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Marine Products Exports Crossed 2.67 Billion in 2010-11

Export of Marine Products during April - March 2010-11 have achieved the US\$ 2.67 billion mark by registering a growth of 10.96% in quantity, 20.42% in Rupee value and 25.55% in US\$ realisation compared to the same period of last year according to the provisional export figures. This is the first time in the history of Marine Products Industry that the export figures are crossing the US\$ 2.5 billion mark. Average unit value realization has also gone up by 13%.

2. Impact of recession, Europe crisis, Rupee appreciation

It may be noted that the achievement is made in spite of the after effects of recession in the international market, Rupee becoming stronger vis-à-vis the Euro and the Dollar, the impact of the collapse of economies in Greece, Spain and Portuguese in the EU causing the depreciation of Euro value against US \$.

There is considerable increase in export of Fr. Shrimp and Fr. Squid during the period. Large scale production of Vannamei in addition to

high productivity of Black Tiger Shrimp and increased landing of Squid might be attributed for the increase.

Major items of export

According to the provisional figures, Frozen Shrimp continued to be the major export item accounting 46% of the total US\$ earnings. Shrimp exports during the period increased by 13%, 35% and 41% in quantity, Rupee value and US\$ value respectively. There is a considerable increase in unit value realization (24%) also. Export of Fr. Shrimp to USA has registered a tremendous growth of about 83% in volume and 140% in US\$ terms. Fr. Shrimp export to Japan also showed an increase of 17%, and 43% in volume and US\$ value respectively. Export of Vannamei shrimp had also picked up. India has exported about 10000 MT of Vannamei during this period.

Fish, the principal export item in quantity terms and the second largest export item in value term, accounted for a share of about 39% in quantity and 20% in US\$ earnings and showed a growth of 12% in quantity and 26% in US\$ realization when

compared to last year.

Fr. Squid has a growth of about 49% and 74% in quantity and in US\$ terms respectively. Fr. Cuttlefish showed a decline of about 12% in quantity but showed an increase of 16% in US\$ realization. There is a considerable increase in the unit value realization (32%). Dried items showed growth of 39% in quantity but declined 11% in US\$ value compared to the same period last year.

Export of value added products also showed a growth of about 2% in quantity and 12% in US\$ realization.

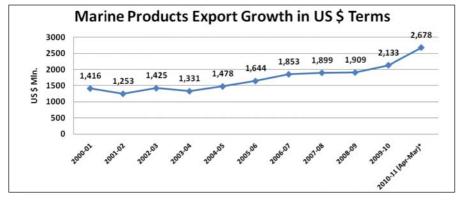
Unit Value realization of Cuttlefish, Fr. Shrimp, Fr. Squid, Fr. Fish etc. showed a considerable growth during the current financial year.

Major export markets

European Union (EU) continued to be the largest market with a share of 26% in US\$ realization. However, there is a marginal decline of 1% in quantity exported. USA regained the second place with a share of 16%, followed by South East Asia with a share of 16%, China with a share of 15%, Japan 14%, Middle East 5% and Other Countries 8%. Exports to USA registered a remarkable growth of 104% in US\$ realization and 47% in terms of quantity. Increase in export of Fr. Shrimp, and Fr. Squid contributed to the growth. Export to Japan also registered a positive growth of 11% in quantity and 36% in US\$ term. Export of all items except chilled item showed an increasing trend in Japanese market. South East Asian countries had also registered a positive growth of 44% in quantity and 38% in US\$ realization. Export to China showed only an increase of 5% in quantity and 9% in US\$ terms. Exports to Middle East countries has also shown an increase of 21% in quantity and 21% in US\$ realization.

Exports during 2010-11 compared to 2009-10

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Export details	April-March 2010-11(Provisional)	April-March 2009-10	Growth %
Quantity Tones	752791	678436	10.96
Value Rs.crore	12100.48	10048.53	20.42
US\$ Million	2677.74	2132.84	25.55



MPEDA participated in the India - Asean Business Fair & Business Conclave held at New Delhi

MPEDA, through Trade Promotion Office, New Delhi, participated in the India-ASEAN Business Fair (IABF) & Business Conclave 2011, organised by the Federation of Indian Chambers of Commerce & Industry (FICCI) with the support of the Ministry of Commerce & Industry and Ministry of External Affairs, Govt. of India. The fair was organised from 2-6 March 2011, at Pragati Maidan, New Delhi.

Keeping in mind the need to forge economic, social and institutional relationship with the Association of South East Asian Nations (ASEAN) countries, India signed Free Trade Agreement (FTA) with ASEAN on 1st January, 2010 and IABF was the first major event organised to epitomize the post-ASEAN FTA synergy between the two major trading partners. India and ASEAN are moving closer towards signing a Comprehensive Economic Partnership Agreement (CEPA), adding that such agreements have already been signed with countries like Singapore and more are in the

offing with various other ASEAN countries. In 2010, India and ASEAN have raised their trade in goods to US\$ 50 billion and the two regions are expected to further increase it to \$70 billion by 2012. IABF brought together business leaders and practitioners for knowledge sharing and business development across industry segments from the 10 ASEAN Countries (Brunei, Indonesia, Malaysia, Philippines, Singapore, Thailand, Cambodia, Lao PDR, Myanmar and Vietnam) with the primary aim of enhancing bilateral trade between India and ASEAN countries.

The event was inaugurated on 2nd March 2011 by Shri. Anand Sharma, Commerce & Industry Minister, Govt of India. The Ministers from all ASEAN countries were present during the inaugural function. ASEAN Ministers include Mr. Lim Jock Seng, Minister of Foreign Affairs and Trade, Brunei; Mr. Cham Prasidh, Minister of Commerce, Cambodia; Mr. Nam Viyaket, Minister of Industry & Commerce, Laos; Mr. Mustapa Mohamed,

Minister of International Trade and Industry, Malaysia; Mr. U Aye Ko, Director General, Ministry of National Planning and Economic Development, Myanmar; Mr. Gregory Domingo, Secretary, Trade & Industry, Philippines; Mr. Lim Hng Kiang, Minister for Trade and Industry, Singapore; Ms. Porntiva Nakasai, Minister of Commerce, Thailand; and Mr. Nguyen Thanh Bien, Deputy Minister of Industry and Trade, Vietnam.

More than 500 Exhibitors & Delegation from 11 Countries (India 10 **ASEAN** Countries) participated in the event under various display profiles. MPEDA has taken two stalls, (A 23 & 24) having an area of 18 sq. m. in hall no. 11. Insta banners and flex print outs showing an array of value added products were displayed in the stall along with MPEDA brochures and publications. Glass show cases were arranged to display the value added products like cans. Attractive packages of value added products obtained form various exporters were also displayed which enhanced the outward show of MPEDA stall.

The fair covered almost 32 sectors making it a broad-spectrum kind of exhibition and marine products catogorised under food processing sector had only three more exhibitors apart from MPEDA. Apart from trade related enquiries, many delegates sought information related to marine sector in general and how to venture in to fish processing business. Delegates from packaging industry, equipment manufacturers, energy conservation, management sector, certification, testing, inspection & training etc. also showed profound interest in the activities of MPEDA.



Inaugural session of IABF, 2011

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The first three days of the fair was entirely dedicated for B2B meetings and discussions along with the exhibition in hall no 7 to 11 of Pragati Maidan. FICCI had registered exporters for B2B meetings with out charging any fees and organised B2B meetings with more than 150 companies from ASEAN countries. M/s Seahath Canning Company, Goa participated in the B2B meetings and displayed their products in MPEDA stall. The last two days of the fair was opened for general public and the exhibitors were allowed to do retailing of their products. MPEDA stall attracted many visitors during these days and most of them evinced interest to purchase canned marine products and dry fish displayed in the stall.

MPEDA's activities highlighted through the videos which were displayed in large screens located at various exhibition halls. IABF 2011 gave some insight to the domestic demand for the marine products in inland metropolitan areas, especially for the ready to eat and canned products. Canned sea foods imported from Thailand and frozen fish fillets from Vietnam are now available in the super markets of Delhi and NCR, which signals directly to the opportunity available to the sea food manufacturers to venture into the domestic markets also in order to enhance the profitability and sustainability of the industry.



ASEAN delegates in MPEDA stall

Report on AAHAR 2011 held at Pragati Maidan, New Delhi

PEDA, TPO, New Delhi had Iparticipated in the 'AAHAR International 2011' from March 10 -14, 2011, which was the 26^{th} International food and hospitality fair organised by India Trade Promotion Organisation (ITPO). The fair was arranged at Pragati Maidan, New Delhi in association with Ministry of Food Processing Industries with the support of Agricultural and Processed Food Products Export Development Authority (APEDA), Association of Resource Companies for the Hospitality Industry of India (ARCHII), All India Food Processors' Association (AIFPA) and Hotel and Restaurant Equipment Manufacturers Association of India (HOTREMAI).

Exhibition was divided into two independent shows viz. 'FOOD INDIA' covering food, processed foods and beverages sector organised in hall nos. 14 & 18 and 'HOSPITALITY INDIA' representing

hotel & restaurant, bakery & confectionery equipment and supplies, organised in hall nos. 7, 8, 9, 10, 11, 12 & 12 A of Pragati Maidan, New Delhi. The exhibition was spread over an area of nearly 40,000 square metres enabling AAHAR being recognized as one of the leading events of its kind in Asia that bring together a whole range of sectors in food and



MPEDA stall at AAHAR 2011

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hospitality business. Every year AAHAR holds a thematic presentation on industry-relevant issues and the theme for this year was "Moving away from commodities to processing" and was displayed in the thematic pavilion in Hall No.18 set up by the MoFPI & APEDA.

The event was inaugurated by Shri. Iyotiraditya Scindia, Minister of State Commerce & Industry, Government of India on 10th March 2011. The Chairman & Managing Director of India Trade Promotion Organisation (ITPO) Dr. Subas Pani presided over the inaugural function while Shri Ashok Sinha, Secretary, Ministry of Food Processing Industries was the Guest of Honour.

