A workshop on "Strategies for Conservation and Resource Enhancement of Sea Cucumbers of India" was convened by Dr. G. Syda Rao, Director, CMFRI, and coordinated by Dr. H. Mohamad Kasim, Scientist-in-charge, Madras Research Centre of CMFRI on 25th August 2008 at the Conference Hall of Central Institute of Brackishwater Aquaculture (CIBA) at Chennai. Dr. P.S.B.R. James, Former Director, CMFRI, chaired with Dr. S. Ayyappan, DDG (Fy) ICAR as Co-chairman. Dr. A.G. Ponniah, Director, CIBA welcomed the participants.

Dr. G. Syda Rao, in his address, introduced the chief delegates and other participants. He stressed the importance of the workshop and need to discuss strategies for employing the seed production technologies developed by CMFRI into viable packages which could be put into use for the replenishment of the stocks of various marine living resources in the wild.

Dr. S. Ayyappan, DDG (Fy), ICAR in his inaugural address, emphasized that the workshop aimed at exploring the options for furthering sea cucumber research for resource enhancement and not for commercialization of the technology. A booklet on 'Bibliography on Indian Sea Cucumbers: CMFRI Contributions' brought out by CMFRI was released by the Chairman of the workshop Dr. P.S.B.R. James and a brochure on 'Sea Cucumber Resources in India - Current Status, Problems and Prospects' published by CMFRI was released by Dr. M. Sakthivel, President, Aquaculture Foundation of India.

Dr. P.S.B.R. James in his keynote address on "Conservation and Scientific Management of sea cucumber resources of India," stressed that the total ban has affected the livelihood of the fisherfolk to a considerable extent, and the basis of stock conservation should primarily be enhancement of natural stocks and not denial of the access to resource. In his view, there was a need to have information on the status of the resources and marine
sanctuaries and it had already been established in many faunal groups that stocks around marine sanctuaries showed revival in course of time.

Dr. M. Sakthivel suggested that the Ministry of Environment should consult CMFRI before including marine living resources under the list of protected/endangered resources.

Dr. D.B. James, Principal Scientist (Retd.), CMFRI and the pioneer researcher in sea cucumber research in India presented the "Historical Background and Strategies for Resource Enhancement of Sea Cucumbers".

Dr. A.G. Ponniah, Director, CIBA, Dr. P.S. Asha, Scientist (Senior Scale), CMFRI, Dr. H. Mohamad Kasim, Principal Scientist and Scientist-in-charge of Madras Research Centre of CMFRI, Dr. A.R. Thirunavukkarasu, Principal Scientist, CIBA, Dr. P. Nammalwar, Principal Scientist (Retd.), CMFRI and Secretary, Fisheries Technocrats Forum, Dr. M. Rajagopalan, Principal Scientist, Dr. G. Gopakumar, Head of Mariculture Division, CMFRI and Scientist-in-charge of Mandapam Regional centre of CMFRI, Shri P. Muthusamy and Shri. Thillai Govindan, Jt. Directors of Tamil Nadu State Fisheries Department, Shri. Shenbagura Murthy, IFS, Wildlife Warden, Gulf of Mannar, Dr. G. Mohanraj, Principal Scientist, CMFRI, and Dr. K. Sachidanandan, Former FAO Expert actively participated in the deliberations of the workshop.

Recommendations of the workshop on “Strategies for Conservation and Resource Enhancement of Sea Cucumbers of India” held on 25-8-2008 at Chennai

- There is a need to revive research on sea cucumbers discontinued since 2001 owing to the total ban by including these animals in Schedule I of Wild Life Act of 1972. Research on sea cucumber at CMFRI should go on unhindered for want of materials from the wild. Wild Life Department should provide the materials and CMFRI should initiate research on
Effect of ban should urgently be evaluated. Conservation of the resource must not be through effecting total ban alone and it should also be supported by proactive measures like resource enhancement of sea cucumbers through sea ranching of hatchery produced seed of different species.

Recovery plans for sea cucumbers should be given high priority by the Wild Life Department and CMFRI. Sea ranching is the primary tool readily available at present for the immediate replenishment of natural stocks by releasing millions of hatchery produced seed in the resource depleted habitats of sea cucumbers and closely monitoring the recovery process of the population in the wild. Pilot scale hatchery should urgently be established at suitable place in Palk Bay for refinement of the hatchery technology and sea ranching research on a project mode. Mass scale seed production and sea ranching of different species of sea cucumbers should be taken up on a priority basis. Suitable funding and staff be provided for research and pilot sea ranching projects under conservative mariculture mode.

At present internationally acclaimed hatchery technology is available with CMFRI for Holothuria scabra and Holothuria spinifera. Future research must also focus on the development of hatchery technologies for all other commercially important species available in Indian waters.

Allied research on different aspects of biology and genetics of different species of sea cucumbers must be taken up immediately.

The Ministry of Environment and Forest should consider the research findings and management advisories advocated by CMFRI while drafting conservatory measures for marine living resources. Periodic dialogue between CMFRI and the Wild Life Department should be held for promoting smooth research and solving issues from time to time.

