

MARKETING NEWS

MPEDA's participation in International Fairs

1) SIAL International Food Products Exhibition, Paris

The largest showcase in the world for food industry, SIAL 2010 (SALON INTERNATIONAL DE L'ALIMENTATION) International Trade Fair for Food, was held at the Parc des Expositions, Paris, France from 17th to 21st October 2010.

Organised in a large area and having 8 gigantic halls, SIAL 2010 had representation from 105 countries and over 6000 stalls were on display of various food products.

MPEDA took 18 sq.mtr space and organized participation by displaying a wide variety of seafood samples, especially in value added forms and decorating the stall with posters/pamphlets aesthetically.

The Indian pavilion with almost 100 exhibitors, were represented by MPEDA, Spices Board, Cashew Export Promotion Council, and other exporters under the aegis of APEDA and MoFPI. The Indian pavilion was



Shri N. Ramesh ITS, Director (M) (2nd from left) interacts with visitors



H.E. Mr. Ranjan Mathai, India's Ambassador to France (L) visiting MPEDA stall.

inaugurated by the Ambassador of India to France, H.E M. Ranjan Mathai on 17th October 2010. Shri N. Ramesh, Director (M) and Shri S. Sasidharan Pillai, Jt. Director (M) represented MPEDA in the Fair.

Located at a strategic location in Hall No.4, the MPEDA stall had lot of enquiries from importers from France and other European countries keenly interested to source value added items comprising shrimp, squids, cuttlefish, crabs and other seafood items, importers of other countries including Middle East and South East Asian countries. CIS countries and South European countries had shown interest in importing seafood from India. Large size BT and L vannamei shrimp has great potential in the European market. The importers visited our stall



Mr. Jarnail Singh Variaah, Consul, Consulate General of India, Hong Kong (Centre) being received by Shri K. Rajendramani, Asst. Director (Left) at the MPEDA stall. Dr. C.S. Shinekumar, Asst. Director looks on.



Shri K. Rajendramani, Asst. Director (R) interacts with visitors

were eager to deal with genuine and credible exporters in India as few of them expressed their harrowing experience in the past. Trade enquiries received for various products shall be published separately among the exporters of those products.

2) Asian Seafood Exposition, Hong Kong

Asian Seafood Exposition was organized by the Diversified Business Communications, who are the organisers of major seafood shows of the world including European Seafood Exposition and International Boston Seafood Show. It was organized at the Hongkong Convention and Exhibition Centre from 7-9, September 2010. The venue of the exhibition was at the heart of the Hongkong and location of MPEDA stall was directly in front of the entry point of the exhibition hall.

Being the first edition of the Asian Seafood Exposition, the response to the event had been remarkable. The Asian Seafood Exposition will connect the buyers in the field of retail, foodservice and distribution with suppliers of live, fresh, frozen and packaged seafood products and services aiming access to the prosperous Asia-Pacific and Hong Kong seafood markets.

Over one hundred companies, from twentyone countries, displayed seafood and seafood buyers came from eightytwo countries, reflecting the importance of the overall seafood business in the Hong Kong and Asia Pacific region. Indian products were displayed at MPEDA stand No: SO4 included a variety of value added products including ready to eat products. Trade enquiries received were published in the earlier issue of this journal and are posted in MPEDA's website. www.mpeda.com. Mr. K. Rajendramani and Dr. C.S. Shine kumar, Asst Directors, represented MPEDA in the show.

Upcoming Event

Aqua Aquaria India 2011 to be held at Chennai from 6-8, February 2011

Aquaculture, which is the production of food for mankind by farming of aquatic animals and plants, is presently the fastest growing food production sector in the world. Fish and fishery products represent one of the most valuable and nutritious food, containing most of the essential nutrients for human health and well-being. In global trade, fish is the fastest growing among most agricultural commodities. However, over the past several years the capture fisheries has been stagnating and any appreciable progress in this sector is not anticipated in the near future because of a continuous decline in the world marine fishery resources. Thus aquaculture emerged as a feasible option for increasing fish production

India's contribution to world's aquaculture production is significant and the country now ranks second in world aquaculture production, next to China. India produces about 7 million tonnes of fish annually, of which nearly 45 percent (3.12 million tonnes) is from aquaculture, mostly inland and freshwater aquaculture. Shrimp continues to be the mainstay of seafood exports from India contributing more than 40% in terms

of value. In order to maintain the growth in aquaculture, MPEDA is now encouraging diversification of species in aquaculture.

Similarly the potential for the development of ornamental fish trade in India is immense, though it is still in a nascent stage. The Government of India has identified this sector as one of the thrust areas for development to augment exports.

Therefore in order to motivate people to do better aquaculture and aquariculture (culture of ornamental fishes) practices and to educate the entrepreneurs in the latest trends and developments taking place in the world over in these sectors and to invite interested overseas entrepreneurs to invest in India, MPEDA is organising **Aqua Aquaria India-2011** covering both sectors. This mega event is scheduled to be held at Chennai Trade Centre, Chennai from 6-8 February, 2011.

The event this year is being redefined to be of a truly international scale and quality. It is proposed to give the show a different hue and focus from the earlier editions. The show shall project the recent developments in the aquaculture sector as well as in

the International market scenario. Black Tiger shrimp is the theme of the event since the strength of Indian seafood trade is Black Tiger Shrimp. Green Certification is the theme in the Ornamental fish sector. The three day event is intended to attract a large number of delegates and exhibitors to ensure the reach of the objectives.

The event is envisioned to effectively showcase the infinite promise and potential of the Indian Aquaculture & Ornamental Fish industries under one roof. The three day event comprises of an exhibition which will showcase aquaculture and aquariculture activities and related accessories and technical sessions by international experts in the subject matters. It is expected that 200 exhibitors and more than 1000 delegates from India and abroad will participate in the event. The Exhibition will be an opportunity to showcase the Fisheries and Aquaculture developments in India and greater trade benefits to Indian industry.

Details of some of the prominent speakers and their subjects for talks during the technical sessions are given below:

Identified Speakers	Subjects
Dr. Darryl E. Jory, Dr. Steve arce	Best Management Practices in Tiger Shrimp Aquaculture and future prospects. Hatchery Operation of <i>L. vannamei</i> under bio- secured conditions by using SPF brood stock
CP, India	Farming practice of <i>L. Vannamei</i> across the world with reference to India
Dr. Amir Sagi, Israel	High Quality brood stock development of Scampi
Dr. Jens Kahle, Germany	Potential for Cluster Organic shrimp farming in India
Dr. Melanie Siggs, Seaweb,UK	Sustainability and emerging issues in market access for aquaculture products
Dr. A. Ramachandran, CUSAT	Green Certification of Ornamental Fishes –an initiative in India
Joseph Itzkovich	EU market for ornamental fish – Demand, trends and Quality requirements
Danny Benjamin, Israel	Commercial Production of Lotus & Water lilies for ornamental fish sector – Potential for India
Alex Ploeg, OFI/ AVA Singapore	Ornamental fish health in transit - latest and best packing methods for shippers
Dr. Krishnakumar, Chennai	Re-circulating system for ornamental fish production
Shane Willis, Australia	Biosecurity and health management in ornamental Aquatic Industry

AQUA AQUARIA INDIA 2011



**EXPOSITION ON AQUACULTURE AND AQUARICULTURE
CHENNAI TRADE CENTRE, CHENNAI
6 - 8 FEBRUARY 2011**

Explore the possibilities of investment and business opportunities
Exhibition, Technical sessions and Buyer seller meet
Enhance knowledge, expand business
Enrol and enrich



THE MARINE PRODUCTS EXPORT DEVELOPMENT AUTHORITY
(Ministry of Commerce & Industry, Government of India)
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E-mail: ncs@mpeda.nic.in Website: www.aquaaquaria.com

MPEDA solicit the co-operation and active participation of the aquaculture and aquariculture sector in India in this mega event thereby taking the industry in to further strides. Those who are engaged in the

field of aquaculture/aquariculture/export industry like farmers/exporters/feed manufacturers/distributors/accessory manufacturers/suppliers etc., can participate in the show either as an

exhibitor or as a delegate. Online registration of stall and delegates can be done by visiting www.aquaaquaria.com. Stall and delegate registration details are as given below.

STALL REGISTRATION DETAILS

Early bird discount closes on 31st December 2010

Type of Stalls	Minimum area of Stalls*	Rate per sq.m Upto 31.12.2010 (Early bird)		Rate per sq.m After 31.12.2010		Total amount Upto 31.12.2010 (Early bird)		Total amount After 31.12.2010	
		₹	\$	₹	\$	₹	\$	₹	\$
Aquaculture Section	9 sq.m	1500	50	2000	75	13500	450	18000	675
Aquarium Section	6 sq.m	-do-	-do-	-do-	-do-	9000	300	12000	450

* Larger area can be booked by choosing the multiples of the basic unit which will be charged accordingly.

DELEGATE REGISTRATION DETAILS

	Rate
Farmer Delegate*	₹ 1000
Other Indian Delegates	₹ 2000
Overseas Delegate	\$ 50

*The farmer delegate registration is made only on recommendation by the Assistant/Deputy Director, MPEDA Field Offices or by State Fisheries Dept. Officials not below the rank of Inspector of Fisheries or by the CEO/Officials of NaCSA/NETFISH/RGCA.

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Kazakhstan: A profile on fisheries and aquaculture

Officially the Republic of Kazakhstan, is a transcontinental country located in Central Asia and Eastern Europe. Ranked as the ninth largest country in the world, it is also the world's largest landlocked country; its territory of 2,727,300 km² is greater than Western Europe. Kazakhstan declared itself an independent country on December 16, 1991. It is neighbored by Russia, China, Kyrgyzstan, Uzbekistan, Turkmenistan, and also borders on a significant part of the Caspian Sea. The capital is Kazakhstan's largest city, Astana. With 16.2 million people (2010 census) Kazakhstan has the 62nd largest population in the world, though its population density is less than 6 people per square kilometre (15 per sq. mi.).

Kazakhstan has 131 nationalities including Kazakh, Russian, Ukrainian, Uzbek and Tatar. Kazakhs are the largest group. Kazakhstan allows freedom of religion, and many different beliefs are represented in the country. Islam is the religion of about two-thirds of the population. The Kazakh language is the state language, while Russian is also officially used as an "equal" language (to Kazakh) in Kazakhstan's institutions.

Fishery Sector Structure

Among approximately 150 fishing communities across Kazakhstan, practically every household possesses some form of fishing tackle, and recreational/subsistence fishing is often undertaken to supplement the household diet. Fishing is a particularly important source of protein in the winter months when farming and many other activities are well-nigh impossible.

The Republic of Kazakhstan has extensive water resources, with good potential for fish production. In exploiting water resources, the first priorities were for irrigation sources or for hydropower. Nevertheless, two big industrial state enterprises for fish

capture and processing were operating - one for the Caspian Sea and other for the Aral Sea. Also, there were numerous local fish processing facilities handling the catch of local fishermen. For the purpose of fingerlings production big state farms were built.

With the transformation to a market economy, the state management element in fisheries was reduced to basic monitoring of catch quantities. Production passed into the hands of joint-stock companies and small local groupings of fishers.

Per capita availability of fish in Kazakhstan was just around 3 kg in 2006 and the aquaculture share of total production was less than 1 Per cent. Inland capture fisheries and aquaculture sectors in Kazakhstan have been going through a dramatic decline in production, which started after independence in 1991 and lasted until 2001 for capture fisheries and continues until today for aquaculture production. Reasons for the decline are numerous and include, among others, poor water management, reduced state funding, fragmentation of authority over the sector, limited access to fish feeds, unsuitable pond systems, limited policy guidance, and incomplete and obsolete legal frameworks for the sector.

Fish production

According to the Science and Production Centre for Fisheries of Kazakhstan, the freshwater fish production potential of Kazakhstan was estimated to the average of 50 000 t/year. Fisheries production in Kazakhstan comes mainly from the lower Ural River, and from lakes - Balkhash; Alakol lakes group; Aral Sea - and from large reservoirs - Bukhtarma, Kapshagay, Shulba, Shardara and others. The main species caught are sturgeons (*Acipenser stellatus*, *A. gualdenstaedti* and *Huso huso*) and roach (*Rutilus rutilus*) in the Ural basin; with bream (*Abramis brama*),

carp (*Cyprinus carpio*) and sander (*Sander*) in other waterbodies.

