



भाकृ अनुप  
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# मत्स्य प्रौद्योगिकी समाचार Fish Technology Newsletter

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## News from the Research Front

### CIFT Dryer JSDE - 6 SM - A Hybrid Solar Dryer with Alternate Electrical Back-up for Hygienic Preservation of Fish and Agro-products

The fisheries field has emerged as a promising sector which provides food, employment and economic benefits for large sections of the society. It is a source of livelihood for about 15 million people engaged fully, partially or in subsidiary activities pertaining to the sector. Besides an equal number are engaged in ancillary activities in fisheries and aquaculture.

Total fish production in India in 2009-2010 was 7.85 million tonnes comprising of 4.87 million tonnes from inland and 2.98 million tonnes from marine sector. The exports of fish and fish products have also shown steady growth during 2009-10. About 15% of the marine catch is processed and exported to nearly 100 countries as per reports from MPEDA, Cochin. The remaining 85%



CIFT DRYER JSDE - 6 SM

केन्द्रीय मात्स्यकी प्रौद्योगिकी संस्थान

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



of the fish is available for domestic consumption along the coastal states. The contribution of fisheries to the GDP during 2009-10 was 0.8%.

Due to lack of infrastructure for storage of raw fish and modern transport facilities to different destinations, huge quantity of fish is not properly treated resulting in huge loss. Moreover due to the lack of appropriate facilities to handle the low value fish on land, it is understood that more than 10% of the total landings valued at about ₹ 600 crores worth is thrown back into the sea by fishermen before landing. Out of the landed fish about 50,000 tons of wet fish is dried by various methods in different locations.

India has been exporting about 9690 tons of dried fish every year taking the advantage of the tropical temperature throughout the country for most of the seasons. If the moisture content of fresh fish is reduced during drying to around 25%, bacteria cannot survive and autolytic activity will be greatly reduced. But to prevent mould growth, the moisture content must be reduced to 15%. At present, dried fish available for export and at domestic market is dried mostly on the sandy beaches in the most unhygienic conditions.

Traditional methods of drying fish in the open sun is hazardous as the product is vulnerable to contamination by sand, bacteria and fungus. Often, spoilage of fish takes place due to rain, moisture and dust, insect infestation and damage is caused by intruding birds and animals. Further, the process is labour intensive and time consuming and requires large areas for spreading the fish. In situations, where relative humidity is high, it is often difficult to dry the fish adequately.

When fish is not dried in the most appropriate manner, there will be good number of associated quality problems like high sand content, formation of chalky external coat, high moisture content, microbial contamination, growth of moulds and fungus etc. Simple sun drying is the oldest method of sea food preservation and it works well with small types of fishes. But sun drying is not effective in the case of medium and large sized fishes like mackerel, seer, shark, ray, tuna etc. since the flesh is thick and it takes longer time to get dried up to the required level of moisture content and at the same time with no control over weather. The open sun drying being followed leads to uncontrolled drying with many disadvantages such as loss of nutritional value, colour and quality. Further, rain, insects and enzymatic reaction may cause problems. Non-uniformity or insufficient drying lead to deterioration of the fish during storage.

Sun drying on platforms and rack drying are practiced to reduce contamination by sand but the major disadvantage in these type of drying techniques is that proper drying is not possible in adverse weather conditions, leading to spoilage of fish. Mechanical dryers were used to overcome

these issues. Mechanical dryers using electricity or fossil fuels such as diesel oil and furnace oil, as the energy sources are available, but they are very energy intensive and also produce CO<sub>2</sub> emission.

Alternative energy sources are coming into sharp focus in an era of escalating fuel prices. It is against this background that solar energy is gaining attention as a potential source for drying. Different types of solar dryers have been designed and developed in various parts of the world, yielding varying degrees of technical performance.

When the sun shines so brightly for a good part of the year in a tropical country like India, tapping this energy is the best option man has for conserving conventional sources of energy. Solar heating system is the most viable option as it is cost effective and eco-friendly. Different types of solar dryers have been designed and developed by CIFT for hygienic drying of fish. Designs of solar dryer vary from very simple direct dryers to more complex hybrid ones.

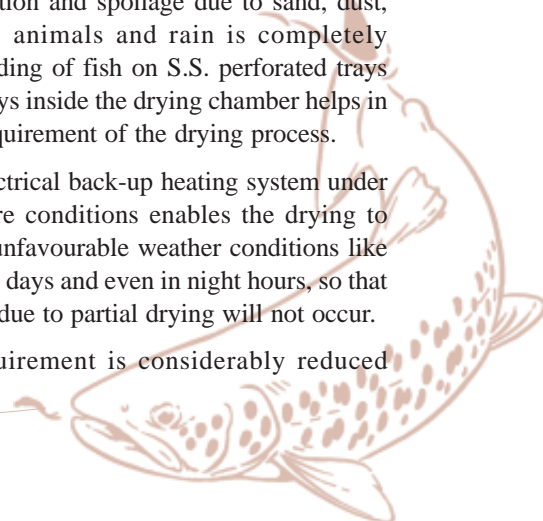
The newly developed hybrid solar dryer is having LPG, biogas, biomass or electricity as alternate back up heating source for continuous hygienic drying of fish even under unfavourable weather conditions. The capacity of the hybrid solar dryer varies from 6 sq. m to 110 sq. m tray spreading area for drying fish.

The hybrid Solar Dryer "CIFT DRYER JSDE-6 SM" is having a Stainless Steel (SS) tray drying area of 6 sq. m with an alternate electrical back up heating system. Effective harnessing of solar energy using specially designed solar air heating panels and proper circulation of the hot air across the SS trays loaded with fish with the help of blowers makes the drying process faster.

The drying chamber is made of stainless sheets on both sides with PUF insulation in between to reduce the wastage of thermal energy during the drying process. Food grade stainless steel perforated trays provided inside the S.S. drying chamber enables drying of fish in a very hygienic manner. Since all the food contact parts are made of S.S. 304 stainless steel, harmful effect of corrosion is considerably reduced. The complete fish drying process is taking place inside a closed S.S. drying chamber and the chances of contamination and spoilage due to sand, dust, flies, insects, birds, animals and rain is completely eliminated. The spreading of fish on S.S. perforated trays and stacking of the trays inside the drying chamber helps in reducing the space requirement of the drying process.

The alternate electrical back-up heating system under controlled temperature conditions enables the drying to continue even under unfavourable weather conditions like rain, cloud, non-sunny days and even in night hours, so that the bacterial spoilage due to partial drying will not occur.

The labour requirement is considerably reduced







compared to open sun drying in beaches/coir mats because of the elimination of cleaning process due to sand and dust contamination. Re-handling process like spreading, sorting and storing because of non-drying or partial drying due to unfavourable weather conditions and spoilage due to rain is



Shri Tony Chammany inaugurating the Hybrid Solar Dryer

### Purse Seining During Night with Luring Lights

In India, purse seining is carried out mostly during day time, though there are few occasions when the fishermen operate the purse seine net during night depending on the availability of fish shoals and its visibility on the surface of the water. Trial purse seine fishing operation was carried out off Cochin during night using luring lights. The preliminary observations were quite encouraging as it could considerably reduce the steaming and scouting time and also cost of fuel.

Night fishing using purse seine is in vogue in the south-eastern countries like Malaysia and Thailand. They carry out night fishing around Fish Aggregating Devices (FADs) combined with powerful luring lights.

Night fishing using luring lights was carried out on board the vessel 'Bharat Darshan' a 18 m  $L_{OA}$  purse seiner,

also not required. The drying time is reduced considerably with improved product quality. This will ensure quality products eliminating the disadvantages of open sun drying followed in coastal villages. Improved shelf life and value addition of the product fetches higher income for the fisher folk. The eco-friendly solar drying system reduces fuel consumption and can have a significant impact on energy conservation.

Recently Shri Tony Chammany, Honourable Mayor of Cochin Corporation inaugurated a unit of the Hybrid Solar Dryer with alternate electrical back-up heating system installed at Matsyasree Fish Processing Centre, Fishermen Colony, West Kochi under the CDS and SJSRY programmes with the technical support from CIFT, Cochin on 9 July 2011.

- Dr. P.N. Joshi and Shri Ankur Nagori  
Engineering Division, CIFT, Cochin

having 102 hp main engine, belonging to a Fishermen Cooperative Society, the *Manassery Matsya Thozhilali Kshema Sahakarana Sangham*. A purse seine net of 1000 m length and 80 m depth having a mesh size of 45 mm in the main body and 30 mm in the bunt region was used.

The general deck layout of the purse seiner showing the light arrangements on top of the cabin is given in Figure 1. Fishing operations were carried out during the new moon phase in the night. After reaching the fishing ground, the lights fixed on top of the cabin on the port and starboard side are switched on. The lights are powered by a portable generator. The lights are kept switched on for about 2 to 3 hours. The SONAR and Echo-sounder are monitored frequently for detecting the aggregation of the fish shoals around the vessel. After considerable aggregation of fish

shoals, two sets of petromax lights each unit having three petromax lights mounted on a buoyant platform are released into the water with the help of the skiff. The petromax lights are fixed on steel frames with a thermocol base which makes it buoyant and keep it afloat in water (Fig. 2).

