

MPEDA

Newsletter
APRIL 2012



THE MARINE PRODUCTS EXPORT DEVELOPMENT AUTHORITY

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MPEDA NEWSLETTER



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On the platter.....!!



Dear Friends,

While I write this message, I am on a visit to Israel to negotiate the 3rd agreement for the Scampi project of RGCA in Vijayawada with the Ben Grunion University in Be'er Sheva. I have also been able to learn about some of the modern aquaculture techniques developed by the country.

MPEDA and its 24 co-exhibitors had an excellent Seafood Exposition at Brussels late April. It was a matter of great delight that one of our co-exhibitors, M/s. Dish Hospitality P Ltd, Mumbai won the Seafood Prix d'Elite special award for Originality in the product competition held at Brussels. As mentioned in my previous message, certification has become very critical in the international marketing of seafood. One could see the showcasing of various sustainably sourced and certified seafood products throughout the ESE pavilions irrespective of their country of origin. We have to understand (and start taking necessary action) that the certification tag is going to be a key marketing tool for seafood in developed markets in the coming years.

Another matter of joy is that the Chinese authorities (AQSIQ) have accepted the certification by Indian Authorities thereby clearing the way for continued seafood exports to that country. MPEDA was in liaison with our Embassy in China almost on a daily basis for this and our Counsellor (Trade & Commerce), Shri K Nagaraj Naidu was of immense help. As usual MPEDA was in the forefront to take up the genuine issues faced by exporters affecting trade and get solutions in their favour.

While the units on the East coast will be bustling with activity by June, those on the West coast mostly will be facing a lull period for another couple of months due to fishing restrictions. I am hopeful that the year ahead will be very prosperous for each and every stake holder of the fishing, aqua farming and seafood exporting community so that our exports scale much higher.

Thanking you,

May 2012

*Sd/-
(LEENA NAIR IAS)
Chairman*



MARKETING NEWS

Effective showcasing of Indian Seafood in European Seafood Exposition 2012

The 20th edition of the prestigious European Seafood Exposition (ESE), witnessed a strong participation of Indian seafood exporters under MPEDA - India pavilion. ESE, regarded as the largest seafood show on the globe, had 23 leading seafood exporters as co-exhibitors from India together with Seafood Exporters Association of India (SEAI) and MPEDA this year.

Active participation coupled with ad campaigns by MPEDA in print and electronic media made the India Pavilion a 'must visit' place in Hall 7 and stands 1501 & 1601 to major buyers, diplomats and journalists in the Show. This year also MPEDA has taken 448 sq. m. space. The India Pavilion had

the unique 'Red Fort' design with a colour tone and lighting that resembled the original structure in our National Capital. It stood unique and distinctive amongst other stands with conventional designs and colour patterns.

MPEDA had displayed almost all the products produced by the Indian seafood exporters. Special emphasis was given to promote value added seafood products, particularly the ready-to-eat and ready-to-cook

products which were prominently displayed.

The ESE this year also had more than 1600 exhibitors from over 80 countries in the 34000 sq. m. exhibition space. Along the sidelines of the ESE, there was an exclusive Show on seafood processing and allied machinery, Seafood Processing Europe (SPE) in Hall 4.



Ms. Leena Nair IAS, Chairman and Shri N Ramesh, Director (M) interact with a visitor

Europe as a whole had been the largest market for Indian seafood, especially for cephalopods, despite the economic slowdown that affected many of our major markets in the EU such as Portugal, Italy, Spain and Greece. The trade enquiries in the Show indicated a shift in the business proposal to countries like Poland, Turkey, besides the conventional markets like Germany, UK and Russia. The trade enquiries received in the Show is published elsewhere in this

issue of MPEDA Newsletter.

Shri Santhosh Jha, Deputy Chief of Mission and Charges' d' Affaires, Embassy of India, Brussels paid a visit to the India Pavilion on 25th April 2012 alongwith Shri B Vanlalvawna, Counsellor (European Union). Ms. Ismat Jahan, Her Excellency Ambassador of Bangladesh to Belgium, Luxembourg and European

Union also made a short visit to MPEDA stall and India Pavilion.

MPEDA has also organized the India Event on 25th April 2012 from 13.00 to 14.00 hrs. in the Ambassador Hall at Hall 10. The event aimed facilitating interactions between buyers, exporters, diplomats and press people on Indian seafood had an enthralling participation this year.

The India Event, which became an integral part of MPEDA's participation in ESE, started with a detailed presentation by Chairman, MPEDA on the Indian seafood production and processing scenario. The presentation specially emphasized on the initiatives in quality and sustainable fishery and aquaculture practices. Shri Santhosh Jha, Deputy Chief of Mission and Charges' d' Affaires, Shri B Vanlalvawna, Counsellor (European Union) and other senior officials of

Eventful ESE 2012



Chairman, MPEDA interacts with Ms. Ismat Jahan, H.E. Ambassador of Bangladesh to EU



Chairman, MPEDA presents during India Event 2012



L - R : Shri Deepak Gadre, Shri Rajgopal Sharma, Trade Advisor, Eol, Shri Santhosh Jha, Dy. Chief of Mission & Charges' d' Affairs, Eol and Shri B Vanlalvawna, Counsellor (EU), Eol, Brussels in the stall of M/s. Gadre Marine Export Pvt. Ltd.



Shri N Ramesh, Director (M) attends visitors



Shri K J Antony, Dy. Director with visitors



Senior dignitaries from Eol, Brussels with Chairman, MPEDA in the India Event 2012

Glimpses of ESE 2012



Glimpses of ESE 2012



Embassy of India, Brussels graced the occasion. A brief Sitar recital by Mr. Surajit Das added to the entertainment in the event.

A grand seafood luncheon was provided to the gathering by Executive Chefs Mr. Amit Ghosh of SFC group Abudhabi and Mr. Meril A Antony of The Gateway Hotel, Vijayawada. They also arranged cooking demonstration for visitors to the MPEDA stand on first and third day of the exposition.

The co-exhibitors praised the arrangements made by MPEDA for effective participation in ESE 2012. The SEAI exhibition space in India Pavilion had four freezers with display

of a number of product varieties for the buyer to choose. It is considered to be one among the largest display of seafood in the ESE 2012. For the first time, we had also displayed a handful variety of fresh fishes, lobsters and crabs in a dome chiller. The farmed Cobia and Asian Seabass from RGCA units attracted a lot of visitors and business enthusiasts. The co-exhibitors were able to re-establish their relations with the existing buyers and could make several new orders from buyers of various countries. MPEDA has also brought out for the first time a special co-exhibitor guide and an India Pavilion layout specifically for ESE 2012, which were appreciated

by co-exhibitors and visitors alike.

The participation of MPEDA in ESE 2012 was organized by Ms. Leena Nair IAS, Chairman, Mr. N Ramesh, Director (Marketing), Mr. K J Antony and Dr. Ram Mohan M K, Deputy Directors. The Ministry of Commerce & Industry was represented by Mrs. Amrit Raj, Director (Finance). SEAI was represented by its Secretary, Mr. Sandu Joseph. The Embassy of India at Brussels, especially a team of officials under Shri Rajgopal Sharma, Trade Adviser extended all support to MPEDA and co participants in making the participation in ESE 2012 and organizing the India Event, a fruitful one. ●

Dish Hospitality wins for the second time, while Kaviari and Prins & Dingemans take top honors at 2012 Seafood Prix d'Elite

Dish Hospitality Pvt Ltd of Mumbai, India was presented with a Seafood Prix d'Elite special award for Originality for its product, **International Shrimp S'cones** in a separate function at Brussels on 24th April 2012 in conjunction with the European Seafood Exposition. This innovative product consists of savory mini waffle cones with two flavors of



Representatives of M/s. Dish Hospitality Pvt Ltd receives Prix d'Elite award



black tiger shrimp filling — shrimp in creamy tomato gravy with a hint of fenugreek, and shrimp in coconut curry. The filling is provided in microwaveable packaging, which allows the consumer to pipe it into the waffle cones, and the package includes a unique cut-out tray to hold the cones upright.

