



MPEDA

Newsletter

VOL. VIII / NO. 4 / JULY 2020

**'Act Now'- FAO's
Wake Up Call to Nations**

**Seafood Allergy &
Key Allergens**

**India's Marine Product
Export Performance: Q1 2020**

Exporter of the Month

**Jagadeesh Thota, Jagadeesh Marine Exports
How We Weathered a Crisis!**

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CPF-TURBO PROGRAM

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



CPF-TURBO PROGRAM -
Pioneering Successful and Profitable Shrimp Aquaculture



MPEDA

VOL. VIII / NO. 4 / JULY 2020

Newsletter

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

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



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K. S. Srinivas IAS
Chairman

In the Platter

Dear Friends,

The Covid pandemic situation has affected the seafood export trade considerably with all the markets reporting slow cargo movements due to the restrictions imposed on public mingling and social activities. The institutional sales sector, which is the stronghold for Indian seafood exports, is yet to be back to operations in full swing. This has prevented the buyers from placing firm orders to our exporters. As a result, exports have shown over 30% decrease in quantity as well as US\$ value terms during April to July 2020 compared to the same period last year. The west coast faces raw material shortage due to the no fishing season observed along the region.

Meanwhile, MPEDA has participated in 13th India EU Joint Working Group meeting held through video conference on 9th July 2020 and presented the long standing demand of Indian seafood exporters before the EU delegation such as relisting of de-listed units, reduction in sampling frequency of farmed shrimps for antibiotic residue monitoring, approval for new units and permitting delisted units to export atleast sea caught items. It is expected that the EU side will consider the request on export of sea caught items by the new and de-listed units.

As a part of the market promotion, MPEDA organized two webinars during the month. The first one being on the 'market situation in South Korea' on 1st July 2020 and the second was on the "Current market trends in Japan and post covid scenario" on 8th July 2020. Altogether 178 registered exporters have participated in the webinars. In addition, MPEDA has started participating in the Virtual Expo on Food Processing Technology, organized by CII from 22nd July 2020 which lasts for 3 months. MPEDA has taking all efforts to use the digital media for its market promotional efforts and to communicate with the stakeholders of the trade, share all the market information to the stakeholders and address their concerns.

As the country move ahead in the unlock process and the fishing activity resumes after 31st July 2020, it is expected that the raw material availability for seafood exports will improve. The markets also need to open up simultaneously, so that the constraints brought by the pandemic on the seafood economy of coastal states can be mitigated to a certain extent.

Thank you.

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CIFT caters to the entire domain in seafood industry

Dr. Ravishankar C.N.
Director, CIFT



INSTITUTE OF THE MONTH: CIFT



There are not many institutes that have contributed this immensely to the seafood industry. Yet, Central Institute of Fisheries Technology (CIFT) moves on silently, delivering the good work it has been mandated to do since its inception in 1957.

Seafood industry in India, which is worth Rs. 500 billion in 2019 and aiming to touch one trillion ₹ by 2025, made its first nascent step from the corridors of this institute.

The first consignment of shrimp exported went from CIFT in the 1950s. Since then, the institute has been backing and enhancing the seafood industry from almost every aspect.

“All our laboratories are accredited by ISO 17025:2017 by the National Accreditation Board for Testing and Calibration Laboratories (NABL), wherein we have nearly 330 parameters under the scope. And CIFT is the only research institute that has so many parameters under this accreditation process.

Even though all the facilities we have established is for research purpose, we extend that support to the industry through agencies like MPEDA,” said Dr. Ravishankar C.N., Director of the Institute.

Besides being the referral laboratory to settle disputes arising of conflicting reports from other accredited laboratories, CIFT has been developing its own core competency areas. “Right now, CIFT is the only agency that has facilities to test for ciguatera toxin, a class of toxic polycyclic polyethers found in fish,” said Dr. A.A. Sainudeen, head of the Department of Quality Assurance and Management.

During the past 63 years, CIFT has been making substantial contributions in the fields of fish harvesting, processing, packaging, product development, quality assurance, fishery byproducts, fishery waste utilisation and every other aspect of fisheries. This has helped the seafood industry to design its path of progress over the years.

There are seven research divisions under the Institute, each with a clear mandate on which aspect of fisheries they need to concentrate on.

These seven divisions are Fishing Technology; Fish Processing; Biochemistry and Nutrition; Engineering; Quality Assurance and Management; Microbiology, Fermentation and Biotechnology; and Extension, Information and Statistics.

INSTITUTE OF THE MONTH: CIFT

Fishing Technology

- Standardisation of fishing gears and accessories
- Low cost and fuel efficient fishing crafts
- By-catch reduction technologies
- Advisories for gear-based policy interventions

Fish Processing

- Development of nutraceuticals and byproducts from fish and fish waste
- Thermal and non-thermal processed food from fish
- Development of value-added products from fish
- Innovative package techniques

Biochemistry & Nutrition

Extraction, characterisation and establishing bioactivity of biomolecules

- Nutritional profiling of fish and shellfishes
- Contaminant profiling of fish and fishery products
- Development of nutraceutical and functional foods of marine origin

Engineering

- Design and development of fish processing equipment and machineries
- Energy efficient and eco-friendly sun dryers
- Indigenous electronic instruments for application in harvest/post-harvest areas
- Energy and Water optimisation techniques for fish processing industry

Quality Assurance & Management

- Methods for evaluating microbial, chemical and organoleptic quality



INSTITUTE OF THE MONTH: CIFT

- Techniques for ensuring food safety and eating quality
- Waste minimisation technologies
- Develop package of practices for different types of food industries

Microbiology, Fermentation & Biotechnology

- Development of nucleic acid-based methods for bacterial identification, toxin detection and taxonomy
- Data mining on microbial changes during fish handling and processing
- Monitoring microbial pollution in aquaculture system Extension, Information & Statistics
- Liaison between fishery industry and the Institute
- Dissemination of research results to actual end-users
- Carry out training in related sectors
- Training and field-level extension activities

The impact of CIFT in seafood industry starts right from the fishing process itself. “More than 85 per cent of the vessels in the country today have been designed by CIFT. We have been designing the craft, whether it is marine, reservoir or fresh water, for more than 60 years now,” Dr. Ravishankar said.

Another critical intervention that CIFT is making in the industry is in designing the Turtle Excluding Devices (TED).

The export of shrimp to the United States of America is under extreme pressure because of strict regulations by agencies like National Oceanic and Atmospheric Administration (NOAA), the American scientific agency under the United States Department of Commerce.

“We are working closely with NOAA and associating with MPEDA to do works in this direction and see that we comply with the regulations,” he said.



Dr. Leela Edwin

The Institute has been doing pioneering work in this direction. “We have done advanced research on Low Impact Fishing Equipment (LIFE) and have designed fishing gear based on fish behaviour. The yield could be significantly improved if the gear used for fishing is in tune with the predicted behaviour of particular species of fish,” said Dr. Leela Edwin, head of the Department of Fishing Technology.

The Institute is playing a vital role in the post-harvest phase too, not just the harvest part. It is helping MPEDA in the value-addition segment by developing required technology. “We are still exporting raw material, whereas some other countries are adding value to their material and realising more,” Dr. Ravishankar said.

Similarly, the technology to reduce post-harvest loss is another key area in which CIFT is focusing at present. “Nearly 15-20 per cent of the catch is lost during the whole value chain. We have appropriate technology to reduce this post-harvest loss also,” he said.

Research programmes at CIFT is helping the MPEDA in its ambitious programme on aquaculture. “We have labs and scientists to do work in aquatic health management. We are giving biotechnology tools, identifying methods for rapid detection of pathogens and viruses. So, we extend that to MPEDA so that the sector is benefiting from the research output from the institute.”

INSTITUTE OF THE MONTH: CIFT

When it comes to the post-harvest and packaging part, CIFT is coming up with some innovative products that could revolutionise marketing of seafood products. One such innovation being tried out of the laboratories of CIFT is edible packing material. It is also working on paper strips that could help identify the freshness of fish. Besides spotting the chemical contamination of fish, techniques are being fine-tuned to spot temperature abuse of fish, starting from the point of harvest to the sales.



Dr. Manoj P Samuel, HOD, Engineering Division

“The Institute is developing a sensor, which can determine the freshness of fish more accurately using photograph of the eyes of the fish. Algorithm is being designed for individual species of fish, starting with mackerel,” said Dr. Manoj P. Samuel, head of Department of Engineering.

CIFT, as Dr. Ravishankar and his team is envisioning, is all set to scale new heights in enhancing possibilities in seafood industry and improve India's position from the current status of being fourth largest seafood exporter nation in the world.

Innovation as the key to progress

Central Institute of Fisheries Technology (CIFT) has positioned itself firmly as a launching pad for those who has got ideas related to seafood industry. It has been handholding entrepreneurs and supporting their innovative ideas to blossom as full-fledged business models.

The Agri-Business Incubation (ABI) Centre established at ICAR-CIFT is one such game-changing intervention that the Institute is having in the industry. It supports operations on business projects with the aim of laying the foundation for new technology-based industries

and endorsing knowledge-based economy. It is part of the declared role of CIFT to bridge the gap between knowledge and practice. The ABI Centre is the main link in this initiative.

Unlike traditional incubators, the facility at CIFT is tailor-made for technology-based industries and is placed right in the middle of the most happening place in scientific knowledge advancement. It offers proactive and value-added business support in the form of technical consultancy, infrastructure facility, guidance by the experts and handholding through training in core competency areas.

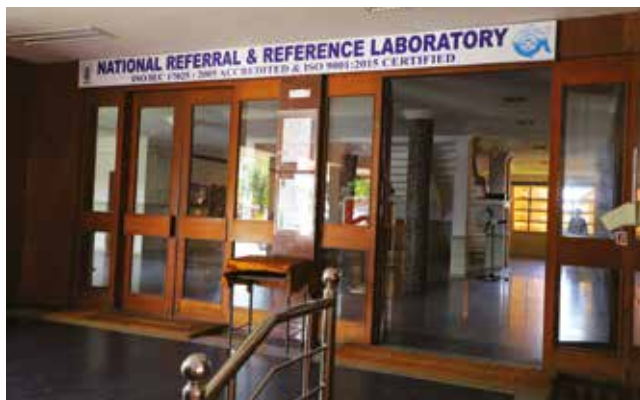
“In the last five years, ABI has had nearly 200 incubatees, out of them more than 150 are still operational,” said Dr. George Ninan, who heads the ABI Centre. It shows the efficiency of the system that has been put in place at CIFT for bridging knowledge stream and industry standards.

Startup entrepreneurs with innovative ideas find basic small scale processing capacity at ABI Centre, just like sophisticated and fully evolved business ventures finding the required R&D backup to scale up their operations.

ABI Centre has facilities to provide a corporate environment to as many as nine entrepreneurs inside the CIFT campus itself, even while reaching out to entrepreneurs across the country through virtual incubation.

The residency period for direct incubatees at ABI Centre will be for one year, extendable by another year depending on the progress of the incubation. The ABI Centre offers training, branding, networking, mentoring, marketing, business development and technical guidance along with workspace for its incubatees.

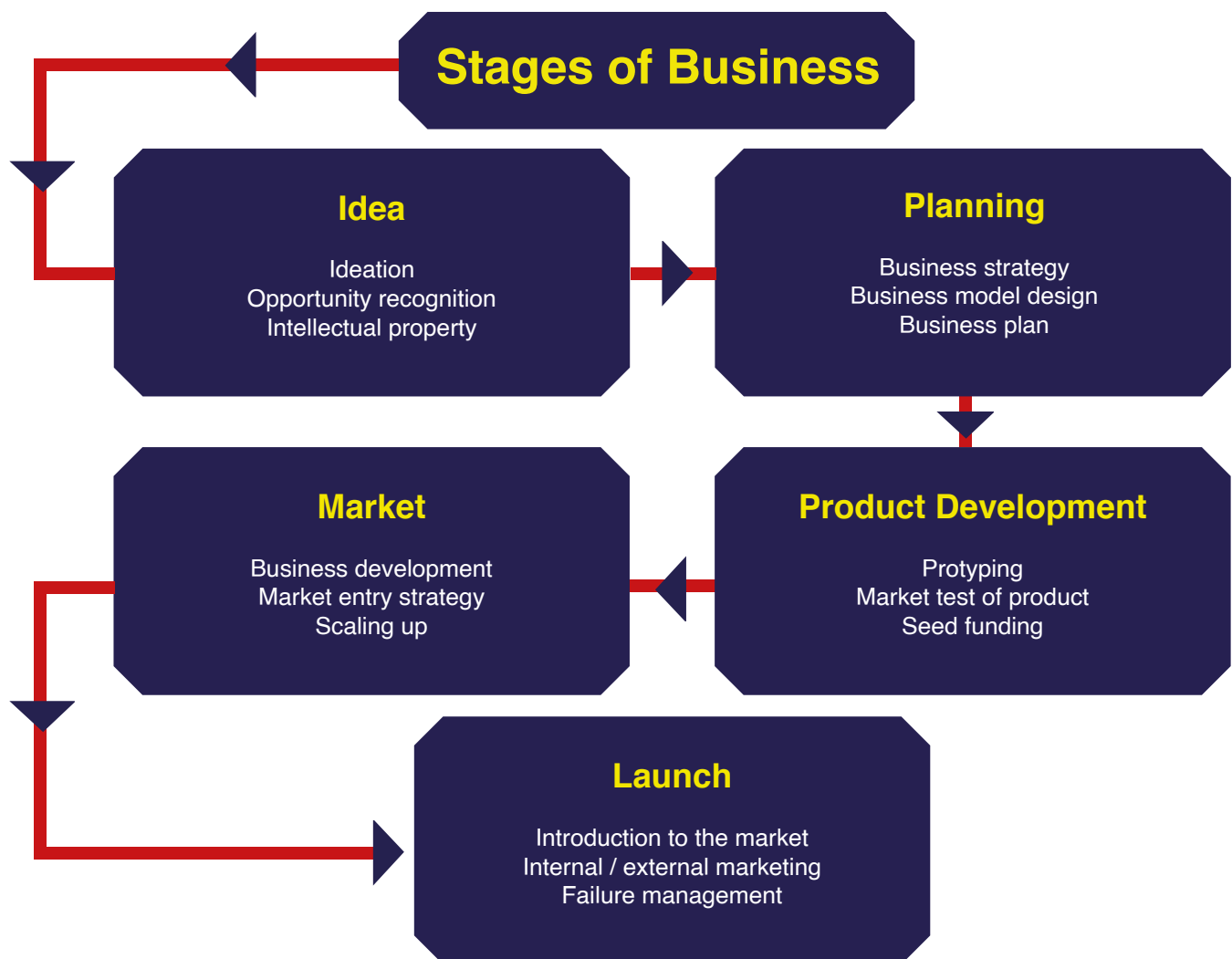
No wonder, ICAR-CIFT was adjudged winner for the national award instituted by the Network of Indian Agri-Business Incubators (NIABI) for the best Agri-Business Incubator in 2013.



