MPEDA

Newsletter

Vol.VII/No.2/ MAY 2019

LARGEST AQUACULTURE EXHIBITION IN ASIA

Aqua Aquaria India

अक्वा अक्वारिया इंडिया 2019

Aqua Aquaria India

ISSN 0245-7059
9770245705992

TAKING ***BLUE REVOLUTION***
TO INDIA'S HINTERLAND

30th August - 1st September 2019

HITEX EXHIBITION CENTER
Hyderabad, India

www.aquaaquaria.com

Organised by

समुद्री उत्पाद निर्यात विकास प्राधिकरण (वाणिज्य एवं उद्योग मंत्रालय, भारत सरकार)

THE MARINE PRODUCTS EXPORT DEVELOPMENT AUTHORITY
(Ministry of Commerce & Industry, Govt. of India)

www.mpeda.gov.in

CPF-TURBO PROGRAM

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

CPF-TURBO PROGRAM -
Pioneering Successful and Profitable Shrimp Aquaculture

MPEDA
VOL. VII/NO. 2/MAY 2019 Newsletter

CONTENTS

25 YEARS
FEEDING GROWTH SINCE 1993

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

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

The Waterbase Limited

Thapar House, 37 Montieth Road
Egmore, Chennai - 600 008
Tamil Nadu, India
T : +91 44 3012 7000
www.waterbaseindia.com

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

Shrimp Feed ▸▸ Farm Care ▸▸ Processing ▸▸ Exports ▸▸ Hatchery

MPEDA
VOL. VII/NO. 2/MAY 2019 Newsletter

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

Printed and Published by
Mr. B. Sreekumar, Secretary
on behalf of The Marine Products
Export Development Authority
(Ministry of Commerce & Industry, Govt. of India)
MPEDA House, Panampilly Avenue
Kochi - 682 036, Tel: +91 484 2311979

Published by
MPEDA House
Panampilly Avenue
Kochi - 682 036

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

K. S. Srinivas IAS
Chairman

Dear friends,

During the month, MPEDA has participated in Seafood Expo Global at Brussels along with 24 prominent seafood exporters. During the Expo, I also had discussions with the EU Import Authorities on quality checks imposed for antibiotic residues in our farmed shrimp consignments as well as on the latest improvisations effected by MPEDA in the catch certification system.

From the meetings it has become evident that India need to be much more proactive in containing the antibiotic residues in its farmed shrimp production systems so as to regain the lost volumes of exports to the European market. We are getting reports that in certain regions the farmers and exporters have joined together and working closer to ensure the production of residue free and traceable shrimp by following the Best Management Practices.

I hope such networks are formed across all the coastal states so as to bring in more farming area under the network of traceability. Unless this is done, it is quite difficult for Indian shrimp farmers as well as exporters to be out of the stringent import checks in markets like EU and Japan.

I am also happy to announce the 5th Edition of Aqua Aquaria India, one of the largest Aquaculture and Ornamental Fish Exhibition in Asia during 30th, 31st August and 1st September at the Hitex Convention Centre, Hyderabad.

The city of Hyderabad is chosen as a measure strategy to sensitize the inland and fresh water farming sectors on the export prospects in various overseas markets and on the quality requirements for exports. I request whole hearted cooperation of all the stakeholders to make this mega event a grant success.

Thank you.

Freight Brokers Global Services Inc.

C-TPAT Customs-Trade Partnership Against Terrorism
BUILDING PARTNERSHIPS • PROTECTING FREEDOM

Looking to Export to the U.S.?

Let our dedicated team with decades of experience assist you

Full Service, Inter-Modal & LTL Trucking

FCL/LCL Ocean Freight

Domestic and International Air Freight

Full Service FDA Security & Compliance Consulting

NEW FOR 2019

Seafood Import Monitoring Program

Now offering 2019 record keeping for NOAA Compliance

Have FBGS be your U.S. team to keep your imports covered for all monitoring requirements

LET'S GET STARTED!

Call: 718.471.1299

Email: Info@FreightBrokersGlobal.com

1200 Brunswick Ave, Far Rockaway, NY 11691

www.FreightBrokersGlobal.com

MPEDA's participation in Seafood Expo Global 2019 at Brussels

The Marine Products Export Development Authority (MPEDA) participated in the Seafood Expo Global, the largest exposition on seafood held at Expo Centre at Brussels in Belgium from May 7 to 9, 2019. Indian delegation was represented by Mr. K. S. Srinivas IAS, Chairman, MPEDA; Mr. Vijaykumar C. Yaragal, Deputy Director, MPEDA, Sub Regional Division, Karwar; Dr. T. R. Gibinkumar, Deputy Director, MPEDA Sub Regional Division, Ratnagiri and Mr. Rakesh T. Kurian, Assistant Director, MP Division, MPEDA Head Office, Kochi.

Highlights of EU Seafood Market

The EU is the world's largest trader of fishery and aquaculture products in terms of value. In 2017, trade flows between the EU and the rest of the world surpassed those of China, the second ranked, by over EUR 2.3 billion. In 2017, the sum of trade flows with non-EU countries and exchanges among Member States (exports only) amounted to EUR 57 billion, an increase of EUR 2.6 billion from 2016. Intra-EU exports contributed the most to the overall growth, increasing by EUR 1.44 billion, for a 6 per cent growth from EUR 25.2 billion in 2016 to EUR 26.7 billion in 2017.

Despite exports to third countries reaching a 13-year value peak in 2017, the deficit reached a negative peak of EUR 20.2 billion, 3 per cent or EUR 558 million greater than in 2016. This was due to the growing role of both frozen and prepared or preserved products imported by EU Member States in terms of value, whereas the deficit for fresh products is decreasing.

Extra-EU imports increased 4 per cent from 2016 and reached a 10-year peak of EUR 25.3 billion. This was mainly due to increased imports of frozen cuttlefish and squid, mostly originating from India and China, and of prepared or preserved skipjack tuna from Ecuador. However, of all fisheries and aquaculture products imported in the EU, salmon accounted for the largest share, with 14 per cent in volume and 22 per cent in value terms.

The US and China are the main destination markets of EU exports in terms of value, but the highest volumes are destined for Norway and Nigeria. While the US and China mainly import salmon and cod, Norway is a major importer of fish oil, and Nigeria of small pelagics, herring and mackerel in particular. In 2016, the EU ranked fifth in world production of fisheries and aquaculture, after the four main Asian producers (China, Indonesia, India and Viet Nam). Aquaculture production in the EU continued the recovery started in 2014, reaching 1.29 million tons with a value of EUR 4.25 billion.

Over the last eight years, price inflation for fish in the EU has been higher than for food in general. From 2016

to 2017, it reached 3.6% while prices of food in general increased by 2.2 per cent. The inflation for fish was highest in the northern EU countries. (EUMOFA, 2018).

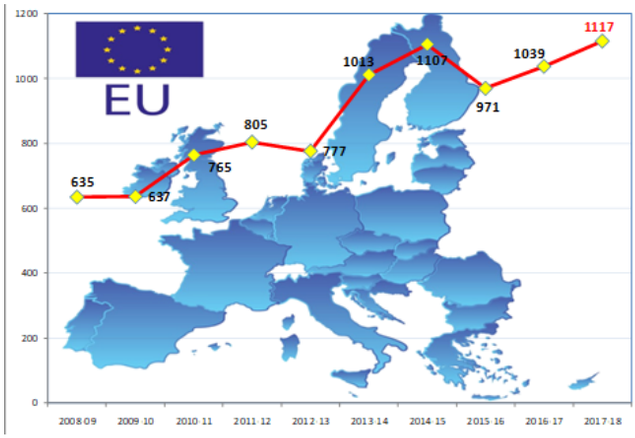
India's Marine Product Trade with EU

Exports of marine products from India to EU have grown more than 80 per cent in the last 10 years. In terms of US Dollar value, it has grown from USD 617 million in 2006-07 and has reached an all time high of USD 1116.74 million in 2017-18.

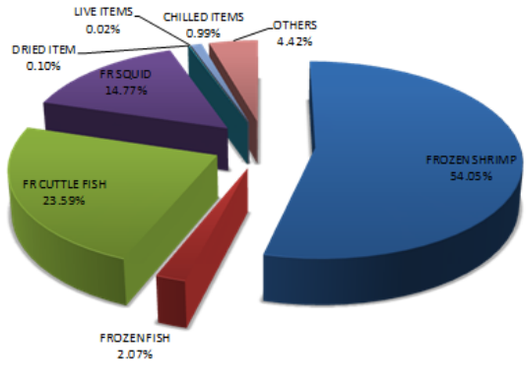
As per the latest estimates of 2017-18 export figures, European Union continued to be the third largest destination for Indian seafood with a share of 13.82 per cent in quantity. Frozen Shrimp continued to be the major item of export to EU accounting 41.21 per cent in quantity and 54.05 per cent in US Dollar earnings. Export of frozen shrimp to EU increased by 1.62 per cent, 1.19 per cent and 5.38 per cent in quantity, Rupee and US Dollar value respectively.

The major items of exports during the year 2017-18 to EU are frozen shrimps, frozen cuttlefish and frozen squid. Frozen fish shows a positive trend and chilled fish and live fish exports are also got good potential. The top five countries importing marine products from India are Spain, United Kingdom, Italy, Belgium and Netherland.

Export of Marine Products to EU (US$ million)



Item wise Exports to EU (US$ million)



ITEM WISE EXPORT OF MARINE PRODUCTS TO EUROPEAN UNION						
Q: Quantity in M T, V: Value in Rs. Crore, $: US Dollar Million						
Item Name		**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
FROZEN SHRIMP	Q:	73487	81952	81849	77178	78426
	V:	4005.72	4407.12	3925.73	3801.26	3846.67
	$:	660.60	726.74	605.28	572.78	603.59
FROZEN FISH	Q:	6214	7117	4297	5200	6372
	V:	121.98	150.49	108.55	122.88	147.18
	$:	20.21	24.80	16.62	18.54	23.11
FR CUTTLE FISH	Q:	39457	47151	38022	36513	42994
	V:	916.20	1176.10	1025.47	1268.84	1677.72
	$:	151.66	193.55	156.98	190.97	263.39
FR SQUID	Q:	37566	34319	41923	50507	41343
	V:	756.18	654.43	854.30	1333.30	1051.36
	$:	125.55	107.71	130.90	201.09	164.94

DRIED ITEM	Q:	273	262	253	317	223
	V:	21.98	19.24	11.68	10.37	6.85
	$:	3.73	3.16	1.80	1.56	1.08
LIVE ITEMS	Q:	4	6	5	11	7
	V:	0.94	1.37	1.24	1.53	1.11
	$:	0.16	0.23	0.19	0.23	0.17
CHILLED ITEMS	Q:	1396	1811	2412	1984	1735
	V:	51.99	69.90	101.95	79.10	70.50
	$:	9.14	11.45	15.55	11.91	11.09
OTHERS	Q:	16288	15414	17588	18123	19216
	V:	254.70	236.93	282.52	274.92	314.57
	$:	42.24	39.02	43.45	41.52	49.37
TOTAL	**Q:**	**174686**	**188031**	**186349**	**189833**	**190314**
	V:	**6129.69**	**6715.58**	**6311.45**	**6892.19**	**7115.96**
	$:	**1013.29**	**1106.67**	**970.77**	**1038.59**	**1116.74**

A view of Indian Pavilion

Seafood Expo Global & Seafood Processing Global, Brussels

Seafood Expo Global/Seafood Processing Global forming the world's largest seafood trade event attracting thousands of buyers and suppliers from around the world to meet and explore the possibility of discovering new seafood products, technologies, networking & trade opportunities reached. In 2019, the event has reached its 27th edition, showing positive growth every year in terms of area and participation. The latest edition of the exposition was held for three days from May 7 to 9 at the Expo Centre in Brussels, Belgium.

This year, the exhibit space had grown considerably, making this edition the largest one since its inception. The expo expanded to Hall 3 also with additional seafood processing exhibits. Seafood Processing Global now encompasses Hall 3 and Hall 4 at the Brussels Expo provided visitors with every aspect of seafood processing, including packaging materials & equipment, refrigeration and freezing equipment and supplies, primary processing equipment, secondary processing equipment, hygiene control and sanitation, quality assurance services, transport and logistics services. The Halls 5, 6, 7, 8, 9, 11 and the Patio of the Expo Centre exclusively held seafood exhibits.

The exposition featured a record 2,007 exhibiting companies over 2018, an increase of 61 companies coming from 88 countries to present their newest seafood products, services, processing and packaging equipment. The event covered 40,559 net square meters of exhibit space, breaking last year's record by 1,237 square meters. More than 29,200 buyers and sellers from around the globe came to Brussels for the event, which drew visitors from 155 countries. The Seafood expo in Brussels continues to be the most important annual event for the global seafood industry.

New exhibiting country representation this year included Angola, Greenland, Guyana, Honduras, Ivory Coast, Kingdom of Saudi Arabia, Madagascar, Mozambique, Solomon Islands, Swaziland, Tanzania and Uganda. In addition, 74 national and regional pavilions were present, including new regional pavilions from South Korea and Taiwan. Seafood buyers who attend Seafood Expo Global/Seafood Processing Global include owners, executive purchasing managers, category managers, private label program buyers and equipment and packaging buyers from restaurants, supermarkets, hotels, catering services, importers, distributors and seafood markets. High-volume buyers from all over the world come to the event to meet with suppliers, see new products and discover industry trends.

India's participation in the show

India has taken a total stand area of 480 sq. m in the Hall no. 7 with stand numbers 1633 and 1733. The stall theme of MPEDA was Irresistible Seafood from Incredible India and the contemporary style design with blue back-grounded open stalls, was retained. The eye catcher design was made attractive depicting seafood species in traditional Indian patterns. MPEDA stall displayed a variety of seafood sourced from various seafood exporters at different locations. Samples consisted of chilled, frozen, freeze dried, canned, retorted and ready to eat frozen products. Frozen seafood products were displayed using three large open top display freezers and the chilled fish was displayed in a dome chiller.

Frozen products ranged from IQF, block frozen and tray packed shrimps, individually frozen whole fish and IQF fish fillets, ready to eat frozen products and ready to fry/cook products. A variety of fresh fishes, crabs, shrimps, lobsters, squid etc were displayed in chilled condition. A wide variety of value added and ready to eat products was also displayed in the MPEDA stall. In addition to seafood, a wide array of MPEDA publications including brochures, books, commercial fish chart, exporter directory CDs were also displayed and distributed to the visitors of MPEDA stall. As done in previous years a special guide containing the details of all co-participating exhibitors was also prepared and distributed to the visitors, which helped them to identify the right exporter for commencing their business.

Chairman, MPEDA had discussions with Mr. Giuseppe Palma, Secretary General of Assoittica Italia, a trade body representing the seafood industries of Italy on 7th May, 2019. Mr. Alex Ninan, Regional President SEAI Kerala also attended the meeting. Discussions were on the issues pertaining to EU marine food safety and labelling norms and Electronic catch certificate issued by MPEDA.

Mr. K. S. Srinivas IAS, Chairman, MPEDA and Mr. Alex Ninan, Regional President SEAI Kearala, having discussions with Mr. Giuseppe Palma, Secretary General of Assoittica Italia

Chairman has also had meetings with Mr. Jessen, Acting Director for International Ocean Governance and Sustainable Fisheries for DG-MARE in the office of DG-MARE. Late, another meeting with Mr. Matthew Hudson, Director, DG-SANTE in his office was also there.

The most distinguished visitor to Indian pavilion was Her Excellency Ms. Gaitri Issar Kumar, Ambassador of India to Belgium, Luxembourg and EU in the afternoon of the first day of the fair. Ambassador had discussions with Chairman MPEDA and visited the stalls of co-exhibitors. Mrs. Smitha Sirohi, Adviser (Agriculture & Marine Products) visited the show during all show days and extended her full support to MPEDA. The support extended by Embassy of India at Brussels towards the organization of the Expo, made it possible to have one more successful participation of MPEDA in Seafood Expo Global. Other important officials visited the MPEDA pavilion were Ms. Rajni Sekhri Sibal, IAS, Secretary, Department of Fisheries, Ministry of Agriculture and Ms. Rani Kumudini, IAS, Chief Executive, NFDB.

Chilled fish display at MPEDA stall

Ms. Gaitri Issar Kumar, Ambassador of India to Belgium, Luxembourg and EU at MPEDA pavilion

Ms. Gaitri Issar Kumar, Ambassador appreciating cooking demo

MARKETING NEWS

Mr. Vijaykumar C. Yaragal and Dr. T. R. Gibinkumar, Deputy Director having discussion with buyers

Mr. Vijaykumar C. Yaragal, Deputy Director having discussion with buyers

(L-R) Mr. Parthasarathy, EoI; Mr. Rakesh T. Kurian, Assistant Director, MPEDA; Dr. T. R. Gibinkumar, Deputy Director, MPEDA, Mr. K. S. Srinivas IAS, Chairman, MPEDA, Ms. Rajni Sekhri Sibal IAS, Secretary, Dept of Fisheries, MoA; Ms. I. Rani Kumudini IAS, Chief Executive, NFDB, Mr. Vijaykumar C. Yaragal, Deputy Director, MPEDA, Mr. RP Singh, Adviser (I&E), EoI and Mr. Roshan, Chef

Mr. Rakesh T. Kurian, Assistant Director, MPEDA having discussion with buyers

Deputed officials with Mrs. Smitha Sirohi, Adviser (A&MP) (middle) and Mr. Parthasarathy, EoI (extreme left)

MARKETING NEWS

Cooking Demo

This year, MPEDA pavilion has cooking demo, which was a major attraction for the visitors in the Indian Pavilion. Mr. Roshan, an Indian chef from Brussels, was hired for the cooking demonstrations. The chef prepared various dishes with shrimps, squid rings, tilapia fillets and cobia streaks. Visitors appreciated and enjoyed the preparations as it was a unique opportunity for them to have a flavour of Indian seafood.

Cooking demo in MPEDA Pavilion

Co-participation by Exporters

25 seafood exporters from India participated as co-exhibitors in the MPEDA - India pavilion, and all of them has secured enough orders and reconfirmed their existing orders.