Earlier Dish Hospitality won the same award for their product 'Shrimp Lollypop' in 2010. The company had four products in the final list for Seafood Prix d'Elite awards.

Kaviari and Prins & Dingemans were awarded the top prizes in the 12th annual Seafood Prix



d'Elite new products competition at the European Seafood Exposition, the world's largest and most prestigious seafood event. The winners were selected from a field of 37 finalists and were announced this evening at a special Seafood Prix d'Elite reception.

Karviari of Paris, France took the top award for best new retail product with its entry, **En K de Caviar®**. Designed to change the way consumers eat caviar, En K de Caviar presents 15 grams of Osetra caviar and a special caviar spoon in an original tin with an embossed lid. Available in six colors, the tin can be easily tucked into a bag to be enjoyed while traveling, playing, picnicking or working. The judges particularly noted the attractiveness and the originality of the presentation.

Karviari's **En K de Caviar** was also presented the Seafood Prix d'Elite special award for Retail Packaging. Designed to attract new consumers and offer new meal opportunities, the unique tin with sliding lid presents caviar in fun and attractive way. The small, convenient package also allows consumers to easily carry and enjoy caviar anywhere, and encourages new customers to try a luxury product.

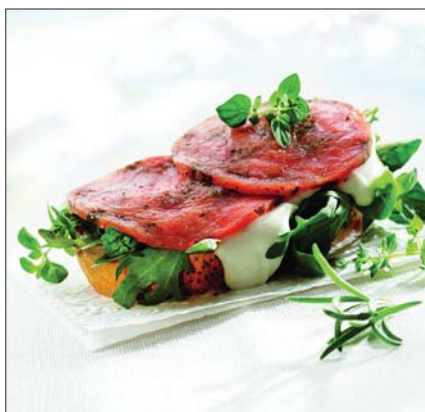
In the foodservice category, the top prize was given to **Prins & Dingemans** for its product, Zeeuwse Creuse Caresse. This specially selected Zeeland Creuse oyster has received extra care and a diet of specially cultivated algae. The oyster is grown in an optimal environment, rich in

nutrients, and without outside influences, which allow it to become full-bodied, with a velvety, briny taste. The judges noted the high quality of this oyster and its story, which they felt would be appealing to consumers.



In addition to the two grand prizes, the judges also gave five special awards, of which Dish Hospitality and Kaviari won those respectively for originality and retail packaging. The rest are:

1. Lerøy Pålægslaks Provence from **Hallvard Lerøy** in Bergen, Norway was awarded the Seafood Prix d'Elite special award for Convenience. Designed to meet the high demand for sandwich options in the Scandinavian market, these sandwich slices are made from smoked salmon with flavorings from Provence. They are perfectly sized for bread and presented in a consumer-friendly package. The product is also available in natural and pepper flavors.



2. The Seafood Prix d'Elite special prize for Health & Nutrition was won by **Jens Møller Products ApS** of Lemvig, Denmark for its product, **Vita-All®**. This non-sparkling energy/sports drink is made of seaweed and black currant



juice, and is enriched with vitamins, anti-oxidants and a little caffeine. It is designed to appeal to young people as a healthy alternative to sodas.

3. A new line of seafood ready-meals from **Heiploeg Group** in Oostende, Belgium was presented with a Seafood Prix d'Elite special award for Seafood Product Line. This line features three seafood combinations: Seafood Duo for Risotto, featuring seabob shrimp and crayfish; Seafood Duo for Pasta also with seabob shrimp and crayfish; and Seafood Trio for Paella, with seabob shrimp, mussels and Alaska pollock. The line is packed in colorful retail boxes and offers the consumer a quick and easy way to add seafood and Mediterranean flavor to their meals.

The 37 Seafood Prix d'Elite finalists in this year's competition represented 11 countries. The winners and finalists were on display at a special Seafood Prix d'Elite stand, Patio-4609,



at the ESE. The awards were announced by Ms. Mary Larkin, Vice-President of Seafood Expositions for Diversified Business Communications.

The judges' panel for the 2012 Seafood Prix d'Elite new products competition were led by Mr. Juergen Pauly, Category Manager for Fresh Fish with Globus in Germany. The Seafood Prix d'Elite finalists were judged on taste and overall eating experience, packaging, marketability, convenience, nutritional value and originality. ●

MPEDA leads the Indian delegation visit to the Port of Rotterdam

A team led by Ms. Leena Nair IAS, Chairman, MPEDA visited the Port of Rotterdam on 23rd April 2012, subsequent to an invitation from the Port of Rotterdam authorities. The visit was for familiarization of the various facilities and unique advantages offered by the port and to explore the possibilities of using Rotterdam as a Gateway port to Europe.

It was a one-day tour on a vessel arranged by the port authority. Capt. Kees Weststrate, Sr. Project Manager of Port of Rotterdam gave a guided tour of the port. He explained the salient features of the port and the ease of handling reefer cargo through Rotterdam. The vessel sailed past the important terminals and facilities in the port.

Mr. Jan Bouman, General Manager of FrigoCare, the Cold Storage specialist showed their storage facility adjacent to the port. They have the Border Inspection facility in their own

premises which enables them do the veterinarian inspection as well as storage of cargo, thus facilitating smoother and faster clearance. Holland is the only country in the EU where Border Inspection can be done outside the port terminal and FrigoCare is one among the two active license holders. The biggest advantage of this operation is huge savings on demurrage.

Mr. Dennis Peltzer, Manager Operations of Samskip Icepak Logistics explained to the delegation their capability to do clearance and

distribution anywhere in Europe, be it a full truck load or even one Europallet. If documents are ready well in time prior arrival of vessel, port clearance, veterinary check and trucking from container yard to cold store can be done in 1-2 working days. Thus the requirement of free days does not arise.

The MPEDA team also included Mr. N Ramesh, Director (Marketing) and Mr. K J Antony, Deputy Director. Mr. Sandu Joseph, Secretary, SEAI, Mr. M C Roy of M/s. D2D Logistics and other exporters also joined the delegation. The visit revealed the fact that without having own office, today the exporters have an opportunity for storage and distribution within Europe in a cost effective and efficient manner. Moreover, this opens up a whole new world in front of the Indian exporters to deliver anywhere in Europe in small parcels and thus to develop the market further. ●



Co-exhibitors with MPEDA in ESE 2012

- 1 Shabina Exports, Veraval, Gujarat
- 2 West Coast Frozen Foods Pvt Ltd, Mumbai
- 3 Oceanic Edibles International Ltd, Chennai
- 4 Capithan Exporting Company, Kollam, Kerala
- 5 Tandel's Shree Datt Aquaculture Farms Pvt Ltd, Navsari, Gujarat
- 6 Gadre Marine Export Pvt Ltd, Ratnagiri
- 7 Naik Frozen Foods Pvt Ltd, Mumbai
- 8 Naik Seafoods Pvt Ltd, Mumbai
- 9 Apex Frozen Foods, Kakinada, Andhra Pradesh
- 10 Abad Fisheries Pvt Ltd, Kochi, Kerala
- 11 Forstar Frozen Foods Pvt Ltd, Mumbai
- 12 Pesca Marine Products Pvt Ltd, Mumbai
- 13 Castlerock Fisheries (P) Ltd, Mumbai
- 14 Elque & Company, Kolkata
- 15 Seasaga Enterprises Pvt Ltd, Mumbai
- 16 Sanchita Marine Products Pvt Ltd, Navi Mumbai
- 17 Geo Seafoods, Kochi, Kerala
- 18 Parayil Food Products Pvt Ltd, Aroor, Kerala
- 19 Naik Ice & Cold Storage, Mumbai
- 20 Dish Hospitality Pvt. Ltd, Mumbai
- 21 Moon Fishery (India) Pvt Ltd, Aroor, Kerala
- 22 Ulka Seafoods (P) Ltd, Taloja, Maharashtra
- 23 Keshodwala Group, Veraval, Gujarat
- 24 Seafood Exporters Association of India



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FOCUS AREA

Awareness Programmes on Ornamental Fish Development by MPEDA SRO, Guwahati in Tripura

MPEDA SRO, Guwahati organized four awareness campaigns on ornamental fish development in the state of Tripura as part of expanding fishery activities of MPEDA in the North East. The programmes were organized in collaboration with Krishi Vigyan Kendras (KVKs) and College of Fisheries at Lembucherra in Tripura during March 2012. The areas selected for these programmes were West Tripura, Dhalai, Lembucherra and South Tripura.