Approximately 200 participants

from the food sector and more than 300 participants from the hospitality sector participated in the five day event with international participation including companies from the USA, UK, Germany, China, Canada, Australia, Switzerland and South East Asian countries. Over 25,000 visitors, both domestic and foreign, attended the annual four-day international food and hospitality fair.

AAHAR International Food & Hospitality Fair is a significant trade show for food and hospitality industry, that provides an exclusive platform for industry professionals to promote their brands, develop new business contacts and work together for the growth of the food & hospitality industry across the continents. It showcased a wide range of products and services including fruit and vegetable products, fisheries & seafood, wine, beer & alcoholic beverages, food processing machinery/packaging, animal products, meat & dairy, consumer foods/ready to eat foods, cold chain infrastructure and many more. State pavilions were also arranged to display the traditional food products manufactured by small and medium enterprises in various states of the country. Export Promotion Councils, commodity boards etc had also participated in the fair by displaying their services and products from their registered manufacturers exporters.

MPEDA has taken a stall having





Visitors in MPEDA stall

Details of value added products displayed in the MPEDA stall.

M/s. Seahath Canning Co., Goa

M/s. Forstar Insta Foods, Mumbai

M/s. Gadre Marine Exports, Ratnagiri

M/s. Britto Seafoods Exports, Tuticorin

M/s. Phillips Foods India, Tuticorin

M/s. HT Foods, Kochi

M/s. Crescent Marine Traders, Chennai

Ms. Paravil Food Products, Alappuzha

Ms. Accelerated Freeze Drying Co, Aroor

Canned Tuna & Sardines in various media

Retort pouched tuna and ready to eat fishery products in retort pouches (curries, soups, biriyani, pulav) and pickles. Surimi based imitation products

Cans of tuna products and packets of ready to eat frozen

marine products Cans of pasteurized crab meat Cans of tuna products

Dried shark fin samples Dried fish samples

Freeze dried shrimp samples

12 sq. m area in the hall no 18 of Pragati Maidan. Flex print outs and insta banners were used to give an aesthetic appearance to the stall. Samples of value added products, packed in attractive cans and pouches, were displayed in a glass showcase. MPEDA publications were prominently displayed. Though the sectors like bakery, confectionary, dairy products and beverages dominated in the fair, the FOOD INDIA show of AAHAR 2011 provided a moderate representation for the sea food sector with the active participation of another six firms together with MPEDA. Delegates from packaging industry, hotel and catering business, delegates associated with certification, testing, inspection & training, chefs and equipment manufacturers/ distributors visited MPEDA stall and showed interest for marine products and in the activities of MPEDA.

Culinary Show coordinated by the Indian Culinary Forum (ICF) was one of the main attractions of AAHAR 2011, showing live demonstration along with competition in cooking and tasting of various kinds of food items including sea food preparations. This show was arranged in the upper level of Hall No.18 and was spread around an area of 400 square metres. An award function was organised to honour the best talents showcasing their skills in the competition for which judges from the World Association of Chefs, headquartered at Geneva, were present.

Culinary Seminars and conferences were organised alongside the expo by Co-Associates in coordination with Ministry of Food Processing Industries, Govt. of India on the following topics:

- a) Food Ingredients and Additives -Opportunities & Challenges organised by the AIFPA.
- b) Discovering Purchasing Horizons - A conference organised by HOTREMAI.
- c) Trends & Technology in Bedding Products organised bv HOTREMAI.

AAHAR 2011 provided an excellent stage for exhibitors to display their latest products, technologies and





Nominations of sea food preparations for the culinary contest

equipments, as well as communicate with potential delegates, build brand market positioning and acquire future business prospects for their products. It also provided a perfect opportunity for the participants to network/ develop business contacts and build new trade associates in the region. The participation in 'AAHAR 2011' enabled MPEDA to showcase its activities as well as exhibit India's seafood products in the domestic market. The event gave a broad idea regarding the various fishery products available in the domestic market and also about the new products that are going to be introduced in the Indian domestic market in the immediate future.

Since the processed marine foods have got traditional export markets, the domestic market has been completely ignored by the processors, but the acceptance of processed sea foods among the non-vegetarian sectors and less competition prevailing in the domestic markets of northern India and hinterland, entrepreneurs are venturing in to the value addition and distribution of marine products in the domestic markets. The perceived risks like the shortage of infrastructure to process & store, the lack of proper cold chains and energy cost for all these activities are getting mitigated due to the increasing consumer base for fishery products in the interior areas.

Report of the 'FISH FESTIVAL 2011' held at **Thiruvananthapuram**

MPEDA, SRO, Kollam participated in the FISH FESTIVAL 2011 jointly organized by Department of Fisheries, Govt. of

Kerala and National Fisheries Development Board (NFDB), Hyderabad held at Putharikandam Maithanam, Thiruvananthapuram from 24-28, February, 2011. MPEDA stall had a floor area of 100 Sq.Ft. Besides MPEDA, Central and State Govt organizations such as

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Lakshadweep Administration, NFDB, CIFT, CMFRI, FIRMA, KAVIL, ADAK etc. have also put up their respective stalls. Many colleges related to aquaculture/aquatic sector had also participated in the Fish Festival 2011. Stalls were specially arranged in Air-conditioned Dome.

MPEDA Stall was decorated with flex banners and Aquarium. MPEDA publications such as Commercial Fishes of India, Indian Fishery Handbook etc. were displayed. Shri V.S. Achuthanandan, Honorable Chief Minister of Kerala officially inaugurated the Fish Festival 2011 at Putharikandam Maithanam. Shri S. Sharma, Minister of Fisheries, Govt. of Kerala and other government officials were present in the inaugural ceremony.

The show contained marine and ornamental fishes and its colorful habitats in well arranged aquariums of Government institutions and private enterprises. Live and indigenous species of fishes in its natural habitat, cultured fishes with demonstrations of various culture methods, Fresh fish stalls, Seafood

kitchen, Sea food production and sale counters, commercial stalls, Knowledge sessions on Fishing Methods, Crafts and Gear, Coastal Security, Sea Safety & Sea rescue operations etc., were the other features of the fair. Fishermen's welfare schemes were displayed in the

Fish Festival 2011. Other attractions in the fish festival were the live demonstrations on aquaculture, fishing and related activities, aquarium gallery - concept aquarium, diversified fishing activities, aquatic plants, accessories, fish food recipe competition, products and services



A view of MPEDA stall



Mr. Jyotilal, IAS, Secretary (Fisheries) (extreme left) visiting MPEDA stall

of corporates / industry in Fisheries sector, etc.

There was a great response from the public and large turn out was seen in the exhibition on all the days. Nearly one lakh people visited the exhibition including the MPEDA stall who had shown active interest in MPEDA's schemes and activities. Most of the visitors in MPEDA's stall were interested in ornamental fish breeding and enquired about the requirements and details of starting the Fish Breeding Units. The VIPs visited MPEDA stall include among others the Fisheries Secretary of Kerala Shri Jyothilal, IAS and Shri Ashok Dalwoi, Director of UID (Unique Identification Authority of India).

FOCUS AREA

NETFISH introduced small plastic baskets at Vishakhapatnam fishing harbour to eradicate the usage of bamboo baskets in fishing vessels

Network for Fish Quality Management and Sustainable Fishing (NETFISH) successfully introduced small type plastic baskets at Vishakhapatnam fishing harbour, a replica of the bamboo baskets being used in the harbour so far. In a function conducted at the harbour on 22.01.11, Dr. M. M. Prasad, Scientist in Charge, Central Institute of Fisheries Technology (CIFT) launched the product for NETFISH. Shri Vijay Kumar C Yaragal, Deputy Director, MPEDA, Regional Office, Visakhapatnam, Smt. Swarnakumari, Asst. Director, State Fisheries Department, Visakhapatnam, Dr. Joice V. Thomas, Chief Executive, NETFISH, Shri. Hanumantha Rao, State Coordinator, NETFISH, Andhra Pradesh, Shri P.C. Apparao, President, Andhra Pradesh Mechanized Boat Owners Association, Shri Ch. Satvanararvana, President, Dolphin Mechanized Boat Operators Welfare Association, Fishing harbour, Visakhapatnam, and Shri Arjilli Dasu, President, DFYWA, NGO

attended the launching ceremony. Replacement of bamboo baskets with the new plastic baskets in the Vishkapatnam fishing harbour is a good movement with regard to the quality management in fishing vessels, Dr Prasad said after launching the basket. All those who participated in the ceremony appreciated the efforts of NETFISH in the successful production of the plastic baskets to replace the bamboo baskets in the Visakhapatnam harbour. Boat owners association agreed that all the vessels would be replacing the bamboo baskets with the new plastic baskets.

More than 600 mechanized fishing vessels are operating from Visakhapatnam fishing harbour. A small sized bamboo basket is being used in this fishing harbour by the mechanized boats for carrying fish and crushed ice. For every voyage the boat owners spend money to purchase small bamboo baskets and 20-30 baskets are required for a single voyage. These baskets which can weigh around 7-8 kg of fish have become a unit of measurement in auction at this harbour. Fishermen depend on this special type of baskets for transferring the material from vessel to the wharf. A basket full of fish will be auctioned and the total quantity of fish in a boat will be calculated by multiplying number of baskets with 7 or 8 as one basket can hold 7-8 Kg of fish.

NETFISH have been cautioning about the demerits of using bamboo baskets in fishing in the awareness training programmes conducted among the fisher folk. Bamboo baskets are not appreciated in the fishing industry as these baskets are difficult to wash and will facilitate microbial proliferation.

All boat owners expressed their happiness in seeing the plastic baskets being used in the fishing vessels in place of bamboo baskets. The new type of baskets will be available at Vishakhapatnam fishing harbour itself from March 2011.



The launching ceremony of plastic baskets.

Downstream processing of seafood wastes to address environmental pollution and value added products

By V. Venugopal

(Former Head, Seafood Technology Section, Food Technology Division, BARC, Mumbai.)