List of Exporters

No	Exporter	Region
1	Ram's Assorted Cold Storage Limited, Bhubaneswar	Bhubaneswar
2	Monsoon Bounty Foods Manufacturing Pvt Ltd, Chennai	Chennai
3	Albys Agro Pvt. Ltd., Goa	Goa
4	Abad Fisheries Pvt Ltd., Kochi	Kochi
5	Abad Overseas Pvt Ltd, Kochi	Kochi
6	Calcutta Seafoods Private Limited, Kolkata	Kolkata
7	Milsha Agro Exports Pvt. Ltd., Kolkata	Kolkata
8	Rupsha Fish Private Limited, Kolkata	Kolkata
9	Fouress Foods, Udupi	Mangalore
10	Sashimi Foods Private Limited. Bangalore	Mangalore
11	Castlerock Fisheries Pvt Ltd, Mumbai	Mumbai
12	Forstar Frozen Foods Pvt Ltd, Mumbai	Mumbai
13	Mindhola Foods LLP, Surat	Mumbai
14	Naik Seafoods Pvt. Ltd., Mumbai	Mumbai
15	Seasaga Enterprises Pvt Ltd, Mumbai	Mumbai
16	Ulka Seafoods Pvt. Ltd, Mumbai	Mumbai
17	Vasai Frozen Food Co., Mumbai	Mumbai
18	West Coast Frozen Foods Private Limited, Surat	Mumbai
19	Gadre Marine Export Pvt. Ltd., Mirjole	Ratnagiri
20	Gadre Marine Export, Mirkarwada	Ratnagiri
21	Karunya Marine Exports Pvt. Ltd. Pethkila	Ratnagiri
22	V V Marine Products, Tuticorin	Tuticorin
23	Indian Exports, Veraval	Veraval
24	Real Exports, Veraval	Veraval
25	Sun Exports, Veraval	Veraval

Around 80 trade enquiries received from different countries like Austria, Bangladesh, Belgium, Bermuda, Brazil, Canada, China, Congo, Cyprus, Denmark, England, France, Germany, Indonesia, Iran, Ireland, Israel, Italy, Japan, Jordan, Lebanon, Luxembourg, Maldives, Mauritiana, Morocco, Netherlands, Norway, Peru, Poland, Portugal, Qatar, Russia, Saudi Arabia, Seychelles, Spain, Switzerland, Taiwan, Thailand, Tunisia, Turkey, UAE, Ukraine, United Kingdom, USA, is compiled and published in the trade enquiry section of MPEDA Newsletter.

2019 Seafood Excellence Award Winners

The winners of the 2019 Seafood Excellence Global awards were chosen from a field of 37 finalists representing 12 countries and the winners were announced in the first day evening of the show at a special Seafood Excellence Global awards reception. The competition recognizes the best products exhibited at Seafood Expo Global. The winners and finalists were on display in Hall 8, Stand 4430 at Seafood Expo Global and Seafood Processing Global, throughout the show.

The judges for the 2019 Seafood Excellence Global competition were Debby Verheyen, Seafood and Frozen Food Coordinator for Ahold Delhaize in Belgium; Damien Castagnier, Buyer of Fruits, Vegetables and Seafood for Monoprix in France; Lubomir Brandejs, Seafood Category Manager for Globus in the Czech Republic; Luca Grosoli, Food Buyer for Sodexo in Italy; and Arnaud Lasplaces, Fish and Seafood Manager for Classic Fine Foods in Hong Kong. Ms. Verheyen served as chair of the jury.

The Seafood Excellence Global finalists were judged on taste and overall eating experience, packaging, marketability, convenience, nutritional value, and innovation. The judges' scores were verified by the accounting firm of Ernst & Young.

The top award for Best Retail Product was presented to Viciunai Group for its entry, Surimi Noodles Wok Style, a convenient meal in its own lunch box filled with surimi noodles, Chinese vegetables and a Korean glaze sauce. The neutral-flavoured noodles are made from Marine Stewardship Council (MSC)-certified Alaska pollock, Pacific whiting or hoki surimi. The judges noted that in addition to its great taste, the product responds to many of today's most influential seafood markets trends, including high protein/low carbohydrate and gluten-free diets, clean label surimi seafood, sustainability certifications and ready meals on the go.

Surimi Noodles Wok Style from Viciunai Group was also awarded the Seafood Excellence Global special award for Innovation. This unique ready-meal introduces a new category of seafood products in a smart package that provides convenience for people on the go. The phosphate-free, MSC-certified surimi noodles are packed separately from the Korean glaze sauce in a two-tiered cup, so that they can be microwaved then combined as the consumer likes.

Kingfish Zeeland BV won the grand prize for Best HORECA (hotel/restaurant/catering) Product for its Dutch Yellowtail. Also known as hiramasa or kingfish, the product is farmed using a recirculating aquaculture system (RAS) without antibiotics and is certified by both the Aquaculture Stewardship Council (ASC) and Best Aquaculture Practices (BAP). The premium fish can be served raw in sashimi and sushi, or grilled or smoked as a sustainable alternative to tuna and swordfish. The judges particularly noted the rich flavour and high quality of the product.

In addition to the grand prizes and special price

mentioned above, the judges also gave three special awards:

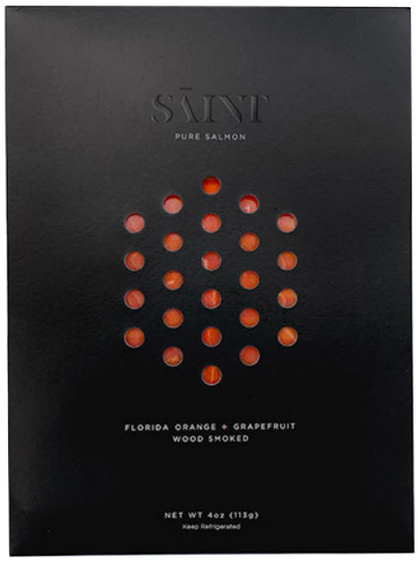
GlobeXplore – Algae of France was presented the Seafood Excellence Global special award for Health & Nutrition for its Guacamole with Fresh Spirulina. This ready-to-eat guacamole is the first product made with fresh spirulina. The high levels of vitamin B12, iron, and protein naturally found in spirulina are preserved by treating the product using high pressure processing

(HPP). The spirulina also provides rich umami flavour and a beautiful natural green colour.

The Seafood Excellence Global special prize for Convenience was given to Golden Fresh Sdn Bhd of

Malaysia for its Prawn in Hor Mok Thai Coconut Sauce. The prawns and sauce are packed in individual portion bags that can be quickly microwaved without thawing and served with zero waste. The product allows any foodservice operation to serve authentic Thai flavours with little labour.

St. James Smokehouse (Scotland) Ltd. of the United Kingdom was presented the Seafood Excellence Global special award for Retail Packaging for its product Saint Pure Salmon. Fresh Aquaculture Stewardship Council (ASC)-certified sushi grade Atlantic salmon is cured with sea salt and brown sugar and smoked over Florida orange and grapefruit wood giving it a light fruity smoke profile. For added convenience the product is sliced vertically sashimi style. The elegant



contemporary black package features a soft touch finish and attractive and informative infographics designed to attract a younger demographic.
The Seafood Excellence Award for Best Seafood Product Line was not presented this year due to a lack of entries in the category.

Conclusion

Participation in the 27th edition of Seafood Expo Global 2019 was fruitful not only as an opportunity to meet global players of seafood but also gave sufficient exposure to the latest products and practices in the global seafood industry.

The co-participated exhibitors benefited by grasping the reputation and reverence of buyers from the participation under the roof of MPEDA. Exporters also benefited in terms of business generated as well as the opportunity they got in refreshing the existing relationships and finding new tie-ups.

MARKETING NEWS

Ms. Leena Nair IAS, Former Chairman, MPEDA visits MPEDA Head Office and MPEDA Signature Stall

FOCUS AREA

NETFISH-MPEDA in Marine Science Expo

MPEDA, through it's extension arm NETFISH, took part in the 'Marine Science Expo' held along with the 'International Conference on Benthos (ICB 19)', which was organised by the Department of Marine Biology, Microbiology and Biochemistry, School of Marine Sciences, Cochin University of Science and Technology, from 06-08, March 2019 at the Seminar Complex in Kalamassery campus.

A stall set up by MPEDA-NETFISH highlighted different activities and extension programmes done across the country. The stall had posters illustrating various activities of NETFISH and information on its extension activities like Minimum Legal Size, Square mesh cod end, marine pollution, sea safety etc. Leaflets and booklets developed by NETFISH on hygienic handling and fishery conservation aspects were kept in the stall for those interested in knowing more.

The delegates, students and researchers from India and abroad who participated in the Conference visited the stalls at the Marine Science Expo. Some of them showed keen enthusiasm in gathering information about the activities of MPEDA and NETFISH. Participating in the expo helped in disseminating information on marine fisheries and its conservation measures, especially among the young generation.

The Expo provided a platform for various organisations to showcase their R & D activities, training, extension activities and products. Besides MPEDA, the other participants of the Expo were NIO, NIFPHATT, CIFT, NBFGR, KUFOS, Pollution Control Board, Norinko, Borosil and CUSAT.

Highlights of marine fish landings in selected harbours of India during March 2019

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

NETFISH, the extension arm of MPEDA, keep a record of the major fishery items landed as well as the details of fishing vessels arriving at the major harbours of India. Fishery monitoring and catch reporting are essential parts of sustainable management of fishery resources. This report describes the analysis results of harbour data obtained during March 2019.

Data Collection & Analysis

The fish catch and boat arrival data were obtained on a day-to-day basis by the Harbour Data Collectors stationed at selected harbours across the nine maritime states of India (see Table 1). The name, registration number and type of fishing vessels arrived as well as the approximate quantity of major fishery items landed at the harbour were recorded by primary and secondary modes. The data were further analysed using online applications and MS office (Excel) tools to arrive at species-wise, region-wise, state-wise and harbour-wise estimations. During March 2019, data from 43 harbours along the 9 coastal states were obtained, which were analysed for this report.

Table 1. List of landing sites selected for data collection

Sl. No.	State	Fishing harbour
1	West Bengal	Deshapran
2		Namkhana
3		Raidighi
4		Digha (Sankarpur)
5	Odisha	Paradeep
6		Balaramgadi
7		Bahabalapur
8		Dhamara
9	Andhra Pradesh	Visakhapatnam
10		Nizampatnam
11		Machilipatnam
12		Kakinada
13	Tamil Nadu	Nagapattinam
14		Karaikal
15		Chennai
16		Pazhaiyar
17		Cuddalore
18		Pondicherry
19		Chinnamuttom
20		Mandapam
21		Tuticorin
22		Colachel
23	Kerala	Thoppumpady
24		Vizhinjam
25		Thottappally
26		Kayamkulam
27		Beypore
28		Sakthikulangara
29		Munambam
30		Puthiyappa
31	Karnataka	Tadri
32		Mangalore
33		Honnavar
34		Malpe
35		Gangoli
36	Goa	Cutbona

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

Estimations on fish landings

A total catch of 62334.97 tons of marine fishery resources was recorded from 43 landing sites during March 2019, which was comprised of 35 per cent of Demersal finfishes, 35 per cent of Shellfishes and 30 per cent of Pelagic finfish resources (Fig. 1). The shellfish landing included 67 per cent of Molluscs and 33 per cent of Crustaceans.

The total catch was comprised of 117 varieties of fishery items, among which the top five contributors were Squid, Japanese thread fin bream, Ribbon fish, Cuttlefish and Red-toothed Filefish (Fig. 2). These five fishery items together formed 42 per cent of the total catch. The other major contributors to the catch were Indian Mackerel and Lizard Fish, each recording more than 3000 tons. The species which registered least landing during the month was the Black tip sardinella, with a quantity of 0.05 tons.

Table 2 enlists the quantity of various fishery items recorded during March 2019. Among the Pelagic finfish resources, Ribbon fish and Indian Mackerel were the major contributors and in the case of demersal finfishes, it was Japanese threadfin bream and Red-toothed Filefish which contributed more. Major items among Shellfish resources were Squid, Penaeid Shrimps and Cuttlefish. Of the Penaeid shrimps, the *Karikkadi* shrimp registered as the highest contributor with a quantity of 1711.30 tons.

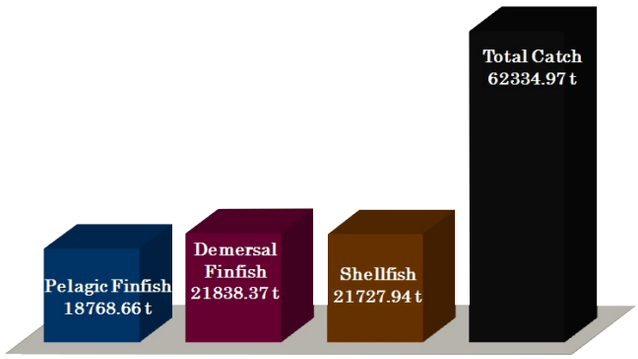


Fig. 1. Category-wise fish landings during March 2019

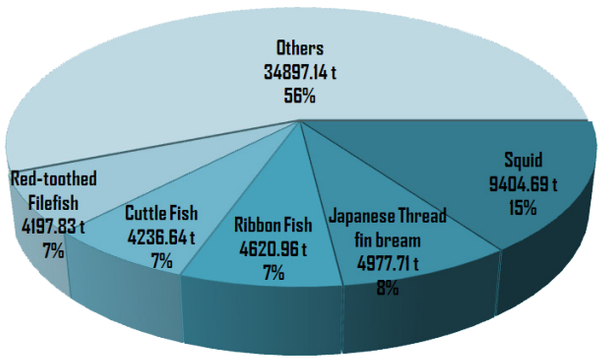


Fig. 2. Major fishery items landed during March 2019

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

Fish item	Quantity in tons	% of total catch
Pelagic Finfish		
Ribbon Fish	4620.96	7.41
Indian Mackerel	3867.85	6.20
Tuna	2993.83	4.80
Anchovies	1063.67	1.71
Horse Mackerel	1040.00	1.67
Indian Oil Sardine	988.38	1.59
Seer Fish	871.43	1.40
Scads	717.00	1.15
Barracuda	549.86	0.88
Trevallies	383.89	0.62
Bombay Duck	299.76	0.48
Dolphin Fish	274.83	0.44
Leather Jacket	189.42	0.30
Lesser Sardines	174.05	0.28
Oriental Bonito	167.30	0.27
Sail Fish	132.45	0.21
Mullet	109.88	0.18
Herring	90.57	0.15

Hilsa	63.06	0.10
Queen Fish	56.83	0.09
Indian Salmon	33.43	0.05
Marlins	30.34	0.05
Cobia	16.61	0.03
Sea Bass	10.11	0.02
Flat Needle Fish	9.44	0.02
Silver Sillago	7.41	0.01
Indian Ilisha	2.99	0.00
Needle Fish	1.87	0.00
Milk Fish	0.87	0.00
Rainbow Runner	0.45	0.00
Indian Thread Fish	0.15	0.00
Total	**18768.66**	**30.11**
Demersal Finfish		
Japanese Thread Fin Bream	4977.71	7.99
Red-Toothed Filefish	4197.83	6.73
Lizard Fish	3034.47	4.87
Croakers	2514.45	4.03
Cat Fish	1782.97	2.86
Sole Fish	1397.72	2.24
Bull's Eyes	1250.74	2.01
Reef Cods	881.32	1.41
Pomfrets	409.20	0.66
Moon Fish	331.66	0.53
Snapper	283.98	0.46
Goat Fish	224.29	0.36
Eel	153.69	0.25
Pony Fish	152.57	0.24
Rays	135.95	0.22
Ghol	28.78	0.05
Whip Fin Silver Biddy	21.10	0.03
Indian Halibut	16.97	0.03
Perch	14.40	0.02
Emperor Bream	12.88	0.02
Parrot Fish	7.20	0.01
Spine Foot	3.50	0.01
Sickle Fish	3.00	0.00
Black Tip Shark	2.02	0.00
Total	**21838.37**	**35.03**
Shellfish		
Crustaceans		
Penaeid Shrimps	6263.49	10.05
Non-Penaeid Shrimps	180.45	0.29
Sea Crab	680.74	1.09
Mud Crab	1.60	0.00
Lobsters	23.89	0.04
Total Crustacean	7150.17	11.47
Molluscs		
Squid	9404.69	15.09
Cuttlefish	4236.64	6.80
Octopus	907.43	1.46
Green Mussel	0.82	0.00
Whelk	28.20	0.05
Total Mollusc	14577.77	23.39
Total Shellfish	**21727.94**	**34.86**
Grand Total	**62334.97**	**100.00**

Region-wise landings

In March 2019, the maximum quantity of fish landings was recorded from the North West coast, where a total of 31591.77 tons (51 per cent of total catch) was reported from the selected harbours of Maharashtra and Gujarat. The South West coast comprised of Kerala, Karnataka and Goa had contributed 21169.03 tons (34 per cent) to the total catch. In South East coast, landings recorded from the selected harbours in Tamil Nadu and Andhra Pradesh were totalled to 5832.40 tons (9 per cent), whereas along the North East coast 3741.77 tons (6 per cent) of fish catch was recorded altogether from the eight harbours of West Bengal and Odisha (Fig. 3).

State-wise landings

Considering the state-wise catch, the maximum landing recorded was from Gujarat, which was to the tune of 27586.51 tons (44 per cent of total catch) (Fig. 4). This was followed by Karnataka with 14490.08 tons (23 per

cent) and then by Kerala with a contribution of 4636.55 tons (8 per cent). The State which reported least landing during the period was Odisha, where only 1454.27 tons (2 per cent) of marine fish catch was recorded. The West coast states together formed more than 84 per cent of the total catch.

The major five fishery items which had contributed significantly to the landings in each state during the month are given in Table 3.

