etc. The GAP aims at ensuring food safety, capturing new market, judicious use of natural resources, maintaining worker health and welfare, income generation, enhancing international trade, risk assessment and building consumer confidence. Some of the key concepts are prevention of problems before they occur, risk assessment commitment to food safety at all levels, mandatory employee education programme at the operational level, field and equipment sanitation, integrated pest management, communication throughout the production chain, verification through independent, third-party audits.

India fulfilled her food demands and exported many agricultural products including basmati rice, non-basmati rice, fresh vegetables, groundnut, fresh fruits, processed fruits and juices, cereal preparations, guar gum, miscellaneous processed items, alcoholic beverages, processed vegetables, dairy products, other cereals, pulses, cocoa products, sheep/goat meat, milled products, floriculture, poultry products, fruits/

vegetable, seeds, wheat, animal casings, processed meat and other meat. Fish is a major commodity contributing 19% of total agricultural exports from India. In the present era of globalization, Indian agriculture has enormous potential in global food market in case of many crops. India's agricultural export amounts to \$ 33.87 billion (2017 APEDA).

To be competitive in the global market, several export criteria are to be maintained in order to make the produce fit for export to other countries. If the growers of export-oriented commodities follow GAP, they can earn multiple times higher revenue from their exported produce. Certain parameters in GAP are in tune with these export requirements like traceability, record keeping, site history, soil management, fertilizer use, irrigation, crop protection, harvesting, produce handling, waste and pollution management, health and welfare of worker and environmental issues based on which the standardization agencies declare a GAP certificate to one or a group of producers.

To enable farm produce to be internationally competitive, it is essential to adapt innovative farming practices incorporating the concept of globally accepted Good Agricultural Practices (GAP) within the framework of commercial agricultural production for long term improvement and sustainability.

In India, agricultural practices are highly localized occupations and display a lot of variability in cultural practices and varietal preferences across regions. Further, with the opening up of the world market,

there is a flow of trade in the agricultural products. It is, therefore, necessary to define and assign certain common minimum standards to facilitate trade in these products and to win the confidence of the consumers within the country and outside.

The compliance with food safety practices applicable at farm level is not very encouraging. The adoption of food safety practices varied from 42% in Bihar to 57% in Punjab (Kumar et al., 2011). In Indian context, current status of GAP, awareness among farmers and other stakeholders, and adoption level are important parameters to formulate strategies.

Other than commodity focused GAPs, there are several processes and methods which have been developed and sustained over time contributing in the growth of Indian agriculture viz. FPOs, IT based modules, participatory based methods, value chain, etc. Such good practices can be critically analysed and brought to the knowledge of stakeholders for further application.

Current status of Good Aquaculture Practices in India

Scientific shrimp farming started in the 1980s and steadily the production increased due to the hatchery technology brought in by the Marine Products Export Development Authority (MPEDA) by setting up The Andhra Pradesh Shrimp Seed Production, Supply and Research Centre (TASPARC) and Orissa Shrimp Seed Production Supply and Research Centre (OSSPARC) to boost up the shrimp production and increase the export of seafood from India.



Drying of Shrimp Culture pond

There are almost 2500 species of shrimp worldwide, but only few species such as *Penaeus monodon, Penaeus indicus, Penaeus japonicus* and *Litopenaeus vannamei* gained commercial importance. The species farmed in India was predominantly *P. monodon*.



Feed Management

The production steadily increased up to the year 1994 and from the year 1995, the production was stagnant due to disease outbreak and the industry was in the lookout for disease-free brood stock of *P. monodon* or any other species. Efforts were also made to tackle the disease problems by carrying out detailed study of the disease risk factors by instituting a study by the Network of Aquaculture Centres in Asia-Pacific (NACA), Bangkok, Thailand.

The MPEDA-NACA disease risk factor study which began in the 2000 and continued through 2001 identified the web of White Spot Disease causation. It also revealed that the disease can be controlled by farm level managerial interventions. In the year 2002, MPEDA-NACA programme demonstrated the effectiveness of the managerial interventions in



Bio-security measures

preventing and controlling disease outbreaks in shrimp farms. A package of practices, the Better Management Practices (BMPs) were also developed as an outcome of the study. The same were published in English and some vernacular languages in 2003.

In order to popularize the BMPs among small farmers, a society named The National Centre for Sustainable Aquaculture (NaCSA) was set up under MPEDA as an extension arm. NaCSA encourages small farmers to form aqua farmers' welfare societies for the sustainable development of Aquaculture. More than 90% of Indian shrimp farmers belong to small-scale or marginal category with operational holdings of less than two hectares per individual.