The lights of the main vessel are switched off completely and the fish that were aggregated around the vessel move towards the petromax light source. The purse seine vessel and the

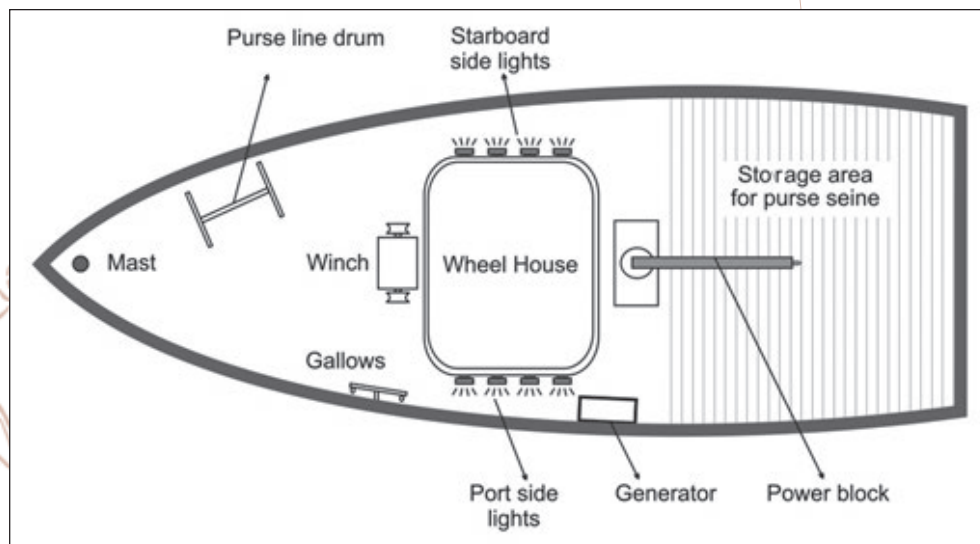


Fig. 1 General deck layout of purse seiner for night fishing operations



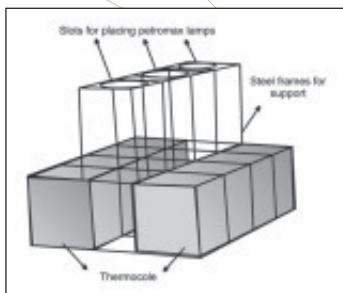


Fig. 2 Base for fixing petromax lights

skiff then move away from the petromax lights and a constant vigil is kept over the fish shoal using the SONAR.

When the vessel and the skiff have sufficiently shifted away from the petromax light source, the shooting of the net

commences. Shooting and hauling operations are similar to that done during the day time fishing operations. The end of the net where bridle and buoys are provided, along with one end of the purse seine is given to the skiff and the vessel moves forward at maximum speed releasing the net and encircling the shoal at the quickest possible time. During this process, the purse line, which is coiled on the winch drum, is also released. After the fish shoal is completely encircled, the purse line end which was with the skiff is taken back to the main vessel. The two ends of the pursed line are then pulled fast with the help of the purse line winch. After pursing the bottom, the engine of the vessel is stopped and the net is hauled up by the fishermen using hydraulic power block. The catch concentrated in the bunt, are brailed in using a scoop net and immediately stored in the fish hold with ice.

The catch mainly comprised of Mackerels, Barracudas, Garfish, Seerfish, and miscellaneous fishes. The catch composition from night fishing operations during the trial operation is given in Figure 3.

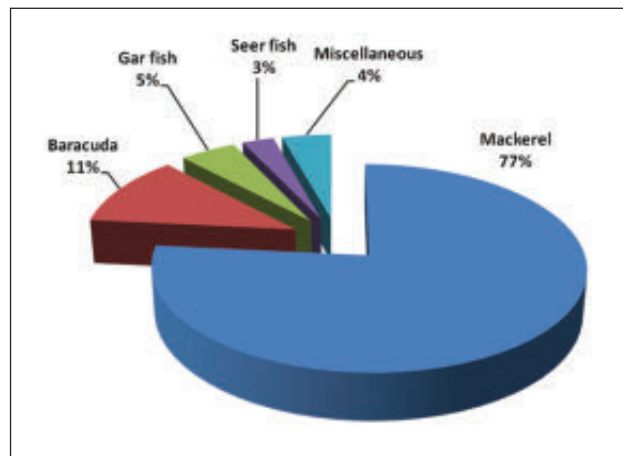


Fig. 3 Catch composition during night purse seining

Light attraction can be useful for successful purse seining when the fish do form schools to carry out regular purse seining operations or the fish swim too fast and deep. However, fishing with light attraction can be unsuccessful if the visibility of water is poor, the current is strong or there is strong moonlight.

The results of the preliminary purse seine fishing trials during night using luring lights show encouraging results. This could save scouting time, fuel and will be a profitable venture. However, caution has to be taken as there is a possibility of aggregation of all types and sizes of fishes including juveniles and endangered species as they get attracted towards the light, particularly when purse seines with small mesh sizes are used with light attraction.

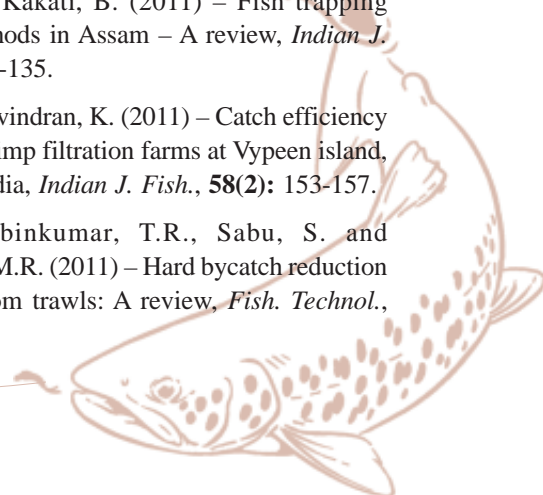
- Dr. P. Pravin

Fishing Technology Division, CIFT, Cochin

## Publications

### Research Papers

1. 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 maser curry in opaque reportable pouches, *Fish. Technol.*, **48(2)**: 141-148.
2. Charles Jeeva, J., Balasubramaniam, S., Jeyanthi, P. and Ashaletha, S. (2011) – Evaluation of the post-Tsunami scenario with reference to fishing technology and socio-economic conditions among the motorized craft operators in Tamil Nadu, *Indian J. Fish.*, **58(3)**: 117-123.
3. Geethalakshmi, V., Nikita Gopal and Murthy, L.N. (2011) – Capacity utilization in fish processing industry – A case study of Gujarat, *Fish. Technol.*, **48(2)**: 171-174.
4. George Ninan, Zynudheen, A.A., Regina, M. and Joseph, A.C. (2011) – Effectiveness of spices on the quality and storage stability of freeze-dried fish balls, *Fish. Technol.*, **48(2)**: 133-140.
5. Murthy, L.N. and Rajanna, K.B. (2011) – Effect of washing on composition and properties of proteins from tilapia (*Oreochromis mossambicus*) meat, *Fish. Technol.*, **48(2)**: 125-132.
6. Pravin, P., Meenakumari, B., Baiju, M., Barman, J., Baruah, D. and Kakati, B. (2011) – Fish trapping devices and methods in Assam – A review, *Indian J. Fish.*, **58(2)**: 127-135.
7. Pravin, P. and Ravindran, K. (2011) – Catch efficiency of gill nets in shrimp filtration farms at Vypeen island, Kerala, South India, *Indian J. Fish.*, **58(2)**: 153-157.
8. Pravin, P., Gibinkumar, T.R., Sabu, S. and Boopendranath, M.R. (2011) – Hard bycatch reduction devices for bottom trawls: A review, *Fish. Technol.*, **48(2)**: 107-118.





9. Rani Palaniswamy, Manoharan, S. and Geethalakshmi, V. (2011) – Assessment of population parameters of Indian major carps and common carps in a culture based reservoir, *Indian J. Fish.*, **58(2)**: 41-44.
10. Zynudheen, A.A., George Ninan and Mannodi, S.B. (2011) – Effect of chitin and chitosan on the physico-chemical quality of silage based fish feed, *Fish. Technol.*, **48(2)**: 149-154.

## Books

A book titled “Hand book of Fishing Technology” was translated in to Hindi and published under the co-ordination of Dr. B. Meenakumari, DDG (Fy.), ICAR, New Delhi. The book was edited by Dr. M.M. Prasad, Dr. G. Rajeswari, Dr. U. Sreedhar, Dr. R. Raghu Prakash and Dr. Prem Kumar, and translated by Dr. Santosh Alex with the technical help of Shri K.V.S.S.S.K. Haranath. The book was released on the eve of ICAR Foundation Day at New Delhi on 16 July 2011.



*Shri Charan Das Mahanth, Honorable Minister of State for Agriculture releasing the book*

## पुस्तकें

"मत्स्य प्रौद्योगिकी की पुस्तिका" शीर्षक एक पुस्तक हिन्दी में अनूदित और डॉ. बी. मीनाकुमारी, उप महा नि (मा) भा कृ अनु प, नई दिल्ली के समन्वयन के अधीन प्रकाशित की गई। यह पुस्तक डॉ. एम.एम. प्रसाद, डॉ. जी. राजेश्वरी, डॉ. यू. श्रीधर, डॉ. आर. रघु प्रकाश एवं डॉ. प्रेम कुमार द्वारा संपादित एवं श्री के.वी.एस. एस.एस.के. हरनाथ की तकनीकी सहायता से डॉ. संतोष अलेक्स द्वारा अनूदित है। इस पुस्तक का लोकार्पण भा कृ अनु प स्थापना दिवस 16 जुलाई 2011 को नई दिल्ली में किया गया।

## Training Programmes

### Cochin

1. Fish packaging technology (1 June – 1 July)
2. Biochemical analysis of fishery products (2-16 July)
3. Innovative products from Sardine and Mackerel (20-22 July & 22-23 September)
4. HACCP – An overview (26 July)
5. Food packaging techniques and testing of packaging materials (1-20 August)
6. Laboratory techniques in microbiological examination of seafood (6 June – 5 August)
7. Detection of molecular characterization of *V. cholerae* from seafood (6 August – 6 September)
8. HACCP concepts (8-12 August)
9. Preparation of cattle, poultry and pig feed using silage (16-30 August)
10. Conversion of diamond mesh nets to square mesh nets (27 September – 1 October)



*Training on Innovative products*



*Training on Mesh nets*

## Outreach Programmes

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

1. Stakeholders meet in connection with the handing over of three coconut wood canoes constructed by CIFT at







Kumbalam, Ernakulam district on 2 July, 2011

2. Awareness Campaign on Microenterprise initiatives at Moothakunnam, Ernakulam district on 8 July, 2011
3. Training on Design and fabrication of new multi seam

trawl at SIFT, Kakinada during 11-13 July, 2011.

4. Training on Fabrication and operation of improved gillnets for tribal fisherfolk, Ambalavayal, Wayanad district on 17 September, 2011.

