



भाकृ अनुप
ICAR

C I F I T

Newsletter



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Fuel Efficient Multi-Purpose Fishing Vessel Launched

A 19.75 m multi-purpose fishing vessel, named FV Sagar Harita, built under the project "Green Fishing Systems for the Tropical Seas" (GFSTS) funded by National Agricultural Science Fund (ICAR-NASF) was officially launched by Dr. Trilochan Mohapatra, Secretary (DARE) and Director General (ICAR), New Delhi in a function organized by ICAR-CIFT at CIFNET auditorium on 18 April, 2016. In his address, Dr. Mohapatra stressed the need for responsible harvest of natural resources and added that status of each potential resource should be appraised in the context of threat to diversity, changes with respect to climate issues and economic value. He congratulated the whole team for bringing out the green fishing vessel in time and told that the new vessel, as its name evokes, is expected to pollute less and address the environmental issues related to fuel use and generation of greenhouse gases in the fishing industry. He also exhorted that this vessel will help in research and to train fisherfolk in modern methods of fishing.

Dr. Joykrushna Jena, Deputy Director General (Fisheries Science), ICAR, New Delhi presided over the function and Rear Adm. Shekhar Mital, NM, IN



Dr. Mohapatra addressing the gathering and officially declaring the launching of the vessel



हर कदम, हर डगर
किसानों का हमसाफर
भारतीय कृषि अनुसंधान परिषद

Agrisearch with a human touch

भाकृअनुप - केन्द्रीय मात्स्यिकी प्रौद्योगिकी संस्थान

सिफ्ट जंक्शन, मात्स्यपुरी पि. ओ., कोच्चि - 682 029

ICAR - Central Institute of Fisheries Technology

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Launching of the vessel by Mrs. Kalpana Mohapatra



Dr. Mohapatra switching on the main engine of FV Sagar Harita

(Retd.), Chairman & Managing Director, Goa Shipyard Ltd., Goa, Ms. Leena Nair, IAS, Chairperson, Marine Products Export Development Authority (MPEDA), Kochi, Dr. K. Gopakumar, Former DDG (Fisheries), ICAR and Shri Chhabilendra Roul, IAS, Additional Secretary (DARE) & Secretary (ICAR), New Delhi addressed the gathering.

Dr. P. Pravin, Assistant Director General (Marine Fisheries), ICAR, New Delhi, Dr. A. Gopalakrishnan, Director, ICAR-CMFRI, Kochi, Dr. Pawan Kumar Agrawal, Assistant Director General (National Agricultural Science Fund), ICAR,

New Delhi and Shri R.C. Sinha, Director, CIFNET, Kochi also offered felicitations. Dr. Ravishankar, C.N., Director, ICAR-CIFT welcomed the gathering and Dr. Leela Edwin, PI of the GFSTS project and Head, Fishing Technology Division, ICAR-CIFT proposed vote of thanks.

As is the tradition of women launching ships, the vessel was launched by Mrs. Kalpana Mohapatra, wife of Dr. Mohapatra in the presence of the dignitaries at NIPHATT Jetty, Kochi.



Dr. Mohapatra with dignitaries and ICAR-CIFT staff during the launching ceremony

Secretary (DARE) & Director General (ICAR) Visits ICAR-CIFT, Kochi

Dr. Trilochan Mohapatra, Secretary, DARE and Director General, ICAR, New Delhi visited ICAR-CIFT, Kochi on 18 April, 2016. He was accompanied by Shri Chhabilendra Roul, IAS, Additional Secretary (DARE) and Secretary (ICAR), Dr. Joykrushna Jena, Deputy Director General (Fisheries Science), ICAR and Dr. P. Pravin, Assistant Director General (Marine Fisheries), ICAR. The formal function was held in the roof top auditorium of the Institute. Dr. Mohapatra in his address

lauded the remarkable achievements of the Institute. He also emphasized the need for giving more respects to the women employees of the Institute. Shri Roul, Dr. Jena and Dr. Pravin also addressed the august audience. Dr. Ravishankar, C.N., Director, ICAR-CIFT welcomed the gathering while Dr. Suseela Mathew, Head, Biochemistry & Nutrition Division proposed vote of thanks. The dignitaries also visited the various research laboratories of the Institute



Dr. T. Mohapatra addressing the gathering (On the dias L to R: Dr. P. Pravin, Dr. C.N. Ravishankar, Shri Chhabilendra Roul, Dr. J.K. Jena and Dr. Suseela Mathew



The dignitaries visiting the gear fabrication laboratory



Visit to the Biochemistry and Nutrition laboratory

Workshops on Indigenous Traditional Knowledge in Marine Fisheries

As a part of the ESSO-INCOIS Project, "Indigenous Traditional Knowledge (ITK) in Marine Fisheries Sector of Kerala: Documentation and Analysis", two data validation workshops were conducted at ICAR-CIFT, Kochi during 29-30 June, 2016. Ten fishermen from Alappuzha district and nine fishermen from Thrissur district of Kerala participated in the workshops. Dr. Nikita Gopal, Principal Investigator of the project, gave a brief on the project and explained the objectives of the workshop. During the workshops, data on traditional knowledge collected from the marine fishers of Alappuzha and Thrissur districts were validated through different participatory approaches such as preparation of seasonal calendar and lunar calendar related to fishing and participatory mapping of fishing grounds. Vernacular names of different fishes in both the districts were also documented during the workshop. The workshops were organized in collaboration with an NGO, Vijnana Bharati, New Delhi.



Workshop participants (Alappuzha) with the project staff



Preparation of seasonal calendar of fishing activity



Training Programmes Held at the Institute

Kochi

1. Post harvest processing and value addition (20 April - 20 May)
2. Preparation of value added fishery products (22-23 April)
3. HACCP concepts (2-6 May)
4. Freezing and canning of fish (13-15 June)
5. Industrial training in fish processing (13-27 June)
6. Food processing technology (13-30 June)

Visakhapatnam

1. Hygienic handling of fish and preparation of value added fish products (16-18 June)

Veraval

1. Hygienic handling of fish and development of value added fishery products (13-18 April)

Mumbai

1. Preparation of value added fishery products (5-7 May)
2. Total quality assurance in seafoods (14-18 June)



Preparation of value added fishery products (Mumbai)



Total quality assurance in seafoods (Mumbai)

Participation of the Institute in Exhibitions

1. 'Punjab Fish Festival - 2016', GADVASU Punjab Agricultural University, Ludhiana during 24-25 April, 2016.
2. Exhibition held in connection with International Day for Biological Diversity held at ICAR - CIFE, Mumbai on 22 May, 2016.



Hon'ble Governor of Maharashtra, Shri C. Vidyasagar Rao visiting ICAR CIFT stall at Mumbai



Shri Prakash Javadekar, Minister of State, Ministry of Environment, Govt. of India visiting ICAR- CIFT stall



Outreach Programmes

1. Training cum demonstration programme on 'Harvest and post harvest technologies' at Pedderu reservoir, Visakhapatnam on 22 April, 2016.
2. Training cum transfer of technology programme for tribal fisherfolk at Usgaon, Thane district, Maharashtra during 25-27 April, 2016.
3. Training programme on 'Responsible fisheries and post harvest technologies' at Chepalakancheru and Mukka, Visakhapatnam on 2 June, 2016.
4. Training programme on 'Responsible fisheries and post harvest technologies' at Tippalavalasa, Visakhapatnam on 4 June, 2016.
5. Training programme on 'Responsible fisheries and post harvest technologies' at Pedduru reservoir, Visakhapatnam on 9 June, 2016.
6. Training programme on 'Value addition in fish' at Ambuja Cement Foundation, Kodinar, Gujarat during 23-25 June, 2016.

