



भाकृ अनुप  
ICAR

# मत्स्य प्रौद्योगिकी समाचार Fish Technology Newsletter

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## Contents

News from the Research Front	1
Publications	4
Training Programmes	4
Outreach Programmes	5
Exhibitions	6
Workshops/Seminars	7
Consultancies	15
Celebrations	16
Awards and Honours	18
Radio Talks	18
Post Graduate Studies	20
Personnel News	20
Personalia	24

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## News from the Research Front / अनुसंधान क्षेत्र से समाचार

### High Pressure Processing Facility at CIFT/के मा प्रौ सं में उच्च दाब संसाधन सुविधा

A high pressure processing (HPP) facility has been created under the NAIP sub project "Studies on high pressure processing of high value perishable commodities". The sub project has an outlay of ₹ 202.60 lakhs for CIFT and is funded by the National Agricultural Innovative Project under the basic and strategic research in the frontier areas of agricultural sciences (Component-4).

रा कृ नवा प की उप परियोजना "उच्च मूल्य विकारी पदार्थों के उच्च दाब संसाधन पर अध्ययन" के अधीन एक उच्च दाब संसाधन सुविधा (एच पी पी) को स्थापित किया गया। के मा प्रौ सं के लिए ₹ 202.60 लाख व्यय की और राष्ट्रीय कृषि नवाचार परियोजना निधिक कृषि विज्ञान (संघटक-4) के अनन्वेषित क्षेत्र में मूल एवं अनुकूल अनुसंधान के अधीन यह उपपरियोजना



High Pressure Processing Equipment installed at CIFT and procured from M/s Stansted Fluid Power Limited, United Kingdom

केन्द्रीय मात्स्यकी प्रौद्योगिकी संस्थान

सिफ्ट जंक्शन, मत्स्यपुरी पी.ओ., कोचिन - 682 029

**Central Institute of Fisheries Technology**

CIFT Junction, Matsyapuri P.O., Cochin - 682 029



The Lead Centre is IIT, Kharagpur and sole consortium partner is CIFT. The Institute is undertaking studies on effect of HPP on marine fish species namely tuna and prawns.

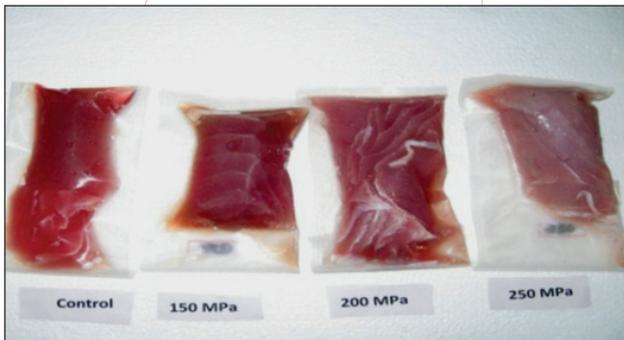
High Pressure Processing also known as high hydrostatic pressure processing or ultra high pressure processing is a novel food processing method where food is subjected to high pressures (up to 87,000 pounds psi or 600 Megapascals or 6,000 atmospheres) to achieve microbial inactivation or to alter the food sensory attributes so as to achieve the desired qualities. The processing is undertaken with or without application of heat to the product. The technology is environment friendly since it requires only electrical energy and there is minimum wastage of products. In HPP process, the product is generally packaged in a flexible or semi flexible container and loaded into a chamber filled with a pressure-transmitting fluid. The hydraulic fluid, which is normally water, is pressurized with a pump, and this pressure is transmitted through the package into the food. High pressure processing is independent of size and geometry of the food and acts instantaneously, thereby reducing the total processing time. The process is most suitable for liquid foods and solids which contain a certain amount of moisture. Since the pressure is transmitted uniformly and simultaneously in all directions, food retains its shape even at extreme pressures.

HPP can be applied to a wide range of processing areas. HPP can be used to extend the shelf life of products and to eliminate the risk of various food-borne pathogens such as *Escherichia coli*, *Salmonella* and *Listeria* and other spoilage bacteria without greatly affecting the colour and flavor of the product. HPP can be used to develop new gel based products with desired sensory attributes and mouth feel. HPP is commonly used worldwide in shellfish processing for 100% removal of meat from the shells and for reducing the microbial risks during raw seafood consumption. Applications for marination and impregnation of desired flavors and colours can also be effectively undertaken. Pressure assisted thermal processing for development of shelf stable ready to eat products is another promising area of research. Pressure assisted freezing and pressure assisted thawing so as to retain the microstructure and reduce drip loss of fish products can also effectively be carried out. HPP

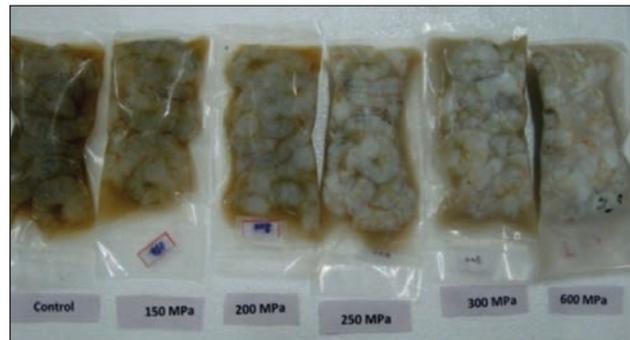
है। अग्र केन्द्र आई आई टी, खडकपूर है और इस का एक मात्र महा संघ का भागीदार के मा प्रौ सं है। यह संस्थान ट्यूना एवं झींगा समुद्री जातियों पर उ दा सं के प्रभाव अध्ययन का उत्तरदायित्व लिया है।

उच्च दाब संसाधन को उच्च द्रवस्थैतिकी दाब संसाधन या अत्यधिक उच्च-दाब संसाधन के रूप में जाना जाता है। यह एक नवीन, खाद्य संसाधन पद्धति है जिस में सूक्ष्मजीवीय निष्क्रियण प्राप्ति या खाद्य संवेदी गुणों को बदलने के लिए उच्च दाब (87,000 पाउंड पी एस आई या 600 मेगापास्कल या 6,000 वायुमंडल तक) किया जाता है जिसे कि वांछित गुणताएं प्राप्त किया जा सके। यह प्रक्रिया उत्पाद को दाब देकर या न देकर की जा सकती है। यह प्रौद्योगिकी पर्यावरणानुकूल है क्योंकि इसे केवल इलेक्ट्रीक ऊर्जा की आवश्यकता है और उत्पाद से अल्पतम रद्दी प्राप्त होती है। एच पी पी प्रक्रिया में, सामान्यतः उत्पाद को नम्य या उपनम्य डिब्बों में संवेष्टन करके दाब-प्रसारण द्रव्य से भारे चाम्बर में भरा जाता है। यह द्रवचालित द्रव्य, सामान्यतः एक जल है, पम्प से दबाव करता, और यह दाब खाद्य में संवेष्टन द्वारा प्रसारित होता। उच्च दाब संसाधन खाद्य के आकार एवं ज्यामिति के अनुसार स्वतंत्र है और तत्काल कार्य करती, इस के बाद कुल संसाधन समय को कम करता। यह प्रक्रिया द्रव खाद्य एवं ठोस के लिए अत्यधिक उपयुक्त है जिस में कुछ मात्रा में नमी होती है। क्योंकि दाब एक समान और साथ-साथ सभी दिशाओं में प्रसारित होने के कारण, तीव्र दाब में भी खाद्य अपने आकार को बनाए रखता।

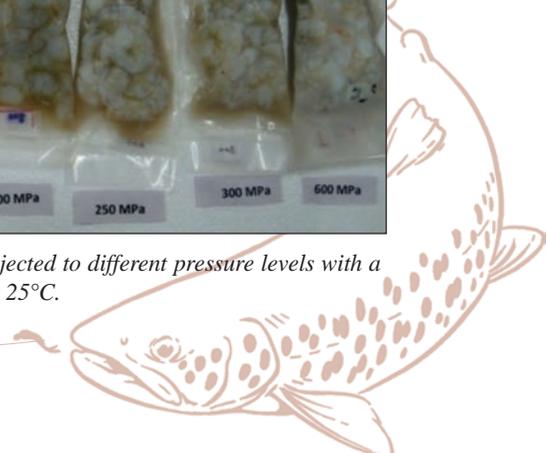
एच पी पी को व्यापक रेंज के संसाधन क्षेत्र में अनुप्रयुक्त किया जा सकता है। एच पी पी को उत्पाद की निधानी आयु विस्तार की प्रयुक्ति के लिए किया जा सकता है और *एशिरिचिआ कोली*, *सलमोनिला* और *लीस्टीया* जैसे भिन्न खाद्य-जान्य रोगजनक एवं अन्य विकृत जीवाणु उत्पाद के रंग एवं स्वाद में बिना खास प्रभाव को दूर किया जा सकता है। एच पी पी को वांछित संवेदी गुणों एवं स्वाद के अनुसार नए जेल आधारित उत्पादों के विकास के लिए प्रयुक्त किया जा सकता है। संपूर्ण विश्व में सामान्यतः सीपी संसाधन में सीपी से शात प्रतिशत मांस निकालने और समुद्री खाद्य कच्चे उपभोग के दौरान उत्पन्न सूक्ष्मजीवीय संकट काम करने के लिए प्रयुक्त किया जाता है। वांछित स्वाद और रंग में मैरिनेशन एवं संसेचन की प्रयुक्ति में भी प्रभावी रूप में अनुप्रयुक्त किया जा सकता है। स्थिर निधानी के विकास के लिए दाब सहायक तापीय संसाधित खाने के लिए तैयार उत्पाद एक और आशाजनक अनुसंधान का क्षेत्र है। दाब सहायक प्रशीतन एवं दाब सहायक द्रवण जिसे कि सूक्ष्म संरचना प्राप्त किया जा सके और



Yellow fin tuna chunks subjected to high pressure with a holding time of 5 min. at 25°C



Indian white prawns subjected to different pressure levels with a holding time of 5 min. at 25°C.





processed fish products are always stored at chilled temperatures and only high acid fruit products can be stored at ambient temperatures.

HPP is being used in the United States, Europe and Japan on a select variety of high-value food products to extend the shelf life or to improve food safety. Some products that are commercially produced using HPP are cooked ready-to-eat meats, avocado products (guacamole), tomato salsa, apple sauce, orange juice and oysters. High pressure processing provides a unique opportunity for food processors to develop a new generation of value-added food products having superior quality than to those produced conventionally. CIFT has carried out trials on a wide variety of fish and shellfish products. The process parameters have been standardized and shelf life evaluation has been conducted for tuna and Indian White prawn. The Scientists associated with the project are Dr. J. Bindu, Dr. T.K. Srinivasa Gopal, Dr. Sanjoy Das, Dr. K.K. Asha and Senior Research Fellows are Shri C.K. Kamalakanth and Shri Ginson Joseph.

- Dr. J. Bindu

Fish Processing Division, CIFT, Cochin

मत्स्य उत्पाद टपकने की क्षति को प्रभावी रूप में कार्यान्वित किया जा सकता है। एच पी पी मत्स्य संसाधित उत्पादों को हमेशा शीत तापमान में रखा जाना चाहिए और परिवेश तापमान में केवल उच्च अम्ल फल उत्पादों को संग्रहित किया जा सकता है।

एच पी पी को अमेरिका, यूरोप एवं जापान में चयनित उच्च मूल्य खाद्य उत्पादों के किस्मों की निधानी आयु विस्तार या खाद्य सुरक्षा सुधार के लिए प्रयुक्त किया जाता है। एच पी पी प्रयुक्त वाणिज्यिक रूप में उत्पन्न कुछ उत्पाद हैं पका खाने के लिए तैयार मांस, एओकाडो उत्पाद (गुवाकमोल) टमाटो सल्ला, सेब साउस, संतरा रस और शुकियाँ। उच्च दाब संसाधन खाद्य संसाधकों के लिए एक अनोखा अवसर नयी पीढ़ी के मूल्य जोड़ खाद्य उत्पाद को परम्परागत रूप से उत्पादित से श्रेष्ठ गुणता को रखना देता। के मा प्रौ सं मत्स्य एवं कवच मत्स्य उत्पादों के व्यापक किस्मों पर परीक्षण किया है। इस प्रक्रिया प्राचलों को मानकीकृत किया गया और ट्यूणा एवं भारतीय सफ़ेद झींगों के लिए निधानी आयु मूल्यांकन संचालित किया गया। इस परियोजना से संबद्ध वैज्ञानिक हैं डॉ. जे. बिन्दु, डॉ. टी.के. श्रीनिवास गोपाल, डॉ. संजॉय दास, डॉ. के.के. आशा और वरिष्ठ अनुसंधान अध्येता हैं श्री सी.के. कमलाकान्त एवं श्री जिन्सन जोसफ।

डा. जे. बिन्दु

मत्स्य संसाधन प्रभाग, के मा प्रौ सं, कोचिन

### Occurrence of Freshwater Green Algae in Coastal Waters off Cochin During South West Monsoon Season

Phytoplankton variability in space and time is an important feature of marine environment. The occurrence and abundance of phytoplankton show great variations spatially and temporally. These changes are of great importance to all organisms which directly or indirectly rely on phytoplankton for food. Occurrence of freshwater species is a common phenomenon during monsoon season as mixing of freshwater and saline water occurs. The presence of two such phytoplankton species in coastal waters off Cochin is found.

Phytoplankton samples collected during 2010 to 2011 (two years) from north and south of the coastal waters of Cochin estuary showed the presence of two freshwater green algae *Pediastrum* and *Senedesmus* during south west

monsoon season. *Pediastrum* species is observed only from the southern side of estuary whereas *Senedesmus* species from either sides at the same time. Both belong to the order Chlorococcales. *Pediastrum* belongs to the family Hydrodictyaceae and *Senedesmus* to Senedsmaceae. The numerical abundance ranged from  $8.60 \times 10^2$  to  $4.20 \times 10^5$  cells/Litre for *Pediastrum* species and  $1.40 \times 10^2$  to  $4.50 \times 10^5$  cells/Litre for *Senedesmus* species. The occurrence of these two phytoplankton species has not been observed during other seasons.

The presence of these freshwater species in the coastal waters substantiates its adaptation to survive in the marine conditions where salinity is greater than 30psu during monsoon season.