Endangered marine animals have to be treated at par with their terrestrial counterparts for their protection. Artificial breeding, ranching, stock enhancement, establishment of sanctuaries, marine parks and reserves at strategical locations are essential. A separate mechanism may be devised for protection and conservation of endangered aquatic animals.

Wild Life Act may be refined for offering better protection and survival of endangered aquatic animals in general and marine animals in particular. In the meanwhile urgent action is required to curb the illegal

 Recovered instances concerning sea cucumbers.

- Largely given to the resources in the wild. In the case of marine animals, protection and survival of endangered aquatic species could be improved by refining the Wildlife Act to offer better protection and conservation of endangered aquatic animals.
- Separate mechanisms for protection could be established in strategically chosen locations. The establishment of sanctuaries, marine parks, and reserves at specific locations is essential. A separate mechanism could be devised for protection and conservation of endangered aquatic animals.
- The Wildlife Act may be refined to offer better protection and conservation of endangered aquatic species in general and marine animals in particular. Urgent action is required to curb illegal activities.
fishing and trade in certain places along the coast.

- Instead of a total ban, after a due review of the effect of the ban, attempts should be made adopt regulatory methods for conservation.

- Scientific advice should necessarily be made use of for improving restrictions regarding endangered marine animals. CMFRI should be made the nodal institute for rendering this advice.

- Alternate measures for resource enhancement, like translocation of regional species into other suitable habitats should also be considered based on the genetic compatibility studies.

- Culture of sea cucumbers under strict vigilance and supervision through biotechnological interventions such as DNA marking and bar-coding may be considered an additional proactive measure to wean away the fishermen from illegal fishing for sea cucumbers on par with the commercial cultivation of medicinal plants which are included under Schedule I.

- The participation of the stakeholders in conservation, resource enhancement and production of sea cucumbers must be encouraged. Awareness and participatory programmes with all the stakeholders and local villagers should be initiated.

- All resource enhancement activities should be undertaken with active participation by government organisations, research institutions, NGOs’, fishermen and other stakeholders.

- Existing procedures for procurement of live marine organisms included under Schedule I for research purposes by the Research Institutions must be simplified to encourage various research activities.

- A collaborative survey project may be undertaken immediately by CMFRI with the funding by Ministry of Environment and Forest with active participation of other research organizations to assess the present status of sea cucumber stocks in the natural habitats.

- Core and Advisory groups for monitoring and evolving further work on sea cucumber should be constituted.

- Bilateral and regional co-operations between countries involved in sea cucumber resources exploitation, research, management and conservation.

- A scientific note on important matters regarding resource exploitation, conservation and management of sea cucumber and other endangered marine animals should be prepared by CMFRI for further dialogue with Mo EF as early as possible.

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Population eruption of ‘Sunset shell’ along Versova-Juhu beach in Mumbai

Sudden abundance of ‘sunset shell’ *Siliqua radiata* (Linnaeus, 1758) in large numbers was observed along the Versova-Juhu beach in Mumbai during June-July’08 following down pour of rain. Violet coloured, beautiful bivalves appeared along the intertidal zone from round holes in sandy beach huge in the second week of June. The sunset shells were moderate in size with highly fleshy body and extremely thin and fragile shell. They generally inhabit sandy bottom in meso-littoral zone. The length of the shells ranged from 60-78 mm with corresponding body weight ranging from 5.984-15.887 grammes. The density of animals was 14/ square metre and the biomass was estimated at 153 gms/sqm. The animals probably come to the surface abruptly during monsoon months due to sudden change in salinity levels due to underground currents in the bottom strata.

Unprecedented sea level rise at Mumbai

Unprecedented high tide was experienced at Mumbai on June 5th 2008, when landmark of Mumbai “Gateway of India” was flooded by the tidal water. The new moon spring tide with height of 4.70 m C.D. at Apollo Bundar was on 3rd June 2008 at 12.03 hrs., but the highest flooding of the harbor as well as landing centres and beaches in Mumbai was noticed on June 5th 2008 when the tidal height was 4.86 m at 13.41 hrs. Although higher tidal level of 4.90 m was predicted for 7th May 2008 at 13.50 hrs., no such flooding was reported on the day. The high tide on 5th June 2008 did not coincide with the rain fall that followed a few days later, yet it was surprising to see tidal water flooding the roads and bye lanes near the beaches. At Versova landing centre about 20 fish drying platforms were damaged and washed out by the unforeseen tide. The high tide water entered some of the houses constructed on the beach and the fishers were also frightened.

From the water levels seen at many places, it is likely that the highest water level on June 5th 2008 had crossed 5 m mark which is 10 cm higher than the predicted highest levels in the tide table. Whether such frightening rise in water level is the effect of climate change?
Intense bloom of noctiluca in Gulf of Mannar

An intense bloom of *Noctiluca scintillans* (Macartney) was observed in coastal area of Gulf of Mannar during 2nd to 12th October which has resulted in considerable mortality of coral reef biodiversity in the affected areas. The bloom originated around the Gulf of Mannar Islands viz. Vazha, Mulli, and Appa islands and has spread to the coastal waters from Keelakarai to Thonimuthur with high intensities from Periapattinam to Pudhumadam area. The coastal waters appeared dark green and microscopic examinations of the water samples revealed the presence of *N. scintillans* in high densities. Although this species does not produce toxins, it has been found to accumulate toxic levels of ammonia which is then excreted into the surrounding waters and act as killing agents. The bloom resulted in very low oxygen levels and mass mortality of fish has been noticed in different landing centers from Pudumadam to Periapattinam (<1ml/l).