Publications

Research Papers

1. Aneesh Kumar, K.V., Pravin, P., Khanolkar, P.S., Remesan, M.P. and Meenakumari, B. (2015) – Efficiency of bait and baiting pattern on hooking rates and bait loss during long line fishing in Lakshadweep sea, *Indian J. Geo Mar. Sci.*, **44(12)**: 1844-1851.
2. Bijoy, V.M., Zynudheen, A.A., George Ninan and Hari Krishnan, M. (2016) – Quality assessment of formic acid silage developed from squilla *Oratosquilla nepa* (Latreille), *Fish. Technol.*, **53(2)**: 125-132.
3. Chinnadurai, S., Mohamed, K.S., Sharma, J., Venkatesan, V. and Kripa, V. (2016) – Assessment of bio-accumulation of bacteria in oysters from shellfish growing water in Ashtamudi Lake (Kerala, India): A RAMSAR wetland, *Reg. Studies Marine. Sci.*, **7**: 118-122.
4. Jeyanthi, P., Balasubramaniam, S. and Jeeva, J.C. (2016) - Socio-economic status of fishermen operating FRP boats in Nagapattinam district, Tamil Nadu: A special focus on poverty and income inequality, *Indian J. Fish.*, **63(2)**: 151-153.
5. Jeyakumari, A., Ayoob, K.S., George Ninan, Zynudheen, A.A., Joshy, C.G. and Lalitha, K.V. (2016) – Effect of chitosan on biochemical, microbiological and sensory characteristics of restructured products from *Pangasius (Pangasianodon hypophthalmus)*, *Fish. Technol.*, **53(2)**: 133-139.
6. Jeyakumari, A., George Ninan, Joshy, C.G., Parvathy, U., Zynudheen, A.A. and Lalitha, K.V. (2016) – Effect of chitosan on the shelf life of restructured fish products from *Pangasius (Pangasianodon hypophthalmus)* surimi during chilled storage, *J. Food Sci. & Technol.*, **53(4)**: 2099-2107.
7. Jeyakumari, A., Rahul Das, M.S., Bindu, J., Joshy, C.G. and Zynudheen, A.A. (2016) – Optimization and comparative study on the addition of shrimp protein hydrolysate and shrimp powder on physico-chemical properties of extruded snack, *Int'l J. Food Sci. & Technol.*, doi: 10.1111/ijfs.13127.
8. Jose Fernandez, T., Vipin, P.M., Pradeep, K., Renju Ravi, Remesan, M.P. and Boopendranath, M.R. (2015) – Myctophid discards from deep sea shrimp trawlers operating off South West coast of Kerala, *Indian J. Geo Mar. Sci.*, **44(7)**: 1053-1058.
9. Joshy, C.G., Zynudheen, A.A., George Ninan, Ronda, V. and Sabeena Muhammed (2016) – Optimization of process parameters for the production of chitin from shell of Flowertail shrimp (*Metapenaeus dobsoni*), *Fish. Technol.*, **53(2)**: 140-145.
10. Madhu, V.R., Remesan, M.P. and Meenakumari, B. (2016) – Trawl selectivity estimates of *Thryssa dussumieri* (Valenciennes, 1848) in square and diamond mesh codends, *Fish. Technol.*, **53(2)**: 105-109.
11. Nithin, C.T., Yathavamoorthi, R., Niladri, S.C., Ananthanarayanan, T.R., Suseela, M., Bindu, J. and Srinivasa Gopal, T.K. (2016) – Assessment of efficiency of an indigenous liquid smoke for masmin production, *Fish. Technol.*, **53(2)**: 110-114.
12. Parvathy, U., Zynudheen, A.A., Panda, S.K., Jeyakumari, A. and Anandan, R. (2016) – Extraction of protein from Yellowfin tuna (*Thunnus albacores*) waste by enzymatic hydrolysis and its characterization, *Fish. Technol.*, **53(2)**: 115-124.
13. Rao, K.R., Viji, P., Sreeramulu, K. and Sreedhar, U. (2016) – Proximate composition and heavy metal accumulation



in deep-sea crustaceans from selected stations in the Indian Exclusive Economic Zone (EEZ), *Fish. Technol.*, **53(2)**: 155-161.

14. Renuka, V., Anandan, R., Suseela, M., Ravishankar, C.N. and Sivaraman, G.K. (2016) – Fatty acid profile of Yellowfin tuna (*Thunnus albacores*) and Oil sardine (*Sardinella longiceps*), *Fish. Technol.*, **53(2)**: 151-154.
15. Renuka, V., Mohan, C.O., Kriplani, Y., Sivaraman, G.K. and Ravishankar, C.N. (2016) – Effect of chitosan edible coating on the microbial quality of Ribbonfish, *Lepturacanthus savala* (Cuvier, 1929) steaks, *Fish. Technol.*, **53(2)**: 146-150.

Popular Articles

1. Girija Phadke and Murthy, L.N. (2016) – Edible and

biodegradable films and coatings for seafoods, *Aquastar*, June, P 49-50.

2. Jeyakumari, A., Zynudheen, A.A., Parvathy, U., Murthy, L.N. and Ravishankar, C.N. (2016) – Microencapsulation of omega-3 fatty acids and its application, *Beverage and Food World*, **43(6)**: 44-45 & 47.
3. Leela Edwin (2016) – Coconut wood canoes for artisanal fishermen sector, *Indian Coconut J.*, **8(8)**: 20.
4. Murthy, L.N., Phadke, G.G. and Madhusudana Rao, B. (2016) – Effect of various treatments on colour of Indian Pangasius (*Pangasianodon hypophthalmus*) fillets, *Aquastar*, June, P 46-47.
5. Parvathy, U., Jeyakumari, A., George Ninan, Murthy, L.N. and Visnuvinayagam, S. (2016) – Enzymes in seafood industry, *Beverage and Food World*, **43(6)**: 42-43.

Tribal Sub Plan Programme by ICAR-CIFT at Veraval

Veraval Research Centre of ICAR-CIFT organized a skill development programme on "Hygienic handling of fish and development of value added fishery products" during 13-18 April, 2016. The beneficiaries of the training were tribal fisher folks from "Bharat Adim Juth Matsyaudyog Sahakari Mandali", a registered society formed for the welfare of "Siddi tribes" from Jambur near Veraval, Gujarat.

In the inaugural session, Dr. G.K. Sivaraman, SIC of the Centre welcomed the gathering and briefed the technologies available with ICAR-CIFT and the utility of training for their welfare. The Chief Guest Shri M. Sasi, Deputy Director, EIA, Veraval emphasized the importance of value added fishery products for the economic growth of seafood industry in India. Shri Jeyabal, Deputy Director, MPEDA and Shri Mohammad Koya, SIC, ICAR-CMFRI Regional Stations, Veraval offered felicitations. Dr. A.K. Jha, Scientist, proposed the vote of thanks. During the technical session, the faculty

of ICAR-CIFT, Dr. G.K. Sivaraman, Dr. A.K. Jha and Smt. V. Renuka took classes on Hygienic handling, Nutritional importance and Microbial quality of fish and fishery products, respectively. Later, Smt. V. Renuka, Dr. A.K. Jha, Scientists and Smt. Pushpaben P. Chudasama, Skilled Support Staff gave hands on training on preparation of value added fishery products like fish pickle, fish ball, fish roll and good manufacturing practice for salted dried fish and operational procedure of solar drier for good quality dried fish.