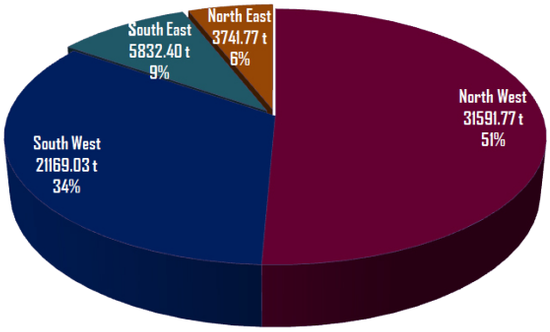


Fig. 3. Region-wise landings (in tons) recorded during March 2019

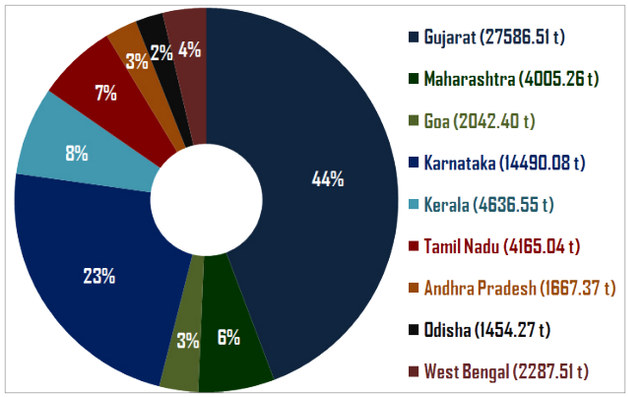


Fig. 4. State-wise fish landings (in tons) during March 2019

Table 3. Major items landed in various states during March 2019

Item	Quantity in tons	% of total landings of the state
Kerala		
Deep Sea Shrimp	479.50	10.3
Shrimp (Poovalan)	440.60	9.5
Squid	411.02	8.9
Indian Oil Sardine	352.86	7.6
Indian Mackerel	352.19	7.6
Karnataka		
Red-Toothed Filefish	4195.83	29.0
Japanese Thread Fin Bream	1963.88	13.6
Lizard Fish	1670.27	11.5
Indian Mackerel	1478.74	10.2
Squid	1432.10	9.9
Goa		
Indian Mackerel	338.00	16.5
Indian Scad	302.50	14.8
Squid	258.20	12.6
Tuna	208.50	10.2
Horse Mackerel	193.80	9.5
Maharashtra		
Squid	1261.26	31.5
Indian Mackerel	440.21	11.0

Japanese Thread Fin Bream	428.56	10.7
Ribbon Fish	258.39	6.5
Lizard Fish	234.42	5.9
Gujarat		
Squid	5357.50	19.4
Ribbon Fish	3819.80	13.8
Cuttlefish	2898.80	10.5
Japanese Thread Fin Bream	2167.00	7.9
Cat Fish	1473.00	5.3
Tamil Nadu		
Cuttlefish	658.04	15.8
Tuna	456.08	11.0
Squid	366.58	8.8
Indian Oil Sardine	247.33	5.9
Indian Mackerel	216.79	5.2
Andhra Pradesh		
Tuna	310.13	18.6
Squid	175.60	10.5
Japanese Thread Fin Bream	142.39	8.5
Brown Shrimp	139.67	8.4
Ribbon Fish	70.74	4.2
Odisha		
Croaker	466.10	32.1
Marine Shrimp (*Karikkadi*)	103.27	7.1
Ribbon Fish	94.36	6.5
Cat Fish	87.27	6.0
Sea Crab	74.22	5.1
West Bengal		
Croaker	237.56	10.4
Marine Shrimp (*Karikkadi*)	147.44	6.4
Bombay Duck	141.39	6.2
Indian Oil Sardine	134.87	5.9
Deep Sea Shrimp	130.11	5.7

Harbour-wise landings

Figures 5 and 6 represent the fish landings recorded during the month at the selected harbours of West coast and East coast respectively. Of the 43 harbours, Veraval harbour in Gujarat registered the maximum landing of 10222.00 tons (16 per cent) and it was followed by Mangrol harbour with a landing of 8826.00 tons (14 per cent). Mangalore harbour held the third position with 8624.063 tons (~ 14 per cent).

The Chennai harbour, with a landing of 1248.81 tons (2 per cent), had attained the eighth place and it was the harbour that registered maximum landing along the East coast.

During the month, only 11 out of the 43 harbours had registered more than 1000 tons of fish catch. The least quantity of marine fish catch was recorded from Vizhinjam harbour in Kerala (39.05 tons).

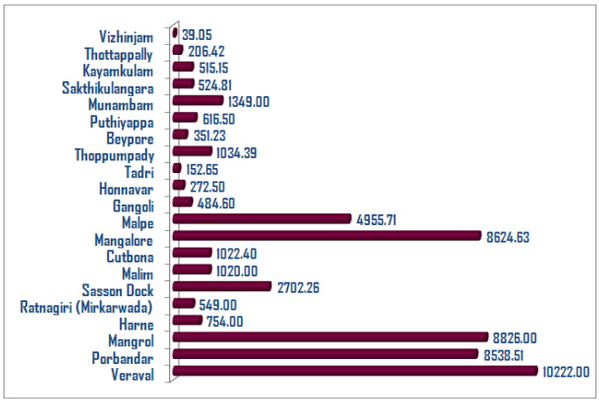


Fig. 5. Landings (in tons) recorded at harbours in west coast during March 2019

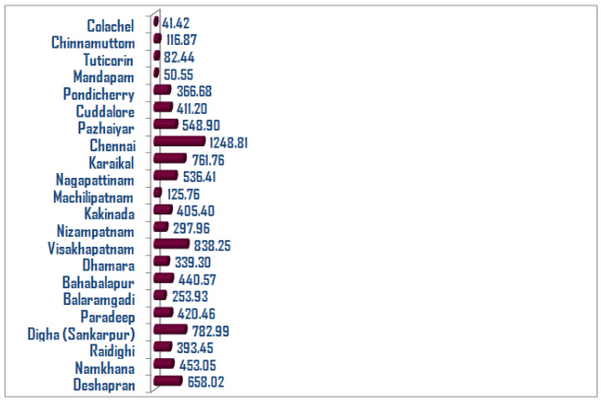


Fig. 6. Landings (in tons) recorded at harbours in east coast during March 2019

Estimations on boat arrivals

A total of 30,034 boat arrivals were recorded during March 2019, of which the highest recording was from Veraval harbour (4159) and it was followed by Porbandar harbour with 3413 boat arrivals. More than 73 per cent of the fishing vessels which landed their catch at the harbours belonged to the category of trawlers and the remaining landings were by purse seiners, gill netters, long liners and traditional crafts.

Comparative Analysis

Table 4 presents the comparison of data of March 2019 with that of previous months. Despite the decreasing trend observed during the last three months, in March the total fish catch had increased by around 9000 tons in comparison with that of February.

With regard to the catch composition, the percentage share of Demersal finfish remained the same, whereas the share of Pelagic finfish was found further decreasing with a corresponding increase in the share of shellfish. In March, Demersal finfishes continued as the highest contributor and the position of pelagic finfishes had moved down to third. Squid remained as the topmost contributor among the various fishery items landed during the period.

The state of Gujarat also retained its prime position among the maritime states, whereas the Veraval harbour regained the first position among harbours in terms of quantity of fish landed. The total number of boat arrivals recorded had increased by more than 3000 in March, when compared to that of February.

Table 4. Comparative analysis of the data

Parameter	Jan. 2019	Feb. 2019	Mar. 2019
Total Catch	61594.53 t	53451.49 t	62334.97 t
Landing of Pelagic finfishes	22819.44 t (37%)	17474.47 t (33%)	18768.66 t (30%)
Landing of Demersal finfishes	19943.04 t (32%)	18940.67 t (35%)	21838.37 t (35%)
Landing of Shellfishes	18832.06 t (31%)	17036.35 t (32%)	21727.94 t (35%)
Species recorded highest landing	Squid (9%)	Squid (12%)	Squid (15%)
State recorded highest landing	Gujarat (38%)	Gujarat (37%)	Gujarat (44%)
Harbour recorded highest landing	Veraval (16%)	Mangrol (15%)	Veraval (16%)
Total Boat Arrivals	30299	26972	30034

**Percentage of total catch*

Summary

In March 2019, a total landing of 62334.97 tons of marine fishery resources were registered from the 43 major fishing harbours of India, where in Demersal finfish was the major contributor than the Shellfish and Pelagic finfish stocks. Considering the fishery item-wise landings of the month, squid had contributed the most. About 85 per cent of the total catch recorded during March was from the West coast and the maximum catch was reported from the North West region.

Gujarat recorded maximum landing during the period and among the harbours, Veraval harbour registered the highest landing as well as the maximum number of boat arrivals.

Sustainability of seafood industry through value addition of discards

ATUFAREGU, KASTURI CHATTOPADHYAY, K.A. MARTIN XAVIER

Introduction

Sustainability or sustainable development means an ability to maintain or support an activity or process over the long term. Different stakeholders have different definitions of sustainability, or sustainable development. The definitions reported by some of the most authoritative organizations are reported below. The United Nations Environment Programme (UNEP) defines sustainable development as 'development that ensures that the use of resources and the environment today does not compromise their use in the future'. The Food and Agriculture Organization of the United Nations (FAO) defines sustainable development as 'the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations.'

The World Summit for Sustainable Development (WSSD) held in Johannesburg in 2002 states that Sustainability is based upon three components: economic growth, social progress and environmental protection. This establishes linkages among poverty alleviation, human rights, biodiversity, clean water and sanitation, renewable energy and the sustainable use of natural resources. Applied to the fisheries sector this means long-term production of safe aquaculture products with respect to natural resources and in such a way as to deliver socio-economic development not only for local fishery communities, but also for other resource users and globally.

Quantification of discards in the Indian marine fisheries sector

The definition of "fish wastes" includes many fish species or by-catch products having no or low commercial value, undersized or damaged commercial species as well as species of commercial value but not caught in sufficient amounts to warrant sale. The problem of fishery wastes has been an increasing global concern during the last years, which is affected by several biological, technical and operational factors as well as socio-economic drivers.

> EVERY YEAR THE DISCARDS FROM PROCESSING PLANTS AMOUNTS TO ABOUT 20 MILLION TONS, WHICH IS EQUIVALENT TO 25 PER CENT OF THE WORLD'S TOTAL MARINE FISHERIES CAPTURE PRODUCTION.

Every year the discards from processing plants amounts to about 20 million tons, which is equivalent to 25 per cent of the world's total marine fisheries capture production. Approximately 50 per cent of fish offals including heads, fins, skin and viscera are discarded and are considered "wastes". This causes a significant environmental impact as well as loss of the potential value of such products. These wastes include fish

ICAR- Central Institute of Fisheries Education (CIFE), Mumbai. E-mail: martinxavier@cife.edu.in

processing wastes, its by-products as well as non-target species caught unintentionally. Wastes from fish processing and their by-products offer a potential source of fetching high value market for many high-added value compounds (HAVC), which are otherwise discarded. This often causes nutrient enrichment and water eutrophication. Processing of fish involves several steps like stunning, grading, slime removal, deheading, washing, scaling, gutting, cutting of fins, meat bone separation and making steaks and fillets. During each of these steps, approximately 20-80 per cent of waste is generated depending upon the level of processing and type of fish.

Current status of discards / waste generation from processing operations

It is estimated that an annual average of 27 million tons of non-targeted species are caught and thrown back into the sea, which in other words means that nearly third of the fish volume captured every year in the world is wasted (FAO, 2017). This also means that there is a purposeless waste of valuable living resources, organic waste regeneration, residues derived from fish processing activities like evisceration or removal of head, bones and skin on board like in case of monkfish, cod, conger, haddock, lings and sharks and off-board when thrown into the sea. This may produce severe adverse effects on the ecological equilibrium of marine communities. Nevertheless, average waste amounts could range between 15 and 30 per cent of the total catch, although in some instances it may increase up to the 80 per cent as in the case of skate fish, for instance. In addition to this, processing of cephalopods in organized seafood processing plants also generates a huge quantity of wastes that could be considered of a potential use. On an average 15,000 mt of squid waste, 30,000 mt cuttlefish waste and 5000 mt octopus processing waste are generated annually in India from seafood sector (Xavier et al, 2017).

Measures to limit the discards

Fish waste Management suggests a possible way to solve environmental impacts of fishery discards and, at the same time, it provides a rational tool to exploit unutilized portions of discards in a productive way. Following efficient recovery strategies and valorisation of bioactive neutraceutical compounds, fisheries by-products can contribute effectively in the long term sustainability and development of more profitable opportunities to marine industries at a commercial level. This can eventually lead to better manufacturing practices and more sophisticated processing technologies.

Dealing with discard and waste - Concept of value addition for sustainability

Discards and viscera could be good sources for fish meal, protein hydrolysates, peptides, and fish oil with a high content of unsaturated fatty acids and it makes these products of interest in sectors such as aquaculture and food. Values' attributes such as sustainability and ecolabelling have become important drivers for maintaining and developing new markets.

Valueadded concepts are not limited to processing and new packaging ideas. Finally, the development of new technologies and the growth of aquaculture continue to provide new market opportunities for a wide array of products. Valueadded processing will play an important role in meeting the demands of the consumer for safe, wholesome, highquality seafood products. These methods provide low production costs and more efficient purification.

Discard will contribute to fisheries sustainability by making the best possible use of their resources: The marine by-products like chitin, chitosan, omega-3 fatty acid, agar, align, and isinglass are of high demand and value in their respective industries and add to the unit value of the seafood exported from India. For example, fish meal has been used as a livestock due to its high content in essential amino acids such as lysine, which is often deficient in grain products.

The functional properties of fish hydrolysates, such as emulsification and foam stability, make them suitable to be added to a wide range of functional products such as protein supplements or beverages. Fish oil has been intended for aquaculture since it is an essential ingredient in the diet of carnivorous species (Tacon & Metian, 2008). Also, fish skin or cartilage from some species could be excellent raw materials for products as gelatine or chondroitin sulphate with applications in the food, cosmetic and pharmaceutical sectors (Blanco et al., 2006). Chondroitin sulphate (CS) is used as a dietary supplement to maintain the structure and function of cartilage to relief the pain caused by osteoarthritic joints and as an anti-inflammatory medicine.

Concept of Valorisation

It means carrying out a previous classification and separation of residues such as skins, bones, livers etc, which are precursors of added value products such as gelatine, chondroitin sulphate, squalene. This will facilitate processing, maintaining quality and reducing operation costs. Waste conditioning requires actions covering the whole up-grading cycle including

classification, assessment of up-grading processes and prototype design and construction so that the raw material is available in the best possible manner for further processing.

Design and construction aspects of pre-industrial should be made flexible and multi-purpose processing plant prototypes are required so as to get adapted to the waste nature and seasonality. It must be noted that, in general, storage capacity is an expensive asset usually reserved for the storage of the targeted species. Therefore, enforcing a zero-waste policy necessarily requires a readjustment of the cost-benefit balance. Sustainable seafood is needed to nourish the world. Seas cover 70 per cent of our planet. So they could provide a solution for the increasing demand for animal proteins. As the population and the standards of living rise across the globe, the demand for animal proteins will also rise.

The world will need more animal proteins and seafood can play an important role in this. Compared to 2011 figures, by 2020 the world will need to find 20 million to 25 million additional tons of seafood each year to feed the world's population. It is reported that valorisation of squid processing waste can be utilised as animal feed ingredient by acid ensilaging process, prepared by addition of 3 per cent formic acid could effectively be utilized as animal feed stuff (Xavier et al., 2017). Besides that protein and other components, it also contains substantial amount of chitin, which is a growth promoter in animal feeds. By proper utilization of these wastes, more revenue and employment opportunities can be generated from seafood and related sectors.

The current level of utilization

Wastes from fisheries sector are rich in high quality nutrients that makes them a potential stuff in marine bioprocess industry to be converted and being utilized in large fractions not only as fish feeds but also as a potential source of valuable bioactive compounds having wide pharmaceutical and biotechnological applications. Treatment of the generated fish wastes can contribute to the large scale production of important by-products like protein hydrolysates, lipids, astaxanthin, chitosan, bioactive peptides, cosmetics (collagen) and gelatin , biodiesel or biogas, diet products (chitosan), natural pigments (after extraction), food packaging applications (chitosan), enzyme isolation, Cr immobilisation, soil fertiliser and moisture maintenance in foods (hydrolysates). Fish silage, fishmeal and fish sauce also having high commercial value for their possible utilisation as animal and fish feed components. Among the bioactive compounds extracted from fishery wastes and by-products, proteins (enzymes, collagen) and oils are exceptionally rich in Polyunsaturated Fatty Acids (PUFAs), especially Eicosapentaenoic acid (EPA) and Docosahexaenoic Acid (DHA). This makes them one of the highest marketed commodity in export market. Securing sustainable Indian sea food industry necessarily requires the following

The key to secure long-term sustainable aquaculture production is innovation from breeding to packaging. Innovations are required in terms of extending shelf life, feed, improving the good shape of the fish stock, mobilising resources and organising people, and tapping other potential resources like seaweeds. Despite many technological improvements global wild catch production is unlikely to grow much further than its current 90 million tons per annum. So growth in seafood production can only come from one source: aquaculture where India stands second in world.

Also, fishermen can achieve higher levels of business professionalism by providing not only money, but also knowledge and highly targeted advice: how to interface with traders and processors, how to organise communities and increase their leverage, how to build better futures. To harness the resources effectively and efficiently there exist a demand for the blue collar jobs for the staff with the required skill and knowledge necessary for the functioning of industry in the sustainable way. However, jobs should be given after their completion of necessary trainings and getting diplomas courses required in the respective pluralistic fields of work. Around 40 per cent of worlds production activities are carried by the women, so their participation in running a sea food industry should be encouraged on equity basis.

Measures to limit the discards

Fish waste Management suggests a possible way to solve environmental impacts of fishery discards and, at the same time, it provides a rational tool to exploit unutilized portions of discards in a productive way. Following efficient recovery strategies and valorisation of bioactive neutraceutical compounds from fisheries by-products can contribute effectively in the long term sustainability and development of more profitable opportunities to marine industries at a commercial level. This can eventually lead to better manufacturing practices and more sophisticated processing technologies.