National Referral & Reference Laboratory



Central Institute of Fisheries Technology



INSTITUTE OF THE MONTH: CIFT



Dr.K Ashok Kumar, HOD, FP Division



Dr. Zynudheen A A, HOD, QAM Division



*Dr. Suseela Mathew, HOD,
Biochemistry & Nutrition Division*



Testing Lab



Tunnel Dryer



Incubation laboratory

INSTITUTE OF THE MONTH: CIFT



Scientist explaining features of Sagar Haritha

The Trendsetter

Almost every fishing vessel operating in the sea or backwater here bears the stamp of CIFT on it. In one way or another, CIFT has been influencing the design of fishing crafts in India for the last 60-odd years.

The best thing about CIFT laboratories is that the ability to keep going and push the creative minds full steam ahead to come up with ideas that can change the prospects of the industry itself.

As the talents sit down at drawing boards of CIFT laboratories, they must have had some figures in the back of their minds. On an average, 50 million litres of fuel are burnt by fishing vessels across the world and puts out 136 million tons of Carbondioxide back to the atmosphere. In this, the contribution of India is about 3.6 million tons of Carbondioxide, which will come roughly to 1.2 kg of gas for every kilogram of fish landed.

So, the scientists at CIFT worked on measures that could bring down fuel consumption and emission of Green House gases. This could be achieved by modifications in the hull design and changes in the operational parameters of the fishing vessel.

The result of in-depth deliberations along this direction was Sagar Haritha, a prototype for an ideal fishing craft. The primary design was created out of pan-Indian survey of fishing vessels currently in use.

The hull design of Sagar Haritha was developed through parent ship analysis and geometry modelling. Stability, resistance and sea-keeping characteristic of the hull model was later optimised using Computational Fluid Dynamics (CFD) simulation.

Optimised hull design and bulbous bow meant the vessel being more hydrodynamic and thus, more fuel efficient. It has other features like Kort-nozzle propeller, which again increased fuel efficiency with increased thrust during energy intensive fishing operations at low speed. Bilge keel used in the vessel also improved its sea-keeping qualities.

Another innovative thought that went into the design of Sagar Haritha was the unique combination of material used in its making. While the hull and deck of the vessel was made using IS:3039 marine-grade steel, all super structures were built using fibre glass enforced plastic.

INSTITUTE OF THE MONTH: CIFT

This increased the carrying capacity and provided better stability to the vessel, while ensuring the vessel remained lighter with low maintenance and low heat conductivity.

Solar power was used for emergency lighting and navigation and two tanks of 1.2 cubic metre each were built into the vessel to collect refrigerated sea water (RSW) for high quality fish storage.

Other features of the vessel included autopilot, echosounder, high frequency radio, trawl telemetry system, fuel monitoring system, global positioning system, automatic identifying system, very high frequency transceiver and NavTex-satellite based warning system.

Sagar Haritha has an endurance level of 10 days for a 12-member crew. On board, it boasts of a unique combination of the most popular deep sea fishing methods.

Sagar Haritha has a hydraulically-operated modern mono longline setter and hauler with capacity to shoot and haul 800 hooks with lesser effort and operation time, thus saving about 40 per cent of man hours involved.

It has a compact gillnet hauling system with a capacity of about one ton and split trawl winch that can hold 700 m of 12 mm rope on each winch. With its capacity of one ton with a speed of 5-40m/min, this can be used for pelagic, semi-pelagic and bottom trawling.

Once, the prototype of Sagar Haritha, which was designed as a research vessel, was put out in the sea, the industry took notice. Since then CIFT has been getting requests for adapting Sagar Haritha design to pure fishing craft.

Reaching Out

CIFT is the epitome of academic research done with the clear vision of impacting the stakeholders. No effort is left not taken in bringing the benefits of high profile researches and studies that happen in laboratories of ICAR-CIFT to the common man in the field.

Source: Ekezie et al., (2018)



Dr. M. M. Prasad, HOD, MFB Division

“The Extension wing of CIFT is fully engaged in ensuring that technology reaches the stakeholders. The system that is evolved in the laboratories here are popularised through demonstrations and training of the persons benefitted by the same,” said Dr. A.K. Prasad, Principal Scientist and Head of the Division of Extension, Information and Statistics.

Advisories from CIFT are published in 12 different languages to make sure that it reaches to fishermen and all others related to seafood industry in the country. The best example of CIFT’s social intervention could be seen perhaps in the North-Eastern States.

CIFT has successfully covered all the eight North-Eastern States of India and made the public there aware about the nutritious value of fish and seafood. “One of the flagship projects taken up by CIFT in the region is promotion of fish soup powder, enriched with calcium, iron and other minerals. Impressed by the product, the Government of Meghalaya included it in the mid-day meals programme,” Dr. Mohanty said.

CIFT has been implementing an array of such socially relevant programmes in remote areas of North-Eastern States, implemented mostly through NETFISH, the outreach wing of MPEDA.

This include the community fish smoking kiln, which is hugely popular in hilly terrain of North East, where access of fresh seafood is limited.

INSTITUTE OF THE MONTH: CIFT



Dr. A. K. Mohanty, HOD, EIS Division

“CIFT does nearly 120 demonstrations and connect to nearly 15,000 people on an average through NETFISH programmes in seven or eight States. Other than MPEDA, CIFT is associating with agencies like Krishi Vigyan Kendras (KVKs) and Central Institute of Fisheries Nautical and Engineering Training (CIFNET) for dissemination of technology,” Dr. Mohanty said.



Pilot Plant 1



Pre Processing Facility



EXPORTER OF THE MONTH

Weathering the Crisis

We have to live the way we are living today for next one year. So, we have already a road map in place to ensure our work force is secure.

Jagadish Thota

Jagadeesh Marine Exports



JAGADEESH MARINE EXPORTS
www.jmexports.com



The whole world is going through a tough time. Every single item planned and scheduled stand cancelled for the last one year and many industries are at a loss on what to do next or where to head to now.

Even in the middle of this harshest reality, there are some islands of hope, a glitter of positive thinking that inspires others too to move on. One such inspiration comes from Bhimavaram in Andhra Pradesh. From the premises of Jagadeesh Marine Exports (JME).

In an exclusive interview to MPEDA Newsletter, Jagadish Thota, Managing Partner of JME, explains how they coped up with the crisis.

“The unfortunate pandemic that has disturbed the fabric of the life in the country and has affected our factory also in terms of production. However, never during the last eight months we had a break in production due this pandemic. This was only possible due to the active interest and guidance of the promoters, who made it a point that all precautions as indicated by the regulatory authorities were in place to ensure the safety of the workers and controlling staff.”

Jagadeesh Marine Exports was established in 1998 as a closely-held family business. They were among the first to get involved in the aquaculture activity and soon took up processing as a natural extension of the business. The trajectory of JME took a sharp leap upwards with Mr. Jagadish Thota, a young engineering graduate took over the charge. He infused the use of new technology with a firm footing in traditional values. In no time, JME carved a niche for itself as a shrimp processing company with roots in the farming.

The pandemic time tested the real mettle of the infrastructure at JME. “The management provided its own transport services to local workers to reach the work place and all the staff was properly screened at the entry and the work place was disinfected regularly. A lot of investment was made into the sanitizers and equipment it was ensured social distancing was strictly adhered to at the production floors, even if it meant reduced production.”

Such precautions paid off in the longer run. “We think for the next one year we have to live the way we are living today. Social distancing and masks will be the mantra for the survival. To go further in this scenario, we have already a road map in place to ensure that our work force is secure,” Mr. Jagadish Thota said.

JME has always retained that connection, right from its beginning 25 years ago. Aquaculture shrimps has been one of its core competency areas. So, the strategic positioning in the middle of the shrimp producing belt gave JME an unassailable access to the quality raw materials. The management ensured they capitalised on this advantage by taking the local shrimp farmers into confidence and help them understand the farming dynamics. This, later, helped JME in turn to plan their procurement and exports depending upon the projections.

However, the pandemic upset all the good work done till date. It cut at the base of the delicate social fabric across the country and situation at Bhimavaram was no different. People were suddenly left staring at a jobless future. Farmers were holding on to their produce with no buyer in sight. There was no scope for transporting the goods across or to get harvesting staff

EXPORTER OF THE MONTH

on time. Even the harvested product became a cause of concern.

“The promoters played a crucial role in the aligning the policies of the company to support the local community and farmers. Employment opportunities were provided to the local workers and it was ensured that they are able to meet their basic day to day requirements. Farmer’s distress harvests were accepted without any conditions not only that they were provided all possible support in harvest and transportation.”



JAGADEESH MARINE EXPORTS
www.jmexports.com

Not only that, JME brought in a strict protocol to ensure safe and clean working atmosphere.

All these become relevant in the light of the top-of-the-class facilities already in place at JME. ‘The company has been in tune to the changes in the consumption pattern in the overseas markets. The increase in the demand in the value-added product has made it to change from the exporter of block froze to IQF shrimps. Addition of the IQF lines and investing in new cooking lines, ezpeel cutters, peeling machine automatic washers, light inspection tables are some examples of these. Monitoring of the processing and quality on line has been switched on to online system, which has helped to take more knowledgeable decisions about the production planning and brought about a transparency in the operations.”

Already, JME could garner a premium position among retailers for its high quality conscious positioning. To ensure that the product meets the aspirations of its buyers it has developed a highly efficient testing programme for chemical residue testing. This programme is centred around a centralized lab equipped with modern testing equipment and supported by a team of dedicated technical team who take all the precautions that the best quality material is brought into the system.

JME has a robust and well-trained QA team in place to work on tandem with the production team to ensure that the quality product is processed and packed for its buyers. JME has invested hugely on advance machinery like automatic washers and multi head weigher on the floor along with quality certifications to set new benchmarks in quality.

Right now, JME is on the path of weathering the pandemic and continue stronger along the path of development it has charted. When the pandemic struck, JME was in the process of strengthening their own brands, creating facilities for value-addition and exploring new marketing opportunities in non-traditional countries.

“JME has been in an expansion mode for the last 16 months. It has added one new facility to its portfolio and we are planning to expand our farm area also. The existing equipment is being updated for better efficiency. This is an ongoing activity and is not greatly affected by the pandemic,” adds a highly optimistic Mr. Jagadish Thota.

EXPORTER OF THE MONTH



JAGADEESH MARINE EXPORTS
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Major Export Destinations

USA

NEW ZEALAND

CHINA

CANADA

NETHERLANDS

LEBANON

SOUTH AFRICA

UAE

Product profile

Raw (all assortments)

- Raw Head On Shrimps (block and IQF)
- Raw Head On Butter fly shrimps (IQF)
- Raw Brine frozen head on (Semi IQF)
- Raw Headless Shellon (block and IQF)
- Raw Headless Shell on easy peel (IQF)
- Raw Headless Peeled and Un deveined Tail off shrimps (block and IQF)
- Raw Headless Peeled and pulled vein Tail –On shrimps (IQF)
- Raw Headless Peeled and pulled vein Tail –Off shrimps (IQF)
- Raw Headless Peeled and cut de-vein Tail –On shrimps (IQF)
- Raw Headless Peeled and cut-de vein Tail – Off shrimps (Block and IQF)
- Raw Headless shell on , deveined Tail On Butterfly shrimps (IQF)
- Raw Broken (small, medium and large)

Cooked (all assortments)

- Cooked Head On Shrimps (IQF)
- Cooked Headless- shellon (IQF)
- Cooked Headless Shellon –easy peel (IQF)
- Cooked Headless Peeled Un deveined Tail off (IQF)
- Cooked Headless Peeled pin-deveined Tail on shrimps (IQF)
- Cooked Headless Peeled pin-deveined Tail off shrimps (IQF)
- Cooked Headless Peeled cut-deveined Tail on shrimps (IQF)
- Cooked Headless Peeled cut-deveined Tail off shrimps (IQF)
- Cooked Broken (small, medium and large)

Blanched (all assortments)

- As per the buyer request

Major Certifications

Quality

ASC COC, BAP Processing Plant, BAP 4 Star Rating, BRC Certificate,
MSC Chain Of Custody, FSSC 22000, HALAL Certificate, IFS Certificate
MSC COC, HACCP Certificate of Conformity

Legal

EIA Approval, MPEDA Approval,
FSSAI Certificate,
EU approval FDA Approval



- * ArcticBlast2 delivers around 8.000m³ and ArcticBlast 5 an impressive 20.000m³ air per hour.
- * Doors in both ends - ramps available - internal lighting and "man trapped" alarm are standard.
- * Current customer applications include:
 - * Harvested and farmed tropical and cold water fish
 - * Meats and meat based products
 - * Agricultural produce including fruits
- * Ready to cook Food
- * Frozen Butter / Cheese / Milk / Cream are stored
- * Air Supply from refrigeration is at floor level
- * More than 80% of Blast Freezer length has direct air flow
- * Average maximum distance for air travel in 5 Models in approx 6M.
- * Fans at High Speed circulate the air freezing almost 150 TIMES/Hr every 24sec
- * ArcticBlast 5 Requires only 5 x 32A 380/440v 50/60 Hz Power Supply



EXPORTER OF THE MONTH



JAGADEESH MARINE EXPORTS
www.jmexports.com



Battling the Unseen Enemy

Jagadeesh Marine Exports is a brand leader for a good reason. The measures adapted at JME to counter the pandemic is comprehensive. It has not left any aspect of precaution unattended to.