## Participation in Exhibitions

During the quarter the Institute participated in the following exhibitions:

1. 'Utkal Banga Utsav 2011' at Balasore, Odisha during 14-20 August, 2011.
2. Exhibition organized by Press Information Bureau, Thiruvananthapuram at Mannar, Alappuzha during 21-23 August, 2011.
3. Exhibition organized as part of the 'Colloquium on Challenges in marine mammal conservation and research in the Indian ocean' at CMFRI, Cochin during 26-27 August, 2011.
4. 'Haritholsavam 2011' organized by the District Administration, Ernakulam at Maradau, Cochin during 3-7 September, 2011.
5. 15<sup>th</sup> National exhibition on 'Evolution of India as a great nation in the 21<sup>st</sup> century', organized by Central Calcutta Science & Culture Organization at Kolkata on 7 September, 2011.
6. 'Haritholsavam 2011' organized at the College of Agriculture, Vellayani, Thiruvananthapuram during 19-24 September, 2011.



Visitors at CIFT stall in 'Utkal Banga Utsav 2011'

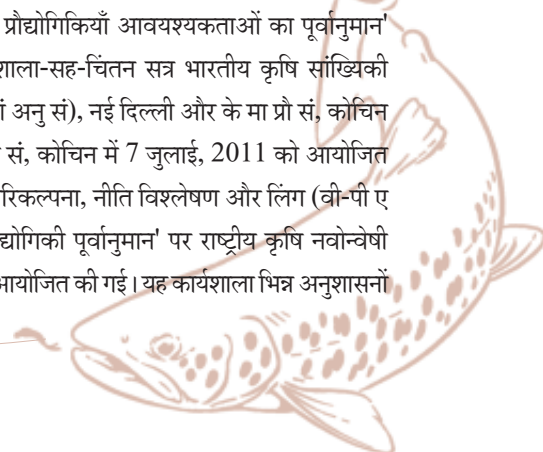


Visitors at CIFT stall in exhibition at Kolkatta

## Workshop-cum-Brainstorming Session on Forecasting Technological Needs / कार्यशाला-सह-प्रौद्योगिकियों की आवश्यकता पूर्वानुमान पर चिंतन बैठक

With increasing importance and contributions of fisheries sector, there is a constant need for assessment and forecasting of future technological needs in order to have innovative policies, technologies and opportunities for holistic and sustainable development. In this background, a one-day Workshop-cum-Brainstorming Session on 'Forecasting technological needs for fishing and fish processing sectors in India' was jointly organized by Indian Agricultural Statistics Research Institute (IASRI), New Delhi and CIFT, Cochin on 7 July 2011 at CIFT, Cochin. The workshop was organized as part of the National Agricultural Innovation Project on 'Visioning, Policy Analysis and Gender (V-PAGe)' - Sub-component - II: 'Technology Forecasting'. The workshop was organized

मात्स्यिकी क्षेत्र का महत्व एवं योगदान बढ़ने से, साकल्यवादी एवं समग्र विकास के लिए नवोन्वेषी नीतियाँ, प्रौद्योगिकियाँ एवं अवसर को तैयार करने के लिए निरंतर मूल्यांकन और भविष्य की प्रौद्योगिकियों का पूर्वानुमान करने की आवश्यकता है। इस पृष्ठभूमि में, 'भारत में मत्स्य एवं मत्स्य संसाधन क्षेत्र के लिए प्रौद्योगिकियाँ आवश्यकताओं का पूर्वानुमान' पर एक एक दिन की कार्यशाला-सह-चिंतन सत्र भारतीय कृषि सांख्यिकी अनुसंधान संस्थान (भा कृ सां अनु सं), नई दिल्ली और के मा प्रौ सं, कोचिन द्वारा संयुक्त रूप से के मा प्रौ सं, कोचिन में 7 जुलाई, 2011 को आयोजित किया गया। यह कार्यशाला परिकल्पना, नीति विश्लेषण और लिंग (वी-पी ए जी ई)-उप संघटक-II : 'प्रौद्योगिकी पूर्वानुमान' पर राष्ट्रीय कृषि नवोन्वेषी परियोजना के भाग के रूप में आयोजित की गई। यह कार्यशाला भिन्न अनुशासनों





*Dr. K. Gopakumar, former DDG (Fy.) inaugurating the Workshop*

with an objective to provide a platform to fisheries scientists from different disciplines and other major stakeholders to delineate broad contours of future technological needs for sustainable and development-oriented fishing and fish processing sectors of the country.

The programme was inaugurated by Dr. K. Gopakumar, Former Dy. Director General (Fisheries), ICAR, New Delhi and presided over by Dr. T.K. Srinivasa Gopal, Director, CIFT, Cochin. Dr. V.K. Bhatia, Director, IASRI, New Delhi and Dr. P. Ramasundaram, Principal Scientist & PI (V-PAGe), National Centre for Agricultural Economics and Policy Research (NCAP), New Delhi offered felicitations on the occasion. Dr. J. Charles Jeeva, Scientist, Senior Scale and Coordinator of the programme welcomed the participants. Dr. S. Balasubramaniam, Head, Extension, Information and Statistics Division, CIFT, Cochin proposed vote of thanks. The programme was attended by about 100 delegates representing the fisheries research institutions, state Department of Fisheries, MPEDA, Cochin, Non Governmental Organizations, fishermen associations, fish processing industry and representatives from the print and electronic media.

The inaugural session was followed by Technical Session I, in which invited lectures were delivered by the experts. The Session was chaired by Dr. K. Gopakumar and Dr. V.K. Bhatia. It was followed by the Technical Session-II on 'Brain Storming Session', which was chaired by Dr. N.G.K. Pillai, ICAR Emeritus Scientist & Former Director, CMFRI, Cochin and Dr. Leela Edwin, Head, Fishing Technology Division, CIFT, Cochin. In this Session, the most important issues/constraints of the fishing and fish processing sectors, technological needs, researchable areas required to be taken up by the Fisheries Research Institutions and the developmental assistances required from the governmental side for the industry were deliberated. The reasons for the technological gaps/slow adoption of available technologies, and the suggestions on the kind of support/policy reforms required to fasten the process of technology



*Shri Anwar Hashim, National President, SEAI giving his lecture*

के मात्स्यिकी वैज्ञानिकों और अन्य प्रमुख पाणधारियों को और देश में सतत एवं विकासानुमुख मत्स्यन एवं मत्स्य संसाधन क्षेत्र की भविष्य की प्रौद्योगिकियाँ आवश्यकताओं की व्यापक रूपरेखा प्रस्तुत करने के उद्देश्य से आयोजित की गई।

इस कार्यशाला का उद्घाटन डॉ. के. गोपकुमार, पूर्व उप महानिदेशक (मात्स्यिकी), भा.कृ.अनु.प., नई दिल्ली और डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के.मा.प्रौ.सं., कोचिन द्वारा अध्यक्षता की गई। इस अवसर पर डॉ. बी.के. भाटिया, निदेशक, भा.कृ.सां.अनु.सं., नई दिल्ली एवं डॉ. पी. रामसुन्दरम, प्रधान वैज्ञानिक एवं प्र अ (वी-पी ए जी ई), राष्ट्रीय कृषि आर्थिक एवं नीति अनुसंधान केन्द्र (रा कृ आ एवं नी अनु केन्द्र), नई दिल्ली द्वारा आशीर्वाचन प्रदान किया गया। डॉ. जे. चार्ल्स जीवा, वैज्ञानिक, वरिष्ठ श्रेणी और कार्यक्रम समन्वयक सहभागियों का स्वागत किया। डॉ. एस. बालसुब्रमणियम, प्रभागाध्यक्ष, विस्तार, सूचना एवं सांख्यिकी प्रभाग, के मा प्रौ सं, कोचिन धन्यवाद प्रस्तावित किया। इस कार्यक्रम में करीब 100 प्रतिनिधि भाग लिए जो मात्स्यिकी अनुसंधान संस्थान, राज्य मात्स्यिकी विभाग, स उ नि वि प्र, कोचिन, गैर सरकारी संगठन, माछुवा एसोशिएशन, मत्स्य संसाधन उद्योग और मुद्रित एवं इलेक्ट्रॉनिक माध्यम के प्रतिनिधि भाग लिए।

उद्घाटन सत्र के बाद तकनीकी सत्र I था, जिस में आमंत्रित भाषण विशेषज्ञों द्वारा प्रदान किए गए। इस सत्र की अध्यक्षता डॉ. के. गोपकुमार एवं डॉ. के. भाटिया द्वारा की गई। इसके बाद तकनीकी सत्र - II 'चिंतन सत्र' पर था, इस की अध्यक्षता डॉ. एन.जी.के. पिल्ले, भा कृ अनु प अवकाश प्राप्त वैज्ञानिक एवं पूर्व निदेशक, के स मा अनु सं, कोचिन और डॉ. लीला एड्विन, प्रभागाध्यक्ष, मत्स्यन प्रौद्योगिकी, के मा प्रौ सं, कोचिन द्वारा की गई। इस सत्र में, मत्स्यन एवं मत्स्य संसाधन क्षेत्र के अति महत्वपूर्ण मामले, बाँधाएं, प्रौद्योगिकियाँ आवश्यकताएं, मात्स्यिकी अनुसंधान संस्थानों द्वारा किए जाने वाले अनुसंधान क्षेत्र एवं उद्योग के लिए सरकार की ओर से आवश्यक विकासात्मक सहायता पर विचार विमर्श किया गया। प्रौद्योगिकियाँ रिक्ति/उपलब्ध प्रौद्योगिकियों को धीरे से अपनाने के कारण, प्रौद्योगिकी हस्तांतरण और अपनाने की प्रक्रिया को तेज करने के लिए सहायता/नीति संशोधन के





transfer and adoption were also discussed. The brain storming session was attended by the stakeholders from traditional and mechanized fishing sector, fish processing industry, officials from the development departments, NGOs and researchers from CIFT and CMFRI, Cochin.