Harvesting

Till recent years, each farmer's production system was independent and un-synchronized with that of neighbouring farmers. They mostly adopted traditional methods for operating their farms and did not have access to technological innovations and scientific applications. NaCSA started grouping these farmers into societies and educated them on better management practices (BMP) for safe and sustainable shrimp farming. NaCSA also trained these farmer societies to follow cluster approach in shrimp farming. There are 621 such societies are functional throughout the country involving about 16000 farmers.

The search for alternative species for successful crops resulted in the National Committee on Introduction of Exotic Species approving the culture operations of the new species on experimental basis in Indian waters. Post larval and grow out production were done on pilot scale in 2003 under controlled bio-secure conditions in approved commercial production facilities.

Ministry of Agriculture, Government of India constituted a study group for risk analysis of introduction of SPF *L. vannamei*. Based on their recommendations, it was decided to allow registered hatcheries with bio secure facilities to import SPF *L. vannamei* brood stock from

approved producers globally for the production of post larvae and supply to the registered farms for commercial aquaculture.

Ministry of Agriculture formulated guidelines for the safe introduction of *L. vannamei* and empowered the Coastal Aquaculture Authority (CAA) to approve the brood stock suppliers, issue permissions to shrimp hatcheries and farms. All the brood stock imported is to be quarantined at the Aquatic Quarantine Facility (AQF) in Chennai funded by National Fisheries Development Board (NFDB) and operated by the Rajiv Gandhi Centre for Aquaculture (RGCA), the research wing of MPEDA.

The successful introduction and farming of specific pathogen free (SPF) *L. vannamei* (white leg shrimp or pacific white shrimp, a natural inhabitant of eastern Pacific Ocean) in other Asian countries prompted Indian farmers to adopt this as new candidate species. The species was formally approved for commercial culture in the country in the year 2009. The infrastructure facilities and technical expertise already developed for Tiger shrimp culture has helped in easy adoption of the new species to Indian conditions and the shrimp production started showing exponential increase since 2009-10, with every successive year marking a new peak for shrimp production.

GLOBALLY, AQUACULTURE HAS EMERGED AS THE FASTEST GROWING FOOD PRODUCING SYSTEM, CONTRIBUTING TO ABOUT HALF OF THE FISH GLOBALLY TRADED AND TO THE LIVELIHOOD OF ABOUT 1.8% OF THE GLOBAL POPULATION.

Globally, aquaculture has emerged as the fastest growing food producing system, contributing to about half of the fish globally traded and to the livelihood of about 1.8% of the global population. However, a host of social, environmental, governance and equity concerns also emerged, especially in the cases of developing countries where exports play an important role.

Food safety concerns such as presence of antibiotic residues and SPS concerns such as presence of pathogens of concerns to human beings and the local fish populations increased among the importing nations.

As a result, certification and demands for traceability have emerged as governance response in view of such concerns, and in the days to come it would be increasingly difficult to export aquaculture products without certification and traceability.

With the introduction of Vannamei, commercial farming of tiger shrimp declined gradually and almost become insignificant. Vannamei culture, which was initiated in India in 2003, picked up dramatically and today *L. vannamei* is the largest cultured shrimp in terms of production and productivity in India. High export demand, less prone to disease, high production etc., are some of the factors, which made Vannamei the lead species in Indian aquaculture. But the present culture trend is not different from that of which was going on during 1994-95.

Farmers seem not to have learned from the past. If the over ambition and expectations by farmers are not controlled or checked, Indian aquaculture may soon witness another disaster as it happened during 1994-95 with the outbreak of white spot disease.

Keeping this in view, MPEDA felt the importance of educating the farming community in practicing aquaculture in an eco-friendly sustainable way.

Before training the farmers, the need to train the trainers and officials and institutions on Good Aquaculture Practices was felt. Accordingly, a *Training of Trainers Sessions for Application of the Guide On Good Aquaculture Practices* was organised under EU-India Capacity Building Initiative for Trade Development (CITD) at Kochi from February 20 to 22 in 2017. Mr. Ramakrishnan Kulasekaran, Senior Aquaculture Specialist from CITD, handled the sessions. The programme was attended by MPEDA and NaCSA officials and the theme has been incorporated in the training sessions held by MPEDA and NaCSA.

MPEDA has already initiated steps in the form of creating a database of export-oriented aquaculture farms by enrolling them as a first step towards instituting a traceability system. Farms enrolled are being issued enrolment cards bearing unique ID and selected farm details in the form of QR Code.

These enrolled farms have to follow the Better Management Practices for the disease free production. Around 64,000 such farms enrolled in all the coastal states. MPEDA used to carry out regular capacity building exercises and give awareness to the farmers on the use of banned chemical substances.

