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India joins top successful countries involved in Pop-up Satellite Tagging of Yellowfin Tuna



हर कदम, हर उगर
किसानों का हमसफर
भारतीय कृषि अनुसंधान परिषद

Agrisearch with a human touch



CENTRAL MARINE FISHERIES RESEARCH INSTITUTE
P.B. No. 1603, Ernakulam North P.O., Cochin - 682 018



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Published by

Dr. G. Syda Rao

Director

Central Marine Fisheries Research Institute
Post Box No. 1603, Ernakulam North P.O.

Cochin - 682 018, Kerala, India

Telephone: 0484-2394867

Fax: 91-484-2394909

E-mail: director@cmfri.org.in

Website: www.cmfri.org.in

Editorial Board

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Dr. R. Narayanakumar

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About CMFRI

The Central Marine Fisheries Research Institute, Cochin, is a premier research Institute under the Indian Council of Agricultural Research, devoted to research and training in marine fisheries and mariculture.

CMFRI has three Regional Centres viz., Mandapam Camp, Visakhapatnam and Veraval and seven Research Centres located along the Indian coast line, catering to the marine fishery policy needs of all maritime states of the country.



Director speaks

Dear Colleagues,

Wishing You All a Happy New Year 2012.

We had an inspiring beginning of 2012 through series of successful events. First a team of our Scientists initiated the International Workshop on Preparing for Climate Change in the Marine systems of India and Australia under the Australia India Strategic Research Fund (AISRF) from

the Indian side. The team visited the University of Tasmania, Hobart in January and held discussion with the Australian team led by Dr. Stuart Frusher of IMAS, University of Tasmania. We could identify five themes under climate change focussing on food security, fishing in carbon economy, fisheries management and governance, fisheries modelling and communication. These five themes were successfully taken to the next stage of preparing the concept notes in the back-to-back workshop held at CMFRI in March 2012. This has shown our strength and capability to face such challenging tasks cutting across the national boundaries.

Our untiring efforts to develop bio-products got a further boost by developing the 100% vegetarian nutraceutical Green Algal extract (GAe) for joint pain and arthritis. The entire team involved in this product development deserves full compliments. We salute them for their unstinted effort in bringing about a second product within two years of bringing the first one on GMe. This clearly shows our commitment to the cause and our dedicated efforts overcoming all hurdles in the way.

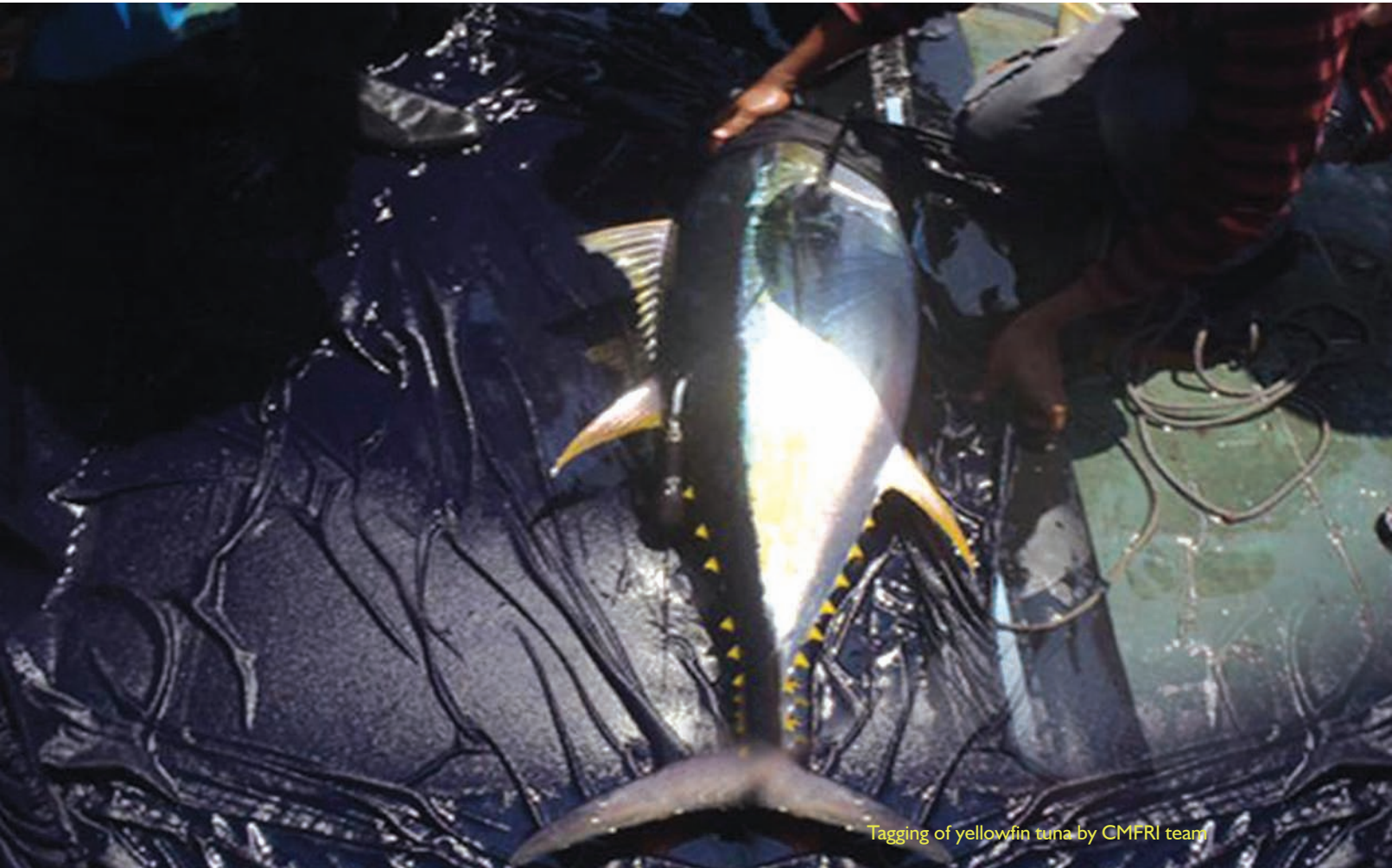
In the 12th Plan, we are proposing an All India Coordinated Project on Mariculture, the first of its kind, which has been approved in principle by the Council. This involves lot of infrastructure development besides capacity building in different aspects of broodstock development. Our efforts in this direction got strengthened further with the inauguration of the Marine Hatchery cum Research Complex at Kovalam Field Laboratory of Madras RC of CMFRI at Chennai in March 2012.

The recently concluded RAC meeting has commended the achievements by the Scientists of CMFRI and has given valuable guidance to take the Institute to greater heights in the forthcoming 12th Five Year Plan. It all depends on our focussed, committed and dedicated efforts to achieve much more technological breakthroughs in the years to come.

With best wishes,

Dr. G. Syda Rao
Director

Front Cover: Tuna with Pop-up Satellite Tag ready for release



Tagging of yellowfin tuna by CMFRI team

India joins top successful countries involved in Pop-up Satellite Tagging of Yellowfin Tuna - A pioneering effort

Pop-up X-tag was used on yellowfin tuna (*Thunnus albacares*) for the first time in Indian waters by the Central Marine Fisheries Research Institute during December 2011 to February 2012. A total of 15 tags were used in two phases along the Bay of Bengal and the Arabian Sea with the Pop-up time ranging from 4 months to a year. Tagging was done in the Bay of Bengal Region from Visakhapatnam where eight tags were used and along the Arabian Sea seven tags were used off Lakshadweep Islands. The tagging programme is funded by INCOIS under the project entitled "Satellite Telemetry studies on Migration patterns of Tunas in Indian Seas" (SATTUNA). With this achievement India joins **the elite group of countries engaged in satellite tracking of yellowfin tuna**. Earlier reports on Pop-up tagging of yellowfin tuna are only from the Gulf of Mexico using Pop-up satellite archival tags during 2009

Migratory movements of yellowfin tuna (*Thunnus albacares*) in oceanic waters near

and away from Indian waters remain untested and exchange rates are still unidentified. Tagging studies have been carried out to study the growth and migration of marine fishes. However, conventional

**First instance of tracking
Thunnus albacares with
Pop-up Satellite Tags
(PSAT)
in Indian waters**

archival tags used have a number of disadvantages with very poor recovery rates and limited data on habitat and environment. The "Pop-up" tags have been developed to avoid such problems and also to increase the probability of data recovery. These tags are attached externally and have a release mechanism that causes the tag to detach from the fish at a predetermined time and "pop-up" to the sea surface where the data

can be recovered via the ARGOS system aboard polar-orbiting NOAA satellites. The first-generation Pop-up tags provided only limited data: more of migratory data and less environmental data. These tags therefore provide fisheries-independent measure of the straight-line distance traveled from the point of tagging. More recently Pop-up tags have become available and its positions as determined by ARGOS which enables temperature, depth and ambient daylight that can be reduced (e.g. as time-at-depth and time-at-temperature histograms and profile-depth temperature data) on board the tag before data transmission.

Tuna mainly the bluefin tunas have been tracked using the Pop-up tags in the Atlantic Mediterranean and Australian waters. The large size and weight of the original tags and the high cost of the tags were the major limiting factor for tagging smaller migrating fishes. With the development of the x-tags, smaller bluefin tuna, marlin, and yellowfin tuna too can be tagged. The high cost of



Tuna with Pop-up Satellite Tag ready for release

tags (PSAT) still makes large scale tagging of fishes with satellite tags a challenging proposition.

A good scope of fishery for the yellowfin tuna is existing in the Indian waters. To manage the stock and to fish the stocks at a sustainable level, information regarding its migratory patterns, movement for feeding, breeding, its diving characteristics, reasons for the fish to remain within a depth zone and to know whether the tuna available in our waters belongs to the same stock or migrating from neighboring countries are essential, but hardly known. It is in this context that CMFRI took up the challenging task of tracking yellowfin tuna with pop-up tags. The pioneering work carried out by the Institute has placed the country on par with few other countries of the world that have been successful in using the pop up tags to track marine fishes.



Tagging of yellowfin tuna with Pop-up Satellite Tag



Close-up of tagging of Yellowfin tuna



Tagged yellowfin tuna released in to the sea



Instruments used for tagging

International Workshops on “Preparing for climate change on Marine Ecosystems in India and Australia”

Hobart, Australia, 16 - 20 January 2012 &
Kochi, India, 6 -10 March 2012



Indo-Australian Research team at the Governor's Official Residence, Hobart, Australia

Climate change is a major challenge facing governments, industries, marine fisheries sector and communities and requires an inter-disciplinary approach to understand the impacts and adaptation options across both the biological and human systems. Marine resources in Southern India and South-eastern Australia provide substantial social and economic benefits which flow into many rural communities. Both regions have been identified as global warming hotspots with the rate of climate warming predicted to be 90 per cent higher than the global average. These areas are already being affected by climate change and are expected to provide

case studies for developing adaptation responses across substantially different cultures.

Funded by the Australia-India Strategic Research Fund (AISRF), under the Department of Science and Technology, Ministry of Science and Technology the project brings together an inter-disciplinary research team from key marine resource institutes in India and Australia to improve our understanding of the impacts of climate change on marine resources. By developing a strategic and operational plan, the project will focus on collaborative research opportunities that can assist governments, industries, marine fisheries sector and

communities to prepare and adapt to changes in their marine resources. Society, economic and governance differences between India and Australia provide an exciting opportunity to determine generic and specific issues and to adapt concepts and methods across broad biological and socio-economic backgrounds.

Participants

The Indian team was lead by Dr. G. Syda Rao, Director, CMFRI and the Australian team by Dr. Stewart Frusher, Program Leader: Estuaries and Coasts, Institute of Marine and Antarctic Studies, University of Tasmania.

Australian Research Team headed by Dr. Stewart Frusher IMAS-FACC

Dr. Gretta Pecl	IMAS - FACC
Dr. Sarah Jennings	UTAS, School of Economics and Finance
Dr. Melissa Nursey-Bray	University of Adelaide
Asso. Professor Neil Holbrook	IMAS-MAF
Asso. Professor Marcus Haward	IMAS-MAF
Dr. Alstair Hobday	CSIRO - IMAS
Dr. Ingrid van Putten	CSIRO - IMAS

Indian Research Team headed by Dr. G. Syda Rao, Director, CMFRI

Dr. E. V. Radhakrishnan	CMFRI
Dr. E. Vivekanandan	CMFRI
Dr. T. V. Sathianandan	CMFRI
Dr. C. Ramachandran	CMFRI
Dr. Shyam S. Salim	CMFRI
Ms. Muktha Menon	CMFRI
Dr. R. Narayanakumar	CMFRI
Dr. Pratibha Rohit	CMFRI
Dr. P. S. Swathilakshmi	CMFRI
Dr. P. U. Zachariah	CMFRI
Dr. K. Vinod	CMFRI
Mr. Gyanranjan Dash	CMFRI

First Workshop

Hobart, Australia (16-20 January 2012)



Dr. G. Syda Rao, Director addressing the Indo-Australian meet at Australia

Under the Australia-India Strategic Research Fund (AISRF) project the first International Workshop on Preparing for Climate Change on the marine systems in India and Australia for building a Draft Strategic Collaborative Research Plan was organized in Hobart, Tasmania (Australia) during 16-20 January 2012.

The workshop commenced on 16th January, 2012 with a welcome address and introduction by Dr. Stewart Frusher, Associate Professor, University of Tasmania. He then presented information on Australian marine science. Dr Syda Rao highlighted the initiatives taken by Central Marine Fisheries Research Institute, Cochin on climate change and also presented on

the research and development activities and accomplishments on CMFRI, Cochin. Further presentations were made on Indian marine science and fisheries contexts. Discipline - focused theme presentations (Physical, Biological, Economical and Social and Governance) were made by both Australian and Indian side followed by discussion during 16 and 17 January 2012. Discussion on cost-effective monitoring systems including the latest development in biomarkers and social and economic metrics were held. The panelists from both sides then discussed the climate change issues and trends and development of generic themes. The strategic research plan development and mapping exercise and SWOT analysis of current capacity and capabilities were carried out on 18 January 2012. Five theme areas were identified and SWOT analysis of the theme areas and key question in each theme area were also prepared on 19 January, 2012. On 20 January 2012 implementation/operational plan of projects under each theme area was prepared. The visit of Indian team was helpful in preparing a draft strategic research plan which will be further discussed and project proposals formulated during the second workshop to be held at Cochin from 6-10 March, 2012.

Kochi, India (6-10 March 2012)



Mr. Michael Carter, His Excellency lighting the ceremonial lamp during the International Workshop on Climate Change at CMFRI



Mr. Michael Carter delivering the Chief Guest Address

The International Workshop on “Preparing for Climate Change on Marine Systems in Australia and India” was held at CMFRI, Cochin during 6-10 March 2012. The workshop was inaugurated by Mr. Michael Carter, His Excellency, the Consul Commercial and Trade Commissioner of Australia at Chennai .

Technical Session

The workshop had four technical session and research projects were developed across the following theme areas for national and international funding.

- Food security concerns and marine resource capacity
- Fishing in a Blue Carbon Economy,
- Management and Governance
- Modelling and monitoring complex marine systems
- Communication

Dr. Shyam. S. Salim, Senior Scientist , SEETTD Division was the Co-ordinator of these International workshops.



AISRF Indo- Australian Project team



Inaugural gathering on the Second International Workshop on Climate Change



Australian Team visiting CMFRI Library

Green Algal extract (GAe)

Natural in every sense

- A 100% vegetarian nutraceutical from nature for joint pain and arthritis



Green Algal extract (GAe) provides a unique blend of 100% natural, bioactive anti-inflammatory ingredient extracted from seaweeds with an ecofriendly “green” technology to combat joint pain and arthritic condition.

Concerted research effort by the scientists of CMFRI to explore new sources of secondary metabolites from seaweeds led to the design and development of GAe, a nutraceutical to combat inflammatory diseases (joint pain and arthritic conditions). Major components with antiinflammatory properties isolated from seaweeds have been used to formulate GAe. These are natural alternatives to synthetic anti-inflammatory drugs for combating arthritis.

The existing allopathic medications used in the treatment of joint pain and arthritis, are reported to produce several undesirable side effects, especially when used for longer duration. GAe is a green alternative to these allopathic preparations.

The active ingredients are chemically engineered to retain the anti-inflammatory properties for an extended shelf life and stability. Packed in low moisture content ‘Naturecaps’, Cadalmin™ GAe meet the needs of end users.

Each capsule contains: GAe active principle 500 mg.

Recommended dosage:

Two capsules a day after food for the first 3 months, followed by a maintenance dose of one capsule daily.

Contraindications

Pregnant or nursing women should consult a physician. People with seafood allergies should consult a physician before taking GAe.

CMFRI develops vegetarian nutraceutical

A green remedy nutraceutical for joint pain and arthritis from sea

Dr. Charan Das Mahant,
Hon'ble Minister of State
for Agriculture and Food
Processing Industries,
Govt. of India releasing
CMFRI's Cadalmin™
Green Algal extract
at New Delhi



CMFRI's Cadalmin™ Green Algal extract (GAe) has been released at 83rd Annual General Meeting of the ICAR Society at National Agricultural Science Complex by Dr. Charan Das Mahant, Hon'ble Minister of State for Agriculture and Food Processing Industries, Govt. of India on 6.03.2012. Shri Sharad Pawar, Hon'ble Union Minister of Agriculture and Food Processing Industries and President of the ICAR Society presided over the function. Earlier, Dr. S. Ayyappan, Hon'ble Secretary, DARE and Director General, ICAR presented a glimpse of key achievements

of ICAR during 2011-12. Agriculture and Animal husbandry Ministers of various States, Members of the Governing Body of the ICAR and representatives from international organizations participated in the AGM along with senior ICAR officials of ICAR and other dignitaries. Concurrently, an exhibition on agri-technologies is also organized on the theme "Innovative Technologies go Commercial" in which CMFRI product Cadalmin Green Algal Extract (GAe) has been exhibited as ICAR technology.

RAC Meeting: 26-27, March 2012



Research Advisory Committee meeting at CMFRI Headquarters, Kochi.

Shri.Harish Rawat, Hon'ble Union Minister of State for Agriculture & Food Processing Industries visits Mandapam Regional Centre



Shri.Harish Rawat, Hon'ble Minister of State for Agriculture & Food Processing Industries visiting the new hatchery

The Hon'ble Minister of State for Agriculture & Food Processing, Shri.Harish Rawat, visited the Mandapam Regional center of CMFRI on 17.2.2012,. He interacted with the trainees of "Marine Finfish Breeding and Seed Production" programme and released the training manual.



Shri.Harish Rawat, Hon'ble Minister of State for Agriculture & Food Processing Industries releasing the training manual



Visiting the aquarium at Mandapam RC

Director General, ICAR inaugurates Marine Hatchery cum Research complex at Kovalam Field Laboratory, Chennai



Dr. S. Ayyappan, Secretary, DARE & Director General, ICAR, New Delhi and Dr. B. Meenakumari DDG (Fisheries) lighting the ceremonial lamp. Dr. G. Syda Rao, Director and Dr. M. Rajagopalan are also seen

The new Marine Hatchery-cum-Research Complex at Kovalam Field Laboratory of CMFRI, Chennai, was inaugurated by Dr. S. Ayyappan, Secretary, DARE and DG, ICAR on 3rd March 2012, in the presence of Dr. B. Meenakumari, DDG (Fy), ICAR Dr. G. Syda Rao, Director, CMFRI, Dr. E. Vivekanandan, Scientist-in-charge, Madras Research Centre of CMFRI and Dr. Joe K. Kizhakudan, Officer-in-charge, Kovalam Field Laboratory. Dr. A.R. Thirunavukkarasu, Principal Scientist & Head, Fish Culture Division, CIBA, Shri. Meena, Superintending Engineer, CPWD, Chennai and Shri. S. Janakiraman, President of Kovalam Panchayat were also present and offered felicitations on the occasion. The function was attended by the Scientists & Staff of the Madras Research Centre of CMFRI, retired scientists of CMFRI and former SICs of Madras Research Centre and fishermen of Kovalam and adjoining fishing villages.

The new complex has a floor space of 411 sq.m, and has been designed to house a larval laboratory of 90 sq.m area, and a live feed and feed testing laboratory of about 100 sq.m. area. The facility is built at sufficient plinth height to withstand future sea action and is seismic resistant.



Welcome address by Dr. E. Vivekanandan, Scientist-in-Charge, Madras Research Centre

-Joe K. Kizhakudan, Senior Scientist, Madras RC

Keel laying Ceremony of New Fisheries Research Vessel for CMFRI



Dr. K. K. Philipose lighting the ceremonial lamp

Keel laying ceremony of new Fisheries Research Vessel was conducted on 9.3.2012 at Goa Shipyard Limited, Goa in the presence of Commandor Srivastava, Managing Director, GSL and other top officials of GSL. On behalf of the Director, CMFRI, Dr. K. K. Philipose, Scientist-in-charge and Dr. Jaysree, Scientist of Karwar Research Centre attended the function.

Farm demonstration of hatchery produced seeds of Cobia and Pompano on the East Coast by Mandapam RC

Under the technology demonstration programme, two important cultivable marine finfish species viz., cobia (*Rachycentron canadum*) and silver pompano (*Trachinotus blochii*) which were successfully bred for the first time in the country by Mandapam Regional Centre of CMFRI were selected. A total of four enterprising farmers, one each at Vethalai (Tamil Nadu), Tuticorin (Tamil Nadu), Antarvedi (Andhra Pradesh) and Akividu (Andhra Pradesh) were identified for farm demonstration of the hatchery produced seeds. Apart

from that, farming of these two species is also carried out at Mandapam Regional Centre in open sea cages.

At Antarvedi, Andhra Pradesh cobia seeds were stocked in the pond with average length and weight of 16.3 cm and 17.5 g respectively. After 90th day of stocking the average length and weight were 28 cm and 120 g respectively. In the same place pompano seeds were stocked in the pond with average length and weight of 3.3 cm and 1.2 g respectively. After 210th day of stocking the average length and weight were 31 cm and 270 g respectively.

At Vethalai and Tuticorin, Tamil Nadu the length and weight range of Pompano during stocking was 1.5 to 2.5 cm and 0.5 to 0.75 g respectively. After 100th day of stocking the length and weight range was 11.7 to 16.3 cm and 26.0 to 70.0 g respectively.

At Akividu, Andhra Pradesh pompano seeds were stocked in the pond with average length and weight of 6.5 cm and 1.2 g respectively. After 60th day of stocking the average length and weight were 12 cm and 25 g respectively.

At Mandapam Regional Centre pompano seeds were stocked in the open sea cages with average length and weight of 8.5 cm and 4.5g respectively. After 160th day of stocking the average length and weight were 25 cm and 240 g respectively. In the same place cobia seeds were stocked in the open sea cages with average length and weight range of 16 to 21 cm and 21 to 50 g respectively. After 120th day of stocking the average length and weight were 30 cm and 100 g respectively.

The on-going farm demonstrations have been found to be successful and both cobia and pompano are found to grow well in ponds as well as in cages, and the results are encouraging. Both cobia and pompano are found to be excellent species in terms of hardiness, survival rate and growth in grow-out systems and there exists a very good market demand.

Dr.R.Jayakumar, Senior Scientist and Dr.Johnson, B. visited the Antarvedi and Akividu farm site and Rudra Techno Feeds during 27th to 29th January 2012.



A view of Akividu farm site



Sampled pompano at Vethalai farm measuring 14 cm



Sampled cobia weighing 120 gram



Sampled pompano weighing 250 gram



Dr. R. Jayakumar, Senior Scientist and Dr. Johnson B., Scientist of Mandapam RC visiting the Antarvedi farm site



Cobia at Mandapam Regional Centre cage site



View of Antarvedi farm site

Pompano farming at Vethalai using low cost cages: Technology demonstration initiative by Mandapam RC

An artisanal type of cage was fabricated at Mandapam Regional Centre with 6×6 m outer and 5×5 m inner square frame, which is made of 50mm GI pipe for farming demonstration involving local fishermen at Vethalai village, Ramnad District, Tamil Nadu. To this 8 nos. of 200 litres barrel were tied for floating and 18mm marine ply wood was placed on four sides. The total cost of cage

including net was around ₹ 55,000. The cage was floated on 1st March 2012 and subsequently Pompano from nursery cage was transferred on 2nd March 2012. The ongoing pompano farming demonstration in an artisanal type of sea cages is a way forward for the spread of mariculture in India.



Farmers are lifting the cage frame



Farmers and staff of Mandapam Regional Centre tying the net



Pompano from the nursery cage is handed over to Shri. Nagadoss, Vethalai by Dr. G. Gopakumar, SIC of Mandapam RC



Farmers and MRC of CMFRI staff members transporting the cage

(Reported by G. Gopakumar, A. K. Abdul Nazar, R. Jayakumar, G. Tamilmani, M. Sakthivel, C. Kalidas, P. Ramesh Kumar & Johnson-B., Mandapam Regional Centre)



Cage is transported to Vethalai village, Ramanathapuram district

Successful breeding of Fire Clown (*Amphiprion ephippium*) at Mandapam Regional Centre

The first successful breeding of Fire Clown (*Amphiprion ephippium*) was achieved at Mandapam Regional Centre of CMFRI on 9th January 2012. Spawning was observed on 9th January 2012. The total eggs spawned were estimated to be 135 nos. The eggs hatched on 15th January 2012. Successive breeding of Fire Clown was also achieved on 20th January 2012. The larviculture is progressing satisfactorily.



Brooder of fire clown



Juvenils of Fire Clown

(Reported by G. Gopakumar, A. K. Abdul Nazar, R. Jayakumar, G.T amilmani, M. Sakthivel, C. Kalidas, P. Ramesh Kumar & Johnson B. Mandapam Regional Centre)

Culture of Grey Mullet in open backwater cage at Chittattukara, Cochin, Kerala

A 6m diameter HDPE cage was installed at Chittattukara Panchayat, Emakulam district during January 2012. The cage was provided with an outer, inner grow-out and bird nets. A ballast pipe lined with weight tied at the bottom of the net maintained the shape of the nets. The volume of the net bag is calculated to about 127 m³. The cage is moored at a depth of 5.5m using anchors as well as bamboo poles. The salinity of the site is between 15 and 18ppt. Grey mullet (*Mugil cephalus*) fry

(2-4cm) collected from the wild were nursery reared in hapas (2x2x1.5m) erected in earthen ponds for a period of 120 days. About 5500 numbers of juveniles measuring 10-15 cm size were stocked in the cage in the presence of the local Panchayat Member. Godrej low protein floating pellet (22% Protein) is being given *ad libitum*, thrice a day in a net/ floating feeding ring (2 m dia) installed inside the cage. Two hundred numbers of silver pompano brought from Mandapam RC of

CMFRI and 150 numbers of Pearlsport produced at CMFRI hatchery, Cochin are also stocked in the cage. Initial mesh size for grow-out net is 16 mm and net change was done after 30 days due to clogging with periphyton. The cleaning of the net is being done once in a week. The water quality parameters of the site were conducive for the growth of mullets with good plankton population. The technology is being transferred to a local group of five marginal fishermen of the locality.



Net tying and cage launching by the group at Chittattukara backwaters



Mugil cephalus seed release by Panchayat Member

(Imelda Joseph, Mariculture Division, Cochin)

Cage culture of Pearlspace at Nagaya Lanka, Andhra Pradesh

Two indigenously fabricated high-density polyethylene (HDPE) floating cage measuring 6 m diameter was used for cage culture in Krishna river system at Nagaya Lanka, Andhra Pradesh. An outer net, inner net and a bird net was used for the cage. An HDPE ballast pipe (63 mm diameter) of 6 m diameter with holes for the free flow of the water, lined with weight, tied at the bottom of the net maintained the shape of the nets. The effective volume of the net bag used in the culture was about 127 m³. The cage was moored using anchor at a depth of 7 m in Krishna River 1 km away from barmouth during December

2011 in the presence of local Panchayat President and media persons. The students from local Fisheries Polytechnic had assisted in tying of the nets and mooring of the cages. The salinity of the site ranged from 20 to 23 ppt with approximately 1 m tidal amplitude. Pearlspace (*Etroplus suratensis*) fry (4-5 g) collected from the flood filled earthen ponds were directly stocked into the cages. About 15,000 numbers of Pearlspace juveniles were stocked in one cage. The other cage was stocked with 2000 numbers of 40-50 g size seabass *Lates calcarifer*. Wet feed dough balls using commercial low protein pellet feed was recommended for

Pearlspace feeding. While, seabass was given 35% protein pellet feed. Feeding trays were kept inside the cage and feed was placed in this. Regular checking of the nets and mooring was suggested for any damages that may occur in the course of culture. The Pearlspace attained a size of 10-15 g after two months of stocking. The growth of seabass also is encouraging as it reached about 80 g and more. The advantage of cage culture of pearl space is that it will not spawn in cage due to the absence of firm substrate for egg attachment. The cages have been transferred to a local farmer on PPP mode of operation.



The lead farmer and Scientists with the Local Panchayat President



Cages being launched in Krishna River system, Nagaya Lanka



Pearlspace seed and that inside the cage net

(Imelda Joseph & Shoji Joseph, Mariculture Division, Cochin)



Launching of low cost cage at Mumbai

Mumbai Research Centre has propagated small GI pipe cages for the marginal and small scale fishermen at village Kalamb (Dist. Thane) in Maharashtra. The low cost GI pipe circular cages have been stocked juvenile of lobster *Panulirus polyphagus*. The fishermen are taking care of feeding the lobsters daily and maintaining the cage while staff of CMFRI is monitoring the growth and health of the lobsters.

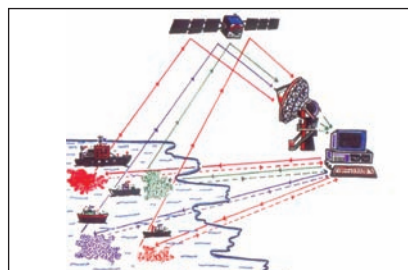
(Mumbai Research Centre)



Lobster seed stocking

Mumbai RC takes up m-Krishi® Fisheries Service

Considering the significance of the emerging challenge of climate change for livelihoods security, the NAIP Component 3 project “Strategies to enhance adaptive capacity to climate change in vulnerable regions” funded by World Bank GEF Grant has been envisaged in different states of India. Under the project,

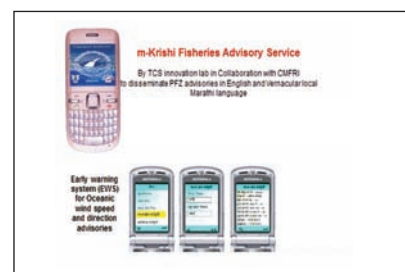


Diagrammatic representation of PFZ advisory generation, processing and display

Mumbai RC of CMFRI is currently operating in 13 villages of Raigad district of Maharashtra. Mumbai RC was selected to lead this World Bank pilot project undertaken jointly by ICAR, INCOIS, Hyderabad and a private service provider in Mumbai. The project has suggested few technological interventions in selected villages. One of that is ‘m-KRISHI®-Fisheries mobile service’ developed by Mumbai RC of CMFRI in partnership with TATA Consultancy Services, Innovation Lab by following the perfect Public Private Partnership (PPP) model to disseminate Potential Fishing Zone (PFZ) and wind advisories to fishers in local language.

m-KRISHI® Fisheries Service integrates technologies such as Wireless Sensors, Camera phone and script technology;

ensures economic benefits to the stakeholders by enabling them to find Potential Fishing Zone areas directly. Images, Text, Voice, Query, Feedback & other services are integrated in the facility and it is available in local Marathi and English languages. Early Warning System (EWS) is also coupled with the mobile service and has been updated to generate advisories 5 days in advance. Oceanic wind speed and direction advisories generated from INCOIS website are displayed four times daily. The service also provides regional wind speed and direction advisories generated from IMD website daily



m-KRISHI®-Fisheries mobile service

Current services available on the prototype:

- Potential Fishing Zone (PFZ) Advisories generated from INCOIS website regularly.
- Oceanic wind speed and direction advisories generated from INCOIS website four times daily.
- Also improvised early warning advisories of wind speed and direction for a period of 5 days in advance.
- Regional wind speed and direction advisories generated from IMD website daily
- Early Warning System (Weather Alerts / Storm Warnings)

Long term services:

- Data collection – registration of fishers, their fishing boats, their catch etc.
- Fisheries Institute person in the dock can update the amount of catch and fish prices (fish type wise)
- Fishers can see the dock fish prices
- Display a graph of fish prices trend (by fish variety)
- Fisherman Indicators – Observation of the climatic changes such as congregation of birds, color and smell of sea water
- Input to research – Trend analysis, feedback collection

Satellite data on thermal and wind speed as well as algal movement received from ISRO and INCOIS was utilized to provide exact location of PFZ areas to reduce excessive fuel consumption in search of fish. It is estimated that after following the advisories provided through ‘m-KRISHI®-Fisheries mobile service’ and fishing accordingly in PFZ areas will save approximately 50% of this diesel (i.e. 100 lakh liters of diesel per year).

Beneficiaries were identified from selected fisheries clusters and sensitized about the ‘m-KRISHI® Fisheries Service’ by undertaking field tours.

Launch workshop cum training program of ‘m-KRISHI® Fisheries Service’ for fisheries clusters were held at Alibaug respectively. There were thirteen immediate beneficiaries who received training from experts for using the services. Release of CDs, Training

manuals and presentations were part of the workshop. Response of the participants was encouraging.

Sensitization of fishers in neighboring district regarding availability and use of ‘m-KRISHI® Fisheries Service’ as climate change mitigation measure was done at villages in neighboring district for popularization of technology.



Dr. V. V. Singh's presentation during Launch of ‘m-KRISHI® Fisheries Service’ at Alibaug



Release of CD & Training Manual of ‘m-KRISHI® Fisheries Service’

(Veerendra Veer Singh, Principal Scientist, Mumbai Research Centre)

Training on “Methodologies for fishery biological studies, data analysis, resource assessment and record keeping” at Veraval Regional Centre

A 7 days training programme on “Methodologies for Fishery Biological studies, fishery data analysis, fishery resources assessment and record keeping” was conducted from 23rd to 29th February 2012 at Regional Centre of CMFRI, Veraval, Gujarat. Scientists and technical staff from Veraval Regional Centre of CMFRI and Assistant Professors and PhD students of Fisheries College, Veraval attended the programme. The training envisaged strengthening the technical knowledge in areas on exploratory data analysis with the help of modern tools and informatics. Uses of modern informatics tools like Arc-GIS, SAS, R, FISAT and other fishery related softwares in the stock assessment studies etc were demonstrated to the trainees with sufficient practical sessions.



Session in progress

Training on “Marine cage fabrication and installation techniques for sustainable capture based aquaculture” at Veraval Regional Centre

In order to develop mentors for adoption of the technology developed by the Institute for open sea cage farming and its faster dissemination in Gujarat, a hands on training of marine cage fabrication and installation techniques was conducted at the RC, Veraval from 07th to 9th February, 2012. Targeted participants were the middle level officials of State Department of Fisheries of Gujarat and Daman & Diu, progressive fish farmers, volunteers of active NGOS/Societies, Faculty and PG Students of College of

Fisheries Veraval. Programme focused to create awareness on indigenous sea cage farming technology and its adoptability with reference to the local available finfish and Shellfish species, techniques involved in designing, fabrication and installation of cages etc with sufficient hands on exposure wherever possible. Programme was inaugurated by Dr R Badonia, SIC, Research Centre of CIFT, Veraval on 7th February, 2012 in a function presided by the SIC, Veraval RC of CMFRI.



Inauguration of the training



Participants prepare nets for mounting

Two open sea cages were installed and lobster seeds were stocked in cages for fattening at Somnath off Veraval

Training on “Better Management Practices in lobster farming in open sea cages” at Veraval Regional Centre

As a part of capacity building of fisher folks and farmers of Saurashtra region on open sea farming of marine fishes in sea cages and popularisation of the technology developed by the Institute in this area, a 21 days hands-on training in “Better management practices in lobster farming in open sea cages” was arranged by the RC from 22nd February 2012 to 13th March 2012 at Veraval Regional Centre of CMFRI, Gujarat. 25 progressive fishermen/farmers sponsored by the Assistant Director of Fisheries, Department of Fisheries, Veraval, KVK, Kodinar, Outboards Canoe fishermen Union, Veraval, Sidi Tribals sponsored by the Society etc attended the training. The trainees were imparted with skills on various aspects of sea cage farming such as cage fabrication, installation, seed stocking, feeding, health management, other periodic maintenances such cleaning the cage, inspection of mooring etc with sufficient hands on exposure to the trainees. This training will help the participants to have first-hand exposure on sea-cage farm establishment, maintenance, farm management etc. Gujarat bestowed with ideal locations for sea-cage farming and rich in high value marine resources such as lobsters, cobia, pomfrets etc., it is very important to propagate the technology in this region for enhancing marine fish production.



Training programme on “Introduction to biology and taxonomy of demersal finfishes” at CMFRI, Kochi



Trainees with resource persons

Training programme on “Introduction to biology and taxonomy of demersal finfishes” under NICRA (HRD) organised by Demersal Fisheries Division, CMFRI, was conducted at CMFRI, Kochi from 23rd to 25th February 2012. The training programme was attended by 15 participants including officials from the State Fisheries Department, Kerala, Field level survey staff of CMFRI and researchers from Cochin University of Science and Technology, Kochi. The training programme was inaugurated by Dr. P.U. Zacharia, Head, Demersal Fisheries Division.



Training programme in progress

Training on “Marine Zooplankton Identification” at Headquarters

A 5 day training programme, from 13-17 February, 2012 on ‘Marine Zooplankton’ was organized by the Fishery Environment Management Division at CMFRI, Kochi. A special lecture by Dr. (Mrs.) C.B. Lalithambika Devi, Emeritus Scientist, CMLRE, Kochi on fish eggs and larvae was also organized.

Recreation Club Activities

New Year Celebrations - 01-01-2012

At Headquarters



Dr. G. Syda Rao cutting the New Year Cake

At Mandapam RC - midnight



Dr. G. Gopakumar, Head, Mariculture Division and Scientist-in-charge, Mandapam RC celebrating the Newyear 2012 at midnight with the staff family members. The programme was organised by the Recreation Club of Mandapam RC.



Training programme on “Marine Finfish Breeding and Seed Production” at Mandapam RC

The training programme on “Marine Finfish Breeding and Seed Production” was organized between 15 to 24th February 2012 at Mandapam Regional Center of CMFRI. The Inaugural function of the training programme was conducted at 11 hours on 15.2.2012 at the

Dr. A. K. Kumaraguru, Senior Professor, Dept. of Marine and coastal studies, Madurai Kamaraj University, Madurai lighting the ceremonial lamp.

Conference Hall of the Centre. Dr. A. K. Kumaraguru, Senior Professor & Head-in-Charge, Department of Marine & Coastal Studies, School of Energy Sciences, Madurai Kamaraj University, Madurai was the Chief Guest of the function. Shri P. Rajan, Regional Co-ordinator, DHAN Foundation, Ramanathapuram, delivered the felicitation address. Totally 39 participants were benefitted by the training, which includes farmers, Scientists and technical staff of CMFRI and technicians from private hatcheries. The Valedictory function was conducted on 24.2.12. Shri. S. Kannabiran, Asst. General Manager, NABARD, Ramanathapuram was the Chief Guest who delivered the Valedictory address and distributed the certificates to the participants.



Participants of the training along with faculty

‘ATMA’ Scheme – Exposure visit of lobster farmers to Vizhinjam Research Centre

Vizhinjam Research Centre of CMFRI, hosted a demonstration cum training programme on ‘lobster fattening’ during the ‘ATMA Scheme - Exposure visit’ of fish farmers from Kollam District, Kerala on 4-2-2012.

A group of 29 farmers from different coastal parts of Kollam District participated in the exposure visit. The training programme was inaugurated by Shri. M. Sreekanthan, Assistant Director of Fisheries, Government of Kerala, Vizhinjam. The group discussions with farmers highlighted the importance of imparting recent scientific know-how and providing R&D support for sea farming ventures along the Kerala coast. Farmers were shown around the marine finfish and shellfish hatchery, marine aquaria and the CMFR Institute's floating rafts off Vizhinjam Bay. Dr. Rachel Fernandez, Fisheries Extension Officer, FFDA, Government of Kerala, Kollam coordinated the visit of the farmers.



Dr. Sophia Margret Joseph, FFDA explaining the purpose of the ATMA scheme training

Training programme conducted at Visakhapatnam RC



Trainees visiting the cage culture site

A training programme was conducted on Open Sea cage Culture at VRC of CMFRI, Visakhapatnam from 12-18 March, 2012. The participants were from fishermen community from different parts of Andhra Pradesh.

Seafarming Training Programme at Kanyakumari

A training programme on 'Sea Farming and Cage Aquaculture to cope up with climate variability' was conducted by the Vizhinjam Research Centre of CMFRI at Kanyakumari on 08th and 9th of March 2012. The training programme was focusing on the different sea farming technologies developed by the Institute and more specifically on cage aquaculture.

The training was inaugurated by the Kanyakumari District Collector Shri.S. Nagarajan, IAS. In his inaugural address, the collector emphasized the need for fish and shellfish farming to overcome the recent reduction in fish catches. He said that the District administration will provide all the necessary assistance to gear up the sea farming activities. He also suggested initiating a 'Fisheries Knowledge Centre'



Shri. S. Nagarajan, IAS, District collector, Kanyakumari releasing the training manual during inauguration of the training. Dr. Sathiadhas, Principal Scientist, CMFRI receiving the first copy of the manual.

at Kanyakumari by ICAR to provide necessary scientific and technical guidance to the fishers as well as to the aquaculturists from all over the state. The Collector released the training manual and evinced keen interest in the HDPE model cage displayed at the training venue.

A total of 25 trainees attended the programme. Seed production of Cobia & Pompano, Cage aquaculture of seabass, sea farming of lobsters in cages, mussel and molluscan farming – including pearl culture, success stories of sea farming at Vizhinjam, sea weed culture potentials, designs and fabrication of cages, site selections and water quality criteria and capture based farming activities were taught to them by the scientists.



Dr. M. Devaraj, Former Director, CMFRI was the Guest of Honour for the valedictory programme. He also distributed certificates to the trainees.

(A. P. Lipton, Vizhinjam RC)

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Contact : The Director, CMFRI
Kochi - 682 018

Training Programme on “Culture of Pearls spot” at Headquarters



The 5 days training programme on Culture of “Pearls spot” (*Etroplus*) breeding and farming” organised at CMFRI headquarters during the period from 21st to 25th February 2012 in which forty participants attended. The participants were fish farmers and entrepreneurs from Kerala with experience in fresh water and brackish water fish culture. Training programme covered the topics including *Etroplus* breeding, feeding, water quality management, rearing, grow out and marketing. Smt. K. P. Salini, ATIC -in-Charge co-ordinated the programme.

Foundation Day celebrations on 3rd February 2012 - CMFRI



At Headquarters, Kochi - Open house visitors



At Mumbai RC - Stakeholders Meet



At Calicut RC - Foundation Day Celebrations



At Veral RC - Visitors from various organizations visiting Museum, Mariculture laboratory, seagee farm and other labs



Distinguished visitor
Shri. A. P. C. Chokkalingam Educationist visiting
pearl culture laboratory

At Tuticorin RC



Students drawing competition

Government of Odisha handed over an office building to house Puri Field Centre of CMFRI



An Official building was handed over to CMFRI in the campus of State Fisheries Department at Puri to function as Puri Field Centre of CMFRI. Dr. Reeta Jayasankar, Principal Scientist authorized by Dr. G. Syda Rao, Director CMFRI received the transfer document of the building from Shri Basant Kumar Dash, District Fisheries Officer authorized by the Director of Fishery, Fisheries and Animal Resource Department, Govt. of Odisha on 14th February 2012.

Official Language Implementation Hindi Workshops

A two day workshop on the use of Unicode software was conducted for the staff members of CMFRI Headquarters, Kochi in March, 2012.

A one day Hindi workshop on the subject 'Use of Unicode in official works' was conducted at Mangalore Research Centre of CMFRI on 29.02.2012. Total 16 Officers and Staff attended the workshop.

A Hindi workshop was conducted on 03.02.2012 at Mumbai RC of CMFRI. The Scientist-in-Charge and Dr V.V. Singh, Principal Scientist briefed the stakeholders on centre's activities and use of mobile phone in fisheries i.e. m-Krishi Fisheries in local language and Hindi as well.

Smt. Sheela P. J., Assistant Director (OL) attended Two day National Workshop on the subject 'Official Language Hindi in 21st Century' conducted at Mahatma Gandhi International University of Hindi, Vardha, Maharashtra on 01 & 02 March, 2012.

Exhibition Participation



- 'Science Expo' Kottayam from 28th to 31st January, 2012.
- 'Aquashow' at Jawaharlal Nehru Stadium, Kochi from 9th to 13th February, 2012.
- 'Astral 2012' - at Alappuzha from 2nd to 4th February, 2012.
- 'Pusa Krishi Vigyan Mela' from 1st to 3rd March, 2012 at IARI, New Delhi.
- Krishi Darpan at Arjun Masters Ground at Palluruthy from 20-21 March 2012



Krishi Darpan at Arjun Masters Ground at Palluruthy from 20-21 March 2012



'Pusa Krishi Vigyan Mela' from 1st to 3rd March, 2012 at IARI, New Delhi

Krishi Vigyan Kendra

On Farm Testing (OFT)

The OFT on testing of cage culture of fin fishes in brackish water was conducted at Pallippuram. An awareness programme was organized on the day of cage installation, where 100 number of farmers participated. Another OFT on Testing of Cage Culture of Fresh water fishes in unutilized fresh water system was conducted in a farmer's field at Kothamangalam. Pearl spot was selected as candidate fish in both programmes. The OFT on Maize in farmer's field received good response from farmers of Kumbalangi, Chellanam and Vypeen.



Training on Stocking fingerlings in cages



Fish pickle being packed at KVK for test marketing

Market linkages and Test marketed Value added products:

KVK established Market linkages and Test marketed Value added products: In order to promote entrepreneurship among fish product manufacturing Self-Help Groups (SHGs) in the district, KVK established forward linkages with various product marketing agencies and backward linkages with raw fish suppliers. SHGs were trained on Good Manufacturing Practices (GMP) and products were test marketed to improve their confidence level. In one of such a novel attempt, fish pickle is being marketed at M/s Kannan Departmental Store, Coimbatore by M/s Cochin Industries, Pallipport.

Farmers Field School

A Farmer Field School of 7 weeks duration on "Small scale cage culture of brackish water candidate fishes" was conducted at Pallippuram. Forty fish farmers from various places in Ernakulam district participated in this field school. The programme was inaugurated by Nayarambalam Grama Panchayath President Smt. Toji Joseph on 24.01.2012. Scientists of KVK and CMFRI conducted the classes and practical sessions.

Another farmers field school on "Integrated crop management of Banana" was held at Kothamangalam with the participation of 47 progressive Banana farmers. The seven week programme was inaugurated by Dr. Shinoj Subramannian, Programme Coordinator/ Sr. Scientist of the KVK on 21.01.2012. The Standing committee Chairman of Kothamangalam Municipality Shri. V. V. Kurien was the Guest of Honour. Scientists of KVK led theory and practical sessions on various topics of Banana cultivation right from land preparation to harvesting.



Farmers field school on cage culture



Farmer's visit to KVK farm, Thevara

held at KVK campus on 31-01-2012 and 10-02-2012 for the women SHG groups from Vypeen. On campus training programmes on value addition of Mushroom was held at KVK on 15-02-2012. A special training programme for the benefit of the tribals of Pinavoor was arranged on 17-02-2012 where 50 tribal women participated.

Recognition

Dr. Shinoj Subramannian, Programme Co-ordinator has been nominated as member of the committee constituted by Govt. of Karnataka, Dept. of Horticulture to inspect and certify Palm oil mills in Karnataka.

Trainings

Seven days training programme sponsored by AICRP, ICAR, on 'Scaling up of water productivity for livelihood through teaching cum demonstration' for farmers was conducted in this Kendra in association with Agricultural Research Station (ARS), Chalakudy during 5-13th March 2012. 60 progressive farmers from various parts of the district participated. A 15 days short course on "Horticultural nursery management" commenced at KVK campus, Thevara from 8th March to 22nd March. Soon after the training, both the units are planning to start nursery units under the technical guidance of KVK and with financial assistance from Kudumbashree mission. Two programmes on demonstration cum training of Snow ball Tender coconut machine was

12th Institute Joint Staff Council constituted

12th Institute Joint Staff Council of CMFRI for 2012-2015 was constituted with the following staff members on Official side and Staff side

OFFICIAL SIDE

- | | |
|--|--------------------|
| 1. Dr. G. Syda Rao, Director, CMFRI, Cochin | - Chairman |
| 2. Shri. Rakesh Kumar, Chief Administrative Officer, CMFRI, Cochin | - Member |
| 3. Shri. A. V. Joseph, Sr. Finance and Accounts Officer, CMFRI, Cochin | - Member |
| 4. Dr. V. Kripa, Pr. Scientist & HOD, FEMD, CMFRI, Cochin | - Member |
| 5. Shri. V. Edwin Joseph, T-7-8 (Technical Officer), CMFRI, Cochin | - Member |
| 6. Smt. D. Geetha, Administrative Officer, CMFRI, Cochin | - Member Secretary |

STAFF SIDE (elected)

Technical Category

1. Shri. C. J. Josekutty, T-5 (T.O), Mumbai RC of CMFRI, Mumbai
2. Shri. N. Rudhrumurthy, T-5(TO), Madras RC of CMFRI, Chennai
3. Shri. Abhilash P.R., T-1 (Exhibition Assistant), CMFRI, Cochin
4. Shri. P. Jaiganesh, T-3 (Technical Assistant), Cuddalore FC of CMFRI, Cuddalore

Administrative Category

1. Shri. K. P. John, UDC, CMFRI, Cochin
2. Shri. Joseph Mathew, UDC, Cochin

Supporting Category

1. Shri. T. P. Renilkumar, SSS, Calicut RC of CMFRI, Calicut
 2. Shri. K. G. Jayaprasad, SSS, CMFRI, Cochin
- Shri. K. P. John, UDC has been elected as the Secretary (Staff Side), IJSC and Shri. P. Jaiganesh, T-3 (Technical Assistant) has

been elected as Member from CMFRI to the CJSC of ICAR.

Shri. K. P. John, UDC and Shri. K. G. Jayaprasad, SSS have been nominated as representatives of the Departmental Canteen Management Committee, CMFRI, Cochin.

The term of the members of the Institute Joint Staff Council is for a period of 3 years from 22.02.2012.

Sports

CMFRI Bags Inter - Institutional Sports RUNNERS UP TROPHY - for the First Time



The ICAR Inter Institutional Sports Meet was held at Hyderabad during 27 February -2 March 2012. The CMFRI team represented by 23 contingents and led by the Manager Mr.C.K.Sajeev, Technical Officer participated in the tournament and won the Runners up Trophy for the first time.

Basket Ball: Winner

Mr. Shoji Joy Edison, Mr. Joseph Mathew, Mr. A. K. Shaji, Mr. V. K. Meena, Mr. K. G. Jayaprasad, Mr. V. Rajendran, Dr. Shyam S. Salim, Mr. Joseph Mathew, Mr. C. Jayakanthan, Mr. A. K. Shaji, Mr. V. Rajendran, Dr. Shyam S. Salim

Shuttle Badminton: Runners Up

Mr. Joseph Mathew, Mr. C. Jayakanthan, Mr. A. K. Shaji, Mr. V. Rajendran, Dr. Shyam S. Salim

Javelin Throw: First position

High Jump: First position

Shot put: Second position

Discus Throw: Third position : Mr. A. K. Shaji

500 m: First position

100 m: Second position

Long Jump: Third position

High Jump: Third position : Mr. P. Rajendran

High Jump: Third position : Mr. Mendon Xavier

Second position: 4 X 100 M Relay

Mr. P. Rajendran, Mr. Shoji Joy Edison, Mr. Joseph Mathew, Mr. V. Rajendran



Shri. P. Rajendran of Mandapam RC won second position in 100mts. and 200 mts. race in ICAR Zonal sports held at CRIJAF, Barrackpore

- Dr. Shyam S. Salim
Chairman, Sports Committee CMFRI



Dr. M. Sakthivel at University of Stirling, Scotland, United Kingdom



Dr. M. Sakthivel, Scientist along with Dr. Brenden J. McAndrew

Dr. M. Sakthivel, scientist, participated in the 'NAIP sponsored training programme on Molecular Breeding (Fisheries)' at Genetics and Reproduction Group, Institute of Aquaculture, University of Stirling, Scotland, United Kingdom from October to December, 2011 under the guidance of Dr. Brenden J. McAndrew, Professor and Head, Genetics and Reproduction Group.

Dr. Vipinkumar. V. P participated the ASEM Aquaculture Platform WP7, International Workshop on 'Empowering Vulnerable Stakeholder Groups' under the UPM (Universiti Putra Malaysia) organised in Felda Residence of Kuala Terengganu of Malaysia during the period from 6th to 10th February, 2012 and presented the 'Gender mainstreaming paradigm of Indian Marine Fisheries Sector'. Dr. B. Meenakumari, DDG (Fisheries), ICAR, Dr. P. Jayasankar, Director, CIFA, and Dr. B. Shanthi, Senior Scientist, CIBA also participated as Indian contingents.

Dr. A. P. Dineshbabu at Wageningen International, The Netherlands

Dr. A. P. Dineshbabu, Senior Scientist, and Scientist-in-Charge, attended the training course on "Fisheries Governance" at Wageningen International, The Netherlands from 26th September to 14th October, 2011 under the Netherland Fellowship Programme.



Dr. G. Syda Rao, Director participated in the Workshop on the Joint project proposal preparing for Climate Change on Marine Systems in Australia and India under AISRF from 12.01.2012 to 16.01.2012 at Hobart, Tasmania

- Attended the Governing Body meeting of ICAR on 04.02.2012.
- Attended the Directors-Vice Chancellors Interface and Directors' Conference at NASC Complex, New Delhi on 17.02.2012 and 18.02.2012.

Dr. E. Vivekanandan, Principal Scientist and Scientist in Charge, Madras RC, Deputed to participate in the BOBLME (FAO) Workshop on "Communicating Science Effectively - Training on Scientific Presentation" held at Maldives from 11th to 14th October 2011.

Dr. G. Gopakumar, Head, Mariculture Division and Scientist-In-Charge, Mandapam RC. participated in the International seminar on ornamental fish organised at Kochi by the Government of Kerala in connection with the Aqua Show 2012. He co-chaired a session and presented a paper in the seminar.

Dr. (Mrs.) V. Kripa, Head, FEMD attended the National Seminar on 'Conservation of the Marine Environment and Management of Marine Fisheries' on 27th February 2012 as a resource person at Department of Zoology, N.S.S. College, Changanachery, Kottayam, Kerala.

Dr. R. Narayanakumar, Head, SEETTD attended the one-day workshop on half-yearly progress monitoring at NAARM, Hyderabad on 13th Feb 2012.

- Attended the RFD Nodal Officers of Fisheries Research Institutes Meeting at CIFRI, Barrackpore, Kolkata during 22nd-23rd Feb 2012.

Dr. R. Sathiadhas, Principal Scientist, Vizhinjam Research Centre of CMFRI, attended the 13th Session of the Committee on Fisheries (COFI), Sub-Committee on Fisheries Trade held at Krishi Bhavan, New Delhi on 1st February 2012.

- Attended a special meeting conveyed by the addl. Chief Secretary, Govt. of Kerala for the Integrated Coastal Area Development Project as state level committee member on 12-2-2012.

Dr. M. S. Madan, Scientist in charge, Tuticorin RC. **Dr. I. Jagadis**, Senior Scientist-attended the workshop on "Presentation on Coral regeneration & Conservation matters, sea grass regeneration, surveys and techniques of identification of coastal and marine species" conducted by GOMBR on 05.01.2012 at MRC of CMFRI, Mandapam Camp.

Dr. Vinay D. Deshmukh Principal Scientist & Scientist-in-Charge

- Participated in two days programme "Towards Excellence in Science" at Institute of Science and Delivered lecture on "Modeling populations and fish stock assessment" on 19th-20th January 2012
- Attended meeting of the high power committee constituted for the regulation of purse seine fishing in Maharashtra on 07.02.2012 & 06.03.2012 at Commissionerate of Fisheries, Mumbai.
- Attended meeting held at CSA Centre for Social Action, Goregaon to discuss on repercussions and damage in connection with the water pollution on fisheries of Maharashtra.

Dr. Veerendra Veer Singh Principal Scientist participated in the Consortia Advisory Committee meeting and 2nd Workshop of NAIP component III projects at IARI, New Delhi during 05.01.2012 to 08.01.2012 as per invitation received from CPI, NAIP-component 3, Climate Change Adaptation project.

- Participated in the National Fund Workshop held at NAARM Hyderabad during 15.02.2012 to 18.02.2012 for understanding Consensus Building process for MMPL project.
- Participated as a member in the 24th Institute Management Committee Meeting held at NBFGR, Lucknow on 06.03.2012.

Dr. P. S. Asha, Senior Scientist - presented an invited lecture on "Sea cucumber breeding and culture in India" at the National Level workshop on Advances in Aquaculture Technology (WAAT-2012)" held at the Department of Marine Science School of Marine Sciences, Bharathidasan University, Tiruchirappalli, Tamil Nadu on 24th February 2012.

Dr. C. Ramachandran, Senior Scientist was selected and deputed as a member of an International Study Team headed by Dr. Meryl Williams to evaluate the support of FAO in the implementation of Code of conduct of Responsible Fisheries and he has visited Bangladesh, Thailand and Indonesia as a part of the evaluation study during February - March 2012.

Dr. R. Jeyabaskaran, Senior Scientist attended Refresher Course on 'Agricultural Research Management' at NAARM, Hyderabad during January 19 to February 08, 2012.

Shri. Mohammed Koya K., Scientist - In - Charge, Veraval RC of CMFRI attended the Scientific Advisory Committee (SAC) meeting of Krishi Vigyan Kendra, Ambuja Cement Foundation, Kodinar on 13th February, 2012

Attended the 1st Meeting of Technical Committee of Gujarat Marine National Park and Marine Sanctuary Conservation Society, Marine National Park, Jamnagar on 28th February, 2012

Dr. P. S. Swathi Iekshmi, Scientist, (SS) participated in the BOBLME-India National Consultation on Ecosystem Indicators-II, on 18 February, 2012 organized by the Fishery Survey of India, Mumbai.

- Participated and presented a poster paper on fisher women at the "Global Conference on Women in Agriculture" organized by the ICAR and Asia-Pacific Association of Agricultural Research Institutions (AAPARI) held at NASC Complex, New Delhi from 13-15 March, 2012.

We salute the seniors on their retirement

Dr. E. V. Radhakrishnan retires



Dr. E.V. Radhakrishnan joined CMFRI as Scientist S-1 on 23.12.1976. He served the institute for 35 years in various capacities and laid down the office on 31st January 2012. He was promoted to Scientist S-2 grade on 1.1.1986 and Principal Scientist on 28.7.1998. He served as Head, Crustacean Fisheries Division for two terms, from 2.11.2001 to 1.11.2006 and from 8.6.2007 until his retirement. He was deputed to Tulane University, USA to undergo advanced training in Lobster Culture under the FAO-UNDP programme of Centre of Advanced Studies in Mariculture. He visited the Institute of Marine Science, Nemuro, Japan as a visiting Research Fellow. He visited Australia and Japan to attend the International Conference on Lobster Biology and Management. He has published nearly 180 research papers in both national and international journal. He has also served as Member Secretary, QRT for two terms, SRC Secretary; Scientist-in-charge, PME Cell; Chairman PAC and several other committees.

Dr. (Mrs) Grace Mathew retires



Dr. (Mrs) Grace Mathew joined ICAR as a probationer in the first batch of ARS in December 1976 and was posted initially at Tuticorin RC of CMFRI. Later, Dr.(Mrs) Grace Mathew served as Scientist S1 and Senior Scientist at Calicut RC of CMFRI, as Scientist-in-Charge during 1993 -2003 and Principal Scientist, at the Fisheries Harbour Laboratory of CMFRI at Thoppumpady, and also at Vizhinjam RC of CMFRI. The team led by Dr.(Mrs) Grace Mathew succeeded in breeding the marine food fish, the protogynous grouper *Epinephelus tauvina*, for the first time in India. She has published several research papers in various national and International journals. She had been doing excellent service as Chairperson of the Institute Consultancy Cell HoD-in-charge of Pelagic Fisheries Division & FEMD, Public Information Officer of the Institute and also as HoD-in-charge of Mariculture Division at the headquarters of CMFRI at Kochi, till her retirement on 31-3-2012.



Smt. T. S. Naomi
Scientist (SG)
Hqrs., Cochin
31.01.2012



Smt. P. L. Ammini
T-7-8 (Technical Officer)
Hqrs., Cochin
31.03.2012



Shri Suryanarayana Murthy
AAO
Mandapam RC
29.02.2012



Smt. A. K. Omana
Private Secretary
Hqrs., Cochin
31.03.2012



Smt. N.S. Sarala
Assistant
Hqrs., Cochin
31.01.2012



Shri P. Muniyasamy
T-1-3 (Deckhand)
Tuticorin RC
31.03.2012



Shri K. Janardhanan
SSS
Calicut RC
31.01.2012



Shri B. Prabhakaran
SSS
Vizhinjam RC
31.01.2012



Shri T. Vijayakumar
SSS
Hqrs., Cochin
31.03.2012



Shri R. Uchimahali
SSS
Tuticorin RC
31.03.2012



Shri S. Anil
SSS
Vizhinjam RC
31.03.2012

APPOINTMENTS

Name	Designation	Center	w.e.f
1. Dr. R. Narayanakumar, Sr. Scientist	Head,	SEETTD	25.01.2012

ASSUMPTION OF CHARGES

Name	Designation	Center	w.e.f
1. Dr. Rani Mary George, Pr. Scientist, Vizhinjam Research Centre	has assumed the charges of Head –in-charge, Marine Bio-Diversity Division		w.e.f. 1-1-2012.
2. Dr. G. Maheswarudu, Pr. Scientist, Visakhapatnam Regional Centre	has assumed the charges of Head-in-charge, Crustacean Fisheries Division		w.e.f. 1-2-2012.

INTER INSTITUTIONAL TRANSFERS

Name & Designation	From	To	w.e.f.
1. Shri R. Anilkumar, Administrative Officer	CMFRI, Cochin	CIFT, Cochin	01.02.2012
2. Smt. D. Geetha, Administrative Officer	CIFT, Cochin	CMFRI, Cochin	02.02.2012

TRANSFERS

Name & Designation	From	To	w.e.f.
1. Smt. Sandhya Sukumaran, Scientist	Mandapam RC	CMFRI Hqrs.	01.03.2012
2. Dr. Sujitha Thomas, Sr. Scientist	Mumbai RC	Mangalore RC	01.03.2012
3. Dr. R. Saravanan, Scientist	Mangalore RC	Mandapam RC	12.03.2012

PhD awarded



Mrs. Rekha J. Nair
Scientist (SG)

Mrs. Rekha J. Nair, Scientist (SG), Demersal Fisheries Division, Kochi, was awarded the degree of Doctor of Philosophy by the Mahatma Gandhi University, for her thesis entitled "Studies on the flatfish diversity of India". The work was conducted under the guidance of Dr. A. Gopalakrishnan, Principal Scientist & Officer – in- Charge, National Bureau of Fish Genetic Resources, Kochi Unit.



Mr. Johnson B., Mandapam Regional Centre was awarded the degree of Doctor of Philosophy by the Indian Agricultural Research Institute, New Delhi for his thesis entitled "Development, Diffusion and Impact of Farmers' Innovations: A Case of System of Rice Intensification (SRI)". He got first rank in the Division of Agricultural Extension.

He received Ph.D degree from Shri.Harish Rawat, Hon'ble Union Minister of State for Agriculture & Food Processing Industries at IARI, New Delhi on 20th February 2012.



Mr. M.N. Sathyan, Calicut RC with one of his works at an exhibition of his paintings at Shrishti Art Gallery in Kozhikode.

OBITUARY

With profound sorrow CMFRI family records the demise of Shri.Vasamssetty Abbulu, Shri P.Achayya and Shri G. Sainyadhipathy



Shri Vasamssetty Abbulu
T-4 (STA)
Visakhapatnam Regional Centre
13.02.2012



Shri P. Achayya
T-4 (STA)
Narsapur Field Centre
24.02.2012



Shri G. Sainyadhipathy
SSS
Visakhapatnam Regional Centre
10.01.2012



Indo - Australian Research Team on preparing for climate change on Marine Ecosystems in India and Australia with the Governor of Tasmania, His Excellency Mr. Underwood and his wife

cadalmin

CMFRI Newsletter

Cadalmin, the CMFRI Newsletter is a quarterly publication of the Central Marine Fisheries Research institute, Cochin. The publication gives an insight into the major events of the quarter, besides highlighting the salient findings in the research front and dissemination of technological know-how to the farming community.