In the valedictory session, Dr. G.K. Sivaraman welcomed the gathering. Shri M. Sasi was the Chief Guest. Shri Mohammad Koya, SIC, ICAR-CMFRI Regional Station, Veraval and Shri Hasam Bhai Jummabhai, President, Bharat Adim Juth Matsyaudyog Sahakari Mandali also graced the occasion with their presence. Dr. A.K. Jha proposed the vote of thanks. At the end of the training programme, aprons, knives and cutting boards were also distributed to the beneficiaries.



Practical session in progress



Participants and faculty of the programme



Traditional wooden fishing craft used for fishing by tribal fishermen

Mumbai Research Centre of ICAR-CIFT conducted a three days Training cum Transfer of Technology programme to distribute coracles and FRP canoes and to demonstrate value added products for tribal fisherfolk at Usgaon, an inland fishing village in Thane district of Maharashtra during 25-27 April, 2016. Representatives of four tribal fishermen cooperative societies in Thane district viz. Usgaon, Kothare, Shirvanje and Vasai and Tribal women members from three self help groups from Usgaon viz. Bhartiya SHG, Savita SHG and Kranti SHG attended the programme.

The programme started by distribution and demonstration of the FRP canoes and coracles to the representatives of the four tribal fishermen societies by Dr. L.N. Murthy, SIC of the Centre and his team. A total of six FRP canoes and 10 coracles were distributed to them. This was followed by demonstration of hygienic fish handling practices. The hygienic way of deheading, descaling and fin removal was demonstrated to the participants. Filleting operation in order to get higher filleting yield was also shown to the tribal fisherwomen. Headgears, aprons, mouth pieces, cutting boards and knives were also provided to the fisherwomen. Hands on training in preparation and packing of shrimp pickle in pouches was given up to the fisherwomen. All the participants tasted the product and gave their feedback based on sensory characteristics.

The next session was on preparation of battered and breaded fish products. Hands on training for preparation of battered and breaded products viz. fish fingers, fish cutlets and butterfly shrimp (*Nobashi* style) was also given to the participants. All the participants evaluated the products and gave feed back. Fish processing and packing equipment such as insulated fish bags, sealing machines, hand operated meat mincers, fish cutting boards, knives etc. were distributed to the beneficiaries by Dr. Murthy along with other team members. During the feedback session on insulated fish bags, fisherwomen told that they prefer rectangular shape



Training cum Transfer of Technology Programme at Maharashtra



Distribution of coracle



Demonstration of product preparation



Distribution of meat mincer



insulated fish bags to round shaped ones.

After the product demonstration, the Chairman of a Society gave their feedback about the programme wherein he highlighted the usefulness of material provided for the tribal community. The programme ended with the concluding remarks and vote of thanks by Dr. L.N. Murthy wherein he highlighted that the fund received under TSP is a national

fund and so the materials provided through this fund should be strictly used for the betterment of the tribal communities and are not intended for sale. ICAR-CIFT team collected necessary baseline information about the tribal community from the respective Chairmen of the societies. The team visited fishing village, fish markets and landing centres before returning to Mumbai.

Programme on Conversion of Diamond to Square Mesh Codend at Porbandar

A one day awareness and training cum demonstration programme was conducted at Porbandar Harbour, Gujarat on "Conversion of diamond codend to square mesh codend" on 29 June, 2016. The programme was organized in collaboration with NETFISH-MPEDA, Department of Fisheries, Gujarat and ICAR-CIFT. In the inaugural session Shri Jignesh Gohel, NETFISH, MPEDA delivered welcome address and highlighted the schedule of the programme on fabrication of square mesh. Shri R.B. Vajpai, Asst. Director of Fisheries talked on economic prospects of square mesh and diamond mesh codend. Shri A. Sakthiwel, Asst. Director, MPEDA, stressed on current important situation and role of MPEDA to convert diamond to square mesh codend. Shri Ashok Jungi and Shri Hiralal Hodar, representatives of Seafood Supplier Group and Net Maker

Group talked on the importance of replacing diamond mesh in place of square mesh for the benefit of fishermen of Gujarat.

In the programme Shri G. Kamei, Scientist, explained the advantages and disadvantages of 40 mm square mesh and 20 mm diamond mesh codend presently being operated along Gujarat coast. He also stressed on global juvenile fish catch, bycatch and discard in the country and the world. During the practical session Shri H.V. Pungeera, Sr. Technical Asst. and Shri J.B. Paradva, ACTO demonstrated the designing and fabrication of square mesh codend for commercial trawl nets. Later, the trainees fabricated square mesh codend by themselves. Vote of thanks was proposed by Shri Jignesh Gohel, NETFISH-MPEDA.



Demonstration in progress



Participants and resource persons

Awareness Class and Technology Demonstration at Visakhapatnam

A technology outreach programme was conducted by ICAR-CIFT, Visakhapatnam Research Centre at Pedderu reservoir, V. Madugula (Mandal), Visakhapatnam District, Andhra Pradesh on 22 April, 2016 under the TSP programme. The Pedderu reservoir has a water spread area of 110 hectares. Rohu and Catla are the main fish species available in the Pedderu reservoir. Shri Kooti Kondamma Girijan Matsyakara Society with 90 members is associated with the Pedderu reservoir fisheries. Recently the State Fisheries Department has introduced cage culture of Tilapia in the Pedderu reservoir.

Dr. R. Raghu Prakash and Dr. B. Madhusudana Rao, Principal Scientists conducted the outreach programme in collaboration with Andhra Pradesh Fisheries Department. Dr. Raghu Prakash explained the advances in fishing techniques that can be adopted in Pedderu reservoir for sustainable fishery and for enhancement of livelihood of the fishers. Dr. Raghu Prakash and Shri B.K. Pradhan, ACTO demonstrated the use of foldable fish traps. Dr. Madhusudana Rao explained the importance of icing and hygienic handling. He also briefed on the value added fish products as an additional source of income. Sixty five tribal



Dr. Raghu Prakash addressing the participants



Distribution of insulated fish bag to the tribal fishers

fishers attended the programme. Inputs for responsible fishing such as gillnets, foldable traps and insulated fish bags for maintaining the quality of fish were distributed to the tribal fishers. Shri G. Rajesh, Fisheries Development Officer,

Pedderu, Andhra Pradesh in his concluding remarks stressed the need to adopt modern practices of harvest and post harvest technologies.

Mera Gaon Mera Gaurav Programme

At Munambam, Ernakulam

As a part of "Mera Gaon Mera Gaurav" programme, ICAR-CIFT, Kochi celebrated National Technology Day at Munambam, Ernakulam district on 6 May, 2016. The programme was sponsored by Kerala State Council for Science, Technology and Environment, Thiruvananthapuram.