MPEDA Services Awareness Programme



A view of the programme at MPEDA Regional Division, Mumbai

Mumbai

The Regional Division of MPEDA, Mumbai organised MPEDA Services Awareness programme related to EU-REX along with Certificate of origin, e-Stat package, Fish exchange portal and Subsidy schemes at Taloja Manufacturing Association Hall, MIDC-Taloja on 20 November 2018. The programme was held for the exporters in Mumbai jurisdiction and 61 Executives, Technologists and Managers represented different exporting units at the workshop.

In the opening remarks, Mr. Rajakumar Naik, Deputy Director, Regional Division, Mumbai, briefed about the topics of the day. This was followed by a session led by Mr. Bhushan Patil, Assistant Director, MPEDA on EU-REX system, detailing the pre-registration, supporting documents required for registration, roles of authorities (local administrator, local user – ADC/REG etc), post-registration statements and records along with time period. He also talked about 15 PTA/FTA certificates, which MPEDA is authorized to issue. Mr. Rajakumar Naik, Deputy Director led the second session on Rules of Origin, regional cumulation, origin types etc.

A third session on e-stat, a web based application. In this session, e-stat background, objective and ease of package was taken by Mr. Bhushan Patil, Assistant Director. The queries and doubts raised by the exporters were answered.

In the post-lunch session, Mr. Kishor Kumar, Technical Officer, talked about MPEDA Fish Exchange Portal. It was explained that fish exchange portal is a common platform for farmer, exporter and buyer, and the exporter can place their trade enquiries to the buyers and vice versa. It was also informed that this platform is not only suitable for marketing the finished products, but also to procure raw material from farmers besides giving information on various trade matters and circulars.

The last session in the programme was led by Mr. Kishore Kumar, Technical Officer who explained new financial assistance schemes of MPDA. The awareness programme concluded with discussions and queries related to SIMP, new catch certificate system, DS 2031 and other related subjects.

Ratnagiri

An awareness programme on e-stat package, Fish Exchange Portal, EU REX Registration and MPEDA Subsidy schemes was organised by Sub Regional Division at its office in Ratnagiri on 19 November 2018.

The meeting started with the introductory remarks by Dr. T. R. Gibinkumar, Deputy Director. Presentations were made by Dr. Gibinkumar on E-stat package, Fish Exchange Portal and EU-REX registration. Mr. Shaji George, Assistant Director, introduced the financial assistance schemes of MPEDA.

As many as 28 participants from various seafood processing units which include the level of General Manager, Production executives, Technologists and Documentation people participated in this Awareness programme. After the presentation the participants raised various queries and these were all cleared by the MPEDA officials.

Porbandar

MPEDA Sub Regional Division, Porbandar organized a meeting of seafood exporters of Porbandar region on 20 November 2018 at office premises to make the exporters aware of the requirement on online entry of export statistics under E-stat package, REX registration for the exporters to EU region, trade information available on Fish Exchange Portal and MPEDA financial assistance schemes for export promotion.

All the registered exporters of this region and seafood exporters association were informed well in advance on the importance of the meeting. Nineteen exporters attended the meeting.

A presentation on e-stat package based on the user manual was made and all exporters were requested to do online entry. The video on E-stat package was also shown. A presentation on REX registration for export to EU was also made and the pre application format and procedure for REX registration were explained.

A presentation on Fish Exchange Portal and the availability of enormous trade data in the portal was explained to them. All exporters who have already registered in the portal were requested to login

frequently and update their product details so as to increase buyers' interest in the system. Those exporters who have not registered so far, were requested to register urgently. A detailed presentation on MPEDA financial assistance schemes for export was also made.

Kollam

As part of the ongoing initiatives by MPEDA to reach out different stakeholders in fisheries industry, a meeting of exporters was organised at Kollam, Kerala on 14 November 2018. Mr. P. Jayaprakash, Vice Chairman, MPEDA inaugurated the meet.

Mrs. Preetha Pradeep, JTO, MPEDA welcomed the dignitaries and participants. In his inaugural address, Mr. Jayaprakash emphasised the need for a cordial interaction with MPEDA officials and EIA officials with the stake holders. He also explained the various programmes of MPEDA for the development of the seafood sector. He also instructed MPEDA officials to convene the meeting of stake holders in a periodic manner. He briefly explained the new financial assistance schemes and the need to co-operate with the change of all official documentation such as registration, submission of financial assistance application etc. in digital platform.

Felicitating the function, Mr. Prakash Badigar, Deputy Director, EIA, offered his cooperation to resolve the issues of the seafood exporters in Kollam. He appreciated MPEDA for arranging such meeting in Kollam to address the issues faced by exporters and to impart the awareness about the new financial assistance schemes, e-stat package, Fish exchange portal and other activities.



A view of the participants at MPEDA Sub Regional Division, Kollam

Mrs. Preetha Pradeep made presentations on new financial assistance schemes of development, quality control and A&I sections. During the presentation she emphasised the need for moving from convention method of processing to value addition.