During the intense period of bloom, the cell concentration of *N. scintillans* was around 13.5 lakh cells /litre. The bloom persisted in the affected areas more than ten days due to favourable environmental parameters. High temperature, salinity, low pH, absence of water currents, presence of high nutrients, absence of rain and the favorable wind direction towards the shore were the major factors which influenced the sustenance of the bloom around the islands and coastal waters. The coastal area affected is comparatively shallow and semi enclosed and this has resulted in the spreading of the bloom even to the bottom waters resulting in oxygen deficiency. This has affected the corals and associated biodiversity of the area. The decaying and fouling of the dead organisms have led to considerable increase in ammonia, total suspended solids, which further complicated the situation resulting in total mortality of all biodiversity in the area.

During the period, 5th to 9th October, 2008, nearly 14 tonnes of commercially important fishes were washed ashore from Pudumadam to Periapattinam landing centre. Underwater observations showed that corals and the associated biodiversity in the core affected areas were subjected to mortality and it is felt that further investigations are required to understand the resilience of the ecosystem to recover from this sudden natural damage.

*(Mandapam Regional Centre of CMFRI)*
The Pycnogonid *Endeis mollis* Carpenter associated with hydroids from the inshore waters of Visakhapatnam, Coramandal coast, India

Sea spiders or Pycnogonids, *Endeis mollis* Carpenter were identified from hydroids colonized on a large floating cage installed at Visakhapatnam area at a depth of 10-12 m for over 45 days. More than 40% of the population consisted of males carrying egg mass. Occurrence of *E. mollis* from off Visakhapatnam as well as their association with hydroids in Indian waters is reported for the first time. Ecological significance of pycnogonids and its trophic dynamics are being studied.

**CO₂ sequestration by marine algae**

Quantitative evidence of marine algae towards sequestering CO₂ was brought out for the first time using planktonic forms such as *Nannochloropsis salina* and *Isochrysis galbana* as well as macro forms such as *Gracilaria corticata*, *Sargassum polycystum* and *Ulva lactuca*. *Ulva lactuca* registered 100% utilization of CO₂ for carbon fixation from the ambient water up to a level of 15 mg/l and beyond that declined to 60%. Gross primary productivity of these algae was also not affected by increase in the CO₂ levels. Our seaweed wealth is capable of utilizing 9052 t/d CO₂ against emission of 365 t/d CO₂ indicating a net carbon credit of 8687 t/d from Indian seaweeds alone.

*(Vishakahapatnam Regional Centre of CMFRI)*

**Landing of female bull shark and Napoleon wrasse fish at Tuticorin**

On 18.9.2008, a female bull shark (*Carcharhinus leucas*) measuring 311 cm in length was landed at the Tuticorin Fisheries Harbour by a trawler operating at a depth of 50 m. The fish was weighing approximately 320 kg. On the same day one Napoleon wrasse fish or humpbacked unicornfish landed at Tuticorin. Observations near Vazha Island

**Dead fishes washed ashore at Periapattinam**

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head wrasse (*Chelinus undulates*) which is included in the IUCN red list as endangered was landed by another trawler. The fish was measuring 80 cm in TL. This is the second instance of Napoleon wrasse landing at Tuticorin. 

*(Tuticorin Research Centre of CMFRI)*

### New records from Indian waters

The Arrowhead dogfish, *Deania profundorum* (Smith & Radcliffe, 1912) (Family Centrophoridae) a deep sea squallid shark previously reported only from South Africa and Gulf of Aden in the Indian ocean has been observed in the landings by the hooks and line fishing fleet from Cochin Fisheries Harbour.

The Bluntnose sixgill shark, *Hexanchus griseus* (Bonnaterre, 1788) belonging to the family Hexanchidae and previously reported only in the waters of Madagascar, Mozambique, and South Africa in Western Indian Ocean was observed in the landings by hooks and line fishing fleet from Cochin Fisheries Harbour. This is the largest hexachoid shark and forms one of the many newly exploited species of deep sea sharks of the continental slope region.

Boulenger’s anthias, *Sacura boulengeri* (Heemstra, 1973) belonging to family Serranidae (subfamily: Anthiinae) was collected from trawler landings off Cochin during May and October. Although considered to be a rare species with a very restricted distribution in the Arabian Sea, recently this species has been reported from catches at Mumbai, Manglore and Neendakara fishing harbours indicating a more wide distribution.

### Emerging Fisheries

#### Cobia fishery

King fish *Rachycentron canadum* (Linnaeus, 1766) commonly known as Cobia (family: Rachycentridae) is a highly priced table fish. However no regular fishery for Cobia has been reported along the Indian coast. Recently, regular landings of Cobia was observed in the drift gillnets and hooks & line operated from Cochin Fisheries Harbour from August to October.
Length range (fork length) of the fishes were 35 - 151 cm dominated by 80 - 110 cm size group.