Dr. Nikita Gopal, HOD I/c, EIS and Nodal Officer, Mera Gaon Mera Gaurav programme welcomed the gathering and explained the concept of the programme and the interventions of ICAR-CIFT in the fisheries sector in general and for the fishermen of Munambam in particular. Shri K.K. Joshi, Block Panchayath President, Vypeen inaugurated the programme. During his inaugural address he stressed on the significance of scientific interventions for fishery development in India and the contributions of Munambam fishermen in the national fisheries development. Dr. Suseela Mathew, Director in charge, ICAR-CIFT in her presidential address outlined the activities and the technologies developed by the Institute that have brought out changes in fisheries sector. She also stressed on focused need-based approach in fisheries research and requested the participants to take maximum benefit from the research carried out by

the Institute for the sector.

The presidential address was followed by a talk by Dr. Leela Edwin, Head, Fishing Technology Division on 'Responsible fishing methods'. She detailed the present status of fishing and the consequences of non-judicious increase in size and power of fishing fleet which will deplete the fishery resources. The advantages of using square mesh codend and other conservation measures in fishing were also highlighted. She also told that ICAR-CIFT is ready to extend any technological help in the area of fishing craft and gear. Dr. A.A. Zynudheen, Principal Scientist addressed the participants on 'Fish value addition and fishery waste utilization'. He noted that the processing infrastructure at Munambam is very minimal compared to production. He pointed out that ICAR-CIFT has done pioneering work in developing various types of industrial and pharmaceutical products and also invited the stakeholders to register at the Incubation Facility at ICAR-CIFT for commercialization of fishery-based technologies. A video film on technologies developed at ICAR-CIFT was also screened for the participants. An interactive session was held at the end of the programme which was coordinated by Dr. V. Geethalakshmi, Principal Scientist and the stakeholders



Shri K.K. Joshi inaugurating the programme



A section of the participants



Training in progress at Thakazhi



expressed their training needs. A total of fishermen and fisherwomen participated in the programme in addition to 22 officials from various state departments and the local panchayaths.

At Thakazhi, Alappuzha

On 11 May, 2016, on the National Technology Day, a training programme on 'Preparation of fish cutlets, fish fingers and fish balls from the meat of low value fish' was arranged for the benefit of 30 participants at Thakazhi, Alappuzha District, Kerala as a part of "Mera Gaon Mera

Gaurav" programme. The participants included members from 'Kudumbasree' (SHG), Panchayat officials, officials from Krishi Bhavan and local villagers. The participants showed great enthusiasm in learning the technology and expressed their willingness to take up the technology at Kudumbasree units. The team from ICAR-CIFT included Dr. Suseela Mathew, Principal Scientist and Head, Biochemistry and Nutrition Division, Smt. H. Mandakini Devi, Scientist, Smt. K.B Beena, Asst. Chief Technical Officer, Shri K.A. Noby Varghese, Senior Tech. Asst., Shri V.T. Sadanandan, Tech. Asst. and Shri C. Mohanan, Driver. The programme was well appreciated by everyone who participated.

Meeting of Beneficiary Fishermen

Under the project Green Fishing System for Tropical Seas funded by the National Agriculture Science Fund in operation at ICAR-CIFT, Kochi an interaction meet for conducting experimental operations using advanced long lines was conducted with the members of South Asian Fishermen Fraternity (SAFF), a Fishermen Society on 26 April, 2016. The South Asian Fishermen Fraternity is a fishermen Society in Muttam village of Kanyakumari district. More than 3000 long line fishermen are registered with the Society and are engaged in deep sea mono filament long lining.

The meeting was organized by SAFF for the interaction with beneficiary fishermen groups of Muttam, Thuthoor and Enayam on experimental long line operation. Thirty long line fishermen participated in the meeting. Fr. Churchil, General Secretary of the Society welcomed the gathering. Dr. Leela Edwin, PI of the project and Head, Fishing Technology Division spoke on the objectives of the project and advantages of long line fishing. Shri Julius, fishermen

leader and long line boat owner also spoke. The fishermen raised the issues like detrimental effects of bottom trawling when compared to the line fishing and said that line fishing should be promoted. They also suggested introduction of more Fish Aggregating Devices (FAD's) for enhancing fish catch and ensuring environmental protection. Shri V.T. Antony, SRF under the project collected the information on juvenile fish landing at Muttam harbour from the fishermen.



Dr. Leela Edwin addressing the fishermen community

Consultancy Agreement Signed

The Visakhapatnam Research Centre of ICAR-CIFT signed a consultancy agreement with M/s Sree Vishakha Deepsea Fishing Technocrats Co-operative Marketing Society Ltd., Visakhapatnam for providing expertise for setting up of a

fish processing unit for production of value added fish products. The consultancy agreement document was handed over to Capt. Venkateswarlu, President of the Society on 21 June, 2016.

Hindi Workshop on Noting and Drafting



Prize distribution

As a part of implementation and promotion of Official Language, the Veraval Research Centre of ICAR-CIFT organized a one day workshop on 'Noting and Drafting' on

30 June, 2016. The workshop was inaugurated by Dr. G.K. Sivaraman, SIC of the Centre. Dr. K.K. Prajith, Scientist welcomed the gathering while Shri G. Kamei, Scientist gave the felicitation speech. The workshop was very interactive and Smt. Nimmy S. Kumar, Hindi Translator created awareness among staff members about the importance of Official Language in our official work. There were 23 participants in the workshop. During the workshop, prizes for the winners of Hindi Essay Competition were given which was conducted on International Yoga Day on the topic "Importance of Yoga in daily life". Kum. Chandini Vaja, Shri Yogesh D. Kriplani and Kum. K. Vadher Kiran won the first, second and third prize, respectively. The workshop concluded with an inspirational decision by the staff to give their best for the progressive Official Language Implementation.

Celebrations

Institute Foundation Day

The Institute celebrated its 59th Foundation Day on 29 April, 2016, Dr. K. Gopakumar, former Deputy Director General (Fisheries), ICAR, New Delhi was the Chief Guest of the day. Dr. C.N. Ravishankar, Director presided over the function. Representatives of the different categories of the retired staff of the Institute, namely Shri Krishna Iyer (Scientific), Shri Subramanian (Technical), Shri Shanmughan



Dr. C.N. Ravishankar delivering the presidential address



Dr. K. Gopakumar inaugurating the celebrations. Also seen are Dr. C.N. Ravishankar, Shri Subramanian, Shri Kunjan, Shri Shanmughan, Shri Krishna Iyer and Shri P.J. Davis



A scene from the entertainment drama

(Administrative) and Shri Kunjan (Skilled Support) were also honoured on the occasion. Dr. Suseela Mathew, Head, Biochemistry and Nutrition Division welcomed the



gathering while Shri P.J. Davis, Senior Administrative Officer proposed the vote of thanks. The function ended with a variety entertainment programme staged by the staff.

'Swachh Pakhwara'

The 'Swachh Pakhwara' was observed during the period 16-30 May, 2016. The fortnight-long celebrations started with taking pledge on 17 May, 2016. A quiz programme was organized in this connection on 19 May, 2016. Eminent social activist and environmentalist Prof. (Dr.) S. Sitaraman, delivered a guest lecture on 23 May, 2016 at the Institute on 'Role of public and government in conserving environment'. A cleanliness drive at General Hospital, Karuvelipady was conducted on 26 May, 2016. An awareness programme for fishermen was also conducted at Cochin Fisheries Harbor on 28 May, 2016.

Anti Terrorism Day

Anti Terrorism Day was observed on 20 May 2016. The Director and staff of the Institute assembled together and took Anti Terrorism Day Pledge.