The First awareness programme was organised at Chebri in association with Divyodaya KVK in the West Tripura district, which was attended by about 30 participants including farmers, fish hobbyist, young entrepreneurs, Self Help Groups and NGOs. From the KVK, Dr. L C Patel, Programme Coordinator, Mr. Suresh Biswas, SMS, Dr. Nurul Islam, SMS, Ms. Suchetha Chakraborty, SMS, Mr. Dipak Nath, SMS and Mr Subrata Choudhary, Programme Assistant were present during the programme.

The second programme was organized in College of Fisheries, Lembucherra, Tripura. Prof. Dr. A B Patel, HOD, Department of Aquaculture, Dr. Janmejay Parhi, Assistant Professor, Dr. Sagar C Mandal, Assistant Professor and Dr. Mrinal Kanti Dutta, Assistant Professor coordinated the programme. The programme was attended by 40 students and technical officers of the college.

In South Tripura, the awareness programme was organized at Bir Chandra Manu, in coordination with Krishi Vigyan Kendra, South Tripura.



A view of the awareness programme in College of Fisheries, Lembucherra.

The programme was attended by about 40 participants including farmers, fish hobbyist, young entrepreneurs, SHG's, NGO's etc. Dr. A K Singh, Programme Coordinator and Mr. Biswajeet Debnath, SMS of KVK assisted in organizing the programme.

The fourth programme was organized at Dhalai in coordination with Krishi Vigyan Kendra, Salema of Dhalai district. The programme was attended by Shri Abhijit Chakraborty, BDO and Shri Tarendra Debbarma, Suptd. Of Fisheries, Kamalpur, who gave a short speech on fisheries department initiatives on ornamental

fishery. Mr. Jagat Das, President, Salema Panchayat Samiti, Mr. Kannu Singha, Vice President, Salema Panchayat Samiti and Mr. Ramanuj Chakraborty, SMS, KVK, Salema, South Tripura participated in the programme. The programme was attended by about 31 participants including farmers, fish hobbyist, young entrepreneurs, SHG's, NGO's etc.

The awareness programmes were coordinated by Dr. T R Gibin Kumar, Deputy Director, SRO Guwahati and Shri Subenthung Odyuo, Programme Manager (OFD), NER. ●



Programme at KVK, Birchandra Manu, South Tripura

Status of fisheries in Tripura

- Dr. T R Gibin Kumar, Deputy Director, MPEDA

Tripura is the third smallest state of India and second smallest state in North Eastern region with an area of 10,492 km² but is the second most populous state in the North East. The state has borders with Bangladesh in the west, south and north; the Indian states of Assam to the north-east while Mizoram forms the eastern boundary. Geographic isolation and communication bottleneck coupled with insufficient infrastructure has restricted economic growth of the state. With 99% fish eating population, fishery plays an important role in the state not only as food item but also to improve the socio-economic condition of the 73.58% of the rural people. As per 2007-08 statistics there exists a shortage of 10,500 MT of fish in the state which necessitated the import of fish from nearby Bangladesh and even from distant Andhra Pradesh.

Until 21st January 2012 the state of Tripura consisted of 4 districts, 17 sub divisions and 40 development blocks. The four districts are West Tripura, South Tripura, North Tripura and Dhalai. Since then, for administrative purposes, 4 new districts, 6 new subdivisions and 5 new development blocks were created. Four new districts created are Khowai, Unakoti, Sipahijala and Gomati. The new six sub-divisions are Jirania, Mohanpur, Kumarghat, Panisagar, Jampuijala and Karbook. Five new blocks are Yuvarajnagar, Durga Chawmuhani, Jolaibari, Silachari & Lefunga.

Tripura is the first state in India that has developed a vision plan to achieve self-sufficiency in fish production. Tripura initiated the 'fish for all' program for providing



reasonable amount of fish to its population, much before it was conceived by the Worldfish Center and this vision of the state was appreciated when the program was formally launched in Kolkata by the Worldfish Center in 2003. As per the Department of fisheries, Tripura state has achieved the level of providing 9 kg fish / person/year during 2007-08 and it was targeted to achieve the per capita fish availability of 13 kg by the end of 12th Five Year Plan, but Tripura Fishery had made a remarkable progress in nutritional self sufficiency by achieving the per capita availability of fish of around 14.2 kg by the year 2010-2011.

Strength of Tripura fishery

- ◆ Efforts from Department of Fisheries and Agriculture University have brought mass awareness about the profitability of fish culture.
- ◆ Tripura has got a strong database of the fishery resources updated

each year through door to door survey.

- ◆ Good governance with transparent administration is being appreciated at all levels.
- ◆ Maintenance of a good network for better growth in fishery segment.
- ◆ Fund flow from MGNREGA in Fishery segment is much higher in the state.
- ◆ Government is keen on the development of fishery for socio economic development of the state by building confidence and entrepreneurship development among the SHG's.
- ◆ Fisheries College at Lembucherra and ICAR institutes are playing significant role in fisheries development of the state.
- ◆ Proximity of Bangladesh is a big advantage, which is a large market and trade relations are getting stronger.

Fishery statistics of Tripura at a glance*	
Culturable water area	
Ponds / Tanks	10820.61 ha
Mini barrages	6554.29 ha
Total	17374.80 ha
Capture Fisheries	
Reservoir	3049.34 ha
Lake	100.46 ha
River / Rivulets	4728.96 ha
Total	7878.76 ha
Total Water Area (Culture & Capture)	25253.56 ha
Demand and Production of Fish and Fish Seed	
Demand of Fish	43280.00 MT
Production of Fish	
Culture Fisheries	30840.52 MT
Capture Fisheries	1989.14 MT
Total	32829.66 MT
Productivity of Fish / ha / yr (culture fishery)	1931.00 kg
Requirement of Fish Seed	1440.75 lakhs
Production of Fish Seed	2533.04 lakhs
Status of Fish farmers and Fishermen	
Number of Fish farmers	1,25,247
Number of Fisherman	77,748
Govt. Fish Farms and other infrastructure in the state	
Fish Breeding farm	7
Fish Seed Centre	16
M. C. Seed Producing Hatchery	7
Prawn Seed Producing Hatchery	6
Pabda Hatchery	2
Others	
Ornamental Fish Breeding Centre	1
Fish Health Investigation Centre	1
Soil and Water testing laboratory	14
Fishermen Cooperative Societies	142
Pisciculture based SHGs	936
FFDAs	
Tripura Fisheries Training Institute	1
Fish farmers Training Centre	4
Fisheries Awareness Centre	2
Fish Feed Analysis Laboratory	1

- ◆ Good infrastructural facilities for fish and prawn seed production.
- ◆ Good transport facilities and well maintained roads, which are best in North east.

Weakness of Tripura fishery

- ◆ Lack of Fishery law in the state to prevent illegal fishing activities, poaching etc. Legislation is required for seed certification, hatchery regulations, regulating invasive fishes etc.
- ◆ Invasive fish species like Pacu (*Pygocentrus nattereri*), African catfish (*Clarius gariepinus*) etc. got entered into the ecosystem by different hatchery people through Bangladesh, creating threat for local endangered and endemic species.
- ◆ Lack of data regarding the indigenous fish species and non-adoption of any documentation programmes for fish species and its availability in the state.
- ◆ Absence of small scale industry for producing fishing gear, boats, aerators etc. in the state.
- ◆ Due to hilly terrain and forest cover, only 27% of land is available for cultivation.
- ◆ Acidic soil conditions impaire aquaculture to some extend

Opportunities in Tripura fishery

- ◆ Tripura is getting good rain fall, which ranges between 926 mm to 2098 mm and vast water resources available can be judiciously harnessed for proper use in fish farming.
- ◆ Possibility for export oriented fish and scampi farming can be undertaken in the state.
- ◆ Opportunity is there for farming exotic species in controlled way.