*Pediastrum* species



*Senedesmus* species

- Ms. P. Minu and Dr. P. Muhamed Ashraf  
Fishing Technology Division, CIFT, Cochin





## Publications

### Research Papers

1. Balasubramaniam, S., Charles Jeeva, J. and Ashaletha, S. (2012) – Adoption of quality management practices in seafood processing sector in Cochin region, *Fish. Technol.*, **49(1)**: 80-86.
2. Bindu, J., Ravishankar, C.N., Dinesh, K., Mallick, A.K., and Srinivasa Gopal, T.K. (2011) - Heat penetration characteristics and shelf life of ready to serve masheer curry in opaque retortable pouches, *Fish. Technol.*, **48(2)**: 141-148.
3. Boopendranath, M.R. (2012) - Technologies for responsible fishing In: Advances in harvest and post harvest technology of fish (Eds. D.D. Namboothiri and K.V. Peter), New India Publishing Agency, New Delhi, ISBN: 978 9081450093
4. Boopendranath, M.R., Pravin, P., Remesan, M.P., Saly N. Thomas and Leela Edwin (2012) – Trawl codend selectivity in respect of Silver pomfret *Pampus argenteus* (Euphrasen, 1788), *Fish. Technol.*, **49(1)**: 14-17.
5. Charles Jeeva, J., Balasubramaniam, S., Ashaletha, S. and Jeyanthi, P. (2012) – Analysis of socio-economic variables and impact of Tsunami among the mechanized boat operators in Tamil Nadu, *Fish. Technol.*, **49(1)**: 92-98.
6. Mohan, C.O., Ravishankar, C.N., Lalitha, K.V. and Srinivasa Gopal, T.K. (2012) - Effect of chitosan edible coating on the quality of double filleted Indian oil sardine (*Sardinella longiceps*) during chill storage, *Food Hydrocolloids*, **26(1)**: 167-174.
7. Murthy, L.N., Rao, B.M. and Prasad, M.M. (2012) – Biochemical and microbiological evaluation of tuna loin processing waste, *Fish. Technol.*, **49(1)**: 45-49.
8. Pankaj Kishore, Lalitha, K.V., Toms C. Joseph and Nirmala Thampuran (2012) – Biotyping and antibiotic resistance profile of *Yersinia enterocolitica* associated with seafoods from south-west coast of India, *Fish. Technol.*, **49(1)**: 64-71.
9. Rajeswari, G., Raghu Prakash, R. and Sreedhar, U. (2012) – Trawl designs used in small-scale mechanized fisheries sector of Andhra Pradesh, India, *Fish. Technol.*, **49(1)**: 18-27.
10. Yathavamoorthi, R., Sankar, T.V. and Ravishankar, C.N. (2012) – Effect of ice storage on the characteristics of common carp surimi, *Fish. Technol.*, **49(1)**: 38-44.

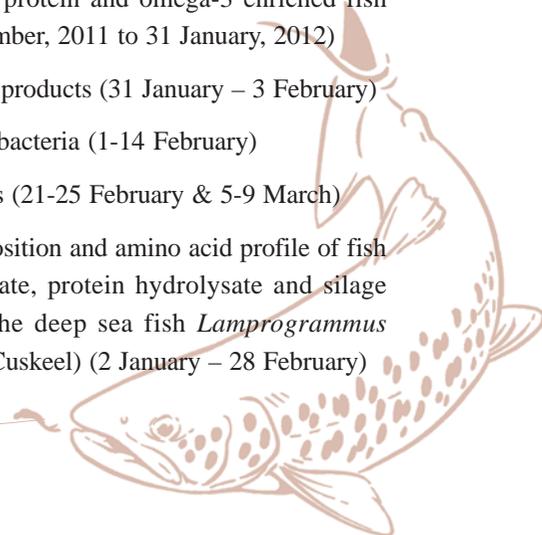
### Other Publications

1. CIFT semi-pelagic trawl system – An eco friendly alternative to bottom trawling for small scale mechanized sector (In Hindi) (2012) (Compiled by Dr. M.R. Boopendranath, Dr. M.P. Remesan, Dr. P. Pravin and Dr. V.R. Madhu and translated by Dr. K. Sobha) – Technology Advisory Series, CIFT, Cochin
2. Hand book of Fishing Technology (2012) (In Hindi), CIFT, Cochin (Eds. Dr. B. Meenakumari, Dr. M.R. Boopendranath, Dr. P. Pravin, Dr. Saly N. Thomas, Dr. M.M. Prasad, Dr. G. Rajeswari, Dr. U. Sreedhar, Dr. R. Raghu Prakash and Dr. Prem Kumar).
3. Nutritional profile and nutritional labeling of seafood (2012) (Eds. Dr. Suseela Mathew, Dr. P.T. Lakshmanan, Dr. R. Anandan, Dr. K.K. Asha and Dr. A.R.S. Menon), CIFT, Cochin
6. Development of ready to serve seafood cocktail soup in tin free steel (TFS) cans (28 December, 2011 to 31 January, 2012)
7. Development of protein and omega-3 enriched fish wafers (28 December, 2011 to 31 January, 2012)
8. Value added fish products (31 January – 3 February)
9. Identification of bacteria (1-14 February)
10. HACCP concepts (21-25 February & 5-9 March)
11. Proximate composition and amino acid profile of fish protein concentrate, protein hydrolysate and silage prepared from the deep sea fish *Lamprogrammus exutus* (Legless Cuskeel) (2 January – 28 February)

## Training Programmes

### Cochin

1. Dry fish production (10-12 January)
2. Packaging of fish products (7 December, 2011 to 13 January, 2012)
3. Preparation and quality evaluation of value added products from fish (7 December, 2011 to 13 January, 2012)
4. Production and characterization of alkaline thermostable protease from marine bacteria (28 November, 2011 to 30 January, 2012)
5. Application of multiple hurdle technology for enhancing the shelf life of brown shrimp *Metapenaeus monoceros* (28 December, 2011 to 31 January, 2012)





HACCP concepts (Cochin)



Nutritional profiling of seafoods (Cochin)



Laboratory methods for microbiological examination of seafood - Participants and Faculty (Visakhapatnam)



Value added fish products (Visakhapatnam)

## Visakhapatnam

1. Laboratory methods for microbiological examination
2. Value added fish products (15-17 March)

of seafood (12-24 March & 28 March – 3 April)

## Outreach Programmes

During the quarter the following outreach programmes were conducted by the Institute:

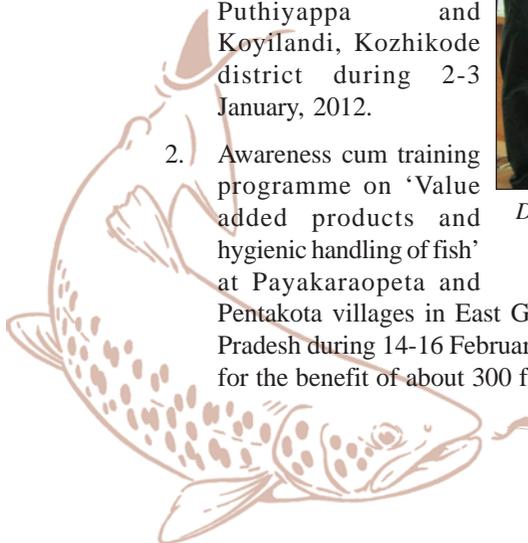
1. Workshop on 'Fuel efficient fishing' at Puthiyappa and Koyilandi, Kozhikode district during 2-3 January, 2012.
2. Awareness cum training programme on 'Value added products and hygienic handling of fish' at Payakaraopeta and Pentakota villages in East Godavari district, Andhra Pradesh during 14-16 February, 2012. The programme for the benefit of about 300 fisher folk was organized



Dr. Anubrata, Director, NRC Pig inaugurating the Workshop on Food safety

by Grama Swaraj Samiti, Tuni and sponsored by NABARD.

3. Training programme on 'Innovative products from freshwater fishes' at GADVASU, Ludhiana during 24-25 February, 2012.
4. Training programme on 'Hygienic handling and drying of fish' at Sevashram Swarayagam, Angamaly on 1 March, 2012.
5. Training cum awareness programme on 'Performance analysis of fisher women Self Help Group' at Moothakunnam on 12 March, 2012.
6. Workshop on 'Food safety issues in high moisture food





commodities' at NRC Pig, Rani, Guwahati on 22 March, 2012.

7. Training programme on 'Production of value added products from freshwater fish for employment and income generation' at Uchiwa Kabui tribal village, Manipur during 22-24 March, 2012.
8. Training programme on 'Production of value added products from freshwater fish for employment and income generation' at Sekmaiin tribal village, Manipur during 26-28 March, 2012.

9. Training programme on 'Value added fishery products' at Dimapur, Nagaland during 26-29 March, 2012.
10. Training cum demonstration programme on 'Harvest and post harvest technology of freshwater fish' at Aizawl and Serlui'B reservoir, Mizoram during 28-30 March, 2012.
11. Training programme on 'Responsible fishing, extension methods and improved gill nets and its fabrication' at Doyang Reservoir, Wokha, Nagaland during 30-31 March, 2012.

## Participation in Exhibitions

During the quarter the Institute participated in the following exhibitions:

1. 'Regional exhibition cum seminar' organized by Animal Husbandry Department, Govt. of Kerala at Cochin during 14-16 January, 2012.
2. 'National Fish Festival 2012', Raipur, Chattisgarh held during 27-29 January, 2012.
3. '24<sup>th</sup> Kerala Science Congress and Science Expo', Kottayam held during 28-31 January, 2012.
4. 'Meenakshi Matsya Utsav' organized by the Directorate

of Fisheries, MP and NFDB, Hyderabad at Bhopal during 4-6 February, 2012.

5. 'India International Aquashow 2012' at Cochin during 10-15 February, 2012.
6. 'Exhibition and Farmers Mela' organized under the NAIP sub project at IISR, Kozhikode during 16-18 February, 2012.
7. Exhibition held in connection with the National conference in New vistas in Indian agriculture at CIBA, Chennai during 23-24 February, 2012.



India International Seafood Show, Chennai



Shri Ajay Vishnoi, Fisheries Minister, Govt. of MP at CIFT stall in 'Meenakshi Matsya Utsav'



Exhibition at New Delhi



Krishi Darpan 2012, Cochin





8. 'India International Seafood Show' at Chennai during 29 February to 2 March, 2012.
9. Exhibition organized by LIGHTS Research Foundation in collaboration with Ministry of Earth Sciences at New Delhi during 9-11 March, 2012.
10. Exhibition held in connection with the Global conference on Women in agriculture at New Delhi during 13-15 March, 2012.
11. Exhibition held in connection with the National conference on Aquaculture: Fish for billion at Bhubaneswar during 16-17 March, 2012.
12. 'Krishi Darpan 2012' exhibition organized by CIFT at Cochin during 20-21 March, 2012.
13. Exhibition organized by CIFT at Aizawl, Mizoram during 28-29 March, 2012.
14. 'Biovizag 2K12' – Exhibition held in connection with National conference on Advances in biotechnology for sustainable initiatives in 21<sup>st</sup> century at Visakhapatnam during 30-31 March, 2012.

## Workshop on Fuel Efficient Fishing / इंधन कार्यक्षम मत्स्यन पर कार्यशाला

Under the NAIP sub project 'Responsible harvesting and utilization of selected small pelagics and freshwater fishes' two workshops on 'Fuel efficient fishing' were conducted on 2 and 3 January, 2012 at Puthiyappa and Koyilandi in Kozhikode district for the benefit of 40 and 50 fishermen respectively. Shri T.V. Rameshan, District Manager, Matsyafed, Kozhikode formally inaugurated the programme and highlighted the importance of fuel efficient fishing in the present scenario. The Consortium PI of the Project, Shri M. Nasser, Principal Scientist, CIFT, Cochin conducted a class on fuel efficient fishing in which he stressed upon the problems faced by the ring seiners with respect to fuel expenses, maintenance of propellers etc. and methods to improve the fuel efficiency and performance of boats. After the class, many of the ring seiners expressed the need for changing their existing propellers and fix new fuel efficient designs as per the advice given in the class. Dr. S. Ashaletha, Senior Scientist, CIFT did the field coordination of the Workshop.

रा कृ नवो प की उपपरियोजना 'उत्तरदायी प्रग्रहण एवं चयनित छोटे वेलापवर्ती एवं स्वच्छजल मत्स्यों की प्रयुक्ति' के अधीन क्रमानुसार 40 और 50 मछुवारों के फायदों के लिए कोष्ठीकोड जिले में पुथीयापा एवं कोईलांडी में 2 और 3 जनवरी, 2012 को दो कार्यशालाएं 'इंधन कार्यक्षम मत्स्यन' पर संचालित किए गए। श्री टी.वी. रमेशन, जिला प्रबंधक, मत्स्यफेड, कोष्ठीकोड इस कार्यक्रम का औपचारिक रूप में उद्घाटन किया और प्रस्तुत परिदृश्य में इंधन कार्यक्षम मत्स्यन के महत्व पर प्रकाश डाला। इस परियोजना का महासंघ के प्र अ, श्री. एम. नासर, प्रधान वैज्ञानिक, के मा प्रौ सं, कोचिन इंधन कार्यक्षम मत्स्यन पर कक्षा का संचालन किया जिस में वे इंधन खर्च, प्रोपलरों का अनुरक्षण आदि के संबंध में वलय संपाशकों द्वारा सामना किए जा रहे समस्याओं और यानों की इंधन कार्यक्षम और क्षमता सुधार की पद्धतियों पर जोर दिया। कक्षा के बाद, कई वलय संपाशक अपने विद्यमान प्रोपलरों को बदलने की और कक्षा में दिए सलाह के अनुसार नए इंधन कार्यक्षम अभिकल्पों को नियत करने की आवश्यकता व्यक्त किए।

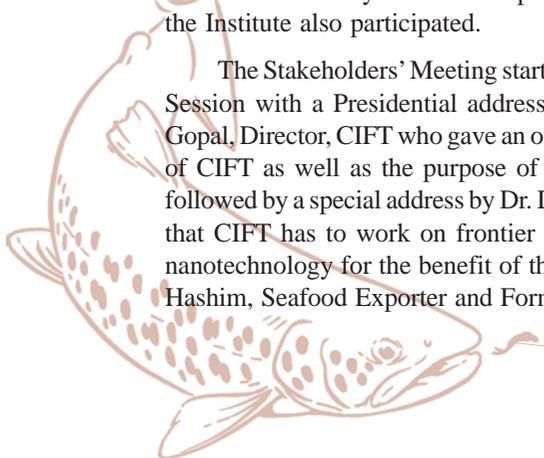
## Stakeholders Meeting Held / पाणधारियों की बैठक संपन्न

A Stakeholders' Meeting for prioritization of research programmes of CIFT for the XII Plan was held on 5 January, 2012 at CIFT, Cochin. Participants representing the fishing and fish processing industries, State Fisheries Department, MPEDA, input manufacturers, partners in commercialization and academia participated. There were 20 invited participants. The Chairman, Research Advisory Committee of CIFT, Dr. K. Devadasan and Member of the RAC Dr. C. Hridayanathan also participated. Scientists of the Institute also participated.