(Pelagic Fisheries Division)

**Underwater survey in the Palk Bay**

An underwater survey was conducted in the Palk Bay in August 2008, by a team of scientists from the Marine Biodiversity Division. A drastic reduction was found in the coral cover of the reefs when compared with the results of the survey conducted in 2004 in the same area. The live coral cover of Velapertumuni reef and Kathuvallimuni reef declined from 44% to 13%. Branching corals were found to be dominant in the present survey replacing the massive corals as observed in the previous study. In many places corals were dead, bleached and covered with sediments and seaweeds. Massive corals were found to have more incidences of diseases than branching corals.

(Marine Biodiversity Division)

**Incidence of suspected Gaffkemia in the spiny lobster Panulirus homarus from southwest coast of India**

Spiny lobster *Panulirus homarus* forms one of the important fishery along the west coast of India. Diseases affecting the lobster especially on the post harvest holding facilities are well known which include *Gaffkemia* caused by the gram-positive cocci, *Aeromonas viridans*. The *A. viridans* forms the cause of systemic infections of homarid lobsters resulting in significant lobster mortalities and related economic losses. *Gaffkemia* is a bacterial disease of clawed lobsters caused by the gram positive cocci, *Aeromonas viridans*. Occurrence of this disease in spiny lobsters has not been reported from India, though lobster holding centres have been frequently reporting on mass mortality of juvenile lobsters. A consignment of live *Panulirus homarus* transported from holding centres at Kanyakumari to Vizhinjam exhibited reddish discoloration of the carapace and underside of the abdomen. The gross clinical signs were: reddish colouration of exoskeleton, watery hemolymph with considerably reduced hemocyte count, delay or complete absence of clotting of hemolymph, spread-eagle syndrome and anorexia. Gram's staining revealed gram positive cocci. The disease was tentatively diagnosed as *Gaffkemia* based on gross clinical signs and microscopic examination. On the basis of the results of the survey conducted in 2004 in the same area. The live coral cover of Velapertumuni reef and Kathuvallimuni reef declined from 44% to 13%. Branching corals were found to be dominant in the present survey replacing the massive corals as observed in the previous study. In many places corals were dead, bleached and covered with sediments and seaweeds. Massive corals were found to have more incidences of diseases than branching corals.

(Pelagic Fisheries Division)

**Gaffkemia**

A要做到“**Gaffkemia**”的准确翻译，可以考虑参考phrase-by-phrase的翻译方法。这涉及到对原文的理解以及对目标语言的运用。在这种情况下，我们可以通过将每个词或短语翻译成目标语言，然后整合这些翻译以形成一个自然流畅的句子。例如，我们可以将**Gaffkemia**翻译为**“Gaffkemia”**，然后在句子中使用这个翻译。这样，我们就可以确保翻译的准确性，并且能够传达原文的意思。
reducing the water temperature, the incidence of mortality came down. The poor water quality in holding tanks, high density stocking, injury and the consequent entry of the pathogenic bacteria in the hemolymph and the transportation stress would have led to rapid multiplication of the bacteria in the hemolymph and the hepatopancreas, resulting in mortality. Further studies are required for the confirmation of Gaffkemia and drawing health management measures for the control of the disease.

1 Kuppesha Sharma, 2 K.K. Vijayan, 3 K. N. Saleela and 4 E.V. Radhakrishnan
1 MBTD, Vizhinjam RC of CMFRI; 2 MBTD, CMFRI Hqrs.; 3 MD, Vizhinjam RC of CMFRI & 4 CFD, CMFRI Hqrs. (Marine Biotechnology Division)

Bumper Catches of Needle Squid, Doryteuthis sibogae at Kasimedu Fishing Harbour, Chennai

The needle squid, Doryteuthis sibogae was collected from Kasimedu Fisheries harbour, Tamil Nadu during July, 2008. The squids were collected through trawl nets, a bumper total catches of 15 tons of squid biomass were recorded during 24th July, 2008. Morphometric measurements were recorded regularly; maximum & average length was 290 mm and 160 -190 mm respectively.

The needle squid, Doryteuthis sibogae was collected from Cuddalore Fishing Harbour, Tamil Nadu during August, 2008. The length & weight of male squid was 375 mm and 300 gm respectively. The squid was collected through trawl net from south of Nagapattinam fishing area. A total of 3 tons of squid’s biomass were collected among 10 trawlers.

New model developed for mass larval rearing of sand lobster Thenus orientalis

A new rearing system model for mass rearing of sand lobster larvae was developed and tested at the Kovalam
Field laboratory of CMFRI. White slant trays of 50 l capacity were used as the rearing chambers. The water depth in the chambers was maintained at 15 cm and water was exchanged @ 200% daily, by using a continuous running water system. Polypropylene tubes (0.3 cm diameter) were used to draw the water input which was then supplied into the tray through a glass tube with a reduced radius of 1 mm so as to maintain an input rate of 400 ml/ minute. Water drainage was also maintained at the same rate. The drainage system consisted of a PVC ‘T’ (3” diameter) with the 3 open sides capped and sealed with variable nylon screen meshes (to allow only the metabolic waste or excess feed through the screen). The ‘T’ is kept vertical with the perpendicular openings upwards and the other two at each sides of the drainage assembly is set up at the opposite side of the tray. Through the nylon screen on the upper side end, 4-5 glass tubes (1 mm diameter) are inserted and connected to polypropylene tubes (3 mm diameter) for draining excess water and maintaining the rate of exchange.

