

COVER STORY Strategies & Action Plan 2025 – Part 6 By K.S Srinivas IAS, Chairman, MPEDA India Submits Comparability Finding Application Under US MMPA

-00000-

Waterless Live Seafood Transportation

-00000-

MPEDA at 23rd JISTE 2021



www.mpeda.gov.in

f /MPEDAIndia 😏 /MPEDACOCHIN 🖸 /mpedaindia 🞯 /mpedaofficial





CONTENTS

MPEDA PARTICIPATES IN 05 23RD JAPAN INTERNATIONAL SEAFOOD AND TECHNOLOGY **EXPO** INDIA'S SUBMISSION ON COMPARIBILITY FINDING 16 APPLICATION UNDER **US MARINE MAMMAL** PROTECTION ACT 40 STRATEGIES AND ACTION PLAN FOR SEAFOOD EXPORTS **BY 2025 - SERIES 6** WANT TO KEEP 44 YOUR TANK LIVELY? **BRING IN THE DANIOS** MPEDA OBSERVES 50 WORLD ANTIMICROBIAL AWARENESS WEEK (WAAW)- 2021 **BIOFLOC TILAPIA** 55 FARMING SET TO HELP INDIA'S RURAL POOR

The views expressed in the scholarly articles of this publication are the views of the authors and do not constitute the views of MPEDA. The responsibility for the accuracy of information in the scholarly articles of this publication is vested with the authors themselves and neither MPEDA nor the editorial board holds responsibility for the same



when the world needs the best

PROCESSING SOLUTIONS FOR













SPIRAL IMPINGEMENT FREEZER



MULTIJET FREEZER

COCHIN FOOD TECH PVT. LTD. KOCHI-682307 www.cftech.in |sales@cftech.in

Call Us: + 91 484 2794140 | +91 7593 810090



On the Platter

K. S. Srinivas IAS Chairman

Friends,

The National Oceanic and Atmospheric Administration (NOAA) of USA has brought out the regulations under Sec.101(A)(2) and 102 (C)(3) of the US Marine Mammal Protection Act (MMPA) from 1^{st} January 2017 implementing the fish and fish product import provisions related to marine mammal bycatch associated with fisheries that supply imports to the United States.

MMPA requires that the United States ban imports of fish or fish products caught in commercial fisheries resulting in the accidental killing or serious injury (bycatch) of marine mammals in excess of the US standards. The NOAA Fisheries has established a 5-year exemption period to provide nations with the time necessary to develop, as appropriate, regulatory programs comparable in effectiveness to the US programme, which may include assessing their marine mammal stocks, estimating bycatch, and mitigating that bycatch to levels comparable with U.S. regulatory programs in an analogous domestic fishery. Fisheries required comparability findings for import starting January 1, 2022. However, due to Covid- 19 pandemic, the enforcement date was deferred by a year to January 1, 2023. The US MMP Act demands nations to file Comparability Finding Applications (CFA) by 30th November 2021. The information collected will be used to categorise the foreign fisheries into either "export" or "exempt" fishers based on the level of interaction those fisheries have with marine mammals and the effectiveness of mitigation measures in place. Fish and fishery products from fisheries identified by National Marine Fisheries Service (NMFS) in the list of "Export" fisheries cannot be imported into the United States from 1st January 2023. If India is unable to fulfil the criteria, we may lose a market share worth ₹ 2300 crore . Considering this, MPEDA took a lead role in complying with the requirements of MMPA and to file progress reports on the US portal at the specified time.

To fulfill further requirements under the Act, MPEDA has funded a project worth Rs. 3.00 Crore by the CMFRI on the stock and bycatch assessment of marine mammals in the Indian EEZ, which included bycatch survey, and visual survey, done across the Indian coasts and EEZ through land based surveys and those on board vessels of CMFRI & FSI. The bycatch survey was done by MPEDA-NETFISH and CMFRI. The data and information collected from those surveys were evaluated and used in entering the fields under the CFA on the NOAA portal. Based on the study, MPEDA submitted CFA on the NOAA portal by 25th November 2021, well ahead of the deadline of 30th November 2021. It is expected that NOAA will examine the details furnished and may seek clarifications before zeroing in on the list of export fisheries pertaining to India under the MMPA.

I am happy to inform you that the stock and bycatch assessment of marine mammals will continue further involving advance acoustic surveys, so that the country will be able to make more fruitful efforts to conserve its marine mammal population, without compromising our trade interests in the US market. It gives immense pleasure that MPEDA has set the ball rolling for such an ambitious exercise for the country, and further studies will be spearheaded by FSI, who is preparing the DPR for the project. Shri. L. Murugan, Hon'ble Minister of State in the Ministry of Fisheries, Animal Husbandry and Dairying paid a visit to MPEDA last month as part of his visit to Kochi. He was explained the activities of MPEDA and its societies, and the future plans to enhance the exports. Earlier Hon'ble Minister has visited Cochin Fisheries Harbor which has been announced for infrastructure upgradation in the last union budget, to create better infrastructure facilities.

The marine products exports upto November 2021 was US \$ 5393 million against the target of US\$ 7809 million showing an achievement of 69%. The export shows a trend in line with the envisaged path, giving hopes that the target set for the year is achievable. To support the trade MPEDA is organizing virtual buyer seller meets on a regular basis. During the current year 22 such meets were organized involving 14 countries, 109 buyers and 576 Indian exporters. In December, two virtual meets between Indian exporters and the buyers in Greece and Portugal were organized.

MPEDA has observed the World Antimicrobial Awareness Week by organizing two webinars and through social media campaigns, which gains importance as the world seriously look toward to bring in measures to reduce the ill effects of unauthorized use of antibiotics by public and in food producing systems.

Thank you.

Disclaimer: Readers are requested to verify & make appropriate enquiries to satisfy themselves about the veracity of an advertisement before responding to any published in this magazine. The Marine Products Export Development Authority, the Publisher & Owner of this magazine, does not vouch for the authenticity of any advertisement or advertiser or for any of the advertiser's products and/or services. In no event can the Owner, Publisher, Printer, Editor, Director/s, Employees of this magazine/organization be held responsible/liable in any manner whatsoever for any claims and/or damages for advertisement in this.

MPEDA is not responsible for the content of external Internet sites.



EDITORIAL BOARD

Dr. M. Karthikeyan DIRECTOR

Dr. M. K. Ram Mohan JOINT DIRECTOR (QUALITY CONTROL)

Mr. P. Anil Kumar JOINT DIRECTOR (MARKETING)

Mr. K. V. Premdev DEPUTY DIRECTOR (MPEDA MANGALORE)

EDITOR Dr. T. R. Gibinkumar DEPUTY DIRECTOR (MARKET PROMOTION & STATISTICS)



EDITORIAL SUPPORT Bworld Corporate Solutions Pvt Ltd 166, Jawahar Nagar, Kadavanthra Kochi, Kerala, India 682 020 Phone: 0484 2206666, 2205544 www.bworld.in, life@bworld.in

LAYOUT Mr. Bijo Francis John

Printed and Published by Mr. K.S. Pradeep IFS, Secretary On behalf of The Marine Products Export Development Authority (Ministry of Commerce & Industry, Govt. of India) MPEDA House, Panampilly Avenue Kochi, Kerala - 682 036, Tel: +91 2311901

www.mpeda.gov.in support@mpeda.gov.in

Published by MPEDA House Panampilly Avenue Kochi , Kerala - 682 036

Printed at Print Express 44/1469A, Asoka Road Kaloor, Kochi, Kerala - 682 017

FX-Retail

Trade with Best & Trusted Forex Trading Platform





(An initiative by RBI)

Best suited for Importers, Exporters, MSME & Corporates.

- Web based Forex dealing in USD / INR.
- Setter Pricing & Full Transparency.
- C Real-Time access to Forex Market.
- Scope for Savings in Forex Conversion
 ✓ Cost.
- Dealing with Multiple Banks on Single Platform.
- Easy Registration Process.



www.fxretail.co.in

A wholly owned subsidiary of The Clearing Corporation of India Ltd.

📴 1800 266 2109 / 022-61546313 🛛 🖂 supportfxretail@ccilindia.co.in

MPEDA participates in 23rd Japan International Seafood and Technology Expo 2021

apan is the 3rd largest market for fish and seafood in the world. It imports more than 40% of its fishery product supply from all over the world, valued at US\$17.7 billion and 2.5 million tons (as of 2017). The main imported products are Salmon and Trout, Tuna and Marlin, Squid, Shrimp, Crab, Cod, etc. Demand for seafood raw materials for processed seafood, such as frozen cooked seafood, Surimi products, etc., have also expanded recently due to the increased opportunities for cooking or eating at home.

The 23rd edition of the Japan International Seafood and Technology Expo 2021 was held from November 8th to 10th 2021 at Tokyo International Exhibition Centre "Tokyo Big Sight" South Hall. The show was organised by the Japan Fisheries Association.

Exhibitor Profiles

• **Seafood:** Wild-caught and farmed fishes in Japan and overseas.



MPEDA booth In JISTE 2021



View of the show

• Processed seafood products, Seafood delicatessen: Cut fish, grilled fish, boiled fish, salted fish, canned and preserved products, frozen foods, fries, marinated and smoked products, seafood delicatessen, kamaboko and surimi products, seaweed noodles, bonito flakes, kombu, etc.

• Seasoning & Food additives: Various seasonings such as sauce, soy sauce, fish sauce, salt, wasabi, ginger, vinegar, etc.

• Seafood processing machinery and related equipment: Various seafood processing machines and related equipment such as cutters, slicers, dicers, mixer griller grills, bone-cutting machines, food filling machines, cleaning equipment, dryers, smoke machines, etc.

Freezer and refrigerated equipment: Freezing

/ refrigerating equipment, thawing technology, ice making equipment, etc.

• **Packaging / Logistics equipment service:** Seafood packaging machinery, packaging materials, labeling machine, container, conveyor, seafood transport logistic, low temperature logistics technology, etc.

• Equipment and services for HACCP countermeasures, food sanitation management device / equipment, technology: Sterilized water generator, seawater sterilizer, ultraviolet / far-infrared / ozone / microwave sterilizer, plant / engineering equipment for HACCP countermeasures, shutters, sheets, air showers, work clothes, masks, hats, hand washing equipment, various detergents / brushes / chemical agent, sterilization / sterilization equipment, sanitation management services, sanitary management materials.

• Fisheries industry, fisheries market modernization technology: Product management systems, market management systems, traceability, technology for extracting functional and pharmaceutical ingredients from marine products, technology for commercializing components extracted from marine products into pharmaceuticals, beauty products and functional foods, and electronics and electronics fields extracted from marine products, technology to develop products applied to marine products, functional products born from marine products.

• **Kitchen equipment and cooking utensils:** Kitchen equipment and cooking utensils such as kitchen knives, cutting boards, wraps, stoves, microwave ovens, sinks, fish-related products display cases, frozen showcases, various trays, POP and product display support products.

• **Sushi Business:** Rice cooking robot, Conveyor belt for rotation-sushi, Sushi Rice molding, Rice cooker, Supports for Sushi outlets and business.

• Recirculating aquaculture technology, Marine aquaculture technology: Aquaculture management system, water quality management / measurement instrument, ultraviolet ray / ozone sterilization equipment, fishing ground / fish farm / marine environment conservation equipment, filter / water purification equipment / water quality improvement



Seafood samples displayed in MPEDA stand

agent, aquarium, live fish transport equipment / technology, feed / nutrient / Filtration products, fishing nets and fish net feeding equipment / epidemiological related / seed and seedling related, underwater cameras, fishing boats and related equipment.

• Biomass technology for fishery and recycling technology: Fishery incineration facilities / related equipment, fish ash / shell processing facilities / related equipment, garbage processing machines, styrofoam / plastic / ball-cut volume reduction / treatment facilities / related equipment, wastewater treatment facilities / equipment, various waste treatment services, Biomass and recycling technology in fisheries

• **Printed Material:** Cookbook, recipe collection, illustrated reference book

Exhibition overview

Despite the ongoing restrictions due to the pandemic, JISTE 2021 was rather successful in terms of exhibitors, visitors and country participation from overseas including India. 380 companies occupied around 600 booths during this year, but less compared to 835 companies & 1408 booths during 2020. A total of 11,125 delegates (Pre-reserved participants) attended the show during the 3 days, which was also very less compared to the 34,018 delegate participation witnessed during 2020.

12 countries including India, USA, Australia, Polynesia, Scotland, Korea, Norway, Peru, Vietnam, Austria, China and Oman participated this year.

Increasing the export of Japanese fish & fishery products

was one of the main thrust areas of this year's show. Both JETRO & Agriculture section, Head Office were promoting the export activities for Sushi, Yellowtail, Red Snapper, Scallop etc. New developments, such as IT robots, new development of ports on the base of wind power, maximum usage of drones, land farming etc. were well highlighted. Prefecture-wise campaigns were also done to find out good buyers under tough conditions of COVID-19.

MPEDA booth

MPEDA took a basic booth of 2m x 2m size having 4 sq. m. area for participating in JISTE 2021. Under limited booth size due to COVID-19, MPEDA displayed several posters & charts and distributed general pamphlets on the Indian seafood industry and activities of MPEDA. Frozen seafood samples collected for Indian importers in Japan were also displayed.

Samples of regular commercial items such as block frozen Vannamei shrimp, Black Tiger shrimp, Indian White shrimp, Flower shrimp, blanched PD IQF, Cuttlefish filet, Squid ring, various kinds of Surimi products such as Kanikama etc., were displayed. Mr. Jun Nakayama, Executive Assistant of MPEDA Trade Promotion Office at Tokyo coordinated MPEDA's participation in the show.

Before the fair, nearly 200 invitation cards were sent to potential customers having good rapport with the Trade Promotion Office of MPEDA in Tokyo, Japan. During the 3 days' fair, around 180 people visited the MPEDA booth. Importers, scientists, academicians, restaurant owners, whole sellers, staff of machinery sales companies, JETRO officers, Government

officials, Seafood/ fishers and Farmer Associations related officers, consulting companies etc. visited the MPEDA booth. 23 trade enquiries are received mainly for shrimp and value-added products of shrimp. Other enquiries for fish, cephalopods and surimi were also received.

Co-events arranged during 23rd Japan International Seafood and Technology Expo 2021

a. Sushi with Japan Cuisine Expo

In the global boom of Sushi & Japanese food, "Sushi" is considered as one of the representatives of Japanese food, as it plays an important part in expanding the fish consumption. "Sushi with Japan Cuisine Expo" introduced a wide range of Sushi products, including suitable fish for Sushi, varieties of Sushi material such as vegetables to meats, seasonings and machineries, for buyers and prospects.

b. Marine Eco-Label Corner

As sustainable marine resource management becomes a global trend, there is a growing interest in certified seafood among producers, markets and consumers.

"Marine Eco-Label Corner" introduced the The certification system such as the internationally standardized Marine Eco Label (MEL) from Japan and precedes Marine Stewardship Council (MSC), Aquaculture Stewardship Council (ASC), etc.

The corner popularized the certified seafood to the participants in order to enhance the need for resource management and promote the handling of certified seafood.

c. Freshness Keeping and Distributing Technology Expo

Innovative improvements in freshness-keeping technology have enabled the distribution of highly fresh seafood in Japan and around the world. The "Freshness Keeping and Distributing Technology Expo", introduced various technologies related to freshness keeping to producers, distributors, and seafood processors, and will support further value creation of seafood products and realization of export expansion.

d. Sanitation Management Promotion Corner

In June 2018, the Food Sanitation Act was partially revised in order to internationally standardize promulgate food sanitation management. and

The "Sanitation Management Promotion Corner" encouraged the supply of safe and secure seafood by widely disseminating information on hygiene management to seafood and food practitioners through various equipment, materials, and services related to food hygiene.

e. International Aquaculture Technology Expo

Now that the 3rd aquaculture boom is coming, marine and land-based aquaculture are becoming more active all over Japan. The International Aquaculture Technology Expo introduced various facilities and technologies that enable increased productivity in marine and land-based aquaculture, improvement of growth environment, and creation of added value to fisheries, aquaculture, research institutions, and new entrants, contributing to the further development of the aquaculture industry.

f. Fish Next Technology EXPO

In recent years, the fishery industry is required to modernize due to changes in the fishing environment, aging fishermen and labour shortages. The Fish Next Technology Expo supports the modernization of the fishery industry and the sustainable fishery industry by introducing the latest technologies and ideas such as AI, IoT, and robotics technology to fisheries companies and fisheries sites.

g. Aquaponics EXPO

Aquaponics, which combines aquaculture and hydroponics, is attracting attention as a nextgeneration primary industry. Aquaponics EXPO introduced materials, equipment, technologies, etc. related to aquaculture and hydroponics to fishermen, aquaculture, farmers, research institutes, and those aiming to enter the market, and support the further spread of the industry.

h. EXPO for Ocean and Seafood Industry

The SDGs EXPO for the Oceans & Seafood Industry was established to promote the realization of the 17 Sustainable Development Goals (SDGs), set by the United Nations by supporting the sustainable use of rich marine resources by introducing them to a wide range of fisheries, seafood and sea related industries including equipment, materials, and services that are environmentally friendly to the ocean, such as environmentally friendly compost waste disposal equipment, dishwashing detergents, and container generation equipment that does not use harmful micro plastics.



