Dignitaries on the dais along with the Union Minister Shri Sharad Pawar

Institute and also visited the hatchery, museum, ATIC and various laboratories of the Institute and interacted with the staff.

While addressing the gathering, he praised the services rendered by CMFRI during the past six decades for the development of marine fisheries sector in the country. He also stated that threats including climate change would pose serious challenges to the food security of the country and called upon the researchers to rise to the occasion to face the emerging challenges. Shri Sharad Pawar stressed that a holistic approach

Hon'ble Union Minister for Agriculture, Consumer Affairs, Food and Public Distribution
Shri Sharad Pawarji visited CMFRI, Cochin on 4th January 2008 in connection with the Diamond Jubilee celebrations. The Union Minister inaugurated the Diamond Jubilee Block of the
is imperative to develop multiple linkages in fisheries sector which would pave way for equitable sharing of benefits among the different stake holders.

Shri Pawarji launched the new website of the Institute (www.cmfri.org.in) and released the special publications and a special postal cover commemorating the Diamond jubilee.

Shri S. Sarma, Fisheries Minister, Govt. of Kerala was the guest of honour during the function presided by Dr. Mangala Rai, Secretary, DARE and Director General ICAR. Dr. S. Ayyappan DDG (Fisheries) welcomed the gathering. Shri Sebastian Paul, MP, Prof. Mercy Williams, Worshipful Mayor of Kochi, and Prof. (Dr.) Mohan Joseph Modayil, Member, ASRB gave the felicitations. Dr. N. G. K. Pillai, Director CMFRI proposed the vote of thanks.

**NEW ASSIGNMENTS**

- Prof. (Dr.) Mohan Joseph Modayil, Director, CMFRI left CMFRI on 7th December 2007 after serving the Institute as Director for over 7 years to join as Member, Agricultural Scientists Recruitment Board, New Delhi.
- Dr. N.G.K. Pillai, Principal Scientist & Head, Pelagic Fisheries Division took over as Director, CMFRI on 7th December 2007.

**RESEARCH HIGHLIGHTS**

**Success in captive breeding of Redhead Dottyback**

*Pseudochromis dilectus*

The Redhead Dottyback, *Pseudochromis dilectus* was successfully bred in captivity in the marine hatchery of CMFRI, Cochin. This is one of the highly valued species in the aquarium trade due to their small size, hardiness, colour, quick adaptability to life in aquaria and compatibility.

**Sexual dimorphism:** The males are reddish, elongate and slender, while the females are silver to bluish in coloration and are relatively larger.

**Plate 1. A pair of *P. dilectus***

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Union Minister visiting the exhibits and interacting with the scientists
females are dark green and smaller in appearance, with a plump abdomen.

**Pair formation:** The fishes ranging from 70 to 120 mm total length were stocked in glass aquaria for six months for pair formation (Plate 1). They were fed with prawn meat and adult Artemia daily.

**Reproductive behaviour:** Few days prior to spawning, the male started making a burrow. Spawning was preceded by an obvious distension of the female’s abdomen. At this time, the male repeatedly approaches the female, stops and turns in front of her, then swims back to the chosen spawning site. This courtship behavior lasted for one hour, after which the female follows the male into its burrow and spawning takes place.

**Spawning:** Spawning first took place on 30th November 2007 and successive spawnings were obtained at every 6 to 15 days interval. Spawning usually occurred during morning and lasted for one to two hours, during which the female produced a ball-shaped egg mass while remaining upside down in the burrow. The incubation period lasted for 96 hours at a temperature of 27 to 28°C. Initially the eggs were transparent and by the third day, eyes appeared as black spots which became silvery by the fourth day (Plate 4).

**Egg morphology:** A single female released 400 to 500 eggs, which were inter-connected by fine threads (Plate 3). Size of the individual eggs varied between 1743 and 1919 µm. The egg ball was not attached to the substrate but remains free inside the burrow. The incubation period lasted for 96 hours at a temperature of 27 to 28°C. Initially the eggs were transparent and by the third day, eyes appeared as black spots which became silvery by the fourth day (Plate 4).

**Parental care:** During incubation, the male cared the egg bunch intensively until hatching. During day time, the male was observed to swim frequently in and out of the nest, circling several times around the egg ball and lifting it from the nest bottom with its tail and snout. At night, the male appeared to be continuously inside the nest.

**Hatching:** Hatching took place in the evening of the 4th day after spawning. The egg ball and lifting it from the nest bottom with its tail and snout. At night, the male appeared to be continuously inside the nest.

**Plate 2. Male *P. dilectus* with the egg cluster in the burrow**

**Plate 3. Microscopic view showing fine thread connection in eggs**

**Plate 4. Microscopic view of egg just before hatching (96 h.p.f)**

蹬(zhěng)行为: 几天前, 雌鱼在子宫内产卵后, 雄鱼开始在它周围徘徊。在这一时期, 雄鱼反复接近雌鱼, 停下来面对雌鱼并显示“领导行为”, 在这一行为中, 雌鱼的腹部膨胀。此时, 雄鱼开始追逐它们。生产前有明显的产卵信号。雌鱼会停下来产卵并返回到产卵的指定地点。这个交配行为持续了一小时, 然后雄鱼会游回原来的产卵地点。此时, 雄鱼会重复接近雌鱼, 停下来面对雌鱼并显示“领导行为”, 在这一行为中, 雌鱼的腹部膨胀。此时, 雄鱼开始追逐它们。生产前有明显的产卵信号。雌鱼会停下来产卵并返回到产卵的指定地点。这个交配行为持续了一小时, 然后雄鱼会游回原来的产卵地点。
larvae hatched almost synchronously within one hour after darkness and the emerging larvae (Plate 5) rotated in a clockwise direction.

**Larvae:** The newly hatched larvae had a total length ranging from 5.1 to 5.3 mm, having a very small yolk-sac and were positively phototactic (Plate 6). The body was transparent and the mouth gape measured 150 to 160 µm. First feeding started at 10 to 12 hrs after hatching. Initially, the larvae were fed with enriched rotifer *Brachionus rotundiformis* and subsequently with enriched *B. plicatilis*, copepod nauplii and artemia nauplii. By the 7th day, the larvae showed slight red pigmentation and measured 8 to 9 mm. By the 14th day, the larvae reached a pre-settlement stage with a total length of 10 mm and metamorphosed to juveniles in 35-40 days.