* <http://tripura.nic.in/fisheries>

FOCUS AREA



Prawn hatchery in Tripura



Harvested fresh water prawns

- ◆ Opportunity is there for exporting endemic species with proper propagation.
- ◆ Adopt auto stocking technique to enhance fisheries in the larger water bodies.
- ◆ Opportunity for establishing fish processing facilities for value addition of the fish exported to Bangladesh.
- ◆ By improving the trade relations with Bangladesh Tripura can act as a link for the entire North east to the export market. As a primary step Tripura Government would be setting up markets along the border of India and Bangladesh with an aim to provide impetus to trade relations between the two countries. Trade between Bangladesh and Tripura has increased from Rs. 40 million in 1996 to Rs. 2,580 million in 2011. Bangladesh has decided to open more consulates in north east region to improve trade, people-to-people contacts and cultural ties.
- ◆ Technological cooperation with Bangladesh is also ascertained, which would be much easier than getting it from Indian mainland.
- ◆ Enormous scope to build Aqua Tourism also prevails in the state.
- ◆ Possibility for developing fresh water dry fish processing units.

Threats in Tripura fishery

- ◆ Unscientific exploitation of natural resources, fast urbanization, deforestation, industrialization, inappropriate technology, pollution etc.
- ◆ Encroachment of lakes, bheels and other wetlands
- ◆ Lack of quality manpower for extension in grass root level.

Tripura Fishery has achieved a remarkable progress in nutritional self sufficiency with per capita availability of fish much above the national level and the state had formulated specific plans to keep the momentum in the

12th FYP also. In the case of ornamental fishes the state is still at nascent stage with limited markets in urban areas. Commencement of this sector in Tripura would be aiming to reduce the current imports of ornamental fishes from Kolkata by augmenting domestic production by projecting the schemes of MPEDA in this direction. Tripura being an agrarian state, with more than 50% of its population depending on agriculture and allied activities, bringing awareness among the people in the state is more vital to adopt ornamental fish as a business opportunity to provide alternate income to improve their livelihood. ●



Fish feed mill in Tripura

Training Programme on Organic Aquaculture conducted at Palghar, Thane District, Maharashtra

A Training Programme on “Organic Aquaculture” was conducted by MPEDA & INDOCERT jointly on 16th March 2012 at Hotel Viva Celebration, Palghar, Thane dist., Maharashtra. The major objective of the training was to promote organic aquaculture in the maritime state of Maharashtra and to create awareness among the shrimp farmers of Maharashtra on organic aquaculture. The programme was organized with the financial and technical support of Marine Products Export Development Authority (MPEDA), Kochi. The *India Organic Aquaculture Project* (IOAP) was initiated by MPEDA for the promotion of Organic Aquaculture in India. INDOCERT has been closely associating with the IOAP, as one of the active project partners and as an inspection and certification body of the project, since 2007. The present programme was planned to expand the organic aquaculture activities in to new areas, with the experience and expertise available with MPEDA and INDOCERT. The training programme was attended by 24 participants.

The programme started with the welcome address by Mr. Maruti D Yaligar, Deputy Director, MPEDA. In his address, he mentioned that the State of Maharashtra has good potential to develop organic farming, and the farmers should make use of the opportunity.

The session was inaugurated by Mr. Ulhas Sawant, AFDO, Palghar. In his inaugural address he cited the growing relevance of aquaculture for food security and the importance of organic aquaculture. He also highlighted about the current



Inaugural function

aquaculture practices in the region and the prospects of organic aquaculture in Maharashtra.

The training started with the presentation of Mr. Sreekumar M S, Inspection officer, INDOCERT. He explained the present status of organic aquaculture in the world and market potential for organic aquaculture products in the foreign countries. He also explained about INDOCERT, introduction to organic aquaculture practices and various certification procedures.

The next session started with organic aquaculture standards as per the EU regulations 834/2007 and 710/2009 in which Mr. Sreekumar explained the standard requirement such as the suitability of aquatic medium, environmental assessment, sustainable management plan, conversion period, simultaneous production of organic and non-organic aquaculture animals, animal husbandry and welfare practices, management of aquaculture, breeding,

transportation, feeding and feed requirement, disease prevention and treatment, sustainability and labeling etc with examples. The doubts raised by the participants were clarified and opened discussions with the farmers on the practicability of the implementation of the standards.

The details of the revised scheme for development of organic farming by MPEDA under the Modified Organic Aquaculture Programme (MOAP) were explained, along with the guidelines for implementation of the programme by Mr. K Reji Mathew, Assistant Director, RC (Aqua), MPEDA, Panvel.

The final session started after lunch, with a presentation on the small holder group certification and internal control system (ICS) by Mr. Sreekumar M S. He detailed the Internal Control System (ICS) as a part of a documented quality assurance system that allows an external certification body to delegate the periodical inspection of individual group

FOCUS AREA

members to an identified body or unit within the certified operator. He explained the rationale behind ICSs for group certification which is to facilitate smallholder certification i.e. simplify certification and reduce its cost for smallholders through coordinated documentation and to implement and maintain a high quality assurance system for organic standards in smallholder production. He also explained that group certification enables smallholders to access organic markets to commercialize their products at the international level and also provide a good basis for sound quality systems to ensure organic quality and provide consumers with imported organic products at reasonable cost. He explained about the requirements of operating manual, the importance of conducting risk



A view of participants

assessment and the need and the requirements of internal inspectors and the necessity of internal standard.

Mr. S M Shirodkar, Junior Technical Officer, RC (Aqua) of MPEDA, Panvel translated the details in to local language for the benefit of farmers, during various sessions.

The one day training was concluded by Mr. Sreekumar, INDOCERT by extending thanks to the MPEDA for providing the support and the aqua farmers of Maharashtra for showing keen interest in the training on organic aquaculture certification procedures. ●

Price List of MPEDA Publications / Periodicals

PERIODICALS		Annual Subscription (Rs.)
1	PRIME Weekly (Price Indicator for Marine Products)	350.00
2	MPEDA Newsletter	300.00
PUBLICATIONS		Price Per copy (Postage extra)
3	Chart on Commercial Fishes of India	75.00
4	MPEDA Act, Rules & Regulations	25.00
5	Statistics of Marine Products 2008	350.00
6	Seafood Delicacies from India	100.00
7	Indian Fishery Hand Book	250.00
8	Product Catalogue	150.00
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11	International Transport of Live Fish in the Ornamental Aquatic industry Serial - 2	125.00
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FISH SCALES – FUNCTIONS & APPLICATIONS

Compiled by: Dr. Al. Muthuraman, Dy. Director (Aq), MPEDA

The skin of most bony and cartilaginous fishes is covered by scales. Scales vary enormously in size, shape, structure and extent, ranging from rigid armour plates in fishes such as shrimp and boxfishes, to microscopic or absent in fishes such as eels and anglerfishes. The morphology of a scale can be used to identify the species of fish it came from.

Fish scales are produced from the mesoderm layer of the dermis, which distinguishes them from reptile scales. The same genes involved in tooth and hair development in mammals are also involved in scale development.

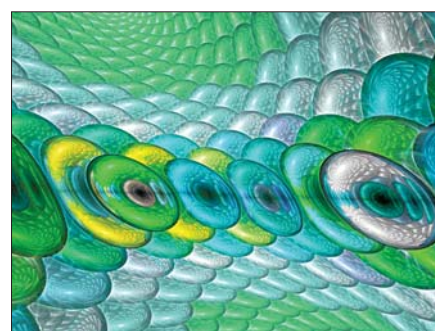
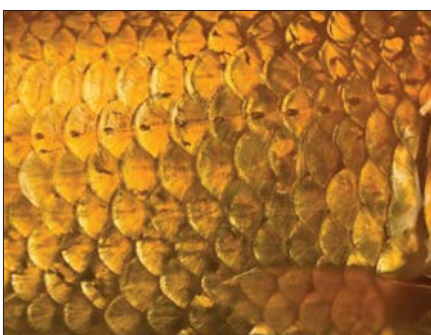
TYPES OF FISH SCALES

1) Placoid scales

Also called dermal denticles, placoid scales are found in the cartilaginous fishes: sharks, rays and chimaeras. They are structurally homologous with vertebrate teeth (“dentine” translates to “small tooth”), having a central pulp cavity supplied with blood vessels, surrounded by a conical layer of dentine, all of which sits on top of a rectangular basal plate that rests on the dermis. The outermost layer is composed of vitrodentine, a largely inorganic enamel-like substance. Placoid scales cannot grow in size, but rather more scales are added as the fish increases in size.