International Yoga Day

As per the directive of the Govt. of India and ICAR, the International Day of Yoga was celebrated on 21 June, 2016 at the ICAR-CIFT headquarters and its Research Centres.

At ICAR-CIFT, Kochi: The Yoga celebrations at the headquarters included a talk on "The significance and importance of Yoga in our daily life" by Shri Kaithapram Vasudevan Namboothiri, Director, Patanjali Yoga Research and Training Centre, Kochi. Shri Namboothiri described the different types of Yoga and its power to improve concentration, memory power and physical fitness. Dr. Suseela Mathew, Director Incharge presided over the meeting. In her address she emphasized on the benefits of Yoga and its importance to control lifestyle diseases and maintaining health and happiness. The talk was followed by a Mass Yoga Performance by staff based on the Common Yoga Protocol of the Ministry of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy (AYUSH), New



Mass Yoga performance by staff

Delhi. The Yoga demonstration was lead by Shri Sreejith, Yoga Instructor at Patanjali Yoga Research and Training Centre, Kochi. Dr. J. Bindu, Principal Scientist and Nodal Officer for arranging various activities to commemorate the day proposed vote of thanks.

At Veravel Research Centre of ICAR-CIFT: Different programmes were organized during 17- 21 June, 2016. On 17 June, the celebration was officially inaugurated by Dr. G.K. Sivaraman, Scientist Incharge of the Centre. He pointed out the importance of Yoga in the modern stressful life. Dr. K.K. Prajith, Scientist and Nodal Officer briefed the background, origin of International Yoga Day and the action plan. Dr. A.K. Jha, Smt. V. Renuka and Shri G. Kamei, Scientists offered felicitations followed by the screening of a short film on Yoga entitled "Yoga - Harmony with nature" (In Hindi). On 18 June an essay competition was arranged on the subject "Importance of Yoga in our daily life". Smt. Chandini Vaja, Shri Yogesh D. Kripalani and Kum. V. Kiran bagged first, second and third positions, respectively. A theory session on Yoga was arranged on 20 June to get an over view of the practical session on 21 June. Shri M. Thakar Abhay Kumar, Shree Somanth Sanskrit University, Veraval was the resource person for the session. He started the session with the origin of Yoga and covered the importance, health benefits, types of Yoga, major subdivisions etc. On 21 June demonstrations on basic Asanas and different Pranayama techniques were held. Dr. Prajith proposed the vote of thanks.



Inaugural session of the programme



Essay writing competition in progress

At Mumbai Research Centre of ICAR-CIFT: At the Centre, for the celebration on 21 June, 2016, Dr. (Captain) P. Chatterjee, Physician and Yoga Practitioner and Smt. Rekha Chatterjee, a trained Yoga teacher were the Chief Guests. Dr. L.N. Murthy, Scientist Incharge of the Centre welcomed the gathering and gave a brief introduction about the relevance of Yoga. Dr. Chatterjee and Smt. Rekha Chatterjee conducted classes on Yoga followed by demonstration on different Yoga techniques like Asanas and breathing exercises. Dr. Chatterjee explained the significance of practicing Yoga in day to day life for maintaining good health. Smt. Rekha Chatterjee gave a general outline on Yoga and its effect on physical and mental well being. The classes were followed by Yoga demonstration explaining specifically which technique is helpful in relieving different diseases like arthritis, diabetes, hormonal problems etc. The staff of the Centre actively participated in the programme.



Smt. Rekha Chatterjee giving lecture



Staff attending class on Yoga

At Visakapatnam Research Centre of ICAR-CIFT: On 20 June, 2016 an introductory session on Yoga was conducted at CIFT-CMFRI complex, Visakhapatnam. As part of this, a video on Yoga was also screened. A Yoga session of around 60 minutes was organized on 21 June with the theme "Yoga for Harmony and Peace". All the officers and staff of the Centre took part enthusiastically and practiced various Asanas of Yoga and Pranayama. Yoga trainers Shri Kalyan Chakravarthy, Kum. K.S. Sushma and Shri Shiva Satya Sai Varma from Yoga Village, Andhra University demonstrated various Yoga postures and explained the correct way of doing Asanas. Prayers were recited after the programme. Special demonstration of Asanas useful for controlling diabetes, asthma, back pain and high blood pressure was given by the trainers. Dr. U. Sreedhar and Dr. B. Madhusudana Rao, Principal Scientists coordinated the celebrations.



Yoga session in progress



Shri Chakravarthy giving instructions

Radio Talk

Dr. M.S. Kumar, Chief Tech. Officer, Visakhapatnam Research Centre of ICAR-CIFT gave an Interview on

"Interesting facts about marine mammals" (In Telugu) through All India Radio, Visakhapatnam on 29 May, 2016.

Invited Talk

Prof. (Dr.) S. Sitharaman, Social Activist & Environmentalist gave a talk on "Role of public and government in conserving

environment" at ICAR-CIFT, Kochi on 23 May, 2016.



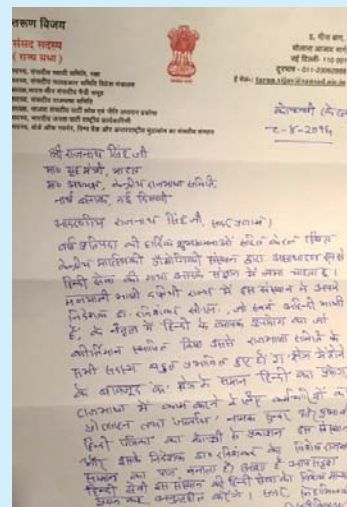
Visit of Parliamentary Committee on Official Language Implementation



Meeting in progress

The Second Sub Committee of Parliament on Official Language (Hindi) inspected ICAR-CIFT office on 8 April, 2016. Dr. Satyanarayan Jatiya, M.P. (Rajya Sabha) was the Deputy Chairman of the Committee. The other members were Dr. Prasanna Kumar Patsani, M.P. (Lok Sabha), Shri Tarun Vijay, M.P. (Rajya Sabha), Shri Laxminarayan Yadav, M.P. (Lok Sabha), Dr. Sunil Baliram Gaikwad, M.P. (Lok Sabha), Shri Vashistha Narain Singh, M.P. (Rajya Sabha), Kum. Abhilasha Misra, Hindi Officer and Shri Nikhil Arora, Senior Translator from OL Implementation Cell.

The Institute received a letter of appreciation from Shri Tarun Vijay, M.P. for the exceptional work done in implementing Official Language. The letter also praised about 'Jaladhi' - the in-house publication in Official Language.



Letter of appreciation from Shri Tarun Vijay



Members of the Committee with ICAR-CIFT officials

Deputation Abroad

Dr. Leela Edwin, Principal Scientist and Head, Fishing Technology Division, ICAR-CIFT, Kochi attended the Expert Consultation on Marking of Fishing Gear, organized by the Food and agricultural Organization (FAO), Rome during 4-7 April, 2016. The consultation was opened by Mr. Arni M. Mathiesen, Assistant Director General, Fisheries and Aquaculture Department, FAO, Rome. During the Expert

Consultation, guidelines were developed to assist countries in implementing FAO Code of Conduct for Responsible Fisheries by developing and applying a system for the marking of fishing gear. This was for providing a practical means of locating and identifying the ownership of fishing gear, enabling administrators, owners and users of fishing gear with a reference and a means of providing information



Dr. Leela Edwin (Second from left) with other participants of the meeting

and guidance to the appropriate marking technologies. It will also provide a basis for the preparation of recommendations and regulations developed to minimize the abandonment and discarding of fishing gear for the management of fishery resources in the long run. The Expert Consultation was attended by 18 experts in their personal capacity and four resource persons from different countries. Dr. Leela Edwin presented inputs on fishing gear and marking

in India.