A detailed discussion on various issues of seafood trade was held and the exporters were assured of all help from MPEDA. Exporters raised questions regarding the new schemes, and they expressed their views and difficulties in implementing the value addition of marine products.

Mrs. Geetha, Manager, M/s. San Marine Exports, said that Sashimi-grade Tuna has demand in the international market, but availability of Sashimi-grade raw material is less than 10% in India. She also pointed out that almost all the companies in Kerala are facing various financial problems and they are utilizing only 25% of their capacity. She also pointed out that skill expertise of workers is also an important factor as far as value addition is concerned. Exporters are ready to train the workers, but the results are not forthcoming because the workers are mostly migrating in nature.

company is paid to bank for the packing credits they MPEDA, Kollam proposing vote of thanks.

are availing. Even after deducting the interest subsidy the banks are taking 6.8 -7% interest for the working capital they are offering.

Mr. N Vijayakumar, Junior Technical Officer made presentations on fish exchange portal, who emphasised the need for updating the profile of the registered exporters in the portal. He requested all exporters to have an active participation in this portal and make it useful as an open forum for the buyers and exporters to increase the trade without the help of middlemen in the trade.

He also made a presentation on the international fairs attended by MPEDA. He requested all exporters from Kollam region to actively participate in the upcoming international seafood fairs and trade delegations, and to avail the facility of sharing table space to promote their brands in major fairs with the assistance of MPEDA.

After lunch break, Mr. Karthick V., Junior Clerk demonstrated online demo of e-stat package of MPEDA. A presentation on EU- REX was made by Mrs. Preetha Pradeep. All exporters to the EU confirmed that they have completed REX registration. The meeting came to She also highlighted that 3-4% of the turnover of each an end with Mr. N. Vijayakumar, Junior Technical Officer,

AQUACULTURE SCENE

Training on "Eco-friendly and sustainable shrimp farming"

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he MPEDA Regional Division, Kolkata organised five-day training session on "Eco Friendly And Sustainable Shrimp Farming" for SC/ST trainees at Jharkhli, Basanti in 24 Parganas District from 26 to 30 November 2018.

The main objective was to educate the farmers on adoption of farming methods for eco-friendly and sustainable in aqua culture with special emphasis on diversification in culture practices.

The programme was inaugurated by Mr. Johnson D'Cruz, Assistant Director, MPEDA, Regional Division, Kolkata. Besides Mr. D'Cruz, Mr. Pradip Maity, Field Manager, NaCSA, and Mr. Arun Kumar Deb, Field Extension Officer, Canning-1, addressed the participants. On the fourth day trainees were taken to nearby shrimp farm for field exposure. The programme, which ended on November 30, was attended by 20 farmer trainees. Certificates and stipend to 20 farmer trainees who attended the programme were distributed at the valedictory function on the last day.



Distribution of certificate to participants

AQUACULTURE SCENE

Training on Sustainable Shrimp Farming



Field trip to Mud crab farm at Bakale Ratnagiri

r. V. P. Joshi, former Dean, College of Fisheries, Ratnagiri inaugurated a three-day training programme on 'Sustainable shrimp farming and Aquaculture of diversified species' at the office of MPEDA, Sub Regional Division, Ratnagiri on 28 November 2018, in which 26 participants including existing farmers, members of Self Help Groups, fish traders and prospective farmers attended.



Distribution of certificate to participants

Dr. Vishnudas R. Gunaga, Junior Technical Officer welcomed the participants and introduced about various promotional schemes of the MPEDA for shrimp/prawn culture while the scope and status of shrimp/prawn

farming in India, with special reference to Maharashtra. In his presidential address, Dr. T. R. Gibinkumar, Deputy Director explained the purpose of conducting such training programmes by MPEDA for the benefit of farmers as well as for new entrepreneurs.

After inaugural programme, MPEDA officials and resource persons led classes in various topics related to the subject of the programme for next three days. Dr. Vishnudas Gunaga, spoke about 'scope of diversification in aquaculture', Dr. V. P. Joshi spoke on 'feed management in shrimp farming' and 'pond preparation/seed stocking', Mr. Narendra Chogale, MBRS, Ratnagiri, on 'water management in shrimp farming', Dr. Pagarkar, Professor, MBRS, Ratnagiri, on 'disease management in shrimp farming', Mr. Anil Chile, former Assistant Commissioner of Fisheries, Kolhapur, on 'Vannamei farming in freshwater areas unfit for agriculture', Mr. Arun Alase, a progressive farmer from Kolhapur, on 'experience in Vannamei culture in zero salinity areas', Dr. Raghavendra Pai, former Dean College of Fisheries, Ratnagiri, on 'importance of aquaculture in an eco-friendly sustainable manner' and Dr. T. R. Gibinkumar, Deputy Director, MPEDA Sub Regional Division Ratnagiri, on Scope and Issues in Value Addition of Seafood.