The global availability of seafood has been increasing in spite of problems such as over fishing and associated depletion of a number of high value items. In addition, aquaculture operations have also been steadily rising, which involve farming of a variety of species engaging diverse rearing techniques and husbandry methods which contribute immensely to available fishery products. Current annual production of capture Fisheries is about 120 million tones, while from culture it is about 55 million tonnes. The production from culture fisheries is mainly from South East Asian Countries. The production of seafoods after processing results in offloading of discards and wastes which are found to be harmful to environment and causes pollution. This article briefly attempts to discuss downstream processing of seafood processing waste to minimise environmental pollution arising from the accumulation of discards at processing plants. Besides, approaches in this direction can also yield valuable ingredients including nutraceuticals and cosmeceuticals for diverse uses.

Global seafood processing waste

The centralized seafood processing all over the world releases enormous amounts of waste consisting of, shell, head, intestines, fin, skin etc. On a wet weight basis, the processing wastes constitute as high as 40% of shrimp and krill, 51% of crab, and, 24% in the case of squid. Finfish wastes may constitute 24 to 51% of the raw material, depending upon

the species. On a dry weight basis, 10% of total processed shrimp and crab give rise to shell waste, where as the values are 6% for squid and 15% for crab. These wastes are highly perishable and sensitive putrefaction, thereby posing a threat to the environment and could be addressed by secondary processing of wastes. This approach also can give a variety of industrially important products such as animal feed ingradients, biodiesel/biogas, dietic products and food packaging (Chitosan), natural pigments, food-(Collagen), cosmetics ingredients (Gelatin) and enzymes. These possibilities are briefed below.

Production of Fish Meal, Fish Oil and Finfish Feeds

The ideal method is the conversion of seafood process wastes into animal feed. The cooked waste material is subjected to pressing in a filter press to remove water and oil, which is approximately 70% and 10% of the raw material, respectively.

The oil removed is centrifuged to remove any solids, while the defatted and dewatered residue material is dried to make fishmeal. The fish meal may also be directly fed to certain classes of animals. The oil recovered can be used in aquaculture feeds and for other uses. For example, oil derived from salmon is being used in leather-tanning processes etc., offal of finfish, which include heads, skeletons, tails and intestines, could be minced, homogenized and mixed well with other dietary ingredients, which can be converted into pellets of diets. It is microbiologically safe and a good source of lipid.

Production of Shrimp head meal

Shrimp head waste contain 20% ash, 64% crude protein and 18% chitin and also lipids and other compounds. Mince of shrimp heads can be partially digested with proteolytic enzymes such as trypsin or pepsin. The treated material is dried and ground to a powder. The



protein-rich material can be used as monogastric animal supplement. Extended treatment of shrimp head with proteolytic enzymes followed by isolation of the digest gives Shrimp Protein Hydrolysate (SHPH). The product is an excellent source of protein (90-91%) and amino acids. The product could be used as protein supplement in animal feed. As a food additive, SHPH can also be used to suppress the denaturation of myofibrillar protein and maintain moisture in intermediate moisture foods

Production of Fertilizer and Biogas

Seafood waste can be directly used for composting. Fish offal (heads, skin, viscera and skeleton) and a mixture of wood by-products such as sawdust and wood shavings in equal proportions can be subjected to composting by placing the mixture in an open structure with passive aeration. The compost showed higher release of available Nitrogen at a constant rate of 12%. Solid state fermentation of the waste can also be useful for making highly nutritive fertilizer. Crushed shrimp shells can be used to treat acidic soils to enhance its PH, thereby reducing the need to apply chemicals such as lime. It also helps to increase the mineral content of soil. The use of shell waste derived materials can therefore be a cost-saving mechanism for farmers. There is good scope for biogas production from the seafood industry waste. The technology has been in use using cattle and piggery wastes.

Isolation of industrially important components

The conversion of discarded material into valuable by-products and specialty materials has been identified as a timely challenge for food research and development as well as to address environmental issues. Some of these products include Chitin, Chitosan, Carotenoids, Collagen, Gelatin, Enzymes and other compounds. The efforts in this direction are therefore feasible for almost total utilization of the fish catch.

Production of Chitin and Chitosan

Crustacean shell waste can be source of major useful components such as chitin, protein, and carotenoids. Chitin is a structural component in crustacean exoskeletons, constituting about 15-20% of the material by dry weight. It is the second most abundant natural biopolymer in the universe, an abundant portion coming from the exoskeletons of shellfish. On a dry weight basis about 25% of shrimp and krill waste constitute chitin, while the compound is present at about 5 to 20% in the shell of squid and crab, respectively. Apart from chitin, protein, ash and lipids are the major contents of shell wastes of shrimp. Isolation process for chitin from shrimp shell consists of three steps, namely, demineralization, deproteinisation and bleaching of the extracted chitin.

Chitin can be deacetylated to yield chitosan. Chitin and chitosan as well as their derivatives have numerous applications in agriculture, food technology, biotechnology, chemistry, cosmetics, dentistry, medicine, textiles, veterinary and environmental sciences.

Carotenoids

Carotenoids are responsible for the color of many important fish and shellfish products. Most expensive seafood, such as Shrimp, Lobster, Crab, Crayfish, Trout, Salmon, Red Snapper and Tuna, have orange-red integument and/or flesh containing carotenoid pigments. Astaxanthin, a carotenoid, is an oxidised form of β-carotene, responsible for the pinkto-red pigmentation of the crustaceans and wild salmonid fishes. Therefore, carotenoids extracted from shrimp head and shell can be used to enhance color of fish and shellfish, particularly in aquaculture operations.

Extraction of TRYPSIN

The extraction of proteolytic enzymes such as trypsin from stomach of Tuna have been found useful for milk-clotting, cheese ripening, meat tenderization, etc. Therefore, the offal of Tuna would provide an inexpensive alternative to rennet used in cheese manufacture.

Collagen and Gelatin

Fish skin, bone and fin from large fish such as Tuna, Shark, Seer fish and Hake can be used for recovery of collagen. Seafood collagens have lower denaturation temperatures than porcine collagen. Collagen from fish waste can be utilised as alternatives to mammalian collagen in foods, cosmetics and biomedical materials and therefore can be used for gelatin isolation. In addition, collagen can be easily converted to gelatin, which has potential applications as thickener and stabilizer in other food industry sectors.

Surimi from filleting waste

Filleting operations of large finfish Surimi results in generation of fish frame that carry large amounts of meat portions. These filleting wastes from fish such as Hake, Seer etc., could be isolated by mechanical deboning of the fish frame. The collected meat is minced/washed thoroughly to give Surimi. The Surimi, because of its excellent gel forming characteristics, can be used to develop restructured imitation seafood items.

In summary, secondary processing of seafood waste can be commercially beneficial, that can also address seafood related environmental pollution.

QUALITY FRONT

Common Pre-processing Centre established at Sakthikulangara, Kollam

Chri S Sharma, Hon'ble Minister Ofor Fisheries and Registration, Government of Kerala inaugurated the Common Pre-processing Centre at Sakthikulangara, Kollam in the presence of Shri N K Premchandran, Hon'ble Minister for Water Resources, Smt. Leena Nair IAS, Chairman, MPEDA, Advocate V V Saseendran, Chairman, Matsyafed, and Sri Kesavan Nair, Managing Director, Matsyafed on 17th February, 2011. This Community Peeling Shed has come into a reality as a result of the joint effort made by MPEDA and Matsyafed, a Kerala Government Fisheries Department Organisation.

Sakthikulangara is one of the major fish landing centres of the State. In this area house peeling is rampant. In order to overcome the problem, MPEDA had approached Matsyafed, a Kerala Government Organisation with many years of experience in fisheries, to set up a State-of-the-art common infrastructure facility to provide proper work environment for the women engaged in house peeling. Accordingly Matsyafed had submitted a proposal for the setting up of a state-of-the-art pre-processing complex satisfying all sanitary requirements at Sakthikulangara. The Government of Kerala has provided 0.57 hectares of land. Land being very scarce and expensive in the locality, the provision of 0.57 hectares of land by the State Government itself is a substantial contribution without which the project could not have been possible. MPEDA submitted a project proposal for setting up of a community peeling shed Sakthikulangara to the Central Government for obtaining ASIDE funds from the Ministry of Commerce,

Government of India. The estimated cost of the pre-processing facility was Rs.280 lakh.

This project has about 10,500 square feet work space to accommodate 288 peeling workers at a time. It is estimated that under the shift system about 600 women workers could be accommodated. This facility has been constructed to meet stringent international standards. The facility has flake ice making machine, chill rooms and space for auctioning of the finished products.

This project has considerable significance in the sense that it will provide employment and proper work environment to women workers undertaking the peeling activity. The project is expected to have a deep impact on solving the problem of house peeling. The project is expected to substantially improve the quality of shrimp exported from Kerala and bring about transformation among the peeling workers of the area. Improvement in the quality of peeled shrimp will lead to re-

duction of rejections by importing countries. Therefore, the project was favourably considered by the Central Government and the amount of Rs.280 lakh was sanctioned under the ASIDE Scheme for the project to be implemented by Matsyafed.

As per the plan, the building has independent change room, rest room, toilets and locker facilities for male and female workers. The building has been constructed with prefabricated panels for the walls, roofing with truss work, aluminium sheet and PVC false ceiling. About 35 stainless steel tables, foot rest, insulated boxes, trays and utensils will be available for working at the community peeling centre. Other facilities which have been provided are water supply and sanitary arrangements, effluent treatment system, flake ice unit, chill room, microbiological laboratory and compound wall.

Day to day running and maintenance will be carried out under the supervision of Matsyafed. It is ex-



Shri S. Sharma, Minister of Fisheries, Govt. of Kerala (left) inaugurates the CPC. Others present (R to L) Ms. Leena Nair, Chairman, MPEDA, Advocate V.V. Saseendran, Chairman, Matsyafed, and Shri N.K. Premachandran, Minister for Water Resources, Govt. of Kerala.

pected that the Matsyafed will take direction from a Management Committee which will include all stake holders. The Management Committee shall be suggesting charges that will have to be paid by the fisherwomen for using the facility. Needless to mention that this Management Committee shall include representatives of the women workers. The cost of the operation has to be met with the revenue generated from the user fee. It is understood that the working capital requirement for the fisher women could be given by Matsyafed from its micro finance loan scheme provided they form themselves into self help groups. As quality is one of the major concern and the facility is created to improve quality standards of pre-processing, Matsyafed will supervise the practices and make sure that only desirable practices are followed in the facility.