The Stakeholders' Meeting started with an Introductory Session with a Presidential address by Dr. T.K. Srinivasa Gopal, Director, CIFT who gave an overview of the activities of CIFT as well as the purpose of the meeting. This was followed by a special address by Dr. Devadasan who stressed that CIFT has to work on frontier areas in the fields like nanotechnology for the benefit of the industry. Shri Anwar Hashim, Seafood Exporter and Former National President,

XII वीं योजना के लिए के मा प्रौ सं के अनुसंधान कार्यक्रमों की प्राथमिकता के लिए एक पाणधारी बैठक के मा प्रौ सं, कोचिन में 5 जनवरी, 2012 को संपन्न हुई। इस में मत्स्यन एवं मत्स्य संसाधन उद्योग, राज्य मात्स्यिकी विभाग, स उ नि वि प्र, निवेश निर्माता, वाणिज्यिकरण में भागीदार और अकादमीवेद सहभागिता किए। 20 आमंत्रित सहभागी थे। डॉ. के. देवदासन, अध्यक्ष और डॉ. सी. हृदयनाथन, सदस्य, अनुसंधान सलाहकर समिति सहभागिता किए। संस्थान के वैज्ञानिक भी सहभागिता किए।

यह पाणधारी बैठक परिचय सत्र के साथ डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं की अध्यक्षीय भाषण से प्रारंभ हुई, उन्होंने के मा प्रौ सं के कार्यकलापों के साथ इस बैठक के उद्देश्य का सिंहावलोकन किए। इस के बाद डॉ. देवदासन द्वारा विशेष भाषण दिया गया उस में उन्होंने जोर दिया कि उद्योग के फायदे के लिए नानोटेक्नोलोजी जैसे अनन्वेषित क्षेत्र में के मा प्रौ सं कार्य करें। श्री अन्वर हषीम, समुद्रीखाद्य निर्यातक एवं पूर्व राष्ट्रीय अध्यक्ष, भारतीय समुद्रीखाद्य निर्यातक एसोशिएशन भी परिचय सत्र में बात किए। उन्होंने कह कि चीन एवं अन्य दक्षिण पूर्व





Seafood Exporters Association of India also spoke in the introductory session. He said that the position of India in terms of processing technology when compared to China and other South East Asian neighbours was very low. He said that seafood processing sector was having low productivity and the operations tended to be labour intensive. The reduction in water usage in processing units and the shortage of labour in the peeling sector are to be addressed on priority basis. In value addition, methods like Japanese breeding can be thought of. Effective waste disposal mechanisms and studies on antibiotics in aquaculture are also equally important issues that need to be researched for suitable solutions.

In the second session, different theme areas of research were presented by Dr. Leela Edwin, Head, FT, Dr. C.N. Ravishankar, Head, FP & Incharge, Engg., Dr. P.T. Lakshmanan, Head, B&N, Dr. T.V. Sankar, Head, QAM, Dr. K.V. Lalitha, Head, MFB and Dr. S. Balasubramaniam, Head, EIS. The presentations were followed by discussion where the invited participants expressed their views and comments and gave suggestions in each area. Dr. Srinivasa Gopal, Director, CIFT, in his concluding remarks said that the meeting was a very useful one in giving directions and pointers to the work that the Institute must carry out during the XII Plan. The meeting concluded with a formal vote of thanks by Dr. Nikita Gopal, Senior Scientist, CIFT and Convener of the Meeting.



Dr. K. Devadasan and Dr. T.K. Srinivasa Gopal during the introductory session

एशिया के पड़ोसियों की तुलना में संसाधन प्रौद्योगिकी के संबंध में भारत की स्थिति काफी नीचे है। उन्होंने कह कि समुद्रीखाद्य संसाधन सेक्टर अल्प उत्पादकता को रखता और इस का परिचालन अधिक मजदूर भरा है। संसाधन यूनितों में जल प्रयुक्ति की कमी करना और छिलकन सेक्टर में मजदूरों की कमी को प्राथमिकता के आधार पर समाधान किया जाना चाहिए। मूल्य वर्धन पद्धति में जापानी प्रजनन जैसे पर विचार किया जाना चाहिए। प्रभावी रद्दी निपाटन यंत्रवली

एवं जलकृषि में, प्रतिजैविक पर अध्ययन भी समान महत्व को रखते जिन्हें उपयुक्त समाधान के लिए अनुसंधान किया जाना चाहिए।

दूसरे सत्र में, डॉ. लीला एड्वीन, प्रभागाध्यक्ष, मत्स्यन प्रौद्योगिकी प्रभाग, डॉ. सी.एन. रविशंकर, प्रभागाध्यक्ष, मत्स्य संसाधन प्रभाग और प्रभारी प्रभागाध्यक्ष, अभियांत्रिकी प्रभाग, डॉ. पी.टी. लक्ष्मणन, प्रभागाध्यक्ष, जैवरसायन एवं पोषण प्रभाग, डॉ. टी.वी. शंकर, प्रभागाध्यक्ष, गुणता आश्वासन एवं प्रबंध प्रभाग, डॉ. के.वी. ललिता, प्रभागाध्यक्ष, सूक्ष्मजीव विज्ञान किण्वन एवं जैव प्रौद्योगिकी प्रभाग और डॉ. एस. बालसुब्रमणियम, प्रभागाध्यक्ष, विस्तार, सूचना एवं सांख्यिकी प्रभाग द्वारा भिन्न विषय क्षेत्र के अनुसंधान को प्रस्तुत किया गया। इस प्रस्तुतिकरण के बाद विचार-विमर्श किया गया जिस में आर्मेन्ट सहभागी प्रत्येक क्षेत्र में अपनी दृष्टि एवं टिप्पणी और सुझाव व्यक्त किए। डॉ. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं, अपने समापन टिप्पणी में कहे कि यह बैठक XII वीं योजना के दौरान संस्थान द्वारा किए जाने वाले कार्य के दिशा एवं निर्देश देने में अत्यधिक उपयोगी थी। इस बैठक की समाप्ति डॉ. निकिता गोपाल, वरिष्ठ वैज्ञानिक, के मा प्रौ सं और बैठक की संयोजिका द्वारा औपचारिक धन्यवाद ज्ञापन से हुई।

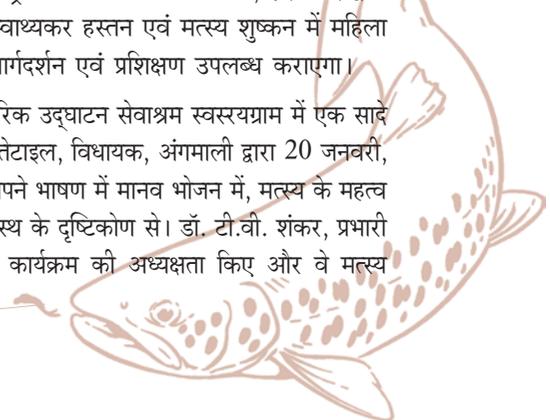
## Model Fish Drying Unit Inaugurated / प्रतिमान मत्स्य शुष्कन यूनिट का उद्घाटन

A model fish drying unit was set up by CIFT, Cochin at Sevashram Swasrayagram, Pullani, Angamaly, under the ICAR-DRWA network project on 'Capacity building of coastal fisherwomen through post harvest technologies in fisheries'. The main aim of the project is to equip the women Self Help Groups in post harvest technologies like fish drying as a source of alternative employment and income and the practical demonstration of the same as a micro enterprise. The unit was funded by the National Fisheries Development Board, Hyderabad. CIFT will provide technical guidance and training to the women group in hygienic handling and drying of fish.

The unit was formally inaugurated in a simple function at Sevashram Swasrayagram on 20 January, 2012 by Adv. Jose Thettayil, MLA, Angamaly. In his address he stressed the importance of fish in human diet, especially from the health point of view. Dr. T.V. Sankar, Director-in-charge,

भा कृ अनु प - डी आर डब्ल्यू ए नेटवार्क परियोजना मात्स्यिकी में पश्च प्रग्रहण प्रौद्योगिकियों के द्वारा तटीय मछुवा महिलाओं का क्षमता निर्माण के अधीन सेवाश्रम स्वस्वयंग्राम, पुल्लानी, अंगमाली में के मा प्रौ सं, कोचिन द्वारा एक प्रतिमान मत्स्य शुष्कन यूनिट स्थापित किया गया। इस परियोजना का मुख्य उद्देश्य महिला स्वसहायता समूह में पश्च प्रग्रहण प्रौद्योगिकियों जैसे मत्स्य शुष्कन को परिवर्ती रोजगार एवं आय के स्रोत के रूप में सज्जित करना है और सूक्ष्म उद्यम के रूप में इसका प्रायोगिक निदेश करना। यह यूनिट राष्ट्रीय मात्स्यिकी विकास बोर्ड, हैदराबाद द्वारा निधि दी थी। के मा प्रौ सं स्वास्थ्यकर हस्तन एवं मत्स्य शुष्कन में महिला समूहों के लिए तकनीकी मार्गदर्शन एवं प्रशिक्षण उपलब्ध कराएगा।

इस यूनिट का औपचारिक उद्घाटन सेवाश्रम स्वस्वयंग्राम में एक सादे कार्यक्रम में अधिकता जोस तेटाइल, विधायक, अंगमाली द्वारा 20 जनवरी, 2012 को किया गया। वे अपने भाषण में मानव भोजन में, मत्स्य के महत्व पर जोर दिए, विशेषकर स्वास्थ्य के दृष्टिकोण से। डॉ. टी.वी. शंकर, प्रभारी निदेशक, के मा प्रौ सं इस कार्यक्रम की अध्यक्षता किए और वे मत्स्य





Adv. Jose Thettayil inaugurating the Model Fish Drying Unit



CIFT presided over the function and he mentioned about the activities of CIFT in the field of fish processing and efforts taken by the Institute in popularizing them. Dr. C.K. Murthy, Executive Director, NFDB formally handed over the unit to a women's Self Help Group. In his address he outlined the various schemes of NFDB. Rev. Fr. K. Mampilly, President, Sevashram and Dr. S. Balasubramaniam, Head, EIS Division, CIFT offered felicitations. Dr. C.N. Ravishankar, Head, FP, CIFT and PI of the project welcomed the gathering and Dr. Nikita Gopal, Senior Scientist, CIFT and Co-PI of the project proposed vote of thanks.

संसाधन के क्षेत्र में के मा प्रौ सं के कार्यकलाप के बारे में, और उन्हें संस्थान द्वारा लोकप्रिय बनाने की प्रयासों का उल्लेख किया। डॉ. सी.के. मूर्ति, कार्यकारी निदेशक, रा मा वि बो इस यूनिट को औपचारिक रूप में महिला स्वसहायता समूहों को सौंपे। वे अपने भाषण में रा मा वि बो के भिन्न योजनाओं का उल्लेख किए। श्रद्धेय फादरी के. मम्मिल्ली, अध्यक्ष, सेवाश्रम और डॉ. एस. बालसुब्रमणियम, प्रभागाध्यक्ष, वि सू सां प्रभाग, के मा प्रौ सं आशीर्वचन प्रदान किए। डॉ. सी.एन. रविशंकर, प्रभागाध्यक्ष, मत्स्य संसाधन प्रभाग, के मा प्रौ सं और इस परियोजना के प्रधान अन्वेषण उपस्थिति का स्वागत किए और डॉ. निकिता गोपाल, वरिष्ठ वैज्ञानिक, के मा प्रौ सं और परियोजना की सह - प्र अ कृतज्ञता ज्ञापित की।

## ICAR Sponsored Training Programme Conducted in Biochemistry / भा कृ अनु प प्रायोजित जैवरसायन में संचालित प्रशिक्षण कार्यक्रम

A 10-day training programme on "Vistas in Nutrient Profiling and Nutritional Labelling of Seafood" funded by ICAR, New Delhi was conducted at CIFT, Cochin during 14-23 February, 2012. On 14 February, the programme was formally inaugurated by Dr. K. Gopakumar, Former Deputy Director General (Fisheries), ICAR. Dr. G. Syda Rao, Director, CMFRI, Cochin offered felicitations and released the book titled "Nutrient Profiling and Nutritional Labelling of Seafood". Dr. T.K. Srinivasa Gopal, Director, CIFT delivered the Presidential address. The training was meant to cater to the needs of young scientists/teachers in the field of Biochemistry and Nutrition. The short course covered theory and practical classes on the topics such as biochemical composition of fish, sampling procedures, post mortem changes in fish, amino acid analysis by HPLC, fatty acid analysis by Gas chromatograph, mineral



Dr. K. Gopakumar inaugurating the Short Course

भा कृ अनु प, नई दिल्ली द्वारा निधिक "अनुदर्शन में पुष्टिकर प्रोफाइलिंग और समुद्रीखाद्य का पौषणिक लेबलिंग" पर एक दस - दिन का प्रशिक्षण कार्यक्रम 14-23 फरवरी, 2012 के दौरान के मा प्रौ सं, कोचिन में संचालित किया गया। इस कार्यक्रम का औपचारिक उद्घाटन डॉ. के. गोपकुमार, पूर्व उपमहानिदेशक (मात्स्यिकी), भा कृ अनु प द्वारा 14 फरवरी को किया गया। डॉ. जी. सायदा राव, निदेशक, के स मा अनु सं, कोचिन आशीर्वचन प्रदान किए और 'पुष्टिकर प्रोफाइलिंग और समुद्री खाद्य का पौषणिक लेबलिंग' शीर्षक पुस्तक का विमोचन किया। डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं अध्यक्षीय भाषण प्रदान किए। इस प्रशिक्षण का उद्देश्य जैवरसायन एवं पोषण के क्षेत्र में युवा वैज्ञानिक/अध्यापकों की आवश्यकता को प्रदान करना था। इस अल्पकालीन पाठ्यक्रम में मत्स्य का जैवरसायनिक संयोजन, नमूना प्रक्रिया, मत्स्य में मरणोत्तर परिवर्तन, एच पी एल सी द्वारा एमीनो अम्ल विश्लेषण, गैस क्रोमोटोग्राफी द्वारा वसा अम्ल विश्लेषण, प्लैम फोटोमेट्री द्वारा खनिज





content analysis by Flame photometry, trace element analysis by Atomic absorption spectrophotometry, nutrition labelling in seafood, determination of crude fibre and cholesterol, K value determination, analysis of fat soluble vitamins, chemical hazards and seafood safety, monitoring pollutant profile by GC MS and LC MS MS etc.