On the second day of the training programme, a field

AQUACULTURE SCENE

trip was arranged for trainees to MPEDA's mud crab demonstration farm at Bakale village in Ratnagiri, which belonged to Mrs. Neeta Vaiti. The trainees also visited the shrimp farm owned by Mr. Sudhesh Mayekar at Golap village in Ratnagiri. Dr. Vishnudas R. Gunaga and Dr. V. P. Joshi accompanied the trainees and explained the techniques involved in Vannamei culture as well as crab culture at the farm sites. The trainees were also given training in testing water/soil parameters.

The final day of the training programme concluded with the valedictory session, which was attended by Dr. Raghavaendra Pai, former Dean, College of Fisheries, Ratnagiri, Mr. Arun Alase, Chairman, Kurungwad Urban Co-operative Bank and Dr. T. R. Gibinkumar, Deputy Director, MPEDA Sub Regional Division Ratnagiri. Certificates were distributed to the trainees and the programme ended with Dr. Vishnudas R. Gunaga proposing vote of thanks.

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Awareness campaign on banned antibiotics



Dr. S. Angeli, Joint Director of Fisheries, West Godavari District addressing the participants

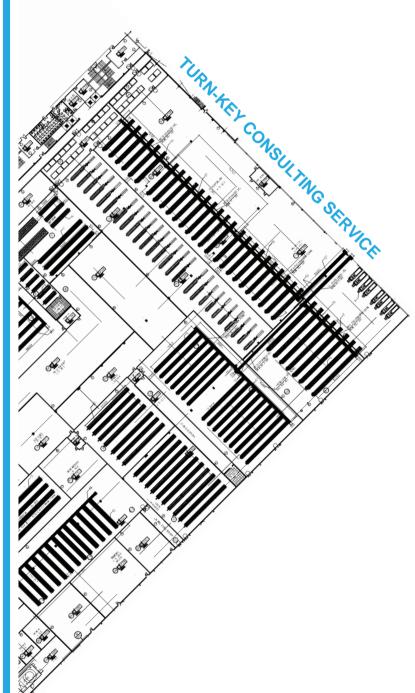
PEDA Sub Regional Division, Bhimavaram organised a one-day awareness campaign against the use of banned antibiotics in aquaculture at Akiveedu, West Godavari District, Andhra Pradesh on 6 November 2018, in which 51 farmers and officials attended. The programme was organised to create awareness among the farmers against the use of banned antibiotics in aquaculture.

Dr. P. Sreenivasulu, Assistant Director, MPEDA requested all farmers to get enrolled with MPEDA immediately and suggested that not to use any banned antibiotics in shrimp culture. He also requested to farmers to bring the seed from registered hatcheries. He also explained about the introduction of SIMP by USA and requested to farmers to maintain Pond Data Register for traceability.

Dr. S. Angeli, Joint Director of Fisheries, Department of Fisheries while speaking to the participants, stressed on the need for farmers to enrol with MPEDA for betterment of the shrimp export. She also explained about the regular inspection of aqua shop by Taskforce committee member being in relation to find out the banned antibiotics at aqua shop. She requested all farmers not to use any banned antibiotics.



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AQUACULTURE SCENE

Training Programmes on Eco-friendly and Sustainable Shrimp Farming



Mr. Maruti D. Yaligar, Deputy Director, MPEDA delivering inaugural speech at Jambusar

PEDA Regional Division, Valsad organised a five-day training programme on "Eco-friendly and sustainable shrimp farming" at Jambusar, Bharuch during 12-16 November 2018, for the benefit of the farmers of Bharuch, in which 158 attended. The objective of the training programme was to promote shrimp farming practice in coastal villages of Bhaurch district.

On the first day, Mr. Bhavin M. Gheravra, Field Supervisor, registered the trainees. Mr. Maruti D. Yaligar, Deputy Director, MPEDA inaugurated the training programme and explained the purpose of conducting the training. He also explained the role of MPEDA for development of shrimp farming and requested the trainees to attend the training regularly.

After inaugural session, MPEDA officials engaged classes on various technical aspects on the subject. Mr. Maruti D. Yaligar talked on 'Introduction to Shrimp Farming and Role of MPEDA on eco-friendly and sustainable shrimp farming. Mr. Bhavin M. Gheravra delivered a lecture on identification and life cycle of shrimp and pond preparation. On the second day, Mr. Maruti D. Yaligar and Mr. Bhavin talked on seed selection, packing, transportation, acclimatization and stocking and water quality management, on site selection and farm construction.