Prof. B. Madhusoodana Kurup assumed chargeas as first Vice Chancellor of Kerala University of **Fisheries and Ocean Studies (KUFOS)**

Prof.B.Madhusoodana Kurup, eminent fishery scientist, well known academician and Director of School of Industrial Fisheries of Cochin University of Science & Technology assumed charge as the first Vice Chancellor of Kerala University of Fisheries and Ocean Studies (KUFOS) on 1st March 2011. This is the first University of its kind established in the country with its headquarters at the erstwhile campus of the College of Fisheries of the Kerala Agricultural University. This is a stand alone University with two constituent institutions viz., College of Fisheries at Panangad having a campus of 70 acres and Fisheries station located at Vypin in west Cochin with another 50 acres. The University will establish campuses in Thiruvanathapuram where 10 acres of land is already in possession while another campus is proposed at northern Kerala for instructions and research activities.

Prof.Kurup has over 32 years of research and 30 years of teaching experience in Fisheries Sciences in Cochin University of Science &Technology and Kerala Agricultural University. He served as Associate and Assistant professor in Kerala Agricultural University, Professor in CUSAT for more than 12 years and Director of School of Industrial Fisheries from Octo-



ber 2008 to February 2011. Prof. Kurup also served as technical advisor to Minister for Fisheries, Govt.of kerala during 2006-2011 in the rank of Govt. Secretary.

Prof. Kurup holds a masters Degree in Marine Biology and Ph.D in Fisheries Sciences, both Cochin University of Science & Technology. He worked as Post Doctoral Research Fellow in Fish culture and Fisheries Group, Dept. of Animal Sciences, Wageningen Institute of Animal Sciences, Wageningen University, The Netherlands. He was conferred with the Marie Curie Action Research Fellowship of the European Commission under the seventh frame work programme, Nuffic-MHO of Netherlands and also served as a steering committee and general assembly member of 17 countries consortium of European Commission project - Environment Management

Reforms for Aquaculture and Fisheries (Aquagris). He also served as Fishery Expert in the Indo Dutch cooperation, Netherlands and Asian Development Assistance Facility (ADAF) of Newzealand. Prof.Kurup visited more than 15 overseas Universities dealing with fisheries and aquaculture in various capacities. He participated in more than 24 international conferences including the recent one on ecosystem based fisheries management held at University of Alaska, USA with FAO funding support. He is a sitting member of the Kerala Coastal Zone Management Authority (KCZMA) for a second tenure. The research team under his supervision described nine fish species new to science besides more than 100 species new to Indian waters besides describing more than 600 fish species from Indian waters. His pioneer data on impact of bottom trawling on sea bottom ecosystem and its living communities and impact assessment studies on ban of bottom trawling during monsoon in providing respite to the fish stock were widely consulted for taking policy decisions on marine fisheries resource conservation and management of Kerala. He has published more than 300 research papers in peer reviewed international and national journals.

HACCP (Basic) Training Programme held at Chennai

The Marine Products Export Development Authority, Regional Office, Chennai organized a 4-day training-cum-workshop on "Seafood HACCP" at Comfort Inn-Marina Towers, Egmore, Chennai from 22 - 25, Feb 2011.

Shri K.V.V.Mohanan, Regional President of Seafood Exporters

manpower for application of HACCP in Seafood processing establishments.

Earlier, welcoming the participants Shri.C.R.Rajan, Deputy Director, MPEDA, Regional Office, Chennai indicated that this is the tenth programme of its kind being organized by MPEDA at Chennai for

the benefit of the seafood industry and requested the participants to take maximum advantage of the opportunity.

Shri J C Sharma, Joint Director, Export Inspection Agency, Chennai offered felicitation address, wherein he stressed the need to have an effective HACCP system in place in Seafood processing establishments, particularly in the context of the stringent regulations brought out by importing countries like the United States, European Union etc.

Shri A.Jeyabal, Assistant Director, MPEDA, Chennai extended vote of thanks.

Shri.K.S.Nair, Asst. Director, Shri.S.S.Shaji, Asst. Director and Shri.V.Vinod, Technical Officer of the HACCP Cell of MPEDA, Kochi, served as faculty for imparting the training. Thirty-five technical personnel representing 26 seafood processing establishments in the state of Tamil Nadu and Andhra Pradesh attended the four-day training programme.



Shri K.V.V. Mohanan, Regional President, SEAI (Chennai Region) delivering Inaugural address.

Association of India (Chennai Region) inaugurated the programme on 22nd Feb 2011 by lighting the ceremonial lamp. In his inaugural address, he emphasized the need and importance of implementation of HACCP in seafood Industry. He urged the Technical Personnel participating in the programme to function as strong pillers for their establishment for the effective implementation of HACCP principles for production of safe and quality seafood products for exports. He appreciated the continued efforts of MPEDA in developing technical



Shri S.S. Shaji, Asst. Director, RO, Kochi conducting a session.

Breakthrough in Mud Crab (Scylla serrata) seed production by Rajiv Gandhi Centre for Aquaculture (RGCA), MPEDA in Tamil Nadu

Ccylla serrata, commonly known as Othe Mud Crab or Green Crab, has an immense market demand all over the world, particularly in South East Asian countries. This seafood delicacy is considered as one of the tastiest of all Crab species. This is often sold in live in many international markets. India earns foreign exchange to the tune of US\$ 18 Million by exporting Live Mud Crab captured from the low-lying coastal belts across the country. Due to overfishing Natural stocks of Mud Crab in the country are under constant pressure.



Crablet (Juvenile Crabs)

There is presently, no organized Mud crab Aquaculture in India, for supporting the export trade. The major reasons are attributed to the availability/inconsistent availability of Crab seeds for farming. Hence, only crab fattening is being practised by the coastal farmers/ fishermen, where soft crabs/water crabs (moulted crabs) caught from the wild are reared in brackish water tide fed ponds/pens in estuaries until they become hard and ready for marketing. Besides exploitation, natural stocks are also dwindling owing to habitat loss due to several

reasons including fast urbanization of the coastal belts.



View of the Crab larval rearing section of the RGCA hatchery at Thoduvai, Sirkali, Nagapattinam Dist, Tamil Nadu

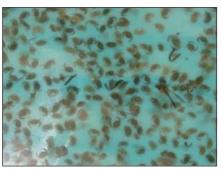
In order to strengthen the production base of the Mud Crab so as to facilitate a sustainable source of Mud Crab for export, Rajiv Gandhi Centre for Aquaculture (RGCA), the R & D arm of the Products Development Authority (MPEDA), Ministry of Commerce & Industry, located at Thoduvai, Sirkali in Nagapattinam District, Tamil Nadu have taken up R & D work on production of Mud Crab seeds in hatchery and for this purpose, established a Hatchery at Thoduvai Village, Sirkali, Nagapattinam, Tamil Nadu. This hatchery is one among very few Mud Crab hatcheries in the



Scylla serrata "Mud Crab or Green Crab"

world, Philippines, Vietnam and China being the other countries having them. It has been regularly producing Mud Crab seeds reared to Crablet sizes at its Demonstration farm and supplying to farmers in the area. Crablets have also been supplied to several research institutions like the Central Institute of Brackish water Aquaculture (CIBA) and National Institute of Ocean Technology (NIOT) for their farming demonstrations. The facility has also been carrying out ranching of Crablets in estuarine and mangrove areas in Tamil Nadu from time to time for natural stock enhancement. **MPEDA** carried out demonstrations that yielded a production of one MT/ha. by using crablets produced by RGCA.

Owing to the highly cannibalistic nature of the larvae of this species, larval rearing of Mud Crabs is a very challenging task and survival rates achieved are extremely low when compared to other crustacean species and species of finfish. But, the scientists at RGCA have achieved a breakthrough survival of 14% against the world average survival rates of 3%. This encouraging breakthrough achieved by RGCA can open up avenues for commercialization of Mud Crab hatchery technology leading to organized Mud Crab Aquaculture in the coastal areas of the country especially among the weaker sections of the society giving them an alternate livelihood option and also strengthen the production base of Mud Crab for export in Live & value added forms. This can also result in reducing the fishing pressure on the natural stocks and thereby





Crab instars (baby crabs) produced at the facility

facilitating natural stock enhancement in the mangrove forests.

The hatchery & farming technology of Mud Crab developed by RGCA is being disseminated by its Training & Technology Transfer centre (TTTAC) at Sirkali through effective hands in training and awareness programmes.

Training Programme on

Eco-friendly and Sustainable Freshwater Prawn Farming and Diversification of Aquaculture

for Sc/St Beneficiaries In Kerala.

Though Palakkad District of Kerala has very good potential for aquaculture, only around 100 ha. area has, so far, been developed for fresh water aquaculture. For the past few years, MPEDA, Regional Centre (Aq), Kochi has been intensifying its activities by organizing awareness programmes and trainings in Palakkad District mainly for bringing more and more areas in to Aquaculture and there by to increase production of scampi from this region.

In this direction, a Training Programme on "Eco-friendly and Sustainable Scampi Farming and Diversification of Aquaculture" was organized by this Centre for the benefit of SC/ST farmers of Muthalamada / Chulliar area from 27th to 31st December, 2010 at the Meeting Hall of Muthalamada Grama Panchayath. 20 farmers participated in the programme. Most of the farmers were, hitherto engaging in reservoir fisheries in Chulliyar Dam and a few were

practising scientific aquaculture in small areas.

INAUGURAL SESSION:

The training programme was inaugurated by Shri S. V. Selvan, President, Muthalamada Grama Panchayath who expressed the hope that this programme would bring benefits to the farmers.