Some of the measures in place right now at JME are

- Increasing the resident house work force
- Providing all facilities at workers' quarters to limit their exposure to virus
- Training of the screening personnel for better monitoring
- Conducting regular check-ups of the work force to identify any health issue which can lead to the high risk of infection
- Regular screening of the incoming workers
- Regular disinfection of the facilities and the transport fleet
- Updating the workers about the most recent development in the identification of the symptoms of the virus
- Providing a dedicated quarantine facility for the new workers so as to avoid any cross-contamination issues
- Providing financial and emotional support to the persons who are affected by the virus



A Wake Up Call to Nations: 'Now is the Time to Act on Your Sustainability Goals'

Bringing out the 2020 edition of 'The State of World Fisheries and Aquaculture', FAO has exhorted the Nations to accelerate their efforts to secure productive oceans and adopt sustainable management of the fisheries sector.

The role of fisheries and aquaculture in providing food, nutrition and employment to people across the globe continues to grow, despite challenges. Through co-ordinated efforts led by the Food and Agriculture Organization and other global agencies, nations have made progress in addressing major challenges faced by the fisheries sector.

However, successes achieved in some countries and regions are not sufficient to reverse the global trend of overfished stocks. In places where fisheries management is not in place, or is ineffective, the status

of fish stocks is poor and deteriorating. This unequal progress highlights the urgent need to replicate and re-adapt successful policies and measures and also calls for new mechanisms to support the effective implementation of policy and management regulations for sustainable fisheries and ecosystems.

In its 2020 edition of The State of World Fisheries and Aquaculture, FAO is shedding light on the need to step up our efforts for sustainable management of the marine resources.



COVER STORY

On its 75th Anniversary, FAO Says "No Time to Celebrate"

"For FAO, 2020 is an important year in its history. It is the seventy-fifth anniversary of its creation – FAO is the oldest permanent specialized agency of the United Nations. It is also the twenty-fifth anniversary of the FAO Code of Conduct for Responsible Fisheries, the blueprint that has guided fisheries and aquaculture policy development around the world. However, there is no time for celebrations."
--SOFIA 2020

According to the FAO, intensively managed fisheries have seen decreases in average fishing pressure and increases in average stock biomass, with many reaching or maintaining biologically sustainable levels,

while fisheries with less-developed management systems are in poor shape.

New approaches to fisheries management with special emphasis on conservation and environmental considerations are the need of the hour. Unregulated fisheries on the high seas, in some cases involving straddling and highly migratory fish species, are also becoming a matter of increasing concern.

The Code of Conduct for Responsible Fisheries (the Code), unanimously adopted by FAO Members in 1995, is a foundational document that sets out globally agreed principles and standards for the use of fisheries and aquaculture resources, including through regional mechanisms and cooperation, to ensure sustainable use of aquatic living resources in harmony with the environment.

COVER STORY

About the Code

The Code promotes responsible fisheries and aquaculture, covering virtually all aspects of the sector, from responsible fishing and aquaculture practices to trade and marketing, and it has guided government policies on all continents.

It recognizes the nutritional, economic, social, environmental and cultural importance of fisheries and aquaculture, as well as the interests of all those involved in the harvesting, farming, processing, trade and consumption of seafood.

Today, the fisheries policies and legislation of most countries are compatible with the Code. The Code and its instruments have shaped fisheries policies, legal and management frameworks worldwide.

Responsible fishing practices

Article 8 of the Code sets out the principles for responsible fishing practices. It covers major areas of attention in fishing operations, technology, gear types and their environmental impacts, and the duties of States to ensure that fishing operations are conducted in a responsible manner. However, these aspects need to integrate the latest developments on bycatch and discard reduction, fishing technologies, fisheries finance, safety at sea, social security and decent employment.

Technological developments keep improving efficiency by reducing costs and saving energy. Examples include innovations in propulsion systems, improvements in vessel hull design, reduced use of wooden vessels, and the use of larger vessels.

Despite all these technological improvements, overcapacity is negatively affecting the profitability of many fishing fleets. The fisheries sector requires access to financial services and investments to support the transition to more sustainable and responsible fishing, as well as to address climate change adaptation and mitigation, the report states.

2030 Agenda for Sustainable Development

The United Nations' 2030 Agenda for Sustainable Development (2030 Agenda) was adopted in 2015. The 2030 Agenda builds on the foundations of the Millennium Development Goals and provides a comprehensive set of objectives by which businesses, governments and individuals may focus their efforts for the betterment of society.

The objectives are built on 17 wide-ranging Sustainable

Development Goals (SDGs), which aim to end all forms of poverty, reduce inequality and tackle climate change.

Sustainable Development Goals

In the context of fisheries and aquaculture, the SDGs promote a fair and just way of meeting the needs of today without compromising the ability of future generations to do the same. Fisheries and aquaculture are central to the achievement of food security, and economic, social and environmental goals.

The comprehensiveness of the SDGs reflects the extent of the challenge faced, and provides a road map to enable development that is socially, environmentally and economically sustainable and inclusive. Let's now take a look at the current status of global fish production, trade and fish utilization, as provided in the SOFIA 2020.

GLOBAL FISH PRODUCTION

Global fish production is estimated to have reached about 179 million tonnes in 2018, with a total first sale value estimated at USD 401 billion, according to the FAO report. Of this, 82 million tonnes, valued at USD 250 billion, came from aquaculture production.

Of the total global fish production, 156 million tonnes were used for human consumption, equivalent to an estimated annual supply of 20.5 kg per capita. The remaining 22 million tonnes were bound for non-food uses, mainly to produce fishmeal and fish oil.

Aquaculture accounted for 46 percent of the total production and 52 percent of fish for human consumption. Being a major fish producer, China accounted for 35 percent of global fish production in

2018. Excluding China, Asia accounted for a significant 34 percent share of production in 2018, followed by the Americas (14 percent), Europe (10 percent), Africa (7 percent) and Oceania (1 percent).

Total fish production has seen important increases in all the continents in the last few decades, except Europe and the Americas, whereas it has almost doubled during the last 20 years in Africa and Asia.

Fish Consumption

Fish consumption significantly increased from 5.2 kg per capita in 1961 to 19.4 kg in 2017, at an average annual rate of 2.4 percent.

Among these, the least developed countries (LDCs) increased their consumption from 6.1 kg in 1961 to 12.6 kg in 2017, at an average annual rate of 1.3

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percent. This rate has increased significantly in the last 20 years, reaching 2.9 percent per year, because of expanding fish production and imports.

In low-income food-deficit countries (LIFDCs), fish consumption increased from 4.0 kg in 1961 to 9.3 kg in 2017, at a stable annual rate of about 1.5 percent.

In 2017, fish consumption accounted for 17 percent of the global population's intake of animal proteins, and 7 percent of all proteins consumed.

Globally, fish provided more than 3.3 billion people with 20 percent of their average per capita intake of animal proteins, reaching 50 percent or more in countries such as Bangladesh, Cambodia, the Gambia, Ghana, Indonesia, Sierra Leone, Sri Lanka and several small

island developing States (SIDS).

Record Capture

Global capture fisheries production in 2018 reached a record 96.4 million tonnes, an increase of 5.4 percent from the average of the previous three years. The increase was mostly driven by marine capture fisheries, where production increased from 81.2 million tonnes in 2017 to 84.4 million tonnes in 2018.

The rise in marine catches resulted mainly from increased anchoveta catches (*Engraulis ringens*) in Peru and Chile. Catches from inland fisheries were at their highest ever in 2018 at 12.0 million tonnes. The top seven producing countries of global capture fisheries accounted for almost 50 percent of total captures, with China producing 15 percent of the total.



COVER STORY

The top 20 producing countries accounted for about 74 percent of the total capture fisheries production.

1. Catches of anchoveta made it once again the top species at more than 7.0 million tonnes in 2018.

2. Alaska pollock (*Theragra chalcogramma*) ranked second with 3.4 million tonnes.

3. Skipjack tuna (*Katsuwonus pelamis*) was third for the ninth consecutive year at 3.2 million tonnes.

Finfish represented 85 percent of total production, with small pelagics as the main group, followed by gadiformes and tuna and tuna-like species.

Catches of tunas continued to increase, reaching their highest levels in 2018 at about 7.9 million tonnes.

Cephalopod catches declined to about 3.6 million tonnes in 2017 and 2018, down from the 2014 peak catch of 4.9 million tonnes, but still high.

Inland Waters

Global catches in inland waters accounted for 12.5 percent of total capture fisheries production. Sixteen countries produced more than 80 percent of the total inland catch, with Asia accounting for two-thirds of global inland production since the mid-2000s.

Aquaculture Production

In 2018, world aquaculture fish production reached 82.1 million tonnes, 32.4 million tonnes of aquatic algae and 26,000 tonnes of ornamental seashells and

COVER STORY

pearls, bringing the total to an all-time high of 114.5 million tonnes.

In 2018, aquaculture fish production was dominated by finfish (54.3 million tonnes – 47 million tonnes from inland aquaculture and 7.3 million tonnes from marine and coastal aquaculture), molluscs, mainly bivalves (17.7 million tonnes), and crustaceans (9.4 million tonnes).

The contribution of world aquaculture to global fish production reached 46.0 percent in 2018, up from 25.7 percent in 2000, and 29.7 percent in the rest of the world, excluding China, compared with 12.7 percent in 2000.

The share of finfish production decreased gradually from 97.2 percent in 2000 to 91.5 percent (47 million tonnes) in 2018, while production of other species groups increased, particularly through freshwater

crustacean farming in Asia, including that of shrimps, crayfish and crabs.

Fed aquaculture (57 million tonnes) has outpaced non-fed aquaculture, the latter accounting for 30.5 percent of total aquaculture production in 2018 compared with 43.9 percent in 2000.

Asian Dominance

Fish farming is dominated by Asia, which has produced 89 percent of the global total in volume terms in the last 20 years. Over the same period, the shares of Africa and the Americas have increased, while those of Europe and Oceania have decreased slightly.

Outside China, several major producing countries (Bangladesh, Chile, Egypt, India, Indonesia, Norway and Viet Nam) have consolidated their shares in world aquaculture production to varying degrees over the



COVER STORY

past two decades.

China has produced more farmed aquatic food than the rest of the world combined since 1991. However, because of government policies introduced since 2016, fish farming in China grew by only 2.2 percent and 1.6 percent in 2017 and 2018, respectively. China's share in world aquaculture production declined from 59.9 percent in 1995 to 57.9 percent in 2018 and is expected to decrease further in the coming years.

Fishers and Fish Farmers

The FAO report estimates that 59.51 million people were engaged in the primary sector of capture fisheries (39.0 million people) and aquaculture (20.5 million people) in 2018. Women accounted for 14 percent of the total, with shares of 19 percent in aquaculture and 12 percent in capture fisheries. The highest numbers of workers are in Asia (85 percent), followed by Africa

(9 percent), the Americas (4 percent), and Europe and Oceania (1 percent each).

Fishing Fleet

According to the report, the total number of fishing vessels in 2018, from small undecked and non-motorized boats to large industrial vessels, was estimated at 4.56 million. Despite a decline in numbers of vessels, Asia still had the largest fishing fleet, estimated at 3.1 million vessels, or 68 percent of the total, in 2018.

The global total of motorized vessels remained steady at 2.86 million vessels, or 63 percent of the total fleet. Asia had almost 75 percent (2.1 million vessels) of the reported motorized fleet in 2018, followed by Africa. The largest number of non-motorized vessels was in Asia, followed by Africa. Worldwide, FAO estimated there were about 67,800 fishing vessels of at least 24 m length overall in 2018.





Marine Fishery Resources

Based on FAO's long-term monitoring, marine fishery resources have continued to decline. The proportion of fish stocks that are within biologically sustainable levels decreased from 90 percent in 1974 to 65.8 percent in 2017, with 59.6 percent classified as being maximally sustainably fished stocks and 6.2 percent underfished stocks.

In contrast, the percentage of stocks fished at biologically unsustainable levels increased from 10 percent in 1974 to 34.2 percent in 2017. In terms of landings, it is estimated that 78.7 percent of current marine fish landings come from biologically sustainable stocks.

Of the stocks of the ten species most landed between 1950 and 2017 – anchoveta, Alaska pollock, Atlantic herring, Atlantic cod, Pacific chub mackerel, Chilean jack mackerel, Japanese pilchard, Skipjack tuna, South American pilchard and capelin – 69 percent were

fished within biologically sustainable levels in 2017, the report said.

Fish Utilization

In 2018, about 88 percent (156 million tonnes) of world fish production was utilized for direct human consumption. The remaining 12 percent (22 million tonnes) was used for non-food purposes, of which 82 percent (or 18 million tonnes) was used to produce fishmeal and fish oil.

Live, fresh or chilled fish still represented the largest share (44 percent) of fish utilized for direct human consumption as being often the most preferred and highly priced form of fish. It was followed by frozen (35 percent), prepared and preserved fish (11 percent) and cured at 10 percent. A growing share of fishmeal and fish oil, estimated at 25–35 percent, is produced from the by-products of fish processing, which previously were often discarded or used as direct feed, in silage or in fertilizers.

COVER STORY

Other aquatic organisms, including seaweeds and aquatic plants, are the subject of promising experimentation and pilot projects for use in medicine, cosmetics, water treatment, food industry and as biofuels.

Fish Trade

Fish and fishery products remain some of the most traded food commodities in the world. In 2018, 67 million tonnes, or 38 percent of total fisheries and aquaculture production, were traded internationally. Overall, from 1976 to 2018, the value of global fish exports increased from USD 7.8 billion to peak at USD 164 billion, at an annual growth rate of 8 percent in nominal terms and 4 percent in real terms (adjusted for inflation).

Exports

Over the same period, global exports in terms of quantity increased at an annual growth rate of 3 percent, from 17.3 million tonnes. Exports of fish and fish products represent about 11 percent of the export value of

agricultural products (excluding forest products). In addition to being the major fish producer, China has been the main exporter since 2002 and, since 2011, the third major importing country in terms of value. Norway has been the second major exporter since 2004, followed by Viet Nam, India, Chile and Thailand.