Mr. Maruti D. Yaligar and Mr. Bhavin addressed the trainees on next day about land leasing policy and procedure for submission of application to Collector/Department of Fisheries for allotment of government land for development of shrimp farming, uses of probiotic and misuse of antibiotics in aquaculture, harvesting and post-harvest management, marketing and HACCP in aquaculture.

The trainees were taken for field visit to shrimp farm of Mr. Rakeshbhai Jitsangbhai Parmar Doliya village, Bharuch next day. The visiting team was led by Mr. Maruti D. Yaligar. The practical aspects consisting 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 trainees. Mr. Sing, Farm-in-charge, explained his experience and Vannamei shrimp culture method to trainees.

Officials of MPEDA engaged classes on remaining important technical aspects on the final day. Mr. Maruti D. Yaligar spoke on diseases prevention and control and also on Aquaculture Authority Guideline and how to apply for license, on *L. vannamei* culture and bio security measures. Mr. Maruti D. Yaligar also distributed certificates to all the 158 trainees, who successfully completed the training programme.

NEWS SPECTRUM

Distribution of Community Fish Smoking (COFISKI) Units



Mr. L. Rymbui addressing the beneficiaries

The distribution ceremony of 26 units of COFISKI (Community Fish Smoking Units) developed as part of rural technology at ICAR-Central Institute of Fisheries Technology was held at Amlrem BDO, West Jaintia Hills District, Meghalaya on December 4. The programme organized by ICAR-CIFT in collaboration with DRDA, Jowai, West Jaintia Hills District, Meghalava started with a visit to the site by Chief Guest Honourable Minister of Education Mr. L. Rymbui, Government of Meghalaya. Mr. Rymbui enquired about methods of preparation of smoke cured fish and intricate details therein. Dr. M. M. Prasad, PI of the project and Head, MFB Division, ICAR-CIFT explained to the Minister how the rural technology was developed by ICAR-CIFT taking into consideration all the needs for easy maintenance, rigors of regular use and ergonomics of the women fishers.

The programme started with welcome address by Mr. D. M. Wallang, MCS, PD DRDA, West Jaintia Hills, Meghalaya. In his address Mr. Wallang said that he witnessed the systematic development of fishers of Amlarem Block and that could happen due to continuous support of ICAR-CIFT in the form, training cum demonstration programmes, awareness campaign on hygiene, skill development programmes etc. Presiding over the function, Mr. Garod L. S. N. Dykes IAS, Deputy Commissioner, Jowai, West Jaintia Hills

lauded the efforts made by the scientists and staff of ICAR-CIFT for the development of harvest and post harvest fisheries in his district. In his address the Chief Guest of the function Mr. Rymbui said that malnutrition is scourge in the country especially in remote areas and any intervention in the form of better quality food such as fish and fishery products with longer shelf life will better price and also help in socio-economic development of the hinterland residents. He welcomed and appreciated the technologies developed by ICAR-CIF and requested the beneficiaries to make best use of the COFISKI units given by ICAR-CIFT.

Dr. Prasad while addressing the beneficiaries said that the COFISKI units are given under CSR Scheme of Coal India Limited for the betterment of women fishers who are economically under-privileged and belonging to SC/ST categories. He said fishers of West Jaintia Hills District especially of Amlarem are fortunate enough to get first lot of 26 Units.

He said all the women fishers should emulate Mrs. Alma who become epitome of success in implementing technologies given by ICAR-CIFT. Headman of the Umladhkur and other state department officials also spoke on the occasion. The programme came to an end with vote of thanks from Mrs. J. U. Kharpuri, MCS BDO Amlarem C & RD Block, West Jaintia Hills District.

- ICAR-CIFT

NEWS SPECTRUM

ICAR-CIFT organizes trainers training at Umladhkur, Meghalaya



As a part of Coal India Limited's CSR Scheme, ICAR-Central Institute of Fisheries Technology, Kochi organised one day trainers' training workshop on "Smoke Curing of Fish by Scientific and Hygienic Methods Employing COFISKI" at Umladhkur of Amlarem Block of West Jaintia Hills District, Meghalaya in collaboration DRDA Jowai, West Jaintia Hills District, Meghalaya on December 3. The programme started with welcome address by Mr. Paul, DRDA who presented in details all the benefits of producing good quality smoke cured fish for better price realization, longer shelf life and helping in improving socio-economic condition.

Dr. M.M. Prasad, Principal Scientist and Head, Microbiology, Fermentation and Biotechnology Division, ICAR-Central Institute of Fisheries Technology delivered presidential address. He said the immediate need in the region is meeting the demands of food and nutritional security and that is possible only through foods like fish that contain more than 40 nutrients. For to other trainees. At the end trainees displayed the better development of children, pregnant mothers and smoke cured fish product developed by them.

lactating mothers, the need is better quality food. He said ICAR-CIFT is playing a very important role in training the fishers especially women fishers in value added fish product development such as fish wafers, pickles and smoke cured fish products for the last five years. It shall be noted that out of 26 beneficiaries of COFIS units under CIL CSR scheme in West Jaintia Hills District, Meghalava 17 belonged to Umladhkur, ICAR-CIFT has been vigorously involved in enhancing the capabilities of women fishers of Umladhkur by imparting training on production of better quality smoke cured fish.