Mitigating risks

For entrepreneurs and financiers to invest in this

industry, they have to deal with the triple helix that is, bringing together profitability, sustainability and risk assessment. However, there are many risks attached in setting up of a sea food industries or plants with limited interest from banks and investors to finance fish farms. Although fishing occurred 2,000 years ago already, it remained small size family business for many centuries. International competition and integrated chains are rather new. They face increasing demand at one hand, but at the other hand have to manage fish health and diseases, environmental impact and unstable cash flows. Mitigating risk is a priority. Sharing best practices and knowledge is crucial.

Challenges

Difficulties in attracting local labour reflect the low pay, the seasonal or casual nature of employment and the poor work environment compared with office or supermarket jobs. Also, poor performance of presently existing majority of the sea food industries in India mainly because they get started with the government subsidies and then leave them half way. The high turnover of labour and high levels of absenteeism experienced in some plants adds significantly to labour costs. As a result, firms are now turning increasingly to labour agencies and the employment of unskilled and occasionally illegal immigrant workers.

The infrastructure available for processing in India is also sufficient to cater the requirement of the importing countries. However, the infrastructure for handling the fish till it reaches the processing centres is inadequate. Deteriorating water quality, maintaining hygiene and sanitation in the fishing harbours are major challenges for the sustainable use of fishery resources in terms of money, material, man power etc.

Conclusion

Value addition is a sustainable tool and one of the strategies towards a responsible management of fisheries and of humans as well. Aim is to promote policies of no-discard and zero waste production both on-board of fishing vessels as well as in-land points like ports, transforming industry, etc. Though sufficient trainings are imparted to the fishermen on on-board handling, maintenance of hygiene and sanitation in fishing vessels, there is need of an enforcement mechanism to see that the fishing boats comply with these requirements. The government with the help of private sector needs to come up with a comprehensive food safety and quality programme.

The long-term use of Internet technology offers much wider opportunities for the development of more sophisticated services and markets at a cost-effective price. The integration of IT systems offers comprehensive stock tracking along the supply chain. Since 1990s, three issues dominated Indian export scene: decline in overall catches particularly shrimp; fluctuations in international markets depressing prices and profitability and overcapitalisation of the production and marketing activities increasing risk. The definition of viable management and processing practices for discards, by-catch and wastes so to recover and to produce valuable chemicals of interest in the food, cosmetic or and pharmaceutical industries.

References

1) Ababouch L, Karunasagar I. Global fisheries and aquaculture: Opportunities and Challenges, 10th World Seafood congress, Canada. Department of Fisheries and Aquaculture, FAO, Rome, 2013

2) Charles Teddlie, Fen Yu. Mixed Methods Sampling: A Typology with Examples Journal of Mixed Methods Research 2007; 1:77

3) Contributing to fisheries sustainability by making the best possible use of their resources: the BEFAIR initiative Antonio A. Alonsoa,*, Luis T. Anteloa, Irene Otero-Murasa and Rau ´l Pe ´rez-Ga ´lvezbaProcess Engineering Group.

4) Kulkarni P. The Marine Seafood Export Supply Chain in India: Current State and Influence of Import Requirements. International Institute for Sustainable Development (IISD), 2005.

5) Xavier, KAM.,Geethalekshmi, V., Senapati, S.R., Mathew, P.T., Joseph, A.C. and Nair, K.R., 2017. Valorization of Squid Processing Waste as Animal Feed Ingredient by Acid Ensilaging Process. Waste and Biomass Valorization, 8(6), pp.2009-2015

6) Morrison J. The international business environment, 1st Edition, New York; Pal grave. 2002; 1:8-12

7) Reich ZA. Marketing Management for the hospitality Industry, 1st Edition, Wiley and sons Canada, 1997; 7:2837.

8) SalagramaVenkatesh. Policy Research: Implications of Liberalization of fish trade for Developing countries. Project PR 26109, Integrated Coastal Management, 2004.

9) World Bank Report. India Marine Fisheries: Issues, Opportunities and Transitions for Sustainable Development – Report No. 54259-IN, 2010.

10) Ye, Y., Barange, M., Beveridge, M., Garibaldi, L., Gutierrez, N., Anganuzzi, A. and Taconet, M., 2017. FAO's statistic data and sustainability of fisheries and aquaculture: Comments on Pauly and Zeller (2017). Marine Policy, 81, pp.401-

SIMP Awareness Programme

MPEDA Regional Division Kolkata organised an awareness programme on US Seafood Import Monitoring Program (SIMP) on April 11, 2019 in the Board Room of the Tea Board, which was attended by 55 participants representing the exporters. The participants comprised of technical, export documentation and management personnel representing US exporters from the West Bengal region.

The programme started with Mr. Archiman Lahiri, Deputy Director, welcoming the participants. He explained the objective and salient features of the new regulation required to be complied with by the exporters to US, which was mandatory for exporters from January 1, 2019. Mr. Archiman Lahiri made the presentation on SIMP, which was followed by a very productive interaction with participants were apprehensions and doubts were cleared. The presentation covered topics like SIMP regulations, species of concern, procedures, chain of custody documents, model catch certificates, significances of farm enrolment with MPEDA and DS -2031 certification.

Mr. Pravat Kumar, Managing Partner of M/s. Digha Seafoods P. Ltd. and Mr. Manish Phuskania, Director of M/s. Z.A. Seafoods P Ltd., appreciated MPEDA's efforts and suggested to have such interactions on regular intervals.

The participants were provided with PDF version of the presentation, compliance guide for the US SIMP-NOAA, SIMP fact sheet-NOAA, SIMP Final Rule- 50 CFR Part 300, SIMP HTS Code and Model Catch Certificates. Programme ended with the vote of thanks proposed by Mr. Johnson D'Cruz, Assistant Director, MPEDA Regional Division, Kolkata.

A view of the programme

Awareness Meeting on Agriculture Export Policy

Mr. Rama Sankar Naik, IAS, Commissioner of Fisheries, Andhra Pradesh addressing the meeting

MPEDA Regional Division, Vijayawada organised an awareness meeting on the Agriculture Export Policy for shrimp farmers of Andhra Pradesh on 22nd March 2019 at Vijayawada. Mr. Rama Sankar Naik IAS, Commissioner of Fisheries, Andhra Pradesh was the chief guest. As many as 91 farmers from all the nine coastal districts of Andhra Pradesh attended the meeting.

While welcoming the chief guest and participants at the meeting, Mr. Anilkumar P., Joint Director, MPEDA explained the Agriculture Export Policy with special reference to aquaculture. He covered the topics like objectives of policy, policy framework-strategic and operational, farmer producer organisations, role of the State government, cluster farming under the policy and districts selected in Andhra Pradesh.

Mr. Razak Ali, Assistant Director (AE), MPEDA explained about the Non-Tariff Trade barriers and Trade Agreement in seafood sector of India. An overview of trends in marine products export from India as well as from Andhra Pradesh to various importers were presented at the session on the basis of export data of 2017-18. He also explained how important is the new agriculture export policy for better export growth and sustainability. Mr. Rama Sankar Naik IAS, Commissioner of Fisheries, Andhra Pradesh in his address to farmers explained that the many of the actions taken by State government such as aquaculture zonation, registration of the aqua laboratories etc are line with the Agriculture Export Policy. He also explained the importance of cluster farming in aquaculture. He suggested that a joint inspection committee to be setup with MPEDA and the department to monitor cluster farming units. He also spoke about the proposed initiative to promote marine cage farming and organic farming in Andhra Pradesh. After the presentations and the address by the Commissioner of Fisheries, a discussion on the agriculture export policy was held with the farmers, during which the participants came up with mainly two suggestions.

Farmers requested to include Krishna district along with the four selected districts, namely East Godavari, West Godavari, Vishakhapatnam and Nellore, identified under the Agriculture Export Policy for developing cluster farming in Andhra Pradesh.

Farmers also requested Aqua labs at field level for disease diagnosis and water quality testing under cluster farming.

Mr. Anilkumar P., Joint Director, MPEDA thanked the chief guest for his participation and support for aquaculture development and appreciated the positive manner in which farmers attended the meeting.

Aqua Aquaria India 2019

The Marine Products Export Development Authority (MPEDA) functioning under Ministry of Commerce and Industry, Government of India serve as the nodal agency for the holistic development of seafood industry in the country. As per its mandate, MPEDA promotes aquaculture in the country to enhance the raw material produce for the export of seafood and its value added products. MPEDA will be organizing 5th edition of Aqua Aquaria India (AAI-2019) at HITEX Exhibition Center, Hyderabad, Telangana State from 30th August to 1st September 2019.

The biennial show is regarded as the Asia's largest aquaculture and ornamental fisheries exhibition. The technical sessions organized as part of the AAI focusing on innovative technologies and latest developments in the fisheries sector, which will be handled by renowned experts. The event will include an exhibition accommodating 300 stalls for exhibitors around the globe. Farmers, hatchery operators, feed manufacturers, manufacturers and suppliers of various aquaculture and ornamental fisheries implements, people representing packing materials, equipment and machinery, traders, exporters, bankers, policy makers as well as leading technical experts and scientists from all over the country and abroad will be participating in the event.

Hyderabad, the capital of Telangana State, being the venue has added an attraction to the show. The pearl city of India, Hyderabad is known for its tourist attractions with scenic places, delicious cuisine, Heritage monuments, Forts, Parks, Gardens and Museums.

The theme of the show is "Taking Blue Revolution to India's Hinterland". The Aqua Aquaria India will provide an opportunity to showcase unexplored potential of the inland state in terms of fisheries and aquaculture. The inland fisheries of the state plays an important role both in the employment and livelihood of fisherfolk apart from being an important source of diet. The Telangana State has boosted its fish production and ranked among top five inland fish producing states in the country.

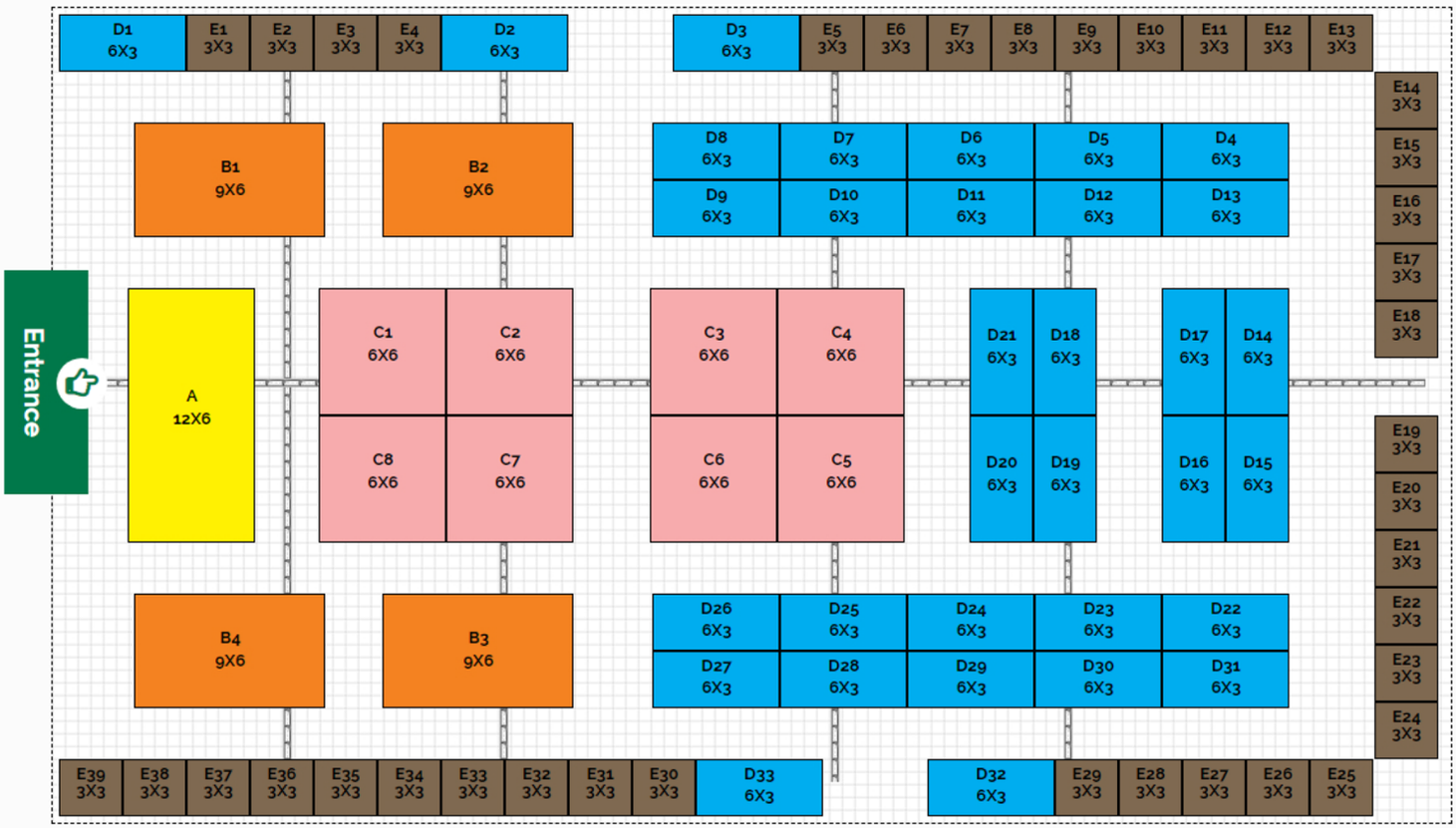
FLOOR PLAN

HALL 1

E	3 X 3m - 39nos = 351 sqm	D	6 X 3m - 33nos = 594 sqm	C	6 X 6m - 08nos = 288 sqm
B	9 X 6m - 04nos = 216 sqm	A	12 X 6m - 01nos = 72 sqm		Total - 85nos = 1521 sqm

HALL 1

Hitex Exhibition Centre, Hyderabad



B2B STALLS

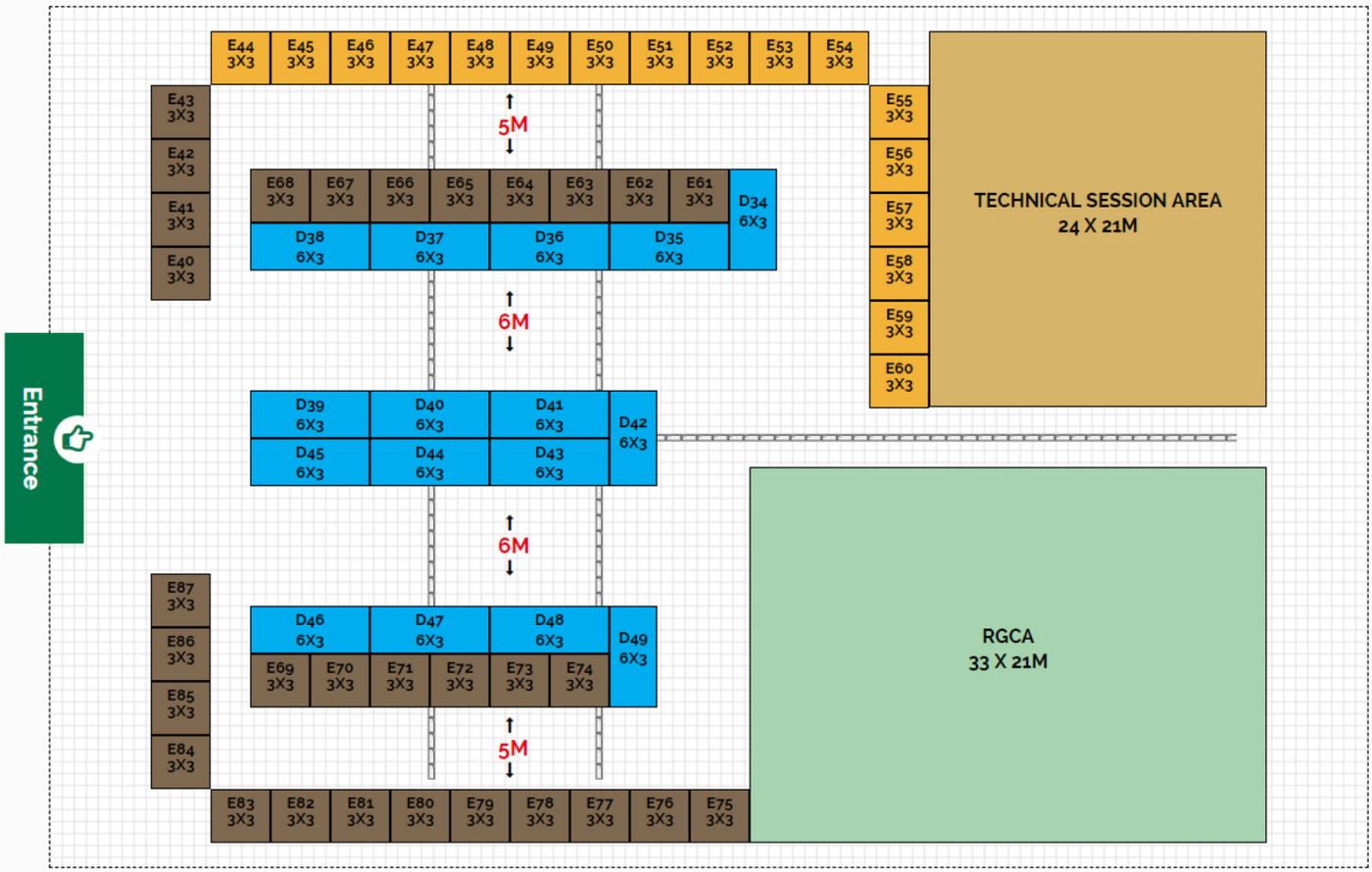
Aqua Aquaria India

HALL 2

E	3 X 3 - 47nos = 423 sqm	E	E44 - E60 - Ornamental Fish Stalls
D	6 X 3 - 16nos = 288 sqm		Total - 66nos = 711 sqm

HALL 2

Hitex Exhibition Centre, Hyderabad



GOVERNMENT/INSTITUTIONS/ORNAMENTAL STALLS

LARGEST AQUACULTURE EXHIBITION IN ASIA

अक्वा अक्वारिया इंडिया 2019

Aqua Aquaria India

Aqua Aquaria India 2019

*TAKING **BLUE REVOLUTION***
TO INDIA'S HINTERLAND

30th August - 1st September 2019

HITEX EXHIBITION CENTER , Hyderabad, India

www.aquaaquaria.com

समुद्री उत्पाद निर्यात विकास प्राधिकरण (वाणिज्य एवं उद्योग मंत्रालय, भारत सरकार)

THE MARINE PRODUCTS EXPORT DEVELOPMENT AUTHORITY

(Ministry of Commerce & Industry, Govt. of India)

www.mpeda.gov.in

सत्यमेव जयते

Farmers' Meet on BMP in farming of GIFT Tilapia

Briefing on Tilapia Infrastructure by Mr. Pandit Chavan at Nira

Maharashtra unit of the MPEDA conducted a one-day farmers' meet on "Best Management Practices in Farming of GIFT Tilapia for Export" at Panchayat Hall, Nira Town, Pune on 8th March 2019.