मात्रा का विश्लेषण, कच्चे रेशे का निर्धारण, कोलेस्ट्रॉल, K मूल्य निर्धारण, वसा विलय विटामिनो का विश्लेषण, रसायन संकट एवं समुद्री खाद्य सुरक्षा, जी सी एम एस एवं एल सी एम एस एम एस आदि द्वारा प्रदूषक प्रोफाइल की निगरानी जैसे विषयों पर सैद्धान्तिक एवं प्रायोगिक कक्षाओं को शामिल किया गया।

## “Krishi Darpan-2012” – An ICAR Window-Showcasing of Agricultural Technologies

To enhance the communication to the grass-root level farmers for improving farmers’ receptivity for new technologies generated by research organizations under ICAR and thereby increasing the agricultural production, the CIFT, Cochin organized a two days Technology Expo cum Farmers’ Mela “Krishi Darpan-2012” during 20-21 March, 2012 at Palluruthy, Cochin. Dr. T.K. Srinivasa Gopal, Director, CIFT inaugurated the exhibition. Adv. K.N. Sunil Kumar, Councilor, Cochin Corporation presided over the function. Dr. K.G. Padmakumar, Associate Director, Regional Agriculture Research Station, Kumarakom, Smt. Lali, Asst. Director of Agriculture and Smt. Lekha Gopal, Programme Executive, All India Radio (AIR) offered felicitations. Dr. V. Geethalakshmi, Senior Scientist, CIFT proposed a vote of thanks.

During the two days’ programme, 16 stalls involving all the five Research Institutes of Kerala under ICAR (CIFT, CMFRI, CPCRI, CTCRI, IISR and two KVKS), Commodity Boards like Rubber Board, Coir Board, Developmental Departments, Vegetable and Fruit Promotion Council, Kerala (VFPC), Farm Information Bureau (FIB), NGOs and Self Help Groups who offer technology support for the farming community participated and displayed their technologies and programmes. Value added products commercialized by rural industries under another NAIP project on Pelagic fish value chain were also displayed and sold. The scientist-farmer interaction meet arranged during the meet provided a unique opportunity to the farmers for

clarification of their doubts and for the institutions to propagate their technologies and services and to get a first-hand information on problems of farmers. State level experts on Agriculture, Animal Husbandry and Fisheries took classes for the farmers. Dr. K.G. Padmakumar conducted class on Scientific fish farming, Smt. Sify Joseph, VFPC on Household vegetable gardening, Dr. Ashkar, Veterinary Surgeon on Goat rearing, Shri M. Nasser, CIFT on Fish based value added products and business opportunities and Dr. Pramudha Devi, Veterinary Surgeon on Calf rearing. For giving an element of interest to the Mela, some competitions were arranged for the public mainly, making traditional fish recipes, plating coconut leaves, coconut scraping and the winners were given prizes in the valedictory function. All the Institutes participated were also honoured by giving mementos. The best stall award was won by CPCRI, Kasaragod.

Dr. K. Ampady, IIS, MD, Kerala State Coastal Area Development Corporation (KSCADC) was the Chief Guest of the valedictory function, who appreciated the efforts being done under the project for dissemination of technological information to the farmers at the grass root level. Dr. P.T. Lakshmanan, Joint Director, CIFT presided over the function and explained about the necessity of dissemination of technologies through media. The event concluded after showcasing the strength of the technologies and addressing the issues and problems of farmers.



Dr. T.K. Srinivasa Gopal inaugurating ‘Krishi Darpan-2012’



Interaction meet in progress





## Technology Transfer Programmes in NEH States

### Training on 'Value added fishery products' at Nagaland

CIFT, Cochin conducted two batches of training programme on 'Production of value added fishery products from freshwater fish for employment and income generation' at Dimapur, Nagaland during 26-29 March, 2012. The programme was organized in association with the Directorate of Fisheries, Government of Nagaland. More than 100 women Self Help Group members from different parts of Dimapur participated in the programme. The programme was inaugurated by Shri Zenohol, Additional Director of Fisheries, Govt. of Nagaland. During the training programme value added products from freshwater fishes such as rohu and pangasius were prepared with the technical guidance of resource persons from CIFT. The products prepared included fish balls, fish wafers, fish pickle, fish cutlets, fish fingers, coated fish fillets, fish burgers, fish kebab and silage from fish wastes. The women members actively took part in the hands-on exercises. The training was imparted by Dr. T.K. Thankappan, Principal Scientist and Dr. P.K. Binsi, Scientist from CIFT. Dr. J. Charles Jeeva, Scientist, Senior Scale, CIFT and Shri Neito Koutsu, Chief Executive Officer of FFDA, Dimapur coordinated the programme.



Participants and Faculty of training at Aizawl

Remesan, Senior Scientist delivered lectures on general status of the inland fishing craft and gear of India, the ill-effects of destructive fishing methods and the basic principles of gill netting. Awareness was created among the participants about the responsible fishing methods to be followed. Shri B.K. Pradhan, Technical Officer (T5), CIFT handled hands-on training on fabrication/mounting of improved gillnets. The various technical queries raised by the fishermen trainees were cleared by the resource persons. Dr. J. Charles Jeeva, Scientist, Senior Scale, CIFT and Shri Ketuisielie Angami, District Fishery Officer, Wokha coordinated the programme.

### Training on 'Production of value added fishery products' at Manipur

Two training programmes on 'Production of value added fishery products from freshwater fish for employment and income generation' were organized by CIFT, Cochin in collaboration with the State Department of Fisheries, Manipur and the National Association of Fishermen, Manipur. The first programme was conducted at Uchiwa Kabui tribal village, Imphal West during 22-24 March, 2012. About 74 participants attended the training. Dr. S.



Distribution of foldable trap at Aizawl

### Training on 'Responsible fishing and extension methods' at Nagaland

A training programme on 'Responsible fishing and extension methods - Fabrication of improved gillnets' was conducted at Doyang Reservoir, Wokha district in Nagaland during 30-31 March, 2012. The programme was organized by CIFT, Cochin in association with the Directorate of Fisheries, Government of Nagaland. About 40 fishermen from different fishing villages in Doyang Reservoir area and five officials from the Department of Fisheries, Nagaland participated in the programme. During the programme, the resource person from CIFT, Dr. M.P.



Training at Serlui'B reservoir





Balasubramaniam, Head, EIS, CIFT inaugurated the training programme and Smt. Premila Devi, Pradhan, Uchiwa Grama Panchayath attended the function as Chief Guest. Dr. N. Prakash, Joint Director, ICAR Regional Centre, Lamphelpat, Imphal attended the valedictory function as Chief Guest and distributed the certificates.

The second training was conducted at Sekmajin tribal village, Thoubal District, Manipur during 26-28 March, 2012. About 88 participants attended the training. Shri

Umananda Singh, District Fishery Officer, Imphal West attended the valedictory function as Chief Guest and distributed the certificates. During the training, production of value added fishery products viz., fish pickle, fish cutlet, fish wafers, fish balls, fish fingers, dried fish and fish silage were demonstrated. The training was imparted by Dr. A.A. Zynudheen and Dr. George Ninan, Senior Scientists from CIFT. Dr. S. Balasubramaniam, Head, EIS, CIFT coordinated the programmes.

## Mega Product Expo Cum Trial Marketing of Fish Maid Products

Under the NAIP project on 'Responsible harvesting and utilization of selected small pelagics and freshwater fishes' a Mega product expo cum trial marketing of the fish based products developed was held during the 'India International Aquashow-2012', held at Cochin during 10-15 February, 2012. The event was organized in association with Kerala State Coastal Area Development Corporation Limited (KSCADC), as they expressed interest to do corporate level marketing of the products.

Under a unique stall named, "Fish Magic", fish based products were displayed in two sections viz. 22 fish based value added products under the brand name 'Fish Maid' and five dried fishes under the brand name 'Drish'. The 'Fish Maid' products included new generation snack foods like burger, kebab, cute tots, variety sweets and an array of other breaded products out of pelagic fishes like sardine, mackerel and anchovies. Under 'Drish', variety of hygienically produced dry fish and dry fish based products like spicy chat, crunchy cuts, wonder mix and variety roasts. The products were hygienically prepared by three trained fisher women units from Palakkad, Munambam and Kollam during

the Expo. Fish Maid and Drish products were sold like hot cakes in frozen, fried, baked, steamed and dried forms for a total value of ₹ 1,37,000. From the event, it was realized that customers were ready to accept fish based snack products instead of chicken snacks and all age groups were eager to experiment the delicious taste of fish. In the era of chemical agriculture scenario customers are ready to pay higher price for bio-food and fish food stands top in this property even against chicken products which are the favorite of those who love non-vegetarian snacks.

The dignitaries like Dr. T.K. Srinivasa Gopal, Director, CIFT, Shri K. Babu, Minister of Excise, Fisheries and Ports, Govt. of Kerala, Dr. K. Ampady, IIS, Managing Director, KSCADC, Shri T.N. Prathapan, MLA, Kodungallur, Shri K. Chandran Pillai, Ex-MP, Shri Mohammed Hanish, IAS, Ernakulam District Collector, Shri G. Hari Kumar, Director, Department of Fisheries and Smt. K.A. Saira Banu, Joint Director of Fisheries were highly impressed by the wide range of attractive and healthy fish based products displayed and the encouraging consumer's response.



Shri K. Babu, Kerala Fisheries Minister at CIFT stall



Dr. T.K. Srinivasa Gopal, Director, CIFT at the stall

## AgrIP2012 - Annual Meeting-cum-Workshop / एग्रीप 2012 - वार्षिक बैठक-सह-कार्यशाला

The Zonal Technology Management-Business Planning and Development (ZTM-BPD) Unit, South Zone at CIFT, Cochin conducted AgrIP 2012, the Annual Meeting-cum-

क्षेत्रीय प्रौद्योगिकी प्रबंधन - व्यापार नियोजन एवं विकास (क्षेत्र प्रौद्योगिकी) यूनिट, दक्षिणक्षेत्र के मा प्रौ सं, कोचिन में वाणिज्यिकरण के लिए कृषि प्रौद्योगिकियों के मूल्यांकन पर एग्रीप 2012, वार्षिक बैठक





Workshop on Evaluation of Agricultural Technologies for Commercialization during 24-25 February, 2012 at Cochin. AgrIP2012 workshop was aimed at equipping the scientific community from 20 ICAR Research Institutions in South India, for the evaluation and pro-active systematic management of technologies and IP assets which will lead to income generation through consultancy, technology transfer and commercialization.

The OICs of Institute Technology Management Units (ITMUs) and Research Associates from 20 ICAR Research Institutes in South Zone participated in the event. The Meeting-cum-Workshop was aimed to provide an opportunity for these Institutes to deliberate on the issues faced by them in IP management and technology commercialization.

The workshop was inaugurated by Dr. A.S. Saroja, Principal, Govt. Law College, Ernakulam. Dr. T.K. Srinivasa Gopal, Director, CIFT gave presidential address and Dr. Sanjeev Saxena, Principal Scientist (IP & TM), ICAR, New Delhi and Dr. R. Kalpana Sastry, Principal Scientist & Head, ARSMP, NAARM, Hyderabad gave felicitations. "IP Channel" - an online resource, dedicated to disseminate information regarding Intellectual Property Rights and Technology Management was released during the function. Dr. Leela Edwin, Member Secretary, Zonal Institute Technology Management Committee welcomed the gathering and Dr. C.N. Ravishankar, PI, BPD Unit gave the vote of thanks.

The technical sessions that followed, were chaired by Dr. Sanjeev Saxena and Dr. Kalpana Sastry. Dr. A.R.S. Menon, Technical Officer (T9), CIFT and Shri Nithin Singh, Business Manager, ZTM-BPD Unit were the rapporteurs.

**Evaluation of Agricultural Technologies for Commercialization:** Shri Karthikeyan Iyer, Founder Director, Craffiti Consulting Pvt. Ltd. gave a talk on 'Technology evaluation and valuation frameworks' that covered topics like key dimensions of technology evaluation, technology potential, assessment of business potential etc. Dr. Surya Mani Tripathi, Scientist (IPR & Regulatory



Dr. A.S. Saroja delivering the Presidential Address

- सह - कार्यशाला 24 और 25 फरवरी, 2012 को कोचिन में संचालित की गई। एग्रीप 2012 कार्यशाला का उद्देश्य दक्षिण भारत के 20 भा कृ अनु प अनुसंधान संस्थानों के वैज्ञानिक समुदाय को प्रौद्योगिकियों एवं बौ सं सम्पत्ति के मूल्यांकन एवं प्रति-सक्रिया प्रणालीबद्ध प्रबंधन के लिए सज्जित करना था जिसे परामर्श, प्रौद्योगिकी हस्तांतरण और वाणिज्यिकरण द्वारा आय का अर्जन किया जा सकता है।

इस कार्यक्रम में संस्थान प्रौद्योगिकी प्रबंध यूनिट (सं प्रौ प्र युओं) के प्रभारी अधिकारी एवं दक्षिण क्षेत्र के 20 भा कृ अनु प अनुसंधान संस्थानों से अनुसंधान सहायक सहभागिता किए। इस बैठक-सह-कार्यशाला का उद्देश्य बौ सं प्रबंधन एवं प्रौद्योगिकी वाणिज्यिकरण में उनके द्वारा सामना किए जा रहे समस्याओं पर विचार-विमर्श और इन संस्थानों को अवसर उपलब्ध करना था।

इस कार्यशाला का उद्घाटन डॉ. ए.एस. सरोजा, प्राचार्य, सरकारी विधि महाविद्यालय, एरणाकुलम द्वारा किया गया। डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं अध्यक्षीय भाषण दिए और डॉ. संजीव सक्सेना, प्रधान वैज्ञानिक (बौ सं एवं मार्का), भा कृ अनु प, नई दिल्ली एवं डॉ. आर. कल्पना शास्त्री, प्रधान वैज्ञानिक एवं प्रभागध्यक्ष, ए आर एस एम पी, रा कृ एवं प्रौ अनु अ, हैदराबाद आशीर्वचन प्रदान किए। इस कार्यक्रम के दौरान एक ऑनलाइन संपदा 'आई पी चैनल' शीर्षक बौद्धिक संपदा अधिकार और प्रौद्योगिकी प्रबंधन से संबंधित सूचना को प्रसार करने के लिए विमोचित किया गया। डॉ. लीला एड्विन, सदस्य सचिव, क्षेत्रीय संस्थान प्रौद्योगिकी प्रबंधन समिति (क्षे सं प्रौ प्र स) उपस्थित का स्वागत की और डॉ. सी.एन. रविशंकर, प्रधान अन्वेषक, व्यापार नियोजन एवं विकास (या नि वि) यूनिट कृतज्ञता ज्ञापित किया।

इस के बाद के तकनीकी सत्रों की अध्यक्षता डॉ. संजीव सक्सेना और डॉ. कल्पना शास्त्री द्वारा की गई। डॉ. ए.आर.एस. मेनोन, तकनीकी अधिकारी (टी 9), के मा प्रौ सं और श्री नितिन सिंह, व्यापार प्रबंधक, क्षे प्रौ प्र - व्या नि वि यूनिट रापोटर थे।

**वाणिज्यिकरण के लिए कृषि प्रौद्योगिकियों का मूल्यांकन:** श्री कार्तिकेयन अय्यर, स्थापाना निदेशक, क्राफ्टी कॉन्सल्टिंग प्रा. लि. 'प्रौद्योगिकी मूल्यांकन एवं मूल्यांकन ढाँचा' पर एक भाषण जिस में प्रौद्योगिकी मूल्यांकन के मुख्य आयाम, प्रौद्योगिकी संभावना, व्यापार संभावना का मूल्यांकन आदि जैसे विषयों थे। डॉ. सूर्यमणि त्रिपाठी, वैज्ञानिक (बौ सं अ एवं नियमक मामले)। इक्रीसेट, हैदराबाद 'प्रौद्योगिकी



Release of IP Channel



Affairs), ICRISAT, Hyderabad conducted a training session on 'Use of technology evaluation tools'. He explained about the methodologies and solutions in technology evaluation, its applications and implementation procedures.

