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THE SEAFOOD EXPORTERS **ASSOCIATION OF INDIA**





THE MARINE PRODUCTS EXPORT DEVELOPMENT AUTHORITY

(Minsitry of Commerce & industry, Government of India) MPEDA House, Panampilly Avenue, Kochi - 682 036, Kerala, India Telephone: +91 - 484 - 2311979 Fax: +91 - 484 - 2313361 E-mail: mpeda@mpeda.nic.in Website: www.mpeda.com

MPEDA NEWSLETTER



Product : Marinated Topcut Butterfly BT Shrimp

Editorial Board

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Editor

Dr. Ram Mohan M.K.Deputy Director (P&MP) rmohan@mpeda.nic. in

Assistant Editor

Shri. S. Bhaskaran Nair newslet@mpeda.nic.in

Printed and Published by:

Shri. B. Sreekumar

Secretary,

MPEDA, Kochi - 36

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The Marine Products Export Development Authority

(Ministry of Commerce &. Industry, Govt. of India) MPEDA House, Panampilly Avenue, Kochi - 682 036.

Telephone: 91-484-2311979

Fax: 91-484-2313361

E-mail: mpeda@mpeda.nic.in Web: http://www.mpeda.com Vol. XX No. 11 November 2011

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MARKETING NEWS

Marine Products Export during April – September 2011 shows positive trend

Export of Marine Products during April - September of the fiscal year 2011-12 has registered a growth of 0.12% in quantity, 19.91% in rupee value and 23.01% in US\$ realisation compared to the same period last year. The unit value realization also improved by 22.87%. The details are given in the following table.

Major items of export

Frozen Shrimp continued to be the major export item accounting for 58.41% of the total US \$ earnings. Shrimp exports during the period increased by 19.34%, 32.90% and 36.74% in quantity, rupee value and US\$ value respectively. There is a considerable increase in unit value

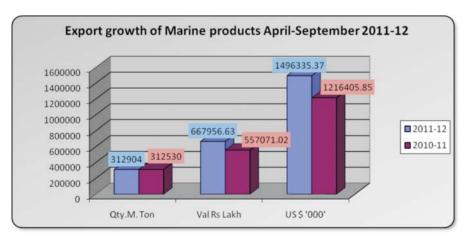
2.5%, 7.73% and 10.30% in volume, rupee value and US\$ value respectively. Export of Vannamei Shrimp during the period increased tremendously by 495%, 692% and 721% in quantity, rupee value and US\$ value respectively, compared to the same period last year.

Fish, the second largest export item in value term, accounted for a share of about 28% in quantity and 11.87% in US\$ earnings. Frozen Fish exports during the period increased by 5.95% in quantity, 14.14% in rupee value and 16.81% in US \$ earnings. Unit value realization also improved by 10.25%.

Frozen Squid and Cuttlefish exports decreased in quantity but showed an increase in value terms both in rupee as well as in US \$ term. Frozen Cuttlefish showed a decline of 6.18% in quantity and showed a growth of 15.25% and 18.49% in rupee value and US\$ realization. There is a considerable increase in the unit value realization (26.30%). Frozen Squid exports showed a decline of 2.36% in quantity and showed a growth of 28.20% and 31.37% in rupee value and US\$ realization. There is a considerable increase in the unit value realization (34.54%). Dried items exports declined by 51.96% in quantity 61.27% and 60.53% in rupee and US\$ value respectively. Similarly, the export of Live and Chilled items has also gone down when compared to same period last year.

Overall Exports during 2011-12 compared to 2010-11

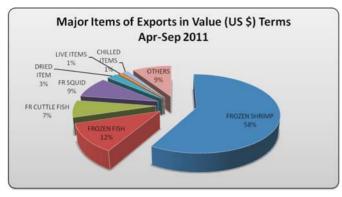
Export details	2011-12 (APR-SEP)	2010-11 (APR-SEP)	Growth %
Quantity Tonnes	312904	312530	0.12
Value Rs.crore	6679.57	5570.71	19.91
\$ Million	1496.34	1216.41	23.01
Unit value \$/kg.	4.78	3.89	22.87



There is considerable increase in export of Frozen Shrimp and Frozen Fish during the period. Increased production of Litopenaeus vannamei Shrimp mainly attributed for the increase in the export of Frozen Shrimp.

realization (14.58%) also. Export of Frozen Shrimp to USA has registered a growth of 47.19% in volume, 53.55% in rupee value and 58.74% in US\$ terms. Frozen Shrimp export to Japan also showed an increase of

MARKETING NEWS





Comparison of Item-wise Export of Marine Products during April - Sept. 2010 and 2011

(Q: Quantity in Tons, V: Value in Rs. Crores, \$: USD Million)

Item		Share%	April-Sept	April-Sept	Variation	%
			2011	2010		
FROZEN SHRIMP	Q:	29	91361	76554	14808	19.34
	V:	58.38	3899.30	2933.95	965.34	32.90
	\$:	58.41	873.93	639.10	234.83	36.74
	UV\$:	9.57	8.35	1.22	14.58	
FROZEN FISH	Q:	28	86513	81655	4857	5.95
	V:	11.90	794.89	696.43	98.46	14.14
	\$:	11.87	177.63	152.07	25.56	16.81
	UV\$:	2.05	1.86	0.19	10.25	
FR CUTTLE FISH	Q:	7	20558	21912	-1354	-6.18
	V:	7.12	475.73	412.76	62.96	15.25
	\$:	7.11	106.36	89.76	16.60	18.49
	UV\$:	5.17	4.10	1.08	26.30	
FR SQUID	Q:	13	39897	40861	-964	-2.36
	V:	8.77	585.63	456.82	128.81	28.20
	\$:	8.76	131.06	99.76	31.29	31.37
	UV\$:	3.28	2.44	0.84	34.54	
DRIED ITEM	Q:	5	16135	33585	-17451	-51.96
	V:	2.50	167.28	431.82	-264.53	-61.26
	\$:	2.51	37.59	95.23	-57.64	-60.53
	UV\$:	2.33	2.84	-0.51	-17.83	
LIVE ITEMS	Q:	1	1775	2650	-874	-32.98
	V:	0.87	58.41	66.57	-8.17	-12.27
	\$:	0.87	13.08	14.57	-1.49	-10.24
	UV\$:	7.37	5.50	1.87	33.98	
CHILLED ITEMS	Q:	3	8260	13741	-5481	-39.89
	V:	1.35	90.05	106.06	-16.01	-15.10
	\$:	1.35	20.23	23.10	-2.87	-12.43
	UV\$:	2.45	1.68	0.77	45.69	
OTHERS	Q:	15	48405	41571	6834	16.44
	V:	9.11	608.28	466.29	141.99	30.45
	\$:	9.12	136.45	102.81	33.65	32.73
	UV\$:	2.82	2.47	0.35	13.99	
TOTAL	Q:	100	312904	312530	375	0.12
	V:	100	6679.57	5570.71	1,108.86	19.91
	\$:	100	1496.34	1216.41	279.93	23.01
	UV\$:	4.78	3.89	0.89	22.87	
	l	l	l	<u> </u>		

Major export markets

European Union (EU) continued to be the largest market with a share of 23.82% in US \$ realization and 22.62% in quantity. Exports to EU have shown a growth of 9.81% in US\$ realization and 6.81% in rupee value However, there was a decline of 5.37% in quantity. USA regained the second place with a share of 23.30%, followed by South East Asia 20.12%, Japan 15.60%, China 4.98%, Middle East 3.95% and Other Countries 8.23%. Exports to USA registered a growth of 55.45% in US\$ realization and 41.26% in terms of quantity. Increase in export of Frozen Shrimp, especially Vannamei shrimp contributed to the growth. Export to Japan also registered a positive growth of 3.76% in quantity and 8.64% in US\$ term. South East Asian countries had also registered a positive growth of 21.67% in quantity and 84.21% in US\$ realization. Exports to China and Middle East have declined both in terms of quantity and rupee value.





Comparison of Market-wise Export of Marine Products during April - Sept. 2010 and 2011

Q: Quantity in Tons, V: Value in Rs. Crores, \$: USD Million

Item		Share%	April Sept	April-Sept	Variation	0/0
Item		Silaic /0	2011	2010	variation	70
Japan	Q:	12	37766	36399	1367	3.76
	V:	15.60	1042.08	978.96	63.12	6.45
	\$:	15.60	233.43	214.87	18.56	8.64
USA	Q:	11	35906	25418	10487	41.26
	V:	23.27	1554.52	1,032.76	521.76	50.52
	\$:	23.30	348.59	224.25	124.34	55.45
European Union	Q:	23	70793	74810	-4017	-5.37
	V:	23.80	1590.01	1,488.68	101.32	6.81
	\$:	23.82	356.38	324.54	31.84	9.81
China	Q:	7	21317	39402	-18085	-45.90
	V:	4.99	333.29	596.86	-263.57	-44.16
	\$:	4.98	74.55	130.68	-56.12	-42.95
South East Asia	Q:	31	98498	80958	17541	21.67
	V:	20.16	1346.84	746.74	600.10	80.36
	\$:	20.12	301.11	163.46	137.65	84.21
Middle East	Q:	4	13456	16399	-2943	-17.94
	V:	3.95	263.70	284.72	-21.02	-7.38
	\$:	3.95	59.17	62.13	-2.96	-4.77
Others	Q:	11	35168	39144	-3976	-10.16
	V:	8.22	549.13	441.99	107.15	24.24
	\$:	8.23	123.11	96.48	26.63	27.60
Total	Q:	100	312904	312530	375	0.12
	V:	100	6679.57	5570.71	1108.86	19.91
	\$:	100	1496.34	1216.41	279.93	23.01

ADVERTISE IN THE SPECIAL **JANUARY ISSUE OF MPEDA** NEWSLETTER TO BE RELEASED ON THE OCCASION OF IISS-2012

MPEDA in association with SEAI is organizing 18th India International Seafood Show (IISS 2012) during 29th Feb - 2nd March, 2012 at Chennai Trade Centre, Chennai. The event will showcase the infinite promise and potential of the Indian Export Industry. The 3-day event comprises an Exhibition showcasing various machinery/equipments/products in the seafood processing/packaging industry as well as a Technical Session, being handled by International Experts specialised in subject matters. More than 200 exhibitors and over 1000 national / international delegates are attending the event.

A special January 2012 issue of MPEDA Newsletter is being brought out on this occasion and copies of the same shall be widely circulated among the participants of IISS 2012. Seafood exporters/manufacturers of machinery and equipments/packaging industry/input suppliers etc. can avail this opportunity to release advertisements in the inside pages of the MPEDA News letter to popularize their products to a vide range of stakeholders.

A special rate exclusively for advertising in this issue is given below:

Inside full page (Colour) Rs. 3,000/-Inside half page (Colour) Rs. 1,500/-

- The matter for advertisement shall be provided by the advertiser in JPEG or PDF format.
- Print Area is 23 x 17.5 cm for full page and 11.5 x 17.5 cm OR 23 x 8.5 cm for half page

The payment could be sent by Demand Draft favouring 'Secretary, MPEDA' payable at Kochi, Kerala alongwith your artwork CD to:

Deputy Director (P&MP) & Editor, MPEDA Newsletter MPEDA House, Panampilly Avenue KOCHI - 682 036 Tel: +91-484-2321722 / 2311979 (Extn.: 400) Telefax: 91-484-2312812

> E-mail: rmohan@mpeda.nic.in / newslet@mpeda.nic.in

Shrimp Market Report - Japan

The frozen shrimp supply to Japan has declined from all major suppliers except India, which showed a positive growth of 1406.11 MT by quantity during April-October 2011. For Vietnam, the supply was less by 6979.68MT. Thailand - 630.43 MT and Indonesia -1572.83 MT.

During August - October 2011, India was the largest shrimp supplier in Japan. India lags just behind the major supplier, Thailand, by 1288.89 MT only in total shrimp supply to Japan during the year.

Recent surveys indicate that more number of Japanese house wives and single family have started self cooking and the sales of 21/25 Indian Vannamei is considered as the most popular and economic item by supermarkets.

To match the current trend, MPEDA proposes certain specific promotional programmes to promote the sales of Indian BT & Vannamei through supermarkets and restaurants so as to make India the no. 1 supplier of shrimp in Japanese market during 2011-12. The table below shows the comparative figures of shrimp procurement by Japan during April – October 2010 and that of 2011.