MPEDA conducts Virtual Buyer Seller Meet in association with Indian Missions

Mozambique

A virtual Buyer Seller Meet was conducted by MPEDA with the EOI, Mozambique on 12th November, 2021. Dr. T. R. Gibinkumar, Deputy Director (Market promotion & Statistics), MPEDA gave a brief introduction of the VBSM, and covered the export statistics of seafood items to Mozambique. During 2019-20, India exported 243 MT of seafood worth USD 0.72 million and despite the pandemic, the exports rose to over 1142 MT in 2020-21, fetching USD 0.99 million. About 38 % of the export target fixed by the Ministry for the current year is accomplished. Frozen fish is the sole item of export to Mozambique from India which includes species like snapper, reef cod, croaker, mackerel, tilapia etc.

Honourable High Commissioner of India to Mozambique, Mr. Ankan Banerjee, spoke about the remarkable work done by MPEDA to increase the exports and assured wholehearted support from the Embassy in all its efforts. The need for diversification of seafood products exported to Mozambique and developing a taste for Indian variety of fishes in the country was also suggested by the High Commissioner. The Embassy is presently working on the market survey in Mozambique which could aid in improving the exports.

Eight exporters registered for the VBSM were called for the presentations. Captain Jayendra Misra (Member), Dr. Chetanya Singh, President Indian Business Council and Mr. Ajay Kumar Verma, President of General Assembly, Indian Business Council, Mozambique participated in the VBSM. Mr. P. Anilkumar, Joint Director (Marketing), MPEDA gave the concluding remarks and thanked the participants and invited the buyers for Indian International Seafood Show to explore the Indian seafood market.

Japan

A Virtual Buyer Seller Meet was organised by MPEDA with the Embassy of India, Tokyo, Japan on 25th November 2021. Dr. T. R. Gibinkumar, Deputy Director (Market promotion & Statistics), MPEDA welcomed the buyer Mr. Shibata San, from M/s. Kobe Bussan, Eol officials and the exporters to the programme. Mr.



Screenshot from first VBSM with Japan



Screenshot fromVBSM with Mozambique



Screenshot from second VBSM with Japan

Shibata spoke about his company M/s. Kobe Bussan and said that they are specifically looking for 300gm, PD and PUD vannamei shrimps.

The VBSM proceeded with the presentations of the exporters, which covered a brief about their processing plant, infrastructure, products and policies. 10 exporters participated in the programme and the VBSM ended with the vote of thanks by Dr. Gibinkumar.

Kobe Bussan was founded in November 1985 and 2021 marks its 36th year in the business. Kobe Bussan engages primarily in the business of providing "Shoku", which basically means anything related to food practices in Japanese language. By offering More Value with Less Price, they are committed to improving everyone's quality of life as best as possible.

Kobe Bussan Group developed a comprehensive concept of "Integrated Food Production and Distribution Operations". They own the retail chain Gyomu Super that has developed as a local community supermarket offering quality products at best prices.

The main Business Activities of Kobe Bussan include

• Operation and management of retail stores (including Gyomu Super stores and other stores owned or operated by them), buffet-style restaurants, and delicatessen stores as a direct business owner, master franchisor, and regional master franchisor, including providing strategic operational guidance and support to franchise partners

• Foreign product development and direct import, domestic product development and production in company-owned plants in Japan, and distribution of those products to franchise network

• Operation and management of power plants for renewable energy

Kobe Bussan Group operates its own food processing plants in 23 locations across Japan, enabling them to provide the customers with innovative products with high quality and low prices.

Additionally, they cooperate closely with over 350 food production plants of overseas suppliers. With the concept of "importing authentic food products directly from around the world", Kobe Bussan strive to import and supply locally produced products from a vast array of overseas markets. They have Branch Offices at Yokohama, Hakodate & Ebisu.

MPEDA in association with the Embassy of India, Tokyo, Japan has arranged a Virtual Buyer Seller Meet with Mr. Kurazono and Ms. Yu from M/s. Sofu Food on 26th November, 2021. The meeting began with the welcome address of Dr. T. R. Gibinkumar, Deputy Director (Market Promotion & Statistics), MPEDA. The specific product preferred by the buyer was Nobashi shrimp and 7 exporters participated in the meet with the presentations.

The buyer asked about the different fish varieties available in India and Mr. Anil kumar P., Joint Director (Marketing), MPEDA shared the details of different fishes in India including the seasonal availability and regional names. The meeting ended with the concluding remarks by Mr. Anil Kumar.

Spain

MPEDA in association with EOI, Madrid, Spain organised a VBSM with Ms. Mehek Harjani from M/s Egarma Gourmet on 17th November 2021. The buyer was particularly interested in vannamei shrimps, which are intended for consumption within the country. Dr. T. R. Gibinkumar, Deputy Director (Market promotion & Statistics), MPEDA welcomed the buyer



Screenshot from VBSM with Spain

and the exporters and gave a brief introduction about the VBSM. The exporters were called for their presentations and 10 exporters participated in the meet. Ms. Mehek Harjani thanked MPEDA for organising the VBSM and assured her support to MPEDA for the Seafood Expo, Barcelona scheduled for April 2022.

China

MPEDA has organised a VBSM with importers from China on 16th November 2021. Seven representatives from the following importing companies participated in the VBSM: M/s. Shandong Bodelong group, M/s. Xiamen Mailard Food Science &Technology Co. Ltd., M/s. Taizhou Feifan International Trading Co. Ltd., M/s. Shanghai Hua'en Food Co. Ltd., M/s. Quanlian



Screenshot from VBSM with China

Aquatic Products Collection (Guangdong) Co. Ltd., M/s. Guangzhou Lizhiwan District Jiali Aquatic Products Business House and M/s. Shenzhen Nafarm Agribusiness. Co. Ltd. Dr. T. R. Gibinkumar, Deputy Director (Market promotion & Statistics) welcomed the importers and the exporters from India to the programme.

In the introductory speech, a brief of MPEDA and the aim of conducting VBSM were given. The main requirements of the buyers were vannamei shrimp, squid and fishes like croakers, ribbon fish etc. Nine exporters participated with their presentations and it was translated to Chinese by an interpreter.

The VBSM was followed by a Q & A session in which the queries from importers were answered by Dr. T. R. Gibinkumar and Mr. Anil Kumar, Joint Director (Marketing). The VBSM ended with the concluding remarks by Mr. Anil Kumar.

11

MPEDA participates in Seafood Expo Asia Reconnect

ollowing the success of the 2020 program, Seafood Expo Asia, produced by Diversified Communications, has organized an online event, Seafood Expo Asia - Reconnect, for five days of business matchmaking opportunities from 15-19 November 2021. The virtual event was designed to facilitate the meeting, trading and sourcing needs of the seafood industry in the Asian market.

Liz Plizga, Group Vice-President, Diversified Communications mentioned that in the current challenging situation caused by the pandemic, it is even more important for buyers and suppliers to maintain business continuity. As buyers are looking for ways to build relationships with international seafood suppliers and find new products, Seafood Expo Asia Reconnect has provided the platform and enabled the relationships by connecting buyers and suppliers together based on their business needs and product offerings.

During the five days of business meetings, seafood suppliers from around the world and Asia presented their best and newest seafood products, including fresh, frozen, canned, value-added, packaged and processed items to buyers throughout Asia. These buyers included importers, supermarkets/hypermarkets, restaurants,



food service and catering companies, e-commerce, and distributors, who were looking for the products they need to satisfy their customers' appetite.

Prior to the event, participants were facilitated to access the platform and search the database, match with the right suppliers or buyers and schedule targeted meetings. Seafood Expo Asia Reconnect was a comprehensive online event that brought industry suppliers and buyers together to connect, meet and accomplish business.



Using meeting and community interaction technology, Seafood Expo Asia Reconnect offered online business matchmaking and meeting, scheduling program designed to facilitate the trading, sourcing and networking needs of the seafood industry in Asia.

MPEDA participated in the 5 day online event and provided advertisement in the Buyer's Guide. The Buyer's Guide is a preevent directory of participating seafood suppliers. In this edition of the Guide, there is information about participating companies which is useful for business matchmaking process.

Under the matchmaking criteria, MPEDA scheduled online meetings with 5 buyers and 2 suppliers during the event. The buyers were mainly dealing with frozen seafood, value added products, canned seafood, fresh and live seafood. Details of the profile of buyers and suppliers are provided in Table 1 and 2.

The online platform generated interest from various countries with Malaysia on the top of the attendees' country-wise with a percentage of 38.46%. Around 38.46% were procurement managers, 15.38% purchasing officers and 11.54% were marketing executive and sales representatives. Product and services advertised include frozen seafood, live seafood and private label. Products advertised included salmon, crab, shrimp and squid. Companies / products dealing with certifications like ASC, BRC global standards, Global G.A.P & MSC also participated. The meetings with buyers were fruitful providing contact details for further discussion and virtual buyer seller meets.

Table. 1 : Buyer's profile

| SI. No | Name | Product/Service Types | Products | | |
|-----------|---|---|--|--|--|
| 1 | Mr. Sameh Madi, CEO, Food Sources Trading Co., Saudi Arabia Email: cadee717@gmail.com Ph: +966543543309 | Frozen Seafood, Value-Added Seafood, Canned Seafood, Fresh Seafood, Aquaculture / Farm- Raised Seafood | Crab, Mahi Mahi, Tilapia, Tuna, Pomfret, Lobster, Octopus, Mackerel, Pangasius, Anchovy, Catfish, Oysters, Clams, Shrimp, Shrimp-Vannamei, Squid, Sardines, Fin Fish, Cuttlefish, Mussels, Croaker, Warm Water Shrimp, Mullet | | |
| 2 | Mr. Haxhi Uzo, CEO, Fish Time, Albania | Frozen Seafood | Tuna, Bass, Squid, Octopus, Shrimp | | |
| 3 | Mr. Oliver Kang, Fresh Produce International Sourcing Partner, Yonghui Superstores Co. Ltd., China | Fresh Seafood, Live Seafood | Lobster, Crab | | |
| | Table. 2: Supplier's profile | | | | |
| SI. No | Name | Product/Service Types | Products | | |

| SI. No | Name | Product/Service Types | Products |
|-----------|---|--|---|
| 1 | Mr. Subhan Khan, Managing Director, Sea King Foods Co. Ltd., Thailand Email: seakingfoodsco@gmail.com Ph: +66 93 7603508 | Frozen Seafood | Anchovy, Catfish, Crab, Cuttlefish, Mackerel |
| 2 | Mr. Truong Dinh Dung, Director, Vietocean Seafood, Vietnam Email: sales@vietoceanseafood.com.vn Ph: +84-28-39913503 | Aquaculture/Farm Raised Sea- food, Canned Seafood, Frozen Seafood, Value added Seafood | Basa, Catfish, Clams, Croaker, Cuttlefish, Grouper, Horse Mackerel, Kingfish, Mackerel, Mahi Mahi, Mullet, Octopus, Pangasius, Pollock, Pomfret, Pompano, Prawns, Sardines, Shellfish, Shrimp, Snapper, Sole, Squid, Swordfish, Sardine, Tilapia, Tuna |

Globefish Highlights

International Markets on fisheries and Aquaculture products (Quarterly updates, Third issue 2021 with January- March 2021 Statistics)

Introduction

Gibbefish is a project within the FAO Fisheries Division which is responsible for providing upto-date trade and market on fish and fishery products. GLOBEFISH promotes and facilitates information exchange between the seafood industry, governments, academia and stakeholders

worldwide. The publication includes a detailed quarterly update on market trends for major commodities. Combining the price information collected for the European Price Report with other market survey data collected by FAO GLOBEFISH, the report also provides news affecting commodities such as tuna, groundfish, small pelagics, shrimp, salmon, fishmeal and fish oil, cephalopods, bivalves and crustaceans.

Bivalves

In Europe, demand for the Bivalves has grown significantly as a result of successful vaccination campaigns. According to Globefish Highlight, the EU bivalve market is impacted by Brexit. Mussel producers in the UK are starved of income and European consumers denied a product, the European Union has reiterated that its ban on shellfish imports from the United Kingdom of Great Britain and Northern Ireland is permanent.

The second quarter resulted in higher prices in all main trading areas in mussels. In the first three months of the year total trade

in mussels was about stable at 2020 levels, with about 64,000 tonnes traded. The main importing country was France and the main exporting country to this market is Spain, which managed to double the exports during this period, compared with the period of 2020. Chile was the major exporter of mussel and reported stable exports which is mainly supplying the Spanish canning market with frozen raw material.

During the COVID-19 and associated lockdowns, Oyster producers had a challenging time while France experienced very low sales. In the first three months of 2021, trade recovered from the difficult 2020 with 14,000 tonnes entered international trade. France is

the main exporter with a 30% increase in export performance.

Scallops trade recovered well from the 2020 results. China was both the main importing and exporting country of scallops. Peru reported doubling its exports to the world market.Clam prices increased impressively in Italy. Japan and the Republic of Korea are the main importing countries of clams, with China as the main exporter. In the first three months of the year, imports declined. The overall trade in clams stayed stable at 66,000 tons in the first guarter of the year. For the bivalve market the demand for bivalves will grow, and prices are likely to go up guite substantially.

Cephalopods

International trade with octopus plummeted sharply during 2020 and again the octopus prices started to rise towards the end of 2020. During the first three months of 2021 imports to the Republic of Korea increased by 14.6% compared to the same

period in 2020, to 15,610 tonnes. Vietnam (+24.7%) and Thailand (+19.8%) have recorded the strongest increases in exports to this market. On the other hand, Japanese octopus imports fell by more than 25% to 6 650 tonnes. Since the beginning of the fishing season of squid, prices have fallen somewhat due to strong landings. Cephalopods are the main seafood exported from Vietnam to China. The Chinese moratorium on



squid fishing in the Eastern Pacific, which affects some 600 Chinese vessels, will put pressure on the Chinese market and may lead to rising prices as China will have to import more. Total EU frozen squid imports for Morocco rose to 6,233 tonnes, up 112%. The import value also increased sharply. During the first guarter of the year, imports of squid and cuttlefish into the USA increased by 6.9%, from 13,977 tonnes in 2020 to 14947 tonnes in 2021. The major supplier was China, which has 4.5% increase. Spain imports squid and cuttlefish which increased ever so slightly from 44,765 tonnes in the same period in 2020 to 45,045 tonnes in 2021 (+0.6%). China's total imports amounted to 82,223 tonnes. Demand for cephalopods is high during the European summer, and prices are expected to rise. For squid, both supplies and demand are good and growing.

Crab

Canada is the largest producer of crab in the world. Approximately 62% of the US market is covered by Canadian products. For all the growing price of king and snow crab, demand does not seem to decline. The supplies of crabs are probably tight and demand will remain strong for the rest of the year.

Fishmeal & Fish Oil

Chile and European countries saw seasonal oscillations in the production situation in 2020. In the first half of 2021, cumulative fishmeal production in Europe decreased by 29% and fish oil dropped by 27% due to the result of lacklustre fishing activities. The total export quantity of fishmeal from Peru doubled & Chilean fishmeal exports decreased 58.7%. In terms of fish oil, Peruvian exports increased. From the second half of 2020, fishmeal prices have been trending upward. This has been attributed to the recovery of main markets, especially China, after the pandemic.

Lobster

Global imports of lobsters (all types) increased by 14.5% during the first three months of 2021 compared to the same period in 2020. China reported a 38.6% increase in imports, while the United States of America showed a 3.3% decline in imports. The European Union states a 3.3% decline in imports, while the biggest drop was in Canada with a 38.4% decline in EU exports. In 2021, trade is increasing again. Canada's lobster exports during the first quarter of 2021 increased by 21.3%. Exports to the United States of America increased by 4.4% during this period. The general outlook is more positive. The international trade registered during the first quarter of 2021 was increased and is expected to continue.

Pangasius

Vietnam is the top producer of pangasius and China in turn is the largest market. Exports to the European Union and China fell by 13% in value between 2019 and 2020. While pangasius fell by 26%, the value of Vietnamese exports of tuna, shrimps and prawns each grew by around 20% in the first four months of 2021. Demand for pangasius is strong in established markets.