Imports

In 2018, the European Union was the largest fish importing market (34 percent in terms of value), followed by the United States of America (14 percent) and Japan (9 percent). While the markets of developed countries still dominate fish imports, urbanization and expansion of the fish-consuming middle class have fuelled demand growth in developing market, outpacing that of developed nations.

Imports of fish and fish products of developing countries represented 31 percent of the global total by value and 49 percent in quantity in 2018, compared with 12 percent and 19 percent, respectively, in 1976.



RAINBOW IN A BOWL



Flowers that move



V.K. Dey

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

They say gold fish is like a flower, a flower that move. The gold fish (*Carassius auratus*) is considered to be the most popular and attractive pet fish among all ornamental fishes, due to its many variations such as colour, fin shape, size and body structure. Though similar in appearance to carp (*Cyprinus carpio*), gold fish lack barbels and a dark spot at the base of each scale.

The goldfish, one of the oldest and best-known aquarium fish, was developed in China more than 1000 years ago as a mutant arising from Crucian carp. Due to selective breeding undertaken by gold fish breeders, numerous varieties with different colours, varied fin patterns with different morphological variations such as Lionhead, Telescope and bubble eye were developed. Gold fish are now available in many variations with different colour patterns, single and double tail, different body shapes and various other mutations. With hundreds of years of breeding and research, we have beautifully coloured and graceful gold fish varieties with unbelievable shapes and forms such as comets, Calico, Fantail, Oranda, Ryukin, Lionhead, Pearlscale, Bubble Eye, Telescope etc.

Gold fish produced in regions with sub-temperate climates, especially China and Japan, are known to be very popular, though Israel is also now starting to produce fishes for hobby market. Gold fish can tolerate wide water temperature variations ranging from warm waters in the tropics to cold waters where surface water freezes to ice during winter. They can gradually adjust to the changes of temperature under normal conditions. They feed on aquatic plants and small aquatic animals and easily interbreed with carp under normal conditions.

Comets are common gold fish for the beginners. Gold fish with short body and long and fan like fins are known as fan Fantails while the Oranda has a wart-like growth on the top of the head, giving it an appearance of having a cap. In some varieties, the wart-like growth even covers the entire head, including opercula, while in others the eyes are invisible as they are embedded in the wart-like growth.

Ryukin are well known for the shape of their curved backbone with a distinct hump on the dorsal side of the head, triangular shaped body with pointed and small mouth, fat belly and long fins. They are originally from the Ryukyu Islands in Japan, hence the name Ryukyu, and are one of the widely-bred goldfish varieties in Japan. The scarlet Ryukin is very popular for its brilliant colouration.

The Pearl scale resembles an oval-shaped ball with half cut pearls embedded in it. The scales are calcified and are hard. With a ball-like belly and the head tapering towards the mouth, the gentle moving Pearlscale is attractive to every viewer. The protruding eyes are like those of a dragon, and the Telescope gold fish is also known as Dragon Eye. Large protruding symmetrical eyes are considered to be the selection criteria for merchandising Telescope gold fish.

The Bubble Eye is the latest and most delicate fish among goldfish varieties. Having an egg-shaped body and fluid-filled sac under each eye, the Bubble Eye is extremely attractive while swimming. This variety appeared in China about a century ago. Though these are several varieties of goldfish available in the market today, they all originate from the parental stocks developed by the Chinese, Korean and Japanese breeders and have been given different commercial names.



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WTO System and Developing Countries

Over the years, there exists a divide in the WTO between the developed and developing countries, leading to deadlocks in the process of multilateral negotiations. This division has also sometimes triggered demonstrations across the world primarily due to this conflicting interests of member countries. Although developing countries form a much bigger group numerically under the WTO, decision making is significantly influenced by the developed countries.

The major issues of concern from the perspective of developing countries were as follows:

i. The basic objective of the WTO framework is to liberalize trade in goods and services and protection of intellectual property. Countries with supply capacity directly benefit from expansion of exports whereas countries with intellectual property benefit from monopoly privileges, including high financial returns to owners of IPRs. As most developing countries neither have good supply base for goods and services nor much of IPRs, their direct gains from the WTO system is much lower compared to developed countries.

ii. Reciprocity is the basis for liberalization under the WTO system. Countries get more if they are able to give more; conversely, they also get less if they give less. Since member countries have vastly diverse levels of development, there is an in-built bias in the system for increasing disparity among countries. Although provisions such as differential and more favourable treatment have been incorporated in the WTO framework, these have several limitations and have hardly worked satisfactorily.

iii. Retaliation is the ultimate weapon for enforcement of rights of member countries. Since developing countries are weak partners and retaliation by them against any major developed country has both economic and political costs, they are at a considerably disadvantageous position in their capacity to enforce rights and obligations.

iv. The basic principles of the multilateral framework, such as national treatment, i.e., non-discrimination

between imported and domestic goods, works against the process of development by discouraging domestic production by developing countries.

v. Developed countries significantly influence the decision-making process as they possess enormous resources to make elaborate preparations for the negotiating process. As their views are put forth effectively and strongly, the issues of their interest take centre stage leading to frustration among developing countries.

vi. Substantial negotiations are carried out in small groups where developing countries are not present. Countries who have not participated are expected to agree when the results are brought forth in larger groups. It is difficult to stop decision-making at this stage as any such move by developing countries would mark them as obstructionists and have political repercussions.

vii. Developed countries often take advantage of escape routes and loopholes in the agreements. For instance, the Agreement on Textiles was back-loaded and left the choice of products to the importing countries. As developed countries were importers and had been imposing restraints, they chose only such products for liberalization that were not under import restraints without significantly liberalizing their textile imports until the end of 2004 when the agreement was automatically abolished. Similarly developed countries could fulfill their obligation of reduction of subsidies in agriculture despite actually increasing considerably the absolute quantum of subsidy.

viii. Developing countries view the WTO as an institutional framework to extract concessions from them, obstructing their goals of development and self-reliance. Despite vast differences among the interests of member countries, the WTO remains the only international organization that provides a multilateral framework for international trade. Besides trade in goods, it covers a number of issues related to international trade, such as services, intellectual property rights, anti-dumping, safeguards, non-tariff barriers, dispute settlement, etc., making its approach highly comprehensive.

Source: www.economicdiscussion.net

SEAFOOD EXPORT SECTOR RALLIES THE MARKET TURBULENCE IN Q1 OF 2020-21

The ripple effect of COVID19 pandemic has struck the marine products export sector also, as the markets faced lock down. The market situation and sentiments were clearly depicted in exports, which declined 34.78% in quantity and 20.82% in the USD earnings as the first quarter figures for FY 2020-21 were compiled. During April - June 2020, India has exported 2, 09,327 MT of marine products worth USD 1.22 billion. USA and China remained the major importers of Indian seafood as in the previous year, and frozen shrimp maintained its status as the prime item of export, followed by frozen fish.

Export summary reports are given in the Table 1.

Table 1. Export Performance of marine products during April-June 2020 vis-à-vis April-June 2019

Export Details	April-June 2020*	April-June 2019	Growth %
Quantity in Tons	209,327	320,979	-34.78
Value in Crores	8,634.08	10,568.11	-18.30
USD in Million	1,217.32	1,537.42	-20.82
Unit Value (USD/Kg)	5.82	4.79	21.41

The decrease in export is primarily due to impact of Covid-19 globally on the supply chain and trade.

1. Major item - wise exports

Frozen shrimp continued to be the major item of export in terms of quantity and value, accounting for a share of 63.04% in quantity and 77.14% of the total USD earnings. Shrimp exports during the period declined by 16.54% in terms of quantity, 7.66% in Rupee value and 15.51% in USD value.

The overall export of shrimp during April-June 2020 was 1, 31,966 MT worth USD 938.98 million. USA is the largest import market (49,454 MT) for frozen shrimp followed by China (39,604 MT), European Union (12,105 MT), Japan (11,523 MT), South East Asia (9,256 MT), Other Countries (5,543 MT) and Middle East countries (4,481 MT).

The export of Vannamei shrimp has declined to 1, 10,606 MT from 1, 12,078 MT during the period. In USD value, about 45% of total Vannamei shrimp was exported to USA followed by 27.58% to China, 7.56% to Japan, 6.98% to EU, 6.49% to South East Asian countries, 3.98% to other countries and 2.40% to Middle East countries. The exports of Black tiger shrimp also declined

during first quarter 2020-21 as the exports touched 1,760 MT worth USD 16 million compared to 6,216 MT worth USD 52.10 million last year. Japan remained the largest market for Black Tiger shrimp with a share of 59.49% followed by USA (12.97%), European Union (8.78%), South East Asian countries (6.95%), China (5.23%) and Middle East countries (2.06%) in USD value.

Frozen Fish is the second largest export item, accounting for a share of 12.05% in quantity and 6.79% in USD earnings. Export of frozen fish has showed a decline 41.31% in terms of quantity, 36.86% in terms of Rupee value and 13.11% in terms of USD value.

Frozen Cuttlefish showed a decrease of 21.94% in quantity, 31.71% in Rupee value and 37.36% in USD value.

Frozen Squid declined 68.60% in quantity, 61.95% in Rupee value and 65.19% in terms of USD, but unit value of this item bettered by 10.83%.

Dried items showed a decrease of 71.35%, 52.72% and 56.72% in terms of quantity, Rupee value and USD earnings respectively.

MARKETING NEWS

Live items declined 92.48%, 81.48% and 83.09% in terms of quantity, Rupee value and USD value respectively. However, unit value realization significantly improved from USD 6.24 to 14.04 with an increase of 125.09%.

Chilled items also witnessed a downward trend in exports with 66.66%, 50.59% and 54.73% in terms of quantity, Rupee value and USD value respectively. However unit value realization significantly improved from USD 3.02 to 4.10 with an increase of 35.81%.

The sizeable decrease in the export of live and chilled items is attributed to the disruption in air traffic and cargo movement because of Covid-19.

Other items also showed a decline of 44.21% in quantity, 40.19% in Rupee value and 10.06% USD earnings respectively. The unit value rose by 61.22%.

The details of major item of exports are given in the Table 2.

Table 2. Item-wise exports during April-June 2020 vis-à-vis April-June 2019					
Q: Quantity in Tons, V: Value in Rs. Crore, \$: USD Million					
ITEM		Share %	April-June 2020-21*	April-June 2019-20	Growth (%)
FROZEN SHRIMP	Q:	63.04	131,966	158,119	-16.54
	V:	81.71	7,054.92	7,640.06	-7.66
	\$:	77.14	938.98	1,111.39	-15.51
	UV\$:		7.12	7.03	1.23
FROZEN FISH	Q:	12.05	25,232	42,991	-41.31
	V:	4.78	412.31	653.04	-36.86
	\$:	6.79	82.68	95.16	-13.11
	UV\$:		3.28	2.21	48.04
FR CUTTLE FISH	Q:	4.05	8,473	10,856	-21.94
	V:	2.63	226.65	331.90	-31.71
	\$:	2.48	30.16	48.15	-37.36
	UV\$:		3.56	4.43	-19.75
FR SQUID	Q:	4.03	8,439	26,872	-68.60
	V:	2.82	243.31	639.51	-61.95
	\$:	2.66	32.42	93.14	-65.19
	UV\$:		3.84	3.47	10.83
DRIED ITEM	Q:	4.23	8,853	30,905	-71.35
	V:	1.72	148.08	313.17	-52.72
	\$:	1.62	19.73	45.59	-56.72
	UV\$:		2.23	1.48	51.09

LIVE ITEMS	Q:	0.06	128	1,702	-92.48
	V:	0.16	13.50	72.89	-81.48
	\$:	0.15	1.79	10.61	-83.09
	UV\$:		14.04	6.24	125.09
CHILLED ITEMS	Q:	0.99	2,079	6,236	-66.66
	V:	0.74	63.87	129.27	-50.59
	\$:	0.70	8.53	18.83	-54.73
	UV\$:		4.10	3.02	35.81
OTHERS	Q:	11.54	24,156	43,298	-44.21
	V:	5.46	471.43	788.26	-40.19
	\$:	8.46	103.03	114.55	-10.06
	UV\$:		4.27	2.65	61.22
TOTAL	Q:	100.00	2,09,327	3,20,979	-34.78
	V:	100.00	8,634.08	10,568.11	-18.30
	\$:	100.00	1,217.32	1,537.42	-20.82
	UV\$:		5.82	4.79	21.41

2. Market - wise exports

USA continued to be the major importer of Indian seafood with a share of 37.81% and 35.71% in earnings of Rupee and USD respectively. USA imported 51,985 MT of seafood during April-June 2020. Exports to USA have declined by 23.93% in quantity and 13.49% in Rupee value, and 20.77% in USD value. Frozen shrimp continued to be the principal item exported to USA with a share of 97.37% in USD value. Exports of Vannamei shrimp to USA showed an increase of 25.87% in Rupee value and 15.23% in USD terms. Black Tiger shrimp exports to USA declined by 92.58%, 90.13%, and 90.95% in quantity, Rupee value and USD terms respectively. The unit value of exports to USA has increased from USD 8.03 to 8.36 during April-June 2020 compared to the same period last year.

China is the second largest destination for Indian seafood with a share of 28.98% in quantity and 24.26% in Rupee value. Exports to China declined by 16.92% in quantity, 0.61% in Rupee value and 9.07% in USD terms. Frozen Shrimp is the major item of exports to China accounting a share of 65.28% in quantity and 78.58% in USD earnings out of the total exports to China. China imported 60,668 MT of seafood worth USD 278.73 million. The unit

MARKETING NEWS

value increased from USD 4.20 to 4.59 during April-June 2020 compared to same period last year.

Japan is the third largest destination for Indian seafood with a share of 12.26% in USD earnings and 9.92% in quantity. Exports to Japan decreased by 3.54% in quantity, however increased 17.21% and 46.92% in Rupee value and USD revenue respectively. The unit value growth also grew by 52.30% during Q1 of 2020-21 compared to the same period last year. Frozen Shrimp was the major item of exports to Japan as in previous years, accounting to a share of 79.83% in Rupee and 58.28% in USD earnings. Exports of frozen shrimp to Japan have shown an increase of 23.55% in quantity, 29.82% in Rupee value and 18.90% by USD. During Q1 of 2020-21, Vannamei shrimp exports to Japan increased by 48.62% in quantity, 66.35% in Rupee value and 52.36% in USD terms. Unit value of Vannamei exports to Japan increased by

2.52%. The export of Black Tiger shrimps to Japan declined by 41.30% in USD terms. However, the unit value of Black Tiger shrimps increased by 4.78% in the Japanese market.