Comparison of shrimp procurement by Japan during April-Oct. 2010 and 2011

		Qty in MT	Value (1000) yen	Eq. million US \$ (1 US\$= Yen 0.012897)
Japan's total shrimp	April- October 2010	123,763.83	103,258,380	1331.72
imports from all sources	April- October 2011	118,595.33	100,651,613	1298.10
Variation		- 5,168.50	- 2,606,767	-33.62
Shrimp supplies by 4	April-October 2010	85,507.12	70,111,916	904.32
major suppliers to Japan	April - October 2011	77,730.29	58,660,000	756.54
Variation		-7,776.83	- 11,451,916	-147.70

Supplier-wise comparison of shrimp exports during April-October 2011 to Japan

(Qty in MT Value in 1000 yen)

	India		Vie	Vietnam		land
	Qty.	Value	Qty.	Value	Qty.	Value
April	1371.78	963,553	1,999.67	1,806,263	3,173.54	2,458,472
May	965.55	734,787	1,981.27	185,498	1,777.09	1,421,703
June	1,393.51	1,031,434	2,227.97	1,994,621	2,337.90	1,863,452
July	2,546.65	2,104,633	2,551.08	2,452,664	3,486.77	2,627,498
August	4,589.32	3,726,826	3,513.97	3,255,891	3,876.79	2,913,833
Sept	4,336.40	3,547,937	3,269.05	3,027,636	3,615.71	2,738,605
October	4,765.11	4,102,721	3,958.02	3,773,133	2,989.41	2,314,358
Total	19968.32	16,211,891	19,501.03	16,312,063	21,257.21	16,337,921

Comparison of Japan's total shrimp imports during April - Oct. 2010 and 2011



2/	2010		20	011
	Qty.	Value	Qty.	Value
April	16,605.77	13,705,137	14,806.69	11,957,796
May	13,066.58	11,062,730	11,837.11	9,587,707
June	14,913.85	12,511,220	13,976.46	12,193,389
July	18,558.52	15,548,593	16,213.27	14,082,518
August	20,414.56	17,258,255	20,214.30	17,475,192
Sept	19,101.73	15,311,945	19,586.28	16,317,131
October	21,102.82	17,860,500	21,961.22	19,037,880
Total	123,763.83	103,258,380	118,595.33	100,651,613



Compiled by: TPO, Tokyo



MPEDA participates in China Fisheries & Seafood Expo 2011, Qingdao

The 16th annual China Fisheries & Seafood Expo was held in International Convention Centre, Qingdao, China from 1st to 3rd November 2011.

Asia's largest seafood trade event, China Fisheries & Seafood Expo was declared open by the President of the agriculture sub branch of the China Council for the promotion of International Trade or the ATPC and the former Vice Minister of Agriculture. China's Vice Agriculture Minister Sir Dun, Vice Governor of Shandong Province Jia Wanzhi and Vice Mayor of Qingdao Zu Zhenxi attended the opening ceremony. The show was open to the visitors on all the three

days. Visitors flooded all the stalls on the first day, especially after the opening ceremony.

It is reported that China's increasingly insatiable appetite for seafood was never more apparent than at this year's record setting China Fisheries & Seafood Expo. More than 800 companies from 39 countries participated in the show. of 15,300 visitors attended, nearly a 50% increase from last year's show in Dalian. It registered an exhibition area of 420000 m². The first day saw 10,000 purchasers, traders and professionals from over 80 countries, largest one in terms of size and number of visitors. As a major fishing producer and trader, China's fisheries have registered a fast and steady development. Fisheries Expo has become a platform for production, trade and co-operation in this field. The increasing popularity of the Expo indicates China's influence on global seafood trade and the attractiveness of the Chinese market to the rest of the world.

Apart from leading seafood companies across the world, most equipment leading manufacturers like Baader, Marcela, Nishi etc. competed with Chinese manufacturers of grading machines, electronic scales, slicing machines, filleting machines, IQF freezers coating machines etc. for business.

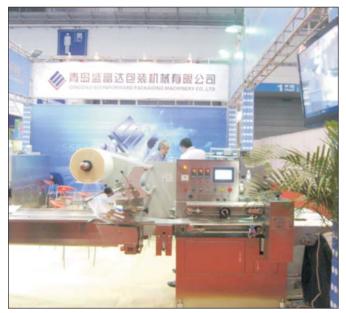


Shri P Mohanasundaram, Director, MPEDA interacts with visitors in MPEDA stand



Visitors in MPEDA stand having a close look at the products

MARKETING NEWS





Chile pavilion

Stall on machinery

Seminars were organized on topics like (1)The Sustainable Seafood Landscape (2) Global GAP (3) Challenges and opportunities unique to China (4) The markets for Organic seafood (5) 10 steps to import seafood into the USFDA Import procedure (6) Top 5 FDA mistakes Chinese Seafood Packers make (7) Sustainable fishing and aquaculture news (8) European Legislation and main Seafood treatment solutions.

MPEDA stall attracted more crowd. Shri P Mohanasundaram. Director and Mrs. Asha C. Parameswaran, Deputy Director organized MPEDA's participation in the event. There were three coparticipants who shared table spaces in the Indian stand. M/s. Sonia Fisheries and M/s. Gadre Marine Exports were the other Indian exhibitors.

Trade enquiries received from the

show are published in the 'Trade Enquiry' section of this issue of MPEDA Newsletter. China emerges as the most dynamic and promising seafood market in the world. Overall, given the market prospects, MPEDA had effectively showcased Indian Seafood industry in the show. The experience in this edition of annual China Fisheries & Seafood Expo provides for further large scale participation in future.



Mrs. Asha C Parameswaran, Deputy Director in MPEDA stand



Products displayed in MPEDA stand

India International Seafood Show - 2012: Tremendous response to Exhibitor & Delegate Registration

The registration of exhibitors and delegates for the 18th India International Seafood Show (IISS) at Chennai Trade Centre, Chennai, Tamil Nadu from 29th February to 2nd March 2012 jointly organized by the Marine Products Export Development Authority (MPEDA) and Seafood Exporters Association of India (SEAI) is in full swing. Nearly 100 stalls were booked by Indian and overseas exhibitors availing the 20% early bird discounted rate that was valid upto 30th November 2011. The early bird offer with 10% discount for registration of stalls and delegates is open upto 31st December 2011.

The India International Seafood Show-2012 comes at a time when the Marine Products Export Development Authority (MPEDA), the nodal agency of Government of India for marine products export and the Seafood Exporters Association of India (SEAI), which represents all the seafood exporters of India, celebrate their 40th year of service to the sector.

India International Seafood Show, one of the largest seafood fairs in Asia is a biennial event which provides a common forum for the seafood processors, exporters, importers, processing machinery/ equipment manufacturers, suppliers of inputs, other allied industries, investors, bankers, technicians, and technocrats from processing plants and quality control departments, policy makers from State and Central Government, Fishery Institutions, Research Organisations, trade promotion bodies, and shipping lines to interact.

More than 1000 delegates are expected to be a part of the event.

Technical sessions being arranged in conjunction with the Show has been finalized. There is an overwhelming response to participate in the Show from China, Japan and South East Asia besides exhibitors from USA and Europe. There are sponsorship opportunities also for the Show as detailed in the Show website. The presentation area in the Exhibition Hall is also available for 30-minute and 1-hour time slots for companies to make marketing presentations and



demonstrations on their products and services. The call for advertisements in Show catalogue and Show souvenir also evoked a tremendous response.

Stall / Delegate registration fee

Stall (3m	x 3m)	Deleg	ate	Registered Members of MPEDA or SEAI	
Indian Rs.	Overseas \$	Indian Rs.	Overseas \$	Stall Rs.	Delegates Rs.
75000	1750	10000	250	50000	6000

Early bird scheme

	Stall (3	3m x 3m) Delega		egate	_	l Members A or SEAI
	Indian Rs.	Overseas \$	Indian Rs.	Overseas \$	Stall Rs.	Delegates Rs.
1 st Dec to 31 st Dec 2011 (less 10%)	67500	1575	9000	225	45000	5400

ADVERTISEMENT TARIFF -SOUVENIR / FAIR CATALOGUE

Page (all in colour)	Domestic (Rs.)	Overseas (US \$)
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Front inside cover	40000	1000
Back inside cover	40000	1000
Divider page	35000	850
Regular inside page	10000	250

FOCUS AREA

Chairman, MPEDA visits Saurashtra Region of Gujarat

Ms Leena Nair IAS, Chairman, MPEDA visited to Saurashtra region of Gujarat from 30th November to 1st December 2011. Chairman observed the conditions of fishing harbours at Veraval, Mangrol and Porbandar and held discussions with the officials of State Fisheries department, representatives of SEAI-Gujarat and boat owners.

She has also attended a meeting with Mr. P. B. Patani IAS, Commissioner of Fisheries, which was also attended by officials from Gujarat Maritime Board, other officials of Gujarat State Fisheries Department alongwith officers from MPEDA RO, Veraval. During the meeting various aspects related to the development of Veraval fishing harbour were deliberated upon. Apart from that, other issues such as aquaculture development in the sate, fishing boat registration, satellite harbours etc. were also discussed in detail.



Chairman, MPEDA meets Boat Owners Association at Veraval



Chairman, MPEDA in a meeting with representatives of SEAI, Gujarat region



Chairman, MPEDA listens to a representative in Mangrol fishing harbour

Chairman, MPEDA had separate meetings with members of fishing boat owners association and seafood exporters of Veraval region, wherein Chairman assured them all possible help from MPEDA in solving their problems. She has also put forth certain suggestions for the overall improvement of the cold chain and on basic amenities at the harbour for the fishermen.

While visiting Mangrol fishing harbour, Chairman met the fishermen and their representatives and discussed various issues related to their welfare and for the overall development of the harbour. After the harbour visit, Chairman also visited the office of the Superintendent of Fisheries, Mangrol harbour and inspected the catch certification system of MPEDA at the harbour.

Chairman after visiting the Porbandar fishing harbour, had a meeting with the fishermen and boat owners of the area. The suggestions putforth and the grievances of the fishermen were discussed in detail and necessary instructions were given to the concerned officials to sort out the 1881168



Chairman, MPEDA at a meeting in Porbandar fishing harbour

Awareness Programmes on Ornamental Fish Culture in Himachal Pradesh

In order to sensitize the people of hilly region towards the potential of ornamental fish sector in trade and employment generation, the Marine Product Export Development Authority (MPEDA) organized three one-day awareness programmes on ornamental fish breeding and culture for the fish farmers and entrepreneurs of Himachal Pradesh. The programs were conducted successively at Kunihar, Nalagarh and Baddi places of Solan district during October 2011. It was the first in the series of such programmes for awareness on ornamental fish schemes conducted across Himachal Pradesh by MPEDA during 2011. The department of fisheries, Himachal Pradesh extended their whole hearted support to the programmes. The objective of the programmes were to create a general awareness about the ornamental fish sector, its present scenario at international and national levels as well as to encourage farmers and unemployed youths to adopt ornamental fish farming as a source for economic upliftment. It was also the objective to appraise the participants about the MPEDA assistance schemes



Assistant Director, Fisheries Division, Solan delivering inaugural address at Kunihar

for setting up of Ornamental Fish Breeding Units (OFBU). programme evoked considerable interest among the farmers. More than 30 participants representing different villages consisted fisher folks, women, village leaders and students attended each programme.

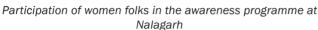
Mr. Tapesh Chauhan, Assistant Director, Department of Fisheries, Solan Division attended the programmes as a resource person. During his inaugural lectures he explained the objective of the ornamental fish breeding programme



Participants at the awareness programme at Kunihar

FOCUS AREA







Awareness programme conducted at Baddi

initiated by the MPEDA. He also highlighted the ornamental fish culture, breeding and trade aspects. Dr. Ajay Pandey, Programme Manager (OFD), MPEDA explained the prospects of ornamental fish sector in generating the employment and assistance schemes offered by MPEDA in ornamental fish.

Literature in Hindi presenting the

information on the ornamental fishes, their culture and breeding practices, MPEDA schemes etc. were distributed to the participants. The attendees actively participated in the interactive sessions, presenting the problems they would encounter in availing the schemes for their benefit. The general queries were related to the lack of technical exposure in the area besides

other issues including marketing, availability of livestocks and other raw materials. The awareness programs in district Solan, achieved the target of generating interest in the farmer folks about ornamental fish sector. Participants realized that they can adopt the OBFU schemes as a source of employment and income generation.