Nearly 500-600 newly hatched phyllosoma, after initial treatments were shifted to each rearing chamber. The rearing system was kept under continuous darkness (less than 300 lux). Feed was given at 3-4 intervals of 6 hrs. duration. When the larvae moulted to PII and PIII stages, the mesh size of the drain system was changed to 2 mm. The moults and exuviae do not filter through the screen; the mesh size of the drain system was changed to 2 mm.

The system gave an initial phase of survival up to 80-90% (300 ± lux). Feed was given at 3-4 intervals of 6 hrs. duration. When the larvae moulted to PII and PIII stages, the mesh size of the drain system was changed to 2 mm. The moults and exuviae do not filter through the screen; the mesh size of the drain system was changed to 2 mm.

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Incidence of luminescent bacterial invasions in lobster hatchery

Following the summer showers and resultant fluctuations in seawater salinity, high mortality was noticed among sand lobster larvae stocked in high density mass rearing systems in the lobster hatchery at Kovalam Field Laboratory. Upon investigation, under fluorescent microscope, and night observations, the virulent bacteria *Vibrio harveyii* was observed in the larval samples. Monitoring of the water samples (intake, treatment, reservoirs), broodstock, larval samples and feed materials indicated possibility of the bacterial invasion through the source of sea water intake. Broodstock samples showed high density of the microbe. Initially, the newly-hatched larvae

किया गया। पालन चौंबर के रूप में 50 ली. भारतीय के संगठन सल्टन टू का उद्गम किया गया। जंगलों में 15 से.मी. की गहराई में पानी भरा दिया और प्रतिदिन 200% की दर में निरंतर पानी काटते हुए पानी का विनियम कायम रखा गया। जंगलों में प्रति मिनट 400 मि.मी. पानी प्रवेश करने के अनुकूल उच्चता 0.3 से.मी. के व्यास का पाल्पीलफाल्लोन टुब और एक मि.मी. के व्यास का ग्लास टुब उपकल्लु किया गया। इसी दर में जल नियंत्र भी नियंत्रित रखा गया। जलनियतक व्यवस्था में यो दो दो 'T' (3” व्यास) उपकल्लु किया गया जिससे तीन खुले भाग नाइलोन स्विंग में से बंद किया हो (केवल खजन अपशिष्ट या अधिक आहर स्विंग में प्रवेश करने के लिए) ‘T’ को खुला अधिक आहर करके सोचा खड़ा किया और अन्य दो खुले भाग हाँटे के दोनों भागों को अंग्रे रखा गया। उसे भाग भाग के जानकारी स्विंग में 4-5 ग्लास टुब (1 मि.मी. व्यास) नियंत्रित करके पाल्पीलफाल्लोन टुब (3 मि.मी. व्यास) नियंत्रित करके पाल्पीलफाल्लोन टुब (3 मि.मी. व्यास) से जोड़ दिए गए ताकि अधिक पानी का निवास हालांकि विनियम पारा जा सके।

करीब 500-600 नई सुस्थित फिल्सॉमा को प्रारंभिक उपचार के बाद पालन चौंबर में डैला गया। अंदर में (300 लवण से बन) इन नींदों को रख दिया। 6 पट्टों की अवधि में 3-4 अंतराल में फिल्टर करते हैं। डिएक प्रति PII और PIII दशाओं में प्रवेशित पर पानी निकाल पायें में रखे जाते दिन आरक्ष कर। 2 से 3 मि.मी. में डिएक पालन जीव का पूर्ण न हो जाए। मृत्तिका और एकपदीय स्विंग से नियंत्रित नहीं होते हें; अन्य भाग पानी को गुजरात लातार नियंत्रित रखा गया और प्रदूषण की दर और फिल्सॉमा केयरियरा कम कर दिया गया। इस पद्धति का प्रारंभिक दशा में प्रतिदिन 80-90% अन्तररातिशाय फिल्टर और 6 वें - 7 वें दिन में मॉल्टन फिल्टर एडी। फिल्टर परिधियों को तूलना में यह मॉल्ट 2 दिन आगे हाँ। इस प्रकार PII दशा को मॉल्टन ही एक दिन आगे हाँ। पालन चौंबर के नींदों होने पर पालन केयरियरा एक दिनांक दिनों में बदलता है। इस ट्रूं दिन में उपचार किया समुंद्र पानी भावना जाता है। PII दशा तक फिल्सॉमा पालन केयरियरा यह पद्धति अनुप्रयोग रखा गया।