European Union was the fourth largest destination for Indian seafood with a share of 11.08% in USD. Frozen shrimp was the major item of exports to EU with 48.62% share in quantity and 63.22% in USD earnings. Export of frozen shrimp to EU decreased by 21.93%, 13.03% and 20.40% in quantity, Rupee value and USD value respectively.

South East Asia had a market share of 7.75% in USD terms, and remained at fifth position. The major item of export was frozen shrimp accounting 57.87% in USD earnings. Overall exports to South East Asia declined by 62.92% in quantity, 51.86% in Rupee value and 56.13% in USD earnings.

Exports to **Middle East** showed a positive



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MARKETING NEWS

growth of 3.03% in USD value, however showed a negative growth in quantity and Rupee terms.

The exports to **Other Countries** showed a negative growth of 44.59% in quantity and 31.06% in Rupee value and 36.99% in USD value during April-June 2020 compared to previous year.

The details on major markets for Indian marine products are given in the Table 3.

Table 3. Market-wise export of marine products during April-June 2020 vis-à-vis April – June 2019					
Q: Quantity in Tons, V: Value in Rs. Crore, \$: USD Million					
Market		Share %	Apr-2020-June-2020*	Apr-2019 - June-2019	Growth (%)
JAPAN	Q:	9.92	20,760	21,521	-3.54
	V:	9.48	818.46	698.31	17.21
	\$:	12.26	149.28	101.61	46.92
USA	Q:	24.83	51,985	68,339	-23.93
	V:	37.81	3,264.50	3,773.64	-13.49
	\$:	35.71	434.73	548.69	-20.77
EUROPEAN UNION	Q:	11.89	24,895	41,647	-40.22
	V:	11.74	1,013.87	1,434.78	-29.34
	\$:	11.08	134.83	208.24	-35.25
CHINA	Q:	28.98	60,668	73,020	-16.92
	V:	24.26	2,094.82	2,107.69	-0.61
	\$:	22.90	278.73	306.53	-9.07
SOUTH EAST ASIA	Q:	12.61	26,397	71,182	-62.92
	V:	8.22	709.99	1,474.92	-51.86
	\$:	7.75	94.38	215.13	-56.13
MIDDLE EAST	Q:	4.16	8,716	16,566	-47.38
	V:	3.48	300.17	451.79	-33.56
	\$:	5.56	67.72	65.73	3.03
OTHERS	Q:	7.60	15,905	28,705	-44.59
	V:	5.01	432.26	626.98	-31.06
	\$:	4.74	57.64	91.49	-36.99
Total	Q:	100	209,327	320,979	-34.78
	V:	100	8,634.08	10,568.11	-18.30
	\$:	100	1,217.32	1,537.42	-20.82

3. Major port-wise exports

Marine products were exported through 21 different sea/air/land ports during April-June 2020. Vizag, Kochi, Pipavav, Calcutta, JNP, Krishnapatanam are the major ports handled the marine cargo. The details of port - wise export of marine products are given below:

Table 4. Port - wise export of marine products during April-June 2020 vis-à-vis April – June 2019					
Q: Quantity in Tons, V: Value in Rs. Crores, \$: USD Million					
Ports		Share %	Apr-2020-June-2020*	Apr-2019 - June-2019	Growth (%)
VIZAG	Q:	24.80	51,907.82	58,286.15	-10.94
	V:	33.81	2,918.85	3,013.06	-3.13
	\$:	31.92	388.53	438.24	-11.34
KOCHI	Q:	11.60	24,285.94	32,441.70	-25.14
	V:	11.44	987.82	1,072.31	-7.88
	\$:	10.79	131.39	155.74	-15.64
PIPAVAV	Q:	18.09	37,868.12	62,784.10	-39.69
	V:	8.42	726.83	1,109.23	-34.47
	\$:	10.26	124.85	161.62	-22.75
CALCUTTA	Q:	8.33	17,432.52	24,961.61	-30.16
	V:	10.02	865.27	961.66	-10.02
	\$:	9.46	115.16	139.85	-17.65
J N P	Q:	7.91	16,564.18	38,813.66	-57.32
	V:	6.54	564.64	1,046.50	-46.04
	\$:	8.40	102.29	152.10	-32.74
KRISHNA PATNAM	Q:	6.49	13,587.46	24,858.93	-45.34
	V:	8.54	737.17	1,222.56	-39.70
	\$:	8.06	98.10	178.13	-44.93
TUTICORIN	Q:	4.51	9,433.42	13,522.55	-30.24
	V:	5.84	504.48	669.24	-24.62
	\$:	5.52	67.25	97.34	-30.91
CHENNAI	Q:	5.08	10,631.13	13,728.00	-22.56
	V:	5.78	498.89	528.56	-5.61
	\$:	5.46	66.44	76.89	-13.59
KATTPALLI/ ENNORE	Q:	3.75	7,852.68	5,917.37	32.71
	V:	4.38	378.01	256.24	47.52
	\$:	4.14	50.36	37.24	35.23
Other Ports**	Q:	9.44	19,763.49	45,665.26	-56.72
	V:	5.24	452.12	688.76	-34.36
	\$:	5.99	72.95	100.28	-27.25
Total	Q:	100.00	209,326.75	320,979.32	-34.78
	V:	100.00	8,634.08	10,568.11	-18.30
	\$:	100.00	1,217.32	1,537.42	-20.82

** Mangalore/ICD, Kakinada, Mundra, Goa, Hazira, Hyderabad, Mumbai, Ahmedabad, Bangalore, Trivandrum, Hill Land Customs, Veraval, Haldia, Calicut, Trichy, Mahadipur, Madurai

Food Sales Trends in Japan Undergoing Rapid Change Post-COVID 19, Says Expert



Mr. Tsuneo Suzuki

Japan is undoubtedly one of the world's top seafood markets and is a key importer of Indian seafood. In the post-COVID19 scenario, seafood sales patterns in Japanese markets are undergoing a drastic change with consumers growing more and more cautious about the food that they take home.

To help Indian exporters get authentic and valuable insights on the current trends in Japanese seafood market in the wake of the pandemic, the Marine Products Export Development Authority (MPEDA) organized a webinar on "Current market trends in Japan and post covid scenario" based on the grocery sales trends in Japan before and after COVID19 by Mr Tsuneo Suzuki, General Manager of Tokai Denpun Co., Ltd, Japan.

This was the third in a series of webinars hosted by MPEDA on the COVID19 seafood market trend analysis. The first two webinars were on the US and South Korean markets respectively.

According to Mr. Suzuki, the pattern of consumption has changed substantially after COVID19. Customers have increasingly been buying Deli (ready-to-eat) foods at grocery stores. They find it not only easy to use, but also having a feel of home-cooked food. He pointed out that there was a decline in sales of frozen seafood in department stores since marine products like fish/shrimp are costlier when compared to meat products. After Emergency Declaration

Sales of frozen foods and deli have shown an upward trend after declaration of emergency due to COVID19. Subsequently sales of instant noodles, ready-to-eat meals have grown considerably. With consumers having less opportunities to go to Izakaya and bars, there have been an increase in online sales of snacks and alcohol. Delivery services are having a busy time with consumers depending on online orders.

However, due to decrease in foreign tourist arrivals, Izakaya and Japanese restaurant sales have recorded 80% decline, Suzuki said.

He also noted that in the extended phase of

emergency, sales of delis lost momentum compared to the early days of emergency. This indicates that most people started to prepare food at home, Suzuki said. Consequently, sales have shown an upward trend in fresh fish, meat and vegetables. It is also interesting to note that traditional Japanese food is finding more takers of late, he added.

According to Suzuki, consumers are willing to buy health-related daily foods. Demand for frozen rice and noodles and also frozen snacks are high. Dumplings and Shumai are popular as main course food.

Japan has reopened but COVID-19 has made people more cautious in their food choices. Food industry will continue to have a hard time for a while and hopefully will get back to at least 70% of the economy. Grocery stores are sure to stabilize and when it happens, it will be days of competitive market, Suzuki pointed out in his presentation.

He also pointed out that the change in consumers' buying behavior may result in the following food consumption/buying patterns: increase in online shopping, increase in food delivery service, increase in demand for immunity-boosting food and simple eating habits. Eating out will decline drastically due to fear of getting infected, he added.

Competition between ready-to-eat food and high-storability food categories and change in packaging styles are expected. There will also be a visible change in school meal patterns.

Transfer of factories from China to Japan and to other countries like India, Vietnam and Indonesia are on cards. Production in Japan is not sufficient. Shorter hours of operation are a serious issue in food industry, according to Suzuki.

Suzuki iterated that, the Japanese buyers are more worried about the antibiotics and other contaminants in the seafood, so India need to be more careful about this. The prospects of black tiger shrimp is depended on the functioning of high end restaurants in Japan, as the Indian Black tiger shrimp is a premium product and

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expensive. Susuki told that the most preferred shrimp size is 31/40 because of its convenience to include in the lunch boxes, convenience in making tempura shrimps and also due to its attractive price tag. He also noted that the demand for small sized shrimps has reduced due to the reduction in demand for cup noodles, where it was mostly used.

India was one of the major suppliers of cephalopods to Japan, and off late the imports has declined due to the inconsistency in the product quality, mainly freshness and discoloration. The cephalopod market is currently supplied by South East Asian countries, especially Vietnam. The same market is still available for Indian exporters if the quality is ensured. Japanese market has more demand for salmon, red sea bream and mackerel in the fresh fish category.

Exporters must ensure quality of products, supply small packages and supply heated products instead of sterilized products. Suzuki also opined that Indian exporters must ensure minimization of cost, employ skilled workers and maintain the highest quality in products exported.

Country Profile Japan

JAPAN

- Population : 125,507,472
 - Length of coast line : 29751 km
 - EEZ : 200 nm
 - Major seaports: Chiba, Kawasaki, Kobe, Mizushima, Moji, Nagoya, Osaka, Tokyo, Tomakomai, Yokohama
- India's export & Import

India's major items of export are Frozen shrimp, frozen prawn, Frozen fish meat (excluding fillets), Frozen cuttlefish & squid whereas India's major items of import are Frozen fish fillets, frozen fish fillets of tuna

Fishery Profile

Fisheries traditionally play an important role in food security in Japan. An island nation with a coastline of 29751 km, Japan has one of the world's largest Exclusive Economic Zone of approximately 4.48 million km², about twelve times larger than the national land area. A combination of warm and cold currents flowing along the coasts creates one of the most productive fishing grounds in the world.

The 2011 tsunami hit total fish production (capture + aquaculture), which dropped from 4.8 million tonnes in 2010 to 4.3 million tonnes in 2011. It remained quite stable in the following years, but in 2016 it further decreased to 3.9 million tonnes, continuing this trend in 2017 with 3.8 million tonnes. Since the 1988 peak (11.2 million tonnes), capture fisheries have been following a declining trend and declined by 7 percent in the year of Tsunami (to 3.8 million tonnes) and reached 3.2 million tonnes in 2017. On the other hand, aquaculture production reduced by 22 percent in the year of tsunami, but it later recovered, and in 2017 reached 615060 tonnes. In addition, 0.4 million tonnes of farmed seaweeds were produced in 2017.

The total number of fishers declined from 202900 in 2014 to 195149 in 2017 (with 20980 women), as a result of combined impact of tsunami and an aging fishing community. The total number of registered powered marine fishing vessels was 228310 in 2017 and there were 3735 unpowered inland vessels reported. In 2017, Japan was the second largest importing nation of fish and fishery products after the United States with imports worth USD 15 billion. Exports of fish and fishery products were valued USD 2 billion in 2017. Domestic production supported about 68 percent of national fish consumption. In 2016, per capita fish consumption was estimated at about 45.3 kg per capita, which represents a decline compared to over 70 kg in the 1990s.

Market		2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
JAPAN	Quantity in ton	71484.00	78772.00	75393.00	69039.00	85651.00	84080.00	78507
	Value in Crore	2463.83	3040.26	2610.74	2621.37	2846.30	2919.75	2920.28
	US\$ Million	410.95	502.29	403.48	394.50	445.27	423.27	422.24

Seafood Allergy and its Prevalence

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Introduction

Food allergy is a problem of public health importance which is to be considered seriously. There are different kinds of adverse reactions to food materials which are broadly divided into two groups called as food intolerance and food allergy/hypersensitivity. Allergy is an abnormal reaction to a normally harmless substance. Food allergy is immune mediated hypersensitivity reaction in which symptoms become visible rapidly subsequent to exposure of macromolecules or proteins (Bruijnzeel-Koomen et al., 1995). Food allergy is a serious issue in sensitive individuals and it is showing an overall increasing trend which is affecting approximately 3% of the world population. As a result of the increase in food allergy incidences in many countries such as US, Canada, Europe, Australia, New Zealand, UK, and Japan where very stringent regulations are there on control of food allergens. Food allergic reactions are mediated through a specific class of antibody, known as immunoglobulin E (IgE). The eight major allergens identified are milk, egg, fish, shellfish, tree nut, peanut, wheat and soybean and these contributes for 90% of food allergic reactions. Labeling of any product with an ingredient or food protein derived from any of these food allergens is stringent by regulations as per International Codex Alimentarius guidelines and the US Food Allergen Labeling and Consumer Protection Act (FALCPA). Allergen labeling also stringent as per directive 2007/68/EC made mandatory food labeling of 14 allergenic food ingredients.