Inland reservoirs are the major potential fishery resource for development of tilapia aquaculture through cage farming in Maharashtra. About 4.18 Lakh hectares of fresh water bodies covering 19 major and 110 small reservoirs are suitable for tilapia farming. In Pune district itself, there are about 9 major and 17 minor reservoirs, covering about 53 per cent of the total water bodies in Maharashtra, and as on now 30 entrepreneurs engaged in exclusive cage (2500) culture of tilapia in reservoirs, which produces about 2,000 MT.

Considering the potential and future expansion of tilapia farming through cage culture as well as in ponds, it has been estimated that about 10,000 - 12,000 M.T could be a raw material needed for development of value-added products for export from Maharashtra in another 5 years.

The farmers' meet was planned in this context, with an objective to utilise the potential for development of tilapia aquaculture and to promote value addition and supply chain from tilapia fish for export in Pune Region. Mr. Datajirao Chavan, former member of the Zilla Parishad at Nira, Pune inaugurated the meet, which started with welcome address by Mr. Rajakumar S. Naik, Deputy Director, MPEDA, Maharashtra.

Sharing his experience in business, Mr. Datajirao Chavan said that there was no short cut to become successful in any field. He also warned the participants that without proper training and guidance one should not start fish culture or related activities.

Mr. Pandit Chavan, a progressive GIFT Tilapia farmer from Nira, gave a presentation on "prospects of sustainable

Mr. Datajirao Chavan, Ex.Member, Zilla Parishad, Member,Nira, Pune addressing during the Farmers Meet

tilapia culture in Maharashtra". He also shared his practical knowledge right from seed selection, stocking, nursery management, grow-out, water quality, feed management, harvesting and marketing in detail.

Mr. P. Srinivasa Rao, Assistant Project Manager, Tilapia Project, RGCA delivered a lecture nted on "Best Management Practices in Tilapia farming". He also gave scenario of GIFT Tilapia aquaculture in India, listing out companies given permission for development of hatcheries of Tilapia in India and suggested the farmers to procure seeds from these approved hatcheries only for better results in growth and survival. He also explained the overall flow on breeding activities in seed production of GIFT tilapia, including genetic improvement through selective breeding programme by RGCA.

Mr. Jadhav, Assistant Commissioner of Fisheries, Pune, spoke on Blue Revolution schemes and documentation to get permission for GIFT Tilapia. He also appealed the farmers not to overstock the ponds beyond its production capacity.

After a lunch break, the participants were taken out on a field visit to a GIFT Tilapia farm at Nira. Mr. Pandit Chavan explained the procedures of pre-stocking management – pond preparation (drying, ploughing, pond leveling etc.) as well as pre stocking managements, nursery management, water quality and feed management practices in grow out culture.

In the afternoon, the participants were taken to the farm of Mr. Pandit Chavan and briefed about the infrastructure provided for pond-based GIFT tilapia culture and management measures followed during nursery and grow out culture of GIFT tilapia. He also showed to the participation how GIFT Tilapia can be produced in cement tanks in indoor facility using bio -flock techniques for cost effective production techniques. This is done by providing aeration and explained its operation to all participants.

Round-table meet for way forward solution was organised in the evening, were farmers raised questions and suggestions in the presence of officials from Department of Fisheries, Maharashtra, farmers, exporters and MPEDA officials.

The meet had 57 participants, including two officials from Department of Fisheries, Maharashtra State and two exporters, actively taking part in discussions. Mr. Naresh Tambada, Assistant Director, MPEDA, Regional Division, Panvel, proposed the vote of thanks to wind up the programme.

A view of the audience

Demonstration on Mud Crab farming

Harvested crabs handed over to farmer

With its favourable soil and water quality, Ganjam, the southern district of Odisha, holds immense potential for scientific culture of Mud crab (*Scylla serrata*). Good salinity regime of water available here has prompted many farmers for actively pursuing farming of the species using stocking material of varied sizes from wild collection. Mud crab has got a good demand in the local market too, besides its high export value.

With the aim of promoting scientific culture of Mud Crab, the Regional Division of MPEDA in Bhubaneswar organised a demonstration programme in the pond of Mr. Dhanu Behera at Koitha village of Ganjam district, which has a Water Spread Area (WSA) of 0.32 ha. MPEDA has planned the demonstration as a means to popularise commercial production of this exportable species and prevent depletion of natural stock through collection of juvenile crabs from the wild. The site was chosen because of its road accessibility along with availability of necessary equipment like water pump. Besides this, the farmer Mr Dhanu Behera was experienced in traditional Mud crab culture.

Pond preparation

Bio security measures like crab/cattle fencing, bird fencing were ensured in the beginning. Arrangements were made for water supply to the demonstration pond by lifting water from the adjacent canal and maintained adequate water depth. Prior to fencing work, dressing and grass cutting of all dykes were done.

The farm had a solid building for keeping material provided by MPEDA like feed, kits for water quality monitoring, balance, scale, registers and pond data record book.

The pond was prepared by drying, ploughing, liming and water filling through filtration, Water filling was done up to 3 feet through screening using 60 and 80 mesh nets. Chlorination with 100 kg bleaching powder was done for removing unwanted live organisms. Plankton bloom was developed by application of fermented

organic manure like de-oiled rice bran (10 kg), jaggery (5 kg) and yeast (250 gms). Water parameters like DO, pH, transparency, temperature, ammonia and alkalinity were checked. The pond was made ready during the first week of October 2018 for stocking. Stocking time had to be extended till October 26, due to cyclone Titli and transport disruption.

Enough spaces were prepared in the pond for crab to hide and thus prevent them attacking each other. This was done to improve the chance of survival for the species used. Locally available waste pipes and unused cans or containers were used as hide outs in the pond.

As much as 2000 Mud crablets of size 2.1-4.5 cms were procured from RGCA, Karaikal, Puducherry with proper packing in 20 plastic baskets. After a 31-hour-long transportation along road and railway, the seeds were stocked in pond with 0.32 Ha WSA on October 26 after proper acclimatization. The transit survival of 85 per cent was observed.

Pond management

Pond management and feeding were followed as per the guidelines of RGCA. The crablets were fed with wet fish twice daily, at 6.00 am and 5.00 pm. Crab growth and health were regularly monitored. Pond monitoring was made by technical officers of Regional Division, Bhubaneswar regularly. Crab health and growth were checked once in every 15 days and the daily ration of feed was estimated on the basis of carapace width (cm). Total quantity of feed used for the entire crop was 667 kg.

Feeding plays an important role in balancing crab growth rate. Feeding was done as per the RGCA feeding table given below.

Carapace width (cm)	% of feed
< 6	10
6 -11	8
11-15	6
> 15	4

The demonstration pond was visited by nearby mud crab farmers, officers of Department of Fisheries as well as teachers and students of the College of Fisheries.

Harvest

After a culture period of 160 days, some mortality was observed due to high temperature. Harvest of the stock was held on April 3, 2019 after consultation with technical officers of MPEDA, Bhubaneswar. Mr. S P Bhoi, Deputy Director of Fisheries, Ganjam Zone, Berhampur, attended the programme and witnessed the harvest with 16 crab farmers of the area.

Result

The total expenditure for the demonstration came to Rs. 86,879, which was towards cost of bio-security

Farmer with Harvested Mud crabs

measures, cost of Mud crab seeds, transportation, feed, fuel and water testing kit. Out of this, Rs. 73,897 was spent by MPEDA on account of sharing 75 per cent of the feed cost. There was no labour cost involved as the farmer was directly engaged in the work. He stayed in the farm site and monitored the work in person.

A total production of 322 kg of crab was estimated, with 46 per cent survival and 350 gms average weight with a total value realization of Rs. 1,44,900 (Rs. 450 per kg). Net profit was calculated as Rs. 58,021 from 0.32 Ha pond. A break-up of the financial outlay is given below.

Expenditure		
Sl. No.	**Items**	**Amount (Rs.)**
1	Pond preparation	3,100
2	Bio Security	17,258
3	Cost of crablets (2000 nos)	41,860
4	Seed transportation cost	4,991
6	Feed (Wet fish)	13,050
8	Fuel and electricity charges	4,620
9	Labour charges (Harvest)	2,000
	TOTAL	86,879
Income		
1	Total production(322 kgs) at survival rate of 46 % (350 gm average weight) @ Rs.450/- per kg	144,900
	Net profit	58,021

The harvest was followed by a meeting on the demonstration programme.

The details of the demonstration were explained by Mr. U. C. Mohapatra, Deputy Director, MPEDA, Bhubaneswar. He thanked Mr. Dhanu Behera for his support and cooperation for achieving the targeted production of more than 322 kg from 0.32 Ha WSA and advised the visiting farmers to follow the procedures adopted for Mud crab production in the demonstration. He told the farmers about the live fish and chill fish handling facility installed at the Biju Patnaik International Airport cargo, Bhubaneswar for direct export of crabs to destinations like Singapore, Kuala Lumpur and Dubai and said that this would encourage more crab production and export. He assured all technical assistance from MPEDA.

Mr. S. P. Bhoi, Deputy Director of Fisheries, Ganjam Zone, Berhampur, appreciated the steps taken by MPEDA for demonstration on Mud crab culture in an entrepreneur's pond. He expressed hopes that crab culture in the area would expand and small farmers could adopt the procedure with minimum expenditure for the high value item and thus collectively could contribute for export.

Mr. Dhanu Behera, the farmer, narrated his experience on the demonstration and thanked the organizers for selecting his pond and timely guidance by Mr. Durga Rao, Field Supervisor, MPEDA. He was happy to interact with many personalities, scientists, experts and trainees during the months involving the demonstration and was confident about scientific culture of Mud crab.

Meet on "Farm Enrolment and Quality Shrimp Production Practices through Certification"

Inauguration of the farmers' meet

The Regional Division of MPEDA at Kolkata organised a meet to spread awareness among shrimp farmers on the need to have farm enrolment and to follow quality shrimp production practices through certification at the Deshapran Aqua Society meeting hall, Fulbari in Purba Medinipur on March 29, 2019.

The audience were welcomed by Dr. D. Roy, Junior Technical Officer, Sub Regional Division of MPEDA, Contai. Mr. Nagraj, IFB Agro Ltd., stressed upon the shrimp farm enrolment and advised farmers to come forward for enrolment of shrimp farms voluntarily, while speaking in the meet. Mr. M Dutta, also from IFB Agro Ltd., advised farmers to go for farm enrolment as well as to take the advantage certification process for better price realisation of harvested shrimp.

Mr. A. Lahiri, Deputy Director, Regional Division, Kolkata delivered a lecture on the need for traceability of shrimps being exported from the country. He also said that for better price realisation of shrimp, it is essential to increase export to EU and USA and for this traceability of exported shrimp is mandatory. While talking about SIMP (Shrimp Import Monitoring Programme), he advised farmers to come forward for farm enrolment of every shrimp farm. He also mentioned that by the way of certification, farmers could be benefited through better price realisation.

Later, Mr. Lahiri, Mr. Nagraj and Mr. M Dutta jointly handed over a certificate to Mr. Subal Kishore Mondal, Secretary, Deshapran Aqua Society, Fulbari, Purba Medinipur district. Farmers got a chance to interact and discuss their doubts on farm enrolment and certification with MPEDA officials at the end of the programme.

Mr. A. Lahiri handing over the certificate to Mr. Subal Kishore Mondal, Secretary, Deshapran Aqua Society

Farmers' meet on 'Prospects of *L. vannamei* and GIFT Tilapia in Maharashtra'

Dr. T.R. Gibinkumar, Deputy Director delivering a lecture

Dr. T.R. Gibinkumar, Deputy Director, Sub Regional Division of MPEDA, Ratnagiri, inaugurated a one-day farmers' meet on 'Prospects of *L. vannamei* and Gift Tilapia farming in the saline lands of Inland Districts of Maharashtra' at Akiwat village in Kolhapur district on March 19, 2019.

In his inaugural speech, Dr. Gibinkumar talked about various promotional schemes of the MPEDA for shrimp and prawn culture and briefed the scope and status of shrimp and prawn farming in India, especially in Maharashtra.

In the technical session that followed, Mr. Arun Alase, a progressive fresh water farmer, delivered a lecture on issues related to *L. vannamei* farming in saline lands of inland districts. He shared his experiences of Vannamei culture gained during the MPEDA's demo farming with the gathering. He also narrated the various problems surfaced during *L. vannamei* culture, and appreciated the efforts taken by MPEDA to popularize Vannamei and GIFT Tilapia farming.

Dr. T.R. Gibinkumar gave a lecture on issues related to shrimp farming. He also explained the concept involved in 'eco-friendly sustainable shrimp and prawn farming'. He requested farmers to adopt the BMPs in shrimp and scampi culture and also not to use any banned antibiotics or chemicals during the culture practices. He suggested getting the products tested by ELISA Lab before harvest as per the direction of EIC, and appealed to exercise maximum care while procuring seed from hatcheries.

Dr. A.K. Reddy, Emeritus Scientist, CIFE, Mumbai spoke on the importance of diversification in aquaculture. He shared his experience in converting the ponds inside sugarcane farms for IMC culture that yielded very good results and added to the revenue for the farmers.

Mr. Arun Chile, former Assistant Commissioner of Fisheries, Kolhapur, gave a presentation on 'Vannamei culture techniques'. Mr. Pandit Chawan, a progressive Tilapia farmer from Neera, made presentations covering different technical aspects involved in Tilapia culture and shared his experience of Tilapia culture at his farm located at Neera, Pune. Nearly 100 participants attended the programme, and they got chances to interact with MPEDA officials and resources persons in the end to clear their doubts on the subject.

Stakeholders' Consultation on Antibiotic-free Seed Certification of Shrimp Hatcheries

A view of the stakeholders meeting

MPEDA Regional Division, Vijayawada organised stakeholders' consultation on Antibiotic-free Seed Certification of Shrimp Hatcheries for shrimp farmers of Andhra Pradesh on 22nd March 2019 at De Ve Manor Hotel, Vijayawada, in which 91 farmers from all 9 coastal districts of Andhra Pradesh attended. Mr. Rama Sankar Naik IAS, Commissioner of Fisheries, Andhra Pradesh was the chief guest.

In his welcome address, Mr. Anilkumar P., Joint Director, MPEDA briefed the issue of antibiotic usage in shrimp export and importance of antibiotic-free seed certification of shrimp hatcheries. Use of antibiotics in aquaculture has resulted in several issues such as drug residues in the food fish leading to health issues and also poses the problem of Anti Microbial Resistance (AMR). This has resulted in the consumers demanding residue-free food fish and as a consequence, the regulatory authorities have started putting in place various measures for ensuring residue-free food fish.

Since India depends heavily on sustained increase in seafood exports for earning valuable foreign exchange, suitable measures needed to be adopted in this direction. Certification of hatcheries for production of antibiotic-free seed has emerged as one of the main interventions to free Indian aquaculture from the use of antibiotics, he said.

Mr. P. Brahmeswar Rao, Assistant Director, MPEDA explained the MPEDA's upcoming scheme for Certification of Antibiotic free PL production in Hatchery. He elaborated on the need of certification, purpose of the scheme, standards for certification, operating guidelines for hatcheries, process of certification, certification audit, committee audit and surveillance audit. He also told to farmers to visit the MPEDA website to go through the draft scheme and give their valuable suggestions or comments online too.

Mr. Rama Sankar Naik IAS, Commissioner of Fisheries, Andhra Pradesh, addressed the farmers and told them about the need of certification for shrimp hatcheries. He urged the farmers and MPEDA to put full efforts for implementing the scheme in proper way for betterment of aquaculture. He also spoke on issues related to hatcheries like brood stock quality and use of antibiotic by hatcheries, and suggested that surveillance audit of the hatcheries has to be robust to ensure antibiotic-free status of the certified hatcheries.

After presentation, an open discussion session was held with stakeholders, where suggestions related to the topic came up.

It was suggested that the name of the scheme should be made Antibiotic-Free Hatchery Certification instead of Antibiotic-Free Seed Certification, since all seeds produced are not screened by the surveillance audit. Another suggestion was to bring in provision in the scheme to ensure that brood stock should be discarded as per the expiry of permitted period of six months. This is because, as per the CAA norms shrimp brooders can be utilized for a period of 6 months, which has to be followed properly otherwise continuous use of same brooders for spawning may cause the inferior the seed quality.

Farmer participating in the discussions also suggested that even after certification, a continuous monitoring of the hatchery with surprise checks is required to ensure that hatcheries do not undertake malpractices. They pointed out that shrimp health issues due to bacteria such as vibrio, is becoming more evident, especially post stocking. So, screening of the PL for vibrio could be included in scheme.

Finally, the farmers suggested that quality evaluation of the PL in addition to pathogen screening must be a part of the surveillance programme, because mortality is observed within a few days of stocking in many instances. The mortality is not restricted to a particular batch of seed or a hatcheries or a farm and could probably due to the quality of the PL.