**Presentation by ITMUs:** During the second technical session, presentations were made by the Officers-in-Charge of ITMUs from IIHR, Bangalore; DRR, Hyderabad; CTRI, Rajahmundry; DOR, Hyderabad; DOPR, Pedavegi; DSR, Hyderabad; PDP, Hyderabad; NRCM, Hyderabad; PD-ADMAS, Bangalore; NBAII, Bangalore; NIANP, Bangalore; NRCB, Trichy; DCR, Puttur; SBI, Coimbatore; IISR, Kozhikode; CTCRI, Thiruvananthapuram; CMFRI, Cochin; CIFT, Cochin; CIBA, Chennai and CPCRI, Kasaragod.

Dr. Sanjeev Saxena concluded the Meeting-cum-Workshop by reading out the proceedings and recommendations of the technical sessions. Dr. Leela Edwin proposed the vote of thanks.

## Training on Fish Based Value Added Products / मत्स्य आधारित मूल्यवर्धित उत्पादों पर प्रशिक्षण

A two days training programme on "Innovative products from freshwater fishes" was conducted by CIFT, Cochin during 24-25 January, 2012 at the College of Fisheries, GADVASU, Ludhiana. The programme was conducted to train the participants on the development of innovative fish based value added products from freshwater fishes. The programme was attended by over 60 participants including fish farmers, officials of Punjab State Fisheries Department and scientists. The participants were given training on the development of five fish based value added products viz., Momos, Casserole, Roll, Cutlet and Rohu blocks.

A discussion was organized on 25<sup>th</sup> January under the guidance of Dr. Asha Dhawan, Dean, College of Fisheries, and was presided over by Dr. G.S. Kalkat, Chairman, Punjab State Farmer's Commission. Shri V.K. Sood, Director of Fisheries, Dr. V.K. Taneja, Vice Chancellor, GADVASU, Shri Kaval Jeeth Singh Sidhu, President of Punjab Fish Farmers Association and Shri M. Nasser and Dr. S. Ashaletha, Scientists from CIFT, Cochin participated in the discussion. While interacting with the participants, the Chief Guest, Dr. Kalkat emphasized that in order to popularize fish among the masses there is a need to develop value added products from fish. Dr. V.K. Taneja asked the farmers to come forward

मूल्यांकन औजार की उपयोगिता पर एक प्रशिक्षण सत्र संचालित किया। वे प्रौद्योगिकी मूल्यांकन में प्रक्रियाएं एवं समाधान, उसके अनुप्रयोग एवं कार्यान्वयन कार्यप्रणाली के बारे में व्याख्यान दिए।

**संस्थान प्रौद्योगिकी प्रबंध यूनितों द्वारा प्रस्तुतिकरण:** दूसरे तकनीकी सत्र के दौरान, भा बा अनु सं, बेंगलूर; चा अनु नि, हैदराबाद; के ता अनु सं, राजमेन्द्री; ते अ नि, हैदराबाद; डी ओ पी आर, पेडावेगी; डी एस आर, हैदराबाद; पी डी पी, हैदराबाद; रा मा अनु के, हैदराबाद; पी डी - ए डी एम एस, बेंगलूर; एन बी ए आई आई, बेंगलूर; एन आई ए एन पी, बेंगलूर; रा के अनु के, त्रिची; डी सी आर, पूथूर; ग प्र सं, कोयम्बतूर; भा मा अनु सं, कोप्पिकोड; के खं फा अनु सं, तिरुवनंतपुरम; के स मा अनु सं, कोचिन, के मा प्रौ सं, कोचिन, के ख ज अनु सं, चेन्नई और सी पी सी आर आई, कसारगोड के प्रभारी अधिकारी सं प्रौ प्र यूटों द्वारा प्रस्तुतिकरण किए गए।

डॉ. संजीव सक्सेना इन तकनीकी सत्रों की कार्यवाही एवं सिफारिशों के पठन द्वारा इस बैठक-सह-कार्यशाला का समापन हुआ। डॉ. लीला एड्विन धन्यवाद प्रस्तुत की।



Inaugural session of the training programme

एक दो दिन का प्रशिक्षण कार्यक्रम "मत्स्य आधारित खाने के लिए तैयार उत्पादों" पर रा कृ नवो प की उपरियोजना 'उत्तरदायी प्रग्रहण और चयनित छोटे वेलापवर्ती एवं स्वच्छ जल मत्स्यों की प्रयुक्ति' के तकनीकी मार्गदर्शन के अधीन 24 एवं 25 जनवरी, 2012 को संचालित किया गया। यह कार्यक्रम मात्स्यिकी महाविद्यालय, गडवासु, लूधियाना में संपन्न हुआ था। यह कार्यक्रम स्वच्छ जल मत्स्यों से नवोन्वेषी मत्स्य आधारित मूल्यवर्धित उत्पादों के विकास पर सहभागियों को प्रशिक्षित करने के लिए संचालित किया गया। इस कार्यक्रम में करीब 60 सहभागी भाग लिए जिस में मत्स्य किसान, पंजाब राज्य मात्स्यिकी विभाग के पदाधिकारी और वैज्ञानिक शामिल थे। प्रशिक्षण सहभागियों को पाँच मत्स्य आधारित मूल्यवर्धित उत्पादों जैसे मोमोस, कैसरॉल, रोल, कटलेट और रोहू ब्लाक्स के विकास पर दिया गया।

डॉ. आशा धवन, संकायाध्यक्ष, मात्स्यिकी महाविद्यालय के मार्गनिर्देश के अधीन 25 जनवरी को एक चर्चा डॉ. जी.एस. कलकट, अध्यक्ष, पंजाब राज्य किसान आयोग की अध्यक्षता में किया गया। इस चर्चा में श्री. वी.के. सुद, मात्स्यिकी निदेशक, डॉ. वी.के. तनेजा, कुलपति, गडवासु, श्री कवल जीत सिंह सिदु, अध्यक्ष, पंजाब मत्स्य किसान एसोसिएशन और श्री एम. नासर और डॉ. एस. आशालता, के मा प्रौ सं, कोचिन सहभागिता किए। सहभागियों से अन्यान्यक्रिय के समय, मुख्य अतिथि, डॉ. कलकट जोर दिया कि जनसमूह में मत्स्य लोकप्रियता के लिए मत्स्य से मूल्यवर्धित उत्पादों की विकास की आवश्यकता है। वे राज्य के भीतर इन उत्पादों के उपभोग के लिए स्थानीय विपणन चैनल विकास पर जोर दिए। डॉ. वी.के. तनेजा, कुलपति, गडवासु भी किसानों से आगे आने





and to take up value addition as an enterprise to popularize fish products in the state for higher economic returns.

और उच्च फायदे की प्राप्ति के लिए राज्य में मत्स्य उत्पादों को लोकप्रिय बनाने के लिए मूल्यवर्धन को एक उद्यम के रूप लेने को कहा।

## Training on Hygienic Handling and Drying of Fish

A one day training programme was organized by CIFT, Cochin on “Hygienic handling and drying of fish” at Sevashram Swasrayagram, Angamaly on 1 March, 2012. Under the project a women Self Help Group of ten members has been organized. The main aim of the training programme was to give awareness for the need of hygiene in handling and drying of fish for better quality products. Dr. Nikita Gopal and Dr. J. Bindu, Senior Scientists, Shri V.T. Sadanandan, Tech. Asst., Shri M.M. Radhakrishnan, SSS, and Ms. K.B. Biji, SRF, CIFT, Cochin and Rev. Fr. Kuriakose Mampilly, President, Sevashram participated in the workshop.

Dr. Nikita Gopal welcomed the participants to the training programme and delivered a brief introduction about the project and the need of hygienic drying for better realization of money. The training session that followed was led by Dr. Bindu. She offered a class on the hygienic practices to be followed in the drying of fish. She demonstrated fish dressing, salting and methods of drying of different varieties of fish. The salted fish samples were

dried hygienically on PVC racks which were provided by CIFT under the project. Dressing and packing of fresh fish for direct marketing was also demonstrated by Dr. Bindu. The dressed fish were packed in small retail packets. A session on maintenance of production and financial records was handled by Dr. Nikita Gopal.



Dr. Bindu demonstrating the process

## Agri-Business Camp

An Agri-Business Camp was organized at Cochin by Small Farmer's Agri-Business Consortium (SFAC), in association with ZTM-BPD Unit, South Zone and Agri-Business Incubator (ABI) ICRISAT, Hyderabad on 25 January, 2012. The Camp was aimed at facilitating the creation of new and competitive agri-business enterprises and sensitizing on funding opportunities through SFAC and their scheme to agri business.



Agri-Business Camp - Inaugural session

## CIFT Signs Consultancy Agreements with Maharashtra Firms

CIFT, Cochin signed a Memorandum of Agreement with two firms at Ratnagiri district of Maharashtra for technical guidance to develop harvest and post harvest activities in fisheries in the Lanja area of Ratnagiri district. The agreement signed with M/s Navaladevi Aqua Agro Producer Company Limited, Lanja is for an amount of ₹ 7,38,000/- + 10.3% service tax. The agreement with M/s Matsya Vyavasayik Sahakari Sanstha Maryadit, Lanja is for an amount of ₹ 2,25,650/- + 10.3% service tax. The agreement was signed between Dr. T.K. Srinivasa Gopal, Director on behalf of CIFT, Cochin and Smt. Chaya Deepak Jadhav, Chairperson of both the firms at Lanja in a simple function held on 24 March, 2012 in presence of the SAO and members of the ITMU, CIFT, Cochin.



Dr. T.K. Srinivasa Gopal handing over the consultancy agreement document to Smt. Chaya Deepak Jadhav





## CIFT Team Participates in the Sixth Southern Ocean Expedition / छठी दक्षिण सागर खोज यात्रा में के मा प्रौ सं दल की सहभागिता

Dr. P. Pravin, Senior Scientist and Shri K.V. Aneesh Kumar, SRF, Fishing Technology Division of the Institute participated in the 6<sup>th</sup> Southern Ocean Expedition 2011-12 (SOE 2011-12) on-board 'FORV Sagar Nidhi' of the National Centre for Antarctic and Ocean Research (NCAOR), Ministry of Earth Sciences, Goa. They carried out work under the component. "Studies on the biological and biochemical characteristics of oceanic squids". The expedition started from Goa on 23 December, 2011 to the Southern Ocean. The Institute carried out experimental squid jigging operations to study the biology and biochemical aspects of oceanic squids. Squid jigs of various makes and types were rigged on-board for hand jigging. A hand operated squid jig reel was also fabricated on-board for jigging operations. A total of 71 squids, approximately weighing 60 kg were landed during the cruise. Three species namely; *Sthenoteuthis oualaniensis*, *S. bartrami* and *Todarodes filippovae* were landed. *S. oualaniensis* species was caught at 0°S Lat. and 77.3°E Long. *S. bartrami* was caught at 40°S Lat. and 53° to 58°E Long. *T. filippovae* was caught at 43°S Lat. and 53° to 58.3°E Long. *S. oualaniensis* and *S. bartrami* are widely reported from the tropical Indian Ocean and *T. filippovae* is a typical Southern Ocean species. Morphometric measurements were taken as per the scheduled proforma. Identification of the species and determination of the sex of the squids were carried out on-board. Whole squid samples of representative species and their gut, pieces of mantle etc. were stored at -20°C and transported in reefer containers to the Institute for further laboratory studies. The expedition team signed off at Mauritius after the successful completion of the voyage on 9 February, 2012 and reached Cochin on 10 February, 2011.