Fish processing

According to data from the Fisheries Committee, 49 enterprises in 2005 were involved in Fish processing, and rose to 57 in 2006. Currently, Fish processing and storage is completely controlled by the private sector. The majority of Fish processing plants are not HACCP or ISO certified, but developments in this area are being made under pressure of the export markets. The main constraint to expansion is the non-availability of financing for upgrading the technical efficiency of the plants. In addition, many women from rural areas are engaged in Fish processing for sustenance purposes, mainly in spring and autumn when supplies are more plentiful. They purchase Fish from amateur Fishermen, and smoke or cure it at home, albeit in somewhat unsanitary conditions, before selling it in local markets.

Fish storage

In large cities, there are storage centres for Fish products that are used by small wholesalers who purchase small batches (generally not more than 5 tonnes) from individual suppliers. These batches are then broken down into segments of 100-200 kg and distributed through the retail trade network. Processing plants that are European Union (EU) approved supply whole Fish, mince, zander "cheeks", Fish belly, and cured and smoked Fish products. The large processing companies have their own cold storage and freezing facilities and warehouses to store (often frozen) Fish and build up stocks for high season.

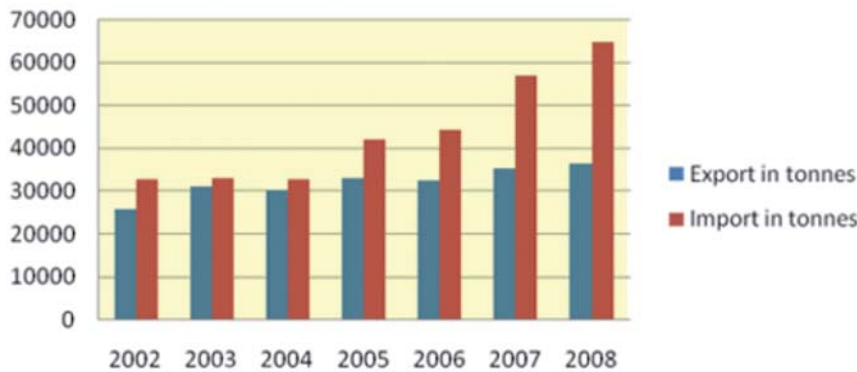
Distribution and marketing of Fish and Fish products

All Fish markets and wholesale distribution companies are in private hands. In large cities, Fish markets are generally well equipped, prices are

higher and offered range of products is richer, while in small towns and villages, fish markets are poorer equipped, prices are lower and the assortment of products depends on the proximity of the settlement to the waterbodies. Kazakhstan does not have any auctions for fresh Fish at the moment. Processors and wholesalers conclude agreements with Fishers – paying cash on the spot or bartering – and transport the purchased Fish to their (processing) facilities.

Margins are high, with the price paid to Fishers generally very low, except in the instances of Fish destined for the export market (zander, sturgeon). The ties between processor and Fisher have evolved over time and it is very difficult for outside suppliers (Fish) with no contacts in the trade network to get a good price for their Fish without a preliminary agreement. Nevertheless, recreational Fishers (including amateur Fishermen or Fishermen who hold a license for sport Fishing) also supply fresh Fish to local markets or sell it to wholesalers.

Import and export of fish and fisheries products (2002 - 2008)



Source: Fisheries Committee

CURRENT CUSTOMS REGULATIONS AND CHARGES
(import and export of fish products)

Activity	Regulation/charge
Importing/exporting goods to or from Kazakhstan	Import and export coding determined according to trade nomenclature of economic activities
Taxation of goods	In the case of imported fish products, the customs duty charge depends on the country of origin. Value added tax (VAT) is chargeable at a rate of 14 percent
Tax exemptions (imports)	The CIS countries are exempt of import tax on fishery products
Customs freight declaration (CFD)	Licences are only required to export caviar
Licences, quotas for import/ export of goods	Fees levied: Decree No. 765 of 14.08.2006 levies a fee of 50 euros for the first page of the CFD document, 20 euros for each subsequent page
Phytosanitary, veterinary, sanitary or ecological certificates	Veterinary and sanitary certificates from the Astana Veterinary Department are required for exports (permission is based on laboratory studies and confirmation that the product meets accepted standards)
Special ministerial permission needed	From the Ministry of Agriculture for exporting/importing fish: 1. Species and derivatives (of) that are under threat of extinction (Decree No. 31 of 27.01.04) 2. (Exporting) whole fish, its parts and derivatives (Decree No. 16 of 24.05.06)

Export

The wholesale supply of Fish to external (as indeed to internal) markets is undertaken by large and medium-sized enterprises that hold export licenses. A strong demand for freshly frozen Fish comes from a number of large Fish processing plants in the Russian Federation and the Ukraine. There is direct export to Europe as well. Kazakh companies, working mostly with French and German partners, supply cured or freshly frozen bream to these partners. In general, the partners in the export market repackage, re-label and prepare the products for retail sale in line with the existing national level agreements made with supermarkets or other points of sale. Freshly frozen bream is the main exported Fishery product of Kazakhstan.

Import

There are no data on the number of companies entitled to import Fish products. In many instances importing companies do not specialize in the importing of fish products. Many supermarkets also retail imported Fish products (mainly from Moscow and Kaliningrad in the Russian Federation or China) in small packages as snacks, to complement beer for example. In the bigger cities, imported Fish products from European countries can be found.

The Ministry of Industry and Trade of the Republic of Kazakhstan is in the process of reconsidering present rates of import customs duties in order to harmonize and rationalize rates given its obligations within the regional organizational framework and in relation to the country's ongoing process towards accessing the World Trade Organization (WTO).

The import of Fish products steadily rises compared with the exports. Kazakhstan does not re export Fish products. Trade in live Fish and other aquatic animals is minimal.

Compiled by: Dr. M.K. Ram Mohan, Dy. Director, MPEDA

FOCUS AREA

MPEDA kick starts development of ornamental fish sector in Rajasthan

The Ministry of Commerce & Industry has initiated certain focus programmes for the development of Rajasthan with the help of its departments and commodity boards. As a part of these programmes, MPEDA has chalked out a plan to implement ornamental fish farming schemes in the state for the development of the sector with the help of State Fisheries Department and like-minded NGOs.

The programme will be implemented in districts which have enough prospects for the development of the sector, considering water availability as a limiting factor. As an initial step, MPEDA organized awareness programmes on the scope and potential of this venture in the districts of Udaipur, Rajsamand, Jodhpur, Banswara and Hanumangarh during August and September 2010.

Dr. Anikuttan K. K., Asst. Director (OFD), Dr. T. R. GibinKumar, Asst. Director, Trade Promotion Office, New Delhi and Dr. Sunesh Thampy, Programme Manager (OFD) were deputed to organize these programmes.

Besides, State Fisheries Department, Dr. R. S. Biradar, Principal Scientist and Joint Director, CIFE, Mumbai, institutions like Ornamental Fish Training and Research Institute, Udaipur, Krishi Vigyan Kendras of Sangaria, Hanumangarh, Banswara and Rajsamand are associated with the programmes and related activities.

The programmes were attended by officials from banks, local NGOs, farmers and interested entrepreneurs, who were explained about the global scenario of ornamental fish trade, India's current position and prospects



Dr. Anikuttan K.K., Asst. Director (OFD) delivers speech in Hanumangarh Dist.

and also about MPEDA schemes.

The awareness programmes in Udaipur and Rajsamand were coordinated with the help of Dr. A K Jain, former Senior Scientist of CIFE, Mumbai, who is also the Director of OFTRI, Udaipur. At Udaipur, Dr. S.

L. Mehta, former Vice Chancellor and Deputy Director General, ICAR was the chief guest. The programme was also attended by distinguished dignitaries such as Dr. V.S. Durve, Professor, KVK Udaipur, Sri Abdul Quadir, Dy. Director and Sri. S.



Shri Ojha, Subject matter specialist addressing the farmers at KVK Banswara.

D., Patan, Asst. Director of State Fisheries Dept.

The awareness programme in Rajsamand district was organized at KVK, Rajsamand. It was attended by dignitaries like Dr R.P.Meena, Programme Co ordinator, KVK, Rajsamand, Dr. A.K. Jain, Sri Abdul Quadir, and Sri. S. D. Patan.

The awareness programme in Banswara district was coordinated with the help of Dr. R. S. Biradar, at KVK Banswara. Dr. S. R. Sule, Scientist-in-charge, KVK, presided

over the function. Mr. Ojha, Subject matter specialist, KVK, Banswara and Sri. K.D. Raju, Technical Officer, CIFE, Mumbai, Sri Abdul Quadir, Dy Director, Sri. S. D. Patan, Asst. Director and Sri. G.D. Swarnakar, Asst. Director from State Fisheries Department were also present.

Awareness programme in Hanumangarh district was organized at KVK, Sangaria, Hanumangarh with the support of Dr. Anup Kumar, Programme co-ordinator, KVK, Sangaria.

The awareness programme at Jodhpur was organized at Hotel Shri Ram Excellency, Jodhpur with the help of Dr. Gom Singh, Fisheries Development Officer from the Department of Fisheries, Rajasthan. Around 66 participants including farmers, fish hobbyists, aquarium/pet shop keepers, service personnel & students attended the programme.

MPEDA also proposes to set up an Ornamental Fish Training Centre (OFTC) in the state for advanced training.

MPEDA assisted breeding unit successfully breeds

Arowana

Arowanas, are a group of highly priced ornamental fishes belonging to the family Osteoglossidae. In this family of fishes, the head is bony and the elongate body is covered by large, heavy scales, with a mosaic pattern of canals. The dorsal and the anal fins have soft rays and are long based, while the pectoral and ventral fins are small. They are also called Asian bonytongue or dragon

(35 inches) in length, Asian arowanas require a large aquarium. They are territorial and adults feed on other fish, while juveniles feed on insects. Aquarium keepers use to feed them with prepared foods including prawns (shrimp), lean pork, frozen fish food, and pellet diets.

Asian Arowanas inhabit in slow-moving waters flowing through forest swamps and wetlands. They are

The unit achieved a unique feat by successfully breeding the Silver Arowana. The unit maintains around 45 numbers of 35-day old Arowana young ones with yolksac in glass tanks and the fishes are accepting live feeds now. The farmers informed that, this is the third batch produced from the same parents in the last one year. However, the success was limited in the earlier attempts.



Arowana youngone with yolksac

fish. Arowanas are native to Southeast Asia and Australia. This popular aquarium fish has special cultural significance in areas influenced by Chinese culture and *Feng shui* beliefs. Asian Arowanas are considered “lucky” by many people, which have had both positive and negative effects on their status as endangered species.

As they can grow up to 90 cms

paternal mouth-brooders. They are slow to reach sexual maturity and difficult to breed in captivity; successful spawning typically take place in large outdoor ponds rather than in aquaria.

M/s. Friends Ornamental Fish Farm, Perumbavoor, Ernakulam, Kerala is an ornamental fish breeding unit set up with MPEDA assistance.

Besides Arowana, other ornamental fishes like gold fish, Gouramy, Oscar, Koi Carps, Platy etc. are also being produced on a large scale by the unit. The farmers make use of the large earthen ponds to rear the fishes to simulate the natural environment, which they claim to be one of the major reasons for the better growth and colouration of the fishes.

“Innovations 4 Industry” - First ever technology showcase for fisheries sector

The Agri Incubator located at Central Institute of Fisheries Technology, Cochin has organized “Innovations 4 Industry” – an event that focused on showcasing innovative

briefed about the idea behind ‘Innovations 4 Industry’ meet. The event was inaugurated by Dr. P. Krishnaiyah, IAS, Chief Executive, NFDB. During his presidential

exploit the immense investment opportunities available in this sector. We need to extend the benefit of these institutes to fuel innovation in global business and bring benefit to the large section of the society.