लाभ्टर हैरेरी में लूमिनुस्ट वाक्टीरिया का आक्रमण

संरक्षण के कोलंक क्षेत्र प्रयोग प्रक्रिया में पालन केयरियरा उत्तम स्थिति में संरक्षण किया लाभ्टर डिएकों की मृत्तिका है। पूर्वसूत्त्र मांकोटेक्स के बाद अन्तररातिशाय और राक्षसीनिय नियंत्रण में डिएकों में विनियम वाक्टीरिया विकारों हाँदों की उपस्थिति दक्षिणी पायें। प्राचीन स्विंग वर्षा से इसके पालन केयरियरा दिएक किया समुंद्र पानी की लवणता में हुआ आधिकारिक इतना कारण भाजा हाँ। ओरिंग्स्टोन के मुख्य रूप में यह रोग फिल्टर एडी। शूल-साल में एए सुस्थित लाभ्टर स्वतंत्र बना। पर पहले मॉल्टन अन्दर इनके पर रोगुक्ष कर दिए। सुभूत दिनियों में से यह जीव मांकोटिया के ब्रंड
were healthy and did not show any luminescence in the night. However, upon reaching the first moulting stage (non-feeding), the larvae started showing fatal symptoms, turning opaque and cotonity. Microscopic examination revealed swarming bacteria under 40X, 100X. Rupture of hepatic tubules and loss of haemolymph in the cephalic region were noticed in the infected larvae. The loss of body fluids and absorption of seawater caused swelling of the larvae. The larvae, before dying, were lethargic, mostly lying at the bottom. They showed brown pigmentation on legs and orange colorations in the alimentary canal. Infected larvae before dying, were lethargic, mostly lying at the bottom. They showed brown pigmentation on legs and orange colorations in the alimentary canal. Infected larvae

High density rearing of spiny lobster Panulirus homarus on artificial pellet diets

Pellet diets (3 mm diameter) with 50% crude protein (composed of fish meal and cephalopod-shrimp head meal) have shown promising results in high density rearing of P. homarus at the Kovalam Field Laboratory. Undersized lobster (<100 g) have been stocked @ 25/sq.m., i.e., > 2 kg biomass/sq.m., in recirculatory tank rearing system supported by bottom set screen meshes which gave increased substrate and floor space availability. Photoperiod is being kept at 6 hrs. light and 18 hrs. darkness. The daily ration of feed (1-3% of total lobster biomass) is being given in three installments of 25%, 25% and 50% in the early morning, noon and evening hrs., respectively. The lobsters have shown positive acceptance, good consumption and high survival. The lobsters will be harvested in the last week of October and this will be the first instance reported of high density fattening of spiny lobsters using only artificial pellet diets. Nutritional factors and analytical works to assess growth and conversion parameters are in progress.

Glimpses of New and Rare Occurrences

Razorfishes and triggerfishes in trawl landings at Chennai

About 600-700 kg of razorfishes (Family: Labridae) was landed by trawl boats at Chennai during the third week of July 2008. While these fishes are often encountered in stray numbers in trawl bycatch, heavy landings are rare. The catches comprised of Xyrichtys bimaculatus Rupell, 40X, 100X, and other species. The catches comprised of Xyrichtys bimaculatus Rupell, 40X, 100X, and other species. The catches comprised of Xyrichtys bimaculatus Rupell, 40X, 100X, and other species.
1829 (two-spotted razorfish) and Xyrichtys cyanifrons Valenciennes, 1840. The fishes were sold for consumption, locally @ Rs. 20-25/- per kg.

About 500-600 kg of trigger fishes (Family : Balistidae) was landed by trawl boats at Chennai during July-August 2008. The fishes were sold locally @ Rs. 40-50/- per kg. The different species that occurred in the catches were - Sufflamen fraenatum (adult male) Latreille, 1804 (masked trigger fish), Abalistes stellaris (Bloch & Schneider, 1801) (starry triggerfish), Balistoides viridescens (Bloch & Schneider, 1801) (Titan triggerfish) and Pseudobalistes flavimarginatus (Ruppell, 1829) (yellow margin triggerfish).

Heavy landings of perches at Chennai

About 7.8 t of the tomato hind Cephalopholis sonnerati (Valenciennes, 1828) (Family: Serranidae) was landed by mechanized gill netters at Chennai Fisheries Harbour in July 2008. The size ranged between 275-520 mm total length and 0.3 - 2 kg weight.

On 17 July 2008, about 300 kg of the yellowtail blue snapper Paracæsio xanthura (Bleeker, 1869) (Family: Lutjanidae) caught in ring seine operated along Mahabalipuram coast was landed at Chennai Fisheries Harbour. The size ranged between 310-435 mm total length and 0.6 - 1.5 kg weight.

Occurrence of stargazers in trawl fishery bycatch at Chennai

The longnosed stargazer, Ichthyscopus lebeck (Bloch & Schneider, 1801) and the more common stargazers Uranoscopus guttatus Cuvier, 1829 and U. marmoratus
Ichthyscopus lebeck collected from trawl bycatch at Chennai

Cuvier, 1829, were observed in the trawl bycatch at Chennai in July 2008. Two specimens of *I. lebeck*, of total length 45 cm and 27 cm were collected. Although *I. lebeck* is known to be distributed in the Indo-West Pacific, its occurrence in commercial fishery is rare. Earlier records of its occurrence along the Indian coast have been from Puducherry. The occurrence of this fish has also been reported from the Ennur Fisheries Station, Madras in the year 1941.