This has helped tremendously in not just producing better quality smoke cured fish, but some trainees become trainers grasping all the important aspects of smoke curing of fish. They are able to communicate to others and could demonstrate which is a major satisfaction to the continuous efforts of ICAR-CIFT. The trainers have demonstrated smoke curing of fish



TRADE ENQUIRY

Trade enquiries received at China International Import Expo (CIIE 2018), Shanghai

SHRIMP

1. Mohamed Mahmood

Director
Alresala
803, Building B,
Binwang Plaza, Yiwu City
Zhejiang Province, China
Tel: +86 18657978185
E-mail: kobaaco@hotmail.com
Frozen shrimp

FISH



1. Zhang Yuling

Director
Dodjiyuan Seafood
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Tel: +86 18611730827
E-mail: dadijiyuanbj.126.com
Web: www.Dadijiyuanbj.com
Canned tuna

2. Zhang Bin

Jinan comprehensive free trade zone development centre
No.2099, Gangxi Road
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Tel: +86 531 82081903
Fax: +86 531 82081900
Mob: +86 15069159181
E-mail: gaoxinzhangbin@sina.com
Fresh/Chilled fish

3. Faisal Ilyas

Proprietor
Faisal Foods
Office 4, 11th Floor,
Sharjah Trade Centre,
New Challi,
Karachi, Pakistan
Tel: +92 21 32471122
Mob: +92 321 2063303
E-mail: faisal@faisalfoods.com
Fish meal

4. Wang Feng

CEO

Zhengzhou Frontier International Trade Co. Ltd. Building, Shangwuneihuan Road, Zhengdong New District Zhengzhou City, Henan, China Tel/Fax: +86 371 60229858 Mob: +86 13903933885 Frozen fish

5. Workhan

Manager
Tianjin An Teng Technology Trade Co. Ltd.
Nankai District, No.31,
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Fish curries (Ready to eat)

6. Sun Hui

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Export Co. Ltd. Chinatex Mansion,
No.19, Jianguomennei Street,
Beijing,China – 100005
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Mob: 13718065555
Frozen croaker, Mackerel

7. Joanthan Zhao

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Fax: +86 511 88893806
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Frozen ribbon fish

8. Margarita Beltran

International Business Manager Pinsa Comerial Paseo de la Reforma No 295, Piso 11, Col. Cuauhtemoc, C P 06500, Ciudad de Mexico Tel: +52 55 5080 3590 Mob: +521 55 2140 5098 E-mail: mbeltran@pinsa.mx Web: www.pinsa.com Frozen skip jack tuna

9. Rowland Ong

General Manager GMP Pharmaceuticals 291 East Tamaki Road, East Tamaki, Auckland 2013, New Zealand Tel: +64 9 265 3496 Mob: +64 27 620 2706 E-mail: rowland@gmp.net.nz Web: www.gmp.net.nz Edible fish oil

10. Janis Savics

Head of Sales JSC Brivais Vilnis,Ostas Street 1, Salacgriva, LV – 4033, Latvia Mob: +371 26482484 E-mail: Janis.savics@brivaisvilnis.lv Web: www. brivaisvilnis.jv Canned sardine, Anchovy

11. Wendy Zhang

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59 Kirby Street,
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Fax: +02 9648 2886
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E-mail: wzhang@homart.com.au
Omega 3 fish oil

TRADE ENQUIRY

CEPHALOPODS

1. Kevin Beh C. T.

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Tel: +605 6911223
Fax: +605 6922737
E-mail: enquiry@kokchang.com.my
Web: www.kokchang.com.my
Frozen Cuttlefish

MIXED ITEMS / OTHER

1. Richard Zhang

General Manager Shanghai Shen Hong Sunlight Imp. & Exp. Co. Ltd. Rm 1102, No.777 Jiang Ning Rd. Shanghai Tel: +86 21 52891882, 52891883 Fax: +86 21 52891881 Mob: +86 13816676123 E-mail: shsunlight@vip.sina.com Frozen shrimp, Squid, Cuttlefish



2. James Chen

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Fax: +86 2936426 2929836
E-mail: tan@tanco.com.cn,
tan@zhangzhoutan.com
Frozen Tuna, Lobster, Sardine

3. Jake Chen

Chairman
Vcare ioT Intelligent Terminal
Industrial Park,
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Hunan Province, China
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Mob: +86 15118157506 E-mail: jake@vcareiot.com Web: www.vcareiot.com *Live mud crab. Live lobster*