Earlier, welcoming the officials and trainees, MPEDA officials explained the purpose and objective of this training programme. He said that the training programmes conducted so far in Palakkad district has brought some results. Faster development could be achieved by the active involvement of trained, hard working and dedicated farmers. The purpose of this training is to impart technical know-how, self confidence, motivation and positive attitude. He requested the trainees to utilize the opportunity effectively and demonstrate it to the community for better output and results.

Shri. S. Omanulla, Chairman of the Standing committee presided over the function. Shri. N.N. Mohammed Kasim, Secretary, Shri. Murukesan, Ward Member, Muthalamada Grama Panchayath, Smt. Sindhu Devi, Agricultural



Shri. S.V.Selvan, President, Muthalamada grama Panchayath inaugurating the Training

Officer, Krishi Bhavan, Muthalamada Grama Panchayath, and Shri. Syed Mohammed, Asst. Director, Dept. of Fisheries, Malampuzha, felicitated the occasion. Shri. K. Chandran, President of the Chulliyar Dam SC/ST Welfare Society, thanked MPEDA for organizing such a training programme and assured that the resources of the society will be utilized for the development of the aquaculture sector.

TECHNICAL SESSION:

Shri. Syed Mohammed, Asst. Director, Dept. of Fisheries, Malampuzha, engaged classes on Reservoir fisheries, its problems and remedies. In his lecture he outlined the technical aspects of Reservoir fisheries.

MPEDA officials engaged classes on Introduction to Freshwater prawn farming and culture methods. The class covered different types of Freshwater prawn farming and culture technology, site selection, farm design, farm construction, farm equipments, soil and water quality parameters etc.

On the second day of the training programme, MPEDA officials conducted classes on Life Cycle of Freshwater prawn, larval cycle of Freshwater prawn, its biology, habitat, pond preparation, stocking of seeds, feeding and feed management. The technical and financial assistance provided by MPEDA for promoting Aquaculture were discussed.

On the third day of the training programme, MPEDA officials took classes on Organic Aquaculture, group farming, assessment of stock by sampling method, Economics of Freshwater prawn culture and Harvesting & Marketing of the produce.

On the fourth day of the training programme a field trip was conducted to a leading MPEDA registered scampi farm Kuttipadam for practical exposure. This farm, having an area of 1.6 ha, is stocked with Freshwater prawn. Sampling was done and shown to the trainees. Biology of prawn and fish were also explained to them. Different farm components etc. were briefly explained. Testing of Soil and water quality parameters like PH, salinity etc. was taught to the trainees. The farmers also explained parameters, farm various management, economics etc to the trainees.

On 31-12-2010, MPEDA officials engaged classes on Better Management Practices (BMP's) for Freshwater prawn culture, diversified aquaculture and antibiotic issues.

In the afternoon session, Shri. Syed Mohammed, Asst. Director, Dept. of Fisheries, Malampuzha, engaged classes on Schemes and Services of the Dept. of Fisheries for the development of Aquaculture in the state. The class outlined the organizational set-up, the mode of operation and various schemes under Dept. of Fisheries.

After the technical session, the training programme concluded with the valedictory session.

Shri S. V. Selvan, President of Muthalamada Grama Panchayath, in his valedictory address requested the trainees to utilize the knowledge acquired from the training for the of the development panchayath. Shri. N.N. Mohammed Kasim, Secretary, Muthalamada Grama Panchayath, Shri Syed Mohammed, Asst. Director, Dept. of Malampuzha, Shri Fisheries, Velayudhan of the SC/ST Welfare Office, Kollengode and Shri K. Chandran, President of the Chulliyar Dam SC/ST Welfare Society addressed the valedictory session.

Certificates were distributed to 20 candidates who have successfully completed the training programme.

Awareness Programme on Sea Bass Farming

Conducted at Pedapatnam Village, Krishna District (AP)

An awareness programme on seabass farming in cages was organized on 26-02-2011 at the community hall, Pedapatnam village, Krishna District. 100 farmers of the village are involved in the culture of P. monodon in 200 ha area. The Presidents of the Shrimp Farmers and Aqua Farmers Welfare Societies participated in the awareness programme as guests.

The participants and guests were

welcomed by MPEDA officials. It was informed that the selection of seabass as a candidate species is considered suitable for culture diversification in ponds and cages. He advised farmers to undertake culture in the cages based on the technology developed by MPEDA-RGCA suitable for the farming of sea bass in the ponds with minor modification.

Dr. Phani Prakash, Assistant Director of fisheries, Department of Fisheries Govt. of Andhra Pradesh inaugurated the programme. In his inaugural address he welcomed the initiative taken by MPEDA in organizing the programme on seabass farming. Though the farmers are traditionally practising seabass culture by using natural seed and live tilapia, higher quality and quantity of productions are not recorded as seabass was highly carnivorous due to its cannibalistic

nature. Hence the technology provided by MPEDA-RGCA can be adopted for better production and high survival of the seabass in farming. Sri. E. Mariyanna, Sarpanch of

occasion and thanked MPEDA for organizing the programme at their village stating farmers are in need of financial, technical and input

Peddapatnam village spoke on the

support to venture in to the farming.

The programme concluded after discussion and vote of thanks at 18.30 hrs.

Report on

Awareness Programme to avoid the use of Antibiotics In Aquaculture

Conducted at Ezhupunna in Kerala

In view of the risk associated with marketing of aqua products contaminated with antibiotic

Raghu, Deputy Director (Aqua.). In his welcome address, he briefed on the basic principles of the culture practices and importance of the antibiotic-free farming. The aquaculture coordinators of Aroor and Ezhupunna panchayaths attended the function.

In the following technical sessions, topics such as abuse of Antibiotics in aquaculture, importance of Diversification of Aquaculture including methods for improving production from Traditional farms and organic aquaculture and group farming were discussed

The technical session was followed by a group discussion. The doubts raised by farmers on various aspects of Aquaculture were cleared by MPEDA officials.



Shri K.V. Raghu, Deputy Director (Aq.)MPEDA taking class in the Awareness Campaign

residues, some antibiotics are banned from aquaculture. To popularize the bad effects of antibiotics, MPEDA regularly organizes campaigns against the use of antibiotics. Such an awareness programme was organized at Ezhupunna village in Alappuzha dist. on 8th February 2011. The programme was arranged mainly for brackish water farmers in the region. A total of 24 farmers attended the programme.

The awareness programme commenced with the welcome address extended by Shri K.V.



View of participants in the Campaign

3 -day Training Programme on

Eco-friendly & Sustainable Shrimp Farming

Organised at Village: Sankijahan, Dist. South 24 Paragnas (WB)

3-day Training Programme on **A**"Eco-friendly & sustainable shrimp Farming" was conducted at village Sankijahan, Kantamari, Garankati, Durgapur of South 24 Paragnas Dist from 9-11, February, 2011 for the benefit of 20 shrimp farmers. Vivekananda Adarsha Vidyalaya at Sankijahan was the venue of the programme. The Inaugural programme was attended by Shri Joy Krushna Haldar, Hon'ble MLA, Kultali, Shri Krishna Kanta Paik, President, Vivekananda Sangha, and Shri Biswajit Das, Secretary, Vivekananda Sangha.

MPEDA officials welcomed the Trainees & delegates to the programme and informed about various promotional schemes of the MPEDA for shrimp culture and briefed the scope and status of shrimp farming in India, especially in West Bengal & the present status of global scenario. The concern of the low price realization of farmed shrimp was discussed and suggested to minimize the cost of production which is the only alternative to get more profit. Officials requested the farmers to avoid chemicals and antibiotics directly or indirectly in

aquaculture and make use of the facilities available at MPEDA ELISA Lab for pre-harvest testing of samples to maintain the quality of the produce.

Shri Joy Krushna Haldar, Hon'ble MLA, Kultali has inaugurated the Training Programme. In his inaugural address he appreciated the role of MPEDA in shrimp/scampi culture & advised trainees to gain technical knowledge from the faculties. He suggested MPEDA to depute one of the technical personnels to their area for the development of shrimp farming, which will dramatically change the farming scenario of that area, and requested MPEDA to educate farmers by conducting more such kind of programmes in the area. He also interacted with the trainees in the group discussion at the end of the inaugural programme.

After the inaugural session theory classes were taken by the officials of MPEDA on topics such as site selection, construction of shrimp farms, Introduction to shrimp farming, General Biology of Tiger shrimp, Role of MPEDA in the development of sustainable aquaculture and promotional

schemes.

During the remaining 2-days classes were taken on the role of MPEDA in the development of sustainable aquaculture, promotional schemes of MPEDA, Site selection, Farm construction, Pond preparation, water quality management, Seed selection, PCR test, transportation, acclimatisation in pond, Water quality Management during culture, Feed Management & diversification, Disease management, pre harvest test, Deleterious effect of Antibiotics in Aquaculture, Economics of Shrimp culture, diversification in aquaculture, BMP and crop plan, contract hatchery system, present issues on aquaculture in West Bengal, different culture techniques, harvest & post harvest methods, etc.

On the last day a group discussion was arranged where the farmers could interact with the officials and discuss various problems and issues faced by them. The valedictory function was presided over by Shri Krishna Kanta Paik, President, Vivekananda Sangha, Sankijahan & distributed certificates to trainees on successful completion of the training.

Technical Guidelines on Aquaculture Certification

(This feature is an extract taken from a report by the Food and Agriculture Organization of the United Nations. It will be published part by part in MPEDA Newsletter continuously for the benefit of its readers.)

Background

Global production from aquaculture is growing substantially and provides increasingly significant volumes of fish and other aquatic food for human consumption, a trend that is projected to continue. Although aquaculture growth has potential to meet the growing need

for aquatic foods and to contribute to food security, poverty reduction and more broadly to achieving sustainable development and the Millennium Development Goals, it is increasingly recognised that improved management of the sector is necessary to achieve this potential.

Aquaculture is a highly diverse

production sector comprising many different systems, sites, facilities, practices, processes and products, conducted under a wide range of political, social, economic and environmental conditions.