## Coconut wood Fishing Canoe Handed Over to Inland Fishermen for Performance Trials

Teak wood (*Tectona grandis*) is the best timber for boat building because of its extended durability under marine conditions. Due to the high cost and scarce availability of this timber, certain other timbers like Aini (*Artocarpus hirsuta*), Sal (*Shorea robusta*) etc. which are moderately durable and with comparable strength properties are being used for boat building along the Indian coast. CIFT, Cochin has been working on the chemical preservation and upgradation of low cost timbers to make them more durable. Species like Aranjili (*Antiaris toxicaria*), Venteak (*Lagerstroemia lanceolata*), Haldu (*Adina cordifolia*) and Karimaruthu (*Terminalia tomentosa*) were identified for application under marine conditions. Two easily available low cost timber like rubber wood and coconut wood were selected to find out their suitability as boat building materials.

The suitability of rubber wood for canoe construction was established by laboratory and field exposure studies. It was found that the preservative treated rubber wood panels had strength properties comparable to the conventionally used Aini wood (*Artocarpus hirsuta*). Field studies of treated panels showed that treatment enhanced the life of the wood without sacrificing strength properties. The encouraging results of laboratory and field studies prompted CIFT to make fishing canoes out of rubber wood. Five rubber wood canoes (two canoes with treated rubber wood without any sheathing and three with FRP sheathing) were put to performance trials in association with different Fishermen

प्रकार सुझावों पर विचार विमर्श किया गया। इस चिंतन सत्र में परम्परागत एवं यंत्रीकृत मत्स्यन क्षेत्र से पाणधारी, मत्स्य संसाधन उद्योग, विकास विभाग के पदाधिकारी, गैर सरकारी संगठन और के मा प्रौ सं एवं के स मा अनु सं, कोचिन के अनुसंधानकर्ता भाग लिए।

Development Welfare Co-operative Societies of Kerala. The canoes after nine years of service are found to be in good condition i.e. relatively, free from physical or biological deterioration as compared to conventional wooden canoes.

The good performance of rubber wood canoes in the field urged CIFT to consider coconut wood which is easily available in Kerala, as a material for canoe construction. The use of coconut wood as a substitute material for boat building could bring down the stress on the forest resources. The durability studies on preservative treated coconut wood panels from coconut trees of above 50 years old exposed to soil, marine and weathering conditions are going on. The efficacy of natural preservatives like CNSL, neem oil and chemical preservatives on coconut wood panels is being assessed. Three canoes of 6.4 m length, 0.83 m breadth and 0.42 m depth were constructed out of coconut wood from coconut trees of above 50 years old. Among the three canoes constructed out of coconut wood, one canoe was treated with traditional preservatives such as sardine oil, plant resins etc., second one with epoxy coaltar and the third one with FRP sheathing.

To find out the durability and performance of the canoes, it was decided to put them to actual field trials. A stakeholders meet was conducted by CIFT, Cochin in association with Kumbalam Inland Fishermen Development Welfare Co-operative Society at Kumbalam, Ernakulam district on 2 July 2011 to hand over the three coconut wood canoes to the Society for trial operations.



Coconut wood fishing canoe. Seen are Dr. T.K. Srinivasa Gopal, Director, Dr. Leela Edwin, HOD, FT and Shri M.V. Baiju, Sr. Scientist



Handing over the ore of the canoe





A video film titled “Rubber wood canoes for artisanal fishing” was also screened during the function for the benefit of the participants.

She also ensured them that the extension services of CIFT have been consolidated for this purpose. The SHGs were briefed about the importance of maintaining quality and hygiene in their interventions which could help them to capture the international markets. About 45 women participated in the campaign and were prompt in clarifying their doubts and showed much interest to take up the microenterprise concept.

## Awareness Creation Workshop on Advancements in Purse Seine Fishing in India /भारत में कोष संपाश मत्स्यन में उन्नति पर अभिज्ञा सृजन कार्यशाला

"भारत में कोष संपाश मत्स्यन में उन्नति" पर एक अधिज्ञा सृजन कार्यशाला 25 जुलाई 2011 को क्षेत्रीय प्रौद्योगिकी प्रबंधन व्यापार नियोजन और विकास (क्षे प्रौ प्र-व्या नि वि) यूनिट, दक्षिण, के मा प्रौ सं, कोचिन में आयोजित की गई। कोष संपाश अधिक कार्यक्षम एवं उन्नत वाणिज्यिक मत्स्यन पद्धति है और यह सघन, गतिशील झुण्ड वेलापवर्ती मत्स्य शिकार के लिए उद्देशित है। इस कार्यशाला में करीब 50 कोष संपाश मछुवारों भाग लिए।

डॉ. लीला एड्विन, सदस्य सचिव, क्षे प्रौ प्र स सभी का स्वागत की और कही कि यह संस्थान क्षेत्र में कोष संपाश मत्स्यन परिचालन में मछुवारों के साथ भागीदारी से सफलतापूर्वक क्रांति उत्पन्न करने में गर्व महसूस करता



Dr. Leela Edwin welcoming the gathering. Also seen are Dr. P. Pravin, Dr. T.K. Srinivasa Gopal and Shri Jose Vincent Panakkal

mode along with the fishermen. During the workshop Dr. P. Pravin, Senior Scientist, CIFT explained about the design of purse seine net and SONAR, and demonstrated the use of power block which is used to operate purse seine net more efficiently and to reduce the drudgery of the crew on board. Shri Jose Vincent Panakkal, Secretary, Purse Seine Net Owner's Association, Cochin Fisheries Harbour acknowledged the role of CIFT in facilitating the fishing operations in the region. Dr. T. K. Srinivasa Gopal, Director, CIFT gave the concluding remarks and distributed certificates to the participants. The interactive workshop was successful in creating awareness among the purse seine fishermen about the modern techniques used in fishing.



Participants of the Workshop

है। कार्यशाला के दौरान डॉ. पी. प्रवीन, वरिष्ठ वैज्ञानिक, के.मा.प्रौ.सं कोष संपाश जाल एवं सोनार अभिकल्प के बारे में समझाया और पॉवर ब्लॉक के प्रयोग को निदर्शित किया। यह कोष संपाश जाल की प्रयुक्ति अधिक कार्यक्षम और बोर्ड पर कर्मीदल की कड़ी मेहनत को कम करता। श्री. जोस विन्सेट पानाक्कल, सचिव, कोष संपाश मालिक एसोशिएशन, कोचिन मात्स्यिकी बंदरगाह ने इस क्षेत्र में मत्स्यन परिचालन सुविधा में के मा प्रौ सं की भूमिका को स्वीकार किया है। डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं समापन टिप्पणी किए और सहभागियों को प्रमाण पत्र वितरित किए। यह अन्योन्यक्रिया कार्यशाला मत्स्यन में प्रयुक्त आधुनिक तकनीकों जैसे कोष संपाश के बारे में मछुवारों में अभिज्ञा सृजन में सफलता प्राप्त की है।

## Training on Multi Seam Trawl / बहु सीवन टॉल पर प्रशिक्षण

The Visakhapatnam Research Centre of CIFT, conducted a training programme on "Design and fabrication of a new multi seam trawl" at SIFT, Kakinada during the period 11-13 July 2011 for the benefit of net makers and fishermen. The members of the Kakinada Mechanized Fishing Boat Owners Welfare Association and New Dolphin Mechanized Fishing Boat Operators Welfare Association, Kakinada have participated in the training programme. Shri

के मा प्रौ सं का विशाखपट्टणम अनुसंधान केन्द्र, जाल निर्माता एवं मछुवारों के फायदे के लिए 11-13 जुलाई, 2011 के दौरान रा मा प्रौ सं, काकिनाडा में 'नए बहु सीवन टॉल का अभिकल्प एवं संरचना' पर एक प्रशिक्षण कार्यक्रम संचालित किया। इस प्रशिक्षण कार्यक्रम में काकिनाडा यंत्रीकृत मत्स्यन यान मालिक कल्याण एसोशिएशन एवं न्यू डॉल्फिन यंत्रीकृत मत्स्यन यान परिचालक कल्याण एसोशिएशन, काकिनाडा के सदस्य सहभागिता किए। इस प्रशिक्षण का उद्घाटन श्री सुरेश, प्रचार्य, रा मा प्रौ सं,



Dr. G. Rajeswari talking about the advantages of multi seam trawl



Handing over of multi seam trawl to fishing boat owners







Suresh, Principal, SIFT, Kakinada inaugurated the training. In his inaugural address he explained about the importance of adopting new technologies like multi seam trawl developed by CIFT. Practical demonstrations were conducted on fabrication of multi seam trawl. The fabricated multi seam trawl was handed over to the Kakinada Mechanized Fishing Boat Owners Welfare Association. Dr. G. Rajeswari, Senior Scientist, CIFT explained about the design details and advantages of multi seam trawl. Dr. R. Raghu Prakash and Dr. U. Sreedhar, Senior Scientists, CIFT also attended the programme. Shri Jaya Rao, Assistant Director of Fisheries, SIFT proposed a vote of thanks.

## Training on Preparation of Value Added Fish Products / मूल्यवर्धित मत्स्य उत्पादों की तैयारी पर प्रशिक्षण

Training programme on Preparation of value added fish products like prawn/fish pickle, fish wafers, fish cutlets and hygienic handling of cured and dried fishes was conducted at the Visakhapatnam Research Centre during 29-31 August, 2011 for the benefit of 15 fisherwomen of ICZMP from Ganjam district, Odisha. The following lectures were delivered by the Scientists on the occasion.