Dr. Toms C. Joseph, Principal Scientist, Microbiology, Fermentation and Biotechnology Division, ICAR-CIFT, Kochi was deputed to attend the BBSRC Newton Global Research Partnership Aquaculture Project Meeting and workshop for IMAQualate project at Scotland, UK held during 19-21 June, 2016.

Personnel News

Participation in Seminars/Symposia/Workshops etc.

- **Dr. C.N. Ravishankar**, Director – 23rd Annual General Body Meeting of National Academy of Agricultural Sciences (NAAS), New Delhi (5 May)
- **Dr. C.N. Ravishankar**, Director – Interface meeting between ICAR and DAHD&F, ICAR, New Delhi (10 June)
- **Dr. C.N. Ravishankar**, Director, **Dr. Suseela Mathew**, Principal Scientist and HOD, B&N and **Dr. Saly N. Thomas**, Principal Scientist – Interactive meeting of Directors and PME Cell Incharges of Fisheries Institutes with DDG(Fy.), ICAR, New Delhi (9 June)
- **Dr. Suseela Mathew**, Principal Scientist and HOD, B&N – National consultation on NFDB out reach programme, NFDB, Hyderabad (12 April). Dr. Suseela Mathew also made a presentation on ‘Entrepreneur ready technologies from CIFT’ in the Meeting.
- **Dr. K. Ashok Kumar**, Principal Scientist and HOD, FP – 9th Meeting of FSSAI Scientific panel on Fish and fishery products, New Delhi (6 June)
- **Dr. K. Ashok Kumar**, Principal Scientist and HOD, FP – 47th Meeting of Institute Management Committee, ICAR-CIBA, Chennai (18 June)
- **Dr. Leela Edwin**, Principal Scientist and HOD, FT – Expert consultation on Marking of fishing gear, FAO, Rome (4-7 April)
- **Dr. Leela Edwin**, Principal Scientist and HOD, FT – Meeting on Fisheries conservation, Seafood Exporters Association, Kochi (22 April)
- **Dr. Leela Edwin**, Principal Scientist and HOD, FT – World Ocean Day celebrations, SH College, Thevara, Kochi (8 June). Dr. Leela Edwin also delivered a talk on “Green fishing for healthy ocean”.
- **Dr. A.A. Zynudheen**, Principal Scientist and HOD I/c, Engg. – Punjab Fish Festival, Chandigarh (23 April). Dr. Zynudheen also delivered a talk on ‘Value added fish products’ in the Meeting.
- **Dr. G. Rajeswari**, Principal Scientist and SIC, Visakhapatnam – ‘Nava Nirmana Deeksha’ Andhra University, Visakhapatnam (5 June). Dr. Rajeswari also delivered a lecture on “Opportunities in fisheries sector” in the function.
- **Dr. G. Rajeswari**, Principal Scientist and SIC, Visakhapatnam – Meeting on Addressing fisheries



related turtle mortality, New Delhi (22 June)

- **Dr. G. Rajeswari**, Principal Scientist and SIC, Visakhapatnam – 23rd Meeting of ICAR Regional Committee No. II, ICAR-NAARM, Hyderabad (24-25 June)
- **Dr. G. Rajeswari**, Principal Scientist and SIC, Visakhapatnam and **Dr. R. Raghu Prakash**, Principal Scientist – Marine stakeholders consultation on formulation of national policy on marine fisheries, CIFNET, Visakhapatnam (20 April)
- **Dr. G. Rajeswari**, Principal Scientist and SIC, Visakhapatnam and **Dr. U. Sreedhar**, Principal Scientist – Marine Stakeholders consultation on Formulation of national policy on marine fisheries, Srikakulam (21 April)
- **Dr. G. Rajeswari**, Principal Scientist and SIC, Visakhapatnam, **Dr. R. Raghu Prakash** and **Dr. U. Sreedhar**, Principal Scientists – National seminar on Conservation, restoration and sustainable management of mangrove forests in India, Visakhapatnam (15-17 June). They also presented a paper entitled, “Bycatch reduction devices in stake nets for conservation and sustainable management of mangrove based fisheries in inter-tidal waters of Andhra Pradesh, India” in the Seminar.
- **Dr. G. Rajeswari**, Principal Scientist and SIC, Visakhapatnam, **Dr. R. Raghu Prakash**, **Dr. B. Madhusudana Rao**, Principal Scientists and **Kum. Jesmi Debbarma**, Scientist – Stakeholder meeting on Ocean partnership for sustainable fisheries and biodiversity conservation models for innovation and reforms: Bay of Bengal project 3rd scoping consultation on sustainable development of tuna and tuna like fisheries in India, Visakhapatnam (30-31 May)
- **Dr. G.K. Sivaraman**, Senior Scientist and SIC, Veraval – National symposium on One health initiative to foster inter-sectoral collaboration for human and animal health, G.B. Pant University of Agriculture and Technology, Pantnagar (26-28 April). Dr. Sivaraman also presented the following research papers in the Symposium:
 1. Incidence of community associated Methicillin resistant *Staphylococci* (CA-MRSA) in seafood samples by G.K. Sivaraman, Deesha Vanik, K.V. Lalitha, C.N. Ravishankar, A.K. Jha, S. Visnuvinayagam, S. Remya, V. Renuka, Yogesh Kriplani and K. Ajeesh
 2. First detection of extended-spectrum B-lactamase resistant (ESBL) *Escherichia coli* in seafood and its environment by G.K. Sivaraman, Deesha Vanik, K.V. Lalitha, C.N. Ravishankar, A.K. Jha, S. Visnuvinayagam, S. Remya, V. Renuka, Yogesh Kriplani and K. Ajeesh
- **Dr. G.K. Sivaraman**, Senior Scientist and SIC, Veraval – Meeting of the Lokvani Radio Advisory Committee, Kodinar (26 April)
- **Dr. L.N. Murthy**, Senior Scientist and SIC, Mumbai – Conference on Technology Vision 2035, Mumbai (18 April)
- **Dr. Nikita Gopal**, Principal Scientist and **Shri G. Jayesh**, SRF - 3rd Congress on Social entrepreneurship in aquaculture, ICAR-CIFE, Mumbai (27-29 April). Dr. Nikita Gopal also presented a research paper entitled, “Prospects of promoting social entrepreneurship in Pokkali farming in Kerala” by G. Jayesh, P. Sruthi and Nikita Gopal in the Congress.
- **Dr. Nikita Gopal**, Principal Scientist and **Kum. Diana Benjamin**, RA – Annual meeting of ESSO-INCOIS project on Indigenous traditional knowledge (ITKs) in marine fisheries sector of Kerala: Documentation and analysis, INCOIS, Hyderabad (12 May)
- **Dr. V.R. Madhu**, Senior Scientist – Meeting of Officers of UNDP, GEF and UN, Indian Institute of Scuba, Malwan (2 April). Dr. Madhu also made a presentation on “Introduction of square mesh codend along Sindhudurg district” in the Meeting.
- **Shri M.V. Baiju**, Senior Scientist – Meeting convened by the Secretary, DAHDF, Ministry of Agriculture and Farmers Welfare to discuss the modalities for financial assistance to traditional fishers, New Delhi (13 May)
- **Shri M.V. Baiju**, Senior Scientist – Training on how to inspect a newly built fishing vessel and machinery including cold storage and refrigerated sea water plant, Nagercoil, Tamil Nadu (22 June) (As resource person)
- **Shri RK. Renjith**, Scientist – Training on Taxonomy of bivalves (Pelcipoda), CUSAT, Kochi (11-14 May)
- **Dr. M.S. Kumar**, Chief Tech. Officer – Farm and Home Unit Rural Programme Committee Meeting, AIR, Visakhapatnam (22 June)
- **Dr. B. Ganesan**, Senior Tech. Officer – Training for CPCSEA nominees, NIAW, Haryana (24-26 May)
- **Shri K.S. Sreekumaran**, F&ACO – MDP on Public procurement, NIFM, Faridabad (30 May – 4 June)
- **Smt. Christina Joseph**, Admn. Officer, **Shri K.B.**