Aquaculture production and trade has increased, but concerns have emerged regarding possible negative

impacts on the environment, communities and consumers. Solutions to many of these issues have been identified and addressed. The application of certification in aquaculture is now viewed as a potential market based tool for minimising potential negative impacts and increasing societal and consumer benefits and confidence in the process of aquaculture production and marketing.

Although aquatic animal health and food safety issues of aquaculture have been subjected to certification and international compliance for many years, aspects of animal welfare, environmental issues and social issues have not been adequately subjected to compliance or certification as a prerequisite for international trading. At present, the aquaculture industry and market increasingly recognize that credible certification schemes have the potential to reassure buyers, retailers, consumers and civil society regarding these concerns and provide a further tool to support responsible and sustainable aquaculture.

Scope

These guidelines provide guidance for the development, organization and implementation of credible aquaculture certification schemes.

The guidelines cover the range of issues which should be considered relevant for the certification in aquaculture including: a) animal health and welfare, b) food safety and quality, c) environmental integrity and/or d) social responsibility associated with aquaculture. An aquaculture certification scheme may address one or all of these issues.

There is an extensive national and international legal framework in place for various aspects of aquaculture and its value chain, covering such issues as aquatic animal disease control, food safety and conservation of biodiversity. Legislation is particularly strong for processing, export and

import of aquatic products. Recognised competent authorities are normally empowered to verify compliance with mandatory national and international legislation. Other issues such as environmental sustainability and social responsibility may not be covered in such a binding manner and open the opportunity for voluntary certification as a means to demonstrate that a particular aquaculture system is managed responsibly.

Credible aquaculture certification schemes consist of three main components: (i) standards; (ii), accreditation, and (iii) certification. The guidelines therefore cover:

- standard setting processes required to develop and review certification standards;
- accreditation systems needed to provide formal recognition to a qualified body to carry out certification.
- certification bodies required to verify compliance with certification standards.

Developing and implementing a certification scheme may be undertaken by any entity qualified to do so in accordance with the requirements of these guidelines. The entities that may undertake standard setting, accreditation, or certification include, inter alia, Governments, NGOs, private sector groups (e.g. producer or trade associations), civil society arrangements, or consortia comprising some or all of these different stakeholder groups, as long as there is no conflict of interest for any of the entities involved. The guidelines provide information on the institutional and organisational arrangements, including governance requirements, for aquaculture certification.

Users

Direct users of these guidelines are entities that develop and

implement (or are already implementing) a certification scheme for aquaculture such as: a) standard setting bodies, b) accreditation bodies, c) certification bodies, and/or d) an entity that is undertaking more than one of these functions, without having a conflict of interest.

These entities should use these guidelines in developing, implementing or revising certification schemes that seek to address any or all of the following issues: a) animal health and welfare, b) food safety and quality, c) environmental integrity, and d) social responsibility.

Indirect users of these guidelines are the stakeholders with an interest in certification schemes such as aquaculture producers and other parts of the aquaculture industry, as well civil society groups, government agencies, and other concerned parties (e.g. intergovernmental bodies, funding institutions). The stakeholders of a particular certification scheme will depend on the objectives of the scheme, e.g. geographic scope, production systems covered, issues addressed.

Application

The guidelines should be applied by the direct users of the guidelines, (i.e. a standard setting body or entity, an accreditation body or entity) to ensure that their efforts to develop and implement a certification scheme are in accordance with the principles, considerations, relevant minimum substantive requirements and institutional and procedural requirements in the guidelines.

Entities responsible for new and existing aquaculture certification schemes should undertake to assess, verify and document that these certification schemes have been developed and are being implemented in accordance with the guidelines. If there are deficiencies in

the way an existing scheme was developed and/or in how it is being implemented, the entities responsible for the functions (i.e. standard setting, accreditation, or certification) should act accordingly to define and implement a corrective action plan. When this is completed, the entities should verify and document that the scheme is in accordance with the guidelines. There should not be any conflict of interest among the critics involved.

If the entities responsible for an aquaculture certification scheme do not provide credible assurance that the scheme has been developed and is being implemented in accordance with the guidelines, stakeholder groups (especially those being certified under the scheme) may use these guidelines to undertake an evaluation of the scheme themselves, or seek an appropriate body to do so. The evaluation would use these guidelines to assess whether a certification scheme is developed and implemented in accordance with the guidelines regarding, inter alia:

- · Whether the principles have been adhered to.
- · Whether the considerations have been addressed.
- Whether the objectives of the scheme and issue areas have been addressed in accordance with the appropriate minimum substantive requirements.
- Whether the standard setting, accreditation and/or certification have been developed and implemented in accordance with the institutional and procedural requirements.

Principles

Aquaculture certification schemes:

a. must recognise the sovereign rights of States and comply with relevant local, national and international laws and regulations. They must be consistent with relevant international agreements, conventions, standards, codes of

- practice and guidelines.
- b. must recognise that any person or entity undertaking aquaculture activities is obliged to comply with all national laws and regulations and international agreements developed and agreed by governments in relation to aquaculture.
- c. must be developed based on the best scientific evidence available (or use meaningful proxies when such data is not available), taking traditional into account knowledge, providing that its validity can be objectively verified. They must ensure that shortterm aquaculture development considerations do compromise the ability to responsibly address long-term concerns or cumulative impacts.
- d. must be developed and implemented in a transparent manner and must ensure that there is no conflict of interest among the entities that are responsible for standards setting, accreditation, and certification. These entities must facilitate mutual recognition, strive to achieve harmonization and recognise equivalence, based on the requirements and criteria outlined in these guidelines.
- e. must be open to scrutiny by consumers, civil society, and their respective organisations and other interested parties, while respecting legitimate concerns to preserve confidentiality
- f. must be credible and robust, be fully effective in achieving their designated objectives, and must establish and maintain the confidence of the farmers and industry operators participating in the scheme, as well as the confidence of other stakeholders, including consumers, governments and civil society groups.
- g. must promote responsible aquaculture during production,

- including the use of inputs such as seeds and feed, harvesting and post-harvest handling.
- h. must ensure traceability of certified aquaculture products and processes; promote continuous and measurable improvements in performance; and establish clear accountability for all involved parties, including the owners of certification schemes, auditors and the certification bodies, in conformity with international requirements, as necessary.
- must not discriminate against any group of farmers practicing responsible aquaculture based on scale, intensity of production, or technology; promote cooperation among certification bodies, farmers and traders; incorporate reliable, independent auditing and verification procedures: and should be cost effective to ensure inclusive participation responsible farmers. must strive and encourage responsible trade, should not create uncessary obstacles to trade, and should facilitate market access.
- j. must ensure special considerations are provided to address the interests of resource poor small-scale farmers, especially the financial costs and benefits of participation.
- k. must recognize the special needs for developing countries, i.e. developed country importers should take into account the inadequate capabilities of developing countries and provide the necessary assistance with implementation.

Implementation

National and relevant international organizations, whether governmental or nongovernmental, the aquaculture industry, and financial institutions should recognize the special circumstances and requirements of aquaculture

producers and other stakeholders in developing countries, especially those in least-developed countries and small island developing countries, to support the effective implementation of these guidelines. States, relevant intergovernmental and governmental organizations, buyers and traders, and financial institutions should work to address these implementation needs, especially in the areas of financial and technical assistance, technology transfer, capacity building and training. Such assistance should also consider direct support towards the possible high of accreditation costs certification.

Assistance is needed for building the capacity and enhancing the ability of stakeholders to participate in developing and complying with aquaculture certification schemes consistent with these guidelines. This includes ensuring that stakeholders have access to, and understanding of, these guidelines, as well as provisions of relevant international conventions and applicable standards that are essential for responsible aquaculture. Appropriate and up-to-date technologies may be required to comply with certification standards. Full benefit from such technologies would require extension, training, skill development and other local capacity building programmes for farmers and local communities and other stakeholders. Governmental and other institutions should support cooperation, especially at regional and sub-regional levels, in capacity building for developing and complying with aquaculture certification systems most suitable to their regions, and in the elaboration of mechanisms and protocols for the exchange of knowledge, experience and technical assistance in support of these objectives.

Different aquaculture certification schemes may be capable of meeting

the same objective and are therefore equivalent. Memoranda understanding, mutual recognition agreements, equivalence agreements and unilateral recognition may be developed for recognition of equivalence of aquaculture certification schemes, all of which need to include appropriate controls and verification of the certification systems involved. Tools and technical assistance may be required to ensure fairness, transparency and uniformity in developing equivalence agreements and monitoring that facilitates the development and implementation of aquaculture certification schemes consistent with the certification, accreditation and standards development procedures provided in these guidelines.

FAO will facilitate and monitor implementation of these guidelines on certification in aquaculture.

(to be continued in the next issue)



NEWS SPECTRUM

UN proposes \$1.3 trillion annual green economy investment, phase-out of oil and fisheries subsidies

transition."

business as usual.

\$1.3 trillion annual investment coupled with a phase out of subsidies for unsustainable resource use would kick start a global transition to a green economy according to a new report from the United Nations.

The report says investing two per cent of global GDP, or \$1.3 trillion, backed by "forward looking national and international policies", would cause the world economy to grow at the same rate, or faster, compared to a business-as-usual forecast.

This approach, which includes the removal of subsidies for the fossil fuel and fisheries sectors, would eliminate the "rising risks, shocks, scarcities and crisis increasingly inherent in the existing, resource-depleting, high



"Currently, the world spends between one and two per cent of global GDP on a range of subsidies that often perpetuate unsustainable resources use in areas such as fossil fuels, agriculture, including pesticide subsidies, water and fisheries," the report said.