1. Post-harvest losses: Minimization with simple interventions by Dr. L.N. Murthy
2. Management of waste: Production of cost effective products by Dr. L.N. Murthy
3. Seafood importance and preparation of value added fish products by Smt. S. Tanuja

काकिनाडा द्वारा किया गया। अपने उद्घाटन भाषण में वे के मा प्रौ सं द्वारा विकसित बहु सीवन ट्रॉल जैसे नई प्रौद्योगिकियों को अपनाने की प्रमुख आवश्यकता के बारे में समझाया। बहु सीवन ट्रॉल की संरचना पर प्रयोगिक निदर्शन संचालित किया गया। संरचित बहु सीवन ट्रॉल को काकिनाडा यंत्रिकृत मत्स्यन यान मालिक कल्याण एसोशिएशन को सौंपा गया। डॉ. जी. राजेश्वरी, वरिष्ठ वैज्ञानिक, के मा प्रौ सं इस अभिकल्प का विवरण एवं बहु सीवन ट्रॉल के फायदों के बारे में समझाई। डॉ. आर. रघु प्रकाश एवं डॉ. यू. श्रीधर, वरिष्ठ वैज्ञानिक, के मा प्रौ सं भी इस कार्यक्रम में भाग लिए। श्री जय राव, सहायक निदेशक, मात्स्यिकी, रा मा प्रौ सं धन्यवाद प्रस्तावित किया।

झींगा/मत्स्य अचार, मत्स्य वेफ़र, मत्स्य काटलेट की तैयारी और अभिसाधित एवं शुष्कित मत्स्य का स्वास्थ्यकर हस्तन पर 29-31 अगस्त, 2011 के दौरान गंजम जिला, उड़ीशा के आई सी जेड एम पी मछुवा महिलाओं के फायदे के लिए विशाखपट्टणम अनुसंधान केन्द्र में प्रशिक्षण कार्यक्रम संचालित किया गया। इस अवसर पर वैज्ञानिकों द्वारा निम्नलिखित भाषण प्रदान किए गए।

1. पशु-प्रग्रहण क्षतियाँ: सरल मध्यस्था से कमी - डॉ. एल.एन. मूर्ति
2. रद्दी का प्रबंधन: लागत प्रभावी उत्पादों का उत्पादन - डॉ. एल.एन. मूर्ति
3. समुद्री खाद्य का महत्व एवं मूल्यवर्धित मत्स्य उत्पादों की तैयारी - श्रीमती एस. तनूजा

## ‘Quilon Flavours’ – A Seafood Fest Organized by CIFT

“Quilon Flavors” a seafood fest was organized at Azheekal, Kollam on 23 July 2011 as part of the Department of Science and Technology funded project ‘Location specific livelihood interventions for fisherwomen in Kerala’, conceptualized keeping in mind the popularity and appeal

of seafood amongst the food enthusiasts. The event was inaugurated by Dr. Femeena Hassan, Senior Scientist and Principal Investigator of the Project. She said that the fishing industry and seafood recipes are integral to the economy, life and culture of the fisherwomen. Smt. Lasitha, Project



Participants of the programme



Dr. Femeena Hassan and Smt. Lasitha evaluating the preparations





Officer, Matsyafed presided over the event. The main objective of the festival was to bring the fisherwomen to mainstream to discuss the recent developments in production technologies, value addition and marketing of fish and fishery products. The Fest also aimed at creating awareness among the consumers on fish as a healthy food. Recipe competitions on various types of seafood preparations have been arranged for women to bring out the talent in preparing varieties of ready to eat fish products. The women Self Help Groups

(SHGs) made the evaluators spell bound by featuring a lavish range of local delicacies. Some of the mouthwatering catch included sardine chutney, tuna cutlets, crab masala, and many more delicious and richly spiced traditional dishes. The seafood delicacies are sure to satisfy the food enthusiasts. The evaluators found it very difficult to finalise the judgment since each edible discovery competed for evoking the taste. For the best preparations prizes were awarded by Shri Babu, Secretary, Matsyafed Cooperative Society.

## Training on Fabrication and Operation of Gillnets

A training programme on 'Fabrication and operation of improved gillnets' was conducted under the Tribal Sub Plan programmes at Nellarachal, Amabalavayal, Wayanad on 17 September 2011. The programme was conducted by CIFT, Kochi in association with Krishi Vigyan Kendra, Ambalavayal.

Thirty five tribal fisherfolk from Vanasree Scheduled Tribe Society, Nellarachal participated in the programme.

During the technical session, theoretical orientation on 'Structure and design of improved gillnets for reservoirs' and demonstration of 'Gill net fabrication' was carried out. Socio-economic data were also collected from 34 fisherfolk. The programme was coordinated by Dr. S. Balasubramaniam, Head, EIS Division, and the training was conducted by Dr. Leela Edwin, Head, FT Division, Dr. Saly N. Thomas and Dr. M.P. Remesan, Senior Scientists, FT Division.



*Resource persons with the participants of the programme*



*Demonstration of net fabrication*

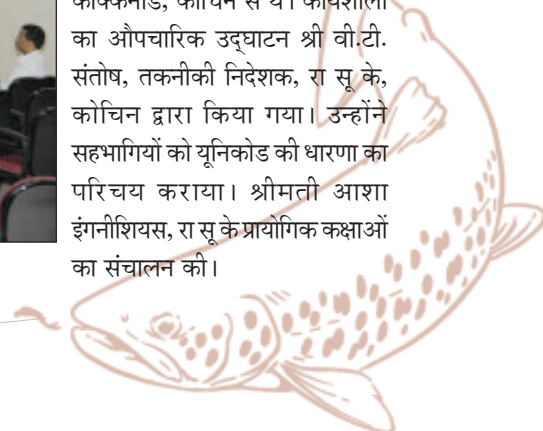
## Workshop in Official Language / राजभाषा में कार्यशाला

A workshop in Hindi on UNICODE was conducted for the benefit of administrative staff and Scientists of the Institute on 29 July 2011. The faculty was from National Informatics Centre (NIC), Kakkanad, Cochin. The formal inauguration of the Workshop was done by Shri V.T. Santhosh, Technical Director, NIC, Cochin who introduced the concept of UNICODE to the participants. Smt. Asha Ignatius, NIC conducted practical classes.



*Hindi Workshop in progress*

यूनिफाइड पर एक हिन्दी कार्यशाला का संचालन संस्थान के प्रशासनिक एवं वैज्ञानिकों के फायदे के लिए 29 जुलाई, 2011 को किया गया। संकाय राष्ट्रीय सूचना केन्द्र (रा सू के), काक्कनाड, कोचिन से थे। कार्यशाला का औपचारिक उद्घाटन श्री वी.टी. संतोष, तकनीकी निदेशक, रा सू के, कोचिन द्वारा किया गया। उन्होंने सहभागियों को यूनिफाइड की धारणा का परिचय कराया। श्रीमती आशा इंगनीशियस, रा सू के प्रायोगिक कक्षाओं का संचालन की।







## Deputation Abroad

**Dr. Leela Edwin**, Head, Fishing Technology was deputed to Kuala Lumpur, Malaysia to attend the International Conference on Innovation and management, 2011 held during 12-15 July, 2011. Dr. Leela Edwin also presented a paper entitled, 'Intellectual property and technology management in agricultural research institutes under National Agricultural Research System (NARS), India: Initiatives of a Zonal Institute' by Leela Edwin, A. Razia Mohammed, Nithin Singh, P. Vineeth Kumar and C.N. Ravishankar.

**Dr. Sanjoy Das**, Senior Scientist was deputed to USA during the period 9 May to 6 August, 2011 to attend a three months training on Bioinformatics at Joint Genome Institute, Department of Energy, California, USA.

**Dr. B. Madhusudana Rao**, Scientist (SG) was deputed to USA to attend the NAIP sponsored training programme on 'Fermentation technology (Fisheries)' under invitation from Dr. Len Homes, Associate Professor at The University of North Carolina, Pembroke, USA during 30 May to 27 August, 2011. During the period he conducted studies on the fermentation of chitin in different bioreactors using cultures of *Vibrio harveyi* and *V. alginolyticus*, both separately and as mixed cultures aimed at production of the enzyme chitinase.



*Dr. B. Madhusudana Rao at the University of North Carolina*

**Dr. Toms C. Joseph**, Scientist (SG) was deputed to USA to attend the NAIP sponsored training programme on 'Biomolecules' at the LINCHPIN Laboratory, A&M University, Texas, USA during 15 June to 12 September, 2011.

**Shri V.R. Madhu**, Scientist was deputed to Canada to attend ChloroGIN Project meeting under the FARO Project at Bedford Institute of Oceanography, Halifax, Canada during 9-11 August, 2011.

## Field Surveys

Dr. U. Sreedhar, Senior Scientist conducted a survey of crafts and gears being used in the aqua ponds in and around Eluru, West Godavari District, Andhra Pradesh during 22-23 July 2011. Dr. Sreedhar had discussions and meeting with Shri Rama Chandra Raju, President, Delta Fish Farmers Welfare Association, Eluru, W.G. District, AP.

Dr. G. Rajeswari, Dr. U. Sreedhar, Senior Scientists and Shri C. Sriharibabu, Tech. Officer (T6) conducted a fishing gear survey at Vodalarevu and Antarvedi in East Godavari District, Andhra Pradesh during 8-10 August 2011.



*Dr. Sreedhar conducting the survey of crafts and gears*

## CIFT signs MoU with Cochin Port Trust / के मा प्रौ सं का कोचिन पोर्ट ट्रस्ट से समझौता ज्ञापन पर हस्ताक्षर

CIFT, Cochin signed a Memorandum of Understanding with Cochin Port Trust for a consultancy for an amount of ₹ 3,00,000/- for setting up of an Effluent Treatment Plant (ETP) at Cochin Fisheries Harbour in connection with the up gradation of infrastructure.

The MoU was signed between Dr. T.K. Srinivasa

के.मा.प्रौ.सं., कोचिन बहिःस्त्राव उपचार संयंत्र (ई टी पी) की स्थापना के लिए कोचिन मात्स्यिकी बंदरगाह में अवसंरचना की उन्नति के संबंध में ₹ 3,00,000/- की राशि के लिए एक परामर्श पर कोचिन पोर्ट ट्रस्ट के साथ एक समझौता ज्ञापन पर हस्ताक्षर किया।

यह समझौता ज्ञापन डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के मा प्रौ





Gopal, Director CIFT, Cochin and Shri G.P. Rai, Chief Engineer, CPT in presence of the members of Institute Technology Management Unit and ZTM-BPDU in a simple function held at CIFT, Cochin on 8 August, 2011.

## New Research Initiatives of CIFT

The following new research programmes were initiated at the Institute during the year 2011-2012:

### Responsible line fishing techniques with special reference to long lines (PI – Dr. P. Pravin)

The project proposes to carry out the research programme in a participatory approach with the active participation of fisherman from a Fishermen Cooperative Society at Cochin. The line fishing gears will be designed and rigged by CIFT. It is proposed to operate the lines from a commercial fishing boat by suitably equipping the vessel with machinery and fishing gear required for long line fishing for operations in the Indian EEZ. This would help in diversifying the fishing method for exploitation of large pelagic fishes like tuna in the Indian EEZ which would reduce pressure on the shrimp based trawl fishery.