	Price List of MPEDA Publications / Periodical	ls
	PERIODICALS	Annual Subscription (Rs.)
1. 2.	PRIME Weekly (Price Indicator for Marine Products) MPEDA Newsletter	350.00 300.00
	PUBLICATIONS	Price Per copy (Postage extra)
3.	Chart on Commercial Fishes of India	75.00
4.	Chart on Ornamental Fishes of India	75.00
5.	MPEDA Act, Rules & Regulations	25.00
6.	Statistics of Marine Products 2008	350.00
7.	Seafood Delicacies from India	100.00
8.	Indian Fishery Hand Book	250.00
9.	Product Catalogue	150.00
10.	Handbook on Ornamental Fish Diseases	50.00
11.	Water Quality in the Ornamental Aquatic Industry - Serial 1	125.00
12.	International Transport of Live Fish in the Ornamental Aquatic industry Serial - 2	125.00
13.	Live Food Culture for the Ornamental Aquatic Industry - Serial 3	125.00
14.	Biosecurity in the Ornamental Aquatic Industry - Serial 4	125.00
15.	Ornamental Fish Breeders / Traders Directory	25.00
16.	Guidelines - Green Certifications of Fresh Water Ornamental Fishes	100.00
17.	Directory of Exporters of Marine Products	75.00
18.	Directory of Exporters of Marine Products CD	30.00

Etroplus canarensis - A rare Asian Cichlid

(Family-Cichlidae Sub Family- Etroplinae)

Etroplus canarensis, commonly known as Banded Chromide, is one of the rarest species having high demand among the ornamental fish hobbyists. It is an expensive fish in the ornamental fish industry. This fish is endemic to parts of India and one of the Cichlid species known from Asia. It is known only from the two river systems of South Canara district of Karnataka, and lives solely in fresh water. It can grow up to a length of 20 cm in natural water bodies. There are no visible differences between the sexes. It is a substrate spawner and lives in a temperature range of 22-26°C and at a pH of 6.5-7.0.

In tanks, the species can be maintained in small groups. Some cover like piles of bogwood or smooth rocks has to be provided in the tanks. Water should be well oxygenated as this is a riverine species. It accepts most live, frozen, dried foods, but is mostly vegetarian during the adult stage. It is a very placid and









can be kept with many other species such as barbs, rasboras, danios and loaches.

Unmanaged collection for the aquarium hobby is one of the major threats to E. canarensis. Indiscriminate collections can possibly wipe out the species, since the populations are restricted to two locations. Captive

breeding has not been reported from India. Attempts have to be made by scientists / academicians to develop captive commercially viable breeding technology for E. canarensis, which would add the prospects of this species in the ornamental fish trade.

Contributed by: Dr. Ansar Ali, Asst. Director (OFD), MPEDA

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QUALITY FRONT

4-Day Training Programme on Seafood HACCP (Basic) Held at, Kollam

MPEDA, SRO, Kollam has a four-day training organised programme on Seafood HACCP (Basic) from 18th -21st October 2011 at 'The Beach Orchid' hotel, Kollam for benefit of the seafood processing technologists in the region. 24 technologists working in different seafood processing establishments in the region participated in the training programme.

The Programme was inaugurated by Shri K R Narayana Pillai, Deputy Director, Export Inspection Agency, Kollam on the 18th Oct, 2011 at 09.30 am. In his inaugural address, he emphasized on the importance of implementing HACCP to ensure safety of the seafood products exported from the country. Highlighting the instances of the rejection of Indian seafood products, he stressed the need for ensuring products free from bacterial contamination and residues of antibiotics, heavy metals and pesticides. He appreciated the efforts of MPEDA for organizing such training programmes for the benefit of the seafood industry.

In his special address to the participants, Shri. K. Sasidharan Nair, Assistant Director (QC), and chief faculty of the HACCP Cell of MPEDA pointed out the observations made by the overseas regulatory authorities during their visits to India and urged the need on the preventive strategies to be adopted by the seafood industry towards ensuring food safety, specifically in the primary production



Shri K R Narayanapillai, Deputy Director, EIA delivering the inaugural address. Shri K Sasidharan Nair, AD (QC) and Smt. R Vijayalekshmy, DD, SRO Kollam are also seen.

Earlier Smt. R. Vijayalekshmy, Deputy Director, MPEDA, Kollam welcomed the gathering and

emphasized on the importance of implementation of HACCP in seafood processing establishments.



A view of the session by Shri S S Shaji, Asst. Director (QC)

QUALITY FRONT

Shri. S.S. Shaji, Assistant Director, (QC) and Shri. V. Vinod, Technical Officer (QC), were the other faculty members of the HACCP Cell who handled various sessions during the four day training programme and the team covered theoretical sessions on Current Good Manufacturing Practices, Sanitation Standard Operating Procedures, Principles of HACCP, and development of HACCP Plan Form, US Seafood Regulations, Traceability, EU and National Regulations apart from the Work Sessions on HACCP Manual preparation.

The Programme was concluded with a valedictory function held on 21st October 2011. The function was chaired by Shri K.N. Vimal Kumar, Course Director & Joint Director (QC). Upon reviewing the feedback from the participants, he appreciated their active participation in the programme and advised them to take maximum advantage from such trainings and the study materials provided. He distributed the course certificates to the participants who completed the training programme.



A view of the valedictory function

Molecular Tools for identification of non-culturable Bacteria in food

Abhilash EC, MPEDA, Kochi

Food borne illnesses are caused by eating food or drinking beverages contaminated with bacteria, parasites, or viruses. Harmful chemicals can also cause foodborne illnesses if they have contaminated food during harvesting or processing. Harmful bacteria are the most common cause of foodborne illnesses. Some bacteria may be present in food when they are purchased. Raw foods are the most common source of foodborne illnesses as they are not sterile. Seafood may become contaminated during harvest or while processing. Controlling the bacteria in seafood is the most important part in processing. Determination of bacterial viability in seafood is a complex issue. Traditionally the detection of microbial pathogens in clinical, environmental or food samples commonly needed the

pre-elevation of cells by culture before the application of the detection strategy. This is done to increase cell number thereby overcoming problems associated with the sensitivity of classical detection strategies. Conventionally, plate counting in culture media has been the method of choice for viability assays. But there are obvious disadvantages though it is important to detect the bacteria when it is in the "viable but non culturable" (VBNC) state.

VBNC state of bacteria means the state of bacteria that cannot be cultured in routine media, but is alive and metabolically active. Many bacteria including some pathogens can enter this state and maintain virulence or pathogenicity. Non culturable cells of some pathogenic bacteria can repair

themselves, proliferate and cause disease. A number of factors induce the VBNC state, including starvation, which is probably the most predominant factor for most of the bacteria studied, temperature, NaCl concentration and visible light. The conditions shown to induce nonculturability differ according to the organism. Some microbiologists and hygienists have drawn attention to this phenomenon because the VBNC state has been described in a number of pathogens including Salmonella, V. vulnificus, Campylobacter jejuni, Legionella pneumophila. Some specialized hygienists therefore emphasize the risk presented by pathogenic bacteria in the VBNC state, which cannot be detected by standard analysis procedures usually used in control laboratories, and some

QUALITY FRONT

of them consider this state to be a public health risk. In this case, a laboratory is using only the conventional microbiological methods that lab can detect only the culturable bacteria. But presence of bacteria will remain when it is in the VBNC stage and that may be detected further in any other laboratories and cause a controversy in the results. Compared to other organisms, V.vulnificus and C. jejuni hardly ever detected in raw seafood. However, it is important to identify such pathogens in seafood before processing.

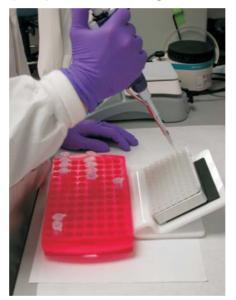
Molecular methods can only be used for the identification and the results will be rapid and accurate. Two major methods are being used for detecting the VBNC bacteria in various food and water samples. Polymerase chain reaction (PCR) is one of the most common methods to identify the bacteria directly in the seafood and the Fluorescent in situ hybridization (FISH) is another outstanding method for using the detection of bacteria. These methods are useful to identify the bacteria when it is in the VBNC stage in the seafood.

The basic PCR principle is simple. As the name indicates, it is a chain reaction. One DNA molecule is used to produce two copies, then four, then eight and so forth. This continuous doubling is accomplished by specific proteins known as polymerases, enzymes that are able to string together individual DNA building blocks to form long molecular strands. To do their job polymerases require a supply of DNA building blocks, i.e. the nucleotides consisting of the four bases adenine (A), thymine (T), cytosine (C) and guanine (G). They also need a small fragment of DNA, known as the primer, to which they attach the building blocks as well as a longer DNA molecule to serve as a template

for constructing the new strand. If these three ingredients are supplied, the enzymes will construct exact copies of the templates. The reproduced DNA strands can be detected by using agrose gel and the identification will be carried out by comparing the molecular weight of DNA marker as well as a positive control. PCR technique is common and time consuming when compare to other identification tools.

Identification of bacteria by PCR

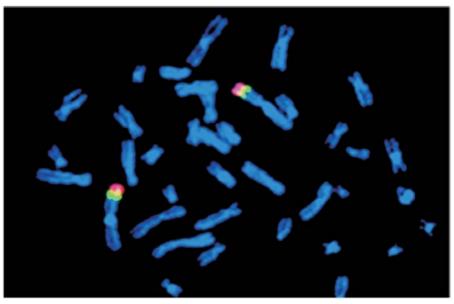
Fluorescent in situ hybridization (FISH) uses fluorescent probes that



bind to only those parts of the chromosome with which they show a high degree of sequence complementarily. Fluorescence microscopy can be used to find out where the fluorescent probe bound to the chromosomes. FISH is often used for finding specific features in DNA for use in genetic counseling, medicine, and species identification. Specialty of the technique is which will give the exact confirmation within the short period.

Chromosomes hybridized by FISH

Traditionally, the detection and diagnostic techniques for food pathogenic bacteria have been microscopical observation, isolation, biochemical characterization, serology (mainly through immunofluorescence and Enzyme-Linked Immunosorbent Assay (ELISA) using polyclonal and/ or monoclonal antibodies), bioassays and pathogenicity tests. But the molecular tools like PCR and FISH etc. will make the identification perfect and authentic especially in the case of VBNC. In fact, such techniques will be helpful the direct identification of pathogenic bacteria even if it is in VBNC stage.



AQUACULTURE SCENE

MPEDA initiates short-term international training on vannamei breeding and farming at Nellore and **Surat**







Dr. Matthew Briggs, International Expert on L. vannamei taking classes

The Marine Products Export Development Authority (MPEDA) has initiated a short-term international training programme on Litopenaeus vannamei breeding and farming for the officials of MPEDA, RGCA, NaCSA and farmers of Nellore, Andhra Pradesh and Surat, Gujarat. The MPEDA, RGCA and NaCSA officials along with farmers from the above States attended the training held at Nellore and Surat during October 2011. The programme was mentored by Dr. Matthew Briggs, international expert in L.vannamei who tutored exhaustively on the new

developments in the breeding and farming technology of the species. The training also included a presentation by Dr. Suil Kadri of AQIS, Australia on Acoustics

software system for feeding shrimps. Visit to the farm of M/s. Zeal Aqua Private Limited at Bhagwa, Surat, run by a group of 20 farmers also was undertaken.



Trainees in the farm with the expert



L. vannamei farm at Zeal Aqua limited at Surat with Biofloc filled ponds, aerators and air injectors



Harvested L.vannamei

AQUACULTURE SCENE

Inter-State Study Tour organised by the Regional Centre (Aqua), Bhubaneswar to Andhra Pradesh

Scampi culture is picking up and is being adopted by the farmers in coastal & inland areas in Odisha. This Centre is promoting scampi for export production establishment of scampi hatcheries in the State in different suitable areas. Around 1000 Ha area have been brought under scampi culture in different cluster in coastal and inland areas. Besides, poly-culture of scampi is also practised in the village tanks, large water bodies, reservoirs, fish ponds etc. Apart from Training Programmes, Awareness Campaigns on scampi culture etc. Regional Centre (Aqua) organizes Inter State Study Tour for scampi farmers every year to Andhra Pradesh to expose the prospective farmers to the scampi farming activity and interact with their counterparts in Andhra Pradesh.

During the current year, the exposure trip was organised to Bhimavaram and Vijayawada to gain knowledge on scientific farming practices of scampi and other fin fishes and to update information on the subject. The trip was organized during mid- November 2011 for the benefit of 08 scampi/shrimp farmers/prospective farmers of the State. The farmers visited different farms of scampi, milkfish, *L. vannamei*, crab fattening systems, hatcheries, feed mills, MPEDA Quality Control Laboratory in Bhimavaram.

The farmers witnessed the broadcast of Pangasius fish feed at the demo farm of M/s Uno Feeds. The farmers also got an opportunity to see the exotic species of *Piractus*





Farmers interacting with Technical Staff of QC lab, Bhimavaram

branchipomos (Roop Chand) at the farm. The farmers also visited the scampi and tilapia brood stock

development project of RGCA at Manikonda and saw different progeny/ strains of scampi, GIFT tilapia &



Farmers at the scampi farm at Bhimavaram during the study tour



Prof. K Gopal Rao, Aquaculture Advisor, M/s. Uno Feeds Ltd explains the culture practices of Pangasius at demo pond

AQUACULTURE SCENE



Members of interstate study team





GIFT Tilapia facility at RGCA



Farmed Pangasius

breeding unit of tilapia at the RGCA facility.