Dr. Bangali Baboo, National Director, NAIP addressed the gathering. Dr. S. Mauria, Assistant Director General (IP&TM), Dr. N.T. Yaduraju, National Co-ordinator, NAIP, Dr. A.G. Ponnaiah, Director, CIBA, Chennai and Shri V. Padmanabhan, Regional President, Seafood Exporters Association of India offered felicitations during the ceremony. Dr. M.M. Prasad, Scientist-in-Charge, CIFT, Visakhapatnam proposed the vote of thanks.

In the Technical Session which followed, all commercially viable technologies were presented in front of industry people. These technologies were presented in a specific format which explicates technologies from commercial point of view.



Dr.B. Meena Kumari, Deputy Director General (Fisheries), ICAR, lighting the lamp

and promising technologies in fisheries on 8th September, 2010 at Visakhapatnam. Agri Incubator is an innovative system designed to assist entrepreneurs in the development of new technology based start-up businesses. The event showcased viable and commerciable technologies developed by various Fisheries Research Institutes under Indian Council of Agricultural Research. The event was organized in partnership with the CIFT – Zonal Technology Management Centre & Business Planning and Development Unit, Cochin and the National Fisheries Development Board, Hyderabad. The event brought together innovators involved in research and development and entrepreneurs from the field of fisheries on the same platform.

In the Inaugural Ceremony Dr. T.K. Srinivasa Gopal, Director, CIFT, Cochin welcomed the gathering and

address he explained the importance of public-private partnerships for fisheries and mechanism for an end-end approach for ensuring efficiency in the process of fish production to consumption in the country. According to him, NFDB is offering hefty subsidies, as high as 40 per cent, for innovative fisheries units and projects such as seabass culture and vannamei culture and entrepreneurs should make full use of such schemes to promote sustainable fisheries in the country.

Dr. B. Meenakumari, Deputy Director General (Fisheries), ICAR delivered the presidential address. She stated that the Fisheries Research Institutes under ICAR has got good number of entrepreneur ready technologies ranging from culture/capture to value addition of fish which has the potential to attract the industries in India to utilize and

Technology Exhibition

Nine Research Institutes under ICAR specialized in the field of fisheries and aquaculture exhibited about 50 technologies and entrepreneur ready innovations (cost effective fish/shrimp farming, seed and feed production technologies, machineries and methods for processing industries, value added products, test kits and pharmaceutical products and new materials and methods for fish harvesting) for the fisheries industry to start successful business ventures. About 60 industry representatives from the field of fisheries and aquaculture attended the exhibition. The participants dwelt upon the investment opportunities by making use of various technologies and innovations exhibited.

- Source: CIFT. Cochin.

Juvenile fishing- A threat to sustainable fishery

Afsal V.V., Deepu A.V and Joice V.Thomas,
NETFISH, MPEDA

Introduction

“It is impossible to estimate the quantity of small fish that is destroyed since it is impossible to estimate the amount that is shovelled overboard, dead or dying.” (Holt, 1895).

The widespread use of multi-gears targeting multi-species of fishes, scoops up an enormous amount of young ones distorting our ocean balance and hindering evergreen fishing. This indiscriminate and illegal fishing involving by-catch of young or undersized fishes can be termed as ‘juvenile fishing’. Vast tonnages of undersized fishes of valuable commercial species as well as low value species are being lost as by-catch along with many other important organisms. According to a recent estimate by FAO nearly 7 million tonnes of fish by-catch is discarded globally by commercial fishermen every year which is equivalent to about 8% of the global catch from marine capture fisheries (Eayrs, 2007). This by-catch affects the juvenile population and in the long run will bring about a disaster in the fishing industry making it unsustainable and uneconomical. The impact of juvenile fishing is largely unnoticed, unmanaged and ignored, depleting valuable natural resources and pushing marine life towards extinction.

Wanton destruction of juvenile fishes

Indiscriminate fishing by ignoring regulations on net mesh sizes, quotas, permitted fishing areas, and without any by-catch mitigation measures are the major causes for this by-catch loss of juveniles or small fishes. Modernization of fishing methods such as usage of strong, unselective gears which covers a vast area, propulsion with outboard motors,

modification of craft and gears, indigenization of certain fishing techniques etc. all adds to this awful problem. The non-selective fishing gears such as trawl nets, stake nets, ring seine, etc which are widely in use bring ashore a huge amount of juvenile or undersized fishes along with the sized fishes. For instance, the bottom trawl net being a mobile non-selective fishing gear collects every organism in its path and the incidental capture of immature fishes has become a major concern allied to trawling. It is found that a large quantity of young ones and eggs of demersal fishes are hauled up by trawl nets and are discarded onboard back to sea as dead ones (Kurup *et al.*, 2004). Trawl nets are generally attached with a diamond meshed cod ends. When more fish are caught, the weight in the cod end increases that stretches the diamond mesh to narrow opening preventing the escapement of juvenile fish and other organisms. It was observed that a total of 5662 tonnes of juvenile shrimps were discarded back into sea during 2001-02 in a study conducted

in southern part of India (Joice, 2004). Stake nets, the traditional bag nets operated widely in backwaters mainly used for catching the prawns and therefore every effort is made to increase the catch by decreasing the mesh size of the net. It is reported that 90% of the stake nets have a cod-end mesh size of less than 13 mm, of which 47% are below 8 mm (George *et al.* 1998). The percentage of immature prawns landed by stake nets along Kerala coast indicate that huge quantities of juveniles are removed by stake nets thereby reducing the stock. Intensive fishing activities or overfishing has also intensified the capture and loss of egg bearing and juvenile fishes.

Fate of the caught juvenile fishes

The juveniles caught in net will include valuable as well as unwanted species. The unwanted proportion is subsequently discarded off at sea or at shore whereas the juvenile fishes that can find market value are landed and further processed according to the



Juvenile fishes landed as discards



Heap of juvenile fishes

need. A recent study report published in the Annual Review of Environment and Resources finds that one-third of the world's marine fish catches are ground up and fed to farm-raised fish, pigs, and poultry, squandering a precious food resource for humans and disregarding the serious overfishing crisis in our oceans. Forage fish account for a staggering 37 percent (31.5 million tonnes) of all fish taken from the world's oceans each year, and 90 percent of that catch is processed into fishmeal and fish oil (Jacqueline *et al*, 2008). Practice of making dry fish out of landed juveniles of commercially important species is also widespread.

Effect of Juvenile fishing

Juvenile fishing can decrease the sustainability of fisheries and the net benefits provided by the fisheries in several ways. Juvenile fishes that are subject to by-catch mortality cannot be used to contribute directly to the growth of that stock and to future catch. It will be a wasteful use of living marine resources if it precludes a higher valued use of those resources. Discarding young fish is a common practice and discard mortality is a significant part of fishing mortality for many commercially important species of fishes. The mortality of juveniles may lead to decline of future stocks and therefore to a substantial loss of

potential income.

Steps to avoid juvenile fishing

Smart Fishing: By-catch loss of juvenile fishes can often be reduced by modifying fishing methods and gears. These modifications are often easy to implement and inexpensive.

Square mesh cod ends: The Square meshes will retain the width of their opening even under load. Inserting a square mesh panel instead of diamond mesh panel into a trawl net cod end allows more juvenile/small fish to escape and also reduce fuel cost due to less drag weight while fishing.

Mesh size regulation: Use of nets with small mesh size and fishing the juveniles are to be prohibited. According to the Marine Fisheries Regulation Act, the minimum permissible mesh size at trawl net cod ends is 35mm and strict observation of this can ensure the reduction in juvenile fishing in trawl nets.

By-catch reduction devices: Introduction of various types of BRDs such as fisheye, extended funnel etc in fishing gears can reduce juvenile mortality in many fisheries.

Selective fishing gears: Use of low energy selective fishing gears such as gill net, long line etc can reduce by-catch of juveniles to some extent. Non-selective method of fishing such as bottom trawling, ring seining etc

should be regulated.

Protected areas: Marine protected areas (MPAs) and Non fishing zones should be established to protect habitats and prevent population collapse. Operation of stake nets in and around the bar mouths should be banned, especially in the zone demarcated as a fish sanctuary/protected areas.

Minimum landing size (MLS): Minimum landing size (MLS) system should be implemented to curb landings of juveniles and young ones. This will be most useful as a conservation measure if individuals below the minimum landing size can be measured *in situ* or returned to the sea alive.

Fishing holidays: Fishing holidays like monsoon fishing ban should be implemented properly to avoid any fishing during the breeding season of fishes.

2. Better Fishery Management:

There are at least 130 by-catch agreements, regulations, and legislation for reducing bycatch around the world, with approximately 40 having international scope (Anon, 2009). These include regulations on net mesh sizes, fishing areas, rules for discarding fish, requirements for by-catch mitigation measures, recovery plans for specific species and international standards and best practices for fishing operations. Even the Marine Fishing Regulation Act (MFRA's) of coastal states and union territories of India has adequate provisions for management of fishery resources and fishing operations. The use of purse-seine, ring seine, pelagic trawl, mid water trawl and bottom trawl nets which have less than 35mm mesh size in stretched condition is prohibited for fishing in the territorial waters of Kerala by the Government. Therefore, it is not the lack of rules and regulations that are devastating the marine resources but the level to which these regulations and policies

are implemented or followed. The level of acceptance of regulations is very low because of the poor educational background of the fishers. Serious attempts should be made to improve their level of knowledge. Fisherfolk need to adopt themselves the sustainable fishing method rather than someone enforcing it. Incentives in the form of subsidies can also be provided to encourage fishers to voluntarily accept the proposed regulations.

NETFISH's work on Juvenile Fishing: With the need to create awareness among the fishers regarding the scientific relevance of avoiding juvenile fishing, NETFISH is conducting repeated extension training programmes along the maritime states of India. During the financial year 2009-10 alone, around 858 extension programmes were organized at important fishing centers to educate the fishers about the importance of marine resource conservation and the methods suitable for this purpose. The use of

large mesh size cod ends, use of BRDs, use of selective fishing methods etc are being popularized among fishers along with the long term benefits of such measures. A leaflet on juvenile fishing was also prepared and distributed among the fisherfolk. In NETFISH's documentary and animation films on conservation of marine resources, juvenile fishing and its impacts are clearly featured and fishermen are advised to practice responsible fishing methods for sustainable fishing. Small levels of incentives in the form of money, food, plastic sheets, baskets, caps, t-shirts are supplied to the fishermen attending the training programmes to generate their interest in marine conservation and NETFISH programmes as well.

"Today's Juvenile you leave behind is tomorrow's wealth"

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Aquaculture without antibiotics is not a fiction

Abhilash EC

QC Lab, MPEDA, Cochin

The word antibiotic comes from the Greek *anti* meaning 'against' and *bios* meaning 'life' (a bacterium is a life form). Antibiotics, also known as antibacterial, are the drugs used to treat infections caused by bacteria. The prevalence of human bacterial pathogens resistant to antibiotics has increased over time raising concern that the use of antibiotics in veterinary and aquaculture sector might be contributory to this problem. Several countries reported the use of antibiotics in aquaculture against bacterial diseases in the larval stage as well as brood stocks, although it is not considered to be a good management practice. Because this process has resulted in the emergence of antibiotic-resistant bacteria in aquaculture environments, in the increase of antibiotic resistance in fish pathogens, in the transfer of these resistance determinants to bacteria to human pathogens and development alterations of the bacterial flora both in sediments and in the water column. The use of large amounts of antibiotics that have to be mixed with fish food also creates problems for industrial health and increases the opportunities for the presence of residual antibiotics in fish meat and fish products. Thus, it appears that global efforts are needed to promote more judicious use of antibiotics and prophylactic in aquaculture as accumulating evidence indicates that unrestricted use is detrimental to fish, terrestrial animals, and human health and the environment.

Therefore usage of veterinary drugs in aquaculture is prohibited by European Union (EU) and other countries. They have examined the

presence of antibiotics in veterinary drugs and defined "minimally required performance levels (MRPLs). For veterinary drugs like chloramphenicol and nitrofurans, no MRL exists and therefore, EU showed "zero tolerance" to these compounds.