Dr. P. Pravin



Shri K.V. Aneesh Kumar

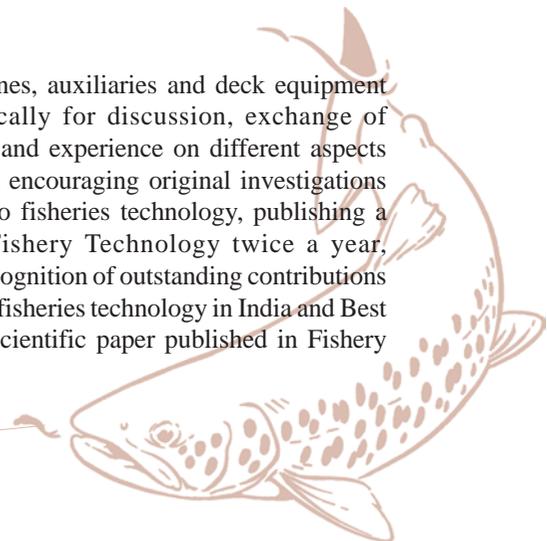
डॉ. पी. प्रवीन, वरिष्ठ वैज्ञानिक और श्री के.वी. अनीश कुमार, वरिष्ठ अनुसंधान अध्येता, संस्थान के मत्स्य प्रौद्योगिकी प्रभाग छठी दक्षिण सागर खोज यात्रा 2011-12 (एस ओ ई - 2011-12) के बोर्ड पर 'एफ ओ आर वी सागर निधी', राष्ट्रीय अन्टार्टिक और सागर अनुसंधान केन्द्र (एन सी ए ओ आर), पृथ्वी विज्ञान मंत्रालय, गोवा सहभागिता किए। यह खोज यात्रा दक्षिण सागर से 23 दिसंबर, 2011 को प्रारंभ हुई। संस्थान सागर स्क्विड के जीवविज्ञान एवं जैवरसायन के अध्ययन के लिए प्रायोगिक स्क्विड उछल परिचालन संचालित किए। हाथ से उछल के लिए भिन्न रूप में तैयार एवं प्रकार के

स्क्विड जुगत को बोर्ड पर सज्जित किया गया। उछल परिचालन के लिए बोर्ड पर एक हाथ से परिचालित स्क्विड जुगत रील को भी तैयार किया गया। कुल 71 स्क्विड, लगभग 60 कि ग्रा वजन के समुद्री यात्रा के दौरान अवतरित किए गए। तीन जातियाँ *स्टेनोट्यूथीस ओलनन्सीस*, *एस. बर्टरामी* और *तोडारोड्स फिलीपोवए* नामक अवतरण किए गए। *एस. ओलनन्सीस* जातियाँ 0° एस और 77.3° ई में शिकार किए गए। *एस. बर्टरामी* 40° एस और 53° से, 58° ई की लम्बाई में शिकार किए गए। *टी. फिलीपोवए* 43° एस फैलाव और 53° ई से 58.3° ई लम्बाई में शिकार किए गए। उष्णकटिबन्धी भारतीय सागर से *एस. ओलनन्सीस* और *एस. बर्टरामी* व्यापक रूप में रिपोर्ट किए गए और *टी. फिलीपोवए* प्ररूपी दक्षिण सागर जातियाँ हैं। अनुसूचित प्रोफोर्मा के अनुसार आकृतिमापीय माप लिए गए। बोर्ड पर ही स्क्विडों की जाति की पहचान एवं लिंग निर्धारण किया गया। प्रतिनिधी जातियों पूर्णकाया स्क्विड नमूने एवं उनके आँत, प्रावार टुकाडे आदि को - 20° सी के पास संग्रहित किया गया और आगे के प्रयोगशाला अध्ययन के लिए संस्थान को भित्ति डिब्बों में परिवहित किया गया। इस समुद्री यात्रा की सफल समाप्ति के बाद यह खोजयात्रा दल मेरीशियस में 9 फरवरी 2012 को विदा लिए और 10 फरवरी 2012 को कोचिन पहुँचे।

## SOFTI Celebrates Golden Jubilee

The Society of Fisheries Technologists (India), SOFTI, established in 1962 is a forum of researchers, technologists, academicians and administrators working in the field of fisheries. The Society was established to promote the cause of fisheries in general and fisheries technology in particular for the benefit of mankind, while at the same time preserving species diversity and ecology. The Society functions at the CIFT, Cochin and its main activities include: Providing a forum for fishery technologists connected with the production and processing of fish, design and construction

of fishing boats, engines, auxiliaries and deck equipment and to meet periodically for discussion, exchange of information, findings and experience on different aspects of fishery technology, encouraging original investigations on problems related to fisheries technology, publishing a journal called the Fishery Technology twice a year, instituting prizes in recognition of outstanding contributions to the advancement of fisheries technology in India and Best Paper award for the scientific paper published in Fishery Technology journal.





Dr. Ramachandran Thekkedath inaugurating the Curtain Raiser Ceremony

The Curtain Raiser Ceremony of the Golden Jubilee Celebrations of SOFTI was held on 14 March, 2012 at CIFT, Cochin. Dr. Ramachandran Thekkedath, Vice Chancellor, Cochin University of Science and Technology, Cochin was the Chief Guest of the programme. Delivering the inaugural address Dr. Ramachandran opined that we have to look beyond the land for survival of human beings. We have to explore the vast avenue under water against the back drop of dwindling cultivable land. He added that Institutes like CIFT should concentrate on technology development keeping in mind the commercialization aspects. A strong Intellectual Property regime is very important for a knowledge-based society. Dr. Ramachandran officially



Dr. Ramachandran Thekkedath unveiling the Golden Jubilee Logo

released the Golden Jubilee Logo and launched the new website of SOFTI. Dr. T.K. Srinivasa Gopal, President, SOFTI and Director, CIFT presided over the function and released the Golden Jubilee Brochure. Dr. P.T. Lakshmanan, Vice President of the Society welcomed the gathering. Dr. T.V. Sankar, Secretary, SOFTI highlighted the achievements of SOFTI during the last 50 years. Dr. K. Ashok Kumar, Joint Secretary proposed the vote of thanks.

The year-long celebrations include seminars, debates, exhibitions and conferences on various aspects of harvest and post harvest fisheries and will be held in different parts of the country.

## Celebrations / समारोह

### International Women's Day

CIFT, Cochin celebrated the International Women's Day on 8 March, 2012. Dr. S. Girija, Director, National Institute of Fisheries Post Harvest Technology and Training, Cochin was the Chief Guest. Speaking on the occasion she highlighted the importance of women in society as well as the difficulties faced by them. Dr. T.K. Srinivasa Gopal, Director, CIFT presided over the function. He highlighted that the UN special theme for this year is 'Empower rural women: End poverty and hunger' and stressed that CIFT has been doing its bit to the fishing community by engaging in research for the sector which have directly or indirectly contributed to improving the livelihoods of fishers. Dr. J. Bindu, Chairperson, CIFT Women's Cell welcomed the gathering and Smt. M.K. Sreelekha, Member, CIFT Women's Cell proposed the vote of thanks.



Dr. S. Girija delivering the Chief Guest's address

### अंतरराष्ट्रीय महिला दिवस

के मा प्रौ सं, कोचिन 8 मार्च, 2012 को अंतरराष्ट्रीय महिला दिवस मनाया। डॉ. एस. गिरिजा, निदेशक, राष्ट्रीय मात्स्यिकी पश्च प्रग्रहण प्रौद्योगिकी एवं प्रशिक्षण संस्थान, कोचिन मुख्य अतिथि थी। इस अवसर पर बात करते हुए वे समाज में महिला के महत्व के साथ उनके द्वारा सामना किए जा रहे मुश्किलों पर प्रकाश डाली। डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं इस कार्यक्रम की अध्यक्षता किए। उन्होंने इस वर्ष के सं रा सं विशेष विषय "ग्रामीण महिला का सशक्तीकरण : गरीबी एवं भूख की समाप्ति" पर प्रकाश डाले और जोर दिया कि के मा प्रौ सं इस क्षेत्र के लिए अनुसंधान में कार्य करते हुए मत्स्यन समुदाय के लिए कुछ कर रहा है और यह क्षेत्र प्रत्यक्ष एवं परोक्ष रूप से मछुवारों की जीविका के सुधार में सहयोग कर रहा है। डॉ. जे. बिन्दु, अध्यक्षन, के मा प्रौ सं महिला सेल उपस्थित का स्वागत की और श्रीमती एम.के. श्रीलेखा, सदस्य, के मा प्रौ सं, महिला सेल कृतज्ञता प्रस्तावित की।





## Awards and Honours / पुरस्कार एवं सम्मान

**Dr. T.K. Srinivasa Gopal**, Director, CIFT, Cochin has been conferred Fellow of Association of Food Scientists and Technologists (India) for the significant contributions made in the area of Research, Development, Industrial Achievement and Human Resource Development in the field of Food Science and Technology during the XXI Indian Convention of Food Scientists and Technologists organized by the AFST(I) and held at Pune on 20 January, 2012. The Fellowship was conferred to him by Shri V.N. Gaur, IAS, CEO, Food Safety and Standards Authority of India.



*Dr. T.K. Srinivasa Gopal receiving the Fellowship*

The paper entitled, “Structural features in collagens extracted and purified from squid skin” authored by **R. Remyakumari and K.K. Asha** has been awarded Second prize in the Poster Presentation during the International Conference on ‘Recent perspectives in macromolecular structures and functions’ held at CARI, Port Blair during 27-28 January, 2012.

The paper entitled “Performance evaluation of bigeye bycatch reduction device on the sea off Cochin, India” by **S. Sabu, T.R. Gibin Kumar, P. Pravin and M.R. Boopendranath** was awarded the Best paper award for the research papers published in the journal Fishery Technology Vol. 48(1).

## “Sagar Kripa” Launched

The Department Vessel, “Sagar Kripa” after maintenance and repair was launched at the Veraval Research Centre during the quarter.



*Launching of ‘Sagar Kripa’*

**डॉ. टी.के. श्रीनिवास गोपाल**, निदेशक, के मा प्रौ सं, कोचिन को पूणे में 20 जनवरी, 2012 को संपन्न ए एफ एस टी (आई) द्वारा आयोजित भारतीय खाद्य वैज्ञानिक एवं प्रौद्योगिकी वेदों के XXI सम्मेलन के दौरान खाद्य विज्ञान एवं प्रौद्योगिकी के क्षेत्र में अनुसंधान, विकास, औद्योगिक उपलब्धि और मानव संसाधन विकास के कार्य में विशेष उपलब्धि के लिए खाद्य वैज्ञानिक एवं प्रौद्योगिकी के एसोशिएशन की अधि सदस्यता प्रदान

की गई। यह अधि सदस्यता उन्हें श्री वी.एन. गौर, भा प्र से, मु का अ, भारतीय खाद्य सुरक्षा एवं मानक प्राधिकरण द्वारा प्रदान की गई।

‘स्विड त्वचा से निष्कर्षण किए और शोधित कोलेजन में संरचनात्मक लक्षण’ शीर्षक और **आर. रम्याकुमारी एवं के.के. आशा** द्वारा संपादित प्रपत्र को ‘बृहत आण्विक संरचनाएं और कार्य में हालकी के परिदृश्य’ पर के कृ अनु सं, पोर्टब्लेयर में 27-28 जनवरी, 2012 के दौरान संपन्न अंतरराष्ट्रीय सम्मेलन में पोस्टर प्रस्तुतिकरण के लिए दूसरा पुरस्कार प्राप्त हुआ।

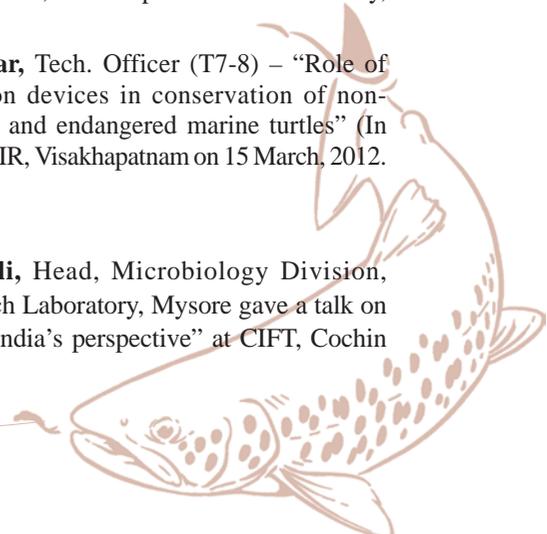
**एस. साबू, टी.आर. जिबिन कुमार, पी. प्रवीन और एम.आर. भूपेन्द्रनाथ** द्वारा लिखित “दूर कोचिन समुद्र, भारत पर बड़ी आँख उप पकड़ कमी युक्ति का क्षमता मूल्यांकन” शीर्षक प्रपत्र को मत्स्यन प्रौद्योगिकी सं. 48(1) जनरल में प्रकाशित अनुसंधान प्रपत्र के लिए उत्तम प्रपत्र के रूप में पुरस्कृत किया गया।

## Radio Talks

- Dr. G. Rajeswari**, Senior Scientist - “Methods adopted for conservation of turtles” (In Telugu) through AIR, Visakhapatnam on 31 January, 2012.
- Dr. G. Rajeswari**, Senior Scientist – “Role of fish aggregating devices in resource enhancement” (In Telugu) through AIR, Visakhapatnam on 9 February, 2012.
- Shri M.S. Kumar**, Tech. Officer (T7-8) – “Role of bycatch reduction devices in conservation of non-selective bycatch and endangered marine turtles” (In Telugu) through AIR, Visakhapatnam on 15 March, 2012.

## Invited Talk

**Dr. H.S. Murali**, Head, Microbiology Division, Defence Food Research Laboratory, Mysore gave a talk on “Biodefence – From India’s perspective” at CIFT, Cochin on 21 March, 2012.





## CIFT Comes Out with Flying Colours in ICAR Sports Meets / भा कृ अनु प खेलकूद भेंट में के मा प्रौ सं, द्वारा उल्लेखनीय सफलता की प्राप्ति

CIFT, Cochin came out with flying colours in the ICAR Inter Zonal Sports Meet 2011 held at Kalyani, Kolkatta during 16-19 January, 2012 and the ICAR Zonal Sports Meet 2012 held at Hyderabad during 27 February to 2 March, 2012.

At the Inter Zonal Sports Meet, a four member contingent from CIFT participated. Smt. P. Jeyanthi, Scientist and Chief De Mission of the CIFT team got first place in Long Jump. The womens' carom winner and runner were Smt. K.K. Sumathy, Tech. Officer (T5) and Smt. V.P. Vijayakumari, P.S. Apart from this, Smt. Vijayakumari got first place in Javelin throw and was winner in Shuttle Badminton Doubles (Women) along with Smt. Tessa Francis (T4). Smt. Tessa Francis was winner in Chess (Women) category.

The following is the list of winning participation in the ICAR Zonal tournament which was held between 25 ICAR institutes in the southern states of Kerala, Tamil Nadu, Karnataka and Andhra Pradesh: 1. Foot Ball - Winner, 2. Caroms (Women) - 1<sup>st</sup> Prize - Smt. K.K. Sumathy, 3. Long Jump (Women) - 1<sup>st</sup> Prize - Smt. P. Jeyanthi, 4. 200 M Sprint (Women) - 2<sup>nd</sup> Prize - Smt. P. Jeyanthi, 5. 1500 M - 2<sup>nd</sup> Prize - Shri Dev Umesh Aroskar, 6. 400 M - 3<sup>rd</sup> Prize - Shri P.S. Sunil Kumar, 7. 800 M - 3<sup>rd</sup> Prize - Shri P.S. Sunil Kumar, and 8. 100 M Sprint (Women) - 3<sup>rd</sup> Prize - Smt. P. Jeyanthi.