Shrimp

Due to the pandemic situation, container shortages for inter-continental cargoes, rising freight cost and long delays in shipments are added concerns to Asian shrimp exporters and which will be the lingering crisis in South and Southeast Asian countries in 2021. In Europe, summer demand for shrimp will remain good throughout the continent. In the United States of America, demand for shrimp is likely to be robust throughout 2021. The falling import trend in China continued during April and May 2021. This pattern is unlikely to reverse until the autumn festival in October. Meanwhile, a short fall in China's direct imports will induce more imports in Vietnam from Ecuador and other sources.

During January-March 2021, the top exporters were Ecuador, India, Vietnam, Indonesia, China, Thailand, and Argentina with Ecuador continuing to be the top exporter. During this period official data from India also

| Table 1: World top expo | rters of shrimp January |
|-------------------------|-------------------------|
| – March 2021 | (1,000 tonnes) |

| Country | 2019 | 2020 | 2021 | %change 2021/20 |
|-----------|-------|-------|-------|--------------------|
| Ecuador | 140.3 | 167.0 | 168.2 | +0.71 |
| India | 125.6 | 120.9 | 133.7 | +10.5 |
| Vietnam* | 62.9 | 66.2 | 73.8 | +11.5 |
| Indonesia | 45.7 | 55.3 | 62.1 | +12.1 |
| China | 36.6 | 28.5 | 35.0 | +23.0 |
| Thailand | 38.4 | 35.5 | 32.0 | -9.8 |
| Argentina | 33.1 | 28.9 | 29.5 | +1.9 |
| Malaysia | 9.6 | 9.8 | 14.2 | +45.3 |

Source: National data.

Note: (*) Estimated through import and export sources



Table 2: World top importers of shrimp January - March(1,000 tonnes)

| | 2019 | 2020 | 2021 | %change 2021/20 |
|----------|------------------|------------------|------------------|--------------------|
| EU | 157.5 | 172.0 | 180.7 | +5.6 |
| China | 138.1 (**168) | 176.8 (**199) | 148.7 (**169) | -15.9 (**-15.0) |
| USA | 146.3 | 168.9 | 185.9 | +10.1 |
| Russia | 10.3 | 12.5 | 21.2 | +70.2 |
| S Korea | 21.3 | 18.2 | 20.6 | +13.3 |
| Taiwan | 11.1 | 14.9 | 14.4 | -3.1 |
| Vietnam* | 51.8 | 11.0 | 14.0 | +33.0 |

Source: National data.

Note: (*) Estimated through import and export sources

(**) including estimated imports from Myanmar and Viet Nam through border trade.

indicated increased exports. The total imports slowed down in China. Imports also decreased in Japan and in Taiwan Province of China, compared with 2020. Top exporters and importers of shrimp in the world during January to March are given in Table 1 & 2.

Small Pelagics

From volatile international trade there is a significant change in trade patterns of small pelagic, during the past year. Exports to China declined and instead went to the Republic of Korea and Japan. Moreover, Nigeria is once again active in the market. Supplies of herring may remain tight, while mackerel might be a little more sufficient.

The International Council for the Exploration of the Sea (ICES) expects that herring and blue whiting stocks will decline in the coming years. During the first three months of 2021, Norwegian exports of whole frozen herring increased by 11.7%. Exports to the second largest market, Egypt, fell by 50%.

The total capelin quota for 2021 was set at 127,300 tonnes, of which Iceland gets 69,834 tonnes, and Norway 41,808 tonnes. Supplies of herring may become tight this year. For mackerel, supplies should be more abundant from Norway and the Faroe Islands, while UK and the EU supplies may be tighter. Prices are expected to remain stable.

Anchovy supplies to the fishmeal and fish oil industry in South America are expected to be good. Peru's TAC for the first season was high. A very small portion of the quota is allocated for human consumption, and this could possibly be increased as demand for human consumption is growing in the region.

Tilapia

Despite some recent concerns about the consequences of trade issues, costs, and a cold winter on Chinese supply, global tilapia output is still expected to increase in 2021. In Brazil, the current growth rate should see an increasing proportion of production directed away from the domestic market to the United States of America and this shift to exports will require more investment in human resources and technology. At the same time, tilapia is becoming a popular option among Brazilian consumers, who appreciate the relatively low price and health benefits.

Tuna

During the first half of 2021, demand for non-canned tuna continues to be sluggish in Japan and in the United States of America but improved in Europe and South East Asia. Japan is the largest non-canned tuna market. The top exporters, supplies declined from Thailand, Spain and Indonesia but increased marginally from Ecuador and the Philippines. The Philippines improved export performance by supplying more cooked loins to Spain and Italy although exports of canned tuna declined to the top market of Germany. For the top markets, imports declined in the European Union but increased marginally in the United States of America during January-March 2021. The two large Middle Eastern markets of Saudi Arabia and Egypt also imported more during this period.

Outlook

After a near 2% decline in global fish production in 2020 due to numerous pandemic-related issues affecting fishers and farmers, output is set to bounce back in 2021 with projected growth of some 1.5%. As vaccination rates rise across the world, restrictions that have been affecting operations on fishing vessels and at aquaculture sites are being loosened, while a return of market demand is also causing increased production. Despite the ongoing difficulties affecting trade, the market outlook has improved significantly benefitting almost all species through innovation in products, marketing and distribution. In the longer term, however, the industry's capacity to innovate and adapt to an entirely new environment has laid the foundation for a newly robust and dynamic marketplace.

Reference

FAO. 2021. GLOBEFISH Highlights 3rd issue 2021, with Jan.–Mar. 2021 Statistics – International Markets on Fisheries and Aquaculture Products. Quarterly update. Globefish Highlights No. 3–2021. Rome. https://doi.org/10.4060/cb7153en



India's submission on comparibility finding application under US Marine Mammal Protection Act

SA had come out with the MMPA regulation in 2017 requiring all exporting nations to adhere to develop appropriate regulatory programmes comparable in effectiveness with US programmes by 1st January 2022. The exemption period began on 1st January 2017 to end on 1st January 2022; now extended up to 31st December 2022.

NOAA – NMFS, USA has observed that the overall risk of the marine mammal by-catch in Indian fishery, as 'High'. India has to develop an appropriate regulatory program comparable in effectiveness to the US programs. The exporting nations were required to file the Comparability Finding Application on or before 30th November 2021.

India is not having any systematic stock assessment programme and by-catch data of marine mammals at par with the US requirement. MPEDA submitted the progress report to NOAA portal on 2019 and reviewed it in 2020 in consultation with research institutes such as CMFRI, FSI, CIFT, Wild Life Dept, State Fisheries Dept & SEAI.

NOAA Comparability Finding Application (CFA) is divided into five parts viz. Part A, Part B, Part C, Part D and Part E. Considering the urgency and to protect the seafood export trade, MPEDA with the permission of MoEF & CC has entrusted the study on marine mammals to CMFRI.

The MMPA study involves Visual Survey in both offshore & onshore areas and by-catch estimate. CMFRI completed the Coastal and Off shore marine mammal stock assessment survey and by-catch data analysis of East and West Coast involving CMFRI and FSI vessels on 31st October 2021. By-catch data survey was done by CMFRI and MPEDA-NETFISH. The analyzed data was used for filing the comparability finding application (CFA) in US-NOAA portal. India has submitted Comparability Finding Application (CFA) of US NOAA successfully along with the experts from CMFRI, FSI, CIFT and representative of SEAI by MPEDA on 25.11.2021, in order to fulfill the conditions of US-MMPA.



Submission of MMPA Comparability Finding Application (CFA) 2021 by Chairman, MPEDA



Participants from Scientific Institutes (CMFRI/FSI/CIFT), MPEDA and SEAI



India CFA 2021 completion status



Highlights of marine fish landings and boat arrivals at selected harbours in India in November 2021

Dr. Afsal V.V. & Dr. Joice V. Thomas NETFISH-MPEDA

andings of marine fishery resources at selected major harbours/landing centres of the country is monitored and recorded on a real-time basis by NETFISH, as part of the Catch Certification Scheme of MPEDA. The Harbour Data Collectors deployed at around 100 landing sites along the maritime states of India collect the name, registration number and type of fishing vessels arriving every day at the harbour/ landing centre and the species-wise quantity and rate of catch landed by these vessels and these data are being saved in the MPEDA Catch Certificate website. This report presents the species-wise, harbour-wise and state-wise fish catch and boat arrival trends observed during November 2021.

I. OBSERVATIONS ON FISH CATCH

Marine fish landings at the 94 selected landing sites during November 2021 stood at 91879.72 tons. The total catch was comprised of about 50891.51 tons (55 %) of pelagic finfish resources, 22227.49 tons (24 %) of demersal fin fishes, 9067.64 tons (10 %) of crustaceans and 9693.08 tons (11%) of molluscs (Fig.1).



Fig.1: Catch composition of marine landings (in tons) recorded in November 2021

A total of 258 species of marine fishery items were recorded in the month, of which the top five contributors were *Rastrelliger kanagurta* (Indian mackerel), *Lepturacanthus savala* (Ribbon fish), *Decapterus russelli* (Indian scad), *Parapenaeopsis stylifera* (*Karikkadi* shrimp) and *Harpadon nehereus* (Bombay duck) (Table 1).

| Table1: Major fish species la | anded during November 2021 |
|-------------------------------|----------------------------|
|-------------------------------|----------------------------|

| SI. No: | Common name | Scientific name | Qty. in tons |
|------------|---------------------|-----------------------------|-----------------|
| 1 | Indian mackerel | Rastrelliger kanagurta | 9394.45 |
| 2 | Ribbon fish | Lepturacanthus savala | 6600.79 |
| 3 | Indian scad | Decapterus russelli | 6472.52 |
| 4 | Karikkadi shrimp | Parapenaeopsis stylifera | 3312.84 |
| 5 | Bombay duck | Harpadon nehereus | 3275.75 |

Various species of fishery items recorded during the month were categorised into their common groups and the catch trend was analysed. Scads, Indian Mackerel, Ribbon fish, coastal shrimps and Tunas were found as the major contributors, together forming 42 % of the total catch (Fig.2). The other major items reported were Croakers, Cuttlefish and Squids, each contributing more than 4000 tons to the total catch.

Various species of fishery items recorded during the month were categorised into their common groups and the catch trend was analysed. Scads, Indian Mackerel, Ribbon fish, coastal shrimps and Tunas were found as the major contributors, together forming 42 % of the total catch (Fig. 2). The other major items reported were Croakers, Cuttlefish and Squids, each contributing more than 4000 tons to the total catch.



Fig. 2: Major fishery items landed during November 2021

The quantity wise landing of pelagic finfish, demersal finfish, crustacean and molluscan resources are presented in Table 2. Scads, Indian mackerel and Ribbon fish were the major contributors among the pelagic fin fishes, whereas among the demersal fin fishes, Croakers and Japanese threadfin breams were the most landed items. About 72% of the crustacean catch was comprised of different species of coastal shrimps, of which the *Karikkadi* shrimp was the most landed species. In the case of the molluscan resources, cuttlefish and squid were the major items landed.

| Table 2: Category-wise landing of variou | ıs fishery items |
|--|------------------|
| during November 2021 | |

| Fishery Item | QUANTITY IN TONS |
|-------------------|---------------------|
| Pelagic Finfishes | |
| Scads | 9570.78 |
| Indian Mackerel | 9394.45 |
| Ribbon Fish | 7401.52 |
| Tunas | 5631.08 |
| Lesser Sardines | 3308.55 |

| Bombay Duck | 3275.75 |
|--------------------|---------|
| Anchovies | 2709.88 |
| Indian Oil Sardine | 2096.01 |
| Other Mackerels | 1709.65 |
| Seer Fish | 1182.79 |
| Shads | 1136.10 |
| Trevally | 910.69 |
| Herrings | 635.23 |
| Barracudas | 474.79 |
| Mahi Mahi | 321.30 |
| Sailfish | 296.05 |
| Queenfish | 185.39 |
| Indian Salmon | 185.37 |
| Sword Fish | 156.68 |
| Mullets | 117.32 |
| Marlins | 112.04 |
| Needle Fish | 44.72 |
| Cobia | 28.55 |
| Flying Fish | 9.62 |
| Half Beaks | 2.75 |
| Milk Fish | 1.92 |
| Rainbow Runner | 0.90 |
| Fusilier | 0.55 |

| Wahoo | 0.05 | |
|---------------------------|----------|--|
| Total Pelagic | 50900.46 | |
| Demersal Finfishes | | |
| Croakers | 5603.32 | |
| Japanese Thread Fin Bream | 2570.05 | |
| Catfish | 2225.08 | |
| Lizard Fish | 1998.49 | |
| Bullseye | 1779.59 | |
| Reef Cod | 1722.82 | |
| Pomfrets | 1435.55 | |
| Trigger Fish | 899.80 | |
| Sole Fish | 896.81 | |
| Sea Breams | 892.78 | |
| Goatfish | 361.96 | |
| Sharks | 344.79 | |
| Flat Head | 249.35 | |
| Pony Fish | 239.69 | |
| Eels | 238.89 | |
| Unicorn Leatherjacket | 177.51 | |
| Rays | 133.94 | |
| Snapper | 107.94 | |
| Puffer Fish | 74.79 | |
| Moon Fish | 68.49 | |

| Whiting | 49.34 |
|------------------|----------|
| White Fish | 24.83 |
| Silver Biddies | 24.02 |
| Indian Halibut | 21.36 |
| Perch | 20.84 |
| Indian Threadfin | 19.63 |
| Rabbit Fish | 13.86 |
| Groupers | 9.15 |
| Pompano | 6.00 |
| Sweet Lip | 2.06 |
| Sea Bass | 1.51 |
| Parrot Fish | 1.43 |
| Surgeon Fish | 0.86 |
| Sickle Fish | 0.75 |
| Job Fish | 0.64 |
| Drift Fishes | 0.45 |
| Spade Fish | 0.20 |
| Total Demersal | 22218.54 |
| Crustaceans | |
| Coastal Shrimps | 6498.82 |
| Deep Sea Shrimps | 2083.99 |
| Sea Crab | 467.36 |
| Lobsters | 17.47 |

| Total Crustaceans | 9067.64 |
|-------------------|----------|
| Molluscs | |
| Cuttle Fish | 4872.04 |
| Squid | 4088.66 |
| Octopus | 732.38 |
| Total Molluscs | 9693.08 |
| Total Catch | 91879.72 |

State-wise landings: Gujarat leads the tally with a share of 26 % (24140.88 tons) to the total catch, followed by Maharashtra and Karnataka with a landing of 16899.31 tons (18 %) and 15928.67 tons (17 %) respectively (Fig. 3). The least landing during the period was reported from the state of Andhra Pradesh, contributing only 1971.71 tons to the total landings.



Fig.3: State- wise fish landings (in tons) during November 2021

Harbour-wise landings: The monthly landing reported from 94 harbours along the 9 coastal states are given in Table 3. Porbandar harbour in Gujarat had recorded the maximum fish landings, which was to the tune of 5399.19 tons (6%).