In this context it is important to depend alternatives of antibiotics in the cultivation of aquatic animals and many researches have proved the efficiency of such tools successful in aquaculture.

Vaccination in aquatic animals

Vaccination is one of the preventive measures against pathogens in aquaculture. Fewer vaccines were formulized and successfully used in different countries. Vaccines are possible and useful in the brooder fishes and this therapy is failure in larvae. Although vaccination would

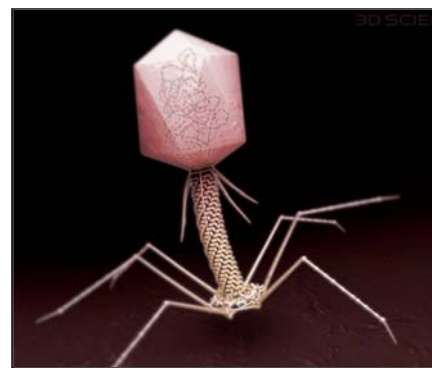


Vaccines

be the ideal method for the prevention of infectious diseases, commercially available vaccines in the aquaculture field are still very limited. Pasteurellosis and vibriosis have been controlled to a great extent through the use of vaccines.

Bacteriophage therapy

Bacteriophages are viruses which kill (lytic) the bacteria and survive. In the marine environment, most phages have double stranded DNA (dsDNA) genome belonging mainly (96% of the total) to Caudovirales order. There



Bacteriophage

are several potential advantages of the application of phage therapy over chemotherapy in the environment. (1) Specific target, phages are usually highly specific to a single species or even strain of bacteria and therefore cause much less damage to the normal intestinal fish flora and to natural nontarget bacteria. (2) Limited resistance development, bacteria will certainly develop resistance to phages too, but since phages have a higher mutation and replication rate, they can outcompete the adaptation of the bacteria and development of resistance is therefore limited. Moreover, it is comparably easier to find new phages than new antibiotics because phage co-evolving with their host bacteria, outnumbering bacteria in the environment by tenfold, makes possible the rapid isolation of new lytic phages from the environment for phage-resistant bacterial mutants.

A number of phages have been

isolated for potential use in phage therapy against important aquatic animal pathogens such as *Aeromonas salmonicida* in brook trout (*Oncorhynchus fontinalis*) *Vibrio harveyi* in shrimp (*Penaeus monodon*), *Pseudomonas plecoglossicida* in ayu (*Plecoglossus altivelis*) and *Lactococcus garvieae* in yellowtail (*Seriola quinqueradiata*) etc.

Immunostimulants

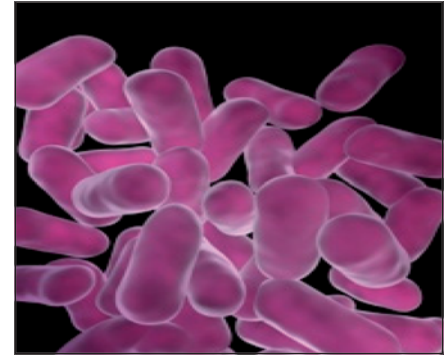
Immunostimulant as an agent, which stimulate the non-specific immune mechanism when given alone, or the specific immune mechanism when with an antigen. Immunostimulants activate the immune system of animals and render them more resistant to infections by viruses, bacteria, fungi and parasites. It is well known that these agents stimulate the nonspecific immune response (also called innate or natural protection) and boost the specific immune response. Therefore, immunostimulants can also be used as adjuvants, to heighten the specific

immune response. Some of the main immunostimulants used in shellfish are levamisole, glucans, chitins and in fish, mannuronic acid polymer, beta-glucane and many others. Many recent experiments have shown the Immunostimulants can be given alone to induce the in vitro and in vivo responses in aquaculture field. The use of Immunostimulants in larval fish has been proposed as a potential method for improving larval survival by increasing the innate responses of the developing animals until its adaptive immune response is sufficiently developed to mount an effective response to the pathogen. Understanding the immune system of aquatic animals is more important in the case of Immunostimulants when applying it.

Probiotics

The term probiotics has been defined as mono or mixed live organisms that can be applied to aquaculture environments affecting the host beneficially by improving the

properties of indigenous bacteria. The use of probiotics has been accompanied by a concomitant reduction in the levels of antibiotics used in aquaculture thereby improving appetite and/or growth performance of the aquatic animals.



Bacillai probiotics

Most of probiotics belongs to bacillai. There are many probiotics commercially available in the aquaculture sector and are being widely used in various fish farms as well as shrimp culture ponds.

Training conducted on Quality Assurance and Personal Hygiene at CIFT

The CIFT, Cochin conducted a training programme on Quality Assurance through Personal Hygiene at Azheekkal in Kollam District for selected SHG groups as part of the DST project on women empowerment. Funded by the Department of Science and Technology, the project envisages empowerment of women through scientific interventions suited to selected locations in Azheekkal in Kollam district and Moothakunnam in Ernakulam district in Kerala. Edible oyster culture is one such entrepreneurial option which can be easily adopted by women SHG groups. The culture had been initiated by women groups’ following the ‘rack and ren’ method during January 2010

and the inauguration of the harvest was done by Shri G. Babu, District Manager, Matsyafed, Kollam on 1st July 2010. Dr. Femeena Hassan, Senior Scientist and Principal Investigator, CIFT, Cochin of the project said that scientific interventions have been instrumental in increase in level of productivity of farms. Both the stakeholders and project team were motivated by the result of their half-year toil and has vowed to continue with such efforts till the end of the three year project with concerted efforts to ensure sustainability.

Value addition of seafood is another area where women groups can involve for generating earnings to

support their livelihoods. Food safety is an upcoming issue in food processing and value addition as hygienic handling reduces chances for food borne infections. The training intended to induce food safety habits among the stakeholders. Dr. Femeena Hassan and Dr. J. Charles Jeeva, Scientist, Senior Scale, CIFT, Cochin led classes on importance of food safety in quality assurance in seafood. Meeting was presided over by Smt. Sobha, Panchayath Ward Member. Hygiene kits comprising head gear, mouth cover and aprons were distributed to group members of participating SHGs by Shri G. Babu, District Manager, Matsyafed, Kollam.

- CIFT, Kochi

AQUACULTURE SCENE

Reports on awareness campaigns against abuse of antibiotics carried out by field centres

Government of India, through Ministry of Commerce and Industry, notified the non-use of banned antibiotics in aquaculture. In this context, MPEDA through its field centres regularly monitor the presence of banned antibiotics/drugs through National Residue Control Monitoring Programmes, pre-harvest testing of produce, and through monitoring the quality of seeds, shrimp, scampi and feed. As part of this activity, the aquaculture field centres conduct regular awareness campaigns against abuse of antibiotics. Among the programmes conducted in various states, a few are presented below:-

1) Campaign at Nalagahira, Chandbali Tahasil, Bhadrak Dist., Orissa

MPEDA, RC(Aq), Bhubaneswar organised a campaign against use of antibiotics in aquaculture on 25-8-2010 at Nalagahira in Bhadrak District where number of existing and upcoming shrimp farms are located. The campaign was attended by 50 shrimp farmers from the nearby area. Officials participated were Shri U. C. Mohapatra, AD (Aqua), Shri Bhagaban Das, Deputy Superintendent of Fisheries, Bhadrak, Shri Lombodhar Das, Sarpanch, Nalagahira, Bhadrak, Shri Ambika Prasad Nayak, Subject Matter Specialist (Fy), KVK, Ranital, Bhadrak and Dr A. Anand Kumar, JTO (Aq), MPEDA who addressed the farmers.

Shri U C Mohapatra, Asst. Director (Aq) during his welcome address spoke on the adverse effect of

antibiotics and its impact on the human being. He explained the role and functioning of Aqua Societies and requested to form Aqua Societies in each farming area and adopt BMPs as part of responsible shrimp farming. He also informed about MPEDA's financial and technical assistance for registered aqua societies. He cautioned the farmers that the buyers insist on traceability of food products, and they should maintain necessary records of production. He also

informed the farmers to make full use of the two ELISA Labs established at Balasore and Paradeep by MPEDA. He also explained on the species diversification for better utilization of brackish water and low saline area. Shri Bhagaban Das, Deputy Superintendent of Fisheries, Bhadrak appreciated MPEDA for organising the programme in remote villages.

Shri Ambika Prasad Nayak, SMS (Fy), KVK, Ranital, Bhadrak explained the farmers on the Good Management



U C Mohapatra, Asst. Director (Aq), MPEDA addressing the farmers

Practice (GMPs) to be followed in aquaculture instead of using any chemicals and antibiotics. He also explained the role of pro-biotics and its benefits in the sustainable

aquaculture.

Shri Lombodar Das, Sarapanch who is also a farmer, shared his experience in the shrimp farming and requested the farmers to follow the

procedures to obtain CAA registration & requested the Fisheries Officials to help the farmers for registration under CAA. Dr A Anand Kumar, JTO (Aq), proposed the vote of thanks.

2) Campaign at Katani, Kendrapara Dist., Orissa

To make the farmers more aware against the use of antibiotics in aquaculture a campaign was held at the Primary Health Centre at Katani, Kendrapara dist., on 26-8-2010. The campaign was attended by 44 shrimp farmers.

In his welcome address Shri U. C.

Mohapatra, Asst. Director (Aqua), MPEDA advised the farmers to test the shrimp/scampi samples at ELISA laboratories set up by MPEDA at Balasore and Paradeep for detection of antibiotics/chemicals.

Shri Jagadish Panda, DFO I/c, Kendrapara appreciated MPEDA for organising the awareness campaigns in remote villages such as Katani. He also suggested the farmers not to use any banned antibiotics/chemicals in shrimp farms either directly or indirectly. The products/inputs used during the culture period could be tested for antibiotics. He also

suggested farmers to stock with PCR tested seed in their farms & requested farmers to apply for the registration with the Coastal Aquaculture Authority and avail all Govt. facilities after obtaining the CAA registration.

Shri Biranchi Narayan Kar, Deputy Superintendent of Fisheries, BFDA, Kendrapara requested the farmers to apply for CAA registration. Dr A Anand Kumar, JTO (Aq), MPEDA, requested the farmers to form cluster based Aqua clubs in each village, which would help them to get updated information and sort out their technical problems.

3) Campaign at Sunapur Village, Ganjam Dist., Orissa

To create awareness among shrimp farmers on abuse of banned antibiotics/chemicals in aquaculture, MPEDA, RC, Bhubaneswar organized an awareness campaign on 17.09.2010 at Sunapur village in Ganjam District in which 50 farmers attended.

Dr. Anand Kumar, JTO (AQ), welcomed the farmers and officials and explained the importance of conducting such programme for the benefit of shrimp farmers.

Shri C. Wilson, DD (AQ), MPEDA stressed on the production of high health antibiotic free shrimp seed from hatcheries. In his speech he said, that the farmers should refrain from using any antibiotics and adopt BMPs instead for their welfare and also for contributions to the country's export.

Shri Chandrashekar Rao, Lead farmer narrated his experiences in

shrimp farming. 'I started shrimp farming about 8 years ago and during the initial years shrimp farming was very simple and disease free. But now farmers are facing multiple problems and responsibility of farmers are very high and they are compelled to produce quality shrimp', he said. He also called upon farmers not to use any banned antibiotics/chemicals during their culture practices.

Shri Kheromani Behara, Junior Fishery Officer, Dept. of Fisheries, Ganjam cautioned the farmers that

seed samples collected under NRCP & monitoring of hatcheries were being tested positive for antibiotics and WSSV and hence farmers should take utmost care while procuring seed from hatcheries.

Shri Hemant Kumar Behara, DSF, Ganjam requested all shrimp farmers who have not yet registered their names with Coastal Aquaculture Authority (CAA), to register their names with CAA immediately. Shri D. Raju, Field Manager, NaCSA, explained the concept involved in



Shri C. Wilson , DD (AQ) addressing the farmers



Farmers attending the awareness campaign

4) Campaign at Mograhat Village, South 24 Paragnas Dist., West Bengal

To make the shrimp farmers of West Bengal aware against the use of antibiotics in aquaculture and also on muddy and moldy smell in aquaculture products, MPEDA SRC, Kolkata has organised a campaign at Mograhat village, South 24 Paragnas on 22.09.2010 in which 47 farmers attended.