### Species specific interventions in value addition of commercially important and emerging species of freshwater fish (PI – Dr. George Ninan)

Freshwater fish farming and allied processing activities are going to play a major role in enhancing the revenue from fishery sector in India. Expansion of inland aquaculture, enhanced capture fisheries and introduction of new species may lead to large-scale increase in production of freshwater fishes. There is a felt need for value addition and process optimization for the development of convenience products from freshwater fish. The major objective of this project will be to provide feasible and sustainable small scale fish processing units in the inland fishery sector of India based on freshwater fishery resources.

### Utilization of fish processing waste for the development of innovative products (PI – Dr. A.A. Zynudheen)

Considerable quantity of waste is being generated during the processing operation of fish and shellfish in the form of head, viscera, scales, skin and entrails. This waste can cause issues of environmental pollution if not managed properly. At present majority of the fish waste is not properly utilized resulting in loss of valuable nutrients and resulting in various social problems. Technologies can be developed for the appropriate utilization of the waste and this in turn

will enhance the revenue from the sector.

सं, कोचिन और श्री जी.पी. राय, मुख्य अभियन्ता, को पो टू के बीच संस्थान प्रौद्योगिकी प्रबंधन यूनिट एवं जेड टी एम-बी पी डी यू के सदस्यों की उपस्थिति में के मा प्रौ सं, कोचिन में 8 अगस्त, 2011 को संपन्न एक सादे समारोह में हस्ताक्षर किया गया।

will enhance the revenue from the sector.

The waste generated from peeling operations of prawns, crabs and lobsters are excellent source for the production of chitin and its derivatives, which find innumerable applications in industrial and pharmaceutical fields. Similarly the utilization of fishery waste can be improved from the present level and products like fish hydrolysate, fish collagen, peptides, squalene etc., which finds applications in antibacterial, anti-inflammatory and other commercial applications. Fish silage is an excellent protein supplement in the feeds of cattle, poultry and fish which is found to have comparable FCR and NPU values. The extraction and quality evaluation of the products that can be developed from the fish processing waste is envisaged in the project.

### Assessment of harvest and post-harvest losses in fisheries sector (PI – Dr. V. Geethalakshmi)

The project aims to estimate the harvest and post-harvest losses occurring in fisheries sector (marine and inland). Attempts will be made to estimate the losses in economic terms also. Harvest losses will be estimated for the mechanized, motorized and traditional sector of fishing. The post-harvest loss estimation will be carried out considering each channel of the distribution chain viz., market, pre-processing, processing, drying/curing and at vendor level. The study will be conducted through surveys. The methodology developed by IASRI, New Delhi during a pilot study conducted for assessment of harvest and post-harvest losses in fisheries will be adopted for estimating losses in marine sector and two states will be covered for estimating the losses in inland sector. Suitability of other estimators for losses estimation will also be investigated.

### Development of a Quality Index Scheme for commercially important Indian fishes (PI – Dr. T.V. Sankar)

Fish is accepted world over as highly nutritional food and its demand is always on the increase. But fish deteriorates and decomposes more rapidly signifying the importance of proper methods of handling and preservations. Quality is very important, not only to the aesthetic appearance and freshness or degree of spoilage which the







fish has undergone, but also involve safety aspects such as being free from harmful bacteria, parasites or chemicals. The methods for evaluation of fresh fish quality are generally done in two ways namely sensory and instrumental. Since the consumer is the ultimate judge of quality, most chemical or instrumental methods must be performed scientifically and carefully controlled conditions so that the effects of test environment, personal bias etc., may be reduced. Subjective assessment, where the response is based on the assessor's preference for a product, can be applied in the fields like market research and product development where the reaction of the consumer is needed.

The project proposes a scientifically based new quality system, which can be easily used by common man for selecting/purchasing quality and safe fish. The proposed system will be developed using a demerit scale incorporating simple and important sensory, organoleptic, textural, chemical and microbiological evaluation, for fresh fish meant for export as well as domestic consumption.

Besides, chemical hazards like heavy metals, pesticides and antibiotic residues (farmed fishes and shellfishes) play

an important quality problem in the export of fish/shellfish. The collection of details on such chemical hazards from Indian water (fish, sediments and water) is extremely important to understand the traceability issues. This issue will also be addressed under the project.

### Nutritional and pharmacological evaluation of marine molecules in alleviating diseases and disorders (PI – Dr. R. Anandan)

In the present study, marine molecules will be studied for several nutraceutical, pharmaceutical and industrially significant biological activities, including anticancer, anti-inflammatory, antiviral and anticoagulant activities by applying a wide variety of screening tools with special emphasize to age associated diseases/disorders. The molecules derived will be structurally characterized. Sustainable cultivation methods for promising organisms and biotechnological processes for selected compounds will be developed. The work will entail sustainable production of selected active compounds and new derivatives and development of lead compounds.

## Celebrations / समारोह

### National Sadbhawana Day

The Institute celebrated National Sadbhawana Day in connection with the observance of Communal Harmony Fortnight. On 20 August 2011 the staff of the Institute assembled together and took Sadbhawana Day Pledge.

### 'Onam'

The Institute celebrated "Onam"- the national festival of Kerala on 2 September 2011. Traditional floral carpet competition was held in the morning followed by traditional 'Sadya'. Idea Star Singer Fame Shri Vivekanand was the Chief Guest of the afternoon function. The staff and their ward performed various entertainment programmes also.



Floral Carpet in the making

### राष्ट्रीय सद्भावना दिवस

सांप्रदायिक सद्भावना पखवाड़ा के अनुपालन में यह संस्थान राष्ट्रीय सद्भावना दिवस मनाया। संस्थान के कर्मचारी सदस्य 20 अगस्त, 2011 को एक जगह एकत्रित हुए और सद्भावना दिवस प्रतिज्ञा लिए।

### 'ओणम'

यह संस्थान 2 सितंबर, 2011 को 'ओणम' - केरल का राष्ट्रीय त्योहार मनाया। सुबह में परम्परागत पुष्पा दरी प्रतियोगिता के बाद परम्परागत 'सध्या' संपन्न हुआ। अपराह्न समारोह के मुख्य अतिथि आइडिया स्टार सिंगर में प्रसिद्ध श्री विवेकानन्द थे। कर्मचारी एवं उनके बच्चे विविध मनोरंजन कार्यक्रम भी प्रस्तुत किए।



Shri Vivekanand inaugurating the celebrations





## 'Chetana Mass'

'Chetana Mass 2011' was celebrated at the Institute during 16 August to 14 September 2011. During the celebrations, various competitions were conducted for the staff members of the Institute. Competitions were held in Phrase writing, Preparation of documentary in Hindi, Identification of Institute products/instruments, Technical reporting, Letter writing, Office order writing, Still photography, Web page news reporting, Advertisement for the print media and Conversation in Hindi.

Concluding function of the Chetana Mass was held on 14 September. Chief Guest of the function was Shri Paul Anthony, IAS, Chairman, Cochin Port Trust. The function was presided over by Dr. T.K. Srinivasa Gopal, Director, CIFT. Shri Charles Ekka, SAO welcomed the gathering and Dr. C. Jessy Joseph, DD (OL) proposed a vote of thanks. The Chief Guest distributed cash prize to the winners of the various competitions. The meeting was followed by a cultural programme in which artists of Sambalpur Folk Academy, Odisha made a dance performance and staff of CIFT, Cochin made a song presentation.

The Visakhapatnam Research Centre of CIFT also celebrated 'Hindi Week'. The concluding meeting was presided over by Dr. M.M. Prasad, Scientist Incharge. Shri N. Kashinath, Divisional Railway Manager, Visakhapatnam was the Chief Guest for the occasion. Dr. G. Maheswarudu, Scientist Incharge, CMFRI Research Centre at Visakhapatnam, was the Guest of Honour. Dr. Santosh Alex, Secretary, OLIC welcomed the gathering. Dr. G. Rajeswari, Senior Scientist proposed vote of thanks.

'Hindi Divas' was celebrated at Mumbai Research Centre of CIFT on 14 September 2011. Several competitions in Hindi were conducted and prizes distributed.



Shri Paul Antony, IAS, Chairman, CPT delivering the Chief Guest's address at Cochin

## चेतना मास

इस संस्थान में 16 अगस्त से 14 सितंबर, 2011 तक चेतना मास 2011 मनाया गया। इस समारोह के दौरान, संस्थान के कर्मचारी सदस्यों के लिए भिन्न प्रतियोगिताएं संचालित किए गए। प्रतियोगिताएं मुहावरा लेखन, हिन्दी में हस्वचित्र की तैयारी, संस्थान के उत्पादों /उपकरणों को पहचाना, तकनीकी रिपोर्टिंग, पत्र लेखन, कार्यालय आदेश लेखन, निश्चल फोटोग्राफी, वेब पेज न्यूस रिपोर्टिंग, मुद्रण माध्यम के लिए विज्ञान और हिन्दी में वार्तालाप में संचालित किए गए।

चेतना मास का समापन समारोह 14 सितंबर, 2011 को संपन्न हुआ। इस कार्यक्रम के मुख्य अतिथि थे श्री पॉल आन्टनी, भा प्र से, अध्यक्ष, कोचिन पोर्ट ट्रस्ट। इस समारोह की अध्यक्षता डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं, कोचिन द्वारा की गई। श्री चार्ल्स एक्का, व प्र अ सभी का स्वागत किए और डॉ. सी. जेस्सी जोसफ, उपनिदेशक (रा भा) धन्यवाद प्रस्तावित की। भिन्न प्रतियोगिताओं के विजेताओं को नगद राशि का वितरण मुख्य अतिथि द्वारा किया गया। इस बैठक के बाद सांस्कृतिक कार्यक्रम थे जिस में सांबलपुर फॉक अकादमी, ओडिशा द्वारा नृत्य प्रस्तुत किया गया और के मा प्रौ सं, कोचिन के कर्मचारी गायन भी प्रस्तुत किए।