It was followed by Mangalore harbour in Karnataka and Vanakbara harbour in Gujarat, with a landing of 5104.74 tons and 5046.52 tons respectively. Kottaipatnam harbour in Tamilnadu had recorded the least landing (4.19 tons).

| State | Harbour | Fish catch quantity | No. of boat ar- rival |
|---------|-----------------------|------------------------|-----------------------------|
| | Porbandar | 5399.19 | 1935 |
| | Vanakbara | 5046.52 | 1612 |
| | Veraval | 4566.58 | 1839 |
| Guiarat | Mangrol | 3204.77 | 1850 |
| Gujarat | Jafrabad | 2592.07 | 661 |
| | Okha | 2576.87 | 1028 |
| | Kotada | 598.31 | 108 |
| | Chorwad | 156.56 | 632 |
| | New Ferry Wharf | 4896.97 | 768 |
| | Sasoon Dock | 4396.25 | 1041 |
| | Ratnagiri | 2905.73 | 591 |
| | Arnala | 980.46 | 506 |
| | Sakharinate | 758.13 | 468 |
| | Uttan 731.25 | | 347 |
| Maha- | Harne | 614.16 | 822 |
| rashtra | Satpati | 423.92 | 257 |
| | Versova | 284.74 | 127 |
| | AlibaghKoli- wada | 259.58 | 301 |
| | Vasai | 212.06 | 225 |
| | Onni Bhatti Dabhol | 140.82 | 234 |
| | Malvan | 139.78 | 204 |
| | Dahanu | 119.95 | 474 |

Table 3: Category-wise landing of various fishery items during November 2021

| | Taramumbari Devgad | 35.53 | 138 |
|----------------|-----------------------|---------|-----|
| | Malim | 1972.48 | 454 |
| 0 | Vasco | 815.17 | 310 |
| Goa | Cutbona | 528.57 | 141 |
| | Chapora | 24.38 | 72 |
| | Mangalore | 5104.74 | 908 |
| | Malpe | 3853.75 | 998 |
| | Bhatkal | 2485.11 | 617 |
| | Karwar | 1416.57 | 438 |
| Karna- taka | Amdalli | 978.73 | 292 |
| | Honnavar | 905.93 | 583 |
| | Gangolli | 516.05 | 255 |
| | Tadri | 389.42 | 110 |
| | Belekeri | 278.38 | 117 |
| | Thoppump- ady | 2675.98 | 495 |
| | Munambam | 2359.96 | 987 |
| | Sakthikulan- gara | 2195.19 | 709 |
| | Beypore | 964.92 | 332 |
| | Neendakara | 940.02 | 627 |
| Kerala | Azheekkal | 872.36 | 414 |
| | Koyilandi | 699.09 | 441 |
| | Kayamkulam | 485.96 | 376 |
| | Mopla Bay | 390.88 | 369 |
| | Cheruvathur | 329.81 | 270 |
| | Puthiyappa | 230.55 | 303 |

| Vypin | 227.38 | 228 |
|----------------------|---------|-----|
| Ponnani | 197.92 | 357 |
| Chettuva | 190.25 | 135 |
| Munakkaka- davu | 171.00 | 402 |
| Thottappally | 156.43 | 300 |
| Thangassery | 151.74 | 366 |
| Vizhinjam | 62.78 | 322 |
| Vaadi | 30.14 | 178 |
| Chennai | 1217.13 | 305 |
| Tharuvaiku- Iam | 709.54 | 223 |
| Karaikal | 634.55 | 185 |
| Colachel | 551.33 | 187 |
| Thengaipat- tinam | 443.27 | 391 |
| Nagapat- tinam | 125.06 | 124 |
| Tuticorin | 112.63 | 270 |
| Pondicherry | 69.05 | 71 |
| Poompuhar | 58.29 | 250 |
| Rameswar- am | 51.20 | 160 |
| Cuddalore | 50.84 | 217 |
| Pazhayar | 30.34 | 68 |
| Chinnamut- tom | 21.92 | 259 |
| Mandapam | 20.68 | 68 |
| Mallipatnam | 13.16 | 126 |
| Mudasalodi | 11.85 | 69 |

Tamil Nadu

| | Pulicat | 11.71 | 155 |
|----------------|------------------------|---------|-----|
| | Jagathapa- thinam | 9.04 | 98 |
| | Kodiyakarai | 7.43 | 137 |
| | Kottaipat- nam | 4.19 | 39 |
| | Visakhapat- nam | 1051.36 | 357 |
| | Machilipat- nam | 255.89 | 157 |
| Andhra | Nizampat- nam | 206.32 | 69 |
| Pradesh | Yanam | 127.71 | 114 |
| | Vodarevu | 122.16 | 224 |
| | Kakinada | 104.90 | 51 |
| | Pudimadaka | 103.37 | 334 |
| | Paradeep | 1466.44 | 443 |
| | Balramgadi | 910.61 | 357 |
| Odisha | Dhamara | 671.35 | 241 |
| | Bahabalpur | 509.06 | 165 |
| | Balugaon | 111.27 | 542 |
| | Petuaghat- Deshpran | 2616.36 | 872 |
| West Bengal | Digha Sankarpur | 2143.76 | 737 |
| | Kakdwip | 938.38 | 448 |
| | Namkhana | 932.00 | 508 |
| | Soula | 641.47 | 334 |
| | Fraser Ganj | 613.04 | 357 |
| | Raidighi | 559.30 | 216 |

II.OBSERVATIONS ON BOAT ARRIVALS

A total of 39002 nos. of fishing vessel arrivals were recorded from the 94 harbours during November 2021. State-wise figures (Fig. 4) show that the highest number of boat arrivals had occurred in Gujarat (25%) and then in Kerala (20%) and Maharashtra (17%).

The months' total number of boat arrivals recorded from each harbour is given in Table 3. Porbandar (1935 nos.), Mangrol (1850 nos.) and Veraval (1839 nos.) harbours had recorded the highest fishing vessel arrivals during the month.



Fig. 4: State- wise boat arrivals (nos.) during November 2021

Summary: In November 2021, a total of 91879.72 tons of marine landings and 39002 nos. of boat arrivals were reported from 94 major fishing harbour/landing centres along the 9 maritime states of India. A slight decline in the total catch and boat arrivals was observed during November 2021 when compared to that of October 2021.

The pelagic fin fishes continued as the major contributor to the total landings, and the Indian Mackerel remained as the most landed fish species. The various species of Scads together formed the most landed fishery item for the month, as in previous month.

Gujarat had maintained the first position among the states in terms of total catch landed as well as the number of boat arrivals recorded and among the harbours, the Porbandar harbour retained the first position in terms of total catch landed and boat arrivals recorded.

Waterless live seafood transportation: A promising marketing technology

Parvathy U., Vishnu R. Nair, Jithin T.J., Binsi P.K., B. Madhusudana Rao and Ravishankar C.N. ICAR-Central Institute of Fisheries Technology, Kochi-29

Introduction

ive aquatic produce trade is a profitable value addition approach as it accounts for higher price realisation for the commodity and facilitates the exception of processing expenses involved. Live transportation strategies continue to evolve and they can be classified into two basic types viz., open and closed systems. Closed systems involve selfsustaining environments where parameters such as temperature, dissolved oxygen etc. are adequately maintained whereas in the case of open systems, the life-supporting facilities are provided from outside and have many technical variants ranging from aerated small tanks to hauling trucks and live hauling vessels.

However, both of these streams demand water which would likely increase transportation costs and decrease efficiency. The waterless transportation of aquatic species is a promising alternative to improve efficiency and cost-effectiveness. However, it is constrained to those species that are able to endure in humid environments.

In either open or closed systems, hauling water accounts for most of the fuel and logistic expenses as water is a relatively dense substance. Further, high density live transportation is based on lowering the surrounding water temperature so as to decrease metabolism of the poikilotherms, thereby reducing oxygen consumption, release of carbon dioxide and ammonia. The specific heat of water being quite high (4.187 kJ/kgK), its temperature reduction requires a significant amount of energy. Further, sophisticated technology is required to maintain water quality parameters at optimal level for maximizing subject survival during transportation. All these factors make live fish transportation a sensitive and highly volatile approach, though success of the same is highly desirable for both ends of the cold chain.

Live transport with Live transport water without water Can transport Can accommodate species that are almost all aquatic adaptable to desiccated species conditions Water quality is not ap-Water quality should be plicable: only surroundstrictly monitored ing environment needs monitoring Chances of injury and More prone to associated stress during mechanical injuries transportation is comduring transportation paratively lower Relatively efficient and Efficiency and cost effectiveness is less cost effective Handling inconvenience More user friendly Limitations for air Suitable for air cargo shipment

Overview

Waterless live transport involves moistening the gills of the species by maintaining in a humid environment instead of submerging them in water during transport. A cold anaesthetization process prior to packing for

Comparison of live seafood transportation systems





Live seafoods displayed in international markets

transportation is done, and during logistics, this humid condition is maintained by layering them between moist materials like wood shavings, sawdust, cotton etc in suitable containers like styrofoam boxes or other insulated boxes with ventilation or enclosed in an oxygenrich environment.

Preconditioning starts right from the capture; the capture handling is kept to the minimum to avoid damage and related stress of the species. The time that the organisms are left in the gear should be kept to a minimum and must be carefully handled while transferring from the gear. Despite the absence of water during transportation, it is recommended to hold and starve organisms for a period of time, generally 24 to 48 hours before packing and transport, a process known as 'purging'. This ensures baring the organism's gut free of digested and undigested matter reducing its metabolic activity during transport, thereby lowering the release of ammonia and carbon dioxide into the surrounding environment.

After purging, species are transferred to tanks containing filtered culture pond water and stocked with low density and sufficient aeration/oxygenation. In these tanks, they are anesthetized, induced by lowering the water temperature at a cooling rate and target temperature specific to species. Slower chilling rates (7.5°C/h and above) adopted for shrimp have been found to result in higher survival. The target temperature also varies with species viz., for *L. vannamei* it ranges between 12-15°C, 15°C for *M. rosenbergii* etc. Proper aeration also ensures temperature distribution and it is vital to maintain the dissolved oxygen higher than 5 mg/L initially. Further dissolved oxygen is temperature dependent, with higher oxygen dissolution at lower temperature.

On anaesthetizing, the species are packed for transportation using suitable layering material. Though a variety of materials are available, sawdust and wood shavings (resin free) are top choices due to their low

cost, ready availability, and water holding capacity. However, wood shavings are preferred over sawdust on account of their handling easiness, post-transport. Sufficient amount of moistened packaging material is layered on the container bottom up to appropriate thickness and transportation species is placed sandwiched between these packaging materials. These multi-layered containers are provided with appropriate head space at the top and necessary ventilation. An alternative to this is lavering the species and placing it in a sealed oxygenated plastic bag which is in turn placed in an insulated box. These boxes are provided with cooling pads or gel packs to maintain low temperature and humid condition, consequently, maintaining the dormancy and favourable moist condition to the species. Studies conducted at ICAR-CIFT have indicated promising results with about 95% survival in a 24hour transit period beyond which the survival is affected. Once at the destination, the species are slowly transferred to well aerated water preferably at the same temperature at which they are transported.

Candidate species for waterless transportation

In general, high value species that are adaptable to desiccated and moist environments, are prime candidates for waterless live transport. Crustaceans, molluscs as well as a few fishes are capable of being successfully transported in waterless environments, provided the optimal conditions are met.

Shrimp and prawn

Shrimp species such as white leg shrimp, giant tiger shrimp, gulf shrimp, blue shrimp and royal red shrimps are the most popular varieties that are consumed all over the world. Asia pacific has been leading the shrimp market for a long period of time. As a result, large-scale culture of shrimp has been developed and transported. As a general rule of thumb, best chilling rates for transportation range between $7.5 - 10^{\circ}$ C per hour. However, slower chilling rates have better survival, however it is time consuming. Additionally, the ideal target temperature ranges between 12 and 15° C, and this temperature is species dependent and hence needs to be customized.

Similar live shipment technologies can be successfully applied for the freshwater prawns. Temperatures below 14°C and above 35°C are generally reported to be lethal for *M. rosenbergii* and an optimum of 15°C is reported. Studies have indicated up to 24 hours' survival for these species, on transporting



Live shrimps layered in moistened wood shavings and moistened sponge

under optimal conditions. However, survival is highly dependent on the extrinsic factors like transportation conditions as well as the intrinsic factors of the species.

Lobster

Lobsters are prime valued seafood with well-established export markets around the world. Once the lobster is dead, bacteria can multiply rapidly and release toxins that may not be destroyed by cooking and hence there is a high preference for live lobsters. Healthy lobsters without injury should be selected for live shipment and temperatures between 1- 7°C are best for shipping lobsters, beyond which may affect the survival. Relative humidity is also an important consideration while packing the species for transportation and generally 70 - 100% humidity is ideal to prevent lobsters from dehydrating.



Crab

Scylla serrata is the most common commercial crab species caught in large quantities all over the coast of India due to its high demand to price ratio and high flesh content. They are mostly sold alive in international markets and are live transported by

conventional means. In general, crabs can survive outside water in normal circumstances for a limited period of time. However, if the environmental factors like temperature and humidity are optimized, then the survival can be prolonged ranging from 24 to 210 hours. Temperatures between 16 and 20°C and humidity of 95% are ideal conditions for keeping crabs alive during transportation. Studies carried out at ICAR-CIFT have indicated prolonged survival when transported in CIFT



Live crabs packed in traditional bamboo baskets for domestic market and thermocol boxes for export market

developed prototypes in comparison to traditional bamboo baskets.

Bivalves

Bivalves like oysters, mussels and clams are ideal species for waterless transportation. To survive the stress during transport, oysters need to be hardened prior to logistics. The 'hardening' process is a simple procedure of wetting oyster seeds and maintaining them waterless, free of disturbances for about 24 hours. On hardening, the muscle that holds the two parts of the shell is strengthened, reducing the natural tendency to open and close their shells in tandem with the tides. Hence, the oysters get used to staying closed when transported. Mussels, unlike oysters, can withstand lengthy transportation without water and are capable of being transported in wet conditions with high survival rates. Clams are the most abundant bivalves: the ideal temperature to keep clams alive is 20°C, and can be kept alive for three days.

Fishes

Fishes like catfishes, eels etc. can survive out of water for extended periods of time, unlike other fish species.

Sufficient humidity in the environment facilitates these fishes to meet their oxygen requirement and release carbon dioxide through the skin.

On post conditioning, their lactic acid levels come down and return to normal. Common carps are also found adaptable to waterless conditions wherein like crustaceans, they are also anesthetized and wrapped in paper for transportation to prevent the difficulty associated with mouth being filled with the media material, like sawdust or wood shavings. The temperature used for transportation of carps ranges between 10-15°C.

Challenges

Although live seafood shipping in waterless conditions offers many opportunities, it also presents many challenges. Successful live shipment is a matter of time/ duration and transporting organisms and undefined conditions like unexpected lags/delay in shipment will severely impact their survival.

Survival rate is the most critical factor during live shipment, as high survival is the only factor that makes this labour-intensive live transportation economically viable. Lack of standard operating procedures for live shipment including pre-transportation as well as post transportation protocols like capture methods, handling procedures etc. is a challenge which needs effective addressal.

Current Scenario

According to FAO (2020) among the fish utilized for direct human consumption live, fresh and chilled fish holds the largest share (44%) and it is one significant seafood earning foreign exchange for India. The country has exported 7287 MT of live fish worth Rs.324.26 crores (2019-20) (MPEDA, 2021) which is a high price realization compared to the other processed commodities like chilled forms.

South East Asia is the dominant market for the live fish and Hong Kong is considered as the centre of live food fish trade. A well-established supply chain starting from fishermen to the end consumers has been developed in these markets and serves as the major live seafood markets for Indian products.

The major species exported from India alive include Mud crab (*Scylla serrata*), blood clam (*Anadara granosa*), whelk (*Baigai*), horn shell (*Cerithidea obtusa*), murex, lobster, eel etc.

Majority of these products are transported alive without water for the convenience of air shipment. However, there is much scope for live seafood trade with incorporation of more species both in export as well as domestic market.

Focused research is carried out at ICAR-CIFT in standardizing protocols and development of viable and innovative designs for waterless live trade of seafoods.

Suggested Readings

APEC Fisheries Working Group. (1999). Air Shipment of Live and Fresh Fish and Seafood Guidelines. First Coastal Corporation, Singapore.

Jeyabal A. and Biju V.N. (2021). Live and chilled fish exports: Current status and prospects. MPEDA Newsletter (May): 11-14.

Parvathy U., Binsi P. K., Sathish Kumar K., Murali S. and Ravishankar C. N. (2019). Live fish transportation: Technology assuring quality. Aqua Star (March): 36-38. Parvathy U., Nagori A., Binsi P. K. and Ravishankar, C. N. (2020). Transportation Prototype for Live Distribution of Mud Crab in Seafood Supply Chain. Fishery Technology, 57: 69-71.

Peer Mohamed M. and Devaraj M. (1997). Transportation of live finfishes and shellfishes. CMFRI Special Publication, 66: 1-43.

Salin K. R. and Jayasree-Vadhyar K. (2001). Effect of different chilling rates for cold anaesthetization of Penaeus monodon (Fabricius) on the survival, duration and sensory quality under live storage in chilled sawdust. Aquaculture Research, 32(2): 145-155.

Zhang Y., Wang C., Yan L., Li D and Zhang X. (2017). An on-line oxygen forecasting system for waterless live transportation of flatfish based on feature clustering. Applied Sciences, 7(9): 957.

Analysis of seafood export to Middle East Asia from India during 2016-2021

Sneha Sajeev, Bhushan Patil & Dr. T.R. Gibinkumar, MPEDA, Kochi-36

INTRODUCTION:

The Middle East region plays a vital role in India's economy and the bilateral trade with the region is flourishing in recent years particularly with UAE and other Arab states of the Persian Gulf. Seafood has been a principle item of trade to the region holding a share of 4.22% of the overall seafood export (2020) from India.