Shri Charitra Mondal, leading farmer of Mograhat area welcomed the participants and the officials to this Awareness Campaign & introduced the officials to the farmers and gave a brief account on the present status of culture in Mograhat. He informed that Mograhat is the main area having 50 ha. of land where the farmers are culturing scampi as monoculture and polyculture with other fishes in small ponds. They are getting water from Hoogly river connected with sea. Farmers are interested for both financial & technical support from Govt. agencies.

Shri S Mani, Assistant Director (Aqua) spoke in detail about the market trend and the concern of the buyers in the importing countries on food safety, human rights and environment protection. He advised the farmers to register their farms with Coastal Aquaculture Authority

(CAA) and obtain licence from State Fisheries Department (Meen Bhavan). The farmers were advised to maintain necessary records of production. He stressed the need for adopting best management practices (BMPs) instead of using antibiotics for disease free and sustainable shrimp production. They should comply with various provisions of the law of the land like the Meen Bhavan License, Trade Certificate etc. He also suggested formation of "Aqua Society" in each farming cluster to follow community farming for a road to group certification. He advised the farmers to take up scientific farming with low stocking of hatchery produced seeds and also on disease management by using suitable probiotics instead of antibiotics. He emphasized that the farmers should use feed only after checking the labels on the feed bags indicating compositions, date of manufacture/ expiry etc. He advised to obtain the pre harvest test certificate for aquaculture products from approved ELISA labs as required by the

'Ecofriendly and Sustainable Shrimp Farming' in detail. He requested farmers to adopt the BMPs in shrimp/scampi culture. He emphasized upon the formation of aqua societies in different shrimp farming areas to avail various schemes offered by MPEDA.

The programme ended with vote of thanks by Dr. Vishnudas R. Gunaga, JTO (AQ).

processors/exporters.

Shri Sibasish Mohanty, JTO (Aqua) explained the reasons for occurrence of Muddy Moldy Smell in shrimp. He said the off flavour problems under culture conditions arise due to various factors like high levels of fish oil content in feed and pollutants like hydrocarbon from factory drainage in adjacent ponds. If the ponds are not prepared properly or not maintained in good condition, heavy bloom will occur & the chemicals from blooms of blue green algae, that occur naturally in the aquaculture system causes the muddy mouldy smell in shrimp. In order to keep away this problem he advised the farmers to take necessary precautions by removing the black soil from the pond bottom as early as possible after harvesting and dispose such soil away from shrimp farming areas. Fill the ponds quickly to avoid big development of benthic blue green algae, filamentous algae, slimy algae and aquatic weeds which are likely to spoil the pond bottom and induce muddy



A view of the audience

smell. Remove these types of algae, if any, from the pond before the culture begins. Routine sampling check for any blackening and foul smell of soil has to be undertaken every week.

5) Campaign at Thondi, Ramanad District, Tamil Nadu

In order to create awareness among Aqua farmers/ Feed dealers/ Aqua Technicians against use of Antibiotics in Aquaculture, MPEDA, RC(Aq), Thanjavur conducted a campaign on 7-9-2010 at Thondi, Ramanad District. This area has been successfully culturing shrimp by adopting the Better Management Practice without using Antibiotics.

The inaugural session of the programme started after registration of participants. 18 farmers from S.P.Pattanam, Nambuthalai, Sembai and Karangadu were registered for the antibiotic campaign programme. Dr.A.Ramasamy, Junior Technical Officer(Aqua.) welcomed the farmers

6) Campaign at Jestapur, Baad, Kumta in Karnataka

In order to create awareness among Aqua farmers against the use of antibiotics in aquaculture and to educate the shrimp farmers on Eco-Friendly and Sustainable Shrimp Farming MPEDA's Sub Regional Centre, Karwar has conducted a campaign on 25th September 2010 at Jestapur, Baad, Kumta, Uttara Kannada District in which 24 farmers participated.

Programme started with welcome address by Shri G. Mahesh, Field

Supervisor, MPEDA explained culture techniques suitable to the licence being issued by the Coastal Aquaculture Authority. He advised farmers to take

and briefed on the purpose of the antibiotic-campaign programme.

Dr.S.Kandan, Assistant Director (Aqua.) narrated the adverse effects of abuse of Antibiotics in shrimp farms and also requested the aqua-farmers, feed dealers and chemical/drug distributors to avoid supply & use of all banned Antibiotics in Aquaculture. The problems on detection of antibiotics residue in the exported shrimps by the importing countries and the efforts being taken by MPEDA to stop the use of antibiotics in aquaculture were also elaborated during his speech. He also suggested that all the shrimp farmers have to make sure that aqua-products/ inputs like probiotics, immunostimulants, growth promoters etc., are free from banned antibiotics before their use in their farms.

Dr.A.Ramasamy, Junior Technical Officer (Aqua.) advised the farmers to keep their farm premises in more hygienic conditions, particularly

Supervisor. Dr. G. Gopakumar, Assistant Director (Aqua) spoke on the adverse effects of antibiotics when used in shrimp farms. He insisted the farmers for testing shrimp sample

up the scientific farming with low stocking with hatchery produced seeds after PCR tests. The meeting came to an end with the vote of thanks proposed by Shri A Lahiri.

during the harvest time. Because of poor hygienic handling of the harvested materials, there is a chance for the product to get affected by E-Coli/Salmonella sp. especially during the rainy season. He also requested the aqua farmers, feed dealers and chemical/drug distributors to avoid supply and use of all banned Antibiotics in Aquaculture.

Shri C.Thinakaran, M/s Gokulam Aqua farm, assured/ promised to avoid the usage of the banned antibiotics in shrimp farms of this area.

The doubts and queries raised by the participants regarding the abuse of antibiotics were properly clarified and explained by MPEDA officials. Pamphlets and posters/ leaflets containing the list of 24 banned antibiotics/ chemicals were distributed to the participants. The programme was concluded with vote of thanks by Shri Sadique, Manager, M/s Liberty Cold Storage, Thondi.

before harvest by ELISA lab set up by MPEDA at Kumta for detection of antibiotics. He cautioned the farmers that the exporters will not buy shrimp, if farmers are not submitting the pre



L-R Shri Naresh Vishnu Tambada, AAE, Dr. G. Gopakumar, Asst. Director (Aqua) (addressing the gathering) and Shri Mahesh. G, FS

harvest test report to the exporter. He also requested the farmers to register their farms with Coastal Aquaculture Authority.

Shri. G. Mahesh, Field Supervisor narrated the list of banned antibiotics / chemicals / pharmacologically active substances and their adverse effects on shrimp as

well as on human beings. He also advised the shrimp farmers to check the labels on the packets, containers, bags of all aqua-products or inputs like probiotics, growth promoters etc, before its use in their farms and requested to bring to the notice of the MPEDA if any product with banned antibiotics is detected.

Farmers were requested to maintain records of inputs used in their farms on day to day basis. Leaflets on antibiotics and guidelines on use of "Antibiotics in Aquaculture" in Kannada vernacular were distributed to the farmers. Shri. Naresh Vishnu Tambada, Assistant Aquaculture Engineer proposed vote of thanks

Campaign programme conducted on **'Diversification / IOAP / BMPS in Aquaculture'**

At Village Tentulia, North 24 Paraganas, West Bengal

In order to make awareness about diversification of other aquaculture species MPEDA is organizing various campaigns for the benefit of aqua farmers. As a part of this programme, SRC (Aqua), Kolkata has organized an awareness campaign on 'Diversification / Indian Organic Aquaculture Programme (IOAP) / Better Management Programmes (BMP) in Aquaculture' at village Tentulia, North 24 Paraganas on 24.09.2010 in which 37 farmers participated from Tentulia, Swarupnagar, Balgani and other nearby villages.

Shri D K Biswas, Deputy Director (Aqua), SRC, Kolkata welcomed the participants and informed that in recent years the contribution of marine finfish in the global aquaculture production has been steadily increasing. Marine food fishes like groupers, snappers, siganida, pompano, cobia and ornamental fishes have great potential for domestic and export trade. Marine finfish farming is yet to be commercialised in India. But among the species for diversification, Seabass (*Lates calcarifer*) has been established as a promising finfish specie for aquaculture production in commercial scale mainly because of its fast growth and wide tolerance of salinity i.e. Euryhaline in nature. He also told that farmers could go for culturing of mud crab as

diversification of other aquaculture species. As it is having more export value & the technology has been developed by MPEDA (RGCA), it is easy to be adopted by aqua farmers. In this connection a demonstration on mud crab (*Scylla serrata*) has already been taken up at Jharkali, South 24 Paraganas.

Shri S Mani, Assistant Director (Aqua) discussed with the farmers about the scenario of Organic aquaculture and how it is developing rapidly in more than 120 countries in the world. Day to day the popularity and demand for Organic products in world market is going up due to rise in health & environmental awareness, concern over foods safety, assurance that foods produced without adverse effects on nature or environment etc. Organic Aquaculture is a process of developing variable & sustainable aqua system under organic Quality

Control. He discussed the process of Organic aquaculture production in detail. Without proper certification, products can not be marketed as Organic Product. He briefed MPEDA schemes for IOAP, organizations associated for certification and also stressed on formation of society, so that it will be easy to avail all the facilities starting from certified hatchery system to selling of harvested products.

Shri Sibasish Mohanty, JTO (Aqua) delivered lecture on BMP's in aquaculture. He motivated farmers to form aqua society and explained MPEDA schemes for farmers forming aqua society. From this society, farmer can derive the positive benefit of organization by participatory approach for a responsible resource management. This society will help the farmer for proper crop planning, building up contacts, mutual trust among various service providers etc.



Shri S. Mani, Asst. Director (Aq) addressing the farmers

During the culture period, a technician appointed by the Society can monitor ponds, animal health, provide required guidance at various stages of

culture and other helps. MPEDA has chalked out suitable schemes for aquaculture societies including suitable demonstration programmes.

The meeting came to an end with the vote of thanks proposed by Shri Mahasin Dhali, Field Supervisor, SRC, Kolkata, MPEDA.

Interstate study tour by farmers from Maharashtra to aquaculture units in Nellore district, Andhra Pradesh

MPEDA, Regional Centre (Aq), Panvel organized an inter-state study tour for 10 brackish water shrimp farmers of Thane, Ratnagiri and Sindhudurg districts of Maharashtra to Nellore district, Andhra Pradesh from 22.08.2010 to 28.08.2010. Shri. S.M. Shirodkar, Junior Technical Officer (AQ) of RC(Aq), Panvel lead the team. The main purpose was to learn the latest technologies adopted by L.vannamei shrimp farmers in Andhra Pradesh. Shri. D.B. Yadav, Junior Technical Officer (AQ) and Shri. Gopal Krishna, Field Assistant, Regional Centre (AQ), Vijayawada accompanied the farmers for the visits. On 24.8.2010, the team has visited the L.Vannamei farms in Nellore District.

On 25-8-2010 the group went to Indukurpet Mandal where the team visited M/s Mahita Hatcheries, a CAA approved hatchery where technicians explained the hatchery operation of L. vannamei using imported quarantined broodstock.

The team later visited M/s. Water Base Ltd. In Vellore. The aquaculture complex of M/s. Water Base Ltd. have different unit such as farm, feed mill, laboratory and research and development section which were seen by participants. In the feed mill, Mr. Ravi Palanisamy, Head of the Feed Plant explained on different types of raw materials, ingredients and procedures for feed manufacturing. Mr. Venugopal, Quality Control Manager explained the different procedures adopted for analysis of feed samples for specific quality standard before dispatching feed to market. Mr.

Shravan Kumar Mishra, In charge of Research and Development Section had shown trial run experiment on feed management. Experiment on feed for L. vannamei also is running at present. According to him, plant originated protein content in feed is suitable for better growth of L.vannamei.