The study tour could enable the farmers to follow the development of recent techniques in scampi farming; scampi seed production, formulated

floating feed, development of all male tilapia etc. A group discussion was conducted for the farmers on the concluding day where further queries were answered. The farmers appreciated the programme which was informative and useful for them. They were confident to implement the improved culture practice in their respective farms in near future for higher production of scampi & other fin fish.

RC (Aqua), Vijayawada, SRC (Aqua), Bhimavaram and RGCA, Vijayawada extended their full cooperation by sparing technical/field staff to visit the farms, hatcheries, feed mills etc.

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Marine and fish industry to reach Rs 68K crore by 2015: Assocham

KOLKATA: Industry body Assocham has said that the marine and fish industry in India is expected to touch a figure of 68k by 2015. It said that growing at a compound annual growth rate (CAGR) of about 7% India's marine and fish industry is likely to reach Rs 67,800 crore by 2015 from the current level of nearly Rs 53,000 crore.

The processed segment comprises of about Rs 8,000 crore which is over 15% of total size of the domestic marine and fish industry, according to a study titled 'Indian Marine & Fish Industry' released by Assocham on Wednesday. The fish production in India is likely to cross 12 million tonne by 2015 from the current level of about 9.3 million tonnes.

Captured fish accounts for about 65% of total fish production, while aquaculture accounts for over 30% of annual fish production, said the study.

India is the second largest fish producer in the world after China and accounts for nearly 6% of global fish production. "Over 8,000 kilometers of coastline, 4 million hectares of reservoirs, 2 million hectares of brackish water and nearly 51,000 square kilometers of continental shelf area offers a plethora of opportunities for the growth of marine and fish industry of India," said Mr D.S. Rawat, Secretary General of Assocham while releasing the findings of the study.

"India's substantial fishery resources are under-utilised and there is tremendous potential to further increase the output," said Mr Rawat. "There is a huge scope for investments in packaged marine processing plant, operations in preservation, processing and export of coastal fish for the private sector as it holds vast, untapped marine resources with a great export potential."

Nearly 30% of marine and fish produced domestically is exported annually. Processing of fish into canned and frozen forms is carried out almost entirely for the export market.

The export earnings in 2010-11 reached nearly 3 billion dollars (about Rs 15,000 crore), recording a growth of about 20% compared to the previous year. Vannamei shrimp, black tiger shrimp, cuttlefish, lobster, clams, fish fillets and squid are certain products that provide opportunities for export of marine items from India.

The seafood exports from India are likely to touch 4.7 billion dollars (about Rs 23,500 crore) by 2013 from 2.8 billion dollars (about Rs 14,000 crore) in 2010-11 through value addition, expansion of aquaculture, technological upgradation and by tapping unexplored resources, according to an Assocham study titled 'Indian Seafood Exports Market: 2014.'

The units in the fish processing sector are largely small scale proprietary, partnership firms and fishermen co-operatives. There has been spectacular growth in the



marine fisheries sector due to well developed harvest and post harvest infrastructure and increased demand for seafood both in the domestic and export markets, said Assocham.

There is scope for developing technology for value addition and infrastructure for exports in the form of marine products based food parks through public private partnership. Besides, there is an increased demand for processed and ready-to-eat marine products in the domestic market and as such Assocham suggests the government to encourage foreign investment in infrastructure for distribution and storage.

Andhra Pradesh, Gujarat, Karnataka, Kerela, Maharashtra, Odisha, Tamil Nadu and West Bengal are certain key states that have huge potential to enhance India's seafood export potential.

-ET Bureau

Two fresh water fish species in **Western Ghats**

Fresh studies carried out by Ichthyologists have revealed that two fresh water fish species endemic to the Western Ghats are on the verge of extinction. Species, Hemibagrus and Barbodes Punctatus Wynaadensis have been enlisted as critically endangered by the International Union conservation of Nature (IUCN) in its fresh redlist of species published on November 10, 2011.

Earlier, two fish species -Puntius pookodensis, endemic to Pookode lake in Wayanad and Horalabiosa Arunachalami found at Panniyar stream in Santhamparai in the Idukki district — was listed as critically endangered by the International conservation group in its redlist on freshwater biodiversity published in September this year.

According Shaji P P, Principal Officer Scientific KSBB. environmental conditions are threatening the existance of these species. "They are also facing large scale exploitation in its habitat. The present data show that more and more efforts are needed to save these precious species," he said.

Two fresh fresh water fish species — Hemibagrus punctatus and Barbodes wynaadensis included in new critically endangered list has been endemic to Kerala, Tamil Nadu and Karnataka. Hemibagrus punctatus known from three locations from the western ghats has not been recorded since late 1990s.

Express News Service

Farmers raise doubts over Kuttanad package



Apprehensions have been raised by many farmers on the way the Rs 1,850-crore Kuttanad package recommended by the Dr M.S. Swaminathan Research Foundation (MSSRF) is being implemented; it will not achieve the desired results and also might cause irreparable damage to the entire system, they feel.

The package aimed at 'Mitigating Agrarian Distress in Alappuzha and Kuttanad Wetland Ecosystem,' will destroy the environment and ecology of Kuttanad and inflict severe damage to the midland and highlands of the State from where huge volumes of granite would be quarried for the construction of bunds.

The package was approved by the Central Cabinet on July 24, 2008, and directed the concerned ministries to implement the components relevant to the respective departments. But its implementation now appears to be without direction and is departing from the recommendations of the MSSRF, Father Thomas Peeliyanickal,

Executive Director, Kuttanad Vikasana Samithi (KVS), alleged.

"Nearly 12 Government departments are concerned with the implementation of the package and each has started proposing its projects without any coordination among all those involved and as a result it has become almost like the description of an elephant by a blind person after touching pachyderm," Father Thomas told Business Line on Friday.

Main tasks

The main tasks recommended in the package are: (1) protection and ecological restoration of the water spread area; (2) measures for salinity and flood management in Kuttanad; (3) measures for pollution control; (4) total elimination of aquatic weeds; (5) measures for augmenting biodiversity in the backwaters; (6) improving health and sanitation; (7) declaring Kuttanad a Special Agricultural Zone; (8) provide infrastructure support to paddy cultivation; (9) enforce crop calendar; (10) strengthening of research and

extension; (11) strengthening economic viability of farming; (12) coconut-based enterprises and integrated farming; (13) actions to promote fishery wealth of Vembanadu kayal (lake); (14) promoting fish infrastructure and (15) infrastructure support to facilitate responsible tourism (under water tourism and local ecology).

For providing infrastructure support to paddy cultivation in Alappuzha, Kottayam and Pathanamthitta districts consistently under threat of threats, the MSSRF's project to construct outer bunds has an estimated expenditure of Rs 836 crore.

Of late, against this recommendation, the State Government is said to have submitted a Rs 3,500 crore project for constructing the outer bunds covering more area. The outer bunds on a stretch of 4,000 km if constructed with granite boulders as proposed, would require 250 lakh tonnes of granite.

"Dumping of granite boulders here would apart from destroying the ecological balance of Kuttanad, equally affect negatively the environmental and ecological balance of the area from where it will be quarried," environmental experts claimed.

In the name of development Kuttanad has been subjected to indiscriminate human interventions. Criss-cross roads have come up in the State's granary by reclaiming paddy fields and canals. Added to these are multi-storey buildings for business and residential purposes. Thus, the carrying capacity of Kuttanad has already reached its acme. Therefore, the attempt to dump several lakh tonnes of granite boulders and concrete pile and slabs in this fragile area would have serious ecological and environmental impact.

Holistic approach needed

Given this scenario, there should be a holistic approach. Instead of using granite boulders, the use of natural vegetation, along with clay, has to be explored. Geo-textiles, growing vetivars, grass and other suitable vegetations on clay bunds would help conserve the ecology of the wetland system of Kuttanad, Father Thomas said.

The 'Rani,' and 'Chithira' kayal, taken over by the State and lying unused for about 35 years, are included in the package to use them for paddy cultivation. For this purpose, it is proposed to construct outer bunds at a cost of Rs 24 crore under the package.

Surprisingly, the real estate mafia is alleged to have bought around 75

per cent of the 'Rani kayal,' Father Thomas said.

Ignoring the laws enacted in 2008 to protect the State's paddy fields and wetland systems, the 'Metran kayal' covering an area of 517 acres, has been allegedly bought by a private company for Rs 15 lakh an acre. It was hitherto being used for the cultivation of paddy. Now the entire area is proposed to be reclaimed for developing as a major township. Another 300 acres from the MN Block, covering an area of 1,000 acres, has also been sold. Negotiations are underway for the sale of nearby 'Maran kayal' at Rs 9 lakh an acre, while 30 acres of the Marthandam kayal have already been left aside for reclamation, he said.

-Hindu Business Line

Fishing ban upsets fishermen in Orissa

Wildlife in India is facing a losing battle. The Orissa government's decision to impose a seven-monthlong ban on fishing activity in the Gahirmatha marine sanctuary in lieu of the mass nesting of the Olive Ridley sea turtles has upset the fishermen living in this coastal belt.

The ban, an annual feature, was clamped in accordance with the provisions of the Orissa Marine Fishing Regulation Act (OMFRA) 1982 and the Wildlife Protection Act of 1972.

Forest officers of this area have pointed out that the safety of these turtles can be ensured only if the prohibitory orders are strictly enforced. Trawl operators have also been warned not to venture in this prohibited water zone.

Last year, more than 100 trawlers Fisherm and their crew were arrested for claimed. violating these prohibitory orders.

Fishermen are demanding they be given a temporary permit to catch fish on a once-a-week basis. It was keeping their livelihood issues in mind that the World Bank-funded Integrated Coastal Zone Management Programme (ICZMP) was taken up to provide alternate livelihoods for the affected fishermen community.

"We have planned to cover all fishermen families under the alternate livelihood scheme to compensate the community's monetary loss due to ban," assistant-director, fisheries, Rabi Narayan Patnaik pointed out.

The Olive Ridley turtles are being killed largely

by the trawlers who use monofilament nets that lead to the entangling of the turtles, Tushar Sardar, district president of Traditional Marine Last year, more than 100 trawlers their crew were arrested for

Asianage.com

Thailand floods open doors of opportunity for Indian seafood exporters

Massive floods in Thailand have opened doors of opportunity for countries such as India with regard to export of seafoods, this year. This was informed to FnB News by one of the officials from the Marine Products Export Development Authority (MPEDA) in a chat over telephone.

"Floods have not much affected the exports even in Thailand and India being one of the largest exporters of Black Tiger Shrimps fortunately has remained unaffected from this," Premdey, project manager, MPEDA, said.

Echoing a similar view, Shailesh Patnaik, manager, seafood exports, Falcon Marine Exports, one of the leading seafood exporters in Bhubaneshwar, said, "Thailand being one of the largest seafood producers



and exporters of fishes has not been much affected by the floods, albeit in some of the low lying areas the aquaculture has been affected."

He said that India basically exported its seafoods such as shrimps to countries like USA, Europe and

Japan and with the season coming to an end, the impact of floods would likely be felt later in the seafood industry in India. He informed that the current prices of shrimps have already registered a record high this year.

finbnews.com

Seafood industry likely to get agriculture status

The Union government is considering granting agriculture status to the seafood industry, including aquaculture. This old demand of the seafood industry is expected to be fulfilled soon, according to sources. The proposal is now under consideration of the ministry of agriculture.

The seafood sector has an industry status and is under the control of the ministry of commerce.

Since fish farming is a fast growing business and similar to agriculture activities, the Seafood Exporters Association of India (SEAI) has been pressing this demand for quiet some time.

"The agri status will benefit the industry in a multifaceted ways," said

Ravi Reddy, president, The SEAI. fish production sector, especially aquaculture farms, are not getting sufficient loans from financial institutions. Once the status is granted, loans at lower interest rates will be easy and will benefit thousands of aquaculture farmers.

Because of inadequate finance and high risk in the production, insurance is also not provided to this sector. A majority of the aquaculture farms in the country are not yet insured, he added.

Also, power will be provided at lower rates, as in the case of farming. For the sea fishing sector, diesel might



be available at subsidised rates for mechanised boats.

The country produced 145,600 tonnes of products through aquaculture yearly valued at Rs 3,585 crore in 2010-11.

Production increased 39.7 per cent as against 41,381 tonnes valued at Rs 1,054 crore in 2009-10.

Business Standard

Fisheries institute detects deep sea squids in Arabian Sea

Detection of abundant deep sea squids in the central Arabian Sea by the Central Marine Fisheries Research Institute (CMFRI), Kochi has opened up new opportunities to export these high value seafood delicacies on a larger scale.

Using funds from the World Bank aided National Agricultural Innovation Project (NAIP), Dr K. Sunil Mohamed of CMFRI and his team have been able to map the abundance of this largely unexploited deep sea squid which inhabits depths ranging between 1000 and 4000 meters in the central Arabian Sea.