EXPORT TO MIDDLE EAST MARKET

The Middle East market is composed of fourteen countries viz. Bahrain Island, Qatar, Saudi Arabia, UAE, Oman, Kuwait, Iraq, Jordan, Lebanon, Israel, Syria,

Iran, Yemen and Palestine. During the financial year 2020-21, India has exported 48,606 MT of Seafood worth US\$ 251.13 Million to Middle East market. In the last five years, Indian seafood export to the Middle East has declined from US\$ 275.93 million in 2016-17 to US\$ 251.13 million in 2020-21, due to the covid-19 pandemic and related lockdown.

The highest export to the market was reported in the year 2017-18, generating a revenue of US\$ 290.46 million. Export summary reports given in table 1 and figure 1 shows the export performance during the last five years.

| | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|--------------------|---------|---------|---------|---------|---------|
| Q: MT | 52973 | 62220 | 60232 | 57387 | 48606 |
| V: Rupees Crore | 1830.58 | 1849.10 | 1979.34 | 2079.12 | 1843.39 |
| \$: USD Million | 275.93 | 290.46 | 286.30 | 297.23 | 251.13 |
| UV: US\$/Kg | 5.21 | 4.67 | 4.75 | 5.18 | 5.17 |

Table 1: Export of marine products to Middle East Asia during last five years



Fig. 1: Quantity wise & US\$ wise exports to Middle East in last five years

COUNTRY WISE EXPORTS DETAILS

UAE is the major country importing marine products among Middle East Countries, the overall export to UAE during 2020-21 was 27,715 MT worth USD 158.16 Million which is about 62.98% of total Middle East's imports. Kuwait is the second largest importer of marine products.

The total export to Kuwait during 2020-21 was 5,838 MT worth USD 38.77 million and it has 15.44% share in total export of India to Middle East. However In accordance with India's global exports, UAE has only 2.66% and Kuwait has 0.65% share. Yemen and Palestine had no exports during the year. The details of country wise



Table 2: Country - wise export to Middle East Asia and percentage share

| COUNTRY | Quantity in M T | Value in Rs. Crore | US Dollar Million | Unit value(US\$/Kg) | % Share US\$ against total ME | % Share US\$ against India |
|-------------------|--------------------|-----------------------|-------------------|------------------------|-------------------------------------|-------------------------------------|
| UAE | 27715 | 1161.08 | 158.16 | 5.71 | 62.98 | 2.66 |
| KUWAIT | 5838 | 283.66 | 38.77 | 6.64 | 15.44 | 0.65 |
| QATAR | 3647 | 135.09 | 18.39 | 5.04 | 7.32 | 0.31 |
| OMAN | 1982 | 56.19 | 7.66 | 3.87 | 3.05 | 0.13 |
| IRAN | 5185 | 54.50 | 7.27 | 1.40 | 2.90 | 0.12 |
| BAHRAIN ISLAND | 1110 | 50.24 | 6.85 | 6.18 | 2.73 | 0.12 |
| ISRAEL | 928 | 45.50 | 6.20 | 6.68 | 2.47 | 0.10 |
| SAUDI ARABIA | 1234 | 33.83 | 4.64 | 3.76 | 1.85 | 0.08 |
| LEBANON | 501 | 15.64 | 2.14 | 4.27 | 0.85 | 0.04 |
| IRAQ | 355 | 4.12 | 0.55 | 1.55 | 0.22 | 0.01 |
| JORDAN | 109 | 3.38 | 0.46 | 4.27 | 0.18 | 0.01 |
| SYRIA | 3 | 0.16 | 0.02 | 7.01 | 0.01 | 0.00 |
| YEMEN | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PALESTINE | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| TOTAL | 48606 | 1843.39 | 251.13 | 5.17 | 100.00 | 4.22 |
| INDIA'S TOTAL | 1149510 | 43720.98 | 5956.94 | 5.18 | | 100.00 |

exports to Middle East Asia and the percentage share against Middle East and India during 2020-21 are given



Fig. 2: Country wise export to Middle East market in US\$- 2020-21

in table 2. The pie diagram of country - wise share of marine products exports to Middle East Countries in 2020-21 is shown in figure 2.

UAE, Kuwait and Qatar are the top three importers by value of Indian marine products in the Middle East. UAE though being the top importer shows a downward trend in Unit value of the imports.

However, Kuwait manifests an increasing trend in quantity and value which signifies the export increment to Kuwait. Qatar shows a decreasing trend in Unit value of imports.

The export details of the countries during 2016-17 to 2020-21 are given in the table 3. Also the trend diagram of the top three countries during 2016-21 for both value and Unit Value are given in figure 3 & 4.

| Q: Quantity in M T, V: Value in Rs. Crore, \$: US Dollar Million,UV: US\$/Kg | | | | | | |
|--|-----|---------|---------|---------|---------|---------|
| COUNTRY | | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
| | Q: | 24629 | 28507 | 30114 | 33146 | 27715 |
| UAE | V: | 1037.02 | 1188.42 | 1226.52 | 1380.28 | 1161.08 |
| | \$: | 156.29 | 186.68 | 177.50 | 197.25 | 158.16 |
| | UV: | 6.35 | 6.55 | 5.89 | 5.95 | 5.71 |
| | Q: | 4139 | 2298 | 3998 | 4505 | 5838 |
| KUWAIT | V: | 188.42 | 88.61 | 178.86 | 199.38 | 283.66 |
| | \$: | 28.35 | 13.92 | 25.81 | 28.49 | 38.77 |
| | UV: | 6.85 | 6.06 | 6.45 | 6.32 | 6.64 |
| | Q: | 2606 | 4756 | 4255 | 3724 | 3647 |
| QATAR | V: | 91.73 | 140.22 | 132.22 | 137.76 | 135.09 |
| | \$: | 13.84 | 22.03 | 19.24 | 19.73 | 18.39 |
| | UV: | 5.31 | 4.63 | 4.52 | 5.30 | 5.04 |

Table 3: Export to major markets in Middle East Asia during last five years



Fig. 3: Trend in import of top three countries from India (in %USD) during 2016-17 to 2020-21

MAJOR ITEMS OF EXPORT TO MIDDLE EAST ASIA

Shrimp holds a major share in the export to Middle East countries. Fr. Pomfret (silver) has the top share in Kuwait. Fr. Tuna Whole Round (Skipjack), Fr. Imitation



Fig. 4: Trend of top three importing countries from India in UV during 2016-17 to 2020-21

Crab Stick, Fr. Mackerel (horse) and Fish Oil Capsules are the top items exported to Iran, Lebanon, Iraq and Jordan which are having 48.25%, 13.08%, 30.11%, 21.59% shares respectively. The details of country wise

top three items in terms of US\$ million to Middle East Asia during 2020-21 are given in the Table 4.

| Table 4 : | Major items of exports to Middle East Asia |
|-----------|--|
| | from India and % share |

| COUN- TRY | ITEM | US\$ million | % Share (US\$) against importing country's total |
|--------------|---------------------------------|-----------------|---|
| | IQF PD T OFF VANNAMEI SHRIMP | 20.76 | 13.13 |
| UAE | BL FR HL VANNAMEI SHRIMP | 15.73 | 9.94 |
| | CHILLED SHRIMP/ PRAWN | 10.69 | 6.76 |
| | FR. POMFRET (SILVER) | 7.68 | 19.81 |
| KUWAIT | IQF PD T OFF VANNAMEI SHRIMP | 6.90 | 17.80 |
| | IQF PD TO VANNAMEI SHRIMP | 5.06 | 13.06 |
| | CHILLED SHRIMP/ PRAWN | 5.62 | 30.55 |
| QATAR | IQF PD T OFF VANNAMEI SHRIMP | 1.91 | 10.37 |
| | CHILLED SHRIMP (WHITE/NARAN) | 1.29 | 6.99 |
| | CHILLED SHRIMP/ PRAWN | 0.58 | 7.51 |
| OMAN | FR KING FISH ROE | 0.39 | 5.07 |
| | FR SHRIMP (BREADED TAIL ON) | 0.38 | 4.92 |

| IRAN | FR.TUNA WHOLE ROUND(SKIPJACK) | 3.51 | 48.25 |
|-------------------|--|------|-------|
| | FROZEN YELLOW FIN TUNA WHOLE ROUND IQF | 1.75 | 24.07 |
| | FR. TUNA (YELLOW FIN) | 0.92 | 12.60 |
| | FR HLSO VANNAMEI SHRIMP | 1.36 | 19.86 |
| BAHRAIN ISLAND | BL FR HL VANNAMEI SHRIMP | 0.59 | 8.65 |
| | FROZEN SEA WA- TER PD SHRIMPS | 0.52 | 7.56 |
| | IQF PD TO VANNAMEI SHRIMP | 1.46 | 23.59 |
| ISRAEL | IQF PD T OFF VANNAMEI SHRIMP | 1.00 | 16.07 |
| | IQF COOKED PD T OFF VANNAMEI SHRIMP | 0.55 | 8.93 |
| | IQF PD SHRIMP/ PD PINK BROWN SHRIMP | 0.73 | 15.84 |
| ARABIA | IF CROCKER | 0.71 | 15.29 |
| | FR. CROAKER | 0.58 | 12.53 |
| | FR.IMITATION CRAB STICK | 0.28 | 13.08 |
| LEBA- NON | FR HEAD ON VAN- NAMEI SHRIMP (TRAY PACK) | 0.23 | 10.71 |
| | IQF PD TO VAN- NAMEI SHRIMP | 0.19 | 8.72 |
| | FR. MACKEREL (HORSE) | 0.17 | 30.11 |
| IRAQ | IQF BLANCHED PD VANNAMEI SHRIMP | 0.10 | 17.36 |
| | IQF PD T OFF VAN- NAMEI SHRIMP | 0.10 | 17.34 |

| JORDAN | FISH OIL CAPSULES | 0.10 | 21.59 |
|--------|---|------|--------|
| | FR. FISH (OTHERS) | 0.06 | 13.56 |
| | CHILLED SNAPPER (RED) | 0.05 | 11.82 |
| SYRIA | GLUCOSAMINE SULPHATE POTAS- SIUM CHLORIDE | 0.02 | 100.00 |

MARKET ACCESS ISSUES

Market access issues with Saudi Arabia and Kuwait is impacting the seafood exports to Middle East in general and to Saudi Arabia and Kuwait in particular.

Due to limited air connectivity, export of live or chilled items is affected. SFDA approval is not given to many Indian exporters from Saudi Arabia.

(i) Import ban on raw frozen shrimps & fishes by Saudi Arabia:

Saudi Food and Drug Authority (SFDA) has announced a temporary ban on the import of fresh, chilled and frozen shrimps from India due to emergence of WSSV in *L. vannamei* and has issued temporary suspension on importation of cultured fish due to unclear health situation of the cultured fish originating from India based on SFDA report.

(ii) Import ban on fresh, chilled and frozen shrimps by Kuwait:

During 2017, temporary ban on the import of fresh, chilled and frozen shrimps from India was imposed by Public Authority of Food and Nutrition (PAFN), Kuwait due to emergence of White Spot Syndrome Virus (WSSV) in *L. vannamei* shrimp.

EXPORT TARGET FOR MIDDLE EAST MARKET

Department of Commerce, Ministry of Commerce and Industry has set the total export target at USD 7.8 billion for seafood export for 2021-22 and as on November 2021 India has achieved USD 5.39 billion, which is around 69.06% of the set target. The target set for the Middle East market is USD 365 million and as on November 2021, the achievement is USD 178 million. The percentage achievement is around 49%, which is low compared to the required 66.67% in the first 8 months of 2021-22.

If we compare the export performance of marine products to Middle East Asia from April to November 2021 with the same period last year (USD 163.83 million), it is observed that the exports are showing a growth of 8.65% and it is anticipated that the exports shall reach all-time high for Middle East in 2021-22.



NETFISH-MPEDA celebrates Swachhta Pakhwada 2021

s part of the observance of *Swacchta Pakhwada* by the Department of Commerce and its Organisations during 1st to 15th November 2021, NETFISH-MPEDA has organized a nationwide 'Ocean Clean-up programme' involving all stakeholders and officials associated with the marine fisheries sector.

The main aim of the programme was to reduce the plastic pollution in sea by generating awareness among the fishers and to urge them to bring back the plastic waste from sea during each fishing trip for proper disposal at land. With this aim, a total of 11 fishing harbours/landing centres were selected across the maritime states and initially stakeholder's meetings were conducted there during the first week of November 2021 to sensitize them about the Swachhta Pakhwada event, eradication of single use plastic and to gain their support for executing the plastic eradication programme. Thereafter, the fishers started collecting plastic wastes generated during fishing and brought it to the harbour. Arrangements were made with local bodies/agencies for the collection of plastic wastes from the harbour for recycling and accordingly the wastes brought by the fishers were removed from the harbour. Harbour and coastal clean-up events were also arranged as part of the celebration and mass awareness was generated among the fishermen about the harm caused by single use plastic to our ecosystem and resources and how to eradicate single use plastics. As a result of the programme, many of the fishers have started avoiding dumping of plastic wastes into the sea. Instead, they collect food packets, broken net pieces, plastic wastes entangled in fishing nets etc. in storage bags/containers and bring them to shore for safe disposal, thus reducing pollution of the ocean.

The following activities were carried out in each state to commemorate the *Swachhta Pakhwada* celebration.

1. West Bengal

NETFISH celebrated "*Swachhata Pakhwada*" on 12th November 2021 in Deshapran Fishing Harbour on the theme "Single use plastic free ocean". The event at Deshapran was attended by 40 fishermen from different boats, harbour staff, Harbour Data Collectors (HDCs) of Deshapran, Shankarpur & Shoula, office staff and ELISA staff of Contai. Mr. Atanu Ray, State Coordinator, NETFISH, delivered a powerpoint presentation on harmful aspects of plastics and how plastics are slowly enveloping the whole world, plastic waste management and showed various pictures and videos depicting how marine life is constantly being challenged by plastics.

Since 2nd November, NETFISH West Bengal has raised awareness about plastic pollution during its regular training programmes. As a result, a number of fishermen had brought plastic from the seas, which were entangled in their fishing nets. They collected plastic wastes from different boats as well as from the harbour premises and jetties and then handed it over to the harbour authorities for proper disposal. The participants were given caps, masks, gloves and sanitizers. Bleaching powder was applied on the dirty places especially in drainages and unsanitary areas in the harbour for sanitation purposes.

2. Odisha

NETFISH, Odisha celebrated "*Swachhata Pakhwada*" on 9th November 2021 in Parbatipur fisherman village, Chilka and on 11th November 2021 at Gangadharpur fisherman village, Chilka. These programmes were attended by 50 fishermen along with NGO Mr. Harakrushna Khataei and Mr. S. K. Mohapatra, State Coordinator.

A lecture on harmful impacts of plastics and proper plastic waste management was given to the fishers. Also they were urged to bring the plastic wastes obtained during fishing for proper disposal at shore. Caps, masks, and sanitizers were given to all participants and together they collected plastics from the premises of the landing centres and handed over to the local bodies for proper disposal.

Awareness meeting at Nizampatnam



Participants of clean-up event at Nizampatnam



3. Andhra Pradesh

FOCUS AREA

а stakeholder's awareness In programme on removal of plastic from sea was conducted at the office of Visakhapatnam Port Trust on 2nd November with 26 participants including VPT officials, AD Fisheries, Presidents and Secretaries from all the 3 Mechanized Boat Owners Associations and Traders and dry & wet fishers of Vizag fishing harbour. Mr. Hanumantha Rao, SCO NETFISH explained the importance of the Swachhta Pakhwada and asked all the stakeholders to support and participate in sea cleaning activity by removal of plastic waste generated during fishing. On 11th November another stakeholder's awareness programme was held with the participation of 31 members including AD MPEDA, VPT officials, Presidents and Secretaries from the AP Mechanized





A PAKHWA

Boat Owners Associations, Traders and boat crew of Vizag fishing harbour. Mr. Hanumantha Rao gave a presentation on the bad impact of plastic waste in sea and its effect on ocean environment and resources. On 15th November, a mass communication programme by auto canvassing with mike announcement was done to give awareness about the impact of plastic pollution in sea and NETFISH's plan for waste removal from sea with the support of fishers. Mass awareness was generated among the stakeholders to avoid single use plastics and to collect all the plastic waste at designated places instead of dumping at sea & coastal areas. Handouts on the theme were also distributed during the campaign. On the same day a beach cleanup programme was also conducted by involving around 35 fishermen and cleaned the beach near to the Vizag fishing harbour. Around 200 Kgs of plastic wastes were collected and handed over for safe disposal.

Mass communication at Vizag





In Nizampatnam, an awareness meeting was conducted on 13th November, which was presided over by the Boat Owners Association President. The Fisheries Development Officer of Nizampatnam was also present. On 15th November, a waste collection event was arranged at Nizampatnam harbour during which around 650 kg of plastic waste materials were collected from the harbour and jetty premises with the help of harbour workers and sent for recycling.