As some participants showed interest in crab culture unit, the same was also visited. Scylla species was mostly cultured. Generally molted crab above 80-100 gms were collected and sent to the processing plant and later exported. It is under stood that in case of molted crab, meat gain is 40%.

In the evening the team had interaction for about two hours with the officials of M/s. Water Base Company in their meeting hall at Nellore. Mr. Shakti, Manager, briefed about L.vannamei farming. He also explained about marketing & export potential aspects. Mr. Sambhaji Aawari, Sales Manager of M/s. Water

Base Ltd. briefed about all culture aspects of L.vannamei. Since these briefings were in Marathi language, the farmers could easily follow them. The farmers were very much satisfied with this interaction programme.

On 26.08.2010, the team visited MPEDA Quality Control Laboratory at Shrinagar Colony, Nellore. Mr. V. Vivekanandan, Assistant Director briefed the farmers about the purpose of National Residual Control Programme (NRCP) and antibiotic issues and step taken by MPEDA to control residue in aquaculture products. Later Mr. Jyoti Rajan, Technical Officer gave information about different laboratory instruments / equipments and explained procedure of analysis of antibiotics / pesticides / heavy metal etc. The laboratory staff satisfactorily answered farmers' questions / doubts. Participants thanked MPEDA for arranging this tour and assured that they will encourage other interested beneficiaries.



L.vannamei farm visit

National seminar on “Diversification of Aquaculture through locally available fish species”

by CIFE, Kolkata

The Golden Jubilee National Seminar on “Diversification of aquaculture through locally available fish species” was organized during 27-28 August 2010 by Central Institute of Fisheries Education (CIFE),

Kolkata Centre. Dr. S. N. Dwivedi, Former Additional Secretary to Govt. of India inaugurated the Seminar in Mini Theater Hall of Science City, Kolkata on 27th August, 2010.

Dr. P. C. Chowdhuri, Dr. Dilip

Kumar, Director, CIFE, Mumbai; Dr. A.P. Sharma, Director, CIFRI, Barrackpore, Prof. C.S. Chakrabarti, VC, WBUAFS, Kolkata; Dr. P. V. Dehadrai, Former DDG (Fy); Dr. R.S. Biradar, Joint Director, CIFE, Mumbai, Dr. M. Sinha, Advisor, Department of Fisheries, Govt. of Tripura, Prof. M. Yusuf Kamal, Former Vice Chancellor, J&K were some of the dignitaries who graced the occasion. A total of 200 delegates and experts participated in the seminar.

An Exhibition cum Aqua Fair was organized in the campus of CIFE, Kolkata on this occasion. Public and private establishments like CIFRI, CIFT, CIFE, CIBA, MPEDA, NABARD, Godrej-Agrovet, Bluetech Dynamics, FISHCOPFED, Tara Maa Hatchery, Rajlaxmi Aquarium, IB Group, Indian solvent industries etc., showcased their activities in the fair.



Dr. S.N. Dwivedi inaugurating the Seminar.

Training programme on “Eco friendly and sustainable shrimp farming”

conducted at Valsad Dist. in Gujarat

The MPEDA Regional Centre (Aquaculture), Valsad organized a 5-day training programme on “Eco friendly and Sustainable shrimp farming” at Rajiv Gandhi Hall, Jilpanchayat, Valsad from 26 - 30, July 2010 for the benefit of the farmers from Valsad. 25 farmers attended the training programme.

Shri Saifuddin Anis, Deputy Director (Aqua) welcomed the trainees and explained the role of MPEDA in Aquaculture development. He also explained the present status of shrimp farming in India and the requirement of obtaining pre harvest test certificates from ELISA lab for

aquaculture products as part of food safety measurement.

Officials of MPEDA engaged classes on various technical, biological

and engineering aspects of shrimp farming. Trainees were also made aware of the procedures to be followed for the registration of farms with



A view of the audience

Coastal Aquaculture Authority. Classes were also taken on village level demonstration programme, BMPs and HACCP. Trainees were taken to shrimp farm of Shri Gopalbhai Tandel located at Hingraj village, Dist. Valsad for a practical exposure. The practical aspects of farm construction, management, use of field equipments for assessment of various water quality

parameters were explained to trainees by MPEDA officials. The farmer also shared his experiences in shrimp farming with the trainees. A group discussion was held in the afternoon of the concluding day during which officials of MPEDA clarified the doubts of trainees.

Training was concluded with the valedictory programme. Shri

Saifuddin Anis, Deputy Director in his presidential address requested trainees to approach MPEDA for registration immediately after allotment of land so that MPEDA could help them for a planned development of farming activity. At the end of the training certificates were granted to the trainees on successful completion of the training.

Training programme conducted on **Eco-friendly and sustainable shrimp farming** for SC/ST beneficiaries at Jastapur, Uttar Kannada Dist.

The Aquaculture Sub Regional Centre of MPEDA, Karwar organised a 5-day training programme on Eco-Friendly and Sustainable Shrimp Farming for SC/ST beneficiaries from 21-25, Sep. 2010 at SC/ST hall Jastapur, Baad, Kumta, Uttar Kannada District. Twenty candidates attended the training programme. The main objective of the training programme was to educate the members of the SC/ST communities on the various aspects of shrimp aquaculture.

The training was inaugurated by Smt. Nirmala R Naik, President, Gram Panchyat, Baad, Kumta. Shri. Mahesh.G Field Supervisor welcomed the dignitaries. Dr. G. Gopakumar Assistant Director (Aqua), highlighted the schemes and role of MPEDA in the development of aquaculture in India.

The function was presided over by Shri. Parameshwar B Naik, Vice President, Baad, Kumta who in his presidential address requested the participants to make use of the opportunity and gain knowledge for development of aquaculture. He also informed that Jastapur is having vast area of gazani field and also having potential area for development of Aquaculture. He in his address said that this year the crop was good and no incidents of crop loss was reported. He also expressed happiness that the

price for shrimp is also good this time.

Classes were engaged on the various aspects of shrimp farming (Site selection, Pond construction, Pond preparation, Seed selection, transportation & stocking, Water quality management, feed management, Disease management, Harvest & Post harvest techniques and economics of shrimp aquaculture). Classes were also taken on Seabass cage culture and Mussel culture by MPEDA officials and other resource persons.

Shri. Nagaraj Sannabhadthi, Feed dealer delivered a lecture on "Feed management in shrimp farming" and Shri. Ravi Gouda NaCSA, State Co-ordinator explained the concept of BMP and Society formation in shrimp aquaculture.

During training programme movies were showed to the trainees on

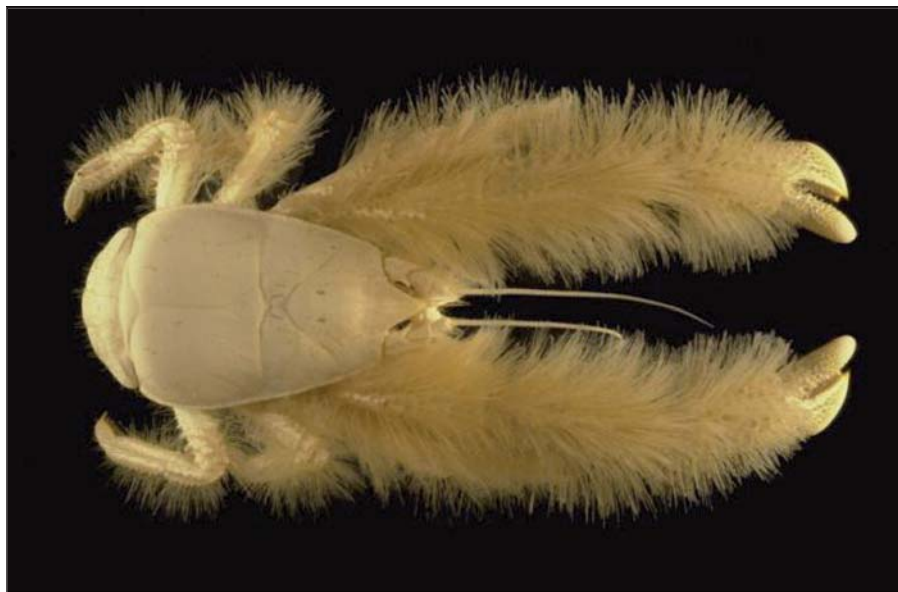
shrimp farming, Seabass cage culture, Mussel culture and role of MPEDA and RGCA in development of aquaculture in India.

On 24-09-2010, a field trip was arranged for the trainees. They visited nearby farm and also M/s Skyline Hatchery Pvt Ltd., Kumta. Doubts raised by the trainees were clarified and in the hatchery the farmers have observed various stages of shrimp larvae, seed packing etc. The training programme concluded with valedictory function on 25-09-2010. Literatures of various aspects of shrimp farming, BMP etc in vernacular were distributed to the trainees. Smt. Nirmala R Naik President, Grama Panchayat distributed certificates to the trainees and in her valedictory address she thanked MPEDA for organising such a programme in the remote village.



View of Participants at 5-day training programme on Eco-Friendly and Sustainable Shrimp Farming.

Over 1 Million marine species living on earth, says Study



Unusual crab discovered and designated as *Kiwidae* after *Kiwa*, the Polynesian Goddess of shellfishes.

The decade long *Census of Marine Life* (2000-2010), the largest global research programme on marine biodiversity, has been completed and the findings, delivered on October 4, suggest that there may be 1 million to 1.4 million marine species, excluding microbes, living on earth. The census resulted in the discovery and description of more than 1200 marine species excluding microbes and the collection of more than 5000 new species, also excluding microbes, which are yet to be described. This will now be in addition to the 250,000 species formally described so far in science literature.

Among the new species discovered and described is a crab so unusual that it warranted a new family designation "*Kiwidae*", named after the mythological "*Kiwa*", the Polynesian goddess of shellfish. It was found south of Easter Island. Other new species discovered include a blind lobster, a new species of shrimp designated "*Hippolyte catagrapha*", a

finned octopod which flaps a large pair of ear-like fins to swim, a "squid worm" from the Celebes Sea in South East Asia and a vent snail inhabiting deep sea hydrothermal vents and harbouring chemoautotrophic symbionts in its gills which provide the snail with all the nutrients it needs. Interestingly, the snail found near a vent off Tokyo is the only one discovered to date. The census has also estimated up to 1 billion marine microbes.

More than 80 per cent of the species discovered from the Australian region, 70 per cent from Japan, 75 per cent from the Mediterranean deep sea, 58 per cent from Antarctica, 38 per cent from southern Africa and 10 per cent from Europe, are yet to be described. The census has also mapped marine highways and rest stops. Scientists traced the blue finned tuna migrating from western United States and Japan three times in a single year and one grey headed albatross flew around the world in just 46 days.

Largest scientific collaboration

One of the largest scientific collaborations ever conducted, more than 2700 scientists from more than eighty countries with 640 participating institutions, spent 9000 days at sea on more than 540 expeditions to conclude that "marine biodiversity of the planet is richer, more connected, more altered than expected". The census called for a global investment of US \$ 650 million and another US \$ 75 million from the Alfred P. Sloan Foundation. While most of what mankind knows about the ocean is between the surface and the depths of approximately 1000 feet, the census scientists even explored the 10,000 meter deep Marianas Trench south east of Japan. The census reveals what, where and how much lives and hides in global oceans.

Ian Pioner, Chairman of the census steering committee said, "This cooperative international 21st century voyage has systematically defined for the first time both the known and the vast unknown, unexplored ocean. The beauty, wonder and importance of marine life are hard to overstate." He added that all surface life depends on life inside and beneath the oceans. Sea life provides half our oxygen, a lot of our food and regulates the climate. "We are all citizens of the sea." The census has enabled mankind to be better acquainted with our fellow travellers of the sea and their vast habitat on this globe, he said.

The Hindu

Karnataka cabinet gives approval for Maritime Board

Mangalore: The State Cabinet has approved the proposal to set up Karnataka Maritime Board (KMB) for the overall development of the ports in the state, according to Fisheries Minister of Dakshina Kannada Krishna J Palemar. Talking to mediapersons here, Mr Palemar said the proposal would be sent soon to the Centre for approval.