के मा प्रौ सं का विशाखपट्टणम अनुसंधान केन्द्र भी 'हिन्दी सप्ताह' मनाया। समापन बैठक की अध्यक्षता डॉ. एम.एम. प्रसाद, प्रभारी वैज्ञानिक द्वारा की गई। इस अवसर पर श्री एन. काशीनाथ, मण्डल रेल प्रबंधक, विशाखपट्टणम मुख्य अतिथि थे। डॉ. जी. महेश्वरुडू, प्रभारी वैज्ञानिक, के मा अनु सं, विशाखपट्टणम अनुसंधान केन्द्र सम्मानीत अतिथि थे। डॉ. संतोष अलेक्स, सचिव, रा भा का स उपस्थित का स्वागत किया। डॉ. जी. राजेश्वरी, वरिष्ठ वैज्ञानिक धन्यवाद ज्ञापित की।

के मा प्रौ सं के मुंबई अनुसंधान केन्द्र में 14 सितंबर 2011 को 'हिन्दी दिवस' मनाया गया। कई प्रतिभागिताएं संचालित किए गए और पुरस्कार वितरित किए गए।



Hindi letter writing competition in progress at Mumbai

## IP Channel Launched / आई पी चैनल का लोकार्पण

The Zonal Technology Management – Business Planning and Development Unit, South Zone at CIFT, Cochin has announced the launch of "IP Channel" on 18

क्षेत्रीय प्रौद्योगिकी प्रबंधन-व्यापार नियोजन और विकास यूनिट, दक्षिण, के मा प्रौ सं, कोचिन में 'आई पी चैनल' लोकार्पण 18 अगस्त 2011 को किया गया, यह एक ऑनलाइन सेवा बौद्धिक संपत्ति अधिकार एवं प्रौद्योगिकी







August 2011, which is an online resource dedicated to disseminate information regarding Intellectual Property Rights and Technology Management. The channel acts as an awareness tool for the members of ICAR institutions, in the form of interesting short movies based on the vast and complicated subjects of IPR. The video archive will be updated on a monthly basis, and can be accessed through CIFT website.

The channel is made as part of the measures taken by ICAR for the pro-active management of technologies and IP assets generated by its Research Institutions. It is targeted to expand the influence of IP protection, to publicize and popularize IP protection laws and regulations, to enhance the legal awareness of IPRs and to encourage invention and innovation activities in India.

## VIP Visit

Shri Ramesh Dawala, Honorable Minister of Fisheries, Govt. of Himachal Pradesh visited the various boat building yards in and around Cochin on 16 September, 2011. Shri M.V. Baiju, Senior Scientist, Fishing Technology accompanied the Minister and explained about the construction of fishing boats.

## Radio Talks

The Scientists and Officers of the Institute delivered the following radio talks during the quarter:

1. **Dr. M.P. Remesan**, Senior Scientist – Monsoon trawl ban in Kerala (In Malayalam), AIR, Kannur (26 July)
2. **Dr. Femeena Hassan**, Senior Scientist – Ensuring quality in fish products (Interview in Malayalam), AIR, Cochin (28 July)
3. **Shri M.S. Kumar**, Tech. Officer (T7-8) – Migratory behavior of fishes (In Telugu), AIR, Visakhapatnam (11 September)

## Forthcoming Events

CIFT, Cochin is organizing a Short course on “Vistas in nutrient profiling and nutritional labeling of seafoods” during 14-23 February 2012. The course will be built around theory and practical classes on the following topics:

- Biochemical composition of fish
- Sampling procedures
- Post-mortem changes in fish
- Amino acid analysis
- Fatty acid analysis by Gas chromatograph

प्रबंधन से संबंधित सूचना प्रसार के लिए समर्पित है। यह चैनल भा कृ अनु प के संस्थानों के सदस्यों के लिए अभिज्ञा औजार के रूप में कार्य करेगा, इस में व्यापार एवं बौ सं अ के जटिल विषयों पर आधारित दिलचस्प लघुचित्र होंगे। प्रति माह के आधार पर विडिओं अभिलेख अद्यतन किए जाएंगे और इसे के मा प्रौ सं के वेब साइट के द्वारा अभिगमन किया जा सकता है।

प्रौद्योगिकियों का प्रति-सक्रिय प्रबंधन और परिषद के अनुसंधान संस्थानों द्वारा प्रजनित बौ सं परिसम्पत्ति के लिए भा कृ अनु प द्वारा उठाए गए कदमों के रूप में यह चैनल तैयार किया गया। यह चैनल बौ सं परीक्षण के प्रभाव का विस्तार, नीति बनाना और बौ सं परीक्षण नियम एवं विनियमों को प्रचार, बौ सं अ की कानून जानकारी में वृद्धि करना और भारत में अन्वेषण एवं नवोन्वेषण कार्यकलापों का प्रोत्साहन करना लक्षित है।



Shri M.V. Baiju in conversation with Shri Ramesh Dawala

## Invited Talks

The following invited talks were held at CIFT, Cochin:

1. **Mr. Paul Freeman**, Technical Director, Stansted Fluid Power, UK – Overview of food lab systems (16 July)
2. **Dr. K. Ashok Kumar**, Senior Scientist, CIFT, Cochin – National knowledge network (24 August)
3. **Dr. P. Pravin**, Senior Scientist, CIFT, Cochin – Large mesh purse seine – An introduction (In Hindi) (24 August)

- Mineral content analysis by Flame photometry
- Trace element analysis by Atomic absorption spectrophotometry
- Nutrition labeling of seafood
- Elimination of crude fibre and cholesterol
- K value determination
- Analysis of fat soluble vitamins by HPLC
- Chemical hazards and seafood safety





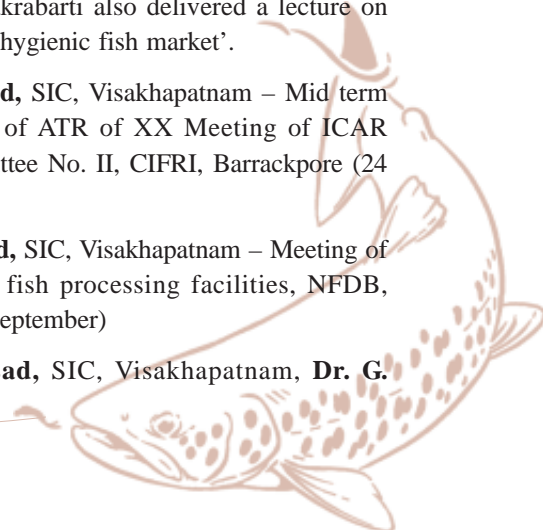
- Monitoring pollutant profile by GCMS and LC MS MS
- Further details can be had from Dr. Suseela Mathew,  
Course Coordinator & Senior Scientist, Biochemistry &

Nutrition Division, CIFT, CIFT Junction, Matsyapuri P.O.,  
Willingdon Island, Cochin – 682 029, E mail:  
cift@ciftmail.org or suseela1962@gmail.com

## Personnel News

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

- **Dr. T.K. Srinivasa Gopal**, Director – Meeting with Russian delegates and DDG (Fisheries), ICAR, New Delhi (5 July)
- **Dr. T.K. Srinivasa Gopal**, Director – Conference of the Director's of ICAR Institutes and the ICAR Foundation Day Celebrations, ICAR, New Delhi (15-16 July)
- **Dr. T.K. Srinivasa Gopal**, Director – Planning Commission Sub-group XI meeting, ICAR, New Delhi (18 July)
- **Dr. T.K. Srinivasa Gopal**, Director and **Dr. T.V. Sankar**, HOD, QAM – ICAR-CSIR Interface meeting, CSIR, New Delhi (19 July)
- **Dr. T.K. Srinivasa Gopal**, Director, **Dr. M.R. Boopendranath**, Principal Scientist and **Dr. K. Ashok Kumar**, Senior Scientist – Brainstorming session on Fish stock certification and ecolabelling, NAAS, New Delhi (27 August). Dr. Srinivasa Gopal was the Convener of the programme. Dr. Ashok Kumar made a presentation on 'Seafood traceability aspects' in the Session.
- **Dr. Leela Edwin**, HOD, FT – International conference on Innovation and management, 2011, Kuala Lumpur, Malaysia (12-15 July). Dr. Leela Edwin also presented a paper entitled, 'Intellectual property and technology management in agricultural research institutes under National Agricultural Research System (NARS), India: Initiatives of a Zonal Institute' by Leela Edwin, A. Razia Mohammed, Nithin Singh, P. Vineeth Kumar and C.N. Ravishankar.
- **Dr. Leela Edwin**, HOD, FT, **Dr. T.V. Sankar**, HOD, QAM, and **Dr. C.N. Ravishankar**, HOD, FP – Post Graduate Diploma in Technology Management in Agriculture programme, NAARM, Hyderabad (3-8 September)
- **Dr. S. Balasubramaniam**, HOD, EIS, **Dr. M.R. Boopendranath**, Principal Scientist and **Dr. Nikita Gopal**, Senior Scientist – National consultative workshop for the preparation of Vision document and strategic plan, KUFOS, Cochin (8-9 July)
- **Dr. S. Balasubramaniam**, HOD, EIS and **Shri P.K. Vijayan**, Principal Scientist – Meeting on Establishment of fish processing parks in Tamil Nadu, Chennai (19-20 August)
- **Dr. T.V. Sankar**, HOD, QAM – Meeting of the Presidents and Secretaries of Professional Societies, ICAR, New Delhi (22 July)
- **Dr. T.V. Sankar**, HOD, QAM – Workshop on Food safety, EIA, Cochin (16 September) (As resource person). Dr. Sankar gave a talk on 'Food safety issues (Processed foods)'
- **Dr. T.V. Sankar**, HOD, QAM – World Health Day celebrations, Cochin (28 September) (As resource person). Dr. Sankar gave a talk on 'Food safety and heart disease'.
- **Dr. T.V. Sankar**, HOD, QAM and **Dr. K. Ashok Kumar**, Senior Scientist - Joint meeting of EIC/MPEDA/CIFT on Harmonization of HACCP standards of seafood industry, EIA, Cochin (17 September)
- **Dr. T.V. Sankar**, HOD, QAM and **Dr. S.K. Panda**, Scientist – Global food safety management programme, Hyderabad (22-25 August)
- **Dr. C.N. Ravishankar**, HOD, FP – Meeting of the Food Safety Standards Authority of India, New Delhi (12 September)
- **Dr. R. Chakrabarti**, SIC, Mumbai – Workshop on Maintenance and management of hygienic fish market, Goregaon, Mumbai (22-23 September) (As resource person). Dr. Chakrabarti also delivered a lecture on 'Maintenance of hygienic fish market'.
- **Dr. M.M. Prasad**, SIC, Visakhapatnam – Mid term review meeting of ATR of XX Meeting of ICAR Regional Committee No. II, CIFRI, Barrackpore (24 September)
- **Dr. M.M. Prasad**, SIC, Visakhapatnam – Meeting of Stakeholders of fish processing facilities, NFDB, Hyderabad (29 September)
- **Dr. M.M. Prasad**, SIC, Visakhapatnam, **Dr. G.**