Food allergy and Food intolerance

Food allergy is an immune system disorder mediated through IgE antibodies against undigested or partially digested food proteins. Allergens are antigens stimulating the production of IgE antibody. IgE mediated food allergic reactions are immediate hypersensitive in nature known as type I food allergy or true food allergy. Intake of minute quantities of food allergens can result allergic reactions in sensitized individuals. While IgG or IgM mediated cytotoxic hypersensitivity reactions comes under type II and it includes autoimmune issues like haemolytic anaemia. Food allergens are mainly water soluble glycoproteins having molecular weight ranging from 10 to 70 kDa and are reported to be stable to conditions of proteolysis, heat and acid treatments. Food intolerances signify non-immune-mediated responses to food materials, and it can dependent on enzyme deficiencies, pharmacological reactions or unknown mechanisms in the majority of cases. They are also reproducible and sometimes symptoms can take days to manifest. Coeliac disease is an important example of food intolerance. Also intolerances including metabolic disorders such as lactose intolerance, responses to toxins like histamine in scombroid fishes

or pharmacologically active compounds like caffeine in coffee, tyramine in aged cheeses etc. It is significant to discriminate food allergy from non-immune mediated responses to foods, as above 20% of adults and children modify food types because of perceived food allergy.

Seafood allergy and important allergens

Seafood is having a major role in human nutrition and health; it comprises fishes and shellfishes (crustaceans and molluscs). The international trade of seafood and its products is growing due to its popularity and frequency of consumption in many countries. Adverse health issues accompanied with consumers and processors of seafood is frequent and well reported. Fish and shellfish are included in the "big eight" categories of food allergens and they are mainly mediated through IgE antibody. The different channels of contact for seafood allergy are food intake, direct contact via skin or breathing of odors while preparation of food. Crustaceans primarily shrimps are the 3rd main source of food induced anaphylaxis in the world after peanut and tree nut and reported to affect >2% of population. Although shellfish allergy is frequent in western

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countries namely Europe, United States and Australia, the prevalence of shellfish allergy is very high in Asian countries especially in children and adults.

Fish allergens

A limited number of fish proteins are associated with induction of allergic symptoms in sensitive individuals. It also depends upon geographical eating habits, type of fish processing, and fish species exposure. Fish proteins identified as allergens include parvalbumins, aldolases and enolases.

Parvalbumin is a calcium binding protein in fish muscle and responsible for allergic reactions in 95% of fish allergic patients on clinical basis. It has a molecular weight ranges from 10 to 13 kDa. It was first identified in Atlantic cod, *Gadus callarias* called as Gad c 1 of 12 kDa. Parvalbumins are water soluble proteins having high resistance to elevated temperature and enzymic hydrolysis. Allergenicity of parvalbumin purified from fishes of different geographical locations confirmed it as the major fish allergen.

Other fish allergens reported are enolases (50 kDa) and aldolases (40 kDa). They are heat labile enzymes involved in metabolic glycolysis having potential allergenicity. Also gelatin from fish skin, vitellogenin, from caviar and tropomyosin from tilapia are also reported as fish allergens.

Shellfish allergens

Shellfish allergy is of long lasting one and rising health issue in both children and adults. In both crustacean and molluscan shellfishes tropomyosin is identified as the major allergen. Tropomyosin is responsible for 80% of shrimp allergies. It is a myofibrillar protein with molecular weight ranging between 34 to 39 kDa. It is involved in the regulation of muscle contraction along with actin and myosin and highly stable in nature. It is also identified as a panallergen having cross reactivity between crustaceans, insects and mollusks.

Another important allergen identified in shellfishes is arginine kinase of molecular weight 40 kDa. It is a next major allergen in case of shrimp. But it cannot thermal and acid base treatment. It is also an important cross reactive allergen. Arginine kinase is an important enzyme involved in energy metabolism in invertebrates and it has similar activity of vertebrate creatine kinase. Sarcoplasmic calcium binding protein is another identified allergen with molecular weight ranging from 20 to 22 kDa. It is an EF hand type calcium binding muscle protein with heat resistant nature. The amino acid sequence homology of this allergen shows more similarity among crustacean species than that with molluscan species. Myosin light chain is allergen identified in many species which is a protein involved in muscle contraction along with actin, tropomyosin and troponin. It is also having the similar molecular weight as that of sarcoplasmic protein.

Table 1. Types of seafood allergens

Food source	Allergic protein	IUIS name	Molecular weight (kDa)
Fin fish	Parvalbumin	Gad c 1, Gad m 1, Lat c 1, Sal s 1, Thu a 1, Clu h 1, Cyp c 1, Sar sa 1, Seb m1, Lep w 1, Ore m 4	34-39
	Enolase	Gad m 2, Sal s 2, Thu a 2	50
	Aldolase	Gad m 3, Sal s 3, Thu a 3	40
	Vitellogenin	Onc k 5	18
	Tropomyosin	Ore m 4	33
Crustaceans	Tropomyosin	Cha f 1, Cra 1, Hom a 1, Lit v 1, Mac r 1, Mel l 1, Met e 1, Pan b1, Pan s1, Pen a1, Pen m1	34-39
	Myosin light chain 1	Art tr 5, Cra c 5	17.5
	Myosin light chain 2	Hom a 3, Lit v 3, Pen m 3	20-23
	Troponin C	Cra c 6, Hom a 6, Pen m 6	20-21
	Arginine kinase	Cra c 2, Lit v 2, Pen m 2	40-45
	Sarcoplasmic binding protein	Cra c 4, Lit v 4, Pen m 4, Pon l 4	20-22
Molluscs	Tropomyosin	Cra g 1, Hal d 1, Hel as 1, Mim n1, Per v 1, Tod p1	

Source: Ekezie et al., (2018)

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Prevalence of seafood allergy

Seafood allergy is a common type of food allergy and the prevalence of fish and shellfish allergies, in the world population is 0.3 and 0.6 % respectively (Sicherer et al., 2004). Hypersensitivity to shellfish and fish is more common than that of nuts, peanuts and wheat. The prevalence of fish allergy in the general population ranges between 0.2% and 2.3% (Sharp et al., 2014). Fish sensitive individuals are observed to be allergic to many fish species and hence they are suggested to exclude fish from diet, but mono-sensitivity to particular fish, like cod, Nile perch and mackerel in individuals reactive to enolases and aldolases also reported. Allergy to fish and crustacean is highly frequent than to mollusc and is more frequently reported in adults than children.

Khora (2016) reported a prevalence percentage ranging from 0.5 to 2.5% in case of shellfish allergy alone for general population and it is more in coastal Asian countries where shellfish is a major part of seafood consumption than that of United States, Europe and Australia. While the prevalence of shellfish allergy in children of United States is 1.3% with more children allergic to crustaceans (1.2) than to mollusks (0.5%) (Wang et al., 2020). The prevalence of seafood

allergy in school children in Singapore between the ages of 14 and 16 is 5.2%. The prevalence of shellfish allergy in Europe and Canada is reported to be 0.6 and 1.6% respectively. The shrimp allergy rate in China is at 8.6%. While the highest prevalence of crustacean allergy reported in Italian adult population is at 10%. Kamath (2014) reported the paucity of information regarding prevalence of shellfish allergy in populated countries like India and China. Shellfish allergy is the major causative of anaphylaxis in South-East Asia, Hong Kong and Taiwan. Prevalence rates also depend upon the diagnostic methods used, rate varies between self reported allergy and food challenge proven one.

The likelihood of seafood sensitization can be correlated to geographical food habits, where seafood forms a part of staple diet. Anaphylactic reaction in association with food consumption is a major health issue. In case of adults, shellfishes act as a common trigger with a higher risk of anaphylaxis. Prevalence of shellfish allergy is not only unique to consumers, but also to occupational environment. The readily availability of seafood in wider range of populations and countries with the improvement in shipping facilities, globalization of food supply and increasing socio economic standards has contributed towards the increase in prevalence of seafood allergy all over the world.

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Brace for Change in Consumption Pattern in South Korea amid COVID-19: Expert tells Indian Exporters



Mr. Kriss Lee

Seafood consumption pattern in South Korea is all set to change in the wake of COVID-19 and Indian exporters must be ready to adapt to the new consumer behaviour, said Kriss Lee, noted Seoul-based seafood importer, during a webinar hosted by the Marine Products Export Development Authority (MPEDA).

Lee, President of Best Join Corporation, made a presentation on the changes in the South Korean market, especially that of shrimp, amid COVID-19. More than 55 participants including exporters joined Lee for the webinar, the second in a series of webinars being organized by MPEDA on global seafood trend analysis.

South Korean consumers have started to give more importance to hygiene. Therefore, ensuring safety and hygiene of imported seafood has become important for us more than ever, Lee said while talking about the new trends.

Shrimps are one of the most popular seafood in South Korea. Of the total shrimp market, India's share is only 3 percent. This essentially indicates there are lot of opportunity for India, he said during the presentation. Frozen shrimp, shrimp meat and value-added shrimp products are very popular in Korea, according to Lee.

Due to COVID-19, sales of shrimp and related products dropped nearly 60 percent. He urged Indian exporters to ensure freshness, safety, absence of anti-biotics and chemicals in the exported products if they want it to be accepted by Korean consumers.

Asked about the seafood items which have good market potential in South Korea in the coming months, Lee said ribbon fish is a sought-after seafood since it is cheaper. As far as croaker fish is concerned, people there prefer locally caught croakers. There is also market for Scampi, sting ray fillet and Surimi.

Pomfret is also a popular seafood, but it is expensive in the country. There is some untapped market potential

for India in this segment, he added. There is demand for dried fish, however, the supply/availability is low. Exporters here can turn this into an opportunity, Lee said.

He suggested that India should bring in more relaxation in tariffs if they want to take on competitors like Vietnam, Thailand and China in South Korean market.

Responding to a query on packaging preferences, Lee said consumers are more inclined towards small packets/cartons of 500gm/2kg. When it comes to packaging rules in South Korea, the details have to be printed on the packets/cartons as stickers are banned. If the packaging has moisture control feature, it will be an added advantage.

According to him, seafood traders eyeing South Korean market should keep in mind one thing. People there are well-acquainted with almost all seafood items. They should process the export items to Korea the way they handle food at their homes.

Country Profile- South Korea

- Population : 5.16 crores (2018)
- Major seaports: Busan, Donghae, Gunsan (Kunsan)
- Coastline : 2413 km
- EEZ : 225,214 Sq.km

Korean total fisheries and aquaculture production reached a peak of 3.1 million tonnes in 1986, declined progressively to less than two million tonnes in 2004 and has only fluctuated slightly since then. Total fish production was 2.1 million tonnes (2015) with aquaculture production accounting for approximately 23 percent of total production.

Most catch is used for human consumption which is high at 53.5 kg per capita (2013). Exports of fish and fishery products were USD 1.5 billion; imports were USD 4.3 billion (2015). Employment in the aquaculture and fishery sectors provided about 128 000 full- or part-time jobs in 2015.

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Aquaculture is an important element in the fisheries sector of the country. In 2015 the total aquaculture production was about 1.6 million tonnes with the farm gate value of USD 2.16 billion. Seaweeds farming production was 1.2 million tonnes in 2015, accounting for 71 percent of the total aquaculture production by quantity and 20 percent in value.

The difficulties facing the fishery sector include fleet overcapacity, overfishing and overexploitation; increasing marine pollution, including from industrialization; reclamation of coastal areas negatively affecting fish habitats and reducing fishing grounds. Korea's fisheries policy currently emphasizes conserving and enhancing coastal fishery resources, controlling fleet capacity; integrated coastal management; and improving value-added fish and fishery products.

Since January 1996, Korea is a Party to the 1982 United Nations Convention on the Law of the Sea and the 1995 UN Fish Stocks Agreement which it ratified in 2008. Since April 2003, the Republic of Korea is a Party to the 1993 FAO Compliance Agreement.

Fisheries sector under the Ministry of Oceans and Fisheries has set the objective of Cleaner, Safer & More Productive Oceans targeted for 10% Share of Ocean & Fisheries in GDP by 2030. Action plans were made to accelerate the recovery of fishery resources and promoting high-value added fisheries and processing in order to achieve a fisheries production of 4 million tonnes and \$4 billion in fisheries export (by 2022).

Korea with an objective to enhance capacity for fishery resources management and realizing a marine-ecosystem-centered policy for the development of fisheries by;

- Promoting integrated marine-spatial management; and improving national management scheme for marine environment protection by rehabilitating marine productivity.
- Creating advanced aquaculture: enhancing competitiveness for aquaculture by developing smart platform for AI-&-ICT-using control and creating cluster for large-scale industry
- Supplying safe fishery products by escalating targets for fishery products traceability and increasing the number of HACCP registration of aquaculture farms by 30 each year to achieve 300 in number by 2022.
- Creating innovative structure in distribution by building

6 fishery products processing & marketing centers and 2 logistics centers at consuming areas

- Adopting integrated marine spatial management scheme by implementing total management scheme for South Sea and East Sea in 2022 by establishing marine-spatial management plan based on Act on Marine Spatial Planning & Management, enacted in Apr. 2019.

- Registering 34 marine protection areas and recovering 20 tidelands by 2022.

The item wise exports to S. Korea for the last three years is given below. During 2019-20 the exports to S Korea increased by 2.59 in terms of quantity, 7.75% in terms of Rupee value and 7.02% in terms of US\$ earnings.

Table 1 - ITEM WISE EXPORT OF MARINE PRODUCTS TO KOREA REP.				
Q: Quantity in M T, V: Value in Rs. Crore, \$: US Dollar Million				
ITEM		2017-18	2018-19	2019-20
FROZEN SHRIMP	Q:	2240	1842	2515
	V:	74.40	83.08	102.02
	\$:	11.70	12.05	14.65
FROZEN FISH	Q:	2525	1971	925
	V:	28.09	22.42	14.54
	\$:	4.41	3.20	2.06
FR CUTTLE FISH	Q:	0	25	60
	V:	0.00	0.75	2.30
	\$:	0.00	0.10	0.33
FR SQUID	Q:	0	45	5
	V:	0.00	1.25	0.18
	\$:	0.00	0.17	0.03
DRIED ITEM	Q:	107	19	17
	V:	0.93	0.36	1.94
	\$:	0.14	0.05	0.27
LIVE ITEMS	Q:	0	0	0
	V:	0.09	0.09	0.09
	\$:	0.01	0.01	0.01
CHILLED ITEMS	Q:	0	1	1
	V:	0.00	0.02	0.08
	\$:	0.00	0.003	0.01
OTHERS	Q:	7762	7056	7720
	V:	111.20	129.69	134.94
	\$:	17.46	18.66	19.30
Total	Q:	12634	10960	11244
	V:	214.70	237.66	256.09
	\$:	33.73	34.26	36.66



Seafood Market Update: India

At the beginning of 2019, projections for Indian production were very negative and Indian farmers battled diseases and floods which affected their winter crop.

However, figures show that the country actually consolidated its position as the top producer/exporter of shrimp in 2019, and India's total exports amounted to 667,140 tonnes, 8.43% more than in 2018. January 2020 exports for India show a 6.4% increase over January 2019. Currently, however, the COVID-19 outbreak is affecting India's shrimp exports significantly, and this has increasingly been the case since mid-March 2020.

LOOKING BACK

Looking at the year-round development for 2019, we can see that in the first half of the year, India's export volumes lagged behind those of 2018. That trend began to shift from August onwards when volumes started to increase year-on-year by an average of approximately 25% each month.

This jump in exports from August onwards can be explained by the delayed first crop of the year, which only peaked in June and July, particularly for larger sizes. October and November were peak growth months with October reporting 35% above the exported volume of 2018, and November reporting a 40% increase on 2018's volume. This was the second-highest volume ever recorded for India, coming just after July 2018's exports, at 67,000 tonnes.

The large increases in exports were a result of crops stocked in August and September being harvested and the fact that during these periods India's three export markets – China, Europe and the US – experienced their highest demand in preparation for the holiday season. Towards the end of the year, while demand was slowing down, farmers struggled with weather conditions and disease, leading to early harvests in December, stock building up and a subsequent drop in price.

Looking at the historical data, exports from India usually drop in January. This is both a result of the decline in the harvest in India from the winter crop and relatively

quiet markets in quarter one, as the main markets for India will have already had their holiday seasons and thus experienced peak demand as a result. This year, exports in January were higher than in preceding years – products were sold at low prices, a direct result of the build-up of stocks.

In February and March 2020, farmers were preparing to stock their ponds, and initially everything seemed to be going in the right direction: post-larvae supply was sufficient and stocking was only slightly delayed due to cold-weather conditions in the Gujarat area.

Until mid-March, farmers were busy preparing for the next summer stock until the impact of the global COVID-19 pandemic also started to be felt in India. During the initial phase of the outbreak, it was not thought that COVID-19 would significantly impact India's exports, with the first outbreaks being restricted to China. However, as outbreaks became wider spread and also reached Europe and other markets, demand started to reduce and shrimp imports from India have consequently slowed down.

On top of that, towards the end of March the entire country was put on "lockdown" until at least mid-April. In Gujarat, stocking has been on hold and it has stocked just over 15-20%.

Stocking is also low in West Bengal and Orissa as a result of the lockdown, and is estimated to be down by 45-50% on the previous year. West Bengal has seen prices decline: 40 count per kg went down from \$5.01 to \$3.97, and 60 count per kg dropped from \$3.65 to \$3.18. To stop the free fall of prices, the government of Andhra Pradesh has agreed on setting minimum prices for shrimp products, at least until 14 April, in an attempt to reassure farmers and prevent panic. The prices in Andhra Pradesh are now at the minimum price level encouraged by the Seafood Exporters Association of India (SEAI), while some other areas are still a bit below this.

LOOKING AHEAD

Although China's imports recently resumed, it is predicted that COVID-19 will impact India's exports throughout quarter two and beyond. At the moment,

FOCUS AREA

processors and exporters are constantly monitoring the global situation and are utilizing the cold storage facilities to store the shrimp procured.

As for India's main market – the US – shrimp sales into the food service industry are declining as a direct result of “social distancing” measures, and our sources mention that the retail industry is also suffering.

Consumers are resorting to ordering food from restaurants and supermarkets online, and are having it delivered directly to their homes: shrimp does not seem to be high on the online shopping list. If things remain as they are, shrimp imports into the US for the second quarter will be markedly down on the same period in 2019.

According to some sources, US spot buyers are trying to seize the opportunity and buy-in at low prices, but as the COVID-19 outbreak is in its early stages in the US, this cannot be maintained – demand is low and ports are closed meaning this strategy cannot be sustained.

Looking ahead, as we expect the COVID-19 situation to affect trade on a large scale for the coming months, farmers in India will presumably stock less than during a normal summer crop, as prices will not recover over the coming weeks.

Some farmers may even skip the summer crop entirely, yet our sources have mentioned that while this is possible for most of the farmers in Andhra Pradesh due to their financial situation, farmers in other regions do

not have the economic strength to survive a missed summer crop.

Depending on the recovery of the markets in quarter three, India could be in a position to supply quickly to markets, both from its inventory and the new harvest. However, the large supply shortage could potentially boost prices to unrealistic levels, as we saw back in 2013 when there was also a global shortage.

Due to COVID-19, the entire nation has been on “lockdown” since the third week of March, and this is set to last until mid-April. This affects the regular business activities of aquaculture farmers and supply chain players.

This lockdown further delays the stocking of the entire nation and it may negatively impact the productivity of the peak production areas. Amid the COVID-19 crisis, the Marine Products Export Development Authority (MPEDA) and the SEAI are trying to prevent panic in the industry by ensuring fixed minimum prices for a certain period of time.

The Andhra Pradesh government has decided to set up Andhra Pradesh Green Energy Corporation Ltd (Apgecl) with a mandate to provide free power to agriculture consumers and power at subsidized rates to aquaculture. It is proposed that about 10,000 MW be developed and supplied to agriculture and aquaculture farmers.

Courtesy: Sander Visch and Aquaconnect Shrimp Tails/ Stichting Seafood Trade Intelligence Portal (STIP)



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Broodstock Supplies During and After Covid-19

Courtesy: shrimpsinsights.com

As most broodstock is transported internationally by air cargo, the outbreak of Covid-19 posed a serious problem for broodstock logistics during the first half of 2020. Normally, broodstock would be shipped via regular flights from Texas, Florida, Hawaii or Thailand to their final destinations in Asia or any other market.

In the beginning of 2019, farming and market conditions were good in most Asian countries and hatcheries imported significant amounts of broodstock.

However, when Covid-19 spread and airlines cancelled their flights, broodstock suppliers and hatcheries in Asia got into trouble and had to find other ways to provide their customers with broodstock. So, hatcheries and broodstock suppliers joined forces and chartered flights to keep their business going.

Indian broodstock imports ceased entirely in April but recovered in May and June India was well on track with its broodstock imports in the first three months of 2019.

While it was 15% behind the import level of 2018, with 63,430 broodstock in the first quarter of 2020, imports were well ahead (+35%) of 2019's import levels in the same period.

During the pandemic, hatcheries had closed down their operations for over a month, but once they were allowed to re-open, broodstock was still readily available and production could be restarted.

In May, the first imports arrived again. Six hatchery operators chartered a flight that would bring broodstock from Florida to India. This charter flight brought the first 3,600 broodstock into the country. In May, another 13,786 broodstock were shipped to India from Florida and Hawaii. Shrimp Improvement Systems (SIS) accounted for more than 70% of this number.

Other suppliers included Kona Bay Shrimp (Kona Bay), Blue Genetics and American Penaeid Inc. SyAqua, for the first time since it obtained approval to export to India, shipped 1,200 broodstock to India in May.

More charter flights, but also regular cargo flights,

followed. According to Aquaculture Spectrum, Kona Bay shipped almost 14,300 broodstock to India in June. That same month, SIS exported 19,550 broodstock, and Sea Products Development supplied 1,200 broodstock. Together, June supplies of Kona Bay, SIS and SPD amounted to 35,550, well above India's import volumes in June 2018 and 2019.

Looking at India's year-to-date total in June, total broodstock imports were equal to the same period in 2019 and just 13% behind the same period in 2018.

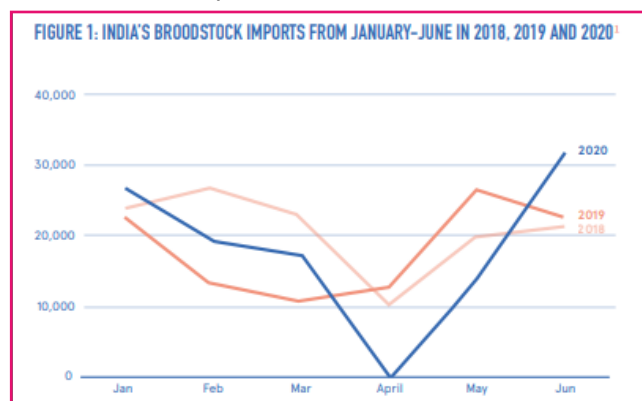
THE IMPACT OF COVID-19 ON LOGISTICS WAS MOSTLY FELT IN APRIL

Although imports slowed down or came to a standstill in most countries especially in April, it seems that they recovered quickly in May and June.

This quick recovery was the result of the close cooperation between broodstock suppliers and their customers in finding solutions to keep business going. Broodstock suppliers and buyers initially decided to use charter flights or, when cargo space was available, used regular cargo flights to keep their supplies going.

While Covid-19 has certainly had an impact on broodstock logistics, broodstock suppliers and their customers have shown flexibility and have been able to adapt to the situation rapidly.

As a result, in most countries, hatcheries have been able to continue or restart production and to supply farmers with enough post-larvae so that they were able to start a new crop, or will do so soon.



'BEAT COVID-19' : An Awareness Booklet on the Pandemic



A comprehensive awareness booklet on Covid- 19 - 'Beat COVID-19' - was printed and published by M/s Times Group with sponsorship from the Marine Products Export Development Authority (MPEDA).

A total of 50,000 copies of the booklet was printed in English and Malayalam. The aim of the initiative was to create awareness about the pandemic among Non-Resident Indians returning to their native places, instruct them on the procedures to be followed and provide a ready reference of various contact points for assistance, including national and State/UT helpline numbers.

The booklet has an introductory message from Chairman of MPEDA. The Malayalam version also

contains introductory messages from Kerala Chief Minister and Health Minister. The first part of the booklet deals with precautionary measures to make your home COVID proof, caring for the elderly and the dos and don'ts on the usage of mask. The steps to take while caring for a COVID patient, diet to follow during the time, guidelines for home quarantine, dealing with stress and COVID during pregnancy are also detailed in the booklet. The contents of the booklet were vetted by a reputed medical officer.

The booklets were handed over by the Times Group to the health workers (Testing Kiosks) in the Kochi, Calicut and Thiruvananthapuram International airports. The distribution splits and the anticipated passengers per day for each of the airport is given below.

International Airports	No. of Booklets handed over	Anticipated International passengers/day
Kochi	25,000	3500
Calicut	15,000	1000
Thiruvananthapuram	10,000	1000

The health workers at the health kiosks in each of the above airports distribute the booklets to the NRIs between 25th of July 2020 and August 2020.



India, Maldives Sign Contract to Set Up Fish Processing Plants

India and the Maldives on 22.07.2020 signed a contract to set up fish processing plants at two of the islands in the Maldives.

The island nation's Foreign Secretary Abdul Ghafoor and other officials from the Ministry of Foreign Affairs and High Commissioner of India Sunjay Sudhir participated in the contract-signing ceremony virtually.

"The contract-signing ceremony for setting up of neighbourhood fish processing plants in Maradhoo and Hulhudhoo was organised by the Addu City Council," the Indian embassy said in a statement.

In 2019, Maldives and India signed MoUs to set up three neighbourhood fish processing plants or 'Geydhoshu Mas Plants' costing a total of around USD 1.5 million in Maradhoo, Hithadhoo and Hulhudhoo under MoUs signed between the High Commissioner of India.

The Addu City Council will be the implementing agency for these projects. The contract for construction of the fish processing plant in Hithadhoo has been awarded by Addu City Council in May this year.

In his address, Indian High Commissioner Sunjay Sudhir recalled that the MoUs for implementation of the fish processing plants was signed between Prime Minister Narendra Modi and President Ibrahim Mohamed Solih on December 4 last year.

Sudhir said that there had been concrete progress regarding the projects despite the obstacles created by the COVID-19 pandemic.

These fish-processing plants are the first in a series of High Impact Community Development (HICDP) projects that India and Maldives have committed to executing together under a total grant of USD 5.5 million.

The Indian embassy said that it is remarkable that despite the challenges posed by the COVID-19 pandemic, Maldives authorities have ensured concrete progress on the small and medium projects being undertaken as part of India's grant assistance.

"Today's ceremony marked the fourth and fifth projects under Indian grant assistance to the Maldives to be completed or inaugurated this month. It is remarkable that despite the challenges posed by the COVID-19 pandemic, different ministries and island/city councils, in coordination with the Ministry of Foreign Affairs, have ensured concrete progress on the small and medium projects being undertaken as part of India's grant assistance," the statement read.

These projects chosen by the Maldives government, through the Ministry of Foreign Affairs, are those that have a high level of community impact and participation in the areas of livelihood and income generation, health, education, gender and child empowerment, sports, sustainable development etc.

The ministry said that the HICDPs are born out of India's own development challenges and experiences that require the creation of infrastructure and capacities at local levels of government along with large projects on the national scale.

"In this context, the Government of Maldives has also requested for the upgrade of Maldives Industrial Fisheries Company Limited (MIFCO's) facilities under the USD 800 million Line of Credit. India is happy to share its development experience with friendly countries like the Maldives as a part of its 'Neighbourhood First' policy reciprocated by Maldives' 'India First' policy," the statement read. (ANI)

-www.businessworld.in



New Genus of Freshwater Fish Found in Maharashtra Named After Manipur Professor

A team of scientists from Maharashtra and Kerala has discovered a new species of freshwater fish found in the Western Ghats and named it after a well-known professor of the Manipur University.

The new fish genus & species is called '*Waikhomia hira*'. '*Waikhomia*' is derived from the surname of Professor Waikhom Vishwanath, a well-known taxonomist with the department of life sciences of the Manipur University, while hira means diamond.

"The name '*Waikhomia*' for the new genus is a tribute to Professor Vishwanath Waikhom for his exemplary contributions to improving our knowledge on freshwater fish of north-east India, and for promoting fish taxonomy as a science in the country," said Dr. Rajeev Raghavan, an assistant professor of Kerala University of Fisheries and Ocean Studies (KUFOS).

"Professor Vishwanath has discovered and described the maximum number of freshwater fishes than any other living fish taxonomist in India," he added. So far, Professor Vishwanath's team has discovered around 100 freshwater fish species since the discovery of *Puntius jayaremi* locally known as Heikak Nga in 1986, and added over 200 fish species in Manipur alone.