According to Dr Mohamed, the concentration of this species is on an average five tonnes a square km, and in some areas during the postmonsoon season, as much as 90 tonnes a square km. Because of its abundance and dominance in a major part of the Arabian Sea, these squids are called the 'Master of the Arabian Sea'.

Through repeated trials in the Arabian Sea for over a year, Dr Mohamed and his team have standardised specialised techniques for its capture called squid jigging. Using micro-processor controlled automatic squid jigging machines and powerful metal halide lamps, these squids are first attracted to the surface during night and then the colourful and barbless jigs are lowered and raised serially in a jigging motion to capture squids. Other fishing methods such as gillnetting and purse seining have also been successful for capture of these squids.

Consortium partners of CMFRI in the project, the National Institute



Purpleback Flying Squid

of Fisheries Post Harvest Technology and Training (NIFPHATT), Kochi have developed ready-to-eat and ready-to-cook products from these squids which have passed through domestic trials successfully. Considering the high demand and prices for oceanic squids in the international market, there is great scope for exploiting this resource on a massive scale, Dr Mohamed said.

In recent times, Indian seafood exports have been witnessing steady growth in value terms, though in volume terms the growth has been tardy. Added to this, almost 75 per cent of the seafood processing plants in the country have idle capacity during the lean season. It is in this context the news about the abundance of this untapped marine resource, the oceanic flying squids (*Sthenoteuthis oualaniensis*), in the Arabian Sea assumes added importance.

The Hindu Business Line

The Role Of NGOs In Sustainable Fisheries

The growing influence of non-governmental organisations (NGOs) in the seafood industry means that they now play a central role in setting standards for sustainable fisheries. In a new study, researchers used the Dutch Good Fish Guide to illustrate how NGOs can efficiently engage consumers, industry, fishermen and government.

In the seafood industry, NGOs aim to influence policy by informing consumers about sustainability issues,

often through awareness campaigns, boycotts, certification schemes and product guides. These are market-based tools that bypass the conventional political process in favour of directly influencing behaviours and the market.

However, there is little evidence that NGO market-based tools directly influence which species are caught – a form of 'vertical pressure'. Using the Dutch *Vismijzer* (*Good Fish Guide*) as a case study, the researchers explain how

'horizontal pressure' exerted by NGOs could be more important. This refers to improving the level of communication and social interaction between different stakeholders, particularly NGOs and fishermen in this case, who may have conflicting priorities.

The *Vismijzer* was set up in 2004 by the North Sea Foundation (NSF) to independently assess stocks of the most popular commercial fish species. In the new study, the researchers explore the growth and development of the *Vismijzer* from 2004-2009 using 10 interviews with fishermen, three NGOs, the Dutch Fish Product Board and the fisheries management authorities within the Ministry of Agriculture, Nature and Food Quality. They also analysed related Dutch Parliamentary documents and articles in local and national newspapers.

The primary consumer tool produced by the *Viswijzer* is a small wallet-sized card, which indicates the sustainability status of different species

with a traffic light system (red = overexploited, green = environmentally sustainable). The card is now reportedly used by 25 per cent of all Dutch consumers.

As the momentum of the Viswijzer increased, negotiations and cooperation between the NSF, other NGOs (Greenpeace and WWF), industry representatives for fishermen and fish traders, scientists and the government improved dramatically. On advice from the *Viswijzer*, two large supermarket chains removed the threatened North Sea cod, plaice and sole from their shelves. At the time, this triggered a negative response from fishermen as it opposed their fishing practices and portrayed them as 'destroyers of the ecosystem'.

This led to parliamentary debates about the transparency of the assessment criteria and as a result, a social covenant was signed in 2008. This meant that the government took responsibility for overseeing

sustainable production, disseminating information and independently auditing the *Viswijzer* assessment criteria.

This is the basis upon which the government, fishermen, others in the fishing supply chain and NGOs have continued to communicate in the Netherlands. It is now common for the fishing industry to consult NGOs over new fishing techniques and ways to improve their sustainability status.

The researchers conclude that the key to success for the Viswijzer has been in encouraging trust and cooperation through which fishermen and NGOs can communicate on an equal footing. They recommend that NGO-led market based initiatives are vital in creating 'new spaces of interaction' to stimulate ongoing two-way communication (vertical and horizontal) between stakeholders and for attracting the attention of policymakers.

Source: the fish site

World's biggest marine protection zone proposed for Antarctic

A global coalition of scientists has called for the waters of the Antarctic to be turned into the world's biggest marine protection zone.

The Antarctic Ocean Alliance, made up of a number of conservation groups including Greenpeace, wants 19 parts of the southern seas to be declared "no take zones", where industrial fishing is banned.

The move would protect 10,000 species, including emperor penguins, minke and killer whales, seals, krill and colossal squid, in regions ranging from the Ross Sea and the Antarctic Peninsula to the Weddell Sea.

Currently, the Antarctic land mass is protected under law, but the waters



that surround it, which are teeming with rare marine life, are not.

The AOA has warned that as fishing stocks around the world were

becoming increasingly depleted, fishing boats were heading south.

"The problem at the moment is that as fisheries resources around the world come under more and more pressure, there are going to be more distant water-fishing nations who want to go to the oceans around Antarctica to extract protein," AOA director Steve Campbell said.

"And they are going to do it either legally or illegally."

Mr Campbell said the alliance was calling for the creation of a reserve network "on a scale that hasn't been done anywhere else on the planet before because of the enormous value of the Antarctic wilderness to science and to humanity".

The 25-nation Convention on the Conservation of Antarctic Marine Living Resources is set to decide on a

network of marine reserves by 2012.

Antarctica is seen as a critical resource for studying climate change, with its ice cores providing valuable data on greenhouse gas levels and temperatures.

- By Bonnie Malkin, Sydney and agencies, telegraph.co.uk

Studying fish in mountains

OXFORD University scientist Alex Rogers has set off on an expedition to explore underwater mountains and study the impact of deep sea fishing on wildlife.

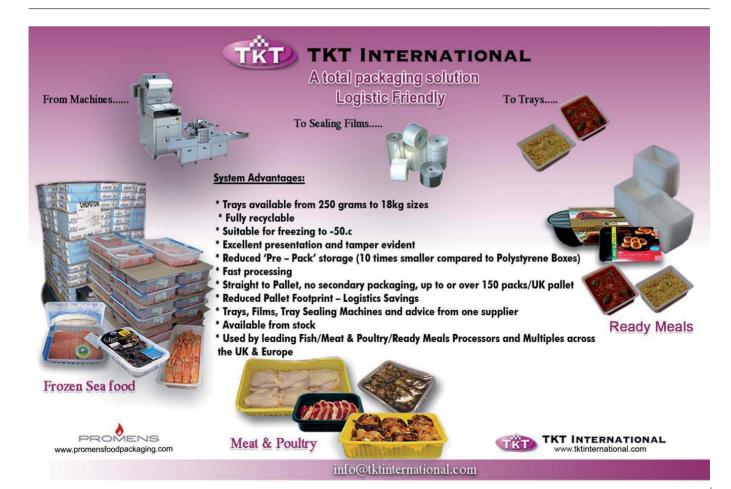
The International Union for the Conservation of Nature (IUCN) said marine scientists would be spending six weeks on a marine trip to examine the seamounts of the south-west Indian Ocean Ridge.

Seamounts rise to 1,000 metres above the seabed and contain a rich variety of wildlife including sharks.

Before setting off from Cape Town in South Africa on Monday, Prof Rogers said: "We're hoping this expedition will help us understand better this unique marine life and assess the threat it faces. We are hoping to get a better idea of where special habitats, such as cold water coral reefs, occur and how we can protect them."

Prof Rogers is a professor in conservation biology at the university's Department of Zoology.

oxfordmail.co.uk



Weak rupee brings cheer to seafood industry

The Rupee plummeting to a record low by touching Rs.52.73 against the US dollar has brought cheer to the export-oriented seafood industry.

Anwar Hashim, vice chairman of the Marine Products Export Development Authority (MPEDA), said no one had expected a rate like this. "The immediate beneficiary of this weak rupee will be those seafood exporters holding stock or those negotiating with the buyers," Hashim said. "According to business rules, seafood exporters can book forward up to six months. Those who have done that may not get this benefit," he added.

During the fiscal 2008-09, the rupee was valued at Rs.49 to a dollar and this happened after a six-year gap. "Overall, certainly this is something to cheer about. But don't forget the central government took away the duty

entitlement pass book (DEPB) scheme for seafood exports in September," Hashim said.

"As a result, we will not get a credit of eight per cent. So in one way we have lost and that has been compensated to an extent by the fall in the rupee," he added. Under the DEPB scheme, every time a shipment is made and the proceeds get cleared by banks, the exporter after applying to the director general of foreign trade gets the credit.

During 2010-11, for the first time in the history of marine product exports, the export earnings crossed \$2.8 billion. This is also the first time that export has crossed all previous records in quantity, rupee value and dollar terms.

Exports aggregated 813,091 tonnes valued at Rs.12,901.47 crore (\$2.4 billion). Compared to 2009-10, seafood exports last fiscal recorded a

growth of 19.85 per cent in quantity, 28.39 per cent in rupee and 33.95 per cent growth in dollar earnings.

D.B. Reddy, president of the Seafood Exporters Association of India, however, told IANS that they are not sitting in a paradise because of a weak rupee. "There are numerous risk factors associated with our industry. A weak rupee is one positive aspect but that alone will not solve all our woes," Reddy said.

"The international market is not rosy as it was. Moreover, banks in the West have their own problems. Another factor that will work against us is that the prices of raw materials have gone up," he added.

Industry sources also pointed out that the total seafood exports for the current fiscal are expected to be in the range of \$3,500 million to \$4,000 million, up from \$2,856.92 million in the last fiscal.

-IANS

Satellite mapping to help in fishing

A satellite imagery experiment was conducted successfully to locate fish shoals, which is expected to benefit the fishermen of Andhra Pradesh, the state with the longest coastline in the country.

Through satellite mapping, availability of fish at a particular area in the ocean is identified and is conveyed to the fishermen. This would help in saving time, as well as the fuel they use for their boats, while going in search of fish. The experiment was conducted by the National Agricultural Innovation Project (NAIP) in a small fishermen pocket in Maharashtra's Ratnagiri village.

NAIP is a project of the Indian Council of Agriculture Research (ICAR) and is meant to support poverty alleviation programmes and income generation schemes by the development and application of innovative agricultural methods in partnership with farmer's groups, private sector, civil society organisations and other stakeholders.

According to sources, about 450 fishermen in Ratnagiri district could save about 50,000 litres of diesel by using satellite imagery rather than searching manually. They were all registered with a local office of the NAIP to receive SMS alerts about the fish reserves.

According to NAIP national director Dr Bangali Baboo, fish move in the same area for three days. Hence, the satellite image guidance is successful. The presence of fish in a

particular pocket is identified based on the murkiness of the water. Fish heavily disturbs water, hence it looks mucky, while rest of the area appears clean. "We are now proposing to the planning commission and the fisheries department (Central Marine Fisheries Research Institute) to extend the satellite imagery system to the entire coastline across the country and save fuel", Baboo, told media in Hyderabad.

NAIP is a Rs 1200 crore project with 80 percent funding from the World Bank and rest from the Indian government. It implements 834 projects in India. "Some projects are successful and some not. The Ratnagiri experiment has been successful", he said. The project will go on till June 2014.

-Times of India

Aquaculture has great possibilities in M'laya: CM

SHILLONG: The State government is very happy with the enrolment of over six hundred people from Ri Bhoi district with the Department of Aquaculture Mission, said Chief Minister Mukul Sangma today at the mass mobilization campaigning on "state aqua mission" at Umsning in Ri Bhoi district.

Speaking on the occasion, Sangma said, "Few years back, the government could not create job opportunities for the youth but with the implementation of this flagship programme, the government is trying its best to create job and self-employment opportunities

for the youth in the State which will free them from poverty".

Consumption of fish must be at the highest rate especially for the pregnant women and children. The fish contains lots of protein and the fish farmers must provide a high quality fish, said Sangma.

N Kumar, Commissioner and Secretary, Fisheries, said, "Ri Bhoi district is the third launch pad for aquaculture mission which will be launched in 2012 and sensitization and awareness programmes will be held in all the districts of the State before the launching."

RM Mishra said that the State is blessed by beautiful climate and it receives maximum rainfall in the country, and that is why aquaculture has great possibilities. Aquaculture mission is a flagship programme under the integrated basin development and livelihood programme.

Minister of Home HDR Lyngdoh urged the people to cooperate with the government especially with the fisheries department on aquaculture so that the State will have sufficient fish production and can even supply the same outside the State.

Sentinelassam.com

Antibiotic resistance might be caused by aquaculture

Researchers from Tufts University School of Medicine (US) agree on the controversial, non-therapeutic use of antibiotics in food animals and fish farming as a cause of antibiotic resistance. They report that the evidence shows a need for stricter regulation of the practice.