The consultation programme concluded with Mr. Anilkumar P., Joint Director, MPEDA proposing the vote of thanks to the chief guest and all farmers who attended the session.

Inter-State Study Tour for Aqua Farmers

A view of the team members

The Sub Regional Division of MPEDA at Ratnagiri organised an inter-State study tour for the farmers and new entrepreneurs of Ratnagiri and Sindhudurg region to different parts of Karnataka from March 13 to 15, 2019. Dr. Vishnudas R. Gunaga, Junior Technical Officer, led nine farmers and new entrepreneurs in this tour, which gave a unique opportunity to the farmers to get themselves familiarise with the latest hatchery and farming technologies.

The tour started from Ratnagiri on March 13 and reached Karwar on the same day. On the second day of the study tour, visits were made to Sub Regional Division of MPEDA at Karwar, West Coast hatchery and farms.

Mr. Vijyakumar Yargal, Deputy Director welcomed the team members to the Sub Regional Division of MPEDA at Karwar and explained the activities of MPEDA, SRC, Karwar in the development of aquaculture in the region of Goa and Karnataka.

From SRC Karwar, the team proceeded to West Coast Hatchery at Kumta. Mr. Ranjeet Vaza, hatchery manager, welcomed the team and explained the various activities involved in Vannamei seed production at hatchery level. The team members interacted with the technical staff of the hatchery and clarified their doubts, starting from brood stock management to seed packing.

The team was permitted to visit the *L. vannamei* farm of West Coast at Holangadde, Kumta, and accompanied by Mr. Ranjeet Vaza, who familiarised the team members with the farming activities. At the time of visit, the farm was being prepared for stocking.

The team then proceeded to the milk fish farm located at Alvekodi village, Kumta. Farmers collected information on the culture techniques of milk fish from the farm caretaker Mr. Mahabaleshwar Gawadion.

The team also got the opportunity to visit the tiger shrimp hatchery owned by Mr. Vasudev Byndor at Head Bundar, Kumta. Mr. Raghupathi Hebbar, Technical Manager explained various activities involved the tiger shrimp hatchery.

The team visited CMFRI Regional Centre, Marine Biology department of Karnatak University and various farms on the third day of the tour.

The third day's visits started with the Regional Centre of the Central Marine Fisheries Research Institute (CMFRI)

A visit to West Coast Farm, Holanagadde, Kumta

at Karwar. Ms. Saloni Shivam, Scientist welcomed the group and explained the various activities of CMFRI in the development of fisheries sector, and distributed literatures related to aquaculture to the participants. Study team also visited CMFRI's field station at Kodibag. Farmers witnessed rearing of juveniles of Seabass and Cobia. Mrs. Sonali Birkodi, Technical Assistant assisted the team.

Later, the team visited the Department of Marine Biology, PG Centre, Karnatak University at Karwar. Dr. J.L. Rathod, Chairman, interacted with the team members and explained the various activities at the department.

The team were also given opportunity to visit the Vannamei shrimp farms located at Hireshitta and Bandhishita areas. Team members interacted with local farmers, and gathered information on crop pattern, disease management and culture techniques from the farmers. Participants also got an opportunity to interact with Captain Ankolekar, a lead farmer, at his residence at Kadwad, Karwar. The team returned to Ratnagiri on March 16, 2019.

Subscription Order / Renewal Form

Please enroll me / us as a subscriber / renew my existing subscription of the MPEDA Newsletter. The subscription fee of Rs. 1000/- for one year is enclosed vide local cheque/DD No.....dt.....
drawn in favour of The Secretary, MPEDA', payable at Kochi.
Please send the journal to the following address:

.....

.....

Tel No..... Fax : .....

E mail .....

For details, contact:
The Editior, MPEDA Newsletter, MPEDA House, Panampilly Nagar, Kochi - 682 036
Tel: 2311979, 2321722, Fax: 91-484-2312812. Email : newslet@mpeda.gov.in

Training Programme on Sustainable Shrimp Farming

Field trip to fish farm

A five-day training programme on 'sustainable shrimp farming and aquaculture of diversified species' was organised by Sub Regional Division of MPEDA, Ratnagiri at Piyali village in Sindhudurg district from March 27 to 31, 2019 for SC/ST candidates, in which 25 persons attended.

Inaugurating the programme, Mr. Kishore Kadam, Chairman CASTRIBE, Shikshak Sanghatana, said that this training programme is unique as well as informational and every one shall use this opportunity to acquire knowledge in aquaculture for the development of Piyali village.

Welcoming the participants, Dr. T.R. Gibinkumar, Deputy Director, MPEDA, Sub Regional Division, Ratnagiri, explained about various promotional schemes of the MPEDA for shrimp, prawn and fish culture and briefed the scope and status of shrimp, prawn and fish farming in India, with special reference to Maharashtra.

Dr. Vishnudas R. Gunaga, Junior Technical Officer, in his address highlighted the various schemes of MPEDA available for aquaculture farmer. He also explained the purpose of conducting such training programmes by MPEDA for the benefit of farmers as well as new entrepreneurs at their door steps.

After inaugural programme, trainees were introduced to various topics in aquaculture in the technical sessions led by MPEDA officials and resource persons invited by MPEDA. Dr. Vishnudas R. Gunaga covered various related topics on shrimp farming, starting from site selection to post harvest techniques apart from topics on diversification of aquaculture.

Dr. T. R. Gibinkumar, Deputy Director, made presentations on MPEDA's schemes and on value addition of marine products. Mr. Rajan Agase, a specialist in Ornamental Fish Breeding, Ratnagiri, delivered a guest lecture on 'Ornamental Fisheries' on March 29 and Ms. Shradha Anagolkar, Growbest Feed Dealer, Ratnagiri, spoke on 'Feed Management in Vannamei Culture' on March 31. The trainees were taken out a field trip on March 29. They were taken to ornamental fish breeding unit owned by Mr. Gajanan Savant at Kasorde, Kankavalli. Mr. Pandurang Kolta, Gram Vikas Adhakari, explained the techniques involved in ornamental fish breeding. The trainees also visited the freshwater farm of Mr. Sanjay Desai at Sawatwadi village in Kankavalli, where trainees were introduced to aquaculture of freshwater fishes such as Catla and Rohu.

The five-day SC/ST training programme ended on March 31, 2019 with Mrs. Smita Anagolkar, former Judge, District Consumer Forum, distributing the certificates to the participants at the valedictory function.

Dr. T.R. Gibinkumar, Deputy Director delivering a lecture

First HACCP Basic Training held in Ratnagiri

Inaugural session of HACCP training

MPEDA Sub Regional Division, Ratnagiri organised a four-day basic training programme on 'Seafood HACCP', a first of its kind, at Ratnagiri from April 9 to 12, 2019. This training programme was organised for the benefit of the technologists, plant managers and supervisors working in the seafood processing facilities in the region and was attended by 26 candidates working in various seafood processing plants in Ratnagiri, Sindhudurg and Mumbai.

The programme started with an inaugural session on April 9, to which Dr. T. R. Gibinkumar, Deputy Director, MPEDA, Sub Regional Division, Ratnagiri welcomed the candidates to the training programme. Mr. S. S. Shaji, Deputy Director (QC), MPEDA Head Office, gave the introductory remarks and explained the overall structure of the training programme to the participants. Mr. V. Vinod, Assistant Director (QC), MPEDA, Regional Division, Kochi and Mr. Vaniya Kishore, Technical officer (QC), MPEDA, Regional Division, Mumbai, were present. Inaugural session concluded with Mr. Shaji George, Assistant Director, Sub Regional Division, Ratnagiri, proposing the vote of thanks.

The inaugural session was followed by training sessions which covered topics like Introduction to HACCP, Pre-requisite Programmes and Preliminary Steps, CGMP and SSOP. The first day concluded with the work session on SSOP. The second day covered session like Hazards, Hazard Analysis and Control Measures, Critical Control Point, Critical Limit, CCP Monitoring and Corrective Action. A work session covering the topics discussed on second day was conducted at the end of the day.

On the third day of the training, sessions like Verification, Record Keeping, US Seafood Regulation, National Standards/EU Regulations and Traceability were covered which was followed by the work session on day three topics. On the final day of the programme, a session on HACCP Plan Development and Guidelines for Preparation of HACCP Manual was conducted. Following this, the trainees were divided into four groups and given the task of preparing SSOP, HAW and HACCP Plan on specific products. After that the group representatives gave individual presentations of the matter they have prepared and these were thoroughly discussed among the trainees and suggestions by the trainers were incorporated.

The four-day training programme on Seafood HACCP concluded on April 12 with a valedictory function, where certificates were awarded to the candidates who completed the training programme.

Mr. S S Shaji, Deputy Director (QC), Head Office addressing the programme

Switzerland-based COOP in pact for black tiger prawn farming in Kerala

Switzerland-based cooperative organic food giant COOP has entered into a tripartite understanding with the Kerala University of Fisheries and Ocean Studies (KUFOS) and the Indian Sea Food Exporters Association for large scale farming of black tiger prawns in Kerala waters.

Vannamei dominates the aquaculture production in India, with black tiger shrimp being limited to a minimum share in small pockets. Earlier, black tiger shrimp was mostly captured from sea and not farmed. Vannamei, which is easy and economical to farm, became the dominant species in the last 10 years. India is the second-largest fish producer in the world after China and accounts for nearly 6 per cent of global fish production.

"Considering the soaring demand for Indian prawns in the European market, we have finalised the road map for large scale organic production of black tiger prawns to export to the European market. The memorandum of understanding (MoU) regarding this will be signed when the approval of the state government is received for the proposal," said A. Ramachandran, KUFOS vice-chancellor.

The Indian Sea Food Export Association, the third partner of the joint venture, will identify fish farmers to grow black tiger prawns in Kerala waters for export, while KUFOS will extend technical know-how to selected farmers for scientific organic prawn farming and the COOP will financially support them by buying their product at a premium price.

After harvesting, member companies of the Indian Sea Food Export Association will procure prawns and process it for export to COOP stores across Europe – this is the gist of the tripartite understanding to be submitted to the State government for approval, Ramachandran said.

The COOP group operates in the retail, wholesale and production sectors of food products across Europe. In total, the COOP has 2,213 retail outlets in Switzerland alone and 124 cash-and-carry markets in other European countries. The cooperative giant has a workforce of around 80,000 with approximately 54,000 employees in Switzerland alone.

A three-member COOP delegation with CEO Philip Wyss, food division manager Thomas Sommer and India country manager Deepa Newar visited the KUFOS headquarters on Monday to discuss and finalise the large scale prawn farming proposal.

-www.financialexpress.com

Shrimp farming should avoid antibiotics, says expert

The aquaculture-based shrimp farming, the mainstay of the USD 7-billion marine products export from the country, must focus more on a sustainable farming culture without using any antibiotics, according to Shaji Baby John, a pioneer of aquaculture shrimp farming in the country. He told reporters that the quality standards in the main export destinations were getting stringent everyday and "we needed to be ready to face the situation."

"The countries in European Union have already instructed exporters that antibiotics presence will not be tolerated and such consignments will be rejected in future," said Shaji, who is also the chairman and managing director of Kings Group of companies. Other major export destinations like the US and Japan will also adopt such quality standards soon, he said. Projecting a bright future for the Indian marine products industry, he said that the sector needed to be organised on a sustainable model with adoption of latest technology standards.

"We can take on China, the global leader in aquaculture production, with proper planning and technology adoption and diversification of products," Shaji said. The formation of a department of fisheries by the union government is a positive step in this direction, he added. China has a production of 49 million tons of

aquaculture while India is way below with 6 million tons .

The need of the hour is a technology up-gradation fund for sustainable aquaculture development (TUFSA), he opined. TUFSA coupled with an integrated management approach comprising coastal and inland aquaculture would be a fillip in bettering the livelihood, employment prospects and protein intake of rural population.

Kings Group recently launched its STQC (sustainable, traceable, quality certified) aquaculture hub model at Chippikulam, Tuticorin in Tamil Nadu, ensuring responsibly grown fishes, whose back history could be traced back. "We are expanding this to larger areas by transferring technology developed by our R&D to farmers. It covers the entire gamut of seafood exports' value chain right from brood stock availability," Shaji said. Technology transfer includes setting up of open-cycle re-circulating aquaculture systems incorporating biological controls and aqua-mimicry for a disease-free multi-tropic farming practice.

-www.deccanchronicle.com

New fish-based protein snack to hit shelves

The National Institute of Fisheries Post Harvest Technology and Training (NIFPHATT) here has something unique to offer to people on the lookout for a fish-based protein snack.

The institute has launched Fishture, which combines the enjoyment of a snack and the nutritive value of fish. Officials of the institute said the product would hit the shelves in April. It will be available at its outlet opposite Fine Arts Hall close to the lakeside campus of the Cochin University of Science and Technology near Pallimukku in Kochi, they said.

Food technologists at the institute pointed out that children required essential nutrients for growth. But snacks are preferred to high-quality food by them. Unfortunately, many children avoid fish because of its flavour and fear of consuming fish bones. Parents could give Fishture, which is a protein-enriched mixture, as a value-added ready-to-eat snack to their children, they said.

The officials said the growth of a child involved muscle/tissue development and brain development. Fish is a unique food having both these nutritive factors combined, that is essential amino acids for tissue growth and essential Omega-3 fatty acids for brain development, they added.

Value-added products

The institute has been involved in developing value-added products through process and product diversification from all varieties of fish, including low-value, unconventional species and seasonally abundant fishes. It also disseminates upgraded technology through consultancy, training, popularisation of products, and consumer response surveys.

Details about Fishture can be had from NIFPHATT. Phone: 0484-2352172.

- www.thehindu.com

BEST IN MARKET

IMPORTED FROM SPAIN

MARBYS

MASTERS IN CEPHALOPODS ADDITIVES

PRODUCTS LIST

BIWET - I

Phosphate free Moisture retainer & texture enhancer for Cephalopods

ACUATIC - K

Whitening & Brightness enhancer for Cephalopods

ARTIC - L

Glazing agent for Cephalopods & Shrimps

ARTIC - P

Glazing agent for Cephalopods & Fish

Sea eyes STEM LIMITED

Dealers & Distributors of Seafood Processing Aid

6C, J. P. Towers, 7/2 Nungambakkam High Road, Nungambakkam, Chennai - 600 034, India.
Email: seaeyesindia@gmail.com

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

Mobile solution for farmers and plan for global shrimp marketplace win agribusiness prize

A team that helps small-scale farmers in India increase their profits and another looking to create an international trading marketplace for shrimp took home prizes at Wednesday's Rabobank-MIT Food and Agribusiness Innovation Prize.

Gramhal, whose mobile tools help smallholder farmers sell their crops, won the first-place prize of USD 20,000. Velaron was awarded the USD 10,000 second-place prize for its plan to organize the international shrimp trade into a commodity market.

The winners were chosen from a group of seven finalists that shared their business plans at the annual event, which is sponsored by Rabobank and MIT's Abdul Latif Jameel World Water and Food Systems Lab (J-WAFS) and is hosted by the MIT Food and Agriculture Club. Each student team pitched for five minutes in front of a crowded audience at MIT's Samberg Conference Centre. A panel of eight judges from across the food and beverage industries ultimately decided on the winning teams.

The five other teams came from 11 schools around the country. They included:

Bare Bear: using all-natural binding agents to create a gum-like strip of concentrated coffee — just add hot water and it's ready to drink;

Caldo: developing fully automated vending machines that assemble customized, fresh meals using sensors and inexpensive heating technology;

COZY Nutrition: selling hypoallergenic cow's milk that doesn't contain A1 beta-casein protein, making it easier to digest;

Haystack: using computer vision, deep learning, and sensors to automate the detection and removal of weeds on farms; and

Mosaic Sensors: developing a nutrient sensor to manage nitrogen and phosphorous application on farms to decrease pollutant run-off.

This was the fourth year of the prize, and event director Lee Stroman, an MBA candidate at the Sloan School of Management, said it was the most competitive year yet, with judges receiving nearly 50 project applications, twice as many as in 2018.

Helping smallholder farmers

The majority of small-scale farmers in India use informal creditors to finance their purchases of seeds, fertilizers, and pesticides each season. At harvest, these farmers face pressure to quickly sell their crops in order to repay their loans. Even if they want to wait for more favourable market conditions, the farmers' lack of access to storage facilities forces them to make hasty sales. The situation has led to a cycle of debt and distress for millions of people. Gramhal is helping these farmers with a multifaceted mobile solution. First, the company has partnered with a bank to offer farmers credit that reduces their need to sell crops immediately. The loans can be delivered directly to the farmers through the company's platform.