Similar scales can also be found under the head of the Denticle herring.

Sharks are entirely covered by placoid scales. Studies have found that the scales create tiny vortices that reduce drag, which makes swimming more efficient, as well as quieter



Fish Scales

compared to bony fishes. The amount of scale coverage is much less in rays and chimaeras. The rough, sandpaper-like texture of shark and ray skin, coupled with its toughness has led it to be valued as a source of leather. Called shagreen, one of its many applications was in the historical manufacture of hand-grips for swords.

2) Cosmoid scales

Cosmoid scales are found in several ancient lobe-finned fishes, including some of the earliest lungfishes and were probably derived from a fusion of placoid scales. They are composed of a layer of dense, lamellar bone called isopedine, above which is a layer of spongy bone supplied with blood vessels. The bone layers are covered by a complex dentine layer called cosmine and a superficial outer coating of vitrodentine. Cosmoid scales increase in size

through the growth of the lamellar bone layer.

3) Ganoid Scales

Ganoid scales are found in the sturgeons, paddlefishes, gars, bowfin and bichirs. They are derived from cosmoid scales, with a layer of dentine in the place of cosmine, and a layer of inorganic bone salt called ganoine in place of vitrodentine. Most are diamond-shaped and connected by peg-and-socket joints. In sturgeons, the scales are greatly enlarged into armor plates along the sides and back, while in the bowfin the scales are greatly reduced in thickness to resemble cycloid scales.

4. Elasmoid Scales

Elasmoid scales are thin, imbricated scales composed of a layer of dense, lamellar bone called isopedine, above which is a layer of tubercles usually composed of bone,

as in *Eusthenopteron*. The layer of dentine that was present in the first sarcopterygians is usually reduced, as in the extant coelacanth, or entirely absent, as in extant lungfish and in the Devonian *Eusthenopteron*. Elasmoid scales appeared several times. They are present in some lobe-finned fishes: coelacanths, all extant and some extinct lungfishes, some tetrapodomorphs like *Eusthenopteron*, amiids and teleosts, whose cycloid and ctenoid scales represent the least mineralized elasmoid scales.

5. Cycloid and ctenoid Scales

Cycloid and ctenoid scales are found in the teleosts, the more derived clade of ray-finned fishes. Cycloid scales have smooth margins, while ctenoid scales have tiny teeth called ctenii on the posterior edge that give them a rough texture. These scales contain almost no bone, being composed of a surface layer containing hydroxyapatite and calcium carbonate, and a deeper layer composed of mostly collagen. The enamel of the other scale types is reduced to superficial ridges and ctenii. Most ray-finned fishes have ctenoid scales. In flatfishes, some species have ctenoid scales on the eyed side and cycloid scales on the blind side, while other species have ctenoid scales in males and cycloid scales in females.

Ctenoid scales can be further subdivided into three types:

- In **crenate scales**, the margin of the scale bears indentations and projections.
- In **spinoid scales**, the scale bears spines that are continuous with the scale itself.
- In “true” **ctenoid scales**, the spines on the scale are distinct structures.

Cycloid and ctenoid scales are overlapping, making them more

flexible than cosmoid and ganoid scales. They grow in size through additions to the margin, creating bands of uneven seasonal growth called annuli (singular annulus). These bands can be used to age the fish.

Modifications of Fish Scales

Different groups of fish have evolved a number of modified scales to serve various functions.

- Almost all fishes have a lateral line, a system of mechanoreceptors that detect water movements. In bony fishes, the scales along the lateral line have central pores that allow water to contact the sensory cells.
- The dorsal fin spines of dogfish, shark and chimaeras, the stinging tail spines of stingrays, and the “saw” teeth of sawfishes and sawsharks are fused and modified placoid scales.
- River herrings and threadfins have an abdominal row of **scutes** which are scales with raised, sharp points that are used for protection. Some jacks have a row of scutes following the lateral line on either side.
- Porcupinefishes have scales modified into spines.
- Surgeonfishes have a sharp, blade-like spine on either side of the caudal peduncle.
- Some herrings, anchovies and halfbeaks have **deciduous scales**, which are easily shed and aid in escaping predators.
- Male *Pervina* darters have a row of enlarged **caducous scales** between the pelvic fins and the anus.

Many groups of bony fishes, including pipefishes and seahorses, several families of catfishes, sticklebacks, and poachers, have developed external bony plates, structurally resembling placoid scales, as protective armours. In the boxfishes, the plates are all fused together to form a rigid

shell enclosing the entire body. Yet these bony plates are not modified scales, but skin that has been ossified.

Significance of Fish Scales

Fish scales contain a silvery substance called “pearlescence” or natural fish silver. This gives fish such as herring – and yes, certain types of lipstick and nail polish – their pearly sheen. The makeup pigment consists of 75 percent to 97 percent guanine and 3 percent to 2 percent hypoxanthine. And since it takes a ton of fish to yield 250g of guanine, the market price for natural silver is proportionally high.

Functions of Fish Scales

Because of the natural iridescence in fish scales, some artists have used them decoratively. Historically, fish scale art has involved ornamentation and jewelery making. Claudia Miclaus in an April 5, 2008, Buzzle.com posting notes a Red Deer College in Alberta, Canada, class offering of “Mixing beads & Fishscale Art.”

Health Benefits

Fish scales are also a raw material in collagen-based products such as skin moisturizers, anti-aging creams, wrinkle removers, hand creams, cleansing gels and all manner of Botox Knock-offs and and raccoon-eye miracle cures.

Effects

One Chinese company on the Internet markets its skin-care product in these refreshingly candid terms: “Athena Fish Collagen capsule is manufactured from fish scale or skin using modern biochemical separation technology. It is (a) new collagen that is safe to human being(s). There is 50% collagen in this product to promote skin health. It is suitable to support skin, hair....nail health and beauty.” An Indian company M/s. Nitta Gelatin has also now started production of fish based gelatin recently. ●

MPEDA participates in the 5th Freshwater Fish Specialist Group (FFSG) Symposium 2012 at Chester, UK

Dr. E G Silas, Chairman, Taskforce for the preparation of Guidelines for Green Certification was deputed by MPEDA for attending the 5th Freshwater Fish Specialist Group (FFSG) Symposium 2012 on Global Challenges from 1-3 May, 2012 at Chester, UK. The Symposium was attended by delegates from 16 countries. The Symposium on “Global Challenges in Caring for and Conserving Freshwater Fishes” was arranged under five plenary sessions as given below:

1. Strategic issues in Fish Conservation.
2. Fish survival in the Geographic Regions- Africa, Meso America and South America.
3. Action for Sustainability.
4. Specialised habitats, specialised fishes and special problems including Lampreys, Cave-fish, and Live – bearers, rapid water and migratory fishes.
5. Fish survival in the geographic regions: Europe, Middle East, Australasia, South Asia.

Dr. E G Silas presented a paper on ‘Green Certification of fresh water ornamental fishes- India’s Initiatives’ in the third plenary session. In his presentation, Dr. Silas brought out the threats to the two hotspots of biodiversity in India, the Western Ghats and North Esatern Hills from anthropogenic activities and natural calamities. Dr. Silas briefed about the efforts taken by MPEDA for bringing out the Guidelines for Green Certification of Freshwater

Ornamental Fish and also the initiatives by MPEDA to develop the Ornamental Fish Sector in India.

In addition to the plenary sessions, there were five workshops, each of one hour duration on the following topics.