"The US lags behind its European counterparts in establishing a ban on the use of antibiotics for growth promotion. For years it was believed that giving low-dose antibiotics via feed to promote growth in cows, swine, chickens and the use of antibiotics in fish farming had no negative consequences.

Today, there is overwhelming evidence that non-therapeutic use of antibiotics contributes to antibiotic resistance, even if we do not understand all the mechanisms in the genetic transmission chain," said Levy, MD, professor of molecular biology and microbiology and director of the Centre for Adaptation Genetics and Drug Resistance at Tufts.

Antibiotics have been used for the last 70 years to fight bacterial infections

such as streptococcus, meningitis, tuberculosis and urinary tract infections. The misuse and overuse of antibiotics have played a part in antibiotic resistance.

Today, antibiotics are less effective when used to save lives. Levy and coauthor Bonnie Marshall summarize their findings after reviewing numerous studies:

- According to estimates, antibiotics are eight times more likely to be used for non-therapeutic purposes than for treating a sick animal.
- Current practices set the stage for the rapid spread of antibioticresistant bacteria.
- The long-term administration of antibiotics in animal feed creates an optimal environment for antibiotic resistance genes to multiply.
- Treated animals become "factories" for the production and distribution of antibiotic-resistant bacteria such as Salmonella and Methicillin-resistant

- Staphylococcus aureus (MRSA).
- Even if farmers turn to antibiotics that are not commonly used to treat people, these drugs given over long periods of time can also promote resistance.
- Several studies demonstrated that antibiotic-resistant bacteria can easily spread from animals to people in close contact with animals, such as veterinarians, slaughterhouse workers, farmers, and the families of farmers.
- As much as 90 per cent of antibiotics given to livestock are excreted into the environment. Resistance spreads directly by contact and indirectly through the food chain, water, air, and manured and sludge-fertilized soils.
- The broad use of antibiotics in fish food in farm fishing, particularly overseas, leads to leaching where it can be washed to other sites, exposing wild fish to trace amounts of antibiotics.
- The consequences of antibiotic

resistance are great. According to the Centres for Disease Control and Prevention, antibioticresistant infections cause longer and more expensive hospital stays and greater risk of death.

Bans on the use of nontherapeutic antibiotics are effective in diminishing antibiotic resistance. Bans in European countries have seen less antibiotic resistance. It is common sense to avoid overcrowding food animals to improve hygiene and reduce the practice of routinely giving antibiotics to promote growth.

"While the use of non-therapeutic antibiotics remains contentious, the evidence is strong enough to merit precaution. Antibiotics save lives. When infections become resistant to

primary antibiotics, and alternative antibiotics must be used, health care costs increase. As more infections become more resistant to more antibiotics, we run the risk of losing more of our arsenal of antibiotics, resulting in needless deaths. It's important to consider what we stand to gain versus what we stand to lose," concludes Levy.

www.fis.com

MPEDA promoting organic aquaculture

With increasing global demand for organic feed, The Marine Products Development Authority (MPEDA) here is planning to actively promote organic aquaculture in suitable areas, its Chairman Leena Nair has said.

Stating that global demand for organic food was increasing and is estimated to be around 50 Billion US dollars, she said as fish products were considered as health food, organic fish products were enjoying an increasing market to the tune of about 800-900 US dollars.

Pointing out that organic aquaculture had bright future catering to the global market demands, she said it was increasing by at 10-15 per cent per year.

The Chairman said the country had vast natural resources, which offered excellent potential for development of organic aquaculture.

She said MPEDA had decided to implement a scheme to promote this sector, considering the sustainable and eco-friendly nature of organic aquaculture.

-UNI

Impact of Climate Change on Aqua In EU

Presenting at Aquaculture Europe 2011, Oivend Bergh from the Institute of Marine Research Norway took a look at how rising ocean temperatures and wild weather will affect European aquaculture.

Rising ocean temperatures

Water temperatures are extremely diverse in EU waters. Researchers have been surveying the same areas since the 1900s and have noted that there are systematic shifts between colder and warmer periods. At the moment, the colder period is getting shorter and warmer.

"Climate change is nothing new," said Mr Bergh. "The natural components of climate change have always occurred. However as aquaculture is a young industry - it is new to us," he said. The average water temperature is increasing. However the

observed increase in temperature has been generally higher in northern than in southern European seas, and higher in enclosed than in open sea. Studies of the future climate show that air temperatures will rise by 2-4°C in the course of this century, and in the seas off the coast of Norway, the temperature will raise by 1.5-2.0°C.

Observations on wild stocks go back over 100 years. "The general pattern," Mr Bergh said, "is that when temperatures rise, fish move northwards. "At present we are seeing southern species moving into the North Sea. Greater numbers of cod can be found in the Barents Sea, and more than ever before in the North Sea."

However maybe there are more important changes for aquaculture than ocean temperature, he suggested.

Increasing 'wild' weather ...

Over the last couple of years, the industry has seen extreme temperatures become more frequent and intense - and it is likely this trend will continue. These extreme temperatures increase stress in fish pens, and consequently result in disease and mortality.

The number of storms and hurricanes has also increased, leading to an increase in the number of escapees.

Adapting to these changes

Mr Bergh said that wild stocks constantly adapt to climate change, however aquaculture must be adapted. "Ignoring climate change would be disastrous in the long term for aquaculture," he warned. Whilst a growth in warmer waters has many advantages for producers, there are

biological limits. The growth rate for Atlantic salmon is at its maximum about 14 degrees. Extreme temperatures also cause stress which in turn weakens the immune defence, leading to an increase in disease.

Disease outbreaks in large-scale aquaculture may have important ecological and economical consequences. Several diseases common in salmon and cod aquaculture, for instance, francisellosis, vibriosis and furunculosis are typically associated with

high water temperatures.

With these changes it is likely the industry will see increased parasitic infections, however cold-water diseases such as winter ulcer and coldwater vibriosis could be less frequent.

Conclusion

The above highlights the need for change - whether this be through movement of farms or robust technology - such as closed farms with temperature control.

Mr Bergh said that the change is unavoidable, however it is a very slow process. Things will be different in 40 years time and it seems likely that these environmental changes will lead to a general movement of farmed species northwards.

"There will be a need for more expensive and robust farms. Adaption is an extremely long term process - but it must be done if the industry is to survive."

-Charlotte Johnston, TheFishSite

First fish brood bank on anvil

(Odisha will soon have the country's first fish brood bank.)

National Fisheries Development Board of the Union animal husbandry, dairying and fisheries department has planned to set up a national brood bank "to stabilise the fish seed supply", officials at the directorate of fisheries here said.

"The board plans to initially convert the Kausalyaganga fish farm on the outskirts of Bhubaneswar to a national freshwater fish brood stock bank and later replicate the model across Odisha," production officer Mamata Mohapatra told The Telegraph.

"The proposed brood stock bank with the board's financial assistance will be a centre where different parent line fish will be maintained till brood stage and be bred artificially to produce good quality seed free from inbreeding," Mohapatra said.

Initially, the project will be for Odisha with financial involvement to the tune of Rs 2.65 crore for establishment of IMC brood stock bank and Rs 40 lakh for a fish disease diagnostic centre.

Officials of the fisheries department said the project was expected to minimise the depression witnessed at present owing to breeding of closely related individual brood fish resulting production of fish seed with relatively lower growth rate and lesser disease resistance.

At present, the seed sourcing is being done in multiple ways, including imports. The brood bank will reduce the dependence on import of fresh water fish and encourage culture of new varieties of fish. Mohapatra said: "The proposed bank will gradually have brood stock of all fresh water cultivable species and one fish cryo semen bank for fish brood stock upgrade programme in Odisha as well as in the entire country."

"With the successful implementation of the project, good quality fish seed shall be produced and fish production shall be multiplied manifold resulting in blue revolution," the production officer said.

The project, which involves the fish disease diagnostic centre, along with the fish brood stock bank, will be extended necessary technical support by the Central Institute of Freshwater Aquaculture, Bhubaneswar, and the National Bureau of Fish Genetics Resources, Lucknow.

www.telegraphindia.com

Aquaculture can fight poverty and food insecurity: UN

More than 50 per cent of the world's food fish will come from aquaculture, making it a crucial method to reduce poverty and combat food insecurity, said a United Nations report released on Wednesday, while calling for governments to step up their

efforts to support this practice.

Aquaculture, which involves cultivating fresh water and saltwater populations of fish under controlled conditions as opposed to catching fish in the wild, is the world's fastest growing source of animal protein, growing by more than 60 per cent between 2000 and 2008, from 32.4 million tons to 52.5 million tons, according to the report.

"With stagnating global capture fishery production and an increasing population, aquaculture is perceived as

having the greatest potential to produce more fish in the future to meet the growing demand for safe and quality aquatic food," said the report, World Aquaculture in 2010.

The report, released by the Food and Agriculture Organization (FAO), states aquaculture has played an important role in reducing poverty in many parts of the world. However, it says it has not grown evenly throughout the planet.

Eleven out of the 15 leading aquaculture-producing countries are located in the Asia-Pacific region, and in 2008 they accounted for 89.1 per cent of global production. Most remarkably, China alone contributed to 62.3 per cent of production in the region that year.

The report also states that there are marked differences in production levels and types of production. China, Thailand, Vietnam, Indonesia and India for example, lead production levels of shrimp and prawns, while Norway and Chile produce mostly salmon.

The report that governments need to invest in aquaculture so they can continue to enjoy its benefits and address the challenges that are linked to this practice.

"Achieving the global aquaculture sector's long-term goal of economic, social and environmental sustainability depends primarily on continued commitments by governments to provide and support a good governance framework for the sector," the report says.

Kev concerns regarding aquaculture include quality and safety standards, traceability, certification and eco-labelling. In addition, aquaculture faces major challenges due to climate change and the economic downturn in many countries, which could particularly affect small producers in Asia and Africa, where they make up the backbone of the industry.

The report calls for governments to increase their efforts to assist smallscale producers by organizing them into associations and through the promotion of better management practices to ensure the industry can continue to meet the global demand for fish.

IBNS newkerala.com



New norm to curb antibiotic resistance

The days of pumping antibiotics to make chicken fatter and shrimp bigger are numbered.

The Union health ministry is inserting a new norm in the Drugs and Cosmetics rule that will specify the withdrawal period, or the timeframe for poultry, livestock and marine products to be kept off antibiotics before they enter the food chain.

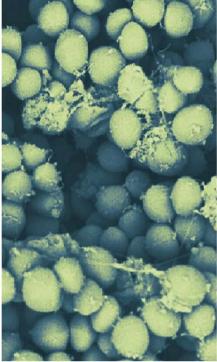
According to the new insertion in Rule 97, eggs and milk products will have to be off antibiotics for seven days before they enter the food chain. The corresponding figure for poultry and livestock items will be 28 days. For fish, it is specified at 500 degree days, taking into account both temperature of water and number of days.

The European Union has been pressing New Delhi to specify the withdrawal timeframe as it imports meats and fish products from India.

There is overwhelming evidence that non-therapeutic use of antibiotics via feed to promote growth in livestock, poultry and fish contributes to antibiotic resistance among humans. Some experts say antibiotics are eight times more likely to be used for non-therapeutic purposes than for treating a sick animal.

"When animals pumped with antibiotics enter our food chain, we consume residual antibiotics in meat and develop resistance to these drugs. The withdrawal period will ensure the meat does not carry antibiotic residues in excess quantities. Containers of these drugs used by vets will mention the withdrawal period," a ministry official told TOI.

How will this rule be governed? "Rules will be formulated, and then cleared by the law ministry. This will



Antibiotic resistant S.aureus bacteria

be followed by a gazette notification. Subsequently, state drug controller generals will be informed that under the Act, they can check with poultry and livestock farmers on whether they are adhering to the withdrawal timeframe," the official explained.

Antibiotic resistance is becoming rampant in India. Indiscriminate and non-therapeutic use of antibiotics in food, livestock and fish farming is fuelling the epidemic.

Experts say treated animals become "factories" for production and distribution of antibiotic-resistant bacteria such as Salmonella and Methicillin-resistant Staphylococcus aureus (MRSA). Even if farmers turn to antibiotics that are not commonly used to treat people, these drugs - administered over a prolonged period - can promote resistance.

India has prepared a National Policy for Containment of Antimicrobial Resistance, which puts a cap on how much antibiotics can be pumped into seafood or poultry products, including shrimps, prawns and various species of fish and fishery products.

The policy has named common antibiotics like tetracycline, oxytetracycline, trimethoprim and oxolinic acid, and clearly mentions that it "shall not exceed the prescribed tolerance limit". The use of over 20 antibiotics or pharmacologically active substances has been prohibited in seafood and poultry products. However, the ministry is yet to notify the policy.