Sabukuttan, Asst. Admn. Officer and **Smt. G. Surya**,
Asst. – Training programme on Implementation of NIC's

e-procurement solution through CPP Portal, ICAR-
NAARM, Hyderabad (25-26 April)

Personalia

Appointments

1. Dr. A.K. Mohanty, Principal Scientist, ICAR Res. Complex for NEH Region, Umamias Head, Extension Information and Statistics Division, ICAR-CIFT, Kochi
2. Dr. S. Murali, Scientist, ICAR-CIFT, Kochi
3. Shri Abhay Kumar, Scientist, ICAR-CIFT, Kochi
4. Shri K.K. Anas, Scientist, ICAR-CIFT, Kochi
5. Shri S. Ezhil Nilavan, Scientist, ICAR-CIFT, Kochi
6. Smt. V.A. Minimol, Scientist, ICAR-CIFT, Kochi

Promotions

1. Dr. George Ninan, Senior Scientist, ICAR-CIFT, Kochi as Principal Scientist
2. Dr. B. Madhusudana Rao, Senior Scientist, Visakhapatnam Research Centre of ICAR-CIFT as Principal Scientist
3. Dr. Toms C. Joseph, Senior Scientist, ICAR-CIFT, Kochi as Principal Scientist
4. Shri T.V. Bhaskaran, Senior Tech. Officer, ICAR-CIFT, Kochi as Asst. Chief Tech. Officer
5. Shri M. Prasanna Kumar, Tech. Asst., Visakhapatnam Research Centre of ICAR-CIFT as Senior Tech. Asst.
6. Shri M.N. Vinodh Kumar, Asst., ICAR-CIFT, Kochi as AAO

at Visakhapatnam Research Centre of ICAR-CIFT

7. Shri Santhosh Mohan, Upper Division Clerk, ICAR-CIFT, Kochi as Assistant
8. Shri T.D. Bijoy, Lower Division Clerk, ICAR-CIFT, Kochi as Upper Division Clerk

Transfers

1. Smt. V. Sushmitha, Tech. Asst., Veraval Research Centre of ICAR-CIFT to Kochi
2. Shri K. Ajeesh, Senior Technician, Veraval Research Centre of ICAR-CIFT to Kochi

Retirements

1. Shri B. K. Panda, Asst. Chief Tech. Officer, Visakhapatnam Research Centre of ICAR-CIFT
2. Shri K.U. Sheikh, Senior Tech. Officer, Veraval Research Centre of ICAR-CIFT
3. Shri E. Damodaran, Skilled Support Staff, ICAR-CIFT, Kochi
4. Shri K.J. Damor, Skilled Support Staff, Veraval Research Centre of ICAR-CIFT

Voluntary Retirements

1. Shri L.N. Badi, AAO, Visakhapatnam Research Centre of ICAR-CIFT

Testing facilities available at ICAR-CIFT, Kochi

ANALYTICAL CHARGES - FISH PROCESSING

1. Gel Strength	- ₹ 750	12. Carbohydrate	- ₹ 600
2. Degree of Deacetylation	- ₹ 1000	13. Moisture	- ₹ 500
3. Viscosity	- ₹ 700	14. Sodium, Ca, K (Flame Photometer)	- ₹ 700
4. Ash	- ₹ 600	15. Phosphorous	- ₹ 700
5. Insoluble Ash	- ₹ 600	16. Free fatty acids	- ₹ 700
6. pH	- ₹ 250	17. Peroxide value	- ₹ 700
7. Protein/Total Nitrogen	- ₹ 700	18. Sand silica	- ₹ 500
8. Fat	- ₹ 750	19. L*a*b* values by Hunter Colorimeter	- ₹ 400
9. α-Amino nitrogen	- ₹ 750	20. Energy	- ₹ 1500
10. Digestible protein	- ₹ 800	21. Specific gravity of oil	- ₹ 500
11. Fibre	- ₹ 600	22. Flash point	- ₹ 500
		23. Bulk Density	- ₹ 300



24. Fat Absorption	- ₹300	52. Thermal efficiency of insulated boxes	- ₹2000
25. Solubility	- ₹ 300	53. Moisture content of CFB	- ₹ 400
26. Histamine by HPLC	- ₹4000	54. Overall migration Residue Test	
27. Histamine content by Spectroscopic method	- ₹1200	a) Water extraction	- ₹ 400
28. Total Volatile Base Nitrogen (TVBN) analysis	- ₹ 600	b) N-Heptane extraction	- ₹ 600
29. Burst factor of paper board IS 1060 30* 30 cm (10 Nos.)		c) Acetic Acid extraction	- ₹ 500
(Per paper)	- ₹1300	d) Alcohol extraction	- ₹600
(3 ply board)	₹ 1900	55. Thermal validation for blanched/cooked/ pasteurized/retort pouched and canned products at factory	- ₹20,000
(5 ply board)	₹ 2500	56. Thermal validation of cooker/blanching machine/pasteurization/retort etc.	- ₹10,000
30. Ring stiffness of paper and paper board ASTM 1164 30*30 cm (10 Nos.)	- ₹500		
31. Flat crush resistance (upto 3 ply of CFB) IS 4006 30*30 cm (5 Nos.)	- ₹ 500		
32. Tensile strength and percentage elongation IS 1060 30*30 cm (10 Nos.)	- ₹1000		
33. Breaking length of paper IS 1060 30*30 cm (10 Nos.)	- ₹1000		
34. Tearing strength IS 1060 30*30cm (10 Nos.)	- ₹500		
35. Tear factor IS 1060 30*30 cm (10 Nos.)	- ₹800		
36. Water resistance (Cobb/value) IS 1006 30*30 cm (10 Nos.)	- ₹500		
37. Density of plastic films IS 2508 (1984) 50*50 cm	- ₹500		
38. Vibration test IS 72028(1973(3 Nos.)	- ₹1000		
39. Tearing strength of plastic films	- ₹ 500		
40. Puncture resistance for plastic films	- ₹ 500		
41. Heat seal strength	- ₹ 1000		
42. Thickness/Caliper	- ₹ 200		
43. Basic weight (grammage) of paper and CFB per ply	- ₹ 300		
44. Gas composition of packages	- ₹ 500		
45. Puncture Resistance	- ₹1000		
46. Edge crush test	- ₹ 400		
47. Box compression	- ₹1000		
48. Drop test	- ₹500		
49. Gas transmission rate	- ₹ 1500		
50. Water vapour transmission rate	- ₹1500		
51. Impact strength	- ₹500		