4. Tamil Nadu

Swachhta Pakhwada cleanup event was conducted at Tharuvaikulam FLC on 11th November, 2021. The event was marked by an awareness training conducted at Tharuvaikulam Visaipadagu Meenavar Sangam. Mr. S. Asok Kumar, DD, MPEDA, SRD, Tuticorin inaugurated the programme and in the inaugural address he emphasized maintaining a plastic free healthy marine environment, and encouraged collection of plastics from the sea. Dr. Vinoth S Ravindran, State Coordinator NETFISH emphasized on the importance of clean landing centres and daily washing of the landing centre to provide hygienic sea caught material for trade. Mr. Suresh, Inspector of Fisheries, Department of fisheries and Fishermen welfare and Mr. Paneerselvam, President, Mechanized boat association also felicitated on the occasion. Following the awareness training, the participants from boat unions, MSSRF, Department of fisheries and Fishermen welfare were engaged in cleaning of fish landing hall, and collection of plastic wastes from the Tharuvaikulam beach. The participants were provided with cleaning materials such as gloves, bleaching powder, brooms, baskets and gunny bags. About 350 kgs of waste was collected and handed over to the Tharuvaikulam village panchayat for disposal.

5. Kerala

An awareness programme & an Ocean Clean-up programme was conducted at Cochin Fisheries Harbour, Thoppumpady as part of *Swacchta Pakhwada*. On 3rd November, an awareness programme was conducted for boat owners, merchants, and boat workers. Mrs. Sangeetha. N. R., State Coordinator NETFISH explained about the *Swachhta Pakhwada* Ocean Clean-up programme and took a class on plastic pollution, microplastic in fishes and its ill effects to the environment and human beings. The boat owners and buying agents association members, merchants,



Distribution of waste collection bag at Thoppumpady



Inauguration of waste collection from fishing vessels at Thoppumpady



Inauguration of collection of wastes from fishing vessels at Munambam



Street Play at Munambam by FISAT students

and boat workers jointly took a decision to take part in Ocean cleaning by collecting plastics from the sea while fishing and to hand it over to the recycling unit. NETFISH provided bags to fishing vessels for collecting plastics during fishing trips. On 15th November, in an event held at the harbour, Mrs. Sheeba Durom, the Councilor of Kochi Corporation inaugurated the plastic collection programme by receiving the waste collected in a bag from a boat owner. Around 500 kgs of plastic wastes were collected from boats and handed over to recycling units.

In Kerala North region, a clean-up programme was conducted at Munambam Fishing harbour on 15th Nov 2021, in association with Munambam Fishing Harbour Management Society, Boat Owners Association, Operators Coordination Committee and Plan@Earth (an NGO engaged in the recycling of the plastic wastes). The programme was inaugurated by Mrs. Remani Ajayan, Pallippuram Grama Panchayat President and she offered all support for the programme for collecting plastics from the sea.

Dr. Joice V. Thomas, CE, NETFISH did the presidential address. Mr. Saju M.S., Joint Director of Fisheries did the keynote address and offered support of Munambam Fishing Harbour Management Society for the plastic collection programme. Mr. Sooraj Abraham, Plan@ earth NGO and Mrs. Ligi Dennish Grama Panchayat Ward member felicitated on the occasion. Boat owners' associations and Boat operators' coordination committee also offered their cooperation for the marine plastic collection programme. Plastic wastes collected by the fishing boats and brought to the land was handed over by CE NETFISH to Plan@earth. An awareness street play was also conducted at the fishing harbour by 25 MBA students of FISAT Business School, Mookkannoor, Angamaly in order to create awareness about marine plastic pollution.

6. Karnataka

On 9th November 2021, a fishing vessel clean-up and harbour clean-up programme was conducted at Amdalli fishing harbour with the participation of more than 75 people including students of Janata Vidyalaya, Mudga, Fishers of Amdalli FH and HDCs. Assistant Director of Fisheries, Chairman of Trawl Boat Malikara Sangha Mudga and Principal of Janata Vidyalaya Mudga colony were also present on the occasion. Mr. Vidyadar Harikantra, AD Fisheries, inaugurated the



Fishing vessel clean-up at Amdalli



Participants of clean-up event at Amdalli

programme and he urged the fishers to cooperate with the department in cleaning the premises. Mr. Narayana K. A., SCO, NETFISH gave a talk on objectives of the harbour clean-up programme and advised the fishers to practice hygienic fish handling on board and in the fishing harbour. Mr. Sudhir Gowda and SCO demonstrated cleaning up of fishing vessels, harbours and auction halls with the help of fishers. After that the participants have cleaned the auction hall, wharf and parking area inside the harbour. Caps and refreshments were distributed to the participants.

7. Maharashtra

In Harnai the *Swachhta Pakhwada* programme was conducted in two sessions. First session was on 12th November 2021 to create awareness among stakeholders about plastic pollution which had a participation of 34 stakeholders. The second session was on 15th November 2021 to collect plastic wastes from fishing vessels which had a participation of 50 people. The programme was conducted in association with Harnai Bundar Machhimar Sangha, Harnai. Mr. Santosh Kadam, State Coordinator, NETFISH during



his speech explained about the reasons of plastic pollution, its harmful effects on sea creatures and role of fishermen in reducing plastic pollution in the sea. Chairman & Vice Chairman of Harnai Bunder Machhimar Sangha, Chairman, Omkar Machhimar Sahakari Sanstha and Chairman, Hariom Machhimar Sahakari Sanstha were present on the occasion. Caps and masks with NETFISH and MPEDA logos were distributed to all the participants.

About 200 Kg plastic wastes collected by fishing vessels and from the clean-up drive at Harnai landing centre were handed over to Grampanchayat for disposal. In Arnala, awareness meetings on plastic pollution, bringing back plastic from sea to land and eradication of single use plastic were held on 2nd November. A total of 33 people had attended the meetings. Awareness was created among stakeholders about plastic pollution and microplastics. About 25 nos. of plastic collection bags were distributed to two fishermen cooperative societies and one-day fishing vessels and the fishermen were instructed to bring back plastic caught in nets during fishing. On 12th November, the plastic wastes brought by the fishing vessels were collected and handed over for recycling.

8. Gujarat

An awareness meeting with fisher folk of Mangrol Fishing harbour was conducted on 2nd November 2021. Around 55 fishermen including community leaders had participated in this programme. Ex. Authority Member of MPEDA, President of fishermen community Mangrol, President of Boat Association Mangrol, President of Mahavir Fisheries Cooperative Society and President of FRP Boat Association were present in the programme. Mr. Jignesh Visavadia, State Coordinator, NETFISH briefed on the aim of the programme and gave a presentation on "Plastic Waste Management". The fisherfolk took a pledge to stop usage of "Single Use Plastic".

On 11th November a plastic collection programme was conducted at Mangrol harbour with the participation of around 50 fishermen, community leaders and students of Parmesh school. Cap, gloves, masks, brooms, plastic waste collection bags etc. were distributed. All the participants had actively collected plastic from fishing vessels, harbour premises, shops etc. and disposed of at the dumping place of Mangrol Municipality. The



Distributing waste collection bags to fishing vessels in Mangrol



Awareness meeting at Mangrol

President of Mahavir Fisheries Cooperative Society provided 1200 Bags for collection of Plastic waste which were distributed to fishing vessels and informed the crew to collect whatever plastic waste comes into the net during fishing and bring it back to the harbour for proper disposal.

Online Workshops on 'Refinement of Marine Fisheries Management in East Coast of India'

PEDA-NETFISH has conducted four online workshops entitled "The Refinement of Marine Fisheries Management in East Coast of India" during October 2021 to sensitize the issues such as Juvenile fishing, IUU, Traceability, Vessel monitoring, harbour development and MFRA regulations among the major players of the sector and to formulate methodologies for the implementation of MFRA regulations and amending the existing MFRA of the East coast states for better management.

The first workshop in this series was held in Tamil Nadu on 26th October 2021 forenoon. Around 56 participants including Deputy Directors & Assistant Directors from the Department of Fisheries and Fishermen Welfare of Tamilnadu, Scientists from CMFRI, CIFT, FSI & CIBA, Officials from SEAI, CIFNET & MSSRF, faculties of Fisheries College & Research Institute of Tuticorin, exporters, MPEDA & NETFISH Officials at Head Office and in Tamilnadu, NETFISH Harbour Data Collectors etc. attended the programme virtually.

The second workshop was conducted for Andhra Pradesh, on 27th October 2021 forenoon, which had a participation of 56 people including Joint Directors and Assistant Directors from Fisheries Department, Scientists & officials from CMFRI, CIFT, CIFNET, FSI, SEAI, University of Fisheries, Fisheries College,



Screenshots of the Online Workshop



Coastal police, MPEDA & NETFISH officials at head office and in Andhra Pradesh, Exporters, NGOs, Harbour Data Collectors etc.

The third workshop was conducted for Odisha State on 28th October 2021 forenoon, in which about 52 participants including Director of Fisheries of Odisha, Deputy Directors and Assistant Directors of Department of Fisheries, Scientists & officials from CMFRI, CIFT, CIFNET, FISHCOPFED, SEAI, NFDB, EIA, CDA, MPEDA & NETFISH officials at head office and in Odisha, Faculty and students of College of Fisheries, Exporters, NGOs and Harbour Data Collectors had actively participated.

The fourth one in the series was held on 29th October 2021 forenoon for West Bengal, which had witnessed active participation of 32 stakeholders, including Scientists & officials from CMFRI, CIFT, CIFRI, CIFNET, Coastal Police, Indian Coast Guard, faculties of West Bengal University of Animal and Fisheries Science, MPEDA & NETFISH officials at head office as well as in West Bengal, NGOs and HDCs. Mr. Anilkumar P., Joint Director (Marketing), MPEDA welcomed the participants of the workshops and gave a brief introduction on the purpose of the workshop. Dr. M. Karthikeyan, Director, MPEDA delivered the presidential address and emphasized on fish quality management and sustainability through adoption of better practices and the importance for addressing the traceability issues. He suggested that all the departments/organizations concerned shall join hands to work together for the sustainability of the marine fisheries sector. Dr. Joice V. Thomas, CE NETFISH delivered presentations on the present status of fisheries and its management in the respective states.

The provisions in the state MFRAs and its implementation were discussed in the workshop and several recommendations were put forward for refining the existing MFRA and for the better implementation of the regulations. All the participants appreciated MPEDA & NETFISH for organizing the workshops.



In pursuit of Safe Seafood

DEDICATED SEAFOOD SAFETY SOLUTIONS

IndiFOSS is in constant pursuit of ensuring food safety in India.

Our RT-PCR solutions manufactured by Generon S.p.A. offer a wide range of kits to test various food entities.





Food Allergens Detection

Food / Water

Microbiology



Food Frauds Detection



Food / Water Virology



Nucleic Acids Extraction

GMO Detection

In accordance to afnor the standards



IndiFOSS Analytical Pvt. Ltd.

F/1, F/2 & F/3, Science Square, Above Reliance Fresh, Science City Road, Sola, Ahmedabad - 380 060. (Gujarat) INDIA. Tel: +91 79 4005 4705 / 06 | Call: +91-8488878528 E-mail: info@indifoss.com, sales@indifoss.com | Web: www.indifoss.com

COVER STORY

Strategies and action plan for seafood exports by 2025 – Series 6

K. S. Srinivas IAS, Chairman, MPEDA



This is a series published by Chairman, MPEDA on the strategies and action plan envisaged by MPEDA in enhancing the seafood exports from the country to achieve the goals set for 2025. Upto Series 5, Chairman, MPEDA took the readers through the present status of exports, constraints in the production level, SPS TBT issues faced by Indian seafood exporters, strategies for export promotion, modernization of capture fisheries sector to reduce post harvest losses and increase the economic value and interventions that would enhance the production and productivity in aquaculture sector to increase the supply of quality raw material for exports. Series 6 will discuss on the need to enhance value addition of Indian seafood.

Introduction

repared and preserved fish, crustaceans, molluscs and other aquatic invertebrates coming under chapter 16 of ITC -HS are considered as highly value added and high risk products. Value added products are high risk products, which involve the usage of additional ingredients and also requires the adoption of the state of the art machineries for its economical competency in the international market. Appearance, packaging and display are also important factors leading to successful marketing of any value added product. The retail pack must be clean, crisp and clear and make the contents appear attractive to the consumer.

A major portion of the marine product exports from countries such as Vietnam, China, Indonesia and Thailand is comprised of products classified under HS Chapter 16. The share of value added products in India's total marine product exports is just 10.37% in value compared to 71.38% of Thailand or 41.58% of China (Fig. 1). Vietnam (30.07%), Indonesia (27.10%) and Ecuador (22.32%) also have a substantial share of processed and preserved products under Chapter 16 in their total seafood exports.

They achieve this feat by effectively adding value to indigenous as well as imported raw material. The multinational trading houses and popular retail chains of developed world utilize these countries to outsource their requirements to produce off – the - shelf items.



Fig. 1: Percentage share of value added products under chapter 16 in total seafood exports – India vs. Others (2020) COVER STORY

| Value added marine Products | Quantity (MT) | Value (Rs. Cr.) | Value US\$ (MIn) | Unit value (US\$/ Kg) |
|---|------------------|--------------------|---------------------|--------------------------|
| Value added marine products under Chapter 03 | 75,832 | 3,602.18 | 491.77 | 6.48 |
| Value added marine products under Chapter 16 | 57,093 | 3,679.85 | 501.68 | 8.78 |
| Total for Chapter 03 & 16 | 1,32,925 | 7282.03 | 993.45 | |

Table 1: Export of value added marine products from India during FY 2020-21

Value addition of Indian seafood

There are 613 seafood processing units in India with a total processing capacity of 35,733 MT per day. However, India's exports are mostly constituted by raw products coming under chapter 03. The outcome of value added products under HS chapter 16 from these units is only 0.57 Lakh MT worth US\$ 0.50 Billion during the financial year of 2020-21 (April – March), which is quite low compared to our total exports in terms of quantity and revenue. World import contribution of products under Chapter 16 is close to 18%. Considering India's limited contribution to export of value added marine products, export of processed and preserved items under chapter 16 need to be promoted.

Table 1 indicates the export of value added marine products from India during FY 2020-21. The total production of value added marine products classified under Chapter 03 and 16 was 1,32,925 MT worth US \$ 993 million. The average unit value earned for Chapter 16 products were 35% more than the value added products categorized under Chapter 03.

With the limited funds allocated, MPEDA had been financially assisting the entrepreneurs to invest on value addition for nearly a decade. Financial Assistance to the tune of Rs. 89.41 crore have been released for infrastructure development from 2017-18 to till November 2021. In addition, Ministry of Food Processing Industries is also supporting investments aimed at value addition of seafood.

To promote value addition, skilled labour and technical expertise are very much essential, which warrants organizing regular and intensive capacity building exercises with the help of experts. In brief, successful value addition involves a combination of skilled manpower, ingredients, machineries and packaging which ultimately leads to the production of high risk products.

A. Value addition from indigenous raw material

Current export of products under HS Chapter 16 & 03 is respectively 0.57 lakh MT worth Rs. 3680 Cr and 0.76 lakh MT worth Rs. 3602 Cr. It is aimed to double the share of value added products in India's exports by 2025. For increasing the exports of Value Added Products from the current 6% share to 12%, it has been proposed to assist the industry in developing the required Infrastructure for value addition in the following lines:

(a) For products under HS Chapter 16

For promoting export of high end value added products, which are mostly Ready to Eat, it is required to assist atleast 200 units to invest on value added processing machinery & equipment, and ancillary facilities in the next 5 years. The total estimated investment requirement is Rs. 2500 Cr, with an assistance component of Rs. 1250 Cr.

(b) For products under HS Chapter 03

To promote export of value added products under Chapter 03, mostly in Ready to Cook form in convenience packs, 150 units to be assisted in the next 5 years. Total investment is estimated at Rs. 1750 Cr, with an assistance component of Rs. 875 Cr.

B. Import of Raw Material for Re-processing and Export

The processing infrastructure and its capacity are tuned to the peak landing / harvest season and hence the average annual capacity utilization of the infrastructure is less than 25%. As done by other countries such as China, and other Southeast Asian nations, India shall consider import of raw material for re-processing and export as value added / finished products at least during lean fishing seasons. It will also help to provide jobs during lean seasons, besides increasing the

export turnover of individual companies without getting affected by the tantrums of raw material availability.