In a recent review study, researchers from Tufts University School of Medicine Stuart Levy said, "For the past 70 years, humans have relied on antibiotics to combat bacterial infections such as streptococcus, meningitis, tuberculosis and urinary tract infections. The misuse has made antibiotics less effective at saving lives."

Several studies have demonstrated that antibiotic-resistant bacteria can easily spread from animals to people in close contact with animals, such as veterinarians, slaughterhouse workers, farmers and the families of farmers. As much as 90% of antibiotics given to livestock find their way into environment.

Resistance spreads directly by contact and indirectly through food chain, water, air, manure and sludge-fertilized soils. The broad use of antibiotics in fish food in farm fishing, particularly overseas, leads to leaching, where it can be washed to other sites, exposing wild fish to trace amounts of antibiotics.

Times of India

Trade Enquiries received during China Fisheries & Seafood Expo 2011

1. Phoebe Jiang Sales Representative

Dalian Renda Foodstuff Co. Ltd.

Add: RM 2201 Building A Times Square, No: 50 Renmin Road, Zhongshan Dist, Dalian China Z P: 116001

Tel: 86 411 88079797 Fax: 86 411 88079595

Mobile: 13079849921

Email: rendafoods@hotmail.com

L. vannamei & BT

2. Mr. Sun Tao

Department Manager, Trading Department

CPF Food Trading Co. Ltd. Add: 25B YongHua Building

138 Pa Dong Avenue Shanghai 200120

Tel: 86 21 5835 8683 5835 3958 Fax: 86 21 5835 8983 ext 8028 Mobile: 86 13003181238

Email: peter@cpbrandchina.com

White Croaker

3. Mr. Fancy, Export Manager Future Foods CD, Limited

Tel: 86 0771 6735915 Mobile 86 13878179975

Email: future.foods @hotmail.com Fancyfan12345@yahoo.com.cn

www.futurefoodsltd.com

Tuna in oil / brine etc.

4. Mr. Andy Wang Asia Businese Control

Hong Kong CaBo International Trading Ltd.

HK Office 1701 aperture center and 639 Nathan Road

Mongkuk, Kowloon, Hong Kong CN MP 086 13600160152

13480908993

Email: andy_wangbo@yahoo.cn Man: andywangbo2007@hotmail.com

Indian Mackerel

5. C H Huang

Xiamen Tongan Bestone Indistrial Co. Ltd.

No: 2589 Middle Tongji Road Tongan Xiamen China

Tel: 86 592 7015155 7015166

138060661117 Fax: 7015177

Email: bestone@public.xm.fj.cn

Grouper, Pomfret

6. Yang Xu

Import & Export Department

Manager

Beijing Century double swallow Co. Ltd.

Add: No: Wangfu Wenxin Apart

Changping Beijing China

Tel: 86 10 81781349 81786569

MT: 13801200582 Fax: 86 10 81786569

Email: zhongggl@263.net

Pasteurized crab meat

7. Joe Strilaeff

Vice President

International Sales Manager

M.P. 001 425 503 8493

G&F Foods International Ltd.

Add: Qingda Industrial Zone Qingdao

Shandong Province, china Cell: 001 425 503 8493

Fax: 001 425 392 7547

Email: joe3point@msn.com

L. vannamei

8. Klion Group

Tel: 380612285270,

Mob: 380676199940

Email: bobrovdm@yahoo.com Klion_new@mail.ru; klion@i.ua

9. Charly Chuttimaporn

Director

Mana Seafood Supply Co. Ltd.

24 Niphat Songkhroh 3, Soi 5 Tambol Hatyai, Amphur Hatyai

Songkhla 90110,

South Thailand

M: 66812760018

Charly1@cscoms.com

Charlyc889@gmail.com

All Seafood

10. Wang Bao Jing

Director

Shanghai Haiter Seafood Co. Ltd.

Add: Room No: 2, Blook 21 Jungong Road, Shang hai, china

Tel: 86 21 33816988 Fax: 86 21 33816988 Mobile: 86 13916936188

Email: HBHY.shanghai@163.com

All seafood

11. Mason H.C Tai

Overseas Marketing Manager

HQ: No: 332 Zih Yu 2nd Road,

Zuo Ying Dist

Kaohsiung, Taiwan 813 R.O.C.

Tel: 886 75568903, Fax: 886 75574894

Mobile: 86 1356 4878811

All seafood

12. Lynn Albert

President

LA Trading Co. Ind

14 St. Pierre Blvd East

Caraquet NB EIW 186 Canada

Tel: 506 726 1127

Res: 506 727 2804, Cell: 978 482 5022

Fax: 506 726 1014

All seafood

13. Vladislav

Frolov

Import Manager

Maguro Fish and Meat

Chapaevsky per., 6 bldg1, of 223

125057 Moscow Russia

Tel: 7 495 276 03 34 ext. 136

Fax: 7 499 157 35 51

Mobile: 7 916 319 53 31

Email: v.frolov@maguros.ru

All fishes – Seabass, Tuna

14. Lu Qiamng

Business Manager

3rd Floor Feng Xiang Road No: 1258

Shanghai, China

Mob: 86 13482892583

Tel/Fax: 8621 51000099

Email: luqiangsus@hotmail.com

Pomfret 400 | 500, 500 | 600, 600 | up Squid U/3, bigger sizes Hilsa

15. Qingdao Coral Sea Import & Export Co., Ltd.

Add: Room 501, Entrance q Building 18, Dongsheng Garden, Liaoyang East Road Qingdao

Phone: 0532 80958235 Shrimps, Lobster, Cuttlefish

16. Lim Hock Leng Managing Director **Shengsiong Group**

6 Mandal Link Singapore 728652 Emal:management@shengsiong.com.sg www.shengsiong.com.sg Tuna, Pomfret, Squid, Scampi, Ribbonfish

17. John, Purchase Manager

Sanzi General Commerce Imp & Exp. Co. Ltd.

2#15 Building Duan Tou 1 Area Yiwu, ZJ China Mob: 86 13065938176 Tel: 86 0579 85154777, Ext 8825 Fax: 86 0579 85136867

Email: purvwcn@sanzigroup.com Mackerel

18. Nuthaya Songchaikul Managing Director

Iceus Overseas Trading Company Ltd.

637 Lodproo 96,

Lodproo Road, Plubpia

Wangtanglong, Bangkok 10310 Thailand

Tel: 6625141955, Fax: 6629352427

Mobile: 66818013953 Email: iceusthailand@gmail.com Pasteurized Crab meat, BT, Ribbon fish,

Squid

19. Louise Wong Assistant manager

International Sales and Marketing Center Hengfa Group

Guangdong Hengfa Fishery Co. Ltd. Add: 19 Mingzhu Road, Luogang Dist Guangzhou, China

Tel: 8620 82209567 Fax: 8620 82215936

HP: 180 2286 2267

Email: sales01@seafoodgzhf.com; hengfashuichan@163.net Cuttlefish, Ribbon fish

20. Snow, Manager 0086 13587331039

Brothers Seafood Tranding Company

Margaret center, shaozing city Zhejiang province, china Tel: 0086 575 88026466 Fax: 0086 575 88025322 Email:snowfanglang@live.cn Leather jacket, Squid, Prawn

21. Island Seafoods

Tel: 0415 7110833, 4001 567 588 Fax: 0415 7120988 Shrimp - pink, brown etc.

22. David Xu

Integral International Trading Company Ltd.

PO Box 61283, Jebel Ali, Dubai, UAE Tel: 00971 4 8835520 Fax: 00971 4 8839925 Email: xsw1963@hotmail.com Fish meal & oil

23. Emre UCAR

Director

Naturel Mavi

Gida Maddeleri Tasimacilik Insaat Turizm Tlc san ltd. Orta Mah. 4 Sok No: 10/07170 Altinova/ANTALYA Tel: 902423400800 Fax: 902423403717 Cell: 905497334875 Emre.ucar@naturelmavi.com Squid tube

24. Eileen Tsai, Buyer +886 975 930 243

SU Seafood Sea Union Corporation

Rm. 2A, 6F, No: 87, Houping Road Qianzhen Dist Kaohsiung city 806, Taiwan ROC Tel: +886 7 813 8809 Fax: +886 7 812 8269 Email: purchase@sea-union.com.tw Pomfret, Ribbonfish, Cuttlefish, Whelk

25. Fumitoshi Murakami Group Leader

Global Product Development Division Fisheries Procuct Group

Nishimoto Trading Co. <td. Corporate Headquarters, 13409 Orden Drive

Santa Fe Springs, CA 90670 6336

Main: 562 802 1900 Director 562 229 3850 Cdell: 562 234 5208 Fax: 562 229 1802

Fumitoshi.murakami@ntcitdusa.com

www.nishimotograding.com Pasteurized canned crab meat (Captain's Delight)

26. Jiansan Yang

Qingdao Hongfan Foodstuff Co. Ltd.

Hanwa Village, Chengyang District Qingdao, China Tel: 0086 532 87901118

Fax: 0086 532 87807599 HP: 0086 13780607788 Email: san9418@yahoo.com.cn

AFD shrimp

27. Sally Liang, Director

Dragonbull

Room 150N, No: 182 Zhaobui Road, 2# GuoDu, Development Building-Hangzhou, China Tel: 86 0 571 87970408 Fax: 86 0 571 87976252 Mob: 86 13588146844 Sally-dragonbull@163.com www.dragonbullworld.com Ribbonfish, Croakers

28. Brian Li

Merchandise Manager

Suntech Int'l Food Co. Ltd.

7/F, 65 Tai Nan Street Prince Edward, Kowloon, Hong Kong Tel: 852 2380 0092 Fax: 852 23927051 Mobile: 852 9238 8219 Email: brian@suntech-intl.com www.suntech-intl.com Cuttlefish

29. Michael Lee

Admin. & Finance Manager

H/P 6016 2014070

Hai Zheng (Sabah) Frozen Foods Sdn.Bhd.

TB 11911, Lot SD 19 Apas Industrial Park, Miles 4 ½, Jalan Apas, 91000 Tawau, Sabah, Malaysia Tel: 6016 8265869, Fax: 6089 912462 Email: michaellee001@hotmail.com *Crab*

30. George Wang, CEO

New Sanhe (Yan Tai) Food Industry Co. Ltd. 21 WuLong Road

Xiaomenjia Town Penglai City, Sahndong, china 265606 Tel: 86 0535 5758896 Fax: 896 0535 5753240 Mobile: 15192362366 Email: WANGJIANBO@sanhefoods.cn AFD shrimp & Clam

31. Liu Dong Dong Translation

Rong Cheng Heyuan Aquatic Food Products Co. Ltd.

188 yuehu Road Rongcheng City Tel: 0631 7587899, Fax: 0631 7587999 HP 13863025875 PC 264300 Email: heyuanshuichan@sina.com www.heyuanshuichan.com Octopus big frozen

32. Shen Yanzhong General Manager

Dalian Exchina International Trading Co. Ltd.

208, 210

Tel: 13909866989, Fax: 0411 87533889 Email: exchina02@hotmail.com http://www.diexchina.com Ribbonfish, Pomfret

33. Albert Chu

Highwell Trading Ltd.

20 Amber St., Markham, on, Canada L3R 3L2 Tel: 289 800 1138 Cell: 416 823 2128

Fax: 289 800 1138

achu@highwelltrading.com www.highwelltradig.com Tuna & Kingfish

34. Bill Shi, General Manager

Beijing Dilin Seafod Import & Export Co. Ltd.

Mob: 13797681137 Tel: 400 8872 757 (free) Email: fzbill@hotmail.com Ribbonfish

35. Alexie Xu

Foreign Trade Manager

Taian City Guotai Fishery Co. Ltd. Huasheng Cold Store
Tailiang Road, Taian City
Shandong Province, China
Tel: 0086 538 8337158 8426566
Fax: 0086 538 8238399
Mobile: 86 18853814677
PC 271000
Email: alexie0780@126.com
Ribbonfish, Croaker

36. Kenneth S Loud, Sales **Seafreeze Ltd.**

100 Davisville Pier North Kingstown, Rhode Island 02852 USA Tel: 401 295 2585, Fax: 401 295 5825 Cell: 401 9326514 Squid whole

37. Fan Bing Yang Manager Marketing

Tianjin Airport Aquatic Product International

No: 5009, Beicang Road, Beicheng Dist. Tianjin, China Mob: 86 13920739606 Tel: 86 22 24520118, 58839815 Fax: 86 22 24520118 Email: tjjr833@yahoo.com.cn tjjrfish@hotmail.com tjjr833@163.com Golden Yellow Croaker, Sole fish

38. Nick Lin Trading Dept Mob: 86 13923093737

King's Wing (Guangzhou) Trading Co. Ltd.