Winners of Inter Zonal Sports Meet with dignitaries

कल्याणी, कोलकत्ता में 16-19 जनवरी, 2012 भा कृ अनु प अंतर आंचलिक खेलकूद भेंट के दौरान और हैदराबाद में, 27 फरवरी से 2 मार्च 2012 तक संपन्न भा कृ अनु प खेलकूद भेंट में के मा प्रौ सं, कोचिन उल्लेखनीय सफलता को प्राप्त किया है।

अंतर आंचलिक खेलकूद भेंट में एक चार सदस्यों का के मा प्रौ सं का दल प्रतिभागिता किया। श्रीमती पी. जयन्ती, वैज्ञानिक और के मा प्रौ सं की चीफ-डे. मिशन लम्बी कूद में प्रथम स्थान प्राप्त की। महिला कैरम विजेता और उपविजेता थे श्रीमती के.के. सुमती, तकनीक अधिकारी (टी 5) और श्रीमती वी.पी. विजयकुमारी, नि. सा. इस के अलावा, श्रीमती विजयकुमारी, भाला फेंक में प्रथम स्थान और शटिल बैडमिंटन डब्लस महिला में श्रीमती टेस्सी फ्रन्सीस (टी 4) के साथ विजेता थी। श्रीमती टेस्सी फ्रन्सीस शतरंज (महिला) श्रेणी में विजेता थी।

निम्नलिखित भा कृ अनु प आंचलिक प्रतियोगिता के विजेता प्रतिभागी हैं। यह 25 भा कृ अनु प संस्थानों में से दक्षिण राज्यों केरल, तमिल नाडु, कर्नाटक और आंध्र प्रदेश के बीच संपन्न हुई: 1. फूट बॉल - विजेता 2. कैरम (महिला) - प्रथम पुरस्कार - श्रीमती के.के. सुमती 3. लम्बी कूद (महिला) - प्रथम पुरस्कार - श्रीमती पी. जयन्ती 4. 200 मी तेज़ दौड़ (महिला) - दूसरा पुरस्कार - श्रीमती पी. जयन्ती 5. 1500 मी - दूसरा पुरस्कार - श्री देव उमेश अरोस्कार 6. 400 मी - तीसरा पुरस्कार - श्री पी.एस. सुनिल कुमार 7. 800 मी - तीसरा पुरस्कार - श्री पी.एस. सुनिल कुमार 8. 100 मी तेज़ दौड़ (महिला) - तीसरा पुरस्कार - श्रीमती पी. जयन्ती।



Victorious Foot Ball team

## Nutritional Profiling and Nutritional Labelling of Seafood – A New Publication from CIFT

Despite fluctuations in supply and demand caused by the changing state of fisheries resources, the economic climate and environmental conditions, fisheries have traditionally been, and remain an important source of food, employment and revenue in many countries and

communities. Worldwide, about a billion people rely on fish as their main source of animal protein. About 20% of the world's population derives at least one-fifth of its animal protein intake from fish. In low-income food-deficit countries, the contribution of fish to total animal protein





intake is nearly 20%. Considering the importance seafood plays in satisfying the nutritional needs of global population, CIFT, Cochin has published a book that describes the nutritional significance of the varied nutrients present in seafood.

The book titled, “Nutritional profile and nutritional labelling of seafood” is edited by Drs Suseela Mathew, P.T. Lakshmanan, R. Anandan, K.K. Asha and A.R.S. Menon. In the book there are chapters that give detailed description of nutritional roles of fish proteins, lipids, vitamins and minerals. Some chapters of the book are dedicated to the methodologies used in the determination of specific nutrients present in seafood. These also describe sophisticated instrumentation like HPLC, GC-MS, LC-MS/MS and AAS



Release of the book

that are used for nutrient analysis and profiling. The consumer of today is an informed individual and is generally health-conscious and desires to be aware of his calorie intake and nutritional requirements. In this regard, nutritional label plays an important role in letting the consumer know of the nutrients present in the food item he wishes to consume. The food label on packaged food is a finite space faced with an ever increasing demand to contain nutrient information. It is one of the most highly valued and sought after communication channels in the market place. The chapters on nutritional labelling and protein and amino acid requirements are two chapters that delineate the significance of seafood and labelling.

## Post Graduate Studies / स्नातकोत्तर अध्ययन

### Ph. D. Awarded

**Shri V.R. Madhu**, Scientist, Fishing Technology Division, CIFT, Cochin was awarded Ph. D. degree from Jawaharlal Nehru Technological University, Hyderabad for his thesis entitled, “Characteristics and quantification of trawl bycatch along Saurashtra coast, Gujarat, India”. He worked under the guidance of Dr. B. Meenakumari, Deputy Director General (Fisheries), ICAR, New Delhi.



### पीएच.डी. प्राप्ति

**श्री वी.आर. मधु**, वैज्ञानिक, मत्स्यन प्रौद्योगिकी प्रभाग, के मा प्रौ सं, कोचिन को उनके “सौराष्ट्र तट, गुजरात, भारत में ट्रॉल उप-पकड का अभिलक्षण एवं परिमाण” शीर्षक शोध प्रबंध के लिए जवहरलाल नेहरू प्रौद्योगिकियाँ विश्वविद्यालय, हैदराबाद के द्वारा पी.एच. डी उपाधि प्रदान की गई। वे डॉ. बी. मीनाकुमारी, उप महानिदेशक (मात्स्यिकी), भा कृ अनु प, नई दिल्ली के मार्गदर्शन के अधीन कार्य किया।

**Ms Sneha Susan Simon**, Research Fellow, Microbiology, Fermentation & Biotechnology Division, CIFT, Cochin was awarded a Ph. D. degree from Central Institute of Fisheries Education, Mumbai for her thesis entitled, “Ecology of psychrotrophic pathogens in packaged refrigerated seafoods”. She worked under the guidance of Dr. K.V. Lalitha, Head, MFB Division, CIFT, Cochin.



**कुमारी स्नेहा सुसन सैमन**, अनुसंधान अध्येता, सूक्ष्मजीवविज्ञान, किण्वन एवं जैव प्रौद्योगिकी प्रभाग, के मा प्रौ सं, कोचिन को उनके “संवेष्टित प्रशीतित समुद्रखाद्यों में साइक्रोट्रोफीक रोगजनकों की पारिस्थितिकी” शीर्षक शोध प्रबंध के लिए केन्द्रीय मात्स्यिकी शिक्षा संस्थान, मुम्बई के द्वारा पीएच. डी. उपाधि प्रदान की गई। वे डॉ. के.वी. ललिता, प्रभागाध्यक्ष, सू जै प्रौ प्रभाग, के मा प्रौ सं, कोचिन के मार्ग निदर्शन के अधीन यह कार्य की।

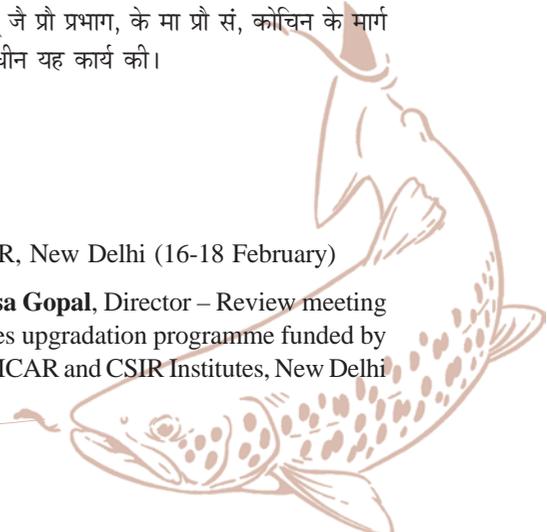
## Personnel News

### Participation in Seminars/Symposia/Workshops etc.

- **Dr. T.K. Srinivasa Gopal**, Director – XXI Indian Conference of Food Scientists and Technologists, Pune (20 January)
- **Dr. T.K. Srinivasa Gopal**, Director – Director’s

Conference, ICAR, New Delhi (16-18 February)

- **Dr. T.K. Srinivasa Gopal**, Director – Review meeting of the technologies upgradation programme funded by NFDB to various ICAR and CSIR Institutes, New Delhi



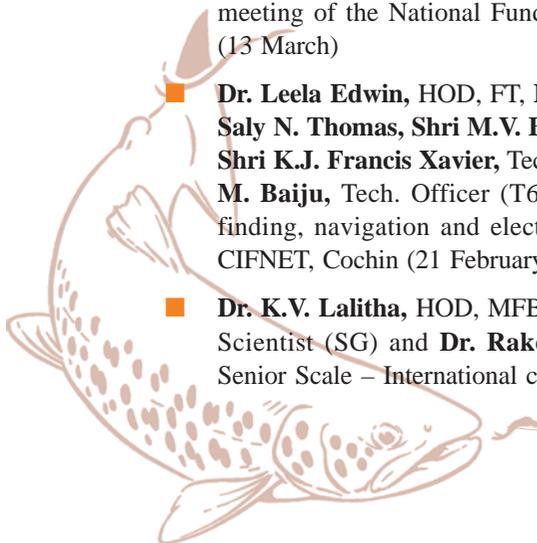


(12 March)

- **Dr. T.K. Srinivasa Gopal**, Director and **Dr. C.N. Ravishankar**, HOD, FP– 2<sup>nd</sup> Global Agri-business Incubation Conference, IARI, New Delhi (6-7 February). Dr. Srinivasa Gopal Co-chaired the session on ‘Stimulating agri business innovations and entrepreneurship’ while Dr. Ravishankar presented a lead paper on ‘Fisheries technology incubation model’.
- **Dr. T.K. Srinivasa Gopal**, Director and **Dr. C.N. Ravishankar**, HOD, FP – India International Seafood Show, Chennai (28 February - 1 March). Dr. Srinivasa Gopal chaired the Session on ‘Processing and value addition’. Dr. Ravishankar delivered an invited talk on ‘Utilization of waste in seafood industry for cosmetic and pharma products’.
- **Dr. P.T. Lakshmanan**, HOD, B&N – Partners meeting for mega project on health foods, CIPHET, Ludhiana (2-3 February)
- **Dr. Leela Edwin**, HOD, FT and **Dr. Nikita Gopal**, Senior Scientist – Global conference on Women in agriculture, New Delhi (13-15 March). They also presented the following papers:
  - i. Capacity building and technology transfer through fisherwomen group – An intervention in improved dry fish production by Nikita Gopal, K.B. Biji and C.N. Ravishankar
  - ii. Status and employment pattern of women in seafood processing plants in Gujarat – An inclusive approach by P. Jeyanthi, Nikita Gopal, V. Geethalakshmi and L.N. Murthy
  - iii. Marine ecosystem services and rural livelihood: A gender perspective by Arathy Ashok, C.V. Prakasan, Nikita Gopal and B.S. Sontakki
- **Dr. Leela Edwin**, HOD, FT and **Dr. Toms C. Joseph**, Scientist (SG) – Project development workshop, NAARM, Hyderabad (15-19 February)
- **Dr. Leela Edwin**, HOD, FT, **Dr. P. Pravin** and **Shri M.V. Baiju**, Senior Scientists – Expert committee meeting of the National Fund of ICAR, New Delhi (13 March)
- **Dr. Leela Edwin**, HOD, FT, **Dr. M.P. Remesan**, **Dr. Saly N. Thomas**, **Shri M.V. Baiju**, Senior Scientists, **Shri K.J. Francis Xavier**, Tech. Officer (T9) and **Dr. M. Baiju**, Tech. Officer (T6) – Workshop on Fish finding, navigation and electronic instrumentation, CIFNET, Cochin (21 February)
- **Dr. K.V. Lalitha**, HOD, MFB, **Dr. Toms C. Joseph**, Scientist (SG) and **Dr. Rakesh Kumar**, Scientist, Senior Scale – International conference on Advances

in biological sciences, Kannur University, Kannur (15-17 March). They also presented the following research papers:

- i. Identification of salt-responsive genes from *Mangrovibacter* spp. by prokaryotic suppression subtractive hybridization by Anju Baby, K.V. Lalitha, Aswathy Mary Vargheese and Toms C. Joseph
  - ii. Genetic characterization and molecular fingerprinting of *Salmonella* serovars associated with seafood in Cochin, India by Rakesh Kumar and K.V. Lalitha
- **Dr. T.V. Sankar**, HOD, QAM – Regional expert group workshop on Transboundary aquatic animal health issues in the Bay of Bengal, Bangkok, Thailand (12-13 January)
  - **Dr. T.V. Sankar**, HOD, QAM and **Dr. M.R. Boopendranath**, Principal Scientist – Seminar on Emerging trends in aquaculture, harvesting and post harvest technology, Mar Thoma College, Thiruvalla (7-8 March). Dr. Sankar delivered an invited talk on ‘Food safety for fish and fishery products’ while Dr. Boopendranath delivered an invited talk on ‘Modern trends in fishing gears’.
  - **Dr. C.N. Ravishankar**, HOD, FP – Fish Festival, Bhopal (4-5 February). Dr. Ravishankar also presented an invited paper on ‘Post harvest technologies for freshwater fishes with special reference to Madhya Pradesh’.
  - **Dr. C.N. Ravishankar**, HOD, FP – Annual General Body Meeting of ICAR, New Delhi (6 March)
  - **Dr. C.N. Ravishankar**, HOD, FP – Meeting of the Nanotechnology platform, ICAR, New Delhi (12 March)
  - **Dr. C.N. Ravishankar**, HOD, FP, **Dr. M.R. Boopendranath**, Principal Scientist and **Dr. P. Pravin**, Senior Scientist – International conference on Science and geopolitics of Arctic and Antarctic, New Delhi (9-11 March). Dr. Ravishankar made an invited talk on ‘Post harvest technological aspects of Antarctic Krill’ while Dr. Boopendranath gave an invited talk on ‘Antarctic krill harvesting – Indian experiences’ by M.R. Boopendranath, M.K.R. Nair, A. Anrose and B. Meenakumari in the Conference. Dr. Pravin made a presentation on ‘Squid jigging operations in southern ocean’ by P. Pravin, K.V. Aneesh Kumar and B. Meenakumari.
  - **Dr. C.N. Ravishankar**, HOD, FP and **Dr. J. Bindu**, Senior Scientist – First Indo-US International conference on Polymers for packaging applications,





Centre for Nanoscience and nanotechnology, MG University, Kottayam (31 March – 2 April). Dr. Bindu also presented an invited paper on “Polymer based retortable pouches for packaging of ready to eat fish products” by J. Bindu, C.N. Ravishankar, A.K. Mallick and T.K. Srinivasa Gopal.

- **Dr. M.M. Prasad**, SIC, Visakhapatnam – Agri Tech – 2012 – National Seminar, Palakollu, W.G. district (7 January). Dr. Prasad also Chaired the Technical Session and delivered a talk on ‘Development of value added products with fish and entrepreneurial skill in marketing of the value added products’ in the Seminar.
- **Dr. M.M. Prasad**, SIC, Visakhapatnam and **Shri M.V. Baiju**, Senior Scientist – Consortium on Identifying the collaborative functional areas of the NFDB in exploitation of deep sea resources, post harvesting operations and marketing, Visakhapatnam (19-20 January). Dr. Prasad presented a paper on “Post harvest operations and marketing for deep sea pelagic fish with special reference to tuna” while Shri Baiju presented a paper on “Modernization and upgradation of trawlers for deep sea tuna fishing”.
- **Dr. R. Badonia**, SIC, Veraval – Entrepreneurship development programme, District Industrial Office, Veraval (11 January) (As Chief Guest)
- **Dr. R. Badonia**, SIC, Veraval – Meeting of the Science Advisory Committee of KVK, Kodinar (13 February)
- **Dr. M.R. Boopendranath**, Principal Scientist – International seminar on Ornamentals of Kerala 2012, Cochin (11-12 February)
- **Dr. M.R. Boopendranath**, Principal Scientist – RFD Meeting, CIFRI, Barrackpore (23 February)
- **Dr. S. Sanjeev**, Principal Scientist and **Dr. Rakesh Kumar**, Scientist, Senior Scale – Seminar on One health initiative in addressing food safety challenges, College of Veterinary and Animal Sciences, Mannuthy (16-17 February). Dr. Sanjeev presented a Lead paper on ‘Seafood quality assurance’ while Dr. Rakesh Kumar presented a Lead paper on ‘Rapid detection of food borne pathogens’ in the Seminar.
- **Dr. K. Ashok Kumar**, Senior Scientist - BIS Meeting on FAD 12 on Fish and fisheries products, New Delhi (28 January)
- **Dr. Femeena Hassan**, Senior Scientist – Refresher course on Agricultural research management for directly recruited Senior/Principal Scientists, NAARM, Hyderabad (19 January – 8 February)
- **Dr. J. Bindu**, Senior Scientist – Annual workshop of Component – 4 of NAIP Sub projects, ICAR, New Delhi (19-20 March)

- **Dr. U. Sreedhar**, Senior Scientist – National workshop on Creation of awareness of CCRF and capacity building for effective implementation in India, CIFE, Mumbai (1-2 February)



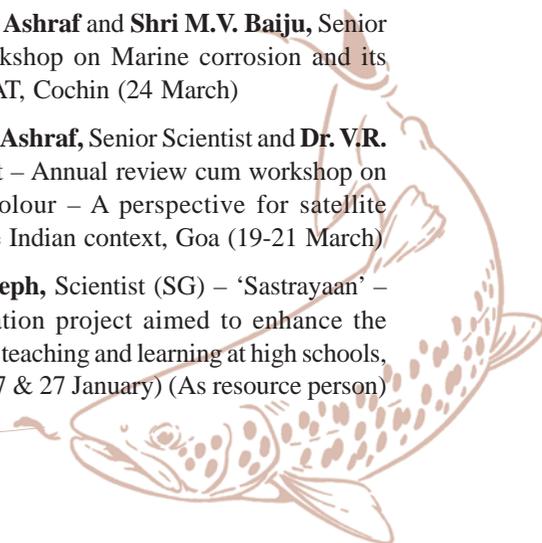
Dr. Sreedhar receiving participation certificate at CCRF meet

- **Dr. U. Sreedhar**, Senior Scientist – ‘Meenakshi Matsya Utsav’ organized by Dept. of Fisheries, M.P. and NFDB, Hyderabad, Bhopal (1-5 February). Dr. Sreedhar delivered a talk on “Harvest and post harvest interventions for inland fisheries’.



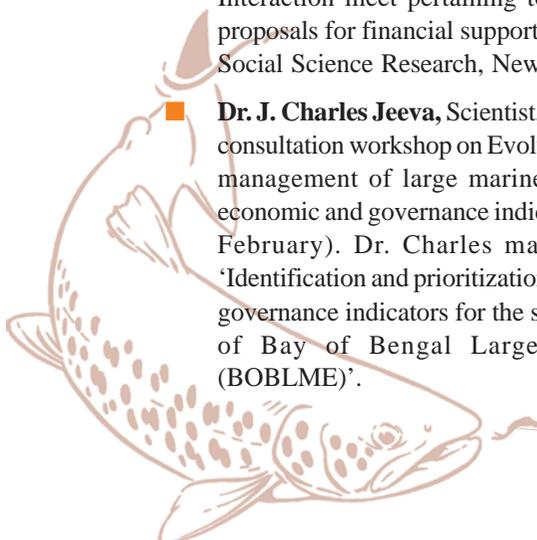
Dr. Sreedhar delivering talk at ‘Meenakshi Matsya Utsav’

- **Dr. J. Bindu**, Senior Scientist – Technology Clinic, Kottayam (23 February) (As resource person). Dr. Bindu handled a Session on ‘Retort pouch processing’.
- **Dr. P. Muhamed Ashraf** and **Shri M.V. Baiju**, Senior Scientists – Workshop on Marine corrosion and its protection, CUSAT, Cochin (24 March)
- **Dr. P. Muhamed Ashraf**, Senior Scientist and **Dr. V.R. Madhu**, Scientist – Annual review cum workshop on Coastal ocean colour – A perspective for satellite application in the Indian context, Goa (19-21 March)
- **Dr. Toms C. Joseph**, Scientist (SG) – ‘Sastrayaan’ – A science education project aimed to enhance the quality of science teaching and learning at high schools, North Paravur (17 & 27 January) (As resource person)





- **Dr. Toms C. Joseph**, Scientist (SG) – National seminar on Marine microbes, D.K.M. College for Women, Vellore, Tamil Nadu (10 February). Dr. Toms C. Joseph delivered a Key Note address.
- **Dr. B. Madhusudana Rao**, Scientist (SG) – Workshop on Traditional fishers-lifestyles, Visakhapatnam (23 February). Dr. Madhusudana Rao gave a talk on ‘Marine fisher adoption of technologies’ at the Workshop.
- **Dr. B. Madhusudana Rao**, Scientist (SG) and **Dr. L.N. Murthy**, Scientist – Agri Business Meet, Visakhapatnam (7 January). Dr. Rao also gave a talk on ‘Agribusiness opportunities through CIFT-BPD’.
- **Dr. B. Madhusudana Rao**, Scientist (SG), **Shri K.V.S.S.K. Harnath**, Tech. Officer (T6), **Shri D. Rout**, Tech. Officer (T5) and **Shri M. Prasanna Kumar**, Tech. Asst. (T3) – National conference on Advances in biotechnology for sustainable initiatives in 21<sup>st</sup> century, Visakhapatnam (30-31 March)
- **Dr. Toms C. Joseph**, Scientist (SG), **Dr. Rakesh Kumar**, Scientist, Senior Scale and **Dr. V. Murugadas**, Scientist – Meeting as experts for finalization of technical specification of automatic ELISA, MPEDA, Cochin (30 January)
- **Dr. K.K. Asha**, Scientist, Senior Scale – International Conference on Recent perspectives in macro molecular structures and their functions, CARI, Port Blair (28-29 January). Dr. Asha also presented the following papers in the Conference:
  - i. Partial characterization of peptides and bioactivities of oyster (*Crassostrea madrasensis*) peptide extract by K.K. Asha, R. Remyakumari, Suseela Mathew, K. Ashok Kumar, R. Anandan and P.T. Lakshmanan
  - ii. Characterization of collagen extracted and purified from squid (*Stenoteuthis oulaniensis*) skin by R. Remyakumari and K.K. Asha
- **Dr. J. Charles Jeeva**, Scientist, Senior Scale – Interaction meet pertaining to new research project proposals for financial support from Indian Council of Social Science Research, New Delhi (22 January)
- **Dr. J. Charles Jeeva**, Scientist, Senior Scale – National consultation workshop on Evolving indicators for better management of large marine ecosystems – Socio-economic and governance indicators, FSI, Mumbai (18 February). Dr. Charles made a presentation on ‘Identification and prioritization of socio-economic and governance indicators for the sustainable management of Bay of Bengal Large Marine Ecosystem (BOBLME)’.
- **Dr. S.K. Panda**, Scientist, Senior Scale – Training programme on Train the Trainers Good Aquaculture Practices, TNVASU, Chennai (17-21 January)
- **Dr. S.K. Panda**, Scientist, Senior Scale – International workshop on Strategies in value addition and safety aspects pertaining to dairy and food industry, Madras Veterinary College, Chennai (15-16 March). Dr. Panda also presented a lead paper on “Emerging pathogens in marine foods” in the Workshop.
- **Shri V. Radhakrishnan Nair**, Scientist, Senior Scale – Policy workshop on Training transfer at NARS, NAARM, Hyderabad (27-28 March)
- **Dr. L.N. Murthy**, Scientist – National seminar on Recent advances in research on marine environment, Visakhapatnam (10-11 March). Dr. Murthy delivered an invited talk on ‘Seafood chemistry’ at the Seminar.
- **Dr. C.O. Mohan, Smt. V. Renuka**, Scientists and **Smt. Sangeetha D. Gaikwad**, Tech. Officer (T6) – Training programme on Vistas in nutrient profiling and nutritional labelling of seafood, CIFT, Cochin (14-23 February)
- **Shri V. Chandrasekar**, Scientist – Training programme on Issues in trade and development, CDS, Thiruvananthapuram (4-24 January)
- **Dr. P.K. Binsi**, Scientist – Workshop on Scanning Electron Microscopy, CUSAT, Cochin (10 February)
- **Dr. P.K. Binsi**, Scientist – Training on Processing and value addition of farm products, Edava (18 February) (As resource person). Dr. Binsi handled an awareness session on ‘Basics of packaging and labelling of food products’.
- **Shri Ankur Nagori**, Scientist – Interaction meet of scientists of Farm Machinery & Power and Mechanical Engineering discipline, CIAE, Bhopal (16-18 March)
- **Shri Ankur Nagori**, Scientist, **Shri C.R. Gokulan** and **Smt. P.K. Shyma**, Tech. Officers (T6) – Business meet on Energy Audit, Cochin (24 February)
- **Dr. A.R.S. Menon**, Tech. Officer (T9) – Sensitization cum training workshop for the PME Cell Incharge/ Nodal Officer of Half Yearly Progress Monitoring (HYPM), NAARM, Hyderabad (13 February)
- **Shri M.S. Kumar**, Tech. Officer (T7-8) – Farm and Home Unit Rural Programme Subject Committee Meeting, AIR, Visakhapatnam (28 February)
- **Shri M.S. Kumar**, Tech. Officer (T7-8) and **Shri M. Prasanna Kumar**, Tech. Asst. (T3) – National conference on Aquaculture: Fish for billion, Bhubaneswar (15-17 March)





- **Dr. Santhosh Alex**, Tech. Officer (T5) – Hindi workshop, HPCL, Visakhapatnam (23 February) (As resource person)
- **Ms. G.S. Hema**, JRF - National seminar on Emerging trends in applied microbiology and biotechnology, St. Thomas College, Palai (30 March). Ms. Hema presented the research paper entitled 'Isolation and characterization of collagen from Albacore tuna (*Thunnus alankunga*), Dog shark (*Scoliodon sorrakkowab*) and Rohu (*Labeo rohita*)' by G.S. Hema, K. Shyni, Suseela Mathew, George Ninan, R. Anandan and P.T. Lakshmanan which bagged the second prize for best presentation.

## Personalia

### Promotions

1. Shri T.V. Bhaskaran, Tech. Officer (T5), Cochin as Tech. Officer (T6)
2. Smt. M. Rekha, Tech. Officer (T5), Cochin as Tech. Officer (T6)

3. Shri K.D. Jos, Tech. Officer (T5), Cochin as Tech. Officer (T6)
4. Shri A.K. Panigrahi, Tech. Officer (T5), Visakhapatnam as Tech. Officer (T6)

### Transfers

1. Shri V. Chandrasekar, Scientist, CIFT, Cochin to CIFT RC, Veraval
2. Smt. D. Geetha, AO, CIFT, Cochin to CMFRI, Cochin
3. Shri R. Anil Kumar, AO, CMFRI, Cochin to CIFT, Cochin
4. Shri H.S. Bag, T-I-3 (Driver), Burla to Visakhapatnam
5. Shri S.N. Dash, SSS, Burla to Cochin

### Retirements

1. Smt. K.K. Sumathy, Tech. Officer (T5), Cochin
2. Shri M. Venkateswara Rao, Sr. Tech. Asst. (T4–Driver), Visakhapatnam
3. Shri V. Ramachandran, Cook, Cochin

## Announcement

### Winter School on Fish Harvesting Systems for Resource Conservation 20 November - 10 December, 2012; Venue: CIFT, Cochin

Fishing Technology Division of CIFT is organizing a Winter School on Fish Harvesting Systems for Resource Conservation which will cover theory and practical sessions on the following topics and on-board fishing practice:

(1) Conservation needs for marine and inland fishery resources, (2) Fisheries legislation and management approaches for resource conservation, (3) Traditional, motorized and mechanized vessels, (4) Alternate materials and design interventions in fishing craft and gear for energy efficiency, (5) Design and operational approaches for resource conservation for major gear types viz. trawls, purse seines, gill nets, lines and traps, (6) Selectivity of important fishing gears, (7) Bycatch Reduction Devices (BRDs) and Turtle Excluder Devices (TEDs), (8) IUU fishing and mitigation measures, (9) Application of remote sensing and GIS for fishery resource management, and (10) Environment and fishery resource sustainability.

**Eligibility:** The participation in the Winter School is meant for researchers and teachers in the rank of Asst. Professors/Scientists/Lecturers/research workers with at

least 2 years of teaching/research experience in Fishing Technology and related fields in State Agricultural Universities/ICAR Research Institutes/Colleges. Applicants should have a Masters degree in Fisheries Science/Industrial Fisheries/Fisheries Technology and Engineering/Fisheries Engineering/Fishery Resource Management/Marine Biology/Zoology or equivalent qualification.

The last date for receiving the application form is 10 September, 2012.

#### Contact for further information:

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