ANALYTICAL CHARGES - FISHING CRAFT AND GEAR MATERIALS AND ACCESSORIES

I Testing Twin/Yarn

1. Designation	- ₹ 400
2. Nominal Diameter/Thickness	- ₹ 400
3. Linear density	- ₹ 400
4. Runnage	- ₹ 500
5. Turns per meter	- ₹ 400
6. Tenacity	- ₹ 500
7. Identification of fibre	- ₹ 400
8. Tensile break load/Tensile strength (Dry and wet)	- ₹ 500
9. Elongation at break	- ₹ 500
10. Knot break load (Dry and wet)	- ₹ 500
11. Quality testing consisting of Runnage, Twist per meter, Tensile break load (Dry and wet), Elongation at break tests	- ₹ 2000

II Webbing

1. Mesh size	- ₹ 300
2. Mesh depth	- ₹ 300
3. Mesh break load	- ₹ 500
4. Quality testing consisting of Mesh size, Mesh depth, Mesh break load	- ₹1000

III ROPE

1. Nominal Diameter	- ₹ 300
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2. Mass per coil	- ₹ 500	4. Protein content	- ₹ 700
3. Pitch/Length of lay	- ₹ 300	5. Crude fat	- ₹ 500
4. Linear density/K tex	- ₹ 500	6. Organochlorine Pesticides	- ₹ 6000
5. Break load	- ₹ 2000	7. Polycyclic Aromatic Hydrocarbon	- ₹ 6000
6. Quality testing, consisting of Nominal Diameter, Mass per coil, linear density, Pitch, Length of lay, Break load and elongation	- ₹ 3500	8. Benzopyrene	- ₹ 6000
		9. Amino acid composition	- ₹ 7000
		10. Cholesterol	- ₹ 2000

IV Wood, FRP, Metal Wire, Metal sheets

1. Compression test	- ₹1500	11. Fatty acid composition	- ₹ 7000
2. Bending test	- ₹ 1500	12. Saturated, monounsaturated and polyunsaturated fatty acids	- ₹ 7000
3. Tensile test	- ₹ 1500	13. PUFA (Omega-3, Omega-6, EPA,DHA)	- ₹ 7000

V Float

1. Physical parameters	- ₹ 500	14. Chloramphenicol (LCMS MS)	- ₹ 6000
2. Extra buoyancy	- ₹ 500	15. Nitrofurans metabolites (LCMS MS)	- ₹ 6000
3. Pressure tolerance limit	- ₹ 5000	16. Nutritional facts	- ₹ 20000
		17. Vitamins (fat soluble)	- ₹ 6000
		18. Vitamins (water soluble)	- ₹ 6000

VI Dyed Materials in Xenotest

1. Colour fastness of textile materials to Weathering by xenon arc lamp	- ₹ 5000
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VII Miscellaneous

1. Cyclic Voltammetry Linear Polarisation	- ₹ 800
2. Electrochemical Impedance Analysis	- ₹800
3. Cyclic Voltammetry upto 100 cycles	- ₹ 1000

ANALYTICAL CHARGES - B&N Division

I Water/Ice

1. Heavy metals (Pb, cd, Hg, As, Zn, Fe, Co, Mg, Mn, Se, Cu, Cr, Sn) by AAS	- ₹750
2. Sodium, Potassium, Calcium by Flame Photo meter	- ₹1000
3. Polycyclic Aromatic Hydrocarbon	- ₹6000
4. Organochlorine Pesticides	- ₹6000
5. Volatiles	- ₹6000

II Fish and Fishery Products

1. Heavy metals (Pb, Cd, Hg, As, Zn, Fe, Mg, Mn, Se, Cu, Cr, Sn) by AAS	- ₹750
2. Sodium, Potassium, Calcium by Flame Photo meter	- ₹ 1000
3. Moisture content	- ₹ 500

ANALYTICAL CHARGES - MFB Division

I. Bacteriology

1. Suitability of agar, peptone etc. for bacteriological work	- ₹ 1000
2. Identification of bacterial culture by biochemical test	- ₹ 1500
3. Identification of bacterial culture by 16SrRNA sequencing	- ₹ 2500
4. Bacteriological count of fish/commercial products	- ₹ 1500
5. Bacteriological composition of products/feed/probiotics etc.	- ₹ 5000
6. Detection of <i>Salmonella</i> by PCR	- ₹ 1800
7. Detection of <i>Listeria monocytogenes</i> by PCR	- ₹ 1800
8. Detection of pathogenic Vibrios like <i>V. parahaemolyticus</i> , <i>V. cholerae</i> etc. by PCR	- ₹ 1800

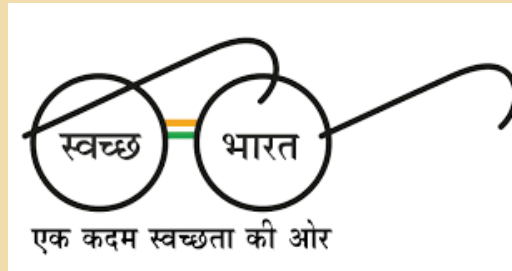
II Viruses

1. Detection of WSSV (DNA) (PCR)	- ₹ 1200
2. Detection of IHNV (PCR)	- ₹ 1200
3. Detection of HPV (PCR)	- ₹ 1200



4. Detection of TSV (PCR)	- ₹ 2000	bacteriology - 49 parameters/once in two years	- ₹ 20000
5. Detection of MBV (Microscopy)	- ₹ 200		
6. Detection of MBV (PCR)	- ₹ 1200	6. IS-4251 Water (Microbiology)	- ₹ 2500
7. Detection of Yellow Head Virus(PCR)	- ₹ 2000	7. IS-4251 Water	- ₹ 10000
III Bacterial Toxins		8. IS-14543 Mineral water	- ₹ 17000
1. <i>Clostridium botulinum</i> toxin (Animal bioassay)	- ₹ 1500	9. IS-14543 Mineral water (Microbiology)	- ₹ 2500
ANALYTICAL CHARGES - QAM Division			
I Water/ICE			
1. Normal physical and chemical (21 parameters) well waters etc.	- ₹ 2000	10. IS-10500 Water	- ₹ 20000
2. Bacteriology (TPC, Coliforms, <i>E. coli</i> , Staphylococcus, Streptococcus)	- ₹ 1000	11. <i>Clostridium perfringens</i>	- ₹ 1000
3. Water for potability (Physical, chemical and biological parameters)	- ₹ 2500	12. <i>Salmonella</i>	- ₹ 1000
4. 98/83 EEC process water (16 parameters/ once in six months)	- ₹ 10000	13. <i>Vibrio parahaemolyticus</i>	- ₹ 1000
5. 98/83 EEC process water (yearly) except		14. <i>Vibrio cholerae</i>	- ₹ 1000
		15. <i>Listeria monocytogens</i>	- ₹ 1500
		16. Yeast and Mold	- ₹ 1000
		17. Sulphite reducing anerobes/ Sulphite reducing bacteria	- ₹ 1000

For details contact: The Director, ICAR-CIFT, Matsyapuri P.O., Kochi - 682 029



Swachh Bharat Mission

"Sanitation is better than Independence"

- Mahatma Gandhi