Import of fish and fishery products are subject to Sanitary Import Permits (SIPs) which are guided by risk analysis done through veterinary health certificates. A Sanitary Import Permit is not a licence, but a certificate certifying India's sanitary requirements. Since SIP is a procedural step associated with import of animal and animal products primarily meant for domestic consumption, requirement of SIP for raw material imported for job works / reprocessing and exports shall be done away with, which will help in easing out import procedures for value addition.

At present imports of animal and animal products are only allowed through sea ports/ air ports of Bangalore, Chennai, Delhi, Hyderabad, Kolkata, and Mumbai where animal quarantine and certification services are available. Imports of fish products shall be allowed through additional ports; atleast one seaport shall be permitted for import of frozen seafood raw material for reprocessing works. This will reduce transaction costs and enable the imported raw material reaches the processing centre in a short span of time.

Reports indicate that many trading companies are eager to shift their reprocessing activity out of China, subsequent to the strains in international relations between China and other countries on various issues. Many have moved out to countries like Vietnam, Malaysia, Bangladesh etc. India, with its maximum number of EU approved seafood establishments, reasonable labour and logistic infrastructure holds a bright position in bagging such valuable orders.

C. Skill development / capacity building

In order to attain the envisaged outcome of value addition, skill development/ capacity building of the workforce in precision processing is essential, when a unit handles direct to shelf products. The importance of hygienic handling, freshness / appeal of the products and maintenance of cold chain throughout the production cycle, finish of the product etc. have to be imparted to the work force on a continuous basis using experts in the field until they get seasoned with the entire process.

Skilled Trainers from India or abroad need to be roped in to impart such training, to develop a pool of trainers in each unit, who will in turn train the work force down the line to improve their skills for developing Value Added Products. MPEDA is regularly organizing hands on training programmes on value addition with the help of international experts. It will also be appropriate for

the units to have a "seafood kitchen" to R&D products of their own or according to buyers' requirement.

D. Enhancing high value live and chilled exports:

Chilled fish is an important item which can be exported as a premium product which fetches high unit value realization better than frozen seafood. Chilled and live items together contribute 1.91% and 1.64% respectively in quantity and value of total seafood exports from India. Table 2 indicates the export of chilled and live marine products from India in 2020-21. The exports were affected by disruption of flights and lower market demand due to Covid – 19 pandemic. However, with the markets and air connectivity opening up, the demand for live and chilled seafood is expected to be back in track.

Initiatives such as Modified atmosphere packaging (MAP), controlled atmosphere storage of fresh fish in chilled conditions will substantially increase the shelf life. Such storage of farmed shrimps, crab etc. will encourage the export of chilled/fresh farmed seafood as well as facilitate the improvement of the quality of raw material supply to the processing units and efficient marketing of the farmed produce by the farmers by availing temporary storage in Chilled rooms during emergency conditions. As Asian consumer prepares fresh/chilled & live seafood items rather than frozen, Indian exporters may chip in more efforts to export more chilled and live seafood export to Asian Countries i.e. China, Taiwan, Singapore, Korea and Japan. Government can support this activity by providing better Air cargo logistics facilities by connecting our major cities viz., Kolkata, Chennai, Hyderabad, Kochi and Mumbai to the East Asian market. It is also important to utilize Krishi Udaan scheme to mobilize fresh fish from hinterland for export supply.

It is also required to improve cargo vessel connectivity between A&N islands and SE Asia so that fresh fish from the islands could be directly marketed in SE Asian markets. Thailand has already agreed to reduce reporting time of vessels from 72 to 36 hours based on the request placed by MPEDA through Department of Commerce and Embassy in Bangkok. Cargo vessel connectivity with chilled storage will also help to mobilize the tuna and reef fishes from Lakshadweep to mainland for export in fresh as well as frozen form. NETFISH, a society under MPEDA has bagged a project from the Lakshadweep administration on the 'On board handling of Tuna", which is aimed to train the fishers on long line fishing practices and on board handling of tuna, a resource that is aplenty in the island territory. Such trainings will be helpful in the export of

COVER STORY

Table 2: Export of chilled and live marine products from India in 2020-21

2020 - 21 2019 - 20 Growth (%) Quantity (MT) 4379 7287 -39.91 Value (Rs. Cr) 239.69 324.26 -26.08 Live marine products Value (US\$ million) 32.72 46.43 -29.53 7.47 Unit value (\$/ kg) 6.37 17.27 Quantity (MT) 17622 21202 -16.89 Value (Rs. Cr) 477.99 631.84 -24.35 Chilled marine products Value (US\$ million) 65.14 90.34 -27.90 Unit value (\$/ kg) 3.69 4.26 -13.38

sashimi grade tuna from the islands to destinations in Europe and Japan.

Approved Chilled Fish Handling Centre is mandatory for processing and export of chilled items. There is a shortage in the number of approved chilled and live fish handling centres in the country. To encourage the sector, financial assistance shall be provided for setting up of a Fish Handling Centre to encourage the entrepreneurs who are interested in handling and export of Chilled/Live items. The main aim of the scheme is to increase the number of approved fish handling centres and thereby increasing the export of Chilled/Live fish from the country. Similarly, a Centre for Perishable Cargo (CPC) / repacking centres with chilled storage could also be set up within or in the vicinity of major airports to tackle quality issues caused by flight delays / cancellation etc. and to facilitate round the clock perishable cargo acceptance and fast track clearance. To set up 50 new handling centers with appropriate infrastructure needs an estimated investment of Rs. 50 Cr. Similarly, to set up 10 perishable air cargo handling complexes within / near international airports requires a total investment of Rs. 100 Cr.

Conclusion

India still plays the role of a raw material supplier to some of these nations for reprocessing activities. With stagnating wild catch due to loss of fishing days and varying resource availability, India must also focus more on adding value to our products. As mentioned in the previous segments, proper preservation and

quality can bring in an edge to the unit value right from point of first sale. However, the efforts to add value shall not stop there. The enhanced process steps can also enhance value earned. Many of our units still depend on wild caught material, which are seasonal in nature, and hence the capacity utilization is low. There is fishing ban on east and west coast of the country.

Alongwith, there are lean seasons in fishing and aquaculture sector as well. Indian processors must be able to utilize such periods to do reprocessing and value added processing during such seasons to increase the utility of their machinery and manpower. If the raw material is low, units must come forward to import raw materials for value addition, process and reexport as value added products. This will also enhance the employment generation, better the profit margins, and helps to exploit our resources judiciously.

India is blessed with a youthful population whose strength can be utilized through to make them as one among the finest workers in seafood value addition. A lot of skilling programmes are supported by Government of India to enhance the workmanship among workers, which should be utilized to develop a pool of workers with sophisticated skills for processing required for value addition and retail products. Though there are sporadic efforts in this direction, more processors shall come forward for such interventions to make this a mass movement. This will surely help India to transform into a seafood processing hub of the world.

(To continue in the next issue)



AQUACULTURE SCENE

RAINBOW IN A BOWL

Want to keep your tank lively? Bring in the Danios

AQUACULTURE SCENE



V. K. Dey

V K Dey has over three decades of experience in diverse sectors of seafood industry in Asia-Pacific region. He was the Deputy Director of MPEDA and then associated with INFOFISH, Malaysia. As part of INFOFISH, he was involved in several studies related to seafood industry in the Asia-Pacific region and beyond, including setting up of Aqua-technology Park for ornamental fish. MPEDA has published Living Jewels, a collection of his articles on ornamental fish.

anios, members of the Cyprinidae family, are small and lively fish which are native to the Indian peninsula, Sri Lanka, Pakistan, Thailand, Myanmar, Malaysia and Indonesia. They are found in a variety of habitats from boulder-strewn mountain torrents to small pools in dry zone streams. They are mostly found in flowing water rather than reservoirs or tanks. They go well in community tanks and prefer flowing water. They are active swimmers and often jump out from the aquarium when frightened. With a narrow elongated body, they look beautiful under aquarium conditions. They are robust, peaceful and sociable but sharp and turbulent. They are omnivorous and feed on insects and detritus. Sizes vary from 5 to 15 cm depending on the species. The water temperature is $20 - 28^{\circ}$ C, with pH ranging from 6 - 7. In the natural environment, they spawn in shallow water among marginal weeds and roots usually after heavy rain. Eggs are sticky and they exhibit cannibalism on the eggs. There are more than 12 species reported today of which Danio malabaricus, D. albolineata and Brachydanio rerio are common in the hobbyist market.

Danio malabaricus, commonly known as giant danio, are natives of the southwest coast of India and Sri Lanka and have been widely transported around the world through the aquarium fish trade. The head region is silvery coloured and the rest of the body is olive green, decorated with thin and undulating longitudinal bands of yellow-cream to the bluish reflections. The mouth is directed towards the surface. The narrow and elongated body, with colourless or transparent pectoral, dorsal and anal fins, is diametrically opposite in the back half. The caudal fin has two lobes. The males are slimmer and have more colouring. Females have a rounded belly while the dorsal fin is longer and the pelvic fin is more pointed in males. During reproduction, the male's pectoral fins become orange with a reddish tinge while the blue central line is rectangular, while in the female this is curved upwards at the base of the caudal fin. The maximum size is 15 cm but generally nearer to 12 cm. They are gregarious in behaviour and prefer to live in groups of 5 - 7. Aquariums with plants are always ideal with water temperature of 27° C and pH around 7. They spawn easily and lay 200 - 300 eggs at a time which hatch in 1 - 2 days. The young ones will start free swimming on the fifth day. Other species of danios from the Indian sub-continent are *D. devario* and *D. dangila*.

Danio albolineata, better known as pearl danio, is found in streams and rivers in Thailand, Myanmar, Malaysia and Indonesia. This is the prettiest of all small danios and is found in the upper and middle water layers. They are overall blue-silver in colour with a reflective pinkish red mid-lateral stripe that runs from just behind the belly to the caudal peduncle. The adult size is 5 cm. The ideal water temperature is 25°C with pH 6.5 - 7.5. They are hardy and do well in a community tank as long as they are kept in groups of 5 or more. They are omnivorous; all types of foods are taken, especially small insects. Breeding generally takes place under lowered water conditions. Males are slenderer, smaller and brightly coloured than females.

Brachydanio rerio, commercially known as zebra fish or zebra danio, is from eastern India. It is a very common aquarium fish and is said to be an excellent beginner's fish. They are active, easy to keep and peaceful. The maximum size is 6 cm. The body is extended with horizontal stripes of dark colour white and grey, which even extend to the fins. They prefer to be kept in schools of 5 - 8. Water conditions should be neutral to slightly acidic with pH 6.5 - 7.5 and temperature 24°C. They do well in planted tanks with plenty of free swimming space. They are omnivorous and will accept any type of food but prefer live or frozen brine shrimp, small insects and worms. Females have a rounded shape and are usually larger in size. Breeding pairs may be kept in a tank with fine leaved plants, among which the eggs are laid. Care should be taken to remove the parents after spawning to prevent the eggs being eaten. Eggs normally hatch after 48 hours. Asian researchers are carrying out a number of studies using zebrafish, including the production of genetically modified fluorescent fish. 2

Training programme on 'Sustainable aquaculture through species diversification and Better Management Practices in aquaculture'

onsidering the immense potential of freshwater resources in Khammam District, MPEDA, Sub Regional Division, Hyderabad organized a three-days' training programme at Fisheries Research Station, Palair Village, Khammam district in Telangana.

Training programme on "Sustainable Aquaculture through species diversification and Better Management Practices in aquaculture" was organized from 10th to 12th November, 2021. Twenty farmers attended the training. The training was mainly aimed at imparting scientific knowledge on fish/scampi farming with special emphasis on reservoir and open water cage farming.

Mr. Ram Adhar Gupta, Deputy Director, MPEDA SRD, Hyderabad inaugurated the training programme in presence of Dr. Vidya Sagar Reddy, Sr. Scientist, Fisheries Research Station, Mr. P. V Narasigan Rao Veterinary University, Palair, Khammam district and Mrs. Shakeela Banu, DFO, Khammam district.

Mr. Gupta briefed about the importance of the training programme and explained to farmers about site selection and pond construction in a scientific manner. Mr. B. Raveendar, Scientist, FRS, Palair took class on 'Better Management Practices in aquaculture' and Mr. S. Durga Rao, JTO, MPEDA explained about the market of GIFT abroad.

A field visit was arranged to the nearby aqua farm of Mr. Ram Prasad at Nacheypalli village on the second day. During the visit, trainees interacted with the farm operator on biosecurity measures, feeding and monitoring of water quality and fish health etc. After the



Mrs. Shakeela Banu, DFO, Khammam during her inaugural address

AQUACULTURE SCENE



Mr. Ram Adhar Gupta, Deputy Director, MPEDA, SRD, Hyderabad addressing the trainees during the inaugural function



View of the trainees during field visit to fish farm along with S. Durga Rao, JTO, MPEDA, SRD, Hyderabad



A view of trainees



Certificate distribution to the trainees



Mr. Ram Adhar Gupta, Deputy Director, MPEDA, SRD, Hyderabad delivering a lecture to the trainees



View of trainees field visit to FRS, Palair along with B. Raveendar, Scientist, FRS, Palair, Khammam District

field visit Mr. S. Durga Rao, Junior Technical Officer, SRD, Hyderabad explained on species diversification in aquaculture mainly GIFT and Seabass, and on water quality management. Mr. P. Santhanna, scientist, FRS, Palair explained on fish diseases, treatment and feeding management.

On the third day, fish cages installed in Palair reservoir nearby FRS were visited by trainees along with FRS officials, and trainees were briefed by officials on how the reservoirs can be utilized for diversified aquaculture. Mr. Kiran Kumar, State Coordinator, NaCSA briefed trainee farmers about formation of society, financial assistance schemes to registered societies and about e-Santa. Mr. Gupta explained about MPEDA activities and financial assistance schemes. Mr. Kiran, FDO, Telangana gave a lecture on Fisheries department financial schemes and agua farms registration procedure. Mr. S. Durga Rao, JTO, MPEDA spoke on farm enrolment. Later, an interactive session was conducted wherein farmers' doubts were cleared by MPEDA, NaCSA and FRS officials.During the valedictory function, trainees appreciated MPEDA's effort to conduct such a training programme for the aqua farmers. Mr. Gupta distributed the certificates to the trainees in presence of Dr. Vidya Sagar Reddy and Mr. Kiran Kumar. Vote of thanks was proposed by Mr. Durga Rao.



Training programme on 'Better management Practices for sustainable aquaculture'

A three-day training programme for general candidates on 'Better Management Practices for sustainable aquaculture' was organised at Farmers' Training Centre, Ela-Dhauji, Old Goa in association with Dept. of Fisheries, Goa during 10-12 November 2021. The programme was attended by 36 participants.

Mrs. Smita Muzumdar, Deputy Director of Fisheries, Goa inaugurated the programme in the presence of officials of MPEDA and Dept. of Fisheries, Goa. In her inaugural address, she appreciated MPEDA for conducting the training programme in association with Dept. of Fisheries, Goa. She advised the trainees to make use of the programme and come up with some novel ideas for the aquaculture development in the state.

Dr. Vishnudas R. Gunaga, Assistant Director, MPEDA, Mangalore explained the purpose of conducting the training and role of MPEDA for diversification in aquaculture to support the fish export sector. During the 3-day programme, various topics related to shrimp farming and diversification of aquaculture were discussed in depth by MPEDA / Dept. of Fisheries officials and other invited resource persons. Dr. Hrishikesh Pawar, Scientist, KVK, ICAR, Margao gave a presentation on 'Potential of shrimp farming in Goa and importance of CAA registration and MPEDA enrolment'.

Dr. Sreepada K., Scientist, NIO, Goa delivered a lecture on 'Environmental management for sustainable shrimp culture'. Other topics such as Farm enrolment, illegal use of antibiotic & AMR, trade barrier issues, diversification in aquaculture with special emphasis on marine finfishes, Scampi and Crabs were dealt by MPEDA officials.

On the third day of the training programme, a field trip



Mrs. Smita Muzumdar, DD, Fisheries, Goa delivering inaugural address



Dr. Vishnudas Gunaga, AD, MPEDA, Mangalore taking class



Dr. Sreepada K. Scientist, NIO Goa delivering a guest lecture as resource person

AQUACULTURE SCENE



During field visit to the shrimp farm



During field visit to the traditional farm



Mr. K.V. Premdev, DD , MPEDA, RD, Mangalore interacting with trainees during valedictory function



Mr. K.V. Premdev, DD, MPEDA, RD, Mangalore distributing the certificate to the trainees



Mr. Chandrakant Velip, DD, Dept. of Fisheries, Goa distributing certificate to trainee during Valedictory function



Trainees with officials

was arranged for trainees in the forenoon session. They were taken to the scientific shrimp farm of Mr. Travor Fernaneds located at Amona South Goa. During the visit, trainees could get hands-on exposure on pond preparation, water quality management, GMPs, importance of biosecurity measures etc. Field demonstration of farm equipment and water quality testing etc were done by the farm manager Dr. Hemankumar Patak. Trainees were also taken to one of the nearby traditional farms which belonged to Mr. Suresh Parab, where he explained his farm operation with natural seeds of shrimps, crab and Etroplus which enters during high tide.