**Occurrence of snake mackerel Promethichthys prometheus (Cuvier) off Puducherry on the east coast of India**

For the first time, occurrence of snake mackerel *Promethichthys prometheus* (Cuvier) off Puducherry on the east coast of India has been recorded. Around 200 fishes were landed as bycatch along with tuna by a gillnet at Puducherry Fishing Harbour. The size and weight of the fish ranged between 319 and 408 mm and 118 to 236 g respectively with the average size of 363 mm and weight of 181.8 g. Gut content analysis revealed that *P. Prometheus* was a voracious carnivorous fish feeding mainly on shoal fishes such as oil sardine. All the landed fishes were immature.

**Bumber catches of oil sardine sardinella longiceps along Cuddalore coast**

On 25th July, '08, 307 tons of oil sardine *Sardinella longiceps* was landed by ring seines at Cuddalore Fishing Harbour. A total of 73 units were operated very nearer to Puducherry, 1829 पाई गई। आइ लेबेक के 2 नमूने जिनकी लंबाई 45 से 27 से मी थी, को पकडा गया। भारत के वाणिज्यक मछलियों में यह सिर्फ रूप में पाया है। भारत में इसकी उपस्थिति की पूरी तिथों पुडुचेरी से है। वर्ष 1941 मद्रास के एन्नर फिशरी स्टेशन से इसकी पकड़ संबंधी सूचना मिली है।

**भारत के पूर्व तट के पुडुचेरी में स्नेक माकेलर प्रोमेथिथिस प्रोमेथिथियूस (क्यूवियर) की उपस्थिति**

भारत के पूर्व तट में पुडुचेरी से प्रथम बार स्नेक माकेलर प्रोमेथिथिस प्रोमेथिथियूस की उपस्थिति रिपोर्ट की गई। पुडुचेरी मछलियों बंदरगाह में गिलेट में मिली दुकान के साथ करीब 200 स्नेक माकेलर मछली भी थी। इसका आकारभूत
319 और 408 वि. मी के बीच और २०० से २३६ ग्राम के बीच में थी। इनके आहार नली निरीक्षण से स्वरूप हुआ कि ये झीलों में रहने-पारी मछलियों जैसे ताराली पर निर्भर रहने-पारी मासा है। पकड़ में मिली मछलियों अपक थी।

**कृड़लूर तट में ताराली सार्दिनेल्ला लोंचियूस की बंप पकड़**

कृड़लूर मछलियों बंदरगाह में 25 जुलाई 08 को कल्प संसार में 307 टन ताराली सार्दिनेल्ला लोंचियूस पकड़ी गई। तट से 15 कि. मी. दूरी पर परिचालित 73 मछली बोटों को प्रति पकड़ 4 से 5 टन मछली प्राप्त हुई।
the shore within 5 km distance off Cuddalore and the catch varied between 4 and 5 t/unit. The total size and weight of the fish varied from 118 to 185 mm and 14 to 58 g respectively. The mean size was 150 mm with the dominant modal size group of 172 mm. Females were dominant in the catch and the sex ratio of male - female was 1:2.6.

Among the males, immature stage dominated (51.9%) followed by maturing (33.3%) and mature fish (14.8 %). Immature and early mature stages were dominant (92.9 %) among females also and 7.1% with advanced stages of maturity. The catch was sold in the local market at Rs.4-5 per kg. The sale proceed was estimated to be Rs. 12,43,200/-. The majority of the catch was ice packed and transported to Kerala by road in trucks. The surplus catch which could not be preserved for lack of ice, was sun dried in the beach.

*(Demersal Fisheries Division - Madras Research Centre of C.M.F.R.I.)*

The carcass of the rare rough toothed dolphin (*Steno bredanensis*) was washed ashore at Beleekeri near Karwar on 25.08.08. This species has been recorded by Blanford in 1892 from the Nicobar islands. The dolphin is classified as data deficient by the IUCN. Morphometric and DNA studies are ongoing for the specimen recorded from here.

*(Karwar Research Centre of CMFRI)*

**DFO Kannur registered a criminal case against the fishermen of Malabar Region for catching whale sharks and selling of its meat**

A whale shark, *Rhinodon typus* measuring 12 m. in length and 2500 kg. in weight was caught by the fishermen of Thalassery about 30 nautical miles from the shore. The whale shark was entangled in the gill net on 22.09.2008.
It was brought to the shore by dragging and later on it was sold to a fish vendor.

On sighting the newspaper reports of catching of the whale shark, the District Forest Officer, Kannur has registered a case against the fishermen under the wild life Protection Act, 1972 for catching the whale shark and selling the meat in the market. This is the first instance of such a case registered against the fishermen from this area under the Act. In July 2001, the Ministry of Environment and Forests included the Whale Shark in Scheduled I of Indian Wild Life Protection Act, 1972, thus giving the whale shark maximum protection and making it the first marine fish listed in the Indian Wild Life Act. It is worth to mention at this point that several countries, such as the Maldives and the Philippines, passed laws protecting whale sharks and switched over to ecotourism.

(Reported by Dr. P.P. Manoj Kumar, Senior Scientist, Calicut Research Centre of CMFRI)

Land for Mangalore Research Centre

Mangalore Research Centre is catering to the research needs of Karnataka coast and has been functioning more than five decades from a modest rented building. In order to further strengthen the research and development activities of the centre, the need for a permanent laboratory building was long felt. The centre is fortunate that the Karnataka Veterinary and Animal Science and Fisheries University have cleared all the bottlenecks to lease out a piece of land in the Fishery Technology Campus of College of Fisheries, Hoige Bazar, Mangalore.