1. Green Fish Initiative
2. Census of Freshwater Life Project
3. Mitigating the impact of dams on migratory and other freshwater Fish Species
4. IUCN Anguilled Specialist Sub-group of FFSG Development Planning
5. Prospects for establishing a global freshwater fish observatory Network

After Dr. Silas’s presentation, Dr. David Cooper from New Zealand conducted a one hour workshop on ‘Green Fish Initiative on Global Stamp.’ There was a feeling that Dr. Cooper’s workshop was inconclusive, while India had progressed far ahead. The FFSG meeting announced to the world that the concept of Green Fish/ Certification is not a novel one, and efforts are already taken by India for implementing it for which guidelines have already been prepared. Implementation of Green Certification will be done in a phased manner through workshops, trainings and awareness programmes.

Seafood exports to China unaffected

General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ), People’s Republic of China has brought in a notification during late May 2011 bringing in an Inspection and Quarantine Certification which has to accompany all the seafood exports to China. It was widely rumoured that China is going to ban Indian seafood exports from 1st June 2012, which is the proposed date of implementation of the certification requirement.

The Marine Products Export Development Authority (MPEDA) and the Export Inspection Council of India (EIC) under the Ministry of Commerce and Industry, Govt. of India had approached the Chinese Authorities through Embassy of India in Beijing on this issue. The format of Inspection and Quarantine Certification issued with respect to marine products export from the Republic of India to the P R of China has been accepted by the Chinese Authorities. The Export Inspection Council of India would be issuing the required certificates for seafood exports to China. Exports of seafood from India to the P R of China would not be hindered by the said notification.

AQUACULTURE SCENE

New business opportunities in aquaculture: Harvest of farmed Cobia in sea cages

The marine finfish project of RGCA that had developed technology for breeding and mass production of Cobia (*Rachycentron canadum*) seeds last year, has now successfully developed and demonstrated the technology for farming of this species in Sea cages at its Sea Cage Farm in Muttom, Kanyakumari District, Tamil Nadu. Open Sea farming has become a promising area for aquaculture all over the world. With an annual growth rate of 10%, this system of farming is now predicted to become the most popular form of aquaculture contributing the maximum to the total world aquaculture production in the years to come. At present every coastal country is either involved or is seriously considering to engage in sea cage farming.

The technology developed by



Ms. Leena Nair IAS, Chairman, MPEDA inaugurates Cobia harvest at Muttom

RGCA in sea cage farming of Cobia was dedicated to the Nation during a harvest function that was organized on the 9th April 2012 at Muttom. The function was graced by the presence

of Ms. Leena Nair IAS, Chairman MPEDA & President RGCA, Shri Tarun Sridhar IAS, Joint Secretary (Fy), Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture, Dr. E G Silas, former Vice Chancellor of Kerala Agriculture University and former Director, Central Marine Fisheries Research Institute (CMFRI), and Dr. Jeppiaar, Chancellor of the Sathyabhama University and Chairman of the Muttom Fishing Harbour. The function was witnessed by a gathering of over 1200 people from a wide array of fields, including fishermen, scientists, officials, students and faculty from fisheries institutes and professionals and entrepreneurs from aquaculture sector. In the inaugural function, Ms Lin Li Che, Yan Chia Trading Co Ltd, Taiwan received first sale of cobia from Chairman, MPEDA who is also the President of RGCA.



Shri P Mohanasundaram, Director, MPEDA addresses the gathering



RGCA Cobia sea cage farm in Muttom

There was a live demonstration of *Sashimi* preparation later. The raw cobia *sashimi* with soya sauce and *wasabi* was tasted by many. 298 kg of harvested cobia was given to Central Institute of Fisheries Technology (CIFT) and National Institute of Fisheries Post Harvest and Training (NIPHAT) for product development and other evaluations. The first consignment of *sashimi* grade cobia in chilled form was airlifted to Taiwan on 12th April 2012 and the response from the overseas buyer on quality and acceptance of cobia was encouraging, particularly on the taste, fat content and freshness. MPEDA has also exhibited the farmed cobia by RGCA in the European Seafood Exposition held from 24th to 26th April 2012 at Brussels with a view to find the export potential for the species to other countries in future.

This is a landmark event in Indian aquaculture that promises excellent and endless opportunities for large entrepreneurs to venture into and also an opportunity for fisher folk to ensure a steady income round the year without being totally dependent on the

unpredictable catches from the sea by venturing into sea farming of Cobia.

The formal programme was conducted at Jeppia kalyana Mandapam at Muttom. The gathering was welcomed by Shri Thampi Sam Raj, Project Director, RGCA. In his welcome address, he commented that this is one of the auspicious occasions

in the history of Indian aquaculture. In spite of all the enhanced efforts by employing more fleets and methods, marine catch is declining. So the only alternative to increase fish production from Sea is development of mariculture through the application of eco friendly, user friendly and community friendly principles. Today it is demonstrated in a small scale that it is possible to increase fish productivity by applying aquaculture technology. Another way of increasing productivity is by conservation and stock enhancement of the selected species without challenging biosecurity and biodiversity. He recalled the sea ranching programme initiated by Sri Oommen Chandy, Honourable Chief Minister of Kerala in Vizhinjam, Kerala by releasing quality Cobia seeds during July 2011 in the exact fishing grounds where the brooders were caught. He suggested to evolve policies, development of technologies, investment base etc. to spread mariculture.

In his technical paper, Shri Anilkumar P, Project Manager, RGCA



Dignitaries viewing the demonstration feeding in sea cage nursery

AQUACULTURE SCENE



Shri Tarun Shridhar IAS, JS (Fy), DAHDF, MoA, inaugurating the harvest onboard the sea cage facility

indicated that cobia was selected as a candidate species as (i) its seeds can be produced in hatchery (ii) fast growth rate (iii) acceptance of formulated feed and (iv) market acceptance etc. Cobia juveniles used for stocking in the cages were produced at the RGCA hatchery facility at Pozhiyoor. Pellet feeds imported from M/s. Uni-President Feed Co., Taiwan was used during the entire culture period. Cobia seeds can be produced throughout the year at stipulated intervals. Various stages of production of cobia were explained in the presentation. Later he showed different types and different stages of sea cage fabrication. The details of farming of cobia in sea cages at Muttom are given below:

Stocking Size	: 150 – 200g
Duration of culture	: 11 months
FCR	: 1 : 1.9
Survival rate	: 70%
Estimated biomass	: 4250 kg
Feed	: Extruded pellets

Dr. E G Silas, in his presidential address appealed to fishermen to take up cage culture of cobia fish to earn extra income in addition to the income

from fishing. He congratulated the efforts taken by RGCA for making this harvest possible. He pleaded the State and Union governments to provide financial support to the fishermen groups who come forward to grow fish in cages in the Sea.

Ms. Leena Nair IAS, Chairman MPEDA & President RGCA, formally inaugurated the harvest by lighting the

traditional lamp. She explained that offshore mariculture in India is poised for a big leap with technology for farming of marine finfish being successfully demonstrated by Rajiv Gandhi Centre for Aquaculture (RGCA) at its sea cage farm in Muttom fishing Harbour. Over the last three decades, export oriented aquaculture in India has been restricted to farming the marine/brackish water shrimp and freshwater prawn in land based aquaculture systems alone. Though there is enormous potential for farming of several other native aquatic species in several bio-categories of realms such as lakes, reservoirs, bays and open seas, efforts to utilize these for sustainable and environment friendly aquaculture has so far not been explored in the country.

Taking lead in making such new technologies available to the aquaculture industry, RGCA has established different projects for high valued marine finfish such as the Grouper, Cobia and Asian Seabass at species-specific locations across the



Dignitaries witnessing the Cobia inaugural harvest at sea cage site, Muttom



Public demonstration of Cobia Sashimi preparation during the function

country. This is one such project in which Cobia is the candidate species.

Cobia, also known as Lemon fish, Ling, black King Fish or the Black Salmon is a pelagic fish found in tropical waters worldwide. There is no commercial fishery for Cobia as this fish is usually solitary in nature. This fish is known to grow exceedingly fast to approximately 6–8 Kg within a year and therefore is a highly promising species for aquaculture. Cobia meat has a desirable appearance, texture and flavours that appeal to all seafood lovers. As in other seafoods, Cobia also has a horde of health benefits and boasts of having one of the highest levels of heart-healthy omega-3 fatty acid, much higher than that of the Atlantic salmon. Cobia is also rich in Riboflavin, vitamin B6, Magnesium and Potassium. Success in breeding and seed production in Cobia is of recent origin. However, its amazingly fast growth even in captivity as well as the nutrient profile of this species has made it extremely popular both among aquaculturists as well as researchers. This fish, in the coming years is tipped to give the Atlantic salmon a run for

its money, both in terms of consumer acceptance as well as profitability in aquaculture.