(Eng. M. Madhu, Dr. K. Madhu and Dr. G. Gopakumar, Mariculture Division)

**World record of the rare female fairy basslet from the west coast of India**

Specimens of the rare fairy basslet, *Sacura boulengeri* (Heemstra, 1973), known otherwise as ‘Boulenger’s anthias’ belonging to the subfamily Anthiinae (Family Serranidae) were collected from trawler and boat seine landings off Neendakara, Mumbai and Mangalore situated on the west coast of India. This is the third record of the occurrence of this species worldwide as the specimens were known previously only from six adult males recorded from the Gulf of Oman (5 nos.) and off Sindh, Pakistan (1 no.). The adult specimen of *Sacura boulengeri*, collected from the trawl catches off Neendakara forms the first female specimen ever recorded globally.

(Marine Biodiversity Division)

**High density grow-out of sand lobsters**

A semi-enclosed intensive system with substrate bed trickling filter was successfully developed for high density grow-out of the sand lobster *Thenus orientalis* at Kovalam Field Laboratory,
Chennai. The seeds of *T. orientalis* of 20mm CL, 40mm TL and weighing approximately 5g each were stocked in two cement tanks of 12.5 sq.m floor space and 0.5 m depth. The systems were maintained with 30% water exchange, filter turnover ratio of over 8 times, pH 7.8 - 8.2, salinity 36-38 ppt and temperature range of 27-29°C. Light was regulated by side screens and maximum darkness was provided. The bed was prepared using soft sand collected from the seashore. The seeds stocked were about 70-80 days old and the grow-out period was 250 days. The stocking density was 30 and 35 nos. per sq.m in tanks 1 and 2 respectively. The sand lobsters were fed *ad libitum* with live marine wedge clams.

A production of 2.5 - 3 kg per sq. m was obtained with a survival rate of 90-91%. More than 60% of the lobsters had attained commercial size. The growth rates obtained were 59-78 mm CL @ 0.16 to 0.20 mm per day, 155-179 mm TL @ 0.40 to 0.60 mm TL per day and 140-175 g @ 0.60 - 0.70 g per day which indicated that the species can be raised to commercial sizes in less than a year from the seed production stage.

(Madras Research Centre)

**Diversity of deep-sea demersal finfishes off North Andaman**

The diversity of deep-sea demersal finfishes in the shelf edge off North Andaman at depths ranging from 300 to 700 m were studied as part of the MoES Funded project “Resource assessment and biology of deep sea fishes along the continental slope of India”. Nine stations were surveyed by FORV *Sagar Sampada* using HSDT-CV and EXPO trawl nets. A total of 63 species of finfishes belonging to 53 genera, 42 families and 19 orders were recorded. The highest diversity and Margalef Species Richness index was recorded at South Sentinel with 25 species and lowest at North Sentinel with 3 species. *Priacanthus hamrur* dominated (26.4%) the catch followed by *Chlorophthalmus sp.* (23.8%).

(Pelagic Fisheries Division)

**Cage culture unit launched for the culture of Caranx sexfasciatus in Vizhinjam Bay**

A cage culture unit was launched in Vizhinjam Bay on 22nd December, 2007. The catch followed by *Chlorophthalmus sp.*, *Priacanthus hamrur*, *Caranx sexfasciatus*, *40 mm*TL, *40 mm*TL and *5 cm* CL were noted in the catches. The diversity and Margalef Species Richness index was recorded at South Sentinel with 25 species and lowest at North Sentinel with 3 species. *Priacanthus hamrur* dominated (26.4%) the catch followed by *Chlorophthalmus sp.* (23.8%).

(High density grow-out of sand lobster)

**Harvested sand lobsters**

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October 2007. The cage was of 3 m diameter and 4 m depth which was floated with the help of a wooden raft. The juveniles of *Caranx sexfasciatus* having an average length of 70 mm and weighing 9 g were stocked in the cages.

**(Vizhinjam Research Centre)**

**New additions to the Marine Aquarium at Vizhinjam**

The blunt-horn lobster, *Palinustus wagensis* Kubo, 1963 collected from Vizhinjam waters has been added to the collections of Marine Aquarium at Vizhinjam.

**(Vizhinjam Research Centre)**

**Heavy landings of Silver pomfret at Okha**

At Okha, about 500-600 t of silver pomfrets *Pampus argenteus* was landed by the trawlers and gillnetters during October-November, 2007. The average catch per boat ranged between 200-500 kg. The cost of pomfret was Rs. 250-400/- per kg depending on the size and weight. The fish was transported to the processing plants at Veraval and Mumbai from where they were exported.

**(Veraval Regional Centre)**

**Flourishing trade on the air bladder of eels, catfishes, Ghol and Koth at Okha, Gujarat**

At Okha, an established trade on the airbladder of fishes has been functioning. The swim bladders of Ghol, Koth, and eels are of the best qualities available and fetch very high market price owing to the huge export demand. Fish air bladder is mainly used for making Isinglass. The bladder of eel after extraction is immersed in chemical solution overnight to improve its colour and texture. In the case of Ghol, Koth and catfishes, the air bladder is trimmed before immersion. On removal from the solution, the airbladder of eel is inflated by blowing air into it and dried over raised bamboo platforms whereas others are dried as such. The processed air bladders are exported to the processing plants at Veraval and Mumbai from where they are exported. The air bladders are used for making Isinglass.

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bladder is exported to Singapore and Hong Kong. The air bladder of Ghol commands a premium price of upto Rs. 40000/- per kg. (Veraval Regional Centre)

Heavy landing of Bull’s eye at Mangalore

Heavy landing of bull’s eye, Priacanthus hamrur was observed at Mangalore Fisheries Harbour during October-December, 2007. The catch was utilised by processing plants for “surumi” preparation. (Mangalore Research Centre)

Coral reef survey in Nethrani waters, Karnataka

An underwater survey was conducted in Nethrani waters off Murudeshwar, Karnataka. Seven species of hard corals belonging to the families Faviidae, Siderastreidae, Poritidae, Pocilloporidae and ornamental fishes belonging to families Chaetodontidae, Tetraodontidae, Scaridae, Scorpionidae, Pomacanthidae, Acanthuridae and Zanclidae were observed. The sharpnose puffer Canthigaster solandri, a rare species was also recorded. Molluscs belonging to families Tridacnidae, Osteridae, Conidae, Cypraeidae, Turbinidae, Trochidae, Strombidae and Volemdidae were also present. (Mangalore Research Centre)

The Pufferfish Lagocephalus inermis fishery along the Mangalore Coast

Lagocephalus inermis (Temminck & Schlegel, 1850), commonly known as smooth blaaasop was considered as a menace by the fishermen of Karnataka as it caused damage to the fishes and fishing nets. Of late, this fish has gained attention as a new fishery resource along the coast and an estimated total catch of 435 t was landed in 2007. The fishes are caught by multi-day trawlers, fishing at a depth of 80–100 m. The pufferfishes are sold in the harbour at a rate of Rs. 8-10 per kg. The fish is beheaded, viscera removed and the skin peeled off. It is then ready for processing. (Mangalore Research Centre)
cured in salt (ratio 3:1) for one week, dried in sun for a day, packed and sent to Kerala. After processing, the price of the fish is Rs. 30-45 per kg.