Thus the long-felt need of Mangalore RC of CMFRI materialized with the signing of an MoU between the Comptroller of KVASFU, Bidar and the Director, CMFRI, Kochi on 30th August 2008 at the premises of the Mangalore RC of CMFRI, Bolar, Mangalore. The Vice-Chancellor of KVASFU and Dean, College of Fisheries, Mangalore and other dignitaries graced the occasion.

MoU signed by Dr. G. Syda Rao, Director, CMFRI and Dr. Suresh S. Honnappugol, Comptroller, KVASFU
Deputation Abroad

Dr. E. Vivekanandan, Head, Demersal Fisheries Division participated in the FAO-WMO sponsored International Symposium on ‘Climate Change and Food Security in South Asia’ in Dhaka, Bangladesh from 25th to 30th August, 2008.

Launching of NAIP Project

The NAIP sub-project, ‘A value chain on oceanic tuna fisheries in Lakshadweep sea’ was launched on 12.8.2008 at CMFRI, Kochi by Dr. K. Gopakumar, former DDG (Fy), ICAR. The meeting was presided over by Dr. G. Syda Rao, Director, CMFRI. Dr. E.V. Radhakrishnan, Consortium Principal Investigator presented an overview of the project. Dr. J. P. Mittal, National Co-ordinator (Component 2) gave a presentation on Worldbank funded NAIP projects. Dr. M. Devaraj, former Director, CMFRI and Chairman of Consortium Advisory Committee and Sri. Kuruvilla Thomas, Director, (Marketing), MPEDA gave felicitation addresses. Dr.T.K. Srinivasa Gopal, Principal Scientist and Co-PI proposed the vote of thanks.

Deputations

Smt. Sandhya Sukumaran, Scientist, Marine Biodiversity Division was awarded the ‘Commonwealth Fellowship-2008’ to pursue doctoral studies at the School of Environmental Studies, University of East Anglia, Norwich, UK. She is working on the topic 'Aquatic Pollution and Marine Biodiversity' under Dr. Alastair Grant, Director, Centre for Ecology, Evolution and Conservation, University of East Anglia.
S. Lakshmi Pillai, Scientist (SS), Crustacean Fisheries Division was awarded the Degree of Doctor of Philosophy by the University of Calicut for her thesis entitled "Reproductive biology of the Indian male spiny lobster Panulirus homarus".

**Outreach Activities**

**Awareness campaign on fish culture in open sea cage by Visakhapatnam Regional Centre**

Two awareness campaigns on fish culture in open sea cages for the local fishermen were organized by Visakhapatnam Regional Centre of CMFRI at Gopalpur, Ganjam District, Orissa on 30.08.08 and at Rangampeta, Kothapilli Mandal, Kakinada District, Andhra Pradesh on 22.09.08. At Gopalpur-on Sea, the President, Secretary and other office bearers of the local fishermen society along with 65 members of the Society participated in the campaign. At Rangampeta also the office bearers of the Burma repatriate marine fisherman multipurpose Co op society participated in the awareness campaign. The Scientist-in-Charge of the Regional Centre, Dr. P.Kaladharan briefed the fishermen on the purpose of the campaign. The Senior Scientists of the Centre explained the cage culture activities taken up by the Institute, its advantages and the benefits that the Institute will provide for the members of the society. Shri. Pollanna, President of Fishermen Society, Visakhapatnam, who has first hand experience in cage culture in open sea, briefing the success story.
Two Fishermen meets organized by Mangalore Research Centre

- A Fishermen meet was held at Uppunda, Udupi district, near Byndoor for transfer of technology for cage culture of Sea bass, *Lates calcarifer*. The transfer of technology was undertaken as a part of the National Demonstration cum training programme of cage culture for enhancing the livelihood of traditional fishermen and for providing additional source of income during the lean season. The project is undertaken by the CMFRI with funding by the National Fisheries Development Board and Ministry of Agriculture. The Fishermen meet was attended by 40 traditional fishermen along with their leaders who took active participation in the discussion cum interaction sessions on cage culture of Sea bass.

- A fishermen meet was held at Someswara, Dakshina Kannada district, on 16-10-2008. A group of over 40 traditional fishermen attended the meeting which consisted of power point presentations followed by interaction and discussion sessions.

Farmers' Meet/Mahila Meet/Mela organized by KVK

1. Inaugural Meeting of Farmers Field School on Integrated Pest Management in Banana, was jointly organized by the Central Integrated Pest Management Centre, Ministry of Agriculture and the KVK of CMFRI, Narakkal at Mookannur in Ernakulam District on 22/8/2008. As much as 35 persons including farmers, extension personnel and representatives of local administration participated.

2. Harvest Mela was organized in connection with inauguration of harvesting of Pokkali Paddy variety, VTL-6 as part of Front Line Demonstration programme of the KVK, Dr. K. Asokamurman Unnithan, Smt. P. Sreeletha and Shri B. Sureshkumar were

Farmers field school on IPM jointly organised by KVK & CