



MPEDA

Newsletter

VOL. IX NO. 6 SEPTEMBER 2021

COVER STORY

Strategies & Action Plan 2025

By K.S Srinivas IAS, Chairman, MPEDA

INSTITUTE OF THE MONTH:

Central Institute of Freshwater Aquaculture (CIFA)

MPEDA Launches Golden Jubilee Year Celebrations

New E-stat Package for Online Export Data Compilation



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**FIT INDIA FREEDOM
RUN 2.0**



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On the Platter

K. S. Srinivas IAS
Chairman

Friends,

MPEDA has kick started its Golden Jubilee Celebrations with a simple function held at the Head Office in hybrid form on 24th August 2021. As we scan through 5 decades of existence of this organization, I am sure that everyone will agree on the milestones achieved by it in fulfilling objectives of the authority to develop and promote marine products exports from India. It has spearheaded technology infusion to the sector and the benefit of which is now reaped by the stakeholders. The organization continuously engages the sector and its stakeholders for their economic improvement and to transform them to the players of big league in global seafood trade. For this, MPEDA has chalked out a strategy plan recently targeting US\$ 16 Billion exports in the next 3 years, and is under consideration by the Ministry of Commerce.

As a part of Golden Jubilee celebrations, MPEDA has also inaugurated a Golden Jubilee trainee's hostel building at its Multi Species Aquaculture Complex (MAC), Vallarpadam, Kochi, which will benefit the trainees to stay back within the complex and get involved in the hatchery and nursery operations on a 24x7 mode.

With the opening of two more ELISA Labs in West Bengal, one each at Contai and Haroa, the state can boast of three such labs of MPEDA for Pre Harvest Testing. It's indeed a proud moment for the organization to have a network of 16 ELISA Labs along the coastal aquaculture hubs of the country, catering to the antibiotic screening needs of aqua farmers.

As a part of market promotion measure, MPEDA has planned Buyer-Seller meets for Japan, Italy and Saudi Arabia. Buyer-Seller meets with Qatar and Belarus have already been conducted generating good response from the business clients.

During August, 5 indefinitely suspended seafood processing units were virtually inspected by Chinese General Administration and Customs (GACC). The companies are in the process of rectifying the non-conformities pointed out by the inspectors and Chinese side indicated that once they rectify the defects, they will consider lifting the suspension of the units. MPEDA has urged all the units concerned to inform their willingness for virtual inspection by GACC so that the suspension could be lifted on a case to case basis.

Meanwhile, MPEDA has hosted a research team from Centre for Cellular and Molecular Biology (CCMB), Hyderabad to a unit in Andhra Pradesh to understand the processing activities, so that they could advise the trade a suitable mechanism to dispense with the risk of contamination of Covid-19 nucleic acid material in seafood packaging. CCMB team drew samples for their research purposes, and the outcome is expected shortly.

However, FAO in their latest guidelines of August 2021 has clearly mentioned that it is highly unlikely that people can contract Covid-19 from food or food packaging. MPEDA has requested Department of Commerce to raise it with GACC with a request to stop testing for Covid- 19 nucleic material in packing.

We have convened a meeting of Andhra Pradesh based exporters at Visakhapatnam during late August 2021 to popularize the e-Santa platform developed by NaCSA-MPEDA among them, wherein the exporters were appraised on the benefits of e-Santa portal. I request the exporters to make use of the marketing platform and procure the raw material directly from farmers - gains to both exporters and farmers creating a win-win.

Thank you.

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Golden Jubilee year celebrations of MPEDA inaugurated

MPEDA enters 50th year of its existence; launches year-long Golden Jubilee celebrations

The Marine Products Export Development Authority (MPEDA) ushered into its 50th year of eventful and glorious existence by launching year-long Golden Jubilee celebrations, the first of its kind in the history of the organization making way for the participation of hundreds, including pensioners, exporters and all its regional divisions and societies, through virtual platform.

The function, which began on 24th August, was live-streamed on MPEDA's social media platforms. The

function commenced with an invocation followed by a silent prayer in remembrance of the departed souls of the organisation. Mr. K. S. Pradeep IFS, Secretary, MPEDA & President, MPEDA staff Club, made the welcome address.

Mr Mohammad Yousaf IRS, Commissioner of Customs, Kochi, who was the Chief Guest, inaugurated the Golden Jubilee celebrations by lighting the lamp in the presence of Mr. K. S. Srinivas IAS, Chairman, MPEDA, who presided over the function.



Shri. Mohammed Yusuf IRS, Commissioner Customs doing the inauguration

MARKETING NEWS

In his presidential address, Chairman made a presentation on the growth and achievements of MPEDA in the past five decades and gave insights into a road map for the next 50 years. He emphasized the hard work and efforts of existing and retired employees of MPEDA, exporters and other stakeholders for the exponential growth of seafood exports.

Felicitations were offered by Dr. M. Karthikeyan, Director, MPEDA; Mr. Aditya Dash, Vice Chairman; and Dr. Ram Mohan M.K., Joint Director (Quality Control), besides Mr. Jagadish V. Fofandi, National President, SEAI and Mr. Elias Sait, Secretary General, SEAI.

The employees who had completed 25 years of service in MPEDA, were honoured on the occasion. The Rajeswari Memorial Endowment Awards instituted in remembrance of Mrs. M. Rajeswari, a former employee of MPEDA, were awarded to the children of MPEDA employees who secured highest marks in the board examinations for 10th and 12th classes.

To mark the occasion, MPEDA has come out with an e-STAT package which automates the export statistics collection and analysis. Mr. Anilkumar P., Joint Director (Marketing), MPEDA, introduced the package.

Mr. Mohammed Yousaf, IRS, lauded the 'e-STAT' package, marking it as a giant leap for MPEDA. Officers and staff of MPEDA from Head office were present during the occasion and entire field offices, societies and exporters joined the programme virtually.

Mr. Nishanth K.N., Joint Secretary, MPEDA Staff Club, proposed the vote of thanks, marking the conclusion of the event.



Gifting memento to the Chief guest



Shri K.S Pradeep IFS, Secretary MPEDA _ President, MPEDA staff Club giving welcome address



Dr. M Karthikeyan, Director, MPEDA giving felicitations



Shri. K S Srinivas IAS, Chairman, MPEDA giving Presidential address



Shri. Mohammed Yusuf IRS, Commissioner Customs addressing the gathering



MPEDA released new e-stat package for online export data compilation

Mr. Mohammed Yousaf IRS, Commissioner of Customs, Kochi inaugurated the new e-stat package of MPEDA on 24th August 2021, during the inaugural ceremony of MPEDA's Golden jubilee Year celebrations at MPEDA Head office at Kochi in presence of Mr. K S Srinivas IAS, Chairman, MPEDA, and other guests and officers.

Export data compilation and publishing is one of the major mandates of MPEDA as per the MPEDA Act, Section 9(2)(i). The MPEDA registration guidelines also mandate exporters to submit their export documents on monthly basis to MPEDA. Currently, exporters are submitting the shipping bills and invoices as hard copies to respective field offices of MPEDA.

The export statistics data compilation cover various fields such as item (eg. shrimp), product (eg. Headless Vannamei), grade (eg. 21/26), logistics (eg. port of discharge, port of destination) buyer details etc., which are manually entered into a client based software system until now. The existing system is followed since 1995 and comprises of independent field office module, data transfer module and Head Office module.

Data entry operators at field office manually enters the export data into the branch module and the compilation is sent as zip file to Head Office and ported to HO Module using a data transfer module. Data is maintained as SQL database in server maintained at HO. The reports could be fetched only from HO module at Head office after completing the porting of data from all offices that normally takes 45 days. Such a lengthy procedure also involves lot of manpower and drudgery. In this context, a new web based e-stat package is suggested to overcome all the drudgery and make the data available at HO on a real-time basis. The development of web based e-stat package was done by M/s. Broadway Infotec Private Limited, Noida.

Under the package, exporters can enter the export details by uploading system generated pdf file of ICEGate shipping bill which will reduce the manual efforts. Shipping bill details can also be entered by

uploading data in excel file or by the traditional manual entry method. The new e-stat package will have more reports, graphical representation of reports and has a dash board giving graphical illustrations of data. The e-stat package will be accessible from any location so that user can perform required actions from any where with internet connectivity.

Home page of the new e-stat can be viewed at <https://estat.mpeda.gov.in/>



MPEDA conducts Virtual Buyer Seller Meet with Embassy of India, Qatar



MPEDA in association with Embassy of India, Doha, Qatar had arranged a Virtual Buyer Seller Meet (VBSM) on 17th August 2021.

The programme started at 12 PM. The VBSM was coordinated by IBPC (Indian Business and Professional Council). Dr. Deepak Mittal, H. E. Ambassador of India in Doha was the Chief Guest of the VBSM. Mr. Manoj Megchiani of IBPC gave an introduction about the programme, while Mr. Anilkumar P., Joint Director (Marketing), MPEDA welcomed the participants.

Dr. Mittal spoke about the co-operation of the nations in marine sector and appreciated the increased participation in the VBSM. He emphasized on the huge potential of Indian marine products in Qatar and

congratulated MPEDA for its effort to establish a high value for Indian seafood in Qatar.

The Ambassador also pointed out that the decreased seafood exports from India to Qatar during the pandemic period was on account of increased freight charges by 40-50 %, and competition for shrimp from countries like Iran , Kuwait, and Egypt. Ambassador quoted research findings and expected a growth in seafood sector within 6 months.

The guest of honour of the programme Dr. Mohd Althaf of M/s. Lulu International was introduced by Mr. Manoj Megchiani. The consumer requirements about traceability of the seafood products were shared by Dr.

MARKETING NEWS

Mohd Althaf. He has assured full support on behalf of his group to popularize Indian seafood in Qatar, which has a limited presence in the market now.

The meeting proceeded with the introduction of the buyers from Qatar who participated in the programme. There were 13 buyers who were dealing with products like live fishes, chilled fish, frozen fish, retail and other food services. They considered the VBSM as a great opportunity to deal directly with the producers.

Dr. T.R. Gibinkumar, Deputy Director (Market promotion & Statistics), MPEDA invited the Indian exporters to

introduce themselves. Dr. Gibinkumar shared the trade statistics of India in Middle East, which is having a share of about 4.50% of the market. He highlighted that 50% of the exports from India are in chilled form and 77 % of such exports are constituted by fishes like croakers, mackerel, and tuna, and the remaining by shrimp.

The VBSM continued with the presentations by the 13 participating exporters from India, followed by question & answer session. The meeting ended at 2.00 PM with the concluding remarks of Ms. Angeline Premalatha, Counsellor (Political & Commerce) and Mr. Anilkumar P., Joint Director (Marketing), MPEDA.



Virtual Buyer Seller Meet conducted by MPEDA with Embassy of India, Tokyo



MPEDA in association with Embassy of India, Tokyo, Japan had arranged a Virtual Buyer Seller Meet (VBSM) on 18th August 2021 with Mr. Tomokazu Sakai from Okayo & Co. Ltd. Sixteen exporters had participated in the meeting with their presentations. The programme started at 11AM. Dr. T.R. Gibinkumar, Deputy Director (Market promotion & Statistics) was the moderator of the VBSM. Dr.

Gibinkumar gave a brief about MPEDA and welcomed the Japanese importer and exporters. VBSM proceeded with the presentations by the participating exporters from India.

The buyer and sellers were also given opportunity to discuss their queries regarding the market. The VBSM ended at 12.30 PM with the concluding remarks of Dr. Gibinkumar.





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Suffering from migraine? Include more fish in your diet

Compiled by: *Dr. T.R. Gibinkumar, Deputy Director (Market promotion & Statistics), MPEDA, Kochi-36.*

- Research showed that diet containing fatty acids found in certain fish can help reduce the frequency and severity of migraine.
- Fish like salmon, tuna, and sardines have higher levels of these fatty acids.
- Experts recommend adding fish, rich in fatty acids, to daily diet

Do you suffer from frequent migraine attacks? Then it is time to increase your intake of fish. According to a new study, a diet higher in fatty fish can help frequent migraine sufferers reduce their monthly number of headaches and intensity of the pain. The findings by a team of researchers from the National Institute on Aging (NIA) and the National Institute on Alcohol Abuse and Alcoholism (NIAAA), parts of the National Institutes of Health; and the University of North Carolina (UNC) at Chapel Hill, were published in the July 3 issue of The BMJ.

Introduction

Migraine is among the largest causes of disability worldwide. Although treatment options for migraine have improved in the last decade, many patients continue to experience substantial pain and disability despite taking multiple drugs.

More than 4 million people worldwide have chronic migraine (at least 15 migraine days per month) and over 90% of sufferers are unable to work or function normally during an attack, which can last anywhere from four hours to three days. Women between the ages of 18 and 44 are especially prone to migraines. As with many multifactorial chronic diseases, an incomplete understanding of the underlying biological mechanisms has limited the development of effective approaches for prevention and treatment.

WHAT IS ALREADY KNOWN ON THIS TOPIC	WHAT THIS STUDY ADDS
Modern industrialized diets tend to be low in n-3 eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), and high in n-6 linoleic acid. These fatty acids serve as precursors to endogenous signaling molecules (oxylipins) shown to increase (linoleic acid) or decrease (EPA+DHA) pain in pre-clinical models.	Adults with chronic and episodic migraine in the United States were randomized to the H3 diet (increased EPA+DHA), the H3-L6 diet (increased EPA+DHA, reduced linoleic acid), or a control diet (average US intake of n-3 and n-6 fatty acids) While the benefit of the H3 and H3-L6 diets on quality of life was inconclusive, the reduction in headaches was robust, particularly for the H3-L6 diet. Both active diets altered blood levels of bioactive oxylipins implicated in headache pathogenesis in a manner consistent with a lowered nociceptive state, and did not alter classic mediators of headache pain (prostaglandins, calcitonin gene related peptide)

PARTICIPANTS OF THE STUDY

The study measured the effects of diet on migraine frequency and severity in 182 U.S. participants over 16 weeks. Women made up the majority (88 percent) of participants. The average age of

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participants was 38. They suffered 5 to 20 migraine attacks per month and 67 percent met the criteria for chronic migraine.

Participants were divided into three diet groups:

1. The H3 diet (increased EPA+DHA fatty acids)
2. The H3-L6 diet (increased EPA+DHA fatty acids and reduced linoleic acid)
3. The control diet (average U.S. intake of omega-3 and omega-6 fatty acids).

The first group received meals that had high levels of fatty fish or oils from fatty fish. The second group received meals that had high levels of fatty fish and lowered linoleic acid. The third group received meals with high linoleic acid and lower levels of fatty fish to mimic average U.S. intakes. The researchers said the H3-L6 and H3 interventions altered bioactive mediators implicated in headache pathogenesis and decreased frequency and severity of headaches. Improvements in headache frequency in the H3-L6 group were greater than those in the H3 group, suggesting additional benefits from lowering dietary omega-6 linoleic acid.

In other words, the diet lower in vegetable oil and higher in fatty fish led to 30%-40% reductions in total headache hours per day, severe headache hours per day, and overall headache days per month compared to the control group. Blood samples from this group of participants also had lower levels of pain-related lipids. Despite the reduction in headache frequency and pain, the participants reported minor improvements in migraine-related overall quality of life compared to other groups in the study.

The role of dietary n-3 and n-6 fatty acids in migraine pathogenesis

Modern industrialized diets tend to be low in food sources of n-3 EPA and DHA (eg, finfish and shellfish) and high in vegetable oils rich in n-6 linoleic acid. Linoleic acid is a polyunsaturated fatty acid commonly derived from corn, soybean, and other similar oils, as well as some nuts and seeds.

The n-3 and n-6 fatty acids are major components of tissues implicated in migraine pathogenesis where they serve as precursors for several families of bioactive lipid mediators that regulate pain (eg, prostaglandins, leukotrienes, resolvins, maresins). These lipid mediators are collectively known as oxylipins. Since

humans cannot synthesize n-3 and n-6 fatty acids de novo, the levels of these fatty acids and their oxylipin derivatives can be altered by diet, the study pointed out. Several families of oxylipin receptors are enriched in trigeminal nerve endings and central pain processing pathways, where they regulate sensitization and the release of the headache related neuropeptide calcitonin gene related peptide; this implies a direct link between n-3 and n-6 fatty acids and headache pathogenesis.

Pain Promoting & Pain Reducing Oxylipins

Several oxylipins derived from n-6 fatty acids have pronociceptive (pain promoting) properties. For example, infusion of prostaglandins derived from n-6 arachidonic acid evokes migraine like attacks in humans. By contrast, several oxylipins derived from n-3 eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) have potent antinociceptive (pain reducing) properties.

The team, in a pilot trial of 67 adults with chronic daily headache, had found that a 12-week, food based intervention that increased dietary n-3 EPA+DHA while decreasing n-6 linoleic acid reduced headache days per month compared with an intervention that decreased linoleic acid alone. Why migraine sufferers should eat more fish, in particular marine fish, because it is a unique source of n-3 long chain polyunsaturated fatty acids (n-3 LC PUFA). According to Food and Agriculture Organization (FAO), oily marine fish are the most important source of the LCPUFA, EPA and DHA.

High levels of EPA and DHA in blood or other cells are attained only when they are provided as such in the diet and this would occur mostly from the consumption of fish and fish oils, which are rich sources of these n-3 LCPUFA. Fish such as salmon, mackerel, tuna, herring and sardines are found to have higher levels of these fatty acids.

One can add fish to their toast for breakfast, salad at lunch and pasta at dinner. It can be grilled, baked or smoked or simply curried as per one's taste. Fish as food is so versatile that those who are not a fan of this nutritious global food can easily integrate them into their daily diet and at the same time give a surprise treat to their taste buds.

Reference: Research paper on "Dietary alteration of n-3 and n-6 fatty acids for headache reduction in adults with migraine": randomized controlled trial. (<https://www.bmj.com/content/374/bmj.n1448>)



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

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

Monitoring of marine landings in terms of fish catch and boat arrivals is being done by NETFISH on a regular basis at selected major harbours/landing centres in the 9 coastal states of India. The name, registration number and type of fishing vessels arriving every day at the harbour and the species-wise quantity of fish catch landed by these vessels are collected on a real time basis and recorded in the MPEDA (Catch Certificate) website. The fish catch and boat arrival data obtained during August 2021 were analyzed and the species-wise, harbour-wise and state-wise trends observed during the month are presented in this report.

I. OBSERVATIONS ON FISH CATCH

In August 2021, marine catch landing was recorded from 72 major selected landing sites, which has totalled to a quantity of 49665.28 tonnes. About 41 % of the total catch ie. 20545.46 tonnes were composed of Pelagic finfish resources, and the share of Demersal finfishes, Crustaceans and Molluscs were 28% (13633.60 tonnes), 20% (9904.15 tonnes) and 11% (5582.07 tonnes) respectively (Fig.1).

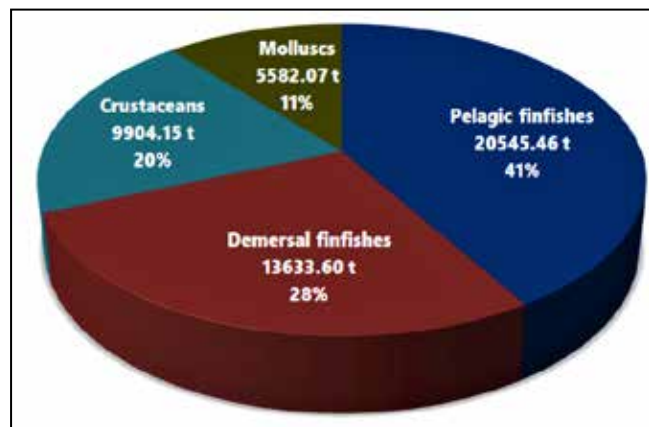


Fig.1: Catch composition of marine landings recorded in August 2021

Altogether, 240 species of marine fishery items were recorded in the month, of which, the top five contributors were *Decapterus russelli* (Indian scad), *Nemipterus japonicus* (Japanese thread fin bream), *Parapenaeopsis styliifera* (Karikkadi shrimp), *Rastrelliger kanagurta* (Indian mackerel) and *Johnius Spp* (Croaker) (Table 1).

Table 1: Major fish species landed during August 2021

Sl. No:	Common name	Scientific name	Qty. in tonnes
1	Indian scad	<i>Decapterus russelli</i>	7544.47
2	Japanese thread fin bream	<i>Nemipterus japonicus</i>	4007.18
3	Karikkadi shrimp	<i>Parapenaeopsis styliifera</i>	3892.32
4	Indian mackerel	<i>Rastrelliger kanagurta</i>	2380.28
5	Croaker	<i>Johnius Spp</i>	2059.91

The various species of fishery items recorded were categorised into their common groups and the catch trend was analysed. Coastal shrimps, Scads, Sea breams, Squids and Croakers were the major five items landed during the month. These five items have together formed 56 % of the total catch (Fig 2).

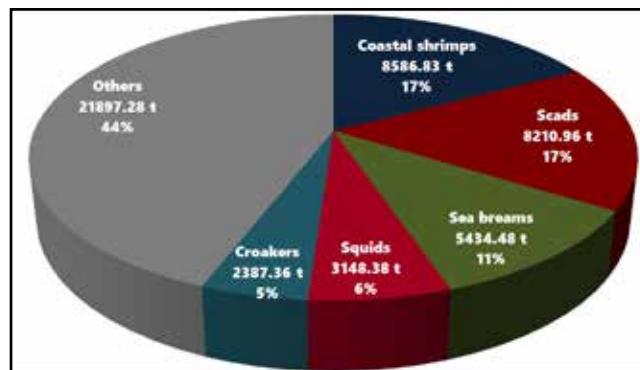


Fig.2: Major fishery items landed during August 2021

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Quantity of Pelagic finfish, Demersal finfish, Crustacean and Mollusc resources landed during August 2021 is given in Table 2. Scads, Indian mackerel and Tunas were the major contributors among the Pelagic finfishes. Sea breams and Croakers were the most landed item among the Demersal finfishes. About 87 % of the Crustacean catch was comprised of different species of Coastal shrimps, of which the *Karikkadi* shrimp was the most landed species. In the case of the Molluscs, squids and cuttle fishes were the major items.

Table 2: Category-wise landing of various fishery items during August 2021

FISHERY ITEM	QTY. IN TONNES	% OF TOTAL CATCH
Pelagic Finfishes		
Scads	8210.96	16.53
Indian mackerel	2380.28	4.79
Tunas	2196.38	4.42
Bombay duck	1681.72	3.39
Anchovies	1194.29	2.40
Ribbon fish	1072.81	2.16
Indian oil sardine	635.76	1.28
Lesser sardines	572.51	1.15
Shads	484.56	0.98
Seer fish	407.96	0.82
Barracudas	317.16	0.64
Mulletts	198.44	0.40
Trevallies	188.61	0.38
Sword fish	162.30	0.33

Herrings	148.92	0.30
Sailfish	143.48	0.29
Indian Salmon	127.70	0.26
Queen fish	117.97	0.24
Other Mackerels	71.67	0.14
Marlins	64.84	0.13
Needlefish	44.75	0.09
Mahi mahi	38.22	0.08
Perchlet	32.77	0.07
Flying fish	28.60	0.06
Halfbeaks	12.61	0.03
Cobia	7.65	0.02
Milk fish	1.23	0.00
Rainbow runner	0.92	0.00
Wahoo	0.40	0.00
Total Pelagic	20545.46	41.37
Demersal finfishes		
Japanese thread fin bream	4007.18	8.07
Croakers	2387.36	4.81
Pomfrets	1610.16	3.24
Threadfin breams	1391.15	2.80

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Reef cods	730.22	1.47
Lizard fish	605.35	1.22
Catfishes	564.55	1.14
Sole fish	413.94	0.83
Pony fish	380.80	0.77
Groupers	222.33	0.45
Bulls-eye	200.81	0.40
Rays	170.81	0.34
Goat fishes	118.93	0.24
Eels	106.70	0.21
Snappers	100.23	0.20
Sharks	90.43	0.18
Unicorn leather-jacket	71.80	0.14
Leather jacket	51.30	0.10
Rabbit fish	47.23	0.10
Emperor breams	36.15	0.07
Flat heads	35.87	0.07
White fish	35.34	0.07
Flying Gurnard	30.75	0.06
Whiting	28.88	0.06
Indian halibut	27.64	0.06
Silver biddies	23.14	0.05
Sweet lips	22.97	0.05

Trigger fish	21.98	0.04
Surgeon fish	19.08	0.04
Perch	15.86	0.03
Parrot fish	15.75	0.03
Perches	9.55	0.02
Indian Thread-fin	6.73	0.01
Sickle fish	6.05	0.01
Pompano	5.65	0.01
Sea breams	4.39	0.01
Indian thread-fish	3.64	0.01
Spade fish	3.26	0.01
Moon fish	2.78	0.01
Drift fish	2.05	0.00
Sea bass	1.40	0.00
Grunts	1.20	0.00
Pinjalo	1.19	0.00
Fusilier	0.90	0.00
Pony fishes	0.13	0.00
Total Demersal	13633.60	27.45
Crustaceans		
Coastal shrimps	8586.83	17.29
Crabs	890.46	1.79

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Deep-sea shrimps	424.82	0.86
Lobsters	2.04	0.00
Total Crustaceans	9904.15	19.94
Molluscs		
Squids	3148.38	6.34
Cuttle fish	1872.95	3.77
Octopus	560.74	1.13
Total Molluscs	5582.07	11.24
TOTAL CATCH	49665.28	100.00

State-wise landings: Landing data was recorded only from 7 coastal states of the country during the month as no landing was reported from Gujarat & Goa states. Karnataka state has recorded the highest marine catch landings during August 2021, with a share of 26 % (13130.49 tonnes) (Fig.3). Kerala with a contribution of 10021.59 tonnes (20 %) stood in the second position and West Bengal, with a total landing of 8742.17 tonnes (18 %), in the third position.

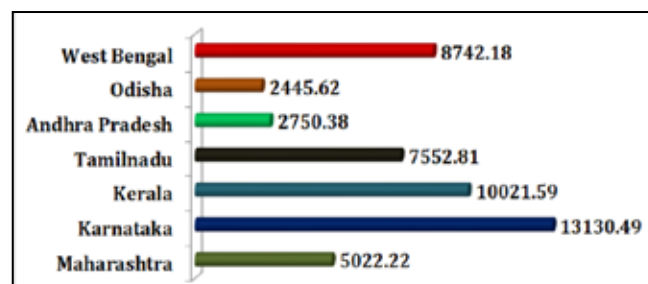


Fig.3 : State-wise fish landings (in tonnes) during August 2021

Harbour-wise landings: The total marine landing reported from each harbour is given in Table 3. Among the 72 harbours, Mangalore harbour in Karnataka recorded the maximum fish landing, which was to the tune of 3705.93 tonnes (7 %) and it was followed by Munambam and Deshapran harbours with 3342.69 tonnes (6.5 %) and 2470.15 tonnes (5 %) respectively. The least landing was reported from Azheekkal harbour in Kerala (3.89 tonnes).

Sl. No:	State	Harbour	Catch Quantity (tonnes)	No. of Boat Arrivals (nos)
1	Maharashtra	New Ferry Wharf	2049.51	436
2		Sassoon Dock	1476.48	455
3		Arnala	621.29	650
4		Satpati	311.26	198
5		Vasai	130.95	119
6		Uttan	110.12	104
7		Alibagh	105.10	262
8		Dabhol	94.12	148
9		Versova	77.62	36
10		Dahanu	45.76	221
11	Karnataka	Mangalore	3705.93	511
12		Karwar	1838.30	770
13		Malpe	1697.77	531
14		Amdalli	1645.63	457
15		Honnavar	1551.40	336
16		Bhatkal	1328.14	309
17		Tadri	765.98	291
18		Belekeri	458.07	118
19		Gangolli	139.28	129
20	Kerala	Munambam	3342.69	917
21		Thoppumpady	2211.17	596
22		Beypore	2147.61	414
23		Chettuva	669.95	173
24		Thottappally	493.97	379
25		Vypin	318.67	112

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26		Ponnani	268.23	332
27		Koyilandi	236.23	234
28		Mopla Bay	84.61	206
29		Puthiyappa	81.83	110
30		Cheruvathur	64.93	163
31		Chellanam	55.37	73
32		Munakkakadavu	42.45	28
33		Azheekkal	3.89	4
34	Tamilnadu	Chennai	2330.86	534
35		Nagapattinam	1716.72	609
36		Karaikal	1045.63	382
37		Colachel	617.31	306
38		Tharuvaikulam	582.06	207
39		Pazhayar	313.90	572
40		Tuticorin	189.99	449
41		Cuddalore	152.09	350
42		Thengaipattinam	138.62	374
43		Pondicherry	128.49	144
44		Mandapam	103.57	212
45		Rameswararam	54.47	196
46		Mudasalodi	41.48	236
47		Pulicat	37.94	485
48		Chinnamuttom	29.53	179
49		Mallipattinam	24.13	187
50		Poompuhar	15.21	285

51		Kottai-pattinam	13.61	157
52		Kodiyakarai	10.67	317
53		Jagathapattinam	6.55	72
54	Andhra Pradesh	Visakhapatnam	1275.99	463
55		Kakinada	413.54	212
56		Nizampattinam	383.85	114
57		Machilipattinam	281.21	165
58		Yanam	165.25	125
59		Vodarevu	135.59	383
60		Pudimadaka	94.95	427
61	Odisha	Paradeep	906.40	363
62		Balramgadi	750.50	391
63		Dhamara	511.74	176
64		Balugaon	146.76	581
65		Bahabalpur	130.22	70
66	West Bengal	Deshapran	2470.15	940
67		Sankarpur	1714.66	787
68		Namkhana	1529.12	587
69		Kakdwip	1230.07	682
70		Soula	697.83	336
71		Fraser Ganj	623.50	370
72		Raidighi	476.85	255

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II.OBSERVATIONS ON BOAT ARRIVALS

A total of 23502 nos. of fishing vessel arrivals were recorded from the 72 harbours during August 2021. State-wise figures (fig. 4) show that the highest number of boat arrivals had occurred in Tamil Nadu (27 %) and then in West Bengal (17 %) and Kerala (16 %).

The harbour wise details of boat arrivals are given in table 3 above. Deshapran (940 nos.), Munambam (917 nos.) and Sankarpur (787 nos.) harbours had recorded the highest fishing vessel arrivals during the month. The least number of boat arrivals was reported from Azheekkal harbour in Kerala.

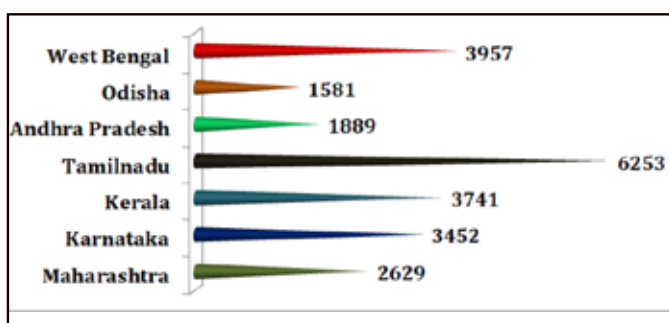


Fig.4 : State-wise boat arrivals (nos.) during August 2021

Summary: In the month of August 2021, a total of 49665.28 tonnes of marine catch landings and 23502 nos. of boat arrivals were reported from 72 major fish landing sites along the 7 maritime states of India. The total catch has increased by around 24668.43 tonnes, when compared to that of July 2021 and the number of boat arrivals has increased by around 5628 numbers.

The Pelagic finfish continued as the major contributor to the total landings, and the Indian Scad (*Decapterus russelli*) had recorded as the most landed fish species for the month. Whereas, the various species of coastal shrimps had together formed the most landed fishery item for the month.

The state of Karnataka had attained the first position among the states in terms of total catch landed but the Tamil Nadu state had recorded the highest number of boat arrivals. Among the harbours, the Mangalore harbour attained the first position in terms of total catch landed, whereas the Deshapran harbour recorded the maximum number of boat arrivals.



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'CIFA is at the forefront of the paradigm shift in Indian Aquaculture'

Dr Saroj Kumar Swain

Director, ICAR-CIFA





Being the fourth largest capture (both marine and inland) fishery and second-largest aquaculture producing country in the world puts India in a unique position. The potential of the industry needs to be tapped in a scientific manner. This brings the Central Institute of Freshwater Aquaculture into the foreground.

From its modest beginnings as the Pond Culture Division of Central Inland Fisheries Research Institute (CIFRI) established at Cuttack, Odisha, in 1949, the ICAR-Central Institute of Freshwater Aquaculture (ICAR-CIFA) has come a long way to become an independent research institute during 1987. ICAR-CIFA is the premier research Institute on freshwater aquaculture in the country under the aegis of the Indian Council of Agricultural Research (ICAR), New Delhi. Back then, it has a limited portfolio to face challenges in the field of fish culture in ponds, tanks and other small aquatic bodies. The Institute currently has a 147-hectare campus at Kausalyaganga, Bhubaneswar, Odisha.

"ICAR-CIFA plays an active role in the freshwater aquaculture development in the country and works in close association with the Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, Govt of India. ICAR-CIFA has conducted a national level stakeholder consultation and developed a strategic document for increasing aquaculture production in the country under the Pradhan Mantri Matsya Sampada Yojana (PMMSY)," said Dr Saroj Kumar Swain, Director of ICAR-CIFA.

"The Institute is also the Lead Centre on 'Carp Farming in India' under the Network of Aquaculture Centres in Asia-Pacific (NACA). ICAR-CIFA has developed twenty-three technologies covering different aspects of freshwater aquaculture like captive breeding, seed production and grow-out culture of diversified species, selective breeding of rohu, catla & freshwater prawn, milt cryopreservation, portable hatchery, pearl culture,

wastewater aquaculture, feed formulations, disease diagnostics and therapeutics etc. which are at different stages of adoption by farmers and aquaculturists."

India currently contributes to 7.6 per cent of global fish production by aquaculture. The historical scenario of Indian fisheries reveals a paradigm shift from marine dominated fisheries to a scenario where inland fisheries have emerged as a major contributor to the overall fish production in the country.

The present inland fish production of 10.4 MMT constitutes more than 74 per cent of the total fish production of the country. More than 75 per cent of this inland production comes from fish farming in about 70 percent of the available 2.43 million hectares of ponds and tanks resources in the country. "Horizontal expansion, even to the cent percent utilisation level, may not be sufficient to cater to the fish demand in the coming days. Though ponds and tanks have remained as the major resources for aquaculture production, the potential of the 0.2 million km rivers and canals, 3.12 million ha reservoirs, and the 0.8 million hectares of floodplain lakes and derelict waters in the country are yet to be harnessed. Therefore, while it is necessary to increase the present average productivity from 3.5 t/ha to a level of 5.0 t/ha, holistic development of the other natural waters also needs to be explored to reduce the stress on pond resources and ensure sustainable development," Dr Swain said.

India is already home to a big spectrum of cultivable aquatic species. The backbone of Indian aquaculture is made of three major carps, namely catla (*Catla catla*), rohu (*Labeo rohita*), mrigal (*Cirrhinus mrigala*) and the three exotic carps, namely silver carp (*Hypophthalmichthys molitrix*), grass carp (*Ctenopharyngodon idella*) and common carp (*Cyprinus carpio*). Besides these, there is a large number of potential cultivable species like *L. calbasu*, *L. gonius*, *L. fimbriatus*, *L. bata*, *P. sarana*, *Hypselobarbus (Puntius) pulchellus*, *Puntius jerdoni*, *P. kolus*, *P. carnaticus* and *Cirrhinus cirrhosa*.

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Dr Saroj Kumar Swain, Director of ICAR-CIFA

However, “there is also a need to shift aquaculture from the low-valued carps to high-valued species to make it more remunerative. With technologies available now for breeding and culture of air-breathing (*Clarias batrachus*, *Heteropneustes fossilis*) and non-air breathing catfishes (*Pangasius pangasius*, *Mystus seenghala*, *M. aor*, *Wallago attu*, *Ompok pabda*), butter catfish (*Ompok bimaculatus* and *O. pabda*), snakeheads (*Channa striata* and *C. marulius*), and climbing perch *Anabas* sp., there are plenty of scopes to diversify the aquaculture systems in the country,” said Dr Swain.

He pointed that the Institute has developed Genetically Improved Rohu – Jayanti Rohu, which grows faster than the normal rohu, presently it's being cultured across India. Efforts are on to replace the normal rohu with Jayanti Rohu in a phased manner. CIFA GI Scampi is the improved freshwater prawn developed by the Institute. Scampi farming is already receiving keen attention, be it the establishment of hatchery or grow-out systems. The Institute also has developed an improved ornamental fish variety Shining Barb and the genetically improved Catla is also under development. Breeding and propagation for a wide range of ornamental fishes, including the indigenous fishes from hilly regions of the country, have also been standardised. The Institute is also spearheading the technology development & demonstration of freshwater pearl production. It all points to the fact that system diversification is now emerging as a significant component in meeting the aquaculture production target.

“Importance has now been given to adopt and propagate technologies like recirculatory aquaculture system (RAS), biofloc and FIMTA to increase productivity and production utilising high-value species. Further,

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Farm



Biofloc Experimental Facility



Prawn hatchery for seed production



RAS Unit

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Jayanti Rohu



CIFA GI Scampi



Pengba



Mixed haul

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Pabda



Pearl



Shining Barb - Genetically Improved Rosy Barb

CIFA has been giving research thrust on developing feeds and feed standards for culturable fish species, understanding nutrient dynamics of culture systems, nutrient composition of fish species, selective breeding for rohu, catla and prawn along for higher growth and disease resistance, developing newer sensitive tools in disease diagnosis and health management. Further, virtual platforms and business incubation have been the need of the day to demonstrate and disseminate the technologies to the end-users on which the Institute is putting more emphasis," added Dr Swain.

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ICAR-CIFA has also developed a range of tools & products for wide application in the freshwater aquaculture sector. FRP Hatcheries for breeding carp, magur and pabda are being used by many farmers across the country. CIFA has developed many commercial feed formulations; notable ones are CIFABROOD, CIFA Carp Starter, CIFA Carp Growout and few more formulations are under the commercialisation process. Therapeutics like CIFAX, CIFICURE are also popular among farmers.

With the support of the Govt of India sponsored special development programmes like Scheduled Tribe Component (STC), Scheduled Caste Sub Plan (SCSP) and North-east Hill Development Programme (NEH) programmes, the Institute undertakes technology demonstration programmes and capacity building programmes in north-eastern states and disadvantaged locations across the country. The initiatives have benefitted thousands of small holder farmers. CIFA handles ICAR's flagship programme, "Farmer FIRST" project, which focuses on the technology assemblage and mobilisation of the Agri and allied technologies to 400 farm households and facilitated regular interface between the farmers and scientists.

The Institute also implemented the flagship programmes of Govt of India such as Krishi Kalyan Abhiyan, Swachha Bharat Abhiyan, Mera Gaon Mera Gaurav etc., with true spirit. Right now, ICAR-CIFA offers several need-based training courses for capacity-building of stakeholders, who in turn would transmit advanced technical know-how to the end-users. The programmes were demand-driven and the delivery was based on the principle of 'learning by doing' with adequate background in theory and sufficient hands-on practical exercises. Besides, extension officers in the State department of fisheries, college or university teachers, students, entrepreneurs and NGOs are also benefited from the courses.

The Institute has also strengthened its Digital presence via WhatsApp, Mobile apps and virtual training programmes etc., to ease the transfer of technology process and dissemination of information. To cope up with the Covid-19 situation and reaching out to the farmers, ICAR-CIFAs Digital Outreach Center has organised a range of training programmes in virtual mode to expand the reach of Institute's technologies. Farmers & Stakeholders can apply to the training programmes through the website www.cifatraining.com

The Institute, in association with the NFDB, has launched an online course mobile app, "Matsya Setu", to disseminate the technological information to

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the fish farmers. The app has been launched by the Honorable Former Union Minister Shri Giriraj Singh on 06.07.21. The app has the species-wise/ subject-wise Self-learning video modules, where renowned aquaculture experts explain the basic concepts and practical demonstrations on breeding, seed production and grow-out culture of commercially important fishes.

Quiz/Test options were also provided for self-assessment and upon successful completion of each course module, an e-Certificate will be auto-generated. To solve any queries raised by the learner, an option has been given to submit the questions in the video chapter itself. Appropriate, specific advisories by experts will be sent to the app as push notifications. Additionally, the Institute also has a WhatsApp Number 7790007797 and a dedicated email helpline ask.cifa@icar.gov.in.



Matsya Setu release



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Carp hatchery operators with improved catla at Sahoo fish farm, Puri, Odisha



Haul of different fish species



Women fish farmers getting ready for fish harvest at Khordha, Odisha



Inauguration of Ornamental Aquaculture Field School

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Aquaculture Technology Park in Arunchal Pradesh

The CIFA Infrastructure

The Headquarters of ICAR-CIFA is located at Kausalyaganga along the Bhubaneswar-Puri Highway 203, about 12 km from Bhubaneswar city, the capital of Odisha. The headquarters of ICAR-CIFA works with the four scientific divisions and one section to work on the set mandates. The headquarters also houses the administrative and financial units towards the management of the Institute.

I. Aquaculture Production and Environment Division

The division works on technology development on breeding, seed production and grow-out culture of important cultivable freshwater finfishes and shellfishes like major and minor carps, barbs, murrels, anabas, catfishes like magur, pangas, pabda, freshwater prawn, indigenous ornamental fish and freshwater mussel to cater the need of food security of the country. The major focus of the division is diversification of the species and culture system to add more and more species into the freshwater aquaculture sector and to develop a viable, alternate rearing system in view of new challenges of water scarcity and climate change. The division also works on environmental aspects, water budget modelling of the freshwater fish production systems, farm mechanisation, design and development of farm implements. The division also provides consultancy services to national and international organisations in freshwater aquaculture development.

II. Fish Nutrition and Physiology Division

The division works on developing standard feeds for carps, catfish and prawns with the Bureau of Indian Standards. The division possesses a National Feed Testing and Referral Laboratory for feed quality

assurance and certification and a state-of-the-art Feed Mill for feed technology demonstration. It has a climatology laboratory for climate change study in fish physiology, fish digestibility laboratory for nutrient digestibility studies. The division also works on offseason gonadal maturation and seed production techniques in carps. Significantly the division has developed a catalogue of region-based feed resources in India.

III. Fish Genetics and Biotechnology Division

The division works towards the genetic enhancement of fish and shellfish species through the application of cutting-edge technology. This involves genetically improved varieties of fish and shellfish, new breed development, quantitative genetics, transgenic, proteomics, genomics, functional genomics, bioinformatics etc. These processes help in developing an integrated, cost-effective Marker Assisted Selection program for carp and freshwater prawn species. It is actively engaged in the development of genomics resources such as DNA markers, marker maps, experimental populations, EST databases, BAC libraries and above all, the whole genome sequence of prioritised fish and shellfish species.

IV. Fish Health Management Division

The division is mandated to conduct basic, strategic and applied research on freshwater fish and shellfish diseases and to enhance aquaculture productivity through the application of environment-friendly microorganisms. The division also provides training and consultancy services to different stakeholders in the field of disease management. The other activities of the division include national-level monitoring of fish disease outbreaks and serological screening of diseases, developing vaccines using molecular techniques, molecular characterisation of important bacteria, viruses, parasites and fungi. The division also works on the application of probiotics in aquaculture, immunity and immunomodulation in fish, maternal immunity in carps and their role in seed survival, cell culture techniques in fish, a repository of pathogenic bacteria and immuno-diagnostic reagents, isolation and characterisation of bacteria associated with nutrient cycles and bioremediation, biodiversity and identification of microorganisms important to aquaculture and nanotechnology in aquaculture. It has a National Referral laboratory for freshwater fish diseases to cater for the needs of providing nationwide diagnostic services to referral samples under the surveillance programme.

V. Social Science Section

The Social Science Section is focused on popularising research results for the overall development of the freshwater aquaculture sector, towards providing a forum for feedback to the Institute, to maintain liaison with the fish farmers, fisheries departments and fishery industry as a whole. The section also organises short term refresher courses to conduct research investigations for studying the extent of adoption of the new and improved technologies developed by the Institute and to conduct economic and statistical investigations on various aspects of freshwater



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Aquaculture Production and
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*Dr J.K. Sundaray, HoD,
Fish Genetics and Biotechnology Division*



*5. Dr G.S. Saha,
I/C Social Science Section*

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aquaculture. The section is actively promoting the Aquaculture Field School as a farmer to farmer technology dissemination model & entrepreneurship development through Agri-Business Incubation Center. The Digital Outreach Center of the section focuses on ICT enabled technology dissemination to the farmers & stakeholders.

VI. Regional Research Centres

The Institute possesses four Regional Research Centres at Rahara in West Bengal, Bengaluru in Karnataka, Vijayawada in Andhra Pradesh, Bathinda in Punjab and one field station at Kalyani in West Bengal. These centres or stations carry out research programmes for regional needs under different geographical situations and also act as outlets for technology dissemination.

VII. Krishi Vigyan Kendra

The Institute also hosts a farm science centre, the Krishi Vigyan Kendra, mandated for Khordha district, Odisha, by ICAR. The KVK works on technology assessment, refinement and training in agricultural and allied sectors. It is the extension arm of ICAR-CIFA in transferring technologies for both backward and forward linkages. The KVK is situated inside the campus of ICAR-CIFA under its administrative control.

CIFA's strategies for freshwater aquaculture development in India

ICAR-CIFA has worked out many significant measures to step up freshwater aquaculture production in tune with the rising demand in recent times. These, once implemented across the country, will optimise the production and boost India's position among aquaculture producers.

A glance at the CIFA's strategic propositions for increasing freshwater fish production in the country.

- Seed production and associated infrastructure should be scaled up in strategic locations of the country on a priority basis to create a robust fish seed value chain that reaches all the potential aquaculture areas.
- The mean productivity level of the existing aquaculture ponds remains as low as 3.5 t/ha, which can be easily increased to 5.0 t/ha through the adoption of scientific

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freshwater aquaculture practices. Feed-based aquaculture should be promoted as a top priority. To promote the widespread adoption of the technologies, systematic demonstration programmes are to be taken up involving all the relevant stakeholders.

- A huge number of panchayat water bodies and revenue ponds are underutilised across the country, which should be brought under scientific aquaculture in a phased manner. Similarly, reservoirs are also to be utilised judiciously. Proper convergence is to be ensured with the other ministry departments to forge a synergistic partnership to utilise the waterbodies for fish production. A limited number of new ponds may also be created in selected states.
- Capacity-building should be given top priority; a greater number of farmers should be trained on specific technology modules on scientific aquaculture. Sufficient training infrastructure should be developed in all the states.
- Many states lack proper infrastructure facilities like fish & shellfish hatcheries, soil-water quality testing laboratories and disease diagnostic laboratories for providing advisory services; all the potential states should be advised to establish the above laboratories in districts having significant aquaculture operations.
- Domestic fish consumption should be promoted aggressively as it would ensure the sustainable production of fish from the freshwater aquaculture sector.
- An enabling environment should be created for attracting private investments in the sector through proactive, innovative public-private partnership business models with viable technological solutions involving all the relevant stakeholders and developmental agencies.
- Mission mode schemes to be implemented in high potential species like scampi, ornamental fisheries and freshwater pearl farming to promote export-oriented entrepreneurship development.
- Institutional reforms for effective governance structure in line with the dynamics of the sector should be given priority.
- Robust impact assessment framework to be inbuilt in the scheme's implementation along with a scope for need-based research studies to increase the operational efficiency of the scheme implementation process.



Online workshops on 'Refinement of Marine Fisheries Management in West Coast of India'

MPEDA-NETFISH has conducted a series of online workshops entitled "The Refinement of Marine Fisheries Management in West Coast of India" to sensitize the issues such as Juvenile fishing, IUU fishing, Traceability, Vessel monitoring, harbour development and MFRA regulations among the major players of the sector and to formulate methodologies for the implementation of MFRA regulations and amending the existing MFRA of the state for better management. The first workshop in this series was held for the state of Maharashtra on 22nd July 2021 forenoon. Around 22 participants including Deputy Commissioner, Assistant Commissioners and FDO's from the State Fisheries Department, Scientists from CMFRI & CIFT and SEAI officials had attended the programme virtually.

On the same day afternoon, second workshop was conducted for Gujarat, which had active participation of about 16 people including Deputy Commissioner, Superintendent and Assistant Directors from Fisheries Department, Scientists from CMFRI & CIFT, CIFNET Director and Senior Instructor and SEAI National and Regional Presidents. The third workshop was conducted for Kerala on 27th July 2021 from 10 am to 1 pm, in which about 34 participants including JD, DD & ADs of Kerala State Fisheries Department, SP and CI from Marine Enforcement wing, Scientists from CMFRI and CIFT, Director & Sr. Instructor from CIFNET, Coast Guard officers & SEAI officials had actively participated.

The fourth one in the series was for Karnataka held on 27th July 2021 from 2 pm to 5 pm and the last one was for Goa state on 30th July 2021 from 10 am to 1 pm. Both these workshops also had witnessed active participation of 17 & 25 stakeholders respectively, including key officials from State Fisheries Departments, Scientists from CMFRI, CIFT&CCARI, faculties from Karnataka University and Chief officials from CIFNET& SEAI. Director, Joint Director (Marketing), Deputy Directors & Assistant Directors of MPEDA HO as well as regional offices and NETFISH Chief Executive & State Coordinators were also present.

Mr. Anilkumar P., Joint Director (Marketing), MPEDA welcomed the participants of the workshops and gave a brief introduction on the purpose of the workshop.



Online workshops conducted on "The Refinement of Marine Fisheries Management in West Coast of India"

Dr. M. Karthikeyan, Director MPEDA delivered the Presidential address and emphasized on fish quality management and sustainability through adoption of better practices and the importance for addressing the traceability issues. He suggested that all the departments/organizations concerned shall join hands to work together for the sustainability of the marine fisheries sector. Dr. Joice V. Thomas, CEO NETFISH delivered presentations on the present status of fisheries and its management in the respective states. Fruitful interactions were made after the presentation by all the participants.

The provisions in the state MFRAs and its implementation were discussed in the workshop and several recommendations were put forward for refining the existing MFRA and for the better implementation of the regulations. All the participants appreciated MPEDA & NETFISH for organizing the workshops. The State Coordinators have coordinated the workshop for ensuring the participation of key officials from the State Fisheries Department and other institutes. The data on State's fisheries status for the last 10 years were collected from State Fisheries department and other sources for preparing the presentations for the workshops.



Strategies and action plan for seafood exports by 2025 – Series 3



K. S. Srinivas IAS, Chairman, MPEDA

This is a series published by Chairman, MPEDA on the strategies and action plan envisaged by MPEDA in enhancing the seafood exports from the country to achieve the goals set for 2025. This paper is the third of the series detailing the USPs of Indian seafood and the strategies to be adopted in promoting Indian seafood to capture more market share in major markets as well as to delve deep into other potential markets.

I. Introduction

The previous two articles of the series discussed the current scenario of exports and production of exportable finfish and shellfish species, export projections, constraints identified as well the technical barriers faced by Indian seafood export trade. It is intended to narrate the measures required to promote Indian seafood in overseas markets to gain better visibility for our products and exporters.

India, bestowed with over 8000 km coastline has varied topography that hosts marine and inland fisheries besides aquaculture in inland waters and coastal plains. The uniqueness of India's fisheries and aquaculture realms play a significant role in formulating the branding campaign of Indian seafood in order to strike the right chords of customer preferences.

A brief outline of the Unique Selling Points (USPs) that could be adopted in the promotional campaigns of Indian seafood is given as follows:

- Mostly traditional, non –destructive fishing methods in pristine waters.
- Abundance of resources such as tuna, billfishes and oceanic squid – in seas and oceans around India.
- Tagging resources to their geographical abundance or specificity. For eg, Black Tiger shrimp of Chilika Lake, Lakshadweep tuna, Mandapam Flower shrimp etc.
- Shrimp farming is practiced mostly by small and marginal farmers of water holding less than one hectare.
- Traceability through enrolment, which is facilitated by recognition through geo-coordinates.

- Low to moderate farming densities causing minimal effect on the environment and does not harm mangroves.

- Sustainable form of Black Tiger shrimp production in traditional farming systems.

- India is consistent in its Vannamee shrimp production and supply, follows Better Management Practices and has not been affected by disease outbreaks.

- Species and product diversity.

A focal approach highlighting the above is expected to evince customer interest in Indian seafood products and improve the trade share.

II. Export Promotion

Export of marine products has played a key role in developing the fishing and aquaculture sectors in India. While competing in the extremely competitive overseas market we need to sensibly address the emerging consumer concerns related to quality, conservation and sustainability. MPEDA through its multipronged market promotion initiatives is addressing such concerns effectively to keep buoyant the merits of Indian seafood in the highly competitive global market.

Presently, the marketing of Indian seafood is limited to participation and showcasing of Indian marine products in international seafood fairs along with seafood exporters, and organizing delegations in the event of trade issues to address them. This exercise has certain, but a limited reach in the international markets.

COVER STORY



Overseas fair participations and delegations came to a standstill for over a year due to the Covid-19 pandemic, effectively curbing such promotional opportunities.

On a positive note, the pandemic situation has also opened up the scope of effective utilization of digital media in market promotion. We were able to participate in virtual exhibitions held in USA and Japan. Moreover, MPEDA has also used the online platform to organize 33 Primary and Secondary Buyer Seller Meets since April 2020, which has helped the exporters to interact with buyers and keep business relationships steady.

Many of our competing nations are placing active promotion campaigns in markets using print and electronic media to popularize their seafood, with an aim to capitalize maximum gains in the post Covid market scenario, and India cannot stay behind.

Hence, it has become a necessity to develop a comprehensive brand promotion method for Indian Seafood. Currently, almost each of the over 350 seafood products exported from India are sold after reprocessing / repacking under the name and logo of major International brands / retail chains. Only indication that the product is of India origin is the

statutory noting “Product of India”, written often in an inconspicuous manner on the outer pack.

The branding campaign shall highlight the uniqueness of India’s fisheries and aquaculture realms, according to the market preferences. An effective ‘Brand India’ promotion campaign in major and minor markets will increase the demand for Indian Seafood products and thereby increase our exports to these markets. An overall promotion of all Indian Seafood Products can also increase our item-wise market share. The outreach plan to promote Indian Fisheries shall encompass Market Research, Brand Promotion, Buyer Seller Meets (BSM), Trade fairs, Free Trade Agreements, and by establishing more Trade Promotion Offices (TPOs) abroad.

A. Market Research

Market Research and Intelligence is a vital marketing tool which can provide in-depth information on a targeted market, which are mainly utilized to penetrate into prospective markets and strengthen the position in existing markets. MPEDA has already initiated a market research on China in March 2021, a major market with further growth potential, through a

COVER STORY

professional agency, and the draft report has given an insight to the strongholds of our competitors in Chinese market and the areas India shall focus to improve market share.

The final report is awaited. More similar engagements are needed for collecting market intelligence in selected markets to identify the potential of each market, to unearth customer segments and preferences, and to reach out the retail platforms.

B. Brand Promotion

Publicity, Advertisement and press releases will highlight India's potential and capabilities in the seafood sector and promote Indian Seafood Brand globally. Since there is no specific branding for Indian seafood, MPEDA is doing generic branding through advertisements, social media & TV commercials.

The printing of various publicity materials, production of short promotional videos, recipe videos and corporate videos, AR/VR Videos, production of artwork for publicity in print/digital media, promotional campaigns through social/digital media in targeted overseas markets will help in developing strong customer recall for Indian Seafood.

Export promotion visit of buyers/ experts/ Journalists etc., to enhance trade relationship need to be organized in addition to advertorials and advertisements in India & abroad. Major brand promotion exercises like TV Commercials and Social media campaigns is essential for effective promotion and advertising to build up customer recall.

Production and broadcasting of TV commercials in public places like airports, metro stations etc., abroad and in India will help in developing strong customer recall for Indian Seafood. Early this year, MPEDA has organized a commercial ad campaign in BBC covering Europe, North America, South America & Africa, which has evinced considerable viewership & interest.

C. Buyer Seller Meets

Buyer Seller Meets enables one to one interaction between Indian exporters and overseas buyers. Currently Buyer Seller Meetings (BSMs) are organized with the seafood buyers in identified markets with the help of the Indian missions abroad. MPEDA organizes Primary BSMs in the form of Webinars.

Secondary BSMs, which provide opportunities to Indian exporters to have one to one interaction with buyers are also arranged. MPEDA has organized 25 BSMs involving markets such as the USA, Japan, China, Belgium, Germany, Spain, Vietnam, Korea, Kuwait and South Africa in 2020-21. Since April 2021, 8 BSMs have already been completed in markets such as Japan, South Korea, Thailand, Qatar and Portugal.

More Buyer Seller Meets in identified markets will be organized with the help of the Indian missions, in order to penetrate into more potential markets. It is also envisaged to have physical BSMs along with International fair participation, trade delegations and reverse buyer seller meets etc, once the pandemic situation and related restrictions are eased, which will be helpful to consolidate our export share in more markets.

D. Trade Fairs

International fair participation facilitates the Indian seafood exporters with an opportunity to showcase their products and interact with the buyers to establish direct contacts thereby aiding in expanding the business. It also aids in acquiring firsthand knowledge on the market trends and its requirements. MPEDA disseminates the trade enquiries generated during these shows to the seafood exporters and it is also placed on the public domain, which enables all the exporters to directly contact the buyers and do business. Currently



COVER STORY

MPEDA facilitates exporters' participation in Seafood Trade Fairs in the USA, EU, China, Middle East & Japan. Due to Covid-19 pandemic, certain major fairs have been either cancelled or postponed, while some other are organized on a virtual platform. MPEDA has participated in the virtual fairs organized in Japan & USA.

In addition, it is envisaged to organize joint participation with exporters in 2 International Seafood Fairs held this year, besides continuing virtual participation in fairs organized in Japan and USA.

On an average, an increase of 25-30% in exports can be envisaged through targeted promotion campaigns that comprise international fair participation, trade delegations, road shows, Buyer Seller Meets, advertisement campaigns, slotting in supermarkets etc. It will certainly showcase the present and future potential of the Indian Seafood Industry globally.

E. Free Trade Agreements

MPEDA is offering comments and suggestions to the DOC for the execution of new trade agreements and for the periodical review of existing trade agreements. Inputs were offered on trade agreements with Japan, Korea, EU BTIA, Peru, Mauritius, EFTA, RCEP Negotiation, Australia, New Zealand, Canada, MERCOSUR region, Eurasian Economic Union, Chile etc.

The FTA with the EU, helps Vietnam & Ecuador to enjoy 0% import duty for frozen shrimp in the EU market. Whilst, the import tariff for frozen shrimp from India is 4.20% under GSP. FTA between EU-Vietnam and EU-Ecuador places India in a disadvantageous position to access the EU seafood market. Hence, an early execution of India-EU FTA and reduction of tariff will help us in better market access of Indian seafood in the EU. It is also essential to have an early fruition of the trade agreement with UK considering the potential of the market and the Indian Diaspora there.

With respect to India-Korea CEPA, it is understood that during the previous review of the CEPA, duty for the frozen shrimp was agreed to be reduced to 0% with a quota restriction on quantity of imports. This may be urgently made in effect for getting duty benefit for exporting to South Korea.

In brief, proper reviews of trade agreements may

be organized to benefit seafood trade from India to different markets, addressing tariff related and origin criteria related issues. In addition, India shall insist on duty free access for Indian shrimp in all negotiations.

F. Trade Promotion Offices (TPOs):

The Trade Promotion Offices (TPOs) of MPEDA play an effective role in the brand promotion campaigns besides forging tie ups with reputed buyers for JVs on value addition, over and above their liaising role with Government authorities, and interventions to promote trade.

They also intervene in organizing trade delegations, fair participation, visits of official inspection teams and experts in connection with policy and regulatory measures. TPOs of MPEDA have done commendable work in the past by addressing various issues in American and Japanese markets, be it dumping / countervailing duty, antibiotic & ethoxyquin issues. This brings forth the requirement to establish additional Trade Promotion Offices of MPEDA in other major & potential markets too to augment the trade.

It is important to establish new offices of MPEDA in the EU, Middle East region and China to tap the potential of those markets, coordinate market promotion activities, forging of market tie ups and to help to resolve the trade issues that affect the seafood exports.

Conclusion

The latest trends in exports show certain revival as the markets ease out restrictions imposed due to Covid-19 pandemic. Active promotion campaigns need to be organized to create a brand image for Indian seafood, which will help to rekindle the memories of customers on Indian seafood.

This can be achieved through targeted promotion campaigns, effective participation in seafood trade fairs, regular buyer seller meets, ad campaigns through various media etc. The marketing strategies have to be planned through carrying out market research in potential and existing markets, to identify the customer needs and supply products of their choice. In addition, market access also has to be improved by way of measures in tackling TBTs aided by early reviews and execution of Free Trade Agreements.

(To be continued...)





Corydoras:

The Peace - Loving Community Fish





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.

Corydoras, commonly known as catfish, belong to the family Callichthyidae. They are natives of South America particularly Brazil, Uruguay, northern Argentina, Venezuela, Peru and Colombia. More than 150 species have been described so far. The fish has a convex dorsal body profile and flat belly. The body colouration and pattern vary depending on the species. The narrow mouth has a pair of stiff barbels. The first rays of the pectoral and dorsal fins are modified into defensive spines. They come in all shapes and sizes with body length varying from 3 to 12 cm according to species.

Corydoras are delicate and sexes can be differentiated. With broader body structure, the females are generally stronger than the males. They prefer neutral water, with pH around 7, and average hardness, and water temperature ranging from 18 – 26°C, but ideally 25°C. However, some species prefer lower temperatures. They prefer sandy bottoms and dense vegetation with many hiding places. They are active and excavate the sand bottom at times. They prefer to be in groups and, hence, should be kept in groups of 5 – 8 individuals.

Breeding is somewhat difficult. The ideal temperature for breeding is between 24 and 25°C. The sexual courtship is simple. The male continues to touch the female from the sides and, if the female is receptive, it will release eggs. The female carries the eggs in a cavity located in the pelvic fins and sticks them in various places. Usually eggs are attached approximately 8 – 10 cm below the water surface. Eggs will hatch in about 2 – 3 days and juveniles will start eating microorganisms after utilising their yolk sac.

Ideal aquarium conditions would be a well planted tank with many hiding places and appropriate shade. The bottom substrate could be coarse and soft sand so that the barbels are not injured while excavating.

They prefer a low water level and the water should be clear. They are peaceful and can be kept in community tanks as they go well with other fishes. They need to be fed with sinking food, preferably blood worms and brine shrimp.

Species identification is becoming more and more difficult as many species look similar. The common species found in the hobby market are *Corydoras ambiacus*, *C. agaassizii*, *C. leucomelas*, *C. schwartzi*, *C. punctatus*, *C. parallelus*, *C. pulcher* and *C. ornatus*. With a whitish body covered with small to medium round black spots and four other irregularly shaped blotches along the sides, *C. punctatus* will be an attraction in the aquarium. It has a large round or oval black blotch situated more or less centrally in the dorsal fin. *C. schwarti*, whose dorsal spine is creamy white in colour is one of those species that show a wide variation of colour pattern within a single population. *C. ambiacus* has a black area that starts below the first three or four dorsal fin rays and extends upwards about two third of the way into the dorsal fin.

While *C. agazzizii* and *C. ambiacus* look similar in appearance at the first instance, they differ by the presence of a blotch on the dorsal fin. The former has dark brown to black pigmentation extending from the body covering the full length of the first two dorsal fin rays. *C. leucomelas* is smaller and its colour is more defined. They have white bodies covered with small jet black blotches. *C. ornatus* and *C. pulcher* have a row of blotches extending from the head along each side of the body to the caudal peduncle. Though *C. parallelus* and *C. schwartzi* look alike with body markings in the same fashion, the latter has blotches forming broken bands rarely fused to form solid bands. *C. parallelus* has an almost clean caudal fin while *C. schwartzi* has blotches on the caudal fin.



Milkfish – A trusted fish for brackish water aquaculture

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Freshly caught milkfish (*Chanos chanos*) produced at National Aqua Farm (NAF), Atholi, Kozhikode was a great relief to fish consumers who have become skeptical about formalin and ammonia adulterated fish in market. Mr. Manoj of NAF had harvested and sold nearly 5 tons of milkfish from his pen culture unit of 0.28 ha Water Spread area (WSA) spread over a brackish water area of 3 ha with salinity range of 0 ppt to 15 ppt. This bumper crop was a hard earned one as he had to tide over many challenges. He had stocked 10,000 milkfish seeds (spawn) procured from Tamil Nadu. To his surprise the seed which he received were too small (spawn) which could not be stocked in his nursery which was erected with larger size mesh. Hence he had to setup immediately, a make shift nursery pen of 6m x 4m x 1m using cotton cloth inside the already established nursery area of 40 m² area in the pen.

In this temporary pen, he reared the spawn to fry stage by feeding them with shrimp larval feed for 15 days. Subsequently, he released them to nursery which was erected earlier, made using 1mm High Density Poly Ethylene (HDPE) net. But soon his hopes were shattered with the flash flood in Kora Puzha River. The flood water had started inundating his farm at night. He had no other option except to work whole night by erecting and attaching another net over the existing nursery pen to safe guard his precious milkfish fry (Fig. 1). The flood water had rose 1.5 m above his pond bunds and receded only after 2 days. He did not lose heart and continued to monitor and fed them using his canoe. After one month of culture, he expanded the pen to 320 m² area using 4mm HDPE net. When the fishes had reached 200g ABW (Average Body weight) after 2 months, he released them to larger enclosure of 0.28 ha. This enclosure was made of 4mm HDPE net with reinforcement of bamboo and arecanut webbing. The fish were fed with commercial floating feed of size varying from 1 to 4 mm size. He fed the fishes two to three times daily using his self designed feeding unit and floating enclosure. The average size of fish after 10 months of culture was 0.9 kg, which was selectively



Fig. 1: Additional net attached over the existing nursery pen

harvested using gill net of 10 cm mesh size and was sold for Rs.300 /Kg from his farm (Fig. 2). His success story has become a motivation for many to venture into pen culture of milkfish. He also practically demonstrated how to safe guard fishes during flood.

Milkfish culture was popularized in the district by KVK, Kozhikode through its On Farm testing (OFT) and Front Line Demonstrations (FLD) from 2016 onwards. The 2018 floods in Kerala had almost put a curtain to the FLD programme on monoculture of milkfish, but it was interesting to note that most of the fishes did not betray the farmer partners and remained in the pond even during flood. Milkfish is a potential candidate for brackish water aquaculture culture especially for shrimp farmers who had abandoned farming due to frequent disease outbreaks and for those who got disappointed by the slow growth rate of pearlspot fish. The positive traits of milkfish fish that has made it popular are:

1) Rapid growth rate: The fish is said to achieve 500-700 grams in 5-6 months of culture period. In our demonstrations also the growth of fish was very good with ABW of 650 g. When the fishes were stocked @ 5000/ ha they grew to 800 g size in 8 months in ponds with WSA above 0.1 ha and in smaller ponds below 0.04 ha they attained 400 g in 10 months.

AQUACULTURE SCENE



Fig. 2: Fish harvesting (Field day – 2020) at National Aqua Farm, Atholi

2) Feeding habit and adaptability to commercial feed: Milk fish is known to have a herbivorous feeding habit and can survive even on plankton, benthic algae, algal mats known as 'lab-lab' and on detritus in natural waters.

The experience from our demonstration plots showed that, the fish very well accepted commercial floating feeds. The fishes were fed with floating pellets from 0.8 to 4 mm size depending on the size of fish at five percent body weight/day. They are active feeders and reached all places in the pond within no time to consume feed. On judicious usage a FCR of even 1:1 can be achieved. It is advisable to culture milkfish with formulated feed for getting a better taste. Otherwise, it may forage on detritus thereby giving a muddy flavor to its flesh.

3) Tolerance to wide range of salinity: It can tolerate wide range of salinity from 0-100 ppt but its growth is optimal at 0.5-40 ppt. The demonstration pond salinity varied from 0 to 30 ppt and the fish showed an excellent growth rate without any stress.

4) Low disease occurrence: The fish is hardy and known to tolerate a wide range temperature, dissolved oxygen and has low disease occurrence. During our demonstrations also, there was no incidence of disease outbreak. The ideal water pH for its culture is 7 - 8.5. It is better to avoid its culture in acid sulfate soil areas as in these areas, the pH of water may drop drastically resulting in large scale mortality of fishes.

5) Market demand: The fish has a very attractive appearance with its streamlined body shape and glazing scales. It has longer shelf life in ice and good taste and texture. Due to this, it fetched a high farm gate price of Rs.250 to 350/kg in our demonstrations.

Constraints

The biggest constraint with milk fish farming is its seed availability, especially in the west coast of India. Although the seed production of milk fish has been standardized by ICAR Central Institute of Brackish water Aquaculture (CIBA), Chennai, it is yet to be applied on a commercial scale. The availability of seeds from wild is often unpredictable, non uniform in size,

AQUACULTURE SCENE

and is mixed up with larvae of other predatory fishes. In India, wild caught seeds of milk fish are mostly available during March to June and September to December from coastal states of Orissa, Andhra Pradesh, Tamil Nadu and Kerala etc. The peak availability of seed coincides with south west monsoon, and hence there is always a risk of flooding of ponds during flash floods.

Care also should be taken while harvesting of fish as they are good jumpers and leap out of water on sensing the danger (Fig. 3). Hence the enclosure of the pen should be high enough to prevent the fish from escaping and also the person involved in harvesting need to be cautious and should use protective gears. The fish has already started becoming popular among farmers with its culture value. It is also used as live bait for catching



Fig. 3: Milk fish leaping out of water on sensing the danger of harvest

tuna fish. The fish with its fast growth rate is highly suitable for pen culture. By these techniques we can make use of our open brackish water bodies for aquaculture. The fish with all its desirable traits is all set to revolutionize brackish water aquaculture in Kerala and other parts of India.



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A photograph of a white, wavy-edged plate filled with large, cooked shrimp. The shrimp are garnished with sliced cucumbers, olives, and fresh green herbs. The background is a light blue and white gradient.

Gramasabha on “Promotion of aquaculture in Nirmala Nagar”

MPEDA, Regional Division, Vijayawada organized a Gramasabha on “Promotion of aquaculture in Nirmala Nagar- an exclusive hamlet of Scheduled Tribe aqua farmers” on 15th August 2021 at Nirmala Church premises, Pothumeraka revenue village, Repalle mandal, Guntur district, Andhra Pradesh. Around 500 farmers and officials of Department of Fisheries, Electricity Board, Panchayath Raj, Revenue Department, etc. attended the programme.

Main objective of this programme was to bring awareness among farmers and officials on MPEDA's proposal of adoption of village for bringing electricity & basic facilities for aquaculture farmers of deprived community wherein to improve the production, productivity & export, bringing more area into aquaculture, to adopt

BMP's in the farming areas, to improve the income, improvements in standard of living and also the social commitment to lift the privileged class to improve their earnings and livelihood, etc.

Mr. Mopidevi Venkata Ramana Rao, Hon'ble Member of Parliament (Rajyasabha), Repalle was the Guest of honour of the programme. Mr. A. Jeyabal, Joint Director, MPEDA, Regional Division, Vijayawada welcomed the dignitaries & farmers, and explained briefly on the background of MPEDA's proposal on adoption of Nirmala Nagar Hamlet for aquaculture promotion.

Mr. A. Sagarbabu, Field Technical Officer (GIS), made a Powerpoint presentation on Nirmala Nagar proposal



in detail. He explained the present status of aquaculture in the village and future development proposed by MPEDA. At present, the farmers of this village is able to produce only 35Kg in one acre area, taking 3 crops in a year due to lack of electric power.

After providing electricity & bio-security facilities, the farmers will be able to enhance the production at 1000 to 1400 MT from 200 acres area in the village in two crops and thereby export from the district can considerably be increased.

Around 110 farmers are involved in the aquaculture. Total project cost proposed was Rs. 100 lakh, which was approved by the Chairman, MPEDA and District Collector, Guntur with a contribution of 75% by MPEDA and 25% by the District Administration.

The Grama Sabha was attended by Mrs. T. Deepika Suresh, President, Tummala Grama Panchayath, Mr. Sudha Chandra Vasa Rao, Ex ZPTC, Surpanches, Mr. K. Subba Rao, Mr. Ganga Rao, Mr. Papa Rao, Mr. Srinivasa Rao, Mr. M. Anjaiah, Mr. K. Sivarajan, Deputy Director, MPEDA, Mrs. J. Vijaya, Tahasildar, Repalle, Mr. Syam, Assistant Executive Engineer, Electricity Department, Mr. Gali Demudu, Assistant Director of Fisheries. etc

The dignitaries appreciated MPEDA Chairman and staff on adoption of the village for the development of aquaculture farming, benefiting ST farmers.

Mr. Mopidevi Venkata Ramana Rao, Hon'ble Member of Parliament (Rajyasabha) in his presidential address, appreciated Chairman, MPEDA for selecting presidential address, village 'Nirmala Nagar' with Scheduled Tribe community farmers for the development of aquaculture in and around the village. He told that village farmers will get power connection to their farms and can improve their aquaculture production.

He told that around 300 Acre land is suitable for aquaculture in this village and only 200 Acre is under aquaculture. MPEDA has come forward to bring remaining 100 Acres under culture. He further added that the Chief Minister of AP is also encouraging the industry and bringing 10 Processing Plants in the state with Rs. 300 Crore



for the benefit of aquafarmers. The State Government has approved proposals for bringing the multispecies hatcheries, research centres and labs in Repalle & Nizampatnam Mandals.

The allotment of 280 Acres in Dindi village for the above activities echoed that the state is top in aquaculture production and earned Rs. 26,000 Crores by exporting aquaculture products. He further added that the Chief Minister reduced the power tariff from Rs. 3.60 to Rs. 1.50 for the benefit of aquafarmers and also arranged Rythu Barosa Kendras in farming villages for the supply of inputs such as seed & feed. He requested all the village farmers to utilise this project and improve their standards.

The programme started at 4 PM and concluded with vote of thanks by Mr. Galidemudu, Assistant Director of Fisheries, Repalle at 6.30 PM.



Seafood exporters meet on promotion of e-Santa

E-commerce platform, e-Santa developed by NaCSA-MPEDA, enables widely dispersed buyers and farmers to interact and execute purchase transactions in a transparent manner. Each step in the eSanta process is captured electronically, and all transaction data is routed through ESCROW account, reducing risk and time for completion of the process between seller (aqua farmer) and buyer (exporter). The inauguration of eSanta virtually was conducted by Hon'ble Union Minister of Commerce & Industry, Gol Shri. Piyush Goyal on 13.04.2021.

Mr. K. S. Srinivas IAS, Chairman, MPEDA & President, NaCSA has convened an "Exporters Meet on Promotion of eSanta" at Visakhapatnam, Andhra Pradesh on 27.08.2021 to promote eSanta platform among the exporters of the state. The programme was attended by Mr. S. Padmanabham, Ex-SEAI, President, AP Region, Mr. Satya Narayana, GM, M/s. Nekkanti Sea Foods Pvt Ltd., Mr. Shanmukha Rao, CEO, NaCSA and Mr. A. Jeybal, Joint Director, MPEDA, RD, Vijayawada.

Shri Shanmukha Rao, CEO, NaCSA welcomed all the dignitaries to the meet and gave a brief introduction on the portal. Chairman, MPEDA in his address highlighted the export trend and the target of \$ 7.81 Billion set by MOC&I for the current year.

Chairman explained the benefits of e-Santa portal and requested all the exporters to make it use for the benefit of farmers & exporters as it will help all to transact with transparent manner and to get quality shrimp from society farmers.

Mr. Padmanabham spoke on the occasion and appraised on the difficulties faced by seafood industry and sought the help to Government to sort out the issues faced by the trade. He urged exporters to make use of the portal.

The representative of M/s. Gangez Software Solution, Hyderabad, the developer, presented the operational aspects of the portal e-Santa. The doubts raised by the exporters were clarified by him and informed that a dedicated PMU team is working for eSanta to rectify the issues that arise while transacting. Shri A. Jeybal, JD, RD, MPEDA, Vijayawada proposed the vote of thanks.



MPEDA RECIPE



MPEDA RECIPE

Shrimp Ghee Pepper Roast

Recipe Card

Indian Vannamei Shrimps (Freshly peeled)	: 450gm
Ghee	: 3 tablespoon
Curry Leaves	: 2 sprigs
Chopped Garlic	: 3 tablespoon
Crushed Black Pepper Corns	: 1 tablespoon
Thinly Sliced Onion	: 1 cup
Jaggery	: 1 tablespoon
Tamarind Pulp	: 2 tablespoon
For Grinding	
Red Chilly (whole)	: 4 no.s
Black Pepper Corns	: 1 teaspoon
Cumin Seeds	: 1 teaspoon
Fennel Seeds	: 2 teaspoon
Star Anise	: 2 no.s
Curry Leaves	: 1 sprig

Instructions

Heat the skillet on a low flame and dry roast the masala mix until it is fragrant.

Turn off the flame, allow the mix to cool.

Grind this to make a coarse masala mix.

Heat the ghee in a frying pan.

Add garlic, crushed pepper corns and cook till the garlic is golden brown.

Add the curry leaves, sliced onion and sauté till the onions are pale brown.

Add the masala mix, jaggery, tamarind pulp and mix well.

Add the freshly peeled Indian Vannamei Shrimps and cook for 3-4 minutes.

Add salt and half cup of water and cook till the water is completely reduced.

Serve with the bread or rice of your choice.

Prep time : 15 minutes

Cooking time : 15 minutes

Serves : 3



Scan the QR code to watch the recipe in Youtube

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Training on sampling for testing shrimp viruses

Quality control laboratory MPEDA, Kochi has organized one day virtual training on sampling and sample handling of shrimp to test viral diseases by Real-Time PCR on 9th August 2021. Training was organized with the objective of testing shrimp samples from aquaculture farms and hatcheries for viral shrimp pathogens, which is mandatory to meet the regulatory requirements of certain importing countries such as Australia, South Korea, Thailand, Canada, Saudi Arabia, Kuwait etc.

The viruses that are being tested include White Spot Syndrome Virus (WSSV), Infectious Hypodermal and Hematopoietic Necrosis Virus (IHHNV), Infectious Myonecrosis Virus (IMNV), Yellow Head Virus (YHV) etc. The objectives of the training and various testing services provided by MPEDA QC laboratories for exporters and farmers were explained by Mr. Mahesh, Deputy Director, MPEDA QC Lab, Kochi.

Virtual training on the significance of sampling and testing of pathogenic virus in various aquatic animals, particularly crustaceans, was conducted by Dr. Abhilash E. C., Assistant Director (QC), MPEDA, Kochi. Dr. Abhilash has also demonstrated a video comprising the entire activities of sampling such as preparedness for sampling, use of each sample gadgets, documentation of sampling, sample packing and dispatching. Total 16 participants from different offices and laboratories under MPEDA have attended the training.



CCMB Research team visits seafood processing unit in Andhra Pradesh

A team of researchers led by Dr. Shivaranjani, Scientist from Centre for Cellular and Molecular Biology (CCMB), Hyderabad under the CSIR undertook study visit to the seafood processing unit of M/s. Akshya Food Impex Pvt. Ltd., Pamaru, Krishna district on 20.08.2021, to understand the seafood processing, packaging & storage activities and to suggest mitigation measures to overcome detection of Covid- 19 nucleic material in seafood packages in China. The team also consisted of Mr. Rajesh Iyer and Mr. Sharath. The visit was coordinated by Mr. Jeyabal A., Joint Director, MPEDA RD Vijayawada. Mr. Partha Sarathy, Director of the processing unit explained the activities of the unit and the SOPs followed to ensure food safety and Covid-19 prevention.

The research team collected 27 samples from the raw material receiving to shipment area including water and packing material samples to check for the presence of Covid-19 nucleic acid contamination. The packing materials from another unit M/s. Royal Marine Impex Pvt. Ltd, Bhimavaram were also handed over to CCMB team during their visit to Vijayawada for study purpose.



MPEDA opens ELISA Lab at Contai, West Bengal

The farmed shrimps meant for export to EU are mandated to undergo Pre Harvest Testing (PHT) in the ELISA Laboratories set up by MPEDA. The raw material is screened for the presence of banned antibiotic residues such as Nitrofurans and Chloramphenicol. MPEDA has set up 14 ELISA Laboratories for this Pre Harvest Testing certification programme in the farming clusters of coastal states right from Gujarat to West Bengal. Responding to the demands from the aqua farmers of Purba Medinipur district in West Bengal, MPEDA has opened its 15th ELISA Laboratory at Contai on 25th August 2021. The laboratory is expected to cater to the antibiotic testing needs of aqua farmers in entire Purba Medinipur district.

The lab was formally inaugurated by Mr. K.S. Srinivas IAS, Chairman, MPEDA, in presence of Mr. Balasubramaniam V., Secretary, Prawn Farmers Federation of India and Mr. Rajarshi Banerjee, Member, MPEDA and President, Seafood Exporters of India, West Bengal region. The function was attended by Dr. M. Karthikeyan, Director, MPEDA, Mr. K.S. Pradeep IFS, Secretary, MPEDA, Dr. Ram Mohan M.K., Joint Director (QC), MPEDA, Mr. Anil Kumar. P, Joint Director (M), MPEDA, Sri Mahesh, Deputy Director (Lab), Mr. Archiman Lahiri, Deputy Director, MPEDA, Regional Division, Kolkata, farmers, and other MPEDA officials. In his felicitation address, Mr. Balasubramaniam V. appreciated the initiative taken by the Chairman to open an ELISA lab



at Contai and told that this will help the exporters to check the quality of shrimps grown by farmers thereby reducing the antibiotic rejection instances. Mr. Rajarshi Banerjee recalled the request placed by him to Chairman, MPEDA on the need for the ELISA laboratory and said that it will go a long way in sourcing quality raw material from the region.

Felicitations were also offered by Mr. K. S. Pradeep, Secretary, MPEDA. Chairman, MPEDA while inaugurating the ELISA Screening Lab emphasized the importance of Purba Medinipur district in shrimp farming, and on the need to contain the detection of antibiotic residues in farmed shrimp consignments in markets such as EU, USA and Japan for enhancing our market share by ensuring the quality. He urged the farmers

QUALITY FRONT

to utilize the laboratory services at its maximum so that they will get a better sales value by ensuring the quality and traceability of the produce. Chairman, MPEDA also expressed delight over the positive approach expressed by farmers of the district in getting their farms enrolled under MPEDA.

Earlier, Dr. M. Karthikeyan delivered the introductory remarks and welcomed the participants, which was followed by a video footage of laboratory facilities. Mr. Archiman Lahiri gave a brief presentation on the fisheries profile of the Purba Medinipur district and also proposed the vote of thanks.



MPEDA officials participate in NABL assessor training programme



The Assessor's training programmes are conducted by NABL so as to make suitable resources/auditors' for conducting the external assessment as per the guideline ISO/IEC17025:2017. Due to Covid -19, this year's the training was conducted at two levels. Preliminary training was conducted online on November 2020 and based on its result, the second level training was conducted at Gurugram from 18th to 19th August 2021. Two technical officers from MPEDA, Mrs. T.A.Aneesa and Mr. B.Arunasri attended the training.

The identified technical experts are required to qualify the NABL Assessor Training Course for being eligible for empanelment as assessors. The course contents included: Assessment principles, risk-based

assessment principles, practices and techniques; General management system principles and tools applicable as per ISO/IEC 17025 standard; NABL rules and processes; Understanding the knowledge of practices and processes of the Conformity Assessment Body (CAB) business environment; Communication skills; Note-taking and report-writing skills; Opening and closing meeting skills; Interviewing skills and assessment management skills. As on date, 4 technical personnel from MPEDA have been qualified as assessors on behalf of NABL. They are Mr. D.Venugopal, Assistant Director, QC Lab, Nellore; Dr.E.C.Abhilash, Assistant Director, QC Lab, Kochi; Mrs. K.Aruna, Technical Officer, QC Lab, Nellore; and Dr.B.Gopikalyan Kumar, Technical Officer, QC Lab, Nellore.



Audits by field office to ensure implementation of MPEDA's COVID-19 guidelines in processing plants



As per the circular issued by the MPEDA, the officials of the Regional Division of MPEDA in Veraval inspected seafood processing plants to ensure strict adherence to COVID-19 guidelines. Inspections were carried out at M/s. Sun Marine Exports and M/s. S.S. International. During the visit, it was observed that the units were fully aware of the

COVID-19 guidelines and properly implemented them in the facilities as well as in all operations. This included strict monitoring of body temperature of all employees and visitors, social distancing and sanitization, visual observation and reporting of symptoms, and provision of quarters and canteen facilities to the workers to avoid social contacts.

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FIT India Mission has conceptualized FIT INDIA FREEDOM RUN 2.0 to commemorate the 75th Independence Day - "Azadi Ka Amrit Mahotsav".

Nationwide campaign will be on the concept of “Physical/Virtual Run” in continuum from 13th August to 2nd October 2021 to encourage fitness and help us all to get freedom from obesity, laziness, stress, anxiety, diseases etc. Fit India Freedom Run will culminate on Gandhi Jayanti, 2nd October, with nationwide Fit India Plog Run.

In this connection officers and staff of MPEDA Head Office and field offices organized the FIT India Run programme to encourage fitness among the employees.



Govt aims to increase fisheries exports to ₹1 trillion by FY25

The Pradhan Mantri Matsya Sampada Yojana (PMMSY) is being implemented to bring about Blue Revolution through sustainable and responsible development of fisheries sector in India with highest ever estimated investment of ₹20,050 crore.

"Government aims to increase fisheries exports to ₹1 trillion by FY25 by supporting development of fishing harbour and fish landing centres with modern infrastructure under the Pradhan Mantri Matsya Sampada Yojana", Parshottam Rupala, minister of fisheries, animal husbandry and dairying told Parliament.

The Pradhan Mantri Matsya Sampada Yojana (PMMSY) is being implemented to bring about Blue Revolution through sustainable and responsible development of fisheries sector in India with highest ever estimated investment of ₹20,050 crore for a period of five years with effect from the financial year FY21 to FY25 in all states and union territories.

It also aims to develop brackish water aquaculture, species diversification, value addition, disease

monitoring and surveillances, certification, accreditation, traceability and labeling, branding of fish and fish products, training and capacity building among others.

"PMMSY primarily aims to harness the potential of fisheries sector in a sustainable and responsible manner and major activities supported towards sustaining the marine capture fisheries include promotion of sustainable and ecofriendly fishing methods and practices, promotion of sea/ocean ranching, diversification of fisheries activities, providing need-based support to States/UTs for formulation and implementation of fisheries management plans, support for creation of post-harvest infrastructure facilities for preservation of fish quality with a view to reduce post-harvest losses, marketing, cold chain facilities and activities on enhancement of fisheries export competitiveness," Rupala said.

Under PMMSY, assistance is also provided for promotion of deep sea fishing, installation of Bio - toilets onboard the fishing vessels for maintaining hygiene, prevention of pollution of sea and oceans.

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Tap opportunities in post-Covid world to take exports to \$400 bn, says PM Modi

Prime Minister Shri. Narendra Modi on August 6 called upon the industry and exporters to take advantage of opportunities created in the post-Covid scenario, explore new destinations and expand the export basket to achieve the ambitious target of \$400 billion of exports. Addressing Indian Missions and Export Promotion Councils on the country's target of \$400 billion of merchandise exports this year, Modi said that four factors, including multifold increase in manufacturing, reduction in logistics cost, and international market for domestic goods, can help boost the country's outbound shipments. The Prime Minister also suggested the Indian Missions abroad to look at products in their respective countries that India can export.

At present, exports account for 20% of India's GDP and "given the size of our economy, potential, manufacturing and base of services industry, there is a possibility" to increase this share. In the post-Covid world, there is a debate on global supply chain and in that "we should use all our force" to tap new opportunities. 'Decision to get rid of retro tax shows govt's commitment, policy consistency' A day after taking the bold decision to scrap all retrospective tax demands and refund money collected, Mr. Modi said the move shows his government's commitment to providing businesses

stability of investment climate and policy consistency. Speaking at a meeting with the industry for boosting Indian exports, Mr. Modi said exporters know the importance of policy stability. "The decision to abolish retrospective taxation shows government's commitment (to providing stable investment regime) and consistency of policy," he said. His government had on Thursday introduced in the Lok Sabha a bill to scrap retrospective taxation that has spooked overseas investors and dented the reputation of Asia's third-largest economy. India lost high-profile arbitrations initiated by companies such as Vodafone Group Plc and Cairn Energy Plc against levy of back taxes and risked its assets abroad being seized to enforce such tribunal awards. 'The Taxation Laws (Amendment) Bill, 2021' was passed by the Lok Sabha on Friday and is expected to be taken up by the Rajya Sabha next week. "Exporters doing business in various countries know the importance of stability," Mr. Modi said, referring to the decision to abolish retrospective taxation. The bill provides for the withdrawal of tax demands made on "indirect transfer of Indian assets if the transaction was undertaken before May 28, 2012 (i.e. the day the retrospective tax legislation came into being)." "It is also proposed to refund the amount paid in these cases without any interest thereon," the bill said.

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Disadvantaged families report solid profits from CMFRI aquaculture initiative



The cage farming project was part of a special programme of the Scheduled Caste Sub Plan (SCSP) of the ICAR-Central Marine Fisheries Research Institute (CMFRI)© CMFRI

A group of fish farmers from a marginalised community in Kerala has reported a profitable year, thanks to a bumper harvest of pearl spot (*E.suratensis*) from their cage fish farming venture. A self-help group from the village of Maradu, named Puzhayoram reported a yield of 600 kg of pearl spot from a 4x4m cage installed in Maradu-Nettoor backwaters. The cage farming project was part of a special programme of the Scheduled Caste Sub Plan (SCSP) of the ICAR-Central Marine Fisheries Research Institute (CMFRI). The harvest was inaugurated by Adv Reshmi Sanil, vice chairperson of Marad Municipality.

“The harvested fish were completely sold out on the spot and the SC families in the region reaped a profit of Rs. 2,73,000 from a 10-month long farming that started in October last year by stocking 2,000 seeds of pearl spot,” said Dr K Madhu, principal scientist of the CMFRI and the principal investigator of the project, in a press release.

According to Dr Madhu, the fish attained an average weight of 380g, with a 95 percent of survival rate and sold for Rs. 450 per kg. As part of the programme, the ICAR-CMFRI had provided the group with cages,



The pearl spot were sold for 450 rupees per kilo© CMFRI

juveniles and feed for the entire farming period, free of cost, while the researchers from the institute guided the farmers during all the phases of production. Speaking on the occasion of harvest, Dr A Gopalakrishnan, director of ICAR-CMFRI, said: "The cage farming technology and other fish farming activities of CMFRI have proved its potential to accelerate the pace of development of the SC and ST families, and for their socio-economic development. The institute is always focused on empowering the marginalized section of the society through small-scale enterprises by extending its technologies to them."

"Many fish farmers in poor backgrounds in the country are greatly benefitted through CMFRI's SCSP and Tribal Sub Plan programmes, which are aimed at mainstreaming the marginalised community. Efforts are also in progress to extend support to the transgenders in SC and ST community in a way that helps them earn a living through cage fish farming and allied activities," he added.

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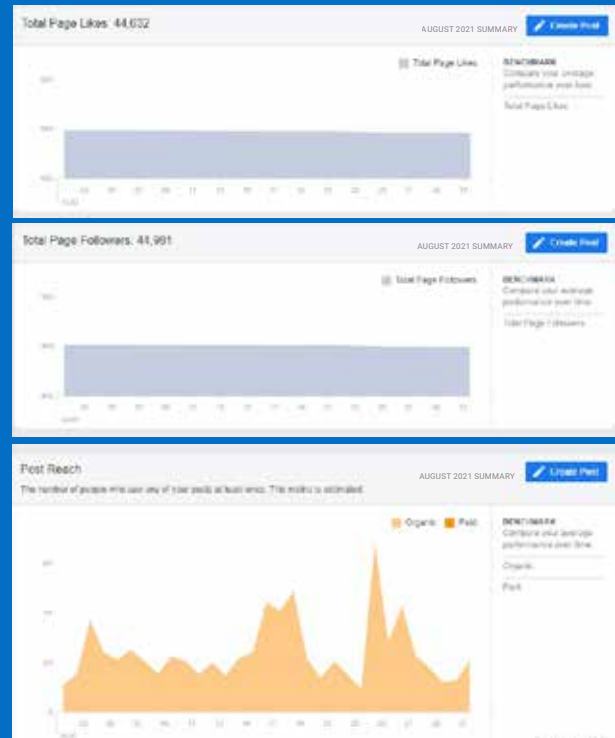
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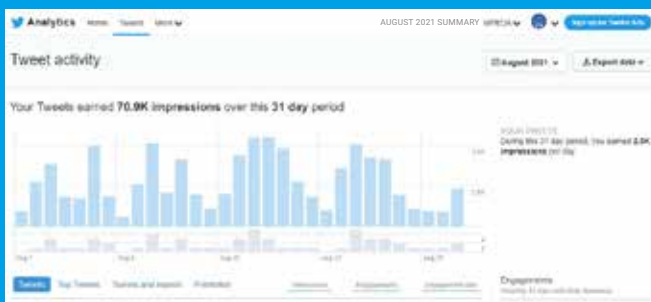
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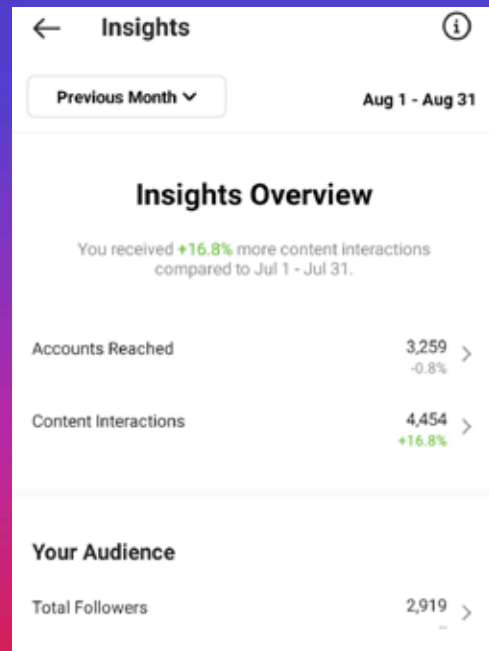
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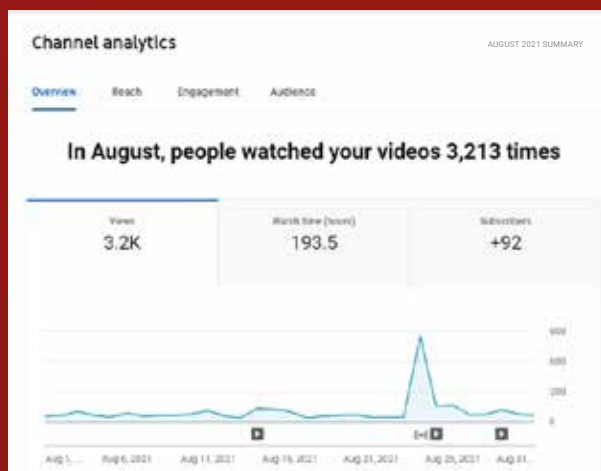
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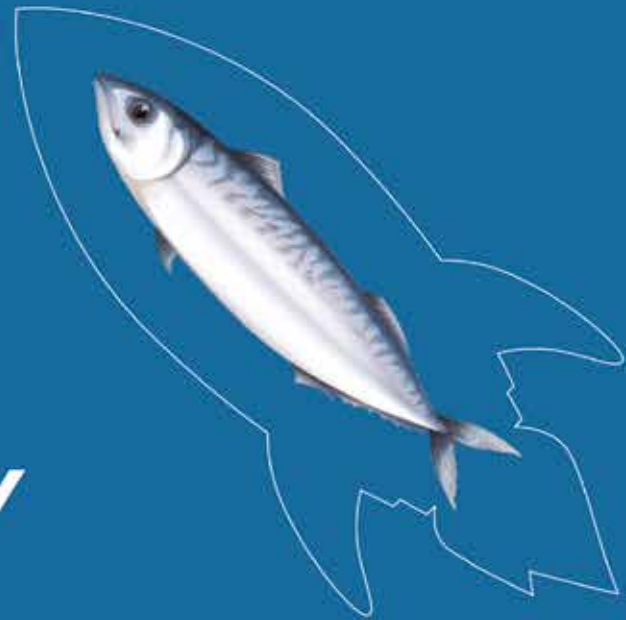
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