**Rajeswari, Dr. R. Raghu Prakash and Dr. U. Sreedhar**, Senior Scientists – Interactive workshop on Pelagic and demersal trawling for Indian Coast Guard Officials, CIFNET, Visakhapatnam (12-13 August) (As resource persons). The following lectures were delivered by the Scientists:

- Crafts of East Coast of India by Dr. Sreedhar
- Fish harvesting methods of East Coast by Dr. Rajeswari
- Responsible fishing practices by Dr. Raghu Prakash

■ **Dr. M.R. Boopendranath**, Principal Scientist – Research Framework Document (RFD) Nodal Officers meeting in connection with the preparation of the Strategic Plan, Citizen's Charter and Grievances Redressal Mechanism, ICAR, New Delhi (1 September)

■ **Dr. M.R. Boopendranath**, Principal Scientist and **Dr. U. Sreedhar**, Senior Scientist - Scientific Advisory Committee meeting of Marine Living Resources Programme (SAC-MLRP), CMLRE, Cochin (16-17 September)

■ **Shri P.K. Vijayan**, Principal Scientist and **Dr. Femeena Hassan**, Senior Scientist – Meeting organized by ADAK for development of a pilot level processing facility at Poyya fish farm, Mala (23 September)

■ **Dr. P. Pravin**, Senior Scientist – GARUDA-NKN Partners meet, Bangalore (15-16 July)

■ **Dr. P. Pravin, Dr. Saly N. Thomas and Dr. R. Raghu Prakash**, Senior Scientists – Dr. S. Jones Colloquium on Challenges in marine conservation and research in the Indian ocean, Cochin (26-27 August)

■ **Dr. G. Rajeswari**, Senior Scientist – 4<sup>th</sup> Meeting of Farmers First Committee organized by Zonal Project Directorate (Zone-IV), Kanpur and CIFA, Bhubaneswar, Vijayawada (13 August)

■ **Dr. Nikita Gopal**, Senior Scientist– National consultation on Gender perspective in agriculture, ICAR, New Delhi (8-9 August)

■ **Dr. Nikita Gopal**, Senior Scientist– Meeting of the clam fishers, QSSS, Kollam (26 September)

■ **Dr. Saly N. Thomas**, Senior Scientist, **Dr. J. Charles Jeeva**, Scientist, Senior Scale and **Dr. S.K. Panda**, Scientist– Training programme on E-publishing system for journals, CMFRI, Cochin (27-28 September)

■ **Dr. J. Bindu**, Senior Scientist – CIC meeting of the NAIP on Studies on high pressure processing (HPP) of high value perishable commodities, IIT, Kharagpur (8 August)

■ **Dr. P. Muhamed Ashraf**, Senior Scientist – 3<sup>rd</sup> International conference on Frontiers in nanoscience technology, CUSAT, Cochin (14-17 August)

■ **Dr. U. Sreedhar**, Senior Scientist – Training programme on Deep sea fishing and navigation, CIFNET, Visakhapatnam (5 August) (As resource person). Dr. Sreedhar also delivered a talk on “Present and future of deep sea fisheries in Indian EEZ”.

■ **Dr. U. Sreedhar**, Senior Scientist – 15<sup>th</sup> National exhibition on ‘Evolution of India as a great nation in the 21<sup>st</sup> century’ organized by Central Calcutta Science & Culture organization, Kolkata (7 September)



*Dr. Sreedhar interacting with Dr. Manas Ranjan Bhunia, Hon'ble Minister of Irrigation, Waterways and Textiles, Govt. of West Bengal*

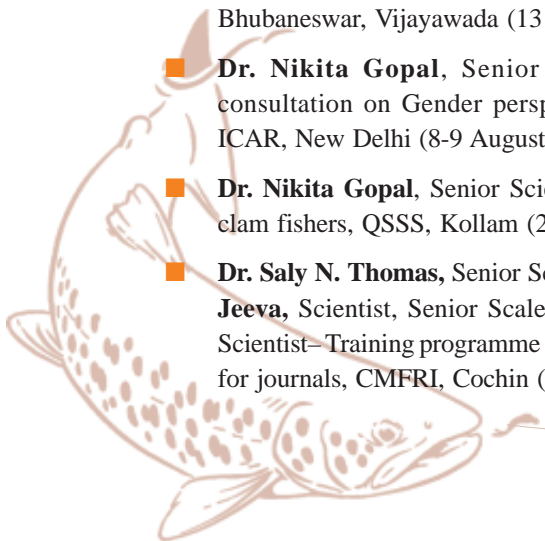
■ **Dr. Femeena Hassan**, Senior Scientist – National seminar on Emerging trends in biotechnology, CUSAT, Cochin (1-2 September)

■ **Dr. Femeena Hassan**, Senior Scientist and **Dr. V. Ronda**, Scientist – Short term training programme on Texture profile of processed foods by sensory and instrumental methods, CFTRI, Mysore (17-19 August)

■ **Dr. B. Madhusudana Rao**, Scientist (SG) – Training on Fermentation technology, The University of North Carolina, USA (30 May – 27 August)

■ **Dr. Toms C. Joseph**, Scientist (SG) – Training on Biomolecules, LINCHPIN Laboratory, A&M University, Texas, USA (15 June - 12 September)

■ **Smt. P. Jeyanthi**, Scientist – International conference on Financial inclusion and economic growth – Theory and evidence, CIMP, Patna (28-29 July). Smt. Jeyanthi also presented a paper entitled, ‘A case study of





financial inclusion in the traditional fisheries sector' by Nikita Gopal, P. Jeyanthi and V. Chandrasekar.

- **Dr. S.K. Panda**, Scientist – Lead auditor course for ISO 22000: 2025 Food safety management system, NITS, Noida (18-22 July)
- **Shri M.S. Kumar**, Tech. Officer (T7-8) – Meeting for finalization of radio talks, AIR, Visakhapatnam (24 August)
- **Smt. T. Silaja**, Tech. Officer (T6) – National seminar on Content management at Libraries: New vistas for harnessing information, Thiruvananthapuram (14-16 July). Smt. Silaja also presented a paper entitled, 'An assessment of adequacy of journal coverage in CeRA for fisheries scientists, based on citation analysis'.
- **Shri Rakesh T. Kurien**, RA – Short term course on Essentials of packaging technology for distribution and marketing of food products, CFTRI, Mysore (24-26 August)
- **Shri Renju Ravi**, **Shri T. Jose Fernandez**, SRFs and **Shri P.H. Dhiju Das**, Field Asst. – Training programme on Research data analysis using computer, IGNOU Regional Centre, Cochin (11-12 August)

## Personalia

### Appointments

1. Dr. C.N. Ravishankar, Principal Scientist, Cochin as Head, Fish Processing Division, CIFT, Cochin
2. Smt. K. Reshmi, T1 (Jr. Lab. Asst.), Cochin
3. Ms Anu Mary Jose, T1 (Jr. Lab. Asst.), Cochin
4. Ms G. Archana, T1 (Jr. Lab. Asst.), Cochin
5. Shri V.N. Sreejith, T1 (Jr. Lab. Asst.), Cochin
6. Smt. P.J. Mary, T1 (Jr. Lab. Asst.), Cochin
7. Shri P. Suresh, T1 (Jr. Lab. Asst.), Cochin
8. Shri Yogesh D. Kriplani, T1 (Jr. Lab. Asst.), Veraval
9. Shri Subin George, LDC, Cochin

10. Smt. Suni Surendran, LDC, Cochin
11. Ms K.S. Sobha, LDC, Cochin
12. Ms T. Deepa, LDC, Cochin

### Promotions

1. Shri Tomy Rebellow, T4 (Boilerman), Cochin as Tech. Officer (T5)
2. Shri Sajith K. Jose, T-II-3 (Draughtsman), Cochin as T4 (Draughtsman)
3. Shri P.V. Sajeevan, T-II-3 (Draughtsman), Cochin as T4 (Draughtsman)
4. Shri V.K. Siddique, T-II-3 (Refrigeration Mechanic), Cochin as T4 (Refrigeration Mechanic)
5. Smt. P.A. Jaya, T3 (Jr. Lab. Asst.), Cochin as T4 (Jr. Lab. Asst.)
6. Shri T. Mathai, T3 (Jr. Lab. Asst.), Cochin as T4 (Jr. Lab. Asst.)
7. Dr. K.A. Martin Xavier, T1 (Field Asst.), Cochin as T2 (Field Asst.)
8. Shri P. Krishnakumar, Asst., Cochin as AAO
9. Shri P.K. Reghu, PA, Cochin as PS

### Transfers

1. Dr. G.K. Sivaraman, Senior Scientist, Microbiology, Cochin to Veraval
2. Dr. S. Visnuvinayagam, Scientist, Microbiology, Cochin to Veraval
3. Shri A.K. Naik, Tech. Asst. (T4), Burla to Cochin
4. Smt. R. Anantharani, LDC, CIFT, Cochin to CMFRI RC, Tuticorin
5. Smt. K.V. Suseela, LDC, CMFRI RC, Tuticorin to CIFT, Cochin

### Retirements

1. Smt. N.I. Mary, Assistant, Cochin
2. Smt. R. Vasantha, Private Secretary, Cochin