"Many of these are contributing to environmental damage and inefficiencies in the global economy, and phasing them down or phasing them out would generate multiple "Misallocation of capital is at the centre of the world's current dilemmas and there are fast actions that can be taken starting literally today-from phasing down and phasing out the over \$600 billion in global fossil fuel subsidies to redirecting the more than \$20 billion subsidies perversely rewarding those involved in unsustainable fisheries," he said.

benefits while freeing up resoiurces

to finance a Green Economy

while the ecological footprint would

be cut 50 per cent compared to

from Deutsche Bank and head of

UNEP's Green Economy Initiative,

said in a press release accompanying

the report that "governments have a

central role in changing laws and

policies, and in investing public

money in public wealth to make the

transition possible. By doing so, they

can also unleash the trillions of

dollars of private

Per capita incomes would rise

Pavan Sukhdev, on secondment

- Scot Simpson, communities.Canada.com

JWG on fisheries to meet on March 28

After a gap of over five years, the Indo-Sri Lankan Joint Working Group on fisheries will meet in New Delhi on March 28 to discuss issues of fishing in the narrow Palk Straits and the Gulf of Mannar and related problems.

Apart from senior officials of the External Affairs Ministries of India and Sri Lanka, the delegations which will take part in the talks will include representatives from the Ministry of Fisheries, Ministry of Defence, the Attorney General's Department, Immigration and Armed Forces.

The meeting of the group was revived consequent to a meeting between Indian Foreign Secretary Nirupama Rao and the Sri Lankan President Mahinda Rajapaksa, in end-January. She had rushed to Colombo following the killing of two fishermen from Tamil Nadu in Sri Lankan waters.

A joint statement issued at the end of Ms. Rao's visit decided to revive the Group at "an early date." The Group would also address the proposed Memorandum of Understanding on development and cooperation in the field of fisheries. "It was decided as well to enhance and promote contacts between the fishermen's associations on both sides, since such contacts have proved to be mutually beneficial," the statement had said.

India and Sri Lanka are also working on modalities for visit of delegations of fishermen from either side.

- R K Radhakrishnan, The Hindu

Boston Seafood Addresses Seafood **Shortage**

TS - An unanticipated surge in per-capita seafood consumption in Asia is leading to unprecedented demand that can only be met by aquaculture. A special session at the Boston Seafood Show, sponsored by the Global Aquaculture Alliance and Diversified Business Communications, will provide strategic views on aquaculture supply and demand around the world.

It will also further explore ideas on how the varied elements of the aquaculture industry can work together to prepare for a future with much higher seafood demand.

The panel of aquaculture experts from the United States, China, Malaysia and Chile will address potential aquaculture production changes and clarify the coming seafood needs. Session attendees will also learn about new pro-aquaculture policies in the United States.

Seating is limited for this event. To attend, participants must hold a Gold or Silver Passport as part of their registration. Details on the full conference program and registration are available online at www.bostonseafood.com/11/ public/dbc_register.aspx.

Since 1982, the International Boston Seafood Show has attracted thousands of seafood professionals from more than 130 countries, making it the largest annual seafood show in the United States. The show features approximately 870 exhibitors representing all facets of the seafood industry.

TheFishSite News Desk

Fishing leaves fewer big fish, more small

Predatory fish such as cod and tuna have declined by two-thirds over the past 100 years, while small forage fish such as sardine and anchovy have more than doubled, according to researchers.

Led by Prof. Villy Christensen of the University of British Columbia's Fisheries Centre, a team of scientists

used more than 200 marine e cos v s t e m models from around the world and extracted more than 68,000 estimates of fish biomass from 1880

to 2007. They presented the findings at the American Association for the Advancement of Science (AAAS) Annual Meeting in Washington, DC.

Their finding of the simultaneous decline of predatory fish and increase of forage fish provides the strongest evidence to date that humans are indeed "fishing down the food web" and impacting ecosystems globally. The UBC team also found that of the decline in predatory fish population, 54% took place in the last 40 years alone.

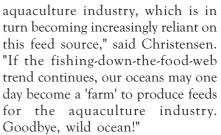
"Overfishing has absolutely had a

play' effect on our oceans," said Christensen, a professor in the UBC Fisheries Centre. "By removing the large, predatory species from the ocean, small forage fish have been left to thrive."

While the doubling of forage fish amounts to more fish production, Christensen cautioned that the lower

> trophic-level food web is m o r e vulnerable to environmental fluctuations.

"Currently, forage fish are turned into fishmeal and fish oil and used as feeds for



Christensen's presentation was part of an experts' panel to answer the question "2050: Will there be fish in the ocean?" The panel predicted that while there would be fish in 2050, it would consist mostly of the smaller variety.

- www.worldfishing.net



Feb 20, Colombo: Sri Lanka Minister of Fight Resources Rajitha Senarathna says that discussions are underway between India and Sri Lanka to settle the dispute in relation to fishing in the adjoining maritime waters of the

two countries.

The Minister says he is in a dialogue with his Indian counterpart and the problem will be resolved amicably.

Accordingly, a memorandum of understanding is to be signed between the two countries soon regarding fishing in the waters between the two countries.

Often, the authorities of the two countries arrest each other's fishermen under the charges of poaching in their waters when they cross the International Maritime Boundary Line (IMBL). The fishermen often say that they were unaware of being in the other's territorial waters.

Recent arrests of the Indian poachers by Sri Lankan fishermen sparked a wave of protests in India and Sri Lanka, under pressure from India, released the fishermen later and handed them over to the Indian Coast Guard.

Sri Lankan Tamil fishermen whose livelihoods are threatened by the Indian fisherman stealing Sri Lanka's aquatic resources have taken action to round up the poachers and hand them over to the Sri Lankan police.

India meanwhile is mulling to adopt a new mobile communication method to alert the fishermen when they cross the IMBL.

According to a report in The Hindu a committee chaired by Vice Admiral B. R. Rao, the Chief Hydrographer to the Government of India, is exploring at least three ways to send out a signal to fishermen on high seas alerting imminent crossing of the IMBL.

Both India and Sri Lanka have noted that the Joint Statement on Fishing Arrangements of 26th October 2008, which had put in place practical arrangements to deal with bona fide fishermen crossing the International Maritime Boundary Line (IMBL), had led to a decrease in incidents.

The two countries during a recent meeting between Sri Lankan President Mahinda Rajapaksa and India's Foreign Secretary Nirupama Rao agreed on the need to discuss arrangements based on the current situation so as to strengthen the safety and security of the fishermen.

- Colombopage News Desk, SL.

Anand Sharma releases draft strategy paper; seeks stakeholders' comments by March 31

NEW DELHI: Expressing confidence that exports will touch \$225 billion in the current fiscal year, Commerce and Industry Minister Anand Sharma on Wednesday said India was aiming to double its exports to \$450 billion in the next three years.

Road map for future

Releasing the 'Draft strategy paper on exports,' which laid out the road map for the future on the exports front, Mr. Sharma said, "The long-term vision of the Commerce Ministry is to make India a major player in world trade by 2020 and assume a role of leadership in international trade commensurate with the country's growing importance."

Exports grew by 32.5 per cent year-on-year to \$20.60 billion in January on account of increasing demand in the Western markets. During April-January this fiscal, exports went up by 29.4 per cent to \$184.60 billion.

As regards the engineering sector, Mr. Sharma said the sector had done considerably well and now the need of the hour was to move up the value addition chain for high value precision engineering both for domestic and export markets. "Together with the Engineering Export Promotion Council (EEPC), we have set ourselves a target of tripling engineering exports of \$120 billion by 2015," he said.

Mr. Sharma sought public comments from the stakeholders on the draft strategy paper by March 23 to achieve the target of \$450 billion by 2014.

"The reason for taking this initiative is the widening trade balance. We hope to close that gap and bring the imbalance in trade to below 10 or 9 per cent of the GDP," he said.

In the current fiscal, merchandise shipments were expected to touch \$225 billion, much beyond the target of \$200 billion, he remarked. Exports stood at \$178.60 billion in 2009-10, a decline of 3.6 per cent over the previous fiscal.

"We have constituted a group of government and industry experts to come out with a clearly defined road map and strategy on how to occupy the space which is emerging on the horizon. The electronic hardware industry is an area in which we have so far not yet reached our true potential and it is my belief that as our engagement with the world increases, we will be able to facilitate the establishment of electronic hardware manufacturing facilities for the export market in India," he added.

"We are giving one month to the stakeholders to get back to us. All the comments received will be collated and a final strategy will be made by March 31," he said.

Elaborating on the measures for raising exports, the paper emphasises upon the need for increasing the focus on new markets like the ASEAN countries, Africa and Latin America.

- PTI

Un-backed report shows most of world's coral reefs under threat

An estimated 75 per cent of the world's coral reefs are threatened by local human activity, including over-fishing, coastal development and pollution, and global pressures such as climate change, warming seas and rising ocean acidification, according to a United Nations-backed report unveiled today.

"Reefs at Risk Revisited," <"http://unep.org/Documents.Multilingual/Default.asp?DocumentI D=659 &

ArticleID=6914 &l=en"> launched today in Washington and London, says that if the threats to the reefs are not dealt with, more than 90 per cent of them will be threatened by 2030 and nearly all reefs will be at risk by 2050.

Global pressures are leading to coral bleaching from rising sea temperatures and increasing ocean acidification from carbon dioxide pollution, according to the assessment of threat to coral reefs by the World Resources Institute, the Nature Conservancy, the WorldFish Center, the International Coral Reef Action Network, the Global Coral Reef Monitoring

Network and the World Conservation Monitoring Centre of the UN Environment Programme (UNEP-WCMC), along with a network of more than 25 organizations.

"This report serves as a wake-up call for policy-makers, business leaders, ocean managers and others about the urgent need for greater protection for coral reefs," said Jane Lubchenco, Under-Secretary of Commerce for Oceans and Atmosphere and Administrator of

the US National Oceans and Atmospheric Administration (NOAA).

"As the report makes clear, local and global threats, including climate change, are already having significant impacts on coral reefs, putting the future of these beautiful and valuable ecosystems at risk," she added.

According to Lauretta Burke, senior associate at the World Resources Institute and a lead author



of the report, coral reefs are valuable resources for millions of people worldwide.

"Despite the dire situation for many reefs, there is reason for hope," she said. "Reefs are resilient, and by reducing the local pressures we can buy time as we find global solutions to preserve reefs for future generations."

The report includes multiple recommendations to better protect and manage reefs, including through marine protected areas. The analysis shows that more than one-quarter of reefs are already encompassed in a range of parks and reserves, more than any other marine habitat. However, only 6 per cent of reefs are in protected areas that are effectively managed.

"Well-managed marine protected areas are one of the best tools to safeguard reefs," said Mark Spalding, senior marine scientist at the Nature Conservancy and one of the authors.

> "At their core, reefs are about people as well as nature: ensuring stable food supplies, promoting recovery from coral bleaching, and acting as a magnet for tourist dollars. We need to apply the knowledge we have to shore up existing protected areas, as well as to designate new sites where threats are highest, such as the populous hearts of the Caribbean, South-East Asia, East Africa and the Middle East," he added.

> According the report, more than 275 million people live in the direct vicinity of coral reefs. In more than 100 countries and territories, coral reefs

protect 150,000 kilometres of shorelines, helping defend coastal communities and infrastructure against storms and erosion.

The report identifies the 27 nations most socially and economically vulnerable to coral reef degradation and loss. Among these, the nine most vulnerable countries are Haiti, Grenada, Philippines, Comoros, Vanuatu, Tanzania, Kiribati, Fiji and Indonesia.

Source: UN News

Japanese tsunami could rattle seafood exports industry

The tsunami that wreaked havoc I in Japan last week is set to rock the \$2-billion Indian seafood export industry. The North-Eastern city of Sendai in Japan, the epicentre of the quake and tsunami, was a bustling city full of seafood factories and processing units with which Indian exporters had direct links, Mr Anwar Hashim, President of the Seafood Exporters Association of India (SEAI), said.

While admitting that seafood exports to Sendai would be immediately affected, Mr Hashim pointed out that the impact on other export destinations such as Tokyo and Osaka has been on a far lower scale and trade with these destinations could revive faster. For the moment, all trade and commerce with Japan could come to a halt.

The impact in India would be most on shrimp farmers off the coast of Andhra Pradesh, Tamil Nadu,

Orissa and West Bengal. Black tiger shrimps which are reared and harvested by these coastal farmers are much in demand and the major constituent of seafood exports to Japan. Frozen large de-veined black tiger shrimps are a high-value delicacy in Japanese markets fetching high returns to the Indian farmer and the exporter.

The setback for Indian seafood exports comes in the backdrop of recession in Europe, the biggest seafood export destination for India, appreciation in the value of the rupee against the euro and the economic collapse of Greece, Spain and Portugal. However, export figures for April-December 2010 suggest that Europe was still able to retain the top slot accounting for 26.14 per cent of the total seafood export realisation.

Japan was the third most important export destination after the EU and US and accounted for 15.12 per cent of the country's total seafood

exports in value. Frozen shrimp continues to be the major item in the export basket accounting for 48.61 per cent of the total foreign exchange earnings. Not only does shrimp export fetch high returns but unit value realisation from these exports has also been rising. During the first nine months of the current fiscal unit value realisation from shrimp exports have risen by over 25 per cent.

Much of the black tiger aquaculture and exports is pursued along the East Coast of India. Although exports to Japan are dominated by exporters from the East Coast, the biggest players are from West Bengal, sources in SEAI said. While seafood exports for the current year are not likely to be immediately affected, the next year could start on a sour note, the sources warned. And they pointed out that revival of exports to Japan could take two to three months.

- The Hindu



US anti-dumping duty on Indian frozen shrimp imports to stay

To the dismay of the Indian seafood export sector, the United States International Trade Commission (USITC) has ordered to continue with the anti-dumping duty imposed on frozen shrimp imports from India for the next five years.

A commission panel, comprising of six judges, voted 5-1 in favour of continuing the duty as revocation of the duty may hamper the prospects of local shrimp producers. USITC has rejected a petition filed by the Seafood Exporters Association of India (SEAI) in this regard.

In the first week of this month, the US Department of Commerce (DoC) announced the preliminary results of the fifth administrative review (AR) of the anti-dumping duty. The average duty for India was reduced to 1.69 per cent from 2.67 per cent.

Falcon Marine Exports and Apex

Exports, the two mandatory respondents of the review, would attract a duty of 1.36 per cent and 2.31 per cent respectively. These rates were effective for a period of one-year commencing February 1, 2009.

The anti dumping duty on frozen shrimp imports from India to the US was imposed provisionally with effect from August 4, 2004 and the levy was confirmed through the antidumping duty order dated February 1, 2005.

According to the order, the average duty imposed on Indian companies was 10.17 per cent and in the first AR this was reduced to 7.22 per cent. This was further reduced to 1.69 per cent in the second AR and to 0.79 per cent in the third review. But, to the dismay of Indian exporters, the duty was raised to 2.67 per cent in the next round.

The Indian seafood export sector

was hoping for 'nil duty' as the duty was being reduced in each round of the AR. (Duty below 0.50 per cent is considered as nil duty.)

US is the second largest importer of frozen shrimp, with a 17.43 per cent share of the total Indian seafood exports of 547,249 tonnes valued at Rs 9,187.18 crore in April-December period of the current financial year. The US market registered a remarkable growth of 110.68 per cent in dollar realisation and 49.13 per cent in terms of quantity during the period.

Now, the Indian seafood export sector is hitching hopes on the final results of the fifth AR. But the verdict of USITC is a serious setback at this juncture. The final result of the fifth AR would be crucial to India's seafood exports to the US market

- The Business Standard

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Indian Ocean Tuna Commission holds its 15th Session in Colombo

The 15th Session of the Indian Ocean Tuna Commission was started in Colombo yesterday morning. The session will be held from 18th to 22nd of this month.

Over 250 delegates and observers from nearly 35 countries in the Indian Ocean Region and beyond, and representatives from major distant water fishing nations such as the European Union, Japan, Korea, France, Taiwan and China are attending the Colombo Session, being held at Galle Face Hotel, Colombo.

The Minister of Fisheries and Aquatic Resources addressing the Sessions last morning criticized the industrial scale fishing that is being carried out in the Indian Ocean which is depleting tuna stocks in the Indian Ocean. He urged the Colombo session to decide on exploiting fish stocks in a fair and equitable way while ensuring their sustainability.

Dr. Senaratne pointed out that from time immemorial, Sri Lanka treated its marine resources with respect, taking only what is needed from the vast sea areas, but things have changed with population growth. industrialization, technological developments and the growth of market economies. Technological developments, he said, in fishing in the 1960s and 70s have given rise to 'killing machines' hunting fish with much speed and efficiency in any ocean, taking thousands of tonnes in one fishing trip, and doing many such trips in a month.

The Minister said that the much improved so-called 'super seiners' are being designed and built in many parts of the world to hunt the already depleted fish stocks in our oceans

with much force. He said that as per the Food and Agriculture Organization more than 75 percent of the marine stocks are over fished, and another 12 percent are fully utilized.

Referring to Sri Lanka's fishing industry Dr. Senaratne said that even at present Sri Lanka's fleets are more "humble" in nature consisting of small 'clusters' of artisanal fleets, totalling around 3,150 'multi-day' boats, generally based in rural locations with often unsuitable infrastructure and processing facilities. He said that Sri Lanka intends increasing its fish catch to meet the nutrition needs of the people, as it is the bounden duty of the government to ensure that people benefit from the seas around the country. He explained that the present per capita intake of fish in Sri Lanka is only around 31 grams a day and it is planned to increase it to 60 grams by 2013."

The Minister said that Sri Lanka aims to increase fish production to 686,000 metric tonnes by 2013 from the present level of close to 400,000 tonnes "while being mindful of issues like sustainability, traceability and regulation.

The Indian Ocean Tuna Commission is an intergovernmental organization established under Article 14 of the FAO and mandated to manage tuna and tuna like species in the Indian and adjacent seas. The meeting is being held for the first time in Sri Lanka.

Countries which carry out large scale industrial fishing in the Indian Oceans have attempted to introduce a quota system and since it would deprive countries such as Sri Lanka their fair share of the catch, coordination made by Sri Lanka on the initiative of Dr. Senaratne, Sri Lanka has been successful to foil this attempt with the support of 17 other countries.

Sri Lanka jointed the IOTC at its very inception in 1967 when it was inaugurated then as the Indian Ocean Fishery Commission. Presently there are 28 countries holding membership in the IOTC and they are Australia, Belize, China, Comoros, Eritrea, European Union, France, Guinea, India, Indonesia, Iran, Japan, Kenya, Republic of Korea, Madagaskar, Malaysia, Mauritius, Sultanate of Oman, Pakistan, Philippines, Seychelles, Sierra Leon, Sri Lanka, Sudan, Tanzania, Thailand, United Kingdom, and Vanuatu. The Non-Contracting Cooperating Parties in the IOTC are Maldives, Senegal, South Africa and Uruguay.

- Asiantribune.com

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Kerala to be export capital of ornamental fishes: Minister

Kerala would become the export capital of ornamental fishes in the country within five years, Minister for Fisheries and Registration S Sharma said following the Assembly's recent approval to set up in the US a branch of a company formed by the government to provide the stake holders an opportunity for investment and trade in the sector.

Kerala Aqua Ventures International Ltd (KAVIL), a company with public-private partnership, was set up in Kadungalloor near Aluva and is chaired by Chief Minister V S Achuthanandan.

Sharma, who was here to inaugurate the Rs 50 lakh Kottayam Public Aquarium, said KAVIL has been exporting ornamental fishes to Japan, Italy and France. Kerala is regarded as the export hub of ornamental fishes in the country.

The minister said despite India's size, the country's export of ornamental fishes stood below one per cent in the international market while the much smaller Sri Lanka, has an export growth of 8%.

He said the centre and state governments launched a scheme by which a subsidy of Rs 80,000 would be given to Kudumbasree units, having five members each, that are involved in ornamental fish farming. This would ensure a monthly family income of about Rs 7,000, he said.

The 200 sq feet Kottayam Public Aquarium was built on 20 cents of land with financial assitance of Rs37.5 lakh from Rashtriya Krishi Vikas Yojana of Union Agriculture Department and Rs 12.5 lakh from Matsyafed, the Kerala State Cooperative Federation for Fisheries Development Ltd.

- PTI moneycontrol.com

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