Dr. Raghavan, along with Unmesh Katwate of Bombay Natural History Society, Mumbai; Pradeep Kumar of Modern College of Arts, Science and Commerce, Pune;

and Neelesh Dahanukar of Indian Institute of Science Education and Research, Pune; described the new fish genus and results of their work was published in the leading international journal, *Zootaxa*, on 29.06.2020. '*Maharaja Barbs*', a member of the freshwater family and endemic to the high-altitude streams of the northern Western Ghats are currently represented by a single species, *Puntius sahyadriensis*. It was described from the streams of the Yenna river basin close to Mahabaleshwar in the Western Ghats mountain range in 1953.

"But our studies have shown that this species does not belong to the genus *Puntius*. Hence, we assigned a new genus name, '*Waikhomia*'. While undertaking this study we found that there is an additional species to (*Puntius*) *sahyadriensis* and we described it as '*Waikhomia hira*'," Dr. Raghavan added.

The journal reported that the population of '*Waikhomia*' was recorded from several tributaries of the east-flowing Krishna river system, including in the upstream regions of the Venna river -- the type locality of *Waikhomia sahyadriensis* -- and the Koyna river in Maharashtra; Tunga river near Kudremukh in Karnataka, and from the other independent west-flowing rivers such as Sharavati, Aghanashini and the Kali -- the type locality of '*Waikhomia hira*'.

-www.hindustantimes.com



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SOCIAL MEDIA INSIGHTS | MPEDA

Performance Insights of MPEDA

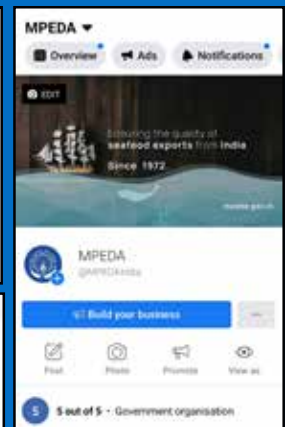
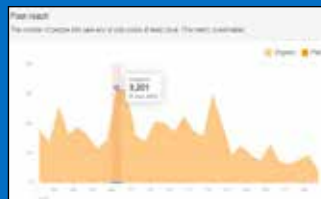
facebook

Joined Facebook on 16 December 2019

Over the past 10 months we have seen a tremendous growth in followers and engagement. By using Facebook as a primary tool of information exchange, we were able to help our followers with timely updates, support local fishing communities and most of all create a global footprint as the primary source for information related to Indian Seafood Products and Exports.

How are we performing

15 K Followers
15 K Page Likes
29 K Reach
6 K Engagement



Top Performing posts



Top Performing Video posts



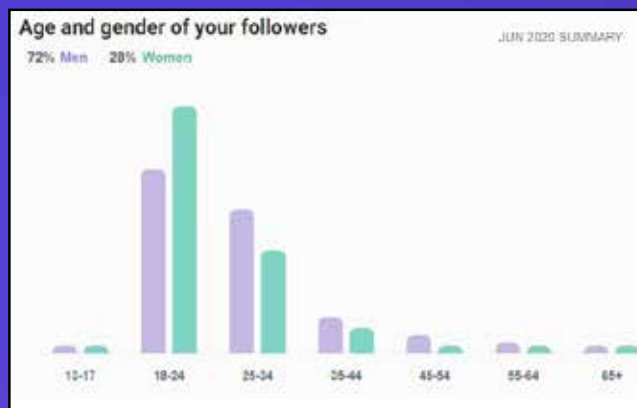
Audience demographics

With a slow and steady growth in followers and content production, we are able to get traction from countries like the UAE, the USA, KSA and the UK.

Moving ahead we will be focusing on creating curated content for audience from these countries as well.

Country	People Reached	City	People Reached	Language	People Reached
India	22,105	Kochi, Kerala, India	8,188	English (US)	13,884
United Arab Emirates	482	Chennai, Tamil Nadu, I...	1,658	English (UK)	9,319
United States of America	473	Kolkata, West Bengal, I...	1,000	Malyalam	780
Saudi Arabia	210	Mumbai, Maharashtra	771	Tamil	500
United Kingdom	120	Surat, Gujarat, India	500	Hindi	378
Russia	118	Hyderabad, Telangana	476	Telugu	380
Japan	116	Bengaluru, Karnataka	454	Bangal	210
Oman	105	Thiruvananthapuram	447	Marathi	120
Armenia	103	Kulam, Kerala, India	442	English (India)	100
Qatar	101	Bhimavaram, Andhra P...	420	Gujarati	400

Instagram



Joined Instagram on 25th December 2019

Over the past 10 months we have seen a slow and steady growth on Instagram.

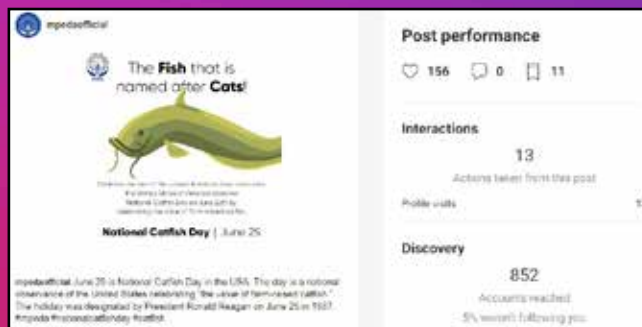
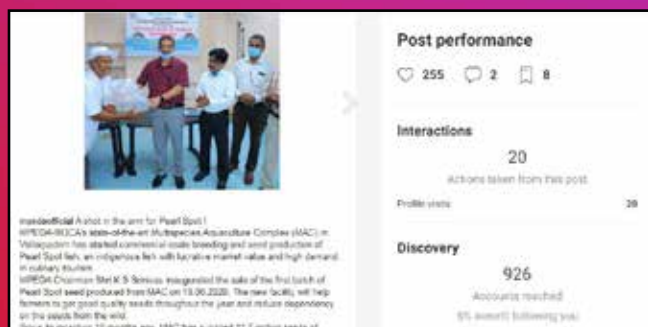
Instagram will be a platform to share visual centric content and our main focus will be reaching out to audiences by leveraging features of Instagram to produce interactive content to connect with the GenZ and introduce them to The INDIAN SEA FOOD WORLD.

Performance till now

With over 1,764 followers on Instagram, MPEDA has been receiving a steady reach with respect to the content that is being posted. We were able to gain a large pool of followers from younger generation. Hence focusing Instagram mainly for reaching out to these audience and their interests will be paving new steps for young seafood entrepreneurs.



Top Post



SOCIAL MEDIA REPORT : JUNE 2020

twitter

Joined Twitter on July 15th, 2014.

With an Organic growth, Twitter has been a major touchpoint for MPEDA to reach out to seafood enthusiasts and leaders by leveraging bite-sized Information and post.

150 Followers

2044 Followers



JUN 2020 SUMMARY	
Tweets	Tweet impressions
27	96.7K
Profile visits	Mentions
1,686	144
New followers	
180	

Top Tweets and their performance

Jun 2020 • 30 days

TWEET HIGHLIGHTS

Top Tweet earned 7,486 impressions

Seafood is a rich source of naturally-occurring Vitamin D, which plays a vital role in maintaining health. It helps regulate the amount of calcium and phosphate in the body. These nutrients are needed to keep bones, teeth and muscles healthy. #MPEDA #fishbenefits #healthyseafood pic.twitter.com/CWtQCX99

Top mention earned 72 engagements

President: NWF I @mpeda441 - Jun 22

@DoC_Gol @PyushGoyalOfc @GmGDI @mimmsne @MSDESkIndia @HCOHQ @fcci_india @APEDADOC @MPEDACOOCHIN @DPPGOI @CPAM_India On the #MSMEDay one of India's bigger MSME sector HS Order 5603 (non Wharves Fisheries) sector cargo govt to give free hand to contribute sustainable roll in Global Economy. Due to export ban industries suffering a lot bad.. On this #MSMEDay please listen our voice & open export

13 17 9

Top media Tweet earned 5,472 impressions

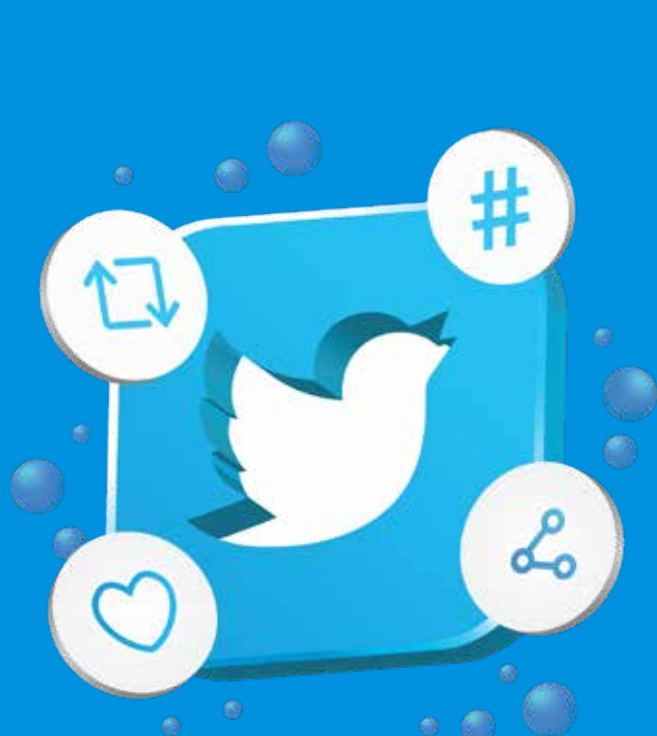
Fish is filled with omega-3 fatty acids and vitamins such as D and B2 (riboflavin). Fish is rich in calcium and phosphorus and a great source of minerals, such as iron, zinc, iodine, magnesium, and potassium. #MPEDA #healthylife #FishBenefits #SeafoodBenefits pic.twitter.com/8JH604CADV

Top Follower followed by 3,534 people

Rama Vinugopal @ramavenu - 10/12/2019/10/2

25 years experience in Management Consulting working across diverse sectors - Manufacturing, Healthcare, IT, Retail etc. Focus Business Segment #SMEs #SMBs

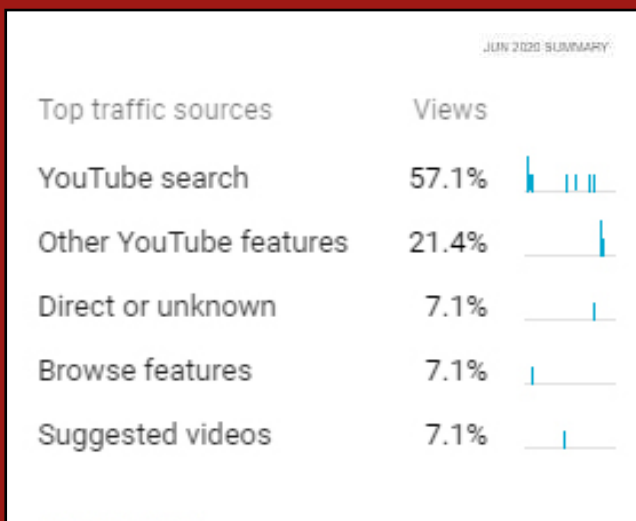
View profile



YOUTUBE

Joined Youtube on July 17th, 2014

Youtube acts as a video content bank for MPEDA and seafood industry stakeholders with all its important official conferences, meetings and activities uploaded on the platform.



Channel analytics

JUN 2020 SUMMARY

Current subscribers

833

Realtime

Updating live

833

Subscribers

68

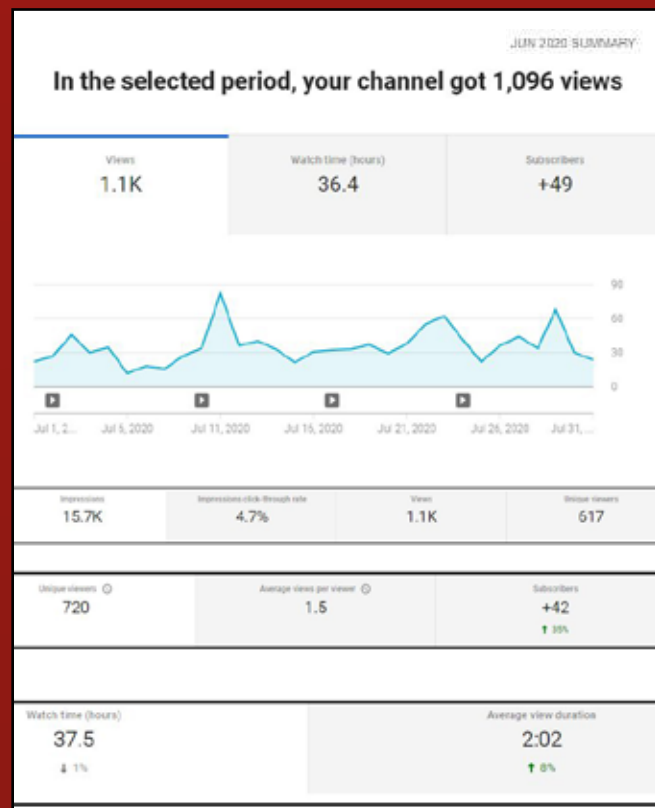
Views - Last 48 hours



Other Key Metrics

A large section of the viewers is from India, with a high mobile penetration and WhatsApp share rate of the Youtube watch Page.

Going forward, we will focus more on generating customized videos with informative and engaging content suited for global audience.



Do you have any questions?

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VANNAMEI FEED



BLACK TIGER SHRIMP FEED



BLACK TIGER SHRIMP FEED



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Feed Plant - Gujarat



Prawn Feed & Fish Feed



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- LOW FCR WITH HIGHER RETURNS • FRIENDLY WATER QUALITY

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AVANTI A.H.C.P. RANGE



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Avant Bact

Gut Probiotic



Marine Mineral

Avant Ammoni Absorb

Ammonia Absorber

Avant D-Flow

Water Quality Improver

Avant Life

Oxy-Generator

Avant Pro W

Soil & Water Probiotic

Avant Immupak

Immunity Enhancer

Avant Catcher



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