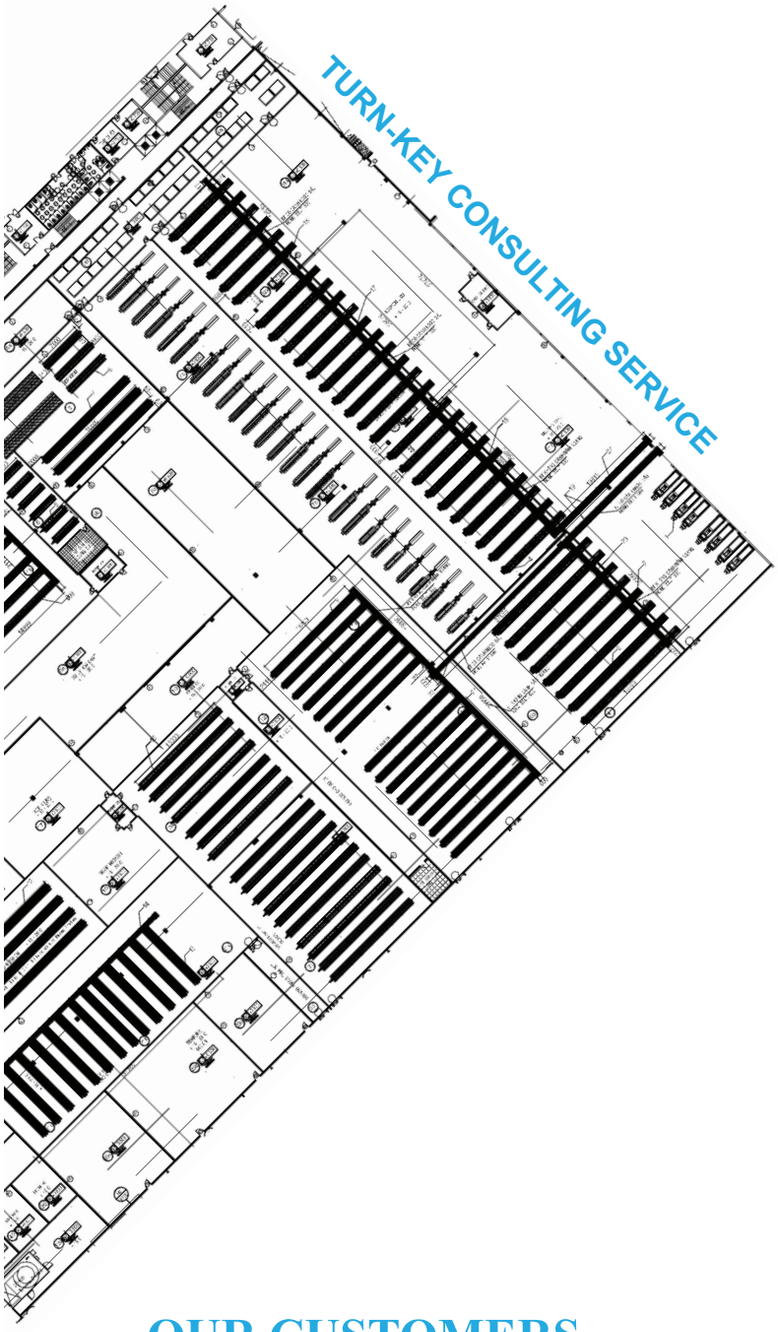
Gramhal also provides rentable warehouse space for farmers to store their crops, arranging for transport and quality certifications. The company also provides daily crop price information to the farmers through SMS messaging. When the farmers are ready to sell their crops, Gramhal connects them directly to buyers through a phone call.

"I'm from a small village in India, and growing up, I lived through the struggles of small-hold farming every day," Gramhal founder and CEO Vikas Birhma told the audience during his pitch. "Distressed selling is the root cause of agrarian distress, and like my household, 62 million households in India face the same selling problems, leading to one farmer suicide every half an hour."

Gramhal is currently working with farmers harvesting food grains, a market which it estimates is worth $86

NAMDUNG® EQUIPMENT

BEST SOLUTIONS FOR SUSTAINABLE DEVELOPMENT



TURN-KEY CONSULTING SERVICE

SHRIMP PROCESSING EQUIPMENT
- PRE-PROCESSING CONVEYOR
- WASHING MACHINE
- HLSO GRADING MACHINE
- PUD GRADING MACHINE
- SOAKING TANK

FREEZING EQUIPMENT
- FEEDING MACHINE
- IQF FREEZER
- GLAZER
- RE-FREEZER

VALUE ADDED PRODUCTS
- COOKER
- CHILLER
- BOILER
- NOBASHI LINE
- SUSHI CONVEYOR
- SUSHI CUTTER

OUR CUSTOMERS

VINA LEANFOOD ★★★★★ · Nekkanti Mega Food Park & Sea Foods Ltd. · Liberty Share with Pride · MINH PHU · Forstar · AVANTI FEEDS LIMITED

NAMDUNG COMPANY LIMITED
35 Ho Hoc Lam, Ward 16, District 8,
Ho Chi Minh City, Viet Nam
(8428) 3751 0725
WhatsApp (+84) 949362408
namdung-co@namdung.vn
www.namdung.vn

billion in India alone. The company plans to help over 1,000 farmers this year and get 7,500 farmers on its platform in 2020.

Birhma says the prize money will help his team improve their mobile platform and continue to scale.

Making the market for shrimp

The international shrimp trade currently relies on intermediaries and personal relationships to facilitate imports and exports. The result is a system with inefficient trading routes and a large degree of uncertainty about future prices and supply.

Velaron is hoping to change that, first with an online trading marketplace for buyers and sellers, and eventually with a shrimp exchange for high volume trading.

When the marketplace is live, buyers will be able to use it to submit public requests for immediate or future deliveries, specifying the amount of shrimp they want, the port of entry, and the size of shrimp. Shrimp farmers will then bid to deliver the shrimp, with Velaron matching asks and bids, coordinating delivery logistics, and clearing all transactions.

Velaron plans to use the transaction data it collects to design standardized shrimp contracts and create a global shrimp exchange for immediate and future trading. Futures trading is attractive for buyers, who want to secure supply for times of peak demand, and sellers, who want to protect themselves against price fluctuations in a process known as hedging.

The system would be similar to how corn farmers currently ensure their profits are more consistent each year by locking in a future price before harvest to protect them against corn surpluses or shortages later on.

The company is hoping to facilitate 1 percent of U.S. shrimp imports over the next year, and then target one percent of worldwide shrimp trading by 2021. Through commissions, charging for its logistic services, and investing the outstanding asks and bids, Velaron's team believes it could generate $20 million in revenue by 2021

"Aquaculture technology is booming, but no attention has been given to aquaculture's financial needs," said Velaron co-founder Pablo Ducru, who is currently pursuing his PhD at MIT in nuclear physics and computational engineering. "The MIT-Rabobank prize will help us bring seafood trading to the 21st century.

- www.news.mit.edu

KUFOS researchers discover new snakehead fish species in Kerala's subterranean waters

Gollum Snakehead

Researchers at Kerala University of Fisheries and Ocean Studies (KUFOS) have discovered a new species of "snakehead fish" lurking in the subterranean waters of Kerala.

The bizarre fish has been scientifically named *Aenigmachanna gollum* (Gollum Snakehead - common name) after 'Gollum', a character from the 'The Lord of the Rings', a creature that went underground and during its subterranean life changed its morphological features. The fish is not only a new species, but also a remarkable new genus of the snakehead family Channidae (which is currently represented by two other genera, *Channa* in Asia and *Parachanna* in Africa), said Rajeev Raghavan, Assistant Professor at the Department of Fisheries Resource Management, Kerala University of Fisheries and Ocean Studies, Kochi.

Snakehead fishes (*Varaal* – in Malayalam) of the family Channidae are predatory freshwater fishes comprising 50 valid species, many of which are important food fishes. Some are also popular in the aquarium fish trade, and others have been introduced around the world with several species becoming highly invasive. Normally subterranean fishes show many unique characters which are interestingly absent in *Aenigmachanna*. This suggests two possibilities – either it represents a lineage that only recently began a subterranean lifestyle and still has maintained its surface-life features, or that it lives in a habitat in which regular excursions to the surface-water still occur.

When a local youth stumbled upon this interesting fish from his rice field near Vengara in Malappuram, little did he realize that the fish will become one of the most unusual species to be described from India in recent times. The fish adds a strikingly distinct morphology from any other species found in India, said V.K. Anoop, a PhD student at KUFOS.

-www.thehindubusinessline.com

All India Jellyfish Exporters Association (AIJFEA)

All India Jellyfish Exporters Association of India (AIJFEA) was incorporated with the sole aim of promoting and protecting the interest of the exporters doing jellyfish export business from India and to develop its international trade. It will operate from its head office in Chennai. The address is given below:

All India Jellyfish Exporters Association
(Regd .No. SRG/Chennai South/126/2019)
R.M.S. Apartments, 1st Floor, No.12,
Gopalakrishna Street,T. Nagar, Chennai – 600017,
Tamil Nadu, India
Mobile: 98430 96224, E-mail: jea.india@gmail.com

Seafood Expo Global 2019, Brussels

SHRIMP

1. Piotr Mizera
Seafood Market
ds kluczowych klientow
Mob: +48 698770077/+48 500525552
E-mail: p.mizera@seafood.pl
Web: www.seafood.pl
Vannamei shrimp

2. Dries Benmhand
Trade Service Domstad
Bazuinhof 35, 3525 GC Utrecht
Tel: +31 6 14 77 38 88
E-mail: info@tsdomstad.nl
Web: www.tsdomstad.nl
Shrimp

3. Aiden Huang
Gain Ocean Food Co. Ltd.
No.12, Hongkong Road, Industrial Zone,
Beihai, GuangXi, China 536000
Tel: 0086-779-2288088
Fax: 0086-779-2288091
Mob: 188-1988-7966
E-mail: aidenhuang@gainocean.com
Web: www.gainocean.com
Vannamei

4. Carolyn Chang
Canda Six Fortune Enterprise Co. Ltd.
8138 North Fraser Way,
Burnaby BC Canada V5J 0E7
Tel: 604-432-9000 ext.2226
Mob: 604-307-7322
Fax: 604-432-6601
E-mail: carolyn.chang@candasixfortune.com
Vannamei IQF, Block frozen Vannamei

5. Pambos Athinodorou
DeneR Overseas Ltd.
37, Stasikratous Street,
Center Point Tower, suite 201,
1065 Nicosia - Cyprus
Tel: +357 22 765020
Fax: +357 22 765021
Mob: +357 99 649507
E-mail: pambos@deneroverseas.com
Web: www.deneroverseas.com
Cooked Sea caught shrimp, Sea caught shrimp IQF

6. Javier Otamendi
Viking Food Limited
P.O. Box WK640
Warwick, WK BX, Bermuda
P:+1.441.238.2211
D:+1.441.239.0481
C:+1.441.704.6823
E-mail: javier@viking.bm
Web: www.viking.bm
Vannamei (All varieties)

7. George Herd
Farmfoods Ltd
1507 Coventry Road,
Yardley, Birmingham, B25 8LW
Mob: +44 (0) 7739 819 773
E-mail: gherd@farmfoods.co.uk
Vannamei cooked

8. Arpad Horvath
Fischquelle Frost OHG
Mundelsheimer Str. 11-13
74385 Pleidelsheim
Tel: +49 71 44/ 81 90-0
Fax: +49 71 44/ 81 90-20
Mob: +49 1 72/ 9 41 76 60
E-mail: a.horvath@fischquelle-frost.de
Web: www.fischquelle-frost.de
Prawn (All varieties)

9. Rodrigo Caetano
Rua Erwin Rux, 1000. Rio Da Luz I
CEP 89246-600 Jaraguá do Sul
Tel: +55 47 3376-9500
Mob: +55 47 99770-2772
E-mail: rodrigo.caetano@dfs.com.br
Vannamei

10. George Wang
Shandong Grand Oceans Co. Ltd
1902 Yulan Square,
North Longao Road, Jinan, China
Mob: +86 133 6107 2523
E-mail: george.wang@grandoceans.cn
Vannamei

11. M. Serkan Ergun
Sergun Seafood Co.
Total Gorpet Istasyonu
Milas Bodrum Yolu Uzeri 15. Km.
2. Kat 48200 Milas / Muğla / Turkey
Tel: +90 533 543 99 21
E-mail: serkan@sergunseafood.com
Web: www.sergunseafood.com
Vannamei

12. Dr. Vincenzo Fortunio
Fish's King 2 SRL
Via Marigliano, 25 - 80049
Somma Vesuviana (NA)
P.IVA 03883701215
Tel: +39 081.893.10.51
Mob: +39 333.54.88.437
E-mail: vincenzo.fortunio@fishking.it
Web: www.fishking.it
Cooked Prawn 26/30, 31/40

13. Maurice H. Castilla
Global Meat GmbH & Co. KG
Heekweg 15
48161 Münster
Tel: +49 (0) 251 38 42 35-29
Fax: +49 (0) 251 91 79 66-5
Mob: +49 (0) 177 258 48 58
E-mail: maurice.castilla@global-meat.de
Web: www.global-meat.de
ASC Certified Vannamei

14. Alexander Eleveld
Royal Schmidt Seafood Rotterdam
Matlingeweg 333
3044 EV Rotterdam Netherlands
Tel: +31 (0) 10 444 3 552

Mob: +31 (0) 6 13 973 844
E-mail: aeleveld@schmidtseafood.com
Web: www.schmidtseafood.com
Vannamei (PD, PUD), Black Tiger 16/20

15. Hidetake Matsumoto
Cralay Co. Ltd.
3-11 1-Chome Nakasone Higashi Kokuraminami-Ku Kitakyushu-City
Fukuoka Pref.
800-0281, Japan
Tel: +81-93-475-1121
Fax: +81-93-475-1127.8
Mob: +81-90-9608-9008
E-mail: matsumoto@cralay.co.jp
Web: www.cralay.co.jp
Block frozen Karikkadi, Poovalan 300/500

16. Donagh Good
The Good Fish Company,
Carrigaline Industrial Estate,
Crosshaven Road,
Carrigaline, Co. Cork
Tel: +353 21 4373917
Fax: +353 21 4374186
Mob: +353 87 3347400
E-mail: donagh@goodfish.ie
Web: www. goodfish.ie
Vannamei (PD, PUD)

17. George Guangcheng LIU
18a North End Road,
London NW11 7PH
Tel: +44 (0)2 0 8455 5531/
+44 (0) 7521 509 318
E-mail: george.liu@eat-tokyo.co.uk
Web: www.eat-tokyo.co.uk
Black Tiger 8/12

18. Ruskim Seafoods Ltd.
Marine House, Stafford Park 15,
Telford, TF3 3BB United Kingdom
Tel: +44 (0) 1952 293 344
Mob: +44 (0) 1952 293 345
E-mail: sales@ruskim.co.uk
Web: www.ruskim.co.uk
Vannamei

19. Boutaina Rachidi
1, Allee des Mandariniers - Bd Chefchaouni
Ain Sebaa – 20 250 Casablanca – Maroc
Tel: +212 (05) 22 25 60 60
Mob: +212 (0) 6 61 397 394
E-mail: brachidi@groupe-an.com
Web: www.lassiettenordique.com
Black Tiger, Vannamei

20. Ali Al-araimi
Tel: +968 24 4 8807 1
Mob: +968 99 4 1616 5
E-mail: alimalaraimi@yahoo.com
Web: www.turkish-house-restaurant.com
Black Tiger U/15

21. Lvy Liu
Shandong Ocean International Co. Ltd.
Room E1508, Floor 15,
No.37 Miaoling Road, Laoshan District,
Qingdao, P.R. China 266100
Tel: +86 532 82889829
Fax: +86 532 88915322
Mob: +86 18661608957
E-mail: liutt@sdointl.com
Web: www.sdsc-trade.cn, www.sdointl.com
Vannamei HL (Small size) 71/90, 91/110

22. Deepanjan Nandy
Qatar National Import & Export Co.
Building No. 178 Gate No. 61,
Industrial Area Street No. 2
P.O. Box: 490 Doha, Qatar
Tel: (974) 4033 9142
Fax: (974) 4033 9177
Mob: (974) 7035 9039
E-mail: deepanjan.nandy@qnie.com
Web: www.qnie.com
Chilled Vannamei HO 40/50, 50/60

23. Elmadhi Bilbil
ACP Foods Limited
Vauxhall House, Vauxhall Station,
Great Yarmouth, NR30 1SD
Tel: 01493 842239
Mob: +44 7887 718626
E-mail: bilbilemadhi@yahoo.co.uk; acpfishmongers@gmail.com
Vannamei HL, Black Tiger

24. Clairice Marcel / Jmarie
Francomer
Terrain Clairice,Saint Felix 97190 le Gosier,
Guadeloupe – Antilles Francaises
Tel: (00590) 590.59.03.76
Mob: (00590) 690.08.20.51/ (00590) 690.12.04.44
E-mail: costaagros@gmail.com
Web: www.francomer.com
Scampi, All Shrimp

FISH

1. Masayuki Agehari
Cargill B.V
Event van de Beekstraat 378
1118 ZZ Schiphol, The Netherlands
Direct: +31 (0)20 500 6379
Mob: +31 (0)6 2277 1491
E-mail: Masayuki_Agehari@cargill.com
Frozen Yellowfin Tuna Loins, Skipjack Tuna Whole Round

2. Juan M. Freire Rodriguez
FREIREMAR.SA
Avda. de los Consignatarios, s/n.
35008 Las Palmas de Gran Canaria
Tel: +34 928 44 03 00
Fax: +34 928 44 03 03
E-mail: jfreire@freiremar.es
Frozen Tuna

3. Bertus Brouwer
BONESCA
Schulpengat 9, 8321 WC Urk,
The Netherlands
Tel: +31(0)527-70 10 63
Mob: +31(0)6-22539039
E-mail: bertus@bonesca.nl
Web: www.bonesca.nl
Tuna, Seer fish, Milk fish, Anchovy

4. Alexander Wilhelm Refsnes
Salmon Bellies AS
Tel: +(47)22980532

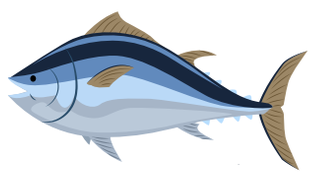
TRADE ENQUIRY

Mob: +(47)40700785
E-mail: alexander.refsnes@salmonbellies.no
Web: www.salmonbellies.no
Rainbow Trout

5. Frank Ruggiero
Ruggiero Seafood, Inc.
P. O. Box 5369
474 Wilson Ave.
Newark, NJ 07105
Tel: +1 973-589-0524 ext.117
+1 973-800-543-2110
Fax: 973-589-5690
Mob:+44 732-770-7121
E-mail: frank@ruggieroseafood.com
Web: www.ruggieroseafood.com
Grouper fish 2/4, 6/8, 8/10

6. Shifan Ilyas
M & S Foods Europe Ltd
Stanmore Coldstore,
Parr Road, Honeypot Lane,
Stanmore, Middlesex, HA7 1NP
Tel: +44 (0) 20 8952 0208
Mob: +44 (0) 77 6767 5555
E-mail: sales@mandsfoods.uk
Web: www.mandsfoods.uk
Anchovy

7. Saleh Adibzadeh
No34, Corner Kaj St,
South Chamran Highway,
Tehran, Iran
Tel: +98 21 66 12 78 61
Mob: +98 912 127 4672
E-mail: S.Adib@sskonarak.com,
S.Adib@tohfefood.com
Web: www.sskonarak.com
Whole Round, Loins & Steaks Yellowfin Tuna