The board would have one of the four Additional Chief Secretaries as the Chairman and no politician would have place in the board, he said and added that the Principal Secretaries of the Department of Public Works, Infrastructure Development, Environment and Forest would be other members among the 17 members.

He said the board would be an autonomous body and with the setting up of it, the international business to the state government would increase with the enhanced quality and efficiency of the ports. The board would also help in developing the ports with private participation. However, it had not yet decided on the location of office of the board. For the first time, the state government had taken the decision to set up KMB for which the file was signed by last week, he said.

The minister said the government with the intention of having transparency was contemplating to entrust the work of dredging at Karwar Port to Dredging Corporation of India. Ships at this port at present could load goods only half of the capacity due to accumulated silt. The government was also planning to take up dredging of other ports on the coastal belt besides Karwar Port, he added.

- mangalorean.com

Project to assess impact of trawling in Gulf of Mannar

Tuticorin: The Gulf of Mannar Biosphere Reserve Trust, (GOMBRT), Ramanathapuram, has sanctioned a project on assessment of impact of trawling in Gulf of Mannar Biosphere Trust region. The Fisheries College and Research Institute in Tuticorin, a constituent of Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), Chennai, will undertake the project at an outlay of Rs.6,83,100

The commercially important fishes, crabs, lobsters and shrimps

to over fishing. Hence the need of the hour is to conserve the exploited fishery resources of Gulf of Mannar," he said.

The present investigation would mainly focus on quantifying the excess catch of juveniles and mature fishes of highly exploited fish. Suggestions would be given to policy-makers on the number of trawlers to be used at major fish landing centres of Gulf of Mannar for optimising the fish catch. Suitable strategies would be evolved for judicious management of fishery in



were being fished heavily in this region by trawl nets. Owing to the chasing of few fishes with many vessels, the catch has declined, V.K. Venkataramani, Director, Research and Extension, FCRI, said.

"There is also no record of the optimal fishing effort to be in force in this region. Due to indiscriminate trawling with 20mm mesh in the cod end, coastal fishery suffers heavily due

this marine biosphere. Besides, the exact spawning season for the highly exploited commercially important species would be predicted and closed. The present trawl designs of Gulf of Mannar would be documented and suggestions would be made to rectify the technical plan of the existing design to avoid juvenile and over fishing.

Feed science and technology raise productivity and sustainability in aquaculture

Advances in feed formulations and production technology contribute significantly to progress in aquaculture. For example, at one time 3 kg of feed was needed to grow 1 kg of salmon. Today the ratio is around 1:1 and that kilo of feed need contain only 150 g of fishmeal, enabling salmon and trout farmers to produce more fish protein than they use in the feed.

Skretting made one of the first advances in the 1980s by introducing extruded feeds. Fat contents could be increased from around 14% to 22–25%. The next increase came with vacuum coating. “This involves a vacuum chamber that follows the drying stage,” explains Jan Jonkers, Feed Production Manager at the Skretting Aquaculture Research Centre (ARC). “The vacuum draws the oil into the feed pellets instead of just coating them.” Introduced in the 1990s, it lifted fat levels above 30%. Maximum fat levels were raised over 40% later that decade when Skretting added an expansion chamber immediately following extrusion. “Reducing pressure opens pores in the pellets to absorb more oil. Alternatively, accurate control of pressure can deliver feeds with sinking characteristics optimised to customer requirements,” adds Jonkers. High fat feeds brought two new challenges. The first was how to keep the fat in the feed in warm weather. Skretting overcame this challenge through the development of SPAR technology, which involves adding a small proportion of a particular ingredient to the mix. This forms crystals that block the pores and trap the oil inside the pellets.

The second challenge is the sustainability of the oil supply. Aquaculture was expanding rapidly and the far sighted foresaw a potential scarcity of the fish oils being used.

Feed companies, research institutes and universities explored options to supplement the fish oils with vegetable oils. “When we first proposed this some people suggested using vegetable oils would lead to mortalities,” comments Dr Alex Obach, Managing Director at Skretting ARC, one of the participants in the EU-funded RAFOA project. This project had the objective of replacing as much fish oil as possible without compromising the health, welfare and growth performance of the four main European aquaculture species: Atlantic salmon, trout, sea bass and sea bream. Trials with a range of vegetable oils and related adjustments in production methods greatly reduced dependence on fish oils while ensuring the final fish products retain the eating and nutritional qualities consumers expect.

The next sustainability objective was to reduce fishmeal contents. This was achieved by introducing vegetable proteins “For some time 25% fishmeal seemed to be the minimum limit in salmon feed,” says Obach. “We only overcame that hurdle recently by identifying micro-nutrients in fishmeal that proved to be essential to the fish. We found alternative sources of these micro-nutrients. Now, using this MicroBalance™ concept, Skretting is producing grower feeds with much lower fishmeal contents. This means sustainably available fishmeal can be shared across the expanding aquaculture industry and contents minimised when prices peak.”

Other important feed developments include feeds that boost fish immune systems and compensate for the effects of various diseases. The latest hatchery feeds have also boosted the potential of aquaculture.

Source:skretting.co.uk

Marine products to have zero export duty

The marine sector is now included in the zero duty list of the Export Promotion Capital Goods (EPCG) scheme. The latest foreign trade policy review has extended this benefit to this sector as capital goods import is very essential for the upgradation of the processing units in order to meet the quality standards set by the European Union (EU) and the US.

According to Mr. Anwar Hashim, President, Seafood Exporters Association of India (SEAI) the inclusion in the zero duty list is a welcome move and would be highly beneficial to the industry as requirement of imported capital goods is on a rise.

The sector has to export five times of the waived import duty within a period of eight years. He said that this condition would not be a big issue as marine products export has increased in recent years.

Recently EU had imposed strict quality checking of imported items. Thus, export to the region suffered a setback. EU had imposed testing of 20 per cent of the containers and compulsory catch certificates for fishing vessels. EU is the largest importer of Indian seafood items for the last three-four years. In order to cope up with the quality standards, imported testing equipment and machinery are a must now. So it's a welcome move by the Commerce Ministry. Technology upgradation is the need of the hour and capital goods import is essential for this, he added.

He also said that the two per cent interest subvention to SME sector would also benefit the seafood export industry as more than 90 per cent of the export units will come under this category. Extension of DEPB scheme till June, 2011 is also a welcome move as far as seafood export sector is concerned.

- Business Std.

Agriculture, fisheries to drive Indo-Gulf trade: Assocham

The Associated Chambers of Commerce and Industry of India (Assocham), India's premier apex chamber, has said the trade between India and the six-member Gulf Co-operation Council (GCC) could exceed \$130 billion by 2013-14.

"Two-way trade, which has been growing in view of growing warmth in economic and diplomatic ties, could exceed \$130 billion by 2013-14, up from around \$100 billion estimated in 2009-10," Assocham said in a statement.

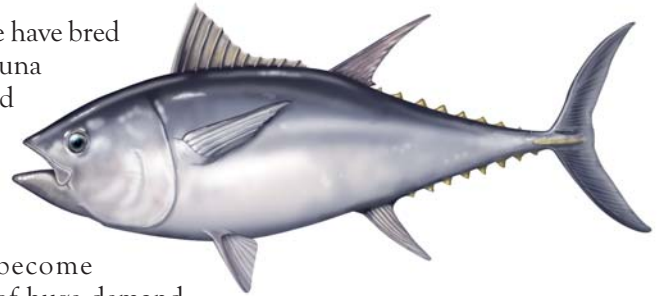
In a manual submitted to the Ministry of External affairs of India, Swati Piramal, president of Assocham, stated that there existed vast potential in field of agriculture, fisheries, and other sectors between India and GCC which would bring closer small and medium sectors of both the regions and help develop the base of nations.

According to media reports, over 3.5 million Indians work in the GCC countries which would help making them a huge remittance source as well. "Joint exploration for oil and gas should be the next step forward. The Indian companies need to aggressively participate in GCC's special economic zones in which multiple trade activities can be intensified," Piramal added.

- Fnbnews

Europe announces breakthrough in breeding Bluefin Tuna

Scientists in Europe have bred Atlantic bluefin tuna in captivity, and without using hormones, potentially boosting stocks of a fish that has become endangered because of huge demand for sashimi and sushi in Japan and other countries. "If the results of this research can ultimately be commercialized, it can improve food supplies and contribute to economic growth and employment while also helping to ensure a sustainable management of bluefin tuna," Máire Geoghegan-Quinn, the European Union's commissioner for research, said this week.



Concern has grown over the health of the species because too many bluefin are being caught before they get the chance to breed. The migrating wild fish are caught, then fattened in floating cages before they are killed. Ms. Geoghegan-Quinn's department at the European Commission has given nearly 3 million euros to the research project, called Selfdott, for self-sustained aquaculture and domestication of thunnus thynnus, and coordinated by the Spanish Institute of Oceanography.

The commission said the breakthrough without using hormones was the first of its kind in Europe, and possibly in the world, and that it represented important progress for the aquaculture industry because more consumers are asking for foods raised naturally. In a pilot project last year, all the fish that hatched died within weeks or months. But the commission said scientific experts were confident that the new fish would fully mature because of improved feeds and because the parent fish had had time to adapt to being in

captivity. Some environmentalists were skeptical. According to the Commission, the production of farmed fish would have to double by 2045 to cater to the increasing population's demand for seafood.

- James Kanter,
green.blogs.nytimes.com

Online aquaculture map collection available

A new Web site showing the locations of aquaculture sites and their characteristics is now available. The online **National Aquaculture Sector Overview (NASO) map collection** uses "Google Maps and Google Earth" technology to assist FAO member countries to inventory and monitor aquaculture. The collection is in its early stages but holds potential use in a number of ways such as monitoring the status and trends of aquaculture development and addressing site selection and zoning issues. The NASO map collection is coordinated by the Aquaculture Service of the FAO Fisheries and Aquaculture Department in close collaboration with FAO's Fisheries and Aquaculture Statistics and Information Service.

- <http://www.fao.org/fishery/naso-maps/naso-home/en/>

West Bengal to get a deep-sea fishing harbour in November

Kolkata: Come November and the state will get its first deep-sea fishing harbour near Contai in East Midnapore. The fishing harbour, FOR whose foundation was laid by former Governor Gopalkrishna Gandhi in 2006, will be inaugurated by Governor M K Narayanan. The Rs 200-crore project has been funded by the Centre.

On Friday, State Fisheries Minister Kiranmoy Nanda said, "The harbour will do wonders to our fisheries sector. It will have a capacity to house 500 big trawlers and 300 smaller mechanised boats. Once fully functional, it will be in a position to export 3,500 tonne of fish daily. It will generate around 10,000 jobs in the area."

The Fisheries Minister said construction of the harbour second on the east coast after the one at Vizag would meet the November deadline.

But this will only be the first phase (with Rs 60 crore sanctioned) of the project, which will include a state-of-the-art ice plant, modern processing plants, a GPS system and modern restrooms for fishermen. The Fisheries Minister said the deep-sea fishing harbour will also include four large jetties and a fuel pump. A part of the project is a road connecting the harbour to the mainland. There will be allied constructions as well. A senior fisheries department official said, "We will set up fish marketing centres at Sankarpur in the same district and Kakdwip and Sultanpur in South 24 Parganas."

Stressing on tuna, salmon, mackerel and pomphret fishes in great demand in the export market the official added, "This will bring revenue for the state and fishermen, too, will get their returns."

- Times of India

Viet Nam : Seafood exporters oppose US tariffs

HCM CITY – Seafood exporters say they will take action if the US imposes new anti-dumping tariffs on products of some Vietnamese seafood exporters.

Exporters made their views known on Tuesday at the office of the Viet Nam Association of Seafood Exporters and Producers (VASEP) in HCM City after the US Department of Commerce (DOC) unofficially said the anti-dumping tariffs on Vietnamese tra fish could reach US\$4.22 per kilo, equalling 130 per cent of the selling price of the Vietnamese tra fish in the US market.

Although VASEP had been informed of the news, the Association's general secretary, Truong Dinh Hoe, said: "We absolutely oppose the (preliminary) decision made by the DOC in its last review of its tariffs."