(Mangalore Research Centre)

Balistids - an alternate commercial target fishery along Tuticorin coast

Leather jackets (Balistids), appear as large shoals during July/August along the Tuticorin coast. Earlier years, trawlers used to avoid places of their congregation as it was considered a menace. These fishes are now landed in large quantities.

The balistid catch was supported predominantly by *Odonus niger* and small quantities of *Sufflamen fraenatus*. Due to its low cost (Rs. 2.50-3.00 per kg), some local traders have been utilizing this as a fish meal substitute in poultry feeds.

Realising the financial benefits, some trawlers ventured directly for balistids, as it offered an assured catch and return. Each boat landed about 5 to 20 t per trip depending on the hull and deck capacity and got revenue of Rs. 15,000 to 60,000/- per trip. During the period July-September, a total of 7,336 t and in October-November, 19,289 t of balistids were landed at Tuticorin Fisheries harbour. In December alone, more than 90% of the trawlers concentrated exclusively on this resource and landed 9,836 t of balistids which formed 95.2% of the total fish catch.

(Tuticorin Research Centre)

Large feeding congregation of juvenile ribbonfish and their fishery in Tuticorin

Ribbon fishes which supported the commercial fishery prior to nineties along the Tuticorin coast declined drastically thereafter. However in December 2007, few trawlers operating for deep sea prawns harvested huge quantities of ribbonfishes. This fishery continued throughout the month and landed nearly 62 t. Catch was constituted exclusively by *Trichiurus lepturus* juveniles of 28 to 39 cm in total length. Gut contents showed that they are feeding on deep sea prawns, indicating it as a feeding congregation. This has raised the hope that fishery of this highly sought after fish may revive in the coming years.

(Olive Ridley turtles in peril

Mass mortality of Olive Ridley turtles (40-45 numbers) was
observed in Tikkavaipalem beach, Parawada Mandal, Visakhapatnam during 23-27 December 2007.

Visakhapatnam Regional Centre

Gender studies on the differential roles of fishermen and fisherwomen

Gender studies on the differential roles of fishermen and fisherwomen were conducted by making use of various participatory techniques such as social mapping, time line, daily routine diagram, seasonal analysis and mobility maps in selected villages in Dakshina Kannada District.

Mangalore Research Centre

Ghost net recovered from Visakhapatnam inshore waters

One bottom set gill net was recovered on 26th July 2007 from the inshore waters of Visakhapatnam (17°43’30” N; 83°25’73” E) while conducting experimental bottom trawling by CIFT vessel CIFTECH-I at a depth of 39 m. The gill net soaked in mud was 52 m long and 6 m high with a mesh size of 2.5 cm, made of monofilament thread. Crabs (3 nos.), puffer fishes (2 nos.) and Murex sp. (12 nos.) were found entangled in the net.

NEW HEIGHTS

Dr. C. Ramachandran, Dr. R. Sathiadhas, Shri. Said Koya and Shri. Muhasin, won the ‘Joint Best Paper Award’ during the Special Symposium on ‘Gender and Fisheries’ at the 8th Asian Fisheries Forum, Cochin, 20-23 November, 2007.

Dr. V. Kripa and Dr. V.P. Vipinkumar bagged the award for the ‘Commended Paper’ during the Special Symposium on ‘Gender and Fisheries’ at the 8th Asian Fisheries Forum, Cochin, 20-23 November, 2007.

Dr. Kajal Chakraborty, Scientist, PNP Division was awarded the Pran Vohra Award (2007-2008) for his significant research achievements in Agricultural Sciences from Indian Science Congress Association.
NEW RESEARCH INITIATIVES

- The Department of Biotechnology (DBT) has sanctioned a project on "Development of species-specific DNA markers in economically important shellfish species, green mussel (Perna viridis) and edible oyster (Crassostrea madrasensis) for their application in farming and resource management" with a budget of Rs.35.39 lakhs. The P.I. is Dr. K.K. Vijayan and Co-PIs are Dr. P.C. Thomas and Dr. K.S. Mohammed.

- A DBT sponsored project on "Development of genetically improved strains of Brine shrimp (Artemia) using qualitative and molecular genetic tools" has been initiated. The Project leader is Dr. P.C. Thomas with Dr. K.K. Vijayan, Dr. J. Jayashankar and Dr. Kajal Chakraborty as Co-PIs.

ACADEMIC NEWS

Ph. D. Awardees

Smt. Sujitha Thomas, Scientist, Marine Biodiversity Division, Mangalore Research Centre of CMFRI was awarded the Degree of Doctor of Philosophy of the University of Calicut, Kerala in December 2007 for her thesis entitled "Studies on some aspects of biology and population dynamics of short-neck clam Paphia malabarica (Chemnitz) in Dharmadom Estuary, North Kerala, Southwest Coast of India".

Shri. Joe K. Kizhakudan, Scientist (SS), Mariculture Division, Madras Research Centre of CMFRI was awarded the Degree of Doctor of Philosophy of the University of Bhavnagar, Gujarat, in December 2007 for his work on "Reproductive biology, ecophysiology and growth in the mud spiny lobster, Panulirus polyphagus (Herbst, 1793) and the sand lobster, Thenus orientalis (Lund, 1793)"

Shri. V. Mohan, Technical Officer T-5 (Library and Documentation) was awarded Ph.D. degree in Library and Information Science by the Annamalai University in December 2007 for his thesis entitled "Mapping of Coral Reef Research Literature: A global perspective"

INSTITUTE PUBLICATIONS

Books

- "Status and Perspectives in Marine Fisheries Research in India" authored by Prof. (Dr.) Mohan Joseph Modayil and Dr. N.G.K. Pillai, has 404 pages with colour plates. This Diamond Jubilee publication is a compendium of 13 review articles on marine fisheries research in India over the past 60 years.

NEW RESEARCH INITIATIVES

- जैवज्ञानिकीय की विभाग (ढी बी टी) ने “आर्किव प्रमुख क्षेत्र में ग्राहकों की जानकारी, हरारे शंका (प्लेटर विकिडियर) और मूत्र शुरुआत (जॉर्जार्टिस्टिज्म मॉडल) के पालन और संयोजन पालन के लिए इन्हें जाति विवेक ही एवं मार्केट के विवाद” विषय, 35.39 लाख रुपये की बजट की परियोजना को मंगूल रूप से है।

परियोजना का प्राध्यापन डॉ. के. के. विजयन और यह प्राध्यापन अनुशोधक डॉ. पी. सी. तीमास और डॉ. के. के. जयशंकर और डॉ. के. जयशंकर चक्रवर्ती है।

- "वेटलपन और आर्किव अनुप्रयोग साधन उपयुक्त करने के लिए जल विभाग आयोग के साधनों का विवाद" विषय पर जैवज्ञानिकीय की विभाग द्वारा प्राविभाजित परियोजना के कार्य कला किया गया। परियोजना का प्राध्यापन अनुशोधक डॉ. पी.सी. तीमास और यह प्राध्यापन अनुशोधक डॉ. के.के. विजयन, डॉ. जे. जयशंकर और डॉ. के. जयशंकर चक्रवर्ती है।

INSTITUTE PUBLICATIONS

books

- "स्थिति और प्रभाव पूर्वाञ्चलीय मछली अनुसंधान के सन्दर्भ और परिक्रमा" प्रोफ. (डी) मोहन जोधपुरी और डी. एन. जी.की. मिलने द्वारा लिखित और 404 पृष्ठ और रोंगें चित्रों की पुस्तक। चित्रों के साथ यह समूह में समूह मल्लिकर्षण के क्षेत्र में इस अनुसंधान संबंधी 13 लेखों का समकालीन इस रंग जगती प्रकाशित में किया गया है।
Indian Fisheries: A Progressive Outlook" - a CMFRI Diamond Jubilee Publication edited by Dr. K. K. Vijayan, Dr. P. Jayasankar and Dr. P. Vijayagopal. This book encompasses 12 thematic articles on a wide array of subjects ranging from marine biotechnology to disaster management and has 202 pages.

"Down Memory Lane" - a compilation by Prof. (Dr.) Mohan Joseph Modayil, Dr. C. Ramachandran and Mrs. N. R. Letha Devi. This Diamond Jubilee Publication gives glimpses of the nostalgic moments of elders who have served the institute during the past 60 years.

"A Field Guide to the Common Marine Molluscs of India" a handbook useful for the field-level identification of common marine molluscs, authored by Prof. (Dr.) Mohan Joseph Modayil.

CMFRI Special Publications

"An Atlas on the Elasmobranch Fishery Resources of India" - CMFRI Special Publication No.95 authored by Dr. S. G. Raje, Dr. S. Sivakami, Dr. G. Mohanraj, Dr. P. P. Manojkumar, Dr. A. Raju and Dr. K. K. Joshi and has 253 pages. The atlas provides information on the distribution of different species of sharks, skates and rays of India along with their biological characteristics and diagnostic features with illustrations.

"CMFRI Publications by the Staff, 1996-2006, Bibliography Part IV" - CMFRI Special Publication No. 96 is one of the Diamond Jubilee Publications of the Institute. The bibliography which carries a total of 2039 titles was compiled by Shri. Edwin Joseph, Dr. V. Mohan and Shri. R. Manjeesh.

Brochures

"Glimpses of CMFRI" highlights the mandate, activities and major research achievements of the Institute in brief.

"Marine Biodiversity Referral Museum" gives a glimpse of the museum and its exhibits at CMFRI Headquarters, Cochin.

Pamphlets

"Marine Fisheries Profile - India" brought out by the Fishery Resources Assessment Division, CMFRI provides group-wise fishery information of the commercial finfish and shellfish resources of India. Besides, fishery information of each maritime state was also brought out as separate pamphlets.
TRANSFER OF TECHNOLOGY

Training

During Oct.-Dec., 2007, the Krishi Vigyan Kendra (KVK) of CMFRI, Narakkal has organized 22 training courses for 484 beneficiaries under different disciplines including 7 courses in Fisheries (158 beneficiaries), 7 in Agriculture (145 beneficiaries) and 8 in Home Science (181 beneficiaries).

The beneficiaries included practicing farmers, rural youth and extension functionaries. The different topics covered under the fishery training programmes included, breeding and rearing of Pearl spot, *Etroplus suratensis*; coastal aquaculture; shrimp farming; ornamental fish culture and brackishwater finfish farming. Under agriculture, the subjects dealt were organic farming; kitchen gardening; mushroom spawn production and mushroom cultivation while under Home Science, fish processing for value addition; solar drying of fish; mushroom processing and soap making formed the curriculum.

The courses on Coastal aquaculture under fisheries were the third and fourth in the series of programmes funded by the NFDB wherein a total of 42 farmers participated. The course covered various aspects like shrimp farming, brackishwater finfish farming, farming of mussels, oysters and seaweeds and integrated fish farming. The valedictory function of the fourth training course was covered by the Kochi (FM) Station of All India Radio.

The training courses under Home Science are the second in the series of programmes funded by NFDB on ‘Fish dressing centres and solar drying of fish’ in which a total of 15 coastal women benefited. Dressing of fish under ideal conditions and preparation of products including pickle, wafers, cutlet, fish balls, solar drying of fish and packing and marketing of fishery products were the areas

KVK trainees preparing fish pickle

Mahila Meet on cooking energy saving organized by KVK

A beneficiary receiving the Hay Box used for saving cooking energy

Demonstration of pond preparation to the trainees at KAU Campus, Puthuvaipu
covered. Apart from the instructional facilities including the services of resource persons available at the KVK, those of different organizations such as the Central Institute of Fisheries Technology and Matsyafed (Govt. of Kerala) were availed for the effective implementation of the programme.

**Front Line Demonstration Programmes organized**

**Cultivation of tissue-cultured banana**

Demonstration of cultivation of tissue-cultured banana, var. *Nenthran* was inaugurated by the President, Mookkannur Grama Panchayat, at Mookkannur, near Angamaly on 5th October 2007. More than 25 beneficiaries participated in the programme.

**Mussel farming**

Demonstration of mussel farming was organized at Narakkal on 13th Dec., 2007. More than 75 persons including farmers, scientists, technicians, extension personnel and members of local Panchayat administration participated in the programme inaugurated by Smt. Philomina Antony, President, Narakkal Grama Panchayat.

**Awareness programmes organized**

KVK organized Awareness Programmes on ‘Sustainable Fisheries Management and Coastal Aquaculture’ at ATIC, CMFRI on different occasions during October-December 2007, in which about 65 entrepreneurs participated.

**SCIENCE CAMP ORGANIZED**

The KVK organized a ‘Science Camp on Coastal Aquaculture’ for the benefit of the Second year students of VHSE (Aquaculture) of Govt. Regional Fisheries Technical Vocational Higher Secondary School, Thevara, Ernakulam from 27th Nov. - 07th Dec., 2007. A total of 23 students participated in the programme held at CMFRI Headquarters, Cochin. The Science Camp was covered by the Kochi (FM) Station of All India Radio.

**Participants of Science Camp involved in fish/shrimp feed preparation**

**Inauguration by Smt. Philomina Antony, President Mookkannur Grama Panchayat**

**Dr. K. S. Mohamed demonstrating the seeding of mussels**

**Narakkal**

Narakkal on 13th December, 2007 was inaugurated by the President, Mookkannur Grama Panchayat, at Mookkannur, near Angamaly on 5th October 2007. More than 25 beneficiaries participated in the programme.

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PARTICIPATION IN EXHIBITIONS

- The Institute participated in the Exhibition during the 8th Asian Fisheries Forum held at Cochin from 20-23 November 2007 which attracted delegates from India and abroad.

- The Krishi Vigyan Kendra, Narakkal projected their activities during the 8th Asian Fisheries Forum. The KVK also participated in the exhibition during the South Indian Agricultural Fair organized jointly by Ministry of Agriculture, Govt.of India, Govt.of Kerala and Kerala Agricultural University at Mannuthy, Trichur during 27-30 Dec., 2007. As a follow-up to the transfer of technology programmes, the women beneficiaries of the KVK were facilitated to make a trial on the production of different value added fish products, their mobilization and marketing during the course of both the exhibitions, which yielded highly encouraging results on consumer preference and marketing potential of diversified fish products including fried shrimp, wafers and fish and clam pickle.

- The SEETT Division participated in the exhibition at Devi Auditorium, Edathala, Aluva organized by the Press Information Bureau, Cochin and other media units from 3 - 7 Nov., 2007.

HUMAN RESOURCE DEVELOPMENT

Trainings organized

Training on microalgal culture

The Mariculture Division conducted a training programme on "Isolation, identification and culture of microalgae" for technicians of shrimp hatcheries from 29th October to 3rd November 2007 at Cochin.

Training on IT applications

The Fishery Resource Assessment Division initiated a six month training on IT applications to three apprentice trainees under the State Govt. PASAA Scheme from 3rd September, 2007.

Trainings attended

- Dr. Kajal Chakraborty, Scientist, PNP Division, participated

Dr. P.G. Chengappa, Vice Chancellor, UAS Bangalore and Dr. S. Edison, Director, CPCRI, Trivandrum visiting the KVK stall at South Indian Agricultural Fair

PRAYASNIYON में सहभागिता

- कोलंबिया में 20 - 23 नवंबर, 2007 के दौरान आयोजित 8 वां एशियन फिशरीज फोरम की प्रस्तुतियों में संख्यात्मक तौर पर भाग लिया। भारत और विश्व के कई प्रतिनिधियों लोगों प्रस्तुतियों को आयोजित किया।

- कृषि विज्ञान केंद्र, नारकाल में 8 वां एशियन फिशरीज फोरम में प्रस्तुतियों पी की प्रस्तुतियों को आयोजित किया। इस के अतिरिक्त कृषि विज्ञान केंद्र में कृषि विज्ञान शोध, भारत सरकार, केंद्र सरकार और केंद्र कृषि विज्ञान केंद्र द्वारा संयुक्त रूप से मन्त्रीपुरी, दिल्ली में 27-30 नवंबर के दौरान आयोजित प्रस्तुतियों भारतीय कृषि क्षेत्र में भाग लिया।

- 100 प्रस्तुतियों में कृषि विज्ञान केंद्र को महत्त्व प्राप्त करने को हरी झंडी प्रदान कियी गई। इसके अलावा, तीसरे आयोजकों के लिए संशोधन मूल्यवान महत्त्व प्राप्त उत्पादों के विभेदन और विज्ञान को प्रोत्साहित करने की अवधारणा प्रस्तुत की गई।

- सीएमएफ एफ डी ई 15 डी भाषा भाषा में आयोजित 8 वां प्रश्नात्मक तौर पर भाषा में डी. अभिज्ञान और अन्य मौजूद एक दूसरे द्वारा आयोजित प्रस्तुतियों में भाग लिया।

मानव साधन विकास

प्रशिक्षणों का आयोजन

समस्त शेखर संबंध के प्रशिक्षण

संबंधी प्रशिक्षण प्रेरणा द्वारा चित्र, स्टांडअलाइनों के के प्रशिक्षणों के लिए निर्देश 29 अक्टूबर से 3 नवंबर 2007 तक कोलंबिया मे "समस्त शेखरों के विकास, पहचान और संबंध" पर प्रशिक्षण आयोजित किया गया।

आई एच टी प्रशिक्षण पर प्रशिक्षण

भारत की संस्थानों ने प्रशिक्षण प्रेरणा भाषा के राज्य सरकार की पी ए ए ए योजना के अंतर्गत 3 सितंबर से 30 सितंबर तक प्रशिक्षणात्मकों के लिए आई एच टी प्रशिक्षण पर छह महीने का प्रशिक्षण का प्रारंभ किया।

प्रशिक्षणों में सहभागिता

- डॉ. काजल चक्रबर्ती, वैज्ञानिक, पी.एन.ए. प्रभाग में ए.ए. ए. ए. वायरस
in the Winter School on "WTA, GATT and IPR: Implications in Agricultural Research and Education" held at NAARM, Hyderabad from November 14 - December 4, 2007.

- Shri. J. Narayanaswamy, Technical Officer, KVK, Narakkal, participated in the Orientation training course under ATMA organized by the Department of Agriculture at Ernakulam from October 29 to November 02, 2007.

- Dr. C. P. Suja, Technical Officer, Tuticorin Research Centre of CMFRI, participated in the DBT sponsored training programme on "Aquatic Biotechnological Techniques" at Fisheries Biotechnological Centre, Tuticorin during the period from 06 - 20 December 2007.

**OFFICIAL LANGUAGE IMPLEMENTATION**

**Training**

A two day Official Language Training was conducted on 27th and 28th November, 2007 for the Ministerial Officers and staff of the Institute Headquarters. Dr. V. Balakrishnan, Deputy Director (Implementation), Regional Implementation Office (S.W), Cochin conducted classes on 'Official Language Management and Behavioural Training in Hindi' on 27th November 2007 and Smt. Jayasree, Pradhyapak, Hindi Teaching Scheme, Cochin conducted classes on 'Official Hindi and Structural aspects of Hindi' on 28th November 2007. A total of 10 officers and 66 staff members participated in the training.

**Official Language Inspection**

Smt. Sheela P.J, Assistant Director (OL) inspected the bilingualisation activities of notified Sections/Cells & premises of the Institute Headquarters on 22nd December 2007.

**Workshop at Veraval Regional Centre**

A Workshop on the proper usage of grammar for spoken and written version of Hindi language was conducted by Prof. Pavan Jha for the staff members at Veraval Regional Centre of CMFRI on 5th November, 2007.
**IN-HOUSE EVENTS**

**Diamond Jubilee Celebrations of PNP Division**

As part of the year long Diamond Jubilee Celebrations of CMFRI, a series of programmes were organized by the PNP Division during the month of November 2007.

**Invited talk**

An invited talk by Prof. C.S. Paulose, Head, Department of Biotechnology, Cochin University of Science and Technology on the topic "Biotechnology Today & Tomorrow" was arranged on 7th November 2007.

**Workshop**

A one day workshop on "Know Your DNA" was conducted on 17th November 2007. Twenty six students representing various colleges of Ernakulam District participated in the workshop. Talks on genomics and hands-on practical on DNA technology had been given to the participants. Individual DNA profiles of participants were generated and demonstrated.

**Biotechnology Quiz**

A 'Biotechnology Quiz' was conducted on 30th November 2007. A total of six teams from different colleges/Institutes participated. The First prize with a cash award of Rs.2000/- was won by Mar Athanasius College, Kotkamangalam. The second prize with a cash award of Rs.1500/- was won by Al-Ameen College, Edathala and the third prize with a cash award of Rs.1000/- was won by CMFRI/NBFGR. Director addressed the participants and distributed the cash awards and certificates to the winners.

**Diamond Jubilee Celebrations of Mariculture Division**

**Fish Farmers Meet**

A fish farmers meet was organised by Mariculture Division at...
CMFRI Headquarters on 18th December 2007, as a part of the Diamond Jubilee Celebrations of the Institute. Dr. N.G.K. Pillai, Director, inaugurated the meet. Fish farmers and ornamental fish breeders shared their experiences and narrated their constraints. The scientists interacted with them and suggested solutions for various problems they faced.

**Brain storming session organized at Vishakapatnam Regional Centre**

A brain storming on the theme “Marine Fisheries of Andhra Pradesh” was organized on 12th October 2007. Shri. Mandal Buddha Prasad, the Hon’ble Minister of Fisheries, Andhra Pradesh was the Chief Guest. Dr. G. Syda Rao welcomed the gathering. Dr. K. R. Prasad gave the presidential address where he highlighted the fisheries status of Andhra Pradesh and the contributions made by CMFRI for the development of marine fisheries sector in the state. The Chief Guest declared open the ceremony by lighting the lamp. He appreciated the research works done by CMFRI and stressed the importance of marine fisheries in Andhra Pradesh and its employment potential. Dr. Kasim, SIC, Vishakapatnam Centre of CIFT gave the felicitation address. Dr. P. Kaladharan, Senior Scientist proposed the vote of thanks.

The brain storming session was attended by officials of State Govt. Departments, Universities and scientists from CIFT, CMFRI, besides retired scientists of CMFRI and other Institutes. The session witnessed valuable suggestions from all the participants for the development of marine fisheries sector in the state of Andhra Pradesh.

**Institute Joint Staff Council meeting held**

A meeting of the Institute Joint Staff Council was held at CMFRI Headquarters, Cochin on 15th October 2007.
Modernised library inaugurated

Dr. Mangala Rai, Secretary DARE & Director General, ICAR, New Delhi, inaugurated the Modernized Library at the Headquarters of CMFRI, Cochin on 21st November 2007.

INCOME GENERATION

Record collection from Marine Research Aquarium, Vizhinjam

The ornamental fishes and other marine flora and fauna exhibited in Marine Research Aquarium at Vizhinjam Research Centre were visited by 29,658 students and public during October to December 2007. A revenue of Rs. 4,42,010/- was generated as entry fee.

An amount of Rs. 3000/- was also generated from the sale of three image pearls and Rs.1000/- from the sale of ornamental fishes.

PERSONALIA

Visitors to the Institute

Headquarters

- Dr. Mangala Rai, Secretary, DARE and Director General, ICAR visited CMFRI on 21st November 2007.
- As many as 883 farmers, students and entrepreneurs visited the Institute Headquarters.

Veraval Regional Centre

- A total of 100 students along with faculty from the colleges of Maharashtra/Gujarat visited the centre.

Visakhapatnam Regional Centre

- Shri. Mandali Buddha Prasad, Hon'ble Minister of Fisheries, Andhra Pradesh visited on 12th October 2007.
- Thirty eight fisheries extension officers visited on 19th December 2007 as part of their training programme at MANAGE.

Tuticorin Research Centre

- Mrs. Indra Krishnakumar, Chief Postmaster General, Tamil Nadu

Visitors to Marine Aquarium

Visitors to the Institute

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PROGRAMME PARTICIPATION

Prof. (Dr.) Mohan Joseph Modayil, Director
- Attended a meeting with Director General, ICAR on 17th October, 2007.
- Attended a meeting with Secretary, ICAR and Additional Secretary DARE on 18th October, 2007.
- Attended the inaugural programme of the FAO Expert Workshop on “Use of wild fish as feed for Aquaculture” organized in collaboration with MPEDA on 16th November, 2007 at Avenue Regent, Ernakulam.

Dr. N.G.K. Pillai, Principal Scientist & Head, Pelagic Fisheries Division
- Study visit to Egypt in the field of Marine Fisheries Resources under ICAR-ARC Egypt Work Plan for 2007-2008 (20th October to 01st November, 2007).
- Attended a one-day Consultative Workshop on “Environmental management reform for sustainable farming, fisheries and aquaculture” organized by Aqua Agris & CUSAT at International Hotel, Cochin on 16th November, 2007.

Dr. E. Vivekanandan, Principal Scientist & Head, Demersal Fisheries Division
- Attended a meeting on 11th October 2007 in New Delhi and made a presentation of the revised full-length proposal of NAIP Project.
- Made a presentation in National Conference on “Climate Change” held on 12th & 13th October 2007 in New Delhi.
- Participated in the Project Meeting of ICAR Network Project on Climate Change held on 14th & 15th October 2007.
- Attended a Workshop held at EMS memorial Town Hall, Ernakulam, organised by Victor George Memorial Trust and Press Club of India on 24th October 2007 and presented a paper on ‘Climate Change’.
- Participated in the Workshop on “Issues in Vulnerability

Mangalore Research Centre
- Dr. R. Busnur Manjunatha, Professor, University of Mangalore visited the Centre.

Vizhinjam Research Centre
- Prof. K. Muthuchelian, Director, Centre for Biodiversity, M.K. University, Madurai and Justice Guman Singh, Rajasthan High Court, Jaipur visited the Centre.

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- Made a presentation in National Conference on "Climate Change" held on 12th & 13th October 2007 in New Delhi.
- Participated in the Project Meeting of ICAR Network Project on Climate Change held on 14th & 15th October 2007.
- Attended a Workshop held at EMS memorial Town Hall, Ernakulam, organised by Victor George Memorial Trust and Press Club of India on 24th October 2007 and presented a paper on 'Climate Change'.
Assessment and Adaptation in India” organised by NATCOM Project Management Cell during 31st October to 02nd November 2007.

- Attended a one-day Consultative Workshop on ‘Environmental management reform for sustainable farming, fisheries and aquaculture’ organized by Aqua Agris & CUSAT at International Hotel, Cochin on 16th November, 2007 and made a presentation on “Climate change and capture fisheries sustainability”.

- Delivered a talk on “Current status of Indian fishery with special reference to fish resources in India using ecosystem approach” organised by the South Indian Fisheries Federation of Fisheries Societies in Trivandrum on 01st December 2007.

- Participated in the Consultative Workshop on Environmental management reform for sustainable farming, fisheries and aquaculture’ organized by Aqua Agris & CUSAT at International Hotel, Cochin on 16th November, 2007.

Dr. K.K. Vijayan, Senior Scientist & Head, PNP Division

- Participated in the Consultative Workshop on ‘Environmental management reform for sustainable farming, fisheries and aquaculture’ organized by Aqua Agris & CUSAT at International Hotel, Cochin on 16th November, 2007.

2007 took “भारत में संस्कृति निर्माण और अनुकूलन” विषय पर आयोजित कार्यशाला में भाग लिया।

- टिकट पालन, मालिकों एवं जनजीवन के लिए परावर्तन प्रस्ताव सुनार विषय पर अक्षा आकार एवं कोषील विश्वविद्यालय के सहयोग से इंटरनेशनल होटल, कोचीन में 16 नवंबर, 2007 को आयोजित एक दिवसीय परम्परा कार्यशाला में “जलवायु परिवर्तन और प्रमाण मालिकों का टिकटपूरण” पर प्रस्तुतीकरण किया।

- मालिकों संघ का दृष्टिकोण भारतीय मालिकों फंडेशन द्वारा टिकटपूरण में 1 अक्टूबर 2007 को आयोजित कार्यक्रम में “अब ये व्यवसायी अधिकार उपयुक्त करके भारत की मछली संपत्ति के विकास संदर्भ में भारतीय मालिकों का खरीदारी स्तर” विषय पर भाषण दिया।

- केंद्रीय मृदुत्व विश्वविद्यालय द्वारा 14 अक्टूबर 2007 को आयोजित कार्यक्रम में “भारतीय समुद्री मालिकों में जलवायु परिवर्तन का संगठन” विषयक लेख का प्रस्तुतीकरण किया।

डॉ. आर. सतीदास, प्रथण वैज्ञानिक एवं अभ्यक्त, एस.ई. डी. टी. टी. डी।

- आराम्भ कार्यालय, रिझनर्स पुर्स के सम्मेलन के मुख्य 29 नवंबर, 2007 को आयोजित ब्रांड एवं पी और सी बैकाट में सो एस एक आर आर की विवरण गृहविविधताओं पर प्रस्तुतीकरण किया।

- टिकट पालन, मालिकों एवं जनजीवन के लिए परावर्तन प्रस्ताव सुनार विषय पर अक्षा आकार एवं कोषील विश्वविद्यालय के सहयोग से 16 नवंबर, 2007 को इंटरनेशनल होटल, कोचीन में आयोजित एक दिवसीय परम्परा कार्यशाला में भाग लिया।

- एस.ई. डी. ए. में 26 नवंबर, 2007 को समुद्री खाद ग्रामीणीकरण पर बैठक में भाग लिया।

- मुख्य आयकर कार्यालय, आर.ए.ए.प्रेस रोड, कोचीन में टिकट 29 नवंबर, 2007 को कोषील टोलिक के सदस्य संस्देश का राजभाषा रोलिंग लेटर 2006-2007 दिनां के लिए मूल्यांकन गृहविविधता को बैठक में भाग लिया।

- ब्रांड एवं सी, कोचीन में 5 डिसेंबर, 2007 को टोलिक का बैठक।

- नई दिल्ली में 9 डिसेंबर 2007 को “लक्ष्यात्मक समूहों में महादेशी सनपाद मालिकों: एक मूल संशोधन सुझाव” विषयक एस.ई. डी. और सी का परामित्र परिवर्तन प्रस्ताव देने के लिए आयोजित टी ए टी ए - 2 बैठक में भाग लिया।

डॉ. क.क. विजयन, कर्मचारी वैज्ञानिक एवं अभ्यक्त, पी.एन. पी. धार्मिक
Attended the Task Force meeting at Department of Biotechnology, New Delhi during 10-11 October 2007 and made a presentation on the project entitled “Development and application of CMG family Recombinant hormones, their antagonists and RNAI technique”

Dr. Mary K. Manissery, Principal Scientist & Head, Marine Biodiversity Division
Attended a meeting on 22nd October 2007 at CMFRI, Cochin with Dr. S. Ayyappan, Chairman, AFISIB and Dr. M.V. Gupta, Council member, AFIS to review the progress of the arrangements for the 8th Asian Fisheries Forum.

Dr. A. Laxminarayana, Principal Scientist & Head, FEMD
Attended a one-day Consultative Workshop on ‘Environmental management reform for sustainable farming, fisheries and aquaculture’ organized by Aqua Agris & CUSAT at International Hotel, Cochin on 16th November, 2007.

Dr. P.N.R. Nair, Principal Scientist & SIC, Calicut Research Centre of CMFRI

Attended the 40th Meeting of the Town Official Language Implementation Committee (TOLIC), Calicut on 17th December 2007.

Dr. Rani Mary George, Principal Scientist & SIC, Vizhinjam Research Centre of CMFRI
Attended the Aquashow-2008 organizing committee meeting at Museum Auditorium, Trivandrum on 1st December 2008.

Dr. H. Mohamad Kasim, Principal Scientist & SIC, Chennai Research Centre of CMFRI
Attended a Workshop organized by FAO on ‘Fishing Fleet Reduction and Fisheries Diversification’ held during 30-31 October 2007 and presented a paper.

Dr. V. D. Deshmukh, Principal Scientist & SIC, Mumbai Research Centre of CMFRI
Participated in the World Fisheries Day programme on 21st November 2007 and delivered a speech on responsible fisheries at Versova Macchi Kruti Samiti.

Dr. Mohammad Zafar Khan, Principal Scientist, Mumbai Research Centre of CMFRI

Smt. Sheela P. J, Assistant Director (OL)
- Participated in the Official Language Management Seminar conducted by Cochin Town Official Language Implementation on 19th December 2007.

Dr. P. S. Asha, Scientist (Sr.Scale), Tuticorin Research Centre of CMFRI
- Attended and presented a paper in the “National Seminar on Pollution Hazards and Marine Fishery Resources Management. PHMRM’07 held at Fisheries College and Research Institute, Tuticorin on 25th & 26th October 2007.

Dr. G. Maheswarudu, Sr. Scientist, Visakhapatnam Regional Centre of CMFRI
- Conducted a session on “Culture of marine species and adoption of new techniques” to the fisheries extension functionaries of State and UT during the training programme organized by NFDB at MANAGE on 4th December 2007.

Dr. K. Asokakumaran Unnithan, Scientist-in-Charge, KVK, Narakkal
- Attended the Annual Review Meeting of the KVKs of Zone VIII held during 29th October to 01st November 2007 at Dindigul, Tamilnadu and presented the progress report of the KVK.
- Attended the fish farmers training programmes organized by BFFDA at Thuravoor and Nayarambalam and delivered talks on ‘sustainable shrimp farming’.
- Attended a Seminar on ‘Value addition of fish” organized in connection with South Indian Agricultural Fair–2007 held at Mannuthy on 30th December 2007 and delivered the felicitation address.

Smt. Paramita Banerjee Sawant, Scientist, Mumbai Research Centre of CMFRI
- Participated and presented two research papers in the strategic study workshop on “Strengthening and capacity building for fisherwomen SHG and co-operatives in the Konkan coast of India” sponsored by FAO, Rome held at Taraporewala Marine Biological Research Station, Mumbai (Dr. B.S.K.K.V., Dapoli) during 13-14 Dec., 2007.

Dr. P. M. Aboobaker, Technical Officer, KVK, Narakkal
- Participated in the Orientation Programme of Agricultural Technology Management Agency (ATMA) conducted by the Department of Agriculture at Ernakulam during 8-9 October 2007.
Smt. P. Sreelatha, Technical Officer, KVK, Narakkal
- Participated in the Mahila Meet on ‘Drudgery reduction using Hay Box’ organized by the KVK in association with Kottapuram Integrated Development Society on 17th December 2007 at Chettikadu, Ernakulam District.

Shri B. Sureshkumar, Technical Officer, KVK, Narakkal

Shri J. Narayanaswamy, Technical Officer
- Attended a Workshop on ‘AGMARKNET: Internet-based Agricultural marketing network to support agricultural marketing extension’ organized by MANAGE, Hyderabad and Directorate of Agricultural Extension, Kerala Agricultural University, at Mannuthy, Trichur during 20-22 November, 2007.
- Participation in the Eighth Asian Fisheries Forum

About 90 Scientists and Research Scholars of CMFRI participated and presented papers during the Eighth Asian Fisheries Forum held at Kochi from 20-23 November 2007.

PROMOTIONS / पदोन्नतियों

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<tr>
<th>Name / नाम</th>
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<th>Centre / केंद्र</th>
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<tr>
<td>Sh. B. Bhavanandam</td>
<td>Assistant</td>
<td>AAO</td>
<td>Veraval RC</td>
<td>01.10.2007</td>
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<td>Sh. K. John James</td>
<td>SSG-III (F/M)</td>
<td>T-1 (Field Assistant)</td>
<td>Tuticorin RC</td>
<td>16.11.2007</td>
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<td>Sh. R. Sundar</td>
<td>स क ब - III (श्रेणीक)</td>
<td>T-1 (Field Assistant)</td>
<td>Madras RC</td>
<td>15.11.2007</td>
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<tr>
<td>Sh. R. Vasu</td>
<td>स क ब - III (श्रेणीक)</td>
<td>T-1 (Field Assistant)</td>
<td>Madras RC</td>
<td>15.11.2007</td>
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Appointments

- Dr. (Mrs.) Krishna Srinath, Principal Scientist, Madras Research Centre of CMFRI took charge as Director NRC on Women in Agriculture, Bhubaneswar on 22.10.2007.

- Dr. (गृहमहोदय) कृष्णा स्रीनाथ, प्राध्यापक साहित्यिक, सी मए एआर ओड़ी का मदरसा अनुसरण केंद्र ने तिथि 22.10.2007 को एन आर सी जबलपुर एि, भूपेन्द्र के निर्देश के तरीके पर कार्यभार लिया।
## TRANSFERS

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<th>Designation / पदनाम</th>
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<th>To / तक</th>
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<tr>
<td>Dr. T. S. Velayudhan</td>
<td>Principal Scientist</td>
<td>Tuticorin RC</td>
<td>Hqrs., Kochi</td>
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<tr>
<td>Dr. (Mrs.) V. Kripa</td>
<td>Sr. Scientist</td>
<td>Calicut RC</td>
<td>Tuticorin RC</td>
</tr>
<tr>
<td>Sh. B. Bhavanandam</td>
<td>Assistant</td>
<td>Madras RC</td>
<td>Veraval RC</td>
</tr>
<tr>
<td>Sh. N. Vaithinathan</td>
<td>T-4 (Senior Technical Assistant)</td>
<td>Pattukotai FC</td>
<td>Nagapattinam FC</td>
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## INTER-INSTITUTIONAL TRANSFER

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<tr>
<td>Sh. K. S. Leon, T-4 (Deckhand)</td>
<td>CMFRI, Hqrs.</td>
<td>CIFT, Kochi</td>
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<tr>
<td>Sh. T.P. Haridasan, T-4 (Carpenter)</td>
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<td>Calcut RC</td>
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<tr>
<td>Smt. K. Tara, T-5 (Technical Officer)</td>
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<td>Calcut RC</td>
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## RETIREMENTS/RELIEF

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<th>Center / केंद्र</th>
<th>w.e.f / प्रभारी तारीख</th>
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<tr>
<td>Dr. A. A. Jayaprakash</td>
<td>Principal Scientist</td>
<td>Hqrs., Kochi</td>
<td>31.10.2007</td>
</tr>
<tr>
<td>Sh. K. K. Balasubramanian</td>
<td>T-6 (Technical Officer)</td>
<td>Calicut RC</td>
<td>31.10.2007</td>
</tr>
<tr>
<td>Shri V.A. Narayanankutty</td>
<td>T-5 (Technical Officer)</td>
<td>Hqrs., Kochi</td>
<td>30.11.2007</td>
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<tr>
<td>Prof. (Dr.) Mohan Joseph Modayil</td>
<td>Director</td>
<td>Hqrs., Kochi</td>
<td>07.12.2007</td>
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<tr>
<td>Sh. G.P. Sharma</td>
<td>Senior Finance &amp; Accounts Officer</td>
<td>Hqrs. Kochi</td>
<td>29.11.2007</td>
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