Sea areas with pristine water, less environmental fluctuations and a depth of around 20m are ideal for Sea farming of Cobia. South Tamil Nadu and the south west coasts of India are excellent grounds for farming Cobia by virtue of their stable water conditions throughout the year.

The technology for Sea Cage Farming of Cobia, developed by RGCA presents excellent investment opportunities to large entrepreneurs as a high investment-low risk venture with a very high future potential. Cobia has great demand among all major seafood markets across the world including Japan, US and the UK. This demand is likely to grow considerably owing to the growing popularity of the fish as an excellent *Sashimi* grade product. Presently, the global aquaculture production of Cobia is around 31,900 tons with China, Taiwan and Vietnam being the major countries that meet the entire Global demand. This opportunity is up for grabs for

prospective entrepreneurs as there is absolutely no competition in India and very little competition across the world.

This technology could also become extremely popular among local fisher folk if adequate investment support is provided to them either by government agencies or NGOs. By virtue of their natural ability to stay on the sea, they can easily manage such offshore installations and utilize this as a steady source of income in contrast to the uncertainty in their regular fishing operations. In addition to meeting the export demands, the fisher folk could also use their regular marketing channels to supply limited quantities of this super fresh fish into the domestic markets based on the demand to obtain the best prices.

Two major constraints in popularization of Sea cage Farming in India are:

- (1) Steady supply of Finfish Seeds around the year and year after year in adequate quantities.
- (2) Lack of policies for use of Open water bodies.

The first constraint is already taken care of with RGCA having acquired the capability to breed the fish throughout the year. The production capacity could easily be enhanced based on the increasing demand. Seeds of other species of finfish such as the Asian Seabass can also be supplied by RGCA. Other agencies also have reported success in breeding other varieties of marine finfishes.

Any major effort for commercialization of the technology for mariculture will depend on the policy framework. Therefore policies on use of estuaries, bays and seas for aquaculture needs to be urgently formed giving due importance to an

AQUACULTURE SCENE



Cobia Sashimi (Raw fish) prepared in the demonstration, ready for consumption

ensuring minimal environmental impacts. Demarcation of suitable areas for aquaculture also needs to be urgently looked into. With catches from the sea steadily declining, urgent measures are needed to ensure that technological advances are used responsibly for food security and that communities dependant on the sea for income should have alternate and additional sources of income.

Shri Tarun Shridhar IAS, Joint Secretary (Fy), Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture said that he was happy to participate in two important initiatives undertaken in the country, viz., i) laying of foundation stone for post harvest fish handling facility in the Jeppiar Fishing Harbour area, ii) to witness the first real demonstration of mariculture in the country which has resulted in commercial transaction. He emphasized the need to develop more infrastructure facilities in the fisheries sector in India. He also said that aquaculture is the only food sector which can supply the required protein

and nutrition to the ever growing world population. The sea cage farming yield more productivity than the land based aquaculture systems. He requested MPEDA to focus attention through RGCA for the development of potential fresh water species for export

as well as domestic market.

Shri P Mohanasundaram, Director, MPEDA in his address appreciated the RGCA for the adoption of technology for growing cobia fish in sea cages. Dr. Jeppiaar, Chancellor of the Sathyabhama University and Chairman of the Muttom Fishing Harbour said that he was ready to invest for 100 cages for the fishermen groups for growing cobia fish for their employment and income. He requested smooth supply of cobia seeds from MPEDA. Vote of thanks was proposed by Shri Johnson D'Cruz, Asst. Project Manager, RGCA.

The function was well attended by fishermen, scientists, officials, entrepreneurs and professionals from aquaculture sector. Students and faculty from Fisheries institutes also visited the cage site to witness the technological advances made by RGCA. ●



View of audience in the public function at Muttom

HACCP (Basic) Training Programme held at Visakhapatnam

An HACCP (Basic) training programme was organized by MPEDA Regional Office, Vizag from 11th to 16th March, 2012. The four day training programme was inaugurated by Shri V Padmanabham, Regional President, SEAI (AP Region). In his inaugural address, he has requested all the participants representing various seafood processing establishments in the region to take maximum advantage of this kind of training for ensuring safety of the seafood products processed for export from the country. He emphasized the need to comply with various requirements stipulated by the importing countries including HACCP compliance, which is a food safety assurance system. To give an impetus to the participants attending the training programme, the Regional President has announced two prizes (1st and 2nd) to those securing the 1st



Shri V Padmanabham, Regional President, SEAI (AP Region) inaugurating the Training Programme

and 2nd places in the examination to be followed upon completion of the training.

Shri K S Nair, Asst. Director (QC), in his special address to the participants has requested all of them to be interactive during the entire sessions so that they can acquire maximum information from the training. He urged the technologists to be more professional in their field so that they can create a better image of Indian Seafood Industry among the Regulatory Authorities of the importing nations as and when they visit the seafood processing establishments for regulatory audit. He reiterated that the successful completion of the training would facilitate each of them to perform much better in the day-to-day seafood processing activities in their establishments. Earlier, Shri Raju K Joseph, Deputy Director, MPEDA Regional Office, Visakhapatnam welcomed the gathering wherein he highlighted the role of technologists



Shri V Padmanabham, Regional President, SEAI (AP Region) (3rd from left) addressing the participants during the valedictory function chaired by Shri K N Vimal Kumar, Course Director and Joint Director (QC), MPEDA (2nd from left)



Shri V Vinod, Technical Officer, MPEDA handling a session

in seafood industry towards safeguarding the quality of the products through the effective implementation of HACCP.

The faculty attached to the HACCP Cell of MPEDA viz., Shri K S Nair, Shri S S Shaji and Shri V Vinod handled various sessions during the four day training workshop which included the curriculum prescribed by USFDA, the US Seafood Regulation,

special sessions on CGMP and SSOP, apart from the National Regulations, EU Regulations and Traceability. Besides, the participants were divided into different groups in the work sessions followed and assigned with topics to familiarize them on Hazard Analysis, establishing Critical Control Points and Critical Limits, thereby evolving the HACCP plan for an identified product.

The four-day training workshop concluded on 16th March 2012 and as promised, the Regional President (SEAI) gave away the prizes to those stood first and second in the examination held on the last day. He appreciated the efforts of MPEDA in conducting this type of training programmes periodically towards capacity building among the technical personnel in the industry.

The valedictory function of the training was chaired by Shri K N Vimal Kumar, Joint Director (QC) & the Course Director of the programme. In his valedictory address, he congratulated the participants who secured first and second position in the examination and urged all of them to put into practice the knowledge acquired in their daily work in the processing establishments. Shri V Padmanabham and Shri K N Vimal Kumar gave away the course certificates to the trainees.

The programme concluded with the vote of thanks proposed by Shri Hanumantha Rao, State Co-ordinator, MPEDA- NETFISH, Visakhapatnam.