Hoe said in the last review, the DOC used the Philippines, instead of Bangladesh, as the third-country market to determine the dumping tariff margins for Vietnamese tra fish, thus causing the tariffs to rise.

Hoe said that the comparison of tra fish product prices in the Philippines and Viet Nam was inappropriate as fish feed in the latter was priced \$0.5 per kilogramme compared with \$2 per kilogramme for the former.

He added that production and management costs in the Philippines were also much higher than in Viet Nam.

"It's not reasonable to impose the figures collected from 36 breeding ponds with a total of 12 tonnes per year in the Philippines with the breeding farms totalling 1 million tonnes of tra fish in Viet Nam," said Hoe.

Duong Ngoc Minh, Deputy

Chairman of VASEP, said the association should prove that imposing such sky-high anti-dumping tariffs on Vietnamese tra fish would not only damage Viet Nam's tra fish production but also cause losses for American customers.

If the new high tariffs are imposed in March next year, many tra fish exporters will certainly leave the American market, according to an official from the Ministry of Agriculture and Rural Development (MARD), who declined to be named.

He said the growing popularity of tra fish in the American market had resulted in the Catfish Farmers of America (CFA) lobbying against Vietnamese tra fish.

Andrew Schroth, Attorney with Grunfeld, Desiderio, Lebowitz, Silverman & Klestadt LLP (the US), who has advised Vietnamese tra fish exporters on the anti-dumping case, said VASEP should consider all available options in the Philippines to prove that using the Philippines as a third country as the benchmark was not appropriate.

Though the final rates will not be released until six months later, related sides must work very hard to divert the decision, according to Schroth.

MARD's Deputy Minister Luong Le Phuong said the Vietnamese Government would take action to prevent the imposition of the new anti-dumping tariffs, which would affect tra fish exports to other markets around the world.

Phuong said the new tariffs could set a negative precedent by encouraging other markets such as the EU and the Middle East to follow suit.

In the previous DOC anti-dumping review, a majority of Vietnamese exporters enjoyed the lowest tariff of 0.52 per cent.

The anti-dumping tariffs imposed

on Vietnamese tra fish exports to the US have affected the local industry since 2003.

Vietnamese tra fish products sell well in many markets in the world.

According to figures from the Ministry of Industry and Trade, in the first nine months of this year, Viet Nam attained export turnover of more

than \$1 billion for tra fish products, and the figure is expected to exceed \$1.5 billion for the entire year.

In the first quarter of this year, the American market imported 12,000 tonnes of tra fish products from Viet Nam, a 2.5-fold increase over the same period last year.

– VNS

Farmers urged to take up Mussel culture



KOCHI: The ultimate test for any technology is whether it is of any benefit to the common man, N. Vasudevan, Registrar of the Indian Institute of Space Science and Technology, has said.

In his inaugural address at the Winter School on 'Vistas in marine biotechnology' organised by the Marine Biotechnology Division at the Central Marine Fisheries Research Institute (CMFRI) here on Tuesday, Mr. Vasudevan said the country has been consistent in its stance that the application of science should benefit the common man. Attempts should be made to enhance the income of the poor through the effective use of technology.

Stating that there could be a convergence of space, environmental science, marine biotechnology through biotechnology and nanotechnology, Mr. Vasudevan said scientists can also discover the potential of the sea, if we treat it with caution. The new developments in the field have opened up new possibilities. "We need to capitalise on these developments," he said.

Explaining that there is an ever-increasing demand for 'GMe' (Green Mussel extract), a nutraceutical product developed by the Marine Biotechnology Division of the CMFRI, Syda Rao, Director of the institute, said that the transfer of technology for the product is very difficult. There is a huge demand for the product. "We require thousands of tonnes of mussel meat to manufacture it," he said. K.

Call for better processing, packing

KOCHI: The Indian seafood export industry is poised to achieve \$5 billion by 2012 with 75 percent contribution from value-added products. What the industry needs is an advanced processing and packing technology which is sought by the Indian processors, says Roy Palmer, president, Asia Pacific chapter of the World Aquaculture Society.

Palmer told 'Express' during a visit to the city the other day that there is a huge potential market for aquaculture, husbandry and hatchery. "We will be bringing along experts from various countries to interact with the scientists and industry experts so that they would be able to chalk out solutions."

Even though several major feed plants have been established recently with overseas assistance, the demand for feed, particularly the extruded feed, is on the rise.

"More than 500 Indian farmers will get a firsthand experience of the problems and solutions from experts at the World Aquaculture Society. Our mandate at the Asia Pacific chapter is to promote the benefits of responsible aquaculture in Asia Pacific region through the dissemination of information to farmers, scientists, policymakers

and suppliers of goods and services to the aquaculture industry," he said.

About the various certification problems faced by the export industry, Palmer said that much of these would be sorted out if they are properly disseminated to the stakeholders. "The fact remains that, in the US, 90 percent of the seafood is based on processed seafood. There is a lot of research and development in the fisheries sector in Asia after the initial panic reactions to promoting standards to meet the Western import health and quality regulations have died down.

The global recession has brought down the panic reaction in the less wealthy countries and started concentrating on wild and farmed products. The seacage culture has become an inthing in several Asian countries, though India is yet to get into it in a commercial way.

So, does he believe that climate change is also making an impact on fisheries? "Yes, there are issues, but one does not know whether it is related to climate change especially in the case of deep oceans because species change have been registered in certain areas," Palmer says.

- ENS

K. Vijayan, Director of Winter School; E. V. Radhakrishnan, head of the CFD at CMFRI; P. Vijayagopal, and P. C. Thomas, coordinators of the winter school, spoke. Nearly 25 scientists and researchers from across the country are participating in the 21-

day winter school. The objective of the programme is to provide exposure to the participants in biology, fisheries and agricultural sciences and to update them in the field of marine biotechnology.

- *The Hindu*

Tracking technology raises seafood's competitiveness

The seafood sector will begin applying hi-tech solutions to gain more information and trace the origins of its products, the fishing process and transport, aiming to raise its competitiveness in foreign markets.

This technology will help seafood enterprises ensure the quality and freshness of their products to meet international demands and create a chain of safe food supplies for global consumers. Ta Viet Dung, Vice Head of the Technology Application and Development Department under the Ministry of Science and Technology, Vietnam said that the origin-tracing system for aquaculture commodities will help businesses save production costs and detect errors in their products easily for quick correction. The department was assigned to cooperate with a Thai partner and the IBM company to undertake a project on using information and identification technology to trace the origins of seafood for Vietnamese enterprises.

A number of businesses in Vietnam have gained access to origin-tracing solutions to create a supply chain for safe seafood. Accordingly, a sole tracking device will be applied to each element. The device could be a radio frequency identification (RFID) tag attached to a fish, a bar code on a product package, or a number assigned to a shrimp pond. The seafood can be scanned later and its data will be transferred to the person who needs it, from the distributor to the importer or consumer. This solution helps create a connection



within the supply chain and offers a smart management system with data analysed precisely in real time.

The framework for tracing food origins plays a significant role in ensuring food safety. It is expected to promote better enterprise compliance with the strict regulations of importing countries and their respective management agencies. This project is being implemented successfully as a pilot at the Binh An Seafood Processing Joint Stock Company (Bianfishco).

Bianfishco's Director General Pham Thi Dieu Hien said the old method of tracing origins was difficult to use when dealing with the large volume (200-300 tonnes) of fish processed each day, and threatened to cause big economic losses. She said the OpsSmart and Infosphere Traceability Server by IBM has helped her company become a leading processor of high-quality seafood.

Thieu Phuong Nam, an official of IBM Vietnam, said that IBM solutions will help Vietnam improve its position in the world list of the top ten seafood exporters.

- *english.vovnews*

Government of Maharashtra to encourage Tuna fishing

Mumbai: Maharashtra is all set to encourage fishermen in the state, to trawl the famous Tuna fish that makes up for nine per cent of the fish trade in the world. A government resolution (GR), will soon be started, that will help provide better boats, equipment for fishing, further storage and processing.

"At present our fishermen only venture about 50 miles into the water and our national limit is 200 miles. It is only when they go deeper into the sea that they will find fish like Tuna which have an international demand," explained Minister of State for Fisheries, Bhaskar Jadhav. He added that the State Government has identified the coastal district of Ratnagiri for conducting a pilot project for fishing the tuna.

The reason why fishermen are not currently venturing into Tuna fishing, is that their boats are only twenty metres long and not strong enough to go deep into the sea, where the waters are choppy and tides are dangerous.

At present the Central Government fisheries department provides funds for promoting such activities, the benefits of which have been exploited by coastal states of Kerala, Tamil Nadu, Andaman and Lakshadweep.

"We will help fishermen get these funds and simultaneously provide incentives to convert their present boats into steel ones," added Jadhav. "Also those below the 'poverty line' will be given Rs three lakh, as loan and 1.5 lakh, as grant."

- *Hindustan Times*

Seaweed cultivation adds to fisher folk's income

CHENNAI: Growing revenues from seaweed, a vital binding ingredient in processed foods and consumer products has fired the imagination of planners who oversee welfare schemes in coastal areas.

The Tamil Nadu government has now sanctioned Rs 3 crore to the fisheries department for training fisherfolk in seaweed cultivation and for providing necessary materials at a subsidized rate. Soon, cultivation will be extended further down along the eastern coast to provide jobs in more districts, especially to women.

Says Dr M Sakthivel, President of Aqua Culture Foundation, an NGO that promotes use of aquaculture in India, "Seaweed cultivation in Tamil Nadu is largely confined to self-help groups (SHGs) in fishing communities that function with the aid of government subsidy. So far, the cultivation has mainly been in Ramanathapuram in the Palk Strait area and some parts of Tuticorin, Pudukottai and Thanjavur. But with the market for seaweed expanding, government has decided to extend the training and subsidy programme further along the Tamil Nadu coast upto Point Calimere in Nagapattinam district."

Cultivation of seaweed is rapidly developing as a source of alternate income for fisherfolk. According to Abhiram Seth, Managing Director of AquaAgri Processing Pvt Ltd, a company that processes and exports dried seaweed, income earned from cultivation of seaweed can be equal or even more than the amount earned through fishing. "Currently, a person can earn upto Rs 500 a day by cultivating and harvesting seaweed," said Seth. "Depending on how many days of work is put in, a cultivator can earn atleast Rs 10,000 15,000 per month."

The immediate social impact has been on empowering women in



fishing communities, helping them supplement meagre family earnings. In several cases, the extra income has provided the means to overcome the abusive and destructive effects of alcoholism among male members in the family. "In Ramanathapuram, majority of the cultivation is done by women in fishing community. We find that this added income has led to better standards of living among the fisherfolk," added Sakthivel. "Altogether, around 1,000 persons are employed here through SHGs."

There have been some concerns about the environmental impact of introducing seaweed since it's not a native species, but growers say "it's a fairly non-invasive process" and does not spread out over a wide area. Besides, the algae acts as an effective carbon sink since it absorbs the acidic content in water created by carbon dioxide in the air.

"This seaweed, called Kappaphycus, is woven through ropes and tied onto rafts. The rafts are floated onto the water and moored using anchors or mooring lines. The weed is harvested after 45 days. The

cultivators are each given around 60kgs of seaweed to plant. This gives them around 260 kgs of seaweed during harvesting. Of these 200kgs is sold and 60kgs is reused for cultivation. The ropes and the rafts are also reusable. Hence, only a little initial investment and periodic maintenance is required," said Seth. What's more, since seaweed can be cultivated in most seasons, the income is more or less consistent.

According to Seth, if developed further, it could become a steady source of foreign exchange. "Currently, we are drying the seaweed and exporting them to western countries," he said. "There, seaweed is used as a binding ingredient in pet food, toothpaste and meat sausages among others. Last year, our firm earned around Rs 5 crore in foreign currency from export of dried weed alone. This year we plan to set up plants to manufacture value added products derived from seaweed like carrageenan. Carrageenan is a principle ingredient in both packaged food as well as industrial and pharmaceutical products."

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