The three-day training programme was concluded with the valedictory function on 12th November 2021. The function was presided over by Mr. K.V. Premdev, Deputy Director, MPEDA, Mangalore. Mr. Chandrakant Velip, Deputy Director, Department of Fisheries, Goa was the chief guest during the occasion.

Mr. Premdev pledged the support of MPEDA to the participants for taking up species diversification in aquaculture. The trainees were given certificates and the programme concluded with the vote of thanks by Dr. Ganesh K., Assistant Director, MPEDA, Mangalore.

QUALITY FRONT

MPEDA Observes World Antimicrobial Awareness Week (WAAW)- 2021

orld Antibiotic Awareness Week (WAAW) takes place every November and aims to increase global awareness of antibiotic resistance and to encourage best practices among the general public, health workers, prescribers and policy makers to avoid further emergence and spread of antibiotic resistance. To help achieve this aim, FAO, OIE, and the World Health Organization (WHO) (collectively known as the Tripartite) have jointly supported WAAW since 2015, together with the general public, students, policy makers, and professionals from various sectors around the world. The awareness against the excess use of antibiotics would be through social media posters. campaigns, webinars etc. The theme of the WAAW was "Spread awareness and stop Resistance" As part of observing the WAAW 2021, the Marine Products Export Development Authority has organized a couple of online webinars during the week. Apart from those, MPEDA has also campaigned through posters in its the social media handles such as Instagram, Facebook and Twitter. The online webinar series was inaugurated by Mr. K.S. Srinivas IAS, Chairman, MPEDA, who has emphasised the importance of defending the antimicrobial resistance by general public and the seafood sector as well. He has also explained the steps being taken by MPEDA for assessing and eliminating the use of antibiotics in the aquaculture sector. Dr. M. Karthikevan, Director, MPEDA welcomed the participants and introduced the speakers.

First webinar was held on 23rd November 2021. It addressed the topic "Detection of antibiotics in seafood and its impact on seafood trade" by Dr. Ram Mohan M.K., Joint Director (Quality Control), MPEDA, which covered the trade issues faced by marine product export sector due to the detection of banned antibiotics in Indian seafood consignments, and the legal inference between the aquaculture producers, authorities and departments in connection with the use of banned antibiotics in the country. Responsibility of controlling agencies, import country regulations, suggested actions by different agencies to eliminate detection of banned antibiotics in aquaculture produce were also covered. The webinar was attended by participants from state fisheries departments, aquaculture stakeholders, MPEDA officials, seafood exporters and fisheries researchers.

The second webinar was conducted on 24th November 2021 by Dr. Madhusudhana Rao, Principal Scientist, ICAR-CIFT, Visakhapatnam Research Centre, Andhra Pradesh. Mr. V. Vinod, Deputy Director (QC), MPEDA welcomed the participants and Dr. M. Karthikeyan, Director, MPEDA introduced the speaker to the participants. Dr. Rao presented the topic *"Antimicrobial Resistance inAquaculture: An overview of the drivers and mitigation measures"*.



He has emphasised the importance and scenario of antimicrobial resistance and the biological background of antimicrobial resistance. He has explained the mode of action of antibiotics and its implications with aquatic animals and the consumers. The presentation also included the mutation of microbes due to the uncontrolled use of antibiotics in farming systems, paucity of discovering new antibiotics multi-drug resistance etc. The presentations were followed by discussions. Mr. Mahesh G, Deputy Director (Lab), MPEDA proposed Vote of Thanks on both days.

MPEDA & NaCSA conducted 'Campaign against use of antibiotics' among fish farmers

Campaign against use of antibiotics was conducted for farmers of Vellankanni, Paravai, Avarikadu and Vellapallam at Nagapattinam district of Tamil Nadu on 16th November 2021.

Mr. Alexander, Assistant Director, MPEDA, Nagapattinam, welcomed the participants and gave the inaugural address on the illegal use of banned antibiotics, veterinary medicines and chemicals in aquaculture. He also elaborated on the importance of farm enrolment with MPEDA, traceability, requirements for farm enrollment with MPEDA and role of farm enrollment in e-Santa and cooperative society registration.

Dr. P. Jayagopal, Deputy Director, MPEDA, Nagapattinam, gave the presidential address and elaborated on the impact of banned antibiotics residues in export rejections. He also explained about the ill effects of unauthorized antibiotic usage on human health and its impacts on Indian seafood exports. He urged the farmers to use the CAA approved and properly labelled products in shrimp farming. Dr A. Kannan, Lab Assistant, MPEDA, Nagapattinam explained the NRCP system to the farmers and urged them to utilize the MPEDA ELISA lab facility at Nagapattinam and Pattukottai for Pre Harvest Testing (PHT) of shrimp crops.

Mr. S. Azhagar, RCO, NaCSA-MPEDA lectured the farmers on needs of cooperative society registration, Importance of cooperative society, benefits of cooperative society, proactive plan for cooperative society registration and requirements for cooperative society registration. He also explained to the farmers the need of e- Santa for society farmers, Procedure of e- Santa registration, benefits of e- Santa registration, methods to follow for crop listing and the importance of pre harvest testing (PHT) for e- Santa registration.



A view of meeting at Avarikadu



A view of meeting at Paravai



A view of participants at Vellapallam



PRODUCTS LIST

BIWET - I

Phosphate free Moisture retainer & texture enhancer for Cephalopods

ACUATIC - K

Dealers & Distributors of Seafood Processing Aid

Whitening & Brightness enhancer for Cephalopods

ARTIC - L Glazing agent for Cephalopods & Shrimps

ARTIC - P Glazing agent for Cephalopods & Fish



For queries / Customer Care : M. Balakrishnan Mob: +91 93800 41050, Ph: +91 44 25992315, Email: sales.seaeyes@gmail.com, Cochin Branch Office : Ph: +91 484 4066899



MARBYS

MASTERS IN CEPHALOPODS ADDITIVES

DEPUTATIONS AND PROMOTIONS

Dr. S. Kandan appointed as Director, RGCA

Dr. Shine Kumar C. S. selected & deputed as Director, NIFPHATT (Min. of AHD&F), Kochi

Dr. Manoj Kumar appointed as Project Director, RGCA (Diversified Aquaculture)

Dr. Anup Mandal appointed as Project Director, RGCA (Selective breeding & aquaculture)

- 1. Dr. P. Jayagopal is promoted as Deputy Director & posted at MPEDA SRD Nagapattinam
- 2. Mrs. I. Shajina is promoted as Assistant Director & posted at MPEDA RD Chennai
- 3. Mr. Ghanshyam K Mehta is promoted as Assistant Director & posted at MPEDA SRD Porbandar
- 4.Mr. Sheshendra M Shirodkar is promoted as Assistant Director & posted at MPEDA RD Veraval
- 5.Mr. Sibasish Mohanty is promoted as Assistant Director & posted at MPEDA RD Bhubaneswar

FISHERIES • AGRI • CONSTRUCTION • REAL ESTATE

AN ISO 9001:2015 , ISO 22000:2018, ISO 14001:2015 & ISO 45001:2018, HACCP, HALAL, GMP+ & EU CERTIFIED COMPANY

Manufacturers & Exporters Of FISH MEAL, FISH OIL, FISH SOLUBLE PASTE & OTHER MARINE PRODUCTS

*** TWO STAR EXPORT HOUSE ***

4th Floor, Suite No 406, Crystal Arc, Balmatta Road, Mangalore - 575 001, Karnataka, India Ph: +91-824-2427744, Fax: +91-824-2441466 Email: info@bluelinefoods.in, bluelinefoods@yahoo.in

E-Brochure is available here http://www.bluelinefoods.in/ebrochure

www.bluelinefoods.in

NEWS SPECTRUM

Biofloc tilapia farming set to help India's rural poor

CMFRI has supplied tilapia growing facilities, as well as seed and feed, to several scheduled caste communities © CMFRI

ndia's Central Marine Fisheries Research Institute (CMFRI) is helping scheduled caste (SC) families become small-scale entrepreneurs through biofloc production of tilapia in Cheranellur, Ernakulam. CMFRI is helping members of five SC families in the area to launch a biofloc fish farming unit under the scheme of Scheduled Caste Sub Plan (SCSP). The group began by stocking 1,800 genetically improved tilapia (GIFT) fry into a biofloc tank, set up adjacent to their households.

CMFRI's assistance includes setting up the 23,500 litre tank and providing the fry, feeds and technical guidance. According to CMFRI, the self-help group will be able to earn an income of at least 135,000 rupees (roughly \$1,800) from each 8-month cycle, and the fish will attain a minimum weight of 300 g."Normally tilapia (GIFT) gains 300 to 500g weight during this period from this practice," said Dr K Madhu, principal investigator of the project and principal scientist of CMFRI. Biofloc allows for high-density fish farming in a controlled environment, in which fish wastes are converted into useful nutrients.

The CMFRI will monitor different phases of the practice continuously to enable maximum fish growth. A water quality kit also was supplied to the group to maintain the required parameter, Dr Madhu said. Under the SCSP scheme of the CMFRI, cage fish farming is being undertaken by members of the SC community across the country, and biofloc farming is aimed at to extend the benefits of this scheme to those who do not have access to open water bodies. The biofloc project is underway in Palakkad, Thrissur, Idukki, Kottayam and Kollam districts under CMFRI's guidance. The tilapia fry were procured from MPEDA's hatchery in Vallarpadam.

www.thefishsite.com

Marine algae extract shows promise in the global fight against Covid-19

Researchers at Tel Aviv University, led by Professor Alexander Golberg of the Porter School of Environmental and Earth Sciences, have found that a substance called ulvan extracted from edible marine algae called ulva prevents the infection of cells with the coronavirus. Their initial trial results have been published in the Peer Journal.

According to the researchers, this finding is especially promising because, ulvan is a cheap natural material for production, which may help solve a serious problem – the spread of Covid-19 in large populations, especially in developing countries, which do not have access to the vaccine. The lack of vaccine access takes the lives of many victims and even accelerates the creation of new variants. The study is still in its early stages, but they hope that the discovery will be used in the future to develop an accessible and effective drug, preventing infection with the coronavirus. Ulvan is extracted from marine algae called ulva. which is also called "sea lettuce", and is used for food in places like Japan, New Zealand and Hawaii."It has previously been reported that ulvan is effective against viruses in agriculture and also against some human viruses, and when the coronavirus arrived, we asked to test its activity against the coronavirus", Professor Golberg explains. In other words: ulvan (as opposed to extracts from other algae tested) prevents the cells from being infected with the corona virus. According to the researchers, "the findings are very encouraging, but they are still only 'oil slicks', and a lot of work is still ahead of us. The substance was produced in raw production, so it is actually a mixture of many natural substances, and we must find out which one is the substance that prevents cell infection. Thereafter we will have to examine how, if at all, it works in humans."

www.thefishsite.com

Centre sets target of Rs 1 lakh crore export from fisheries sector by 2024-25

isheries sector has tremendous potential for growth and the Centre has set the target to achieve Rs 1 lakh crore export from the sector by 2024-25, said Union Minister for Fisheries, Animal Husbandry and Dairying Parshottam Rupala.

Addressing the World Fisheries Day Celebration, Rupala said states need to be inspired by each other and explore options to grow in the marine sector. "There is a need to come up with environment-friendly fishing and look for sustaining the sector while continuing the consumption," he said.

Rupala called for greater awareness of Kisan Credit Card (KCC). "The Ministry has already extended the support of KCC to the fishermen and women. The government will soon start a massive campaign to intensify awareness on KCC," he said.

Taking part in the national level celebration, Minister of State for Fisheries, Animal Husbandry and Dairying L. Murugan said the potential of the sector has been realised in a short span of time of the separate ministry for fisheries and the country has set the ambitious target of achieving the one lakh crore export from the sector.

"The government is implementing Matsya Sampada Yojana and has infused Rs 20,000 crore in the sector. Seaweed farming is another part where the government is putting more emphasis on. We are also focusing on empowering fisherwomen and promoting entrepreneurship in the sector," said Murugan adding Paradip is among the five major ports being developed as major fishing harbours. Balasore district was awarded as the Best Marine District in the country in this occasion. Andhra Pradesh was awarded the Best Marine State while Best Inland State Award was given to Telangana.

Odisha is the fourth largest fish-producing state in the country with 8.73 lakh metric tonne of fish produced during 2020-21 contributing to 2.33 percent (pc) of the state economy. Over last five years, fisheries sector has grown at an average annual growth rate of about 13 pc in the State. Balaghat in Madhya Pradesh received the Best Inland District award and Best Hilly and Northeastern State and District awards were presented to Tripura and Bongaigaon in Assam respectively.

The ministers and delegates visited the exhibition stalls put up by the farmers and entrepreneurs at the venue. Various posters, jingles on fisheries sector were also released during the event. The programme was also attended by senior officials of Government of India and Government of Odisha.

www.newindianexpress.com

Safe Seafood

Screen the presence of Antibiotics in seafood with Bioeasy ELISA Test Kit

Results can be analyzed by open software designed for ELISA

F.1 F.2 & F.S. Science Square Whove Reliance Fresh, Science Day Road, J Solu, Ammodabat 2380.060, (Sejarah MDIA Tel 4 91 79 4005 4705 / 06 / Call 2491 722 699 3030 1 - mail indologimetros com 1 Sen. Accountilises com

MPEDA IN SOCIAL MEDIA

SOCIAL MEDIA REPORT: NOVEMBER

twitter

FOLLOWERS - 5300

POSTS - 31

VIDEOS - 2

LIKES - 5300

MPEDA IN SOCIAL MEDIA

SOCIAL MEDIA REPORT: NOVEMBER

| Instagram | ← Insights Previous Month ~ |
|------------------|---------------------------------|
| FOLLOWERS - 3145 | Insight You reached +9.5% mo |
| POSTS - 31 | Accounts reached |
| VIDEOS - 2 | Accounts engaged |
| LIKES - 3145 | Total followers |
| | |

| \leftarrow Insights | (i) |
|---|----------------------|
| Previous Month 🛩 | Nov 1 - Nov 30 |
| Insights Ov | erview |
| You reached +9.5% more acco 1 - Oct 31 | unts compared to Oct |
| Accounts reached | 3,648 +9.5% > |
| Accounts engaged | 627 +12.5% > |
| Total followers | 3,200 > |

| In November, pe | ople watched your vid | leos 1,716 times |
|-------------------------|-----------------------------|------------------|
| ^{хана} 1.7К | databa tana disawat 43.3 | Rationary +45 |
| | | 123 |
| $\wedge - \wedge -$ | AA | ~: |
| - Ch | | |

YOUTUBE

FOLLOWERS - 1,797

POSTS: 2

LIKES - 1,797

VIDEOS - 2

PRAWN FEED

VANNAMEI FEED

AVANTI FEEDS LIMITED

In the business of quality Prawn feed and Prawn Exports An ISO 9001: 2008 Certified Company

Aiding sustainability & reliability to Aquaculture

BLACK TIGER SHRIMP FEED

Feed Plant - Gujarat

Prawn Feed & Fish Feed

INNOVATIVE – SCIENTIFICALLY FORMULATED – PROVEN GREATER APPETITE • HEALTHY & FASTER GROWTH LOW FCR WITH HIGHER RETURNS • FRIENDLY WATER QUALITY

Prawn Processing & Exports

BLACK TIGER SHRIMP FEED

AVANT AQUA HEALTH CARE PRODUCTS

Corporate Office: Avanti Feeds Limited G-2, Concord Apartments 6-3-658, Somajiguda, Hyderabad - 500 082, India. Ph: 040-2331 0260 / 61 Fax: 040-2331 1604. Web: www.avantifeeds.com

Regd. Office: Avanti Feeds Limited. H.No.: 3, Plot No.: 3, Baymount, Rushikonda, Visakhapatnam - 530 045, Andhra Pradesh.

NO. KERENG/2013/61656

Easy to use

Trusted cloud

Processing & handling

Preferred by packers

At the Cruxzen Technologies,

We are committed to help <u>Seafood</u> business achieve their objectives. We offer simple effective, and affordable <u>Sea /Aqua</u> processing <u>ERP</u> solution that can go a long way for your business.

Your Technology Partner

Call us on 7756804701 or e-mail us on sales@cruxzen.tech