4. Wang Fengping

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All kinds of frozen seafood

5. Deng Jun

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All kinds of frozen seafood

6. Peter Yang

Business Manager Shanxi Gnzh International Trading Co. Ltd. Block B, Wushu bonded Zone, 19 Qingyun Road, Taiyuan City, Shanxi Province Tel: +86 0351 2716685 Mob: +86 18636947678 E-mail: ceablsz@qq.com Frozen fish, Shrimp

7. Binbin Yang

General Manager Youdingte Co. Ltd. Bldg 12, No.21, Xi Si Bei Er Alley Xicheng District, Beijing Tel: +010 66156812 Mob: +86 13810562021 E-mail: yang_binbin@126.com All kinds of frozen seafood

8. Bing Gang Qian

Chairman Shanghai Linghai Industrial Co. Ltd. No. 1998, Jiangdong Road, Pudong, New Area, Shanghai Tel: +021 58616888 8002 E-mail: linghai2018@163.com All kinds of frozen seafood

9. Arthur Seit

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Web: www.panseas.com
All kinds of frozen seafood

10. Tao Jiayue

Overseas Marketing Manager Win Win Food, 20 Jungangro 378, Yangpyeong-eup, Yangpyeong-gun, Gyeonggi-do, Korea Tel: +82 70 4640 0128 Fax: +82 317749157 Mob: +82 1026925876 E-mail: gairytao@naver.com Minced shrimp meat, Crab

11. Yanny Yun

General Manager Yemat Foods #66, Seoicheon-Ro 231 Beongl, Majang-Myeon, Icheon-Si Gyeonggi-Do, Rep. Korea, 17385 Tel: +82 31 631 1312 Fax: +82 31 631 1311 Mob: +82 10 5165 0683 E-mail: yessguy@yemat1004.com Dried seaweed



TRADE ENQUIRY

12. Luyan Mei

President Luyan Business Solution Ltd. Shanghai, China Tel: +86 13917534237 E-mail: meiluyen@yahoo.com All kind of frozen seafood

13. Hyun Jung Shin

General Manager
Daeryuk Food Co. Ltd.
Daeryuk (59303) 20,
Nonggongdanji-gil
Jangpyeong-myeon,
Jangheung-gun,
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Tel: +82 61 862 22356
Fax: +82 61 862 2237
Mob: 010 8926 4435
E-mail: daeryuk@daum.net
Web: www.drseaweed.com
Dried seaweed

14. Xianglin Hu

Import Manager Shanghai Rong Zhu Import & Export Co. Ltd. Room 408, Block C, No.1333, Wenju Road, Pudong Shanghai, China Tel: +86 21 58380591 Fax: +86 21 58380592 Mob: 18917969840 E-mail: rongzhu999@126.com Live mud crab. Lobster

15. Li Qinshan (Anna)

Procurement Manager Shanghai Yupinxian Supply Chain Management Co. Ltd. Room 1303, No.2 Building Wanda Plaza No.928, 128 Memorial Road, Baoshan, Shanghai, China Tel: +86 150 5012 0878 E-mail: liqinshan2011@126.com All kinds of frozen seafood



16. Guo Zhen Yu

Managing Director
Da Lian Sijihe Company
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E-mail: sijihecompany@163.com
Live crab, Lobster, Shrimp

17. Dinglin Zhang

Vice President Yuan Ji (shanghai) International Logistics Co. Ltd. 101, 4, No 275, Basheng Road, Shanghai, China Tel: +021 50687615 Fax: +021 50687622 Mob: 15618493890

E-mail: yayue23846@hotmail.com

Frozen shrimp, Fish

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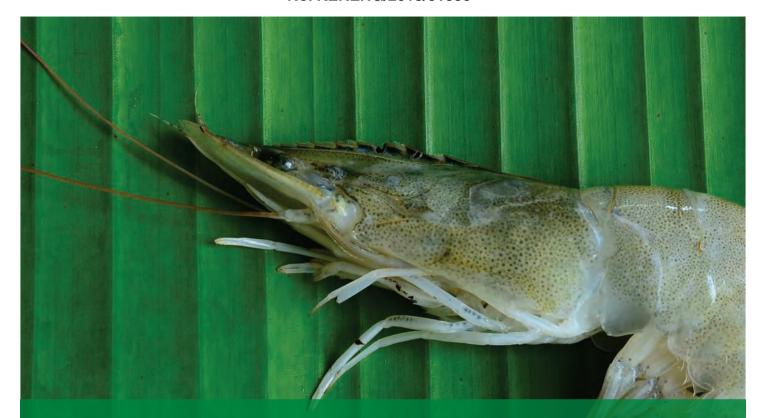




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