8. Ruben Asensio Gimenez
Salazones J. Ramón Asensio, S. A.
C/ Nogal no 17
Poligono Industrial Los Callejones
04230 Huercal de Almería
(Almería) España
Tel: +34 695 69 04 31
Mob: +34 950 14 25 77
E-mail: ruben@salazonesasensio.com
Web: www.salazonesasensio.com
Tuna

9. Anantharaja Arasenthiran
Alex Sea Food
Avenue de grandson 48,
1400 Yverdon-les-Bains
Mob: +41 76 789 56 84, +41 76 789 56 58, +41 76 788 05 88
E-mail: alexseafood@hotmail.com
All varieties of fish

10. Moussa Ousaili
Prima Market Congo
BRAZZA VILLE,
Centre Ville - République du Congo
Tel: (+242) 06 471 71 71,
(+961) 71 240 240
E-mail: moussaili@primarket.net
Reef Cod 1/2, 2/3, 3/5

11. Chris Hoydonckx
The Pinnacle Special Foods (BVBA)L. Van Beethovenlaan
6B-3191 Hever
Tel: 0032 15 65 66 86
Fax: 0032 474 86 23 03
E-mail: thepinnaclebvba@gmail.com
Yellow fin Tuna, Skipjack Tuna

12. Ludovic Delplanque
Best Fisheries
80, av Secretan - 75019 Paris
Tel: 33 (0) 6 60 60 13 13
Fax: 33 (0)9 72 37 73 44
E-mail: L.Delplanque@BestFisheries.com
Web: www.BestFisheries.com
Tuna Loins, Sword fish Loins

13. Arkady Panchernikov
IP Trading LLC
538 Madison Avenue at 54th Street
New York, NY 10022
Tel: (212) 980-5959 ext 210
Fax: (212) 980-5928
Mob: (516) 503-3907
E-mail: arkady@iptradingllc.com
IQF Snapper Fillet Skin on, IQF Cobia Fillet Skin on, IQF Grouper Fillet Skin on

14. Ari Kauftheil
13 Lazarov St.,
Rishon Le Zion 7565419,
Israel
Tel: +972-3-9616283
Fax:+972-3-9611257
Mob:+972-52-2644462
E-mail: ari@mikideli.co.il
Web: www.mikideli.co.il
Tuna Loins 2/4, 4/8

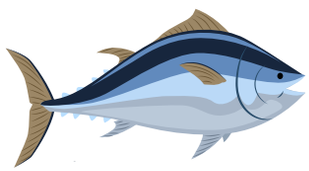
15. Divina Darya
Lucky Fish
Mob: +7 911 8448918
E-mail: Divina.Darya@lfish.ru
Web: www.lfish.ru
Tuna Loins

16. Stakhov Serge
Mob: +380 93 411 7854
E-mail: stakhov@okean.com.ua
Web: okean.com.ua
Yellow fin Tuna Whole Round 30 Kg up, Mackerel, Tilapia

17. Super Super
Mob: +32 477 / 33 21 96
E-mail:k.wangkhuklang@gmail.com
Snakehead Fish, Frozen Mackerel 2/4

FISH MEAL/FISH OIL

1. El Atigh Lemrabot
Sahara Peche
Mod F Nord N0400 A Tevragh Zeina, NIF: 00065409 Nouakchott - Mauritanie
Tel: +222 49 39 37 44,
+222 45 25 66 26
E-mail: lemseafood1@yahoo.fr
Fish meal, Fish Oil, Fish Soluble Paste



TRADE ENQUIRY

CEPHALOPODS

1. Cecilia Wu
Yen Jing International Pty., Ltd.
3F, No. 32 Feng-Yu 3rd Rd.,
Chien-Chen Dist., Kaohsiung,
Taiwan 80672
Tel: +886 7 815 2206
Fax: +886 7 812 5961
Mob: +886-973-510089
E-mail: baixian@ms24.hinet.net
Web: www.baixianwu.com
Cuttlefish, Octopus

2. Sim Chan Yan
Mob:+91090806
Squid Rings

MIXED ITEMS / OTHER

1. Melissa Fagan
Cheflink Ltd
Cloncullen, Robinstown, Navan,
Co. Meath, C15 X3TW
Tel: +353 51 364800
Mob: +353 86 8125816
E-mail: melissa@cheflinkseafood.com
Web: www.cheflinkseafood.com
Fresh fish, Tuna, Rohu, Frozen
Prawn, Tilapia, Kingfish

2. Jose Nilavoor
Josco Asian Food Trading GmbH
Senefeldergasse – 7, 1100 Wien
Tel: +43 1 6004771
Mob: 0043 699 1913 90 34,
0043 699 1073 54 11
E-mail: joscovienna@gmail.com
Mackerel, Seer fish, Red Mullet, Vannamei

3. Martin Lee
OceanPro Foods (Shenzhen) Co. Ltd.
23D2 Luban Building, 7022 West
Hongli Road Futian District,
Shenzhen 518000, China
Mob: 0086198-6698-9162/
0086150-0206-9162
E-mail: oceanprofoods@sina.com
Vannamei, Fish, Cephalopod

4. Atul Parab
Fiske Fresh
118, Onderwijsboulevard,
's-Hertogenbosch, 5223 DH,
Netherlands
Tel: +31 613804485
Mob: +91 7738611171/
+91 9930999510
E-mail: sales@fiskefresh.in
Web: www.fiskefresh.in
Shrimp, Fish

5. Sonal Sarvaiya
Hyperama Wholesale
Hyperama Buildings,
Bull Close Road,
Lenton Industrial Estate,
Nottingham NGT7 2UT
Tel: +44 (0) 115 985 1301 ext. 277
E-mail: ssarvaiya@hyperama.com
Shrimp, Cephalopods

6. Guillermo Gil
Global Group Fergil S.L.
Tel: Peru Piura+51989969107
Mob: +584149100512
E-mail: g.gil@globalgroupfergil.com
Web: www.globalgroupfergil.com
Black tiger, Pomfret

7. Jerome Lou
Hangzhou Sealand Scm Co. Ltd.
Rm907, Bldg 4, Wanxin
Mansion, No.35, West Lake
Avenue,Hangzhou, China
Tel: +(86)571-28198898
Fax: +(86)571-28206110
Mob: +(86)13906530140
E-mail: jerome@sealand-scm.com
Web: www.seaslandsupplychain.com
Fresh Lobster, Frozen Lobster

8. DAMI Mohamed Walid
SOCOPAK
Nouveau port de peche 3065
Sfax
Siege social et depot: 10, rue
madinet babel
la Sokra - Tunis
Tel: (+216) 50 023 123
E-mail: contact@socopak.com
Web: www.socopak.com
Squid, Shrimp, Vannamei, Cuttlefish

9. Md. Kamal Khan
Sunny Seafood Trade
International
Khan Mansion,
99/1 Syed Mosta Gausul Haque
Sarak
(South Central Road), Khulna,
Bangladesh
Tel: +880-41-2830242
Mob: +88-01725-850232
E-mail: kamal@
sunnyseafoodtrade.com,
sunnyseafoodtrade@gmail.com
mailto:rosie.he@hisealink.com
Web: www.sunnyseafoodtrade.com
Soft shell Crab IQF, IWP 80g up

10. Amanda Brock
The Blue Sea Food Company Ltd.
Unit 20, Torbay Business Park,
Paignton, Devon TQ4 7HP UK
Tel: +44 (0) 1803 22 99 11
Mob: +44 (0) 7984 016 930
E-mail: amanda@devoncrab.com
Web: www.devoncrab.com
Live, Fresh, Frozen Crab

11. Chabir Driss
Luxnegos, 4, rue d' Arlon L 8399
Windhof,
Grand-Duche de Luxembourg
Tel: +352.28.77.67.67
Mob: +352.691.69.72.13
Fax: +352.28.77.67.00
E-mail: info@luxnegos.lu
Web: www.luxnegos.lu
All kinds of seafood

12. David Sun
Homey Group International Inc.
S508-3950 14th Ave., Twin Towers,
Markham, Ontario,
Canada L3R 0A9
Tel: 1-905-4150966
Fax: 1-905-4150899
Mob: 1-416-2581683
E-mail: david@ homeygroup.com
Web: www.homeygroup.com
Octopus, Cuttlefish 500g-1Kg (All sizes)

13. Jimmy Dong
52-54, Dargan Crescent
Belfast, BT3 9JP
United Kingdom
Tel: +44 (0) 28 95434090
Mob: +44 (0) 797960089

TRADE ENQUIRY

E-mail: Jimmy Dong@msn.com
Web: www.oyepackaging.co.uk
Pomfret, Crab

14. Muhammad Daya
Shield Foods
Units 3&4 Chancerygate Business Centre
Chancerygate Way, South Ruislip, HA4 0JA
Tel: +44(0) 20 8839 2222
Mob: +44(0) 7746 185051
E-mail: muhammad@shieldfoods.com
Web: www.shieldfoods.com
Soft shell Crab

15. Altan Yenigun
Grup Gunsa Food Industry and Trade Ltd.
Alacam Sokak No: 10/1
Çankaya, Ankara, Turkey
Tel: +90 312 428 14 40-41
Fax: +90 312 428 14 40 42
Mob: +90 533 558 25 34
E-mail: altan@grupgunsa.com.tr
Web: www.grupgunsa.com.tr, www.rozenseafood.com
Shrimp, Squid

16. Abdulkareem Sobhi
Al Messilah
Hawally-Beirut St-Al Safat Tower-Floor 10
Tel: +965 22675392
Fax: +965 22675381
Mob: +965 99188161
E-mail: a.sobhi@al-messilah.com
Shrimp, Pomfret

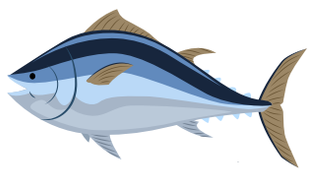
17. Venu Gopal B
Global Supply Centre Pty. Ltd.
Unit K5 SIBA Warehouse,
PO Box No. 1284, Victoria,
Mahe, Republic of Seychelles
Tel: +248 4 345041
Fax: +248 4 345439
Mob: +248 2712163
E-mail: gm@globalsupplycentre.com
Web: www.globalsupplycentre.com
Vannamei, Squid, Lobster, Crab

18. Prins Sandhu
Global Seafood B. V.
Dinkel 57 (Forepark), 2491 CL Den Haag
Tel: +31(0)70-4063864
Mob: +31(0)6-29414216
E-mail: info@globalseafood.nl
Web: www. globalseafood.nl
Shrimp-Vannamei, Black Tiger (All sizes), Tilapia fillets

19. Abdalelah M. Jelaidan
Tawadu International Co. Ltd.
PO Box 6396 I 21442
Jeddah, Saudi Arabia
Tel: +966 2 6695252 Ext.112
Mob:+966 5 05553232
Fax: +966 2 6694092
E-mail: abdalelah@tawadu.com
Fresh Grouper, Parrot fish, Emperor fish, Blue Swimming Crab, Lobster, Shrimp 10 /20, 20/30

20. Wahyudi Rendiana Njoto
PT Bumi Menara Internusa
JL. Margomulyo 4E, Surabaya 60186,East Java - Indonesia
Tel: 62-31-7491000
Fax: 62-31-7481700
E-mail: wahyudi@ptbmi.com
Web: www.ptbmi.com
Shrimp, Soft shell Crab, Three Spot Swimming Crab

21. Florim Saiti
Ecolog International FZE
DAFZA #W38, PO Box 54464,
Dubai, UAE
Tel: +971 (0) 4 299 4500
Fax: +971 (0) 4 299 5055
E-mail: florim.saiti@ecolog-international.com
Web: www.ecolog-international.com
Mackerel, Squid, Cooked & PUD Vannamei



22. Frank Wang
Ningbo Yong Bin Din Xin Trading Co. Ltd. No. 152, Lane 38,
Fenghua Road, Jiangbei District,
Ningbo City, China
Tel:0086-574-8637-0815
Mob: +86-15356057185
E-mail: canfulfood@163.com
Web: www.nbyongbin.com
Live Lobster, Live mud crab (500g UP)

23. Chen Wu
Beijing Fish Meters Empire Trading Co. Ltd.
No.33, Southwest suburb of Frozen Food Wholesale Market,
85 South Third Ring West Road,
Feng Tai District, Beijing
Tel: +86 -10-53323008
Mob: +13811055003, +13522802922
E-mail: chenwu@fisheryland.com
Web: www.fisheryland.com, www.fish-meters-empire.com
Lobster

24. Joao Rocha Ribeiro
GUIMARPEIXE - Comercio de Produtos Alimentares, S.A.
Travessa da Friminho,
Pav. 1 e 2 - Gondar
Apartado 3112 – Pevidém,
4836-909 - Guimarães
Tel: (+351) 253 532 679
Mob: (+351) 910 696 825
Fax: (+351) 253 534 164
E-mail: joao.ribeiro@guimarpeixe.com.pt
Web: www.guimarpeixe.com.pt
Cuttlefish, Squid, Vannamei 70/80

25. Jeremy Zhao
Mob: +86 15981890588
E-mail: jeremy.oceansail@gmail.com
Frozen and Whole Lobster, Shrimp HL SO, Frozen and Whole Ribbon fish

26. Andriy Drogobytsky
Tel: +38 (050) 33-14-299
E-mail: ad@leboutique.com
Web: www.seadora.com.ua
All kinds of seafoods

27. Murat Samanci
Rio Jordan
Tel: +49 151 2011 4821
E-mail: murat@rio-jo.com
Web: www.rio-jo.com
Crab meat

TRADE ENQUIRY

28. Anton Mariyanayagam
Scheurlstrasse 31
90478 Nürnberg
Mob: +49 -(0) 172 13 79 351
E-mail: fisch-foods@t-online.de
All kinds of seafood

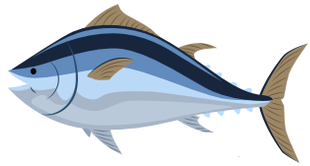
29. Amish Jhangiani
Sunapex International
Tel: +1 647 388 5324
E-mail: amishjhangiani@gmail.com
Yellow fin Tuna, Squid, Cuttlefish

30. Globalfisch Gastro Service e.K.
Pillauer Str. 12
75181 Pforzheim
Tel: 0049 171 44 55 0
E-mail: globalfischgastro@gmail.com
Frozen Seafood

31. Giulio Daniele
Via Traversetolo 26/A,
43022 Montechiarugolo
(Parma) Italy
Mob: +39 335 1221912,
+30 6932 427229
E-mail: giuliodaniele@yahoo.it
Web: www.sealand.cloud
All kinds of seafood

32. Shafin Ahmed
Big Fish Maldives Pvt Ltd
Lot 1, Himmafushi, 08060,
Maldives
E-mail: shafin@bigfish.mv
Web: www.bigfish.mv
All kinds of seafood

33. Malinee Suwattanachot
Central Food Retail Co. Ltd.
12th, 15th - 18th Floor,
Central Plaza Chaengwattana,
Office Tower Building,
99/9 Moo 2 Chaengwattana Rd.,
Bangtalad, Pak Kret,
Nonthaburi 11120 Thailand
Tel: +66 (0) 2 831 7300 ext. 7331,
+66 (0) 2 831 7331
Fax: +66 (0) 2 835 3704
E-mail: sumalinee@tops.co.th
Web: www.tops.co.th
All kinds of seafood



34. Demie Dale Dizon
Via R.Rampoldi 23,
22070 Bregnano (CO)
Tel: (+39) 391 333 1202
Mob: (+39) 031 - 4683127
E-mail: demiedmd@fishabcsrl.com
Pomfret, Ribbon fish, Parrot fish

(Fresh and Frozen), Live Crab, Fresh, Loins and Chunks Tuna

35. Ludovic Cally
Sar geles' de l'ocean _ La Reunion
E-mail: ludoviccally@icloud.com,
brunopayet@zeop.re
Snapper, Octopus 800-1200g, Black Tiger Prawn

36. Irina Khazenkova
TriumFood LLC
127474, Moscow, Russia
Tel: +7 (499) 608-88-42
Mob: +7 (903) 711-75-95
E-mail: inhjob2208@gmail.com
Web: www.tfood.info
Shrimp (All varieties), Octopus 1-2 kg, Baby Squid, Squid Tube

Disclaimer: The information presented in this section is for general information purposes only. Although every attempt has been made to assure accuracy, we assume no responsibility for errors or omissions. MPEDA or publishers of this Newsletter are no way responsible to trade disputes, if any, arise of out the information given in this section.

PRAWN FEED

VANNAMEI FEED

BLACK TIGER SHRIMP FEED

BLACK TIGER SHRIMP 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

Shrimp Hatchery

Feed Plant - Gujarat

Prawn Feed & Fish Feed

Prawn Processing & Exports

INNOVATIVE - SCIENTIFICALLY FORMULATED - PROVEN

- GREATER APPETITE
- HEALTHY & FASTER GROWTH
- LOW FCR WITH HIGHER RETURNS
- FRIENDLY WATER QUALITY

AVANT AQUA HEALTH CARE PRODUCTS

AVANTI A.H.C.P. RANGE

Thai Union

IN COLLABORATION WITH:
THAI UNION FEEDMILL CO., LTD.,
Thailand.

Avant Miner Mate — Chelated Trace Mineral Supplement

Avant Saldo Mixtos — Marine Mineral

Avant D-Flow — Water Quality Improver

Avant Pro W — Soil & Water Probiotic

Avant Bact — Gut Probiotic

Avant AmmoniAbsorb — Ammonia Absorber

Avant Life — Oxy-Generator

Avant Immupak — Immunity Enhancer

Avant Catcher

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

Innovative safeguards against complex risk

At Integro, we understand the risks involved with Seafood. We are committed to simple solutions to complex risks through our expertise.

Protect yourself with bespoke Rejection/Transit Insurance solutions from Integro Insurance Brokers.

Contact us to experience our expertise:
Raja Chandnani
Phone: **+44 20 74446320**
Email: **Raja.Chandnani@integrogroup.com**
www.Integrouk.com

INTEGRO UK
INSURANCE BROKERS