Unit 1717, Huaxing Trading Centre

150 Dabei Road Shiqiao Panyu Guangzhou China 'Tel: 86 20 8488 1000, 8488 8488, 8488 8881, Fax: 86 20 8488 1234 Email: nick@kingswing.cn Ribbon fish, Pomfret

39. Tony Ristovski Managing Director

Seaboss Australia

8-12 Skinner Ave Riverwood NSW Australia 2210 Tel: 0418 280450

HO: 61295342055 Fax: 61295342066

Email: tony@seaboss.com.au

Pomfret

40. Daniel Shih Import / Export Manager

Hong Kong Phovol International Limited

Unit A (Rm 40), 3/F, Cheong Sun tower, 116-118 Wing Lok Street, Sheung Wan, HK Tel: 852 30789268,Fax: 852 31828581 Mob: 86 18986020163 Email: daniel0608@gmail.com

Croaker (yellow & silver), Leather jacket, Ribbonfish, Squid, Octopus

41. Sermahamade Danial Vice General Manager

International Market Director China Euro Group Limited

Qingdao Jinyu Imp & Exp Co., Ltd. Room 706, B Seat
YinLingHuiDu, Changjiang
Middle Road, Qingdao Development
Zone, Shandong Province
Tel: 86b532 86227555
Post Code: 266555
Fax: 86 532 68972031
Mob: 86 13668879330
Email: d_sernaganade@163.com
http:www.lhb.com
L. vannamei, BT Shrimp, Pomfret

42. Simon YU Chairman

New Tongvin Group (Hong Kong) Guang Zhou Guang Mei Foodstuff Co. Ltd.

Tel: 18819124124, Fax: 8620 31018930 Web: www.tongvin.com Email: tongvin#21cn.com Squid

43. David Vergel De Miranda President

La Coruna, Inc

PO Box 50202 Toa Baja, PR 00950 Ph: 787 779 2023, 2024 Fax: 787 200 0851, Mob: 787 688 2848 Email: vergel@lacorunainc.com www.lacorunainc.com Shrimbs

44. Imran Basari Galer Kristal

Havaalani Yolu Senk Cad. No: 371 07170 Altinova – Antalya /TURKIYE

T: 90 242 340 2311 12 13 Fax: 90 242 340 11 25 G: 90 532 737 58 11 Email: galerikristal.com.tr Big Shrimp

45. Mahroof gisthy Fahmi Partner

P M Mohamedali & Co

(Importers & Exporters Foodstuffs), 187 Prince Street Colombo 11 Sri Lanka Tel: 9411 2430499, 2446573 2329677, 2342392,Fax: 9411 2439477 Mobile: 077 3111111 Email: pmail@slt.lk www.roza.lk www.diamondbestfood.com Canned item

46. Jasmine Import Manager

Shanghai Great Fish Co. Ltd.

No: 8, Unit 29, 2866 Jungong Road Shanghai, China Tel: 86 21 51827201, Fax: 86 21 51827202 Mobile: 86 13341988088 Email: greatfish88@yahoo.com Ribbonfish, Croaker, Pomfret

47. Liu Gang

Dalian Hongsheng Foods Co. Ltd. 1-6-1 No: 20 Gangjingyuan Dandong Street, Zhongshan District, Dalian china

Tel: 86 411 82788026 Fax: 86411 82789659 Mobile: 13940883661 Email: YJLG678@163.COM Ribbon fish

48. Xi Chengxi YM Shanxi vimin

Tel: 13991330930, 83106198 84415052

Frozen Seafood, Canned fish

49. Jin Wu Xing Food

Post Code: 116400 LJun Lou, Import / Export Manager Tel: 86 411 89877707 Fax: 86 411 89710900 Mobile: 86 138 4268 3960 Email: lijunjwx@163.com Frozen Reef Cod in big quantities

50. NG Cheong Bian

Director

Bian Bee Co. pte. Ltd.

5th Floor Greatwood Building 43 Carpenter Street Sngapore 059922 Tel: 65 6536 6811 Fax: 65 6536 6822 Email: cbng@bianbee.com.sg Breaded fish fingers, AFD products

51. Tse Chi Yuen Thomson

D' Marine Products Corporation

84-85 Tanigue Street Dagat Dagatan Malabon City, Philippines 632-3482501 Freeze Dried Products

52. Mark Aquatic Products & Beeproducts Dept.

AHCOF Industrial Development Co., Ltd.

18F Sunon Plaza, No: 389-399, Jinzhai Road, Hefel Anhui, China PC 230061 Tel: 0086 551 2831083, 2831018, 2831036 Fax: 0086 551 2831059

Email: dep35@ahcof.com Fr. Yellow Croaker, Ribbon fish, Cuttlefish

53. Chaihongji

General Manager/Directors

Qingdao Zhiyan Business Co. Ltd.

719 room, 7/F, International Business Center, No: 196, Zhengyang Road Chengyang Dist., Qingdao, China 266109 Tel: 86 532 6679 6326 Fax: 86 532 6679 6325 HP: 15615621000 Email: hjch2001@yahoo.com.cn MSN: hjch20018@hotmail.com Ribbonfish, Croaker

54. Tran Quoc Son Marketing Manager Satra Thai Son

39 hua cheng da dao, Tian he

Guangzhou

Email: STA.QC@Gmail.com Mobile: 13725399343 13632329936 Weh:http://taishanhaichan.cn.alibaba.com Ribbonfish & Shrimp

55. Bonnie

Purchase

Baja Seafood Bay

Rm 507, Asia Steel tower, No: 3401 Huanypu East Road, Guangzhou China 510735 Tel: 86136 6238 6248 Fax: 8620 8202 1991 Email: bajabayinc@sbcglobal.net Squid, Cuttlefish

56. Ivy Li

Purchase Manager

Beijing Oriental Sea-tide Co., Ltd.

No: 301, Suit 4 Tower 6 Yipengyuan Jijamiao, Fengtai District, Beijing PC: 100070

Tel: 86 10 83605539 Fax: 86 10n83605562 Mobile: 86 13810653633 Email: ivyfishuhong@gmail.com Ivy_lishuhong@yahoo.com.cn Website: www.bos-seafood.com Lobsters

57. La Ferme

Gangkou, Huidong, Huizhou

Guangdong, China Post Code 516359 Mobile: 86 13573716000 Tel: 86 752 8562000 Fax: 86 752 8562000, 86 752 8562111

Web: www.latermefoods.com Email: kent@turbot.dk

58. Liu Xicheng

0532 82845980 82839937 0532 82857097, 13708950181 www.haishitong.net qdhstlw@hotmail. AFD Shrimp & Clam meat

59. Wayne Wang

Export Manager Rm 2401, Leader Garden 63 Hongkong Middle Road, Qingdao, China, PC 266071

Tel: 86 532 85723589, 85720017

Fax: 86 532 85720739 Mobile: 13708998018

Email: nicechant@bdchina.com

Pomfret

60. Zheng Guogang

13645453708 07 5568903, 07 5574892 Email: hysx3708@sina.com *Cuttlefish*

61. JunXiao Yuan

Manager

XinYuanXiang Seafood Co. Ltd.

Majia Community, duchang District of Changyi City, Shandong, China PC 261300

Tel: 86 536 7210646 MP: 86 13963680656 Email: vyjx@hotmail.com

Shrimp

62. Lu Yifu

Vice General manager

Rizhao Kangrun Food Co., Ltd.

Beijing Road Rizhao Shandong Tel: 86 633 8783168, 86 633 8763206

Fax: 86 633 8783868 MB: 86 13906336267

Email: Kangxinfood@sohu.com Kangrucn@hotmail.com

Ribbinfish steaks

63. Katty Wang Sales manager

Jiangsu YanCheng NanYing Seafood Trading Co., ltd.

7-1401#Baolong International Plaza, Renmin Road, Yancheng City, Jiangsu Province, Post Code: 224000 Tel: 0515 88081005, Fax: 88312312

Mobile: 13706950876

Email: kattywang 2008@yahoo.com.cn

Fish & Shrimps

64. Kya Azlani Business Development Sourcing and Procurement

Quantum Leap Trading Corp (QLT)

#1503-100 West Pender Street Vancouver, BC V6B 1R8 Canada

Tel: 778 868 0266

Email: kyaazlanl@QLTcorp.ca Alternate email: kyaazlani@shaw.ca Alternate email: kyaazlani@hotmail.com; www.quantumleaptrading.com

Fish

65. Sophie Sun General Manager

Dalian Rich ocean Seafoods Co., Ltd.

Zhongghua Road

Ganjingzi Dist., Dalian, china

Post Code: 116031 Tel: 0086 411 39508348 Fax: 0086 411 39508349 Mobile: 13387882586

MSN: kixxmein20082000@hotmail.com Email: sophie19760224@163.com Red Reefcod, Squid, Sole, Reef cod fillets,

Ribbon fish

66. Putri Tander

PT.Indoboga Yaya Makmur

08111083829

Jl. Cumi Raya No: 3, Muara Baru

Jakarta, Utara-14440

Telp: 62 21 666 96288 (hunting)

Fax: 62 21 666 96277

Email: int3-indoboga@indoboga.com

BT, L. vannamei

67. Monica Importer

Qingdao Liuting Seafood Company

Qingdao, China

MSN: chinaseafood.trader@hotmail.com

Skype: chinaseafood.trader Tel/fax: 86 0532 87763780

Mob: 86 15253290829

Mail: seafoodtrade88@gmail.com Silver Pmfret, Chinese Pomfret, Sole fish, Cuttlefish, Katti fish, Croaker fish, Yellow Croaker fish, Leather jacket fish, Squid, Lady fish, Ribbon fish, Red porgy fish, Eel fish etc.

68. He Fengyi

From Foshan, Guangdong

13503023803 0757 81820928 Shrimps

69. Yan Lihong

Trade Department

Yantai Haijin Food Co., Ltd.

RM 2207, Hongkou mansion, No: 155

Erma Road, Yantai, china

Tel: 0535 6219152,Fax: 0535 6219168

MP: 5854561147 PC 264001

Email: iyanlihong@163.com

MSN: iyanlihong@163.com Skype: nancy861224

Ribbonfish

70. Ji Wu Zhang General Manager

Tioanjin Ever Green Trading Co.,

Ltd.

Rm 2801, Gate 1, Bldg 10, Wan Tong New City International, TEDA,

Tianun, China

India Mob: 00918140428468 China Mob: 13700350589 Tel: 00862265322581 Fax: 00862265322582

Email: tszhyan@heinfo.net 137003505891@139.com

Fr. Fishes

71. Sherwin Choi President / CEO

PTC Commercial Corporation

Blk, 4 Lot 2 First tondo Complex 2150 Velasquez St., Tondo, manila

Philippines T: 632 256 8831 to 38

256 4423 to 26, 256 4430

F: 632 255 2956 Sales

256 4422 Acctg

M: 63 9178195557, 922 8195557

E: sheerwincpk1958@gmail.com

S: sherwinchoi

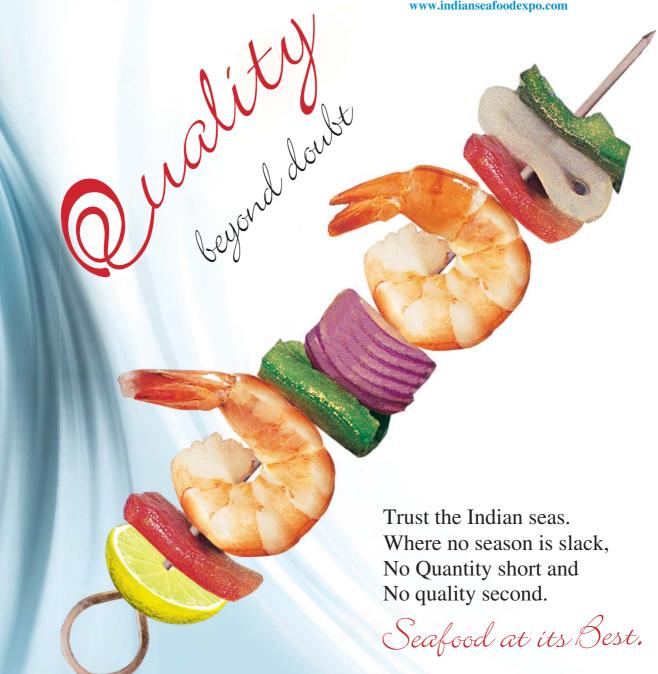
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The Marine Products Export Development Authority (Ministry of Commerce & Industry, Government of India)

(Ministry of Commerce & Industry, Government of India) MPEDA House, Panampilly Avenue, PB No. 4272, Kochi-682 036, Kerala, India Ph:++ 91-484-2311979, 2312812. fax: ++ 91-484-2312812, 2313361, 23144467. E-mail: mpeda@mpeda.nic.in Website: www.mpeda.com



Contact us to experience our expertise: **Raja Chandnani**Phone: +44 20 7444 6320

Email: Raja.Chandnani@integrogroup.com