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CMFRI successfully conducts maiden harvest of newly bred fish Silver Pompano (American Pomfret)

The Central Marine Fisheries Research Institute (CMFRI) located in all maritime states of India, in its quest to introduce new species of fish to Indian Aquaculture successfully bred Silver Pompano, a fish which is akin to highly priced Pomfrets. Very few countries are successful in breeding this fish and the entire world production is only about 300 tonnes. After the successful larval rearing they were transported by road in the last week of August 2011 from Mandapam, near Rameswaram in Tamilnadu to Antervedi in the East Godavari District of Andhra Pradesh at a distance of 1200 km and stocked in 1 acre pond of a farmer. About 3,600 seed were stocked and fed with indigenous pellet feed and maintained good pond environment, resulting in a survival of more than 95%. The formulated pellet feed cost is about Rs 25/kg. An FCR of 1:1.8 was achieved in this crop. During the course of 8 months they reached a size range of 450-550 g weight, which is an excellent table size for marketing. This fish tolerates wide salinity range from 5



A progressive fish farmer sharing his experience

ppt to 35 ppt and can feed at all angles, which makes it a versatile and most aquaculture friendly species. Karnataka Fisheries Development Corporation has taken up the marketing in Bangalore, where it is popularly referred as **American Pomfret**. By separating the nursery phase it is possible to have two harvests in one year. About 12,000 seed can be stocked in one hectare and about 5 tons of fish can be harvested for each crop.

suitable hormonal protocols developed by the Institute. The total availability of high valued marine fish in India from marine capture fisheries is about 2 lakh tonnes per year. Such fish are in great demand in all Metros, particularly during April-July period due to the national trawl ban on east coast and west coast successively. The demand during this period is estimated at about 2 lakh tonnes and fetches the highest price during this period. In this context Silver pompano 's harvest gains lot of importance to aquaculture along with other marine fish already bred by CMFRI to bring lakhs of acres of barren coastal saline low lying lands to produce the high valued fish, thus improving the food production and nutritional enhancement of the country.



Handing over of Harvested Pompano to Karnataka Fisheries Development Corporation

Silver pompano looks and tastes like silver pomfrets and fetches a farm gate price of about Rs 200/kg. It is the most prized high value marine fish, which is rarely available in the sea. They were collected as young ones, nurtured them to maturity and successfully induced them to spawn with

The harvest was conducted on 17th April, 2012 in presence of about 300 leading aqua farmers of coastal districts of AP, Local MP and peoples representatives press and electronic media. ●

K B Natarajan, Field Asst., MPEDA Honoured Once Again

Shri K B Natarajan, Field Assistant of MPEDA, RC(Aq), Kochi was honoured by Kerala Aquaculture Farmers Federation during a special convention held recently in Eramalloor, Alappuzha District of Kerala. He was presented a memento by Shri T Purushothaman, President of the Federation in recognition of the services rendered by him to the aquaculture sector in Kerala. Shri P N Natarajan, General Secretary and Shri K Krishnan Kutty, Dist. President – Palakad of the Federation were also present on the occasion.



Nutraceutical Oyster Peptide Extract (OPex) from edible oyster (*Crassostrea madrasensis*)

Central Institute of Fisheries Technology, Cochin has developed an edible oyster (*Crassostrea madrasensis*) peptide-based nutraceutical, OPex. OPex is a 100% natural blend of oyster peptides & oyster protein concentrate that has been scientifically proven in experiments conducted in the state-of-the-art-laboratories of Biochemistry & Nutrition Division, to possess several bioactivities. Bio-activities of significant mention are anti-inflammatory, anti-oxidant and anti-bacterial properties. Oysters are a good source of high quality easily digestible protein and essential amino acids of high amino acid score and hence quite beneficial for human health. Increasing consumer knowledge of the link between diet and health has raised the awareness and demand for functional food ingredients and nutraceuticals. It is well recognized that apart from their

basic nutritional role, many food proteins contain encrypted within their primary structures peptide sequences capable of modulation of specific physiological functions. The peptide extract characterization has been carried out by sophisticated analytical instruments like high performance liquid chromatography (HPLC), LCMS, electrophoresis etc. Director, CIFT said that this is the first instance in the country that a peptide based nutraceutical has been developed from oyster and stressed on the immense potential that exists in the area of discovering bioactive compounds from marine sources. He also revealed that

further experiments to improve the product are underway and the possibilities of chemical synthesis of the bio-active peptides are being explored.

The product was officially launched by Honorable Director General of Indian Council of Agricultural Research Dr. S Ayyapan in a function to be held at CIFT Cochin on 5th April 2012.



Business Incubation Centre Inaugurated at CIFT, Cochin

The Business Incubation Centre established at Central Institute of Fisheries Technology under the project Zonal Technology Management – Business Planning and Development (ZTM-BPD) Unit was inaugurated by Dr. S Ayyappan, Secretary, DARE and Director General, ICAR on 5th April, 2012. Inaugurating the Centre Dr. Ayyappan opined that Innovation and integration of available technologies is the need of the hour; for which Agri-incubator Centres like the one at CIFT, Cochin should lead the country. About 40 technologies have already been commercialized in the ICAR system through 10 BPD units set up all over India. The Business Incubator facility at CIFT, Cochin is a ‘One-Stop-Shop’ for budding entrepreneurs. About 100 such incubators will be set up by the 12th Plan Period. The ICAR scientists are presently on a ‘Farmer First’ drive devoting 25% of their time for farmer-friendly technologies. Secondary agriculture is gaining momentum in the ICAR system in which CIFT is a

pioneer by introducing the production of chitin and chitosan from prawn shell waste about 30 years back. Dr. Ayyappan also released a new product named ‘OPex’ developed by CIFT from Oyster Peptide Extract and a book on novel seafood recipes that can be prepared from oyster.

Delivering the Presidential address Dr. T K Srinivasa Gopal, Director, CIFT informed that the Institute helped in setting up India’s first “Zero-waste” seafood industry at Shri Sulthan Singh’s Unit at Karnal in Haryana. Dr. B Meenakumari, Deputy Director General, ICAR and Dr. Bangali Baboo, National Director, NAIP, ICAR were the Guests of Honour. Felicitations were offered by Dr. G Syda Rao, Director, CMFRI, Cochin, Dr. S Mauria, Assistant Director General (IP&TM), ICAR, New Delhi, Dr. K Gopakumar, Former Deputy Director General (Fisheries) and Shri Anwar Hashim, Vice President MPEDA, Cochin. Dr. Leela Edwin, Principal

Scientist & PI, ZTMU, CIFT welcomed the participants. Dr. C N Ravishankar, Principal Scientist & PI, BPD, CIFT proposed the vote of thanks.

The Incubation Centre started functioning at CIFT with the aim of supporting new and existing entrepreneurs to start successful business ventures and there by commercializing the potential technologies in the field of fisheries and agriculture developed by ICAR institutes in India. The Centre provides an integrated package of technology, work space, shared office services, specialized equipment and value added business services. At present, the office facilities are made available to nine incubatees for a maximum period of three years. A Pilot Plant Complex with state-of-the-art generic semi-commercial production facilities for fish and meat based products is also made available to the incubatees. ●

CIFT Conducts Training on “Power Block Aided Purse Seining”

A training programme on “Power Block Aided Purse Seining” was held at CIFT, Cochin during 10-13 April, 2012. Nine fishermen trainees sponsored by the Directorate of Fisheries, Goa under the ‘Rajeev Gandhi Rashtriya Krishi Vikas Yojana’ participated in the training programme. Dr. S Balasubramaniam, Head, Extension Information and Statistics Division welcomed the trainees. Dr. T K Srinivasa Gopal, Director of the Institute in his inaugural address highlighted the success of purse

seining and its operation using of power block which was carried out under the Institute project. Dr. P Pravin, Senior Scientist briefed about the training programme and said that the training programme was mainly focusing on the practical aspects and purse seining and power block operations will be carried out on board a private vessel.

Theory classes were held on different aspects of purse seining with special emphasis on large mesh purse seining. The fishermen trainees were

also taken around the Institute and were briefed about various technologies developed by the Institute. Field visits to Cochin Fishing Harbour, fish markets and fish landing centers were also arranged for the fishermen trainees. A demonstration fishing trip was carried out onboard Fishermen Cooperative Society purse seiner ‘Bharat Darshan’ on 12th April, 2012. Dr. Srinivasa Gopal gave away the certificates to the trainees on 13th April, 2012 after successful completion of the training. ●

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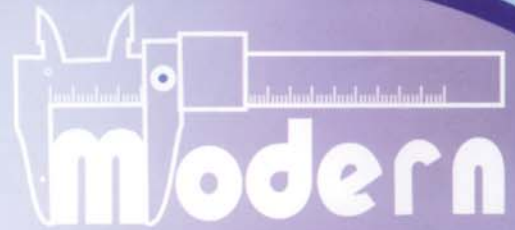
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shrimps PD Cooked/breaded, Squid
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Tilapia, Perch, Steaks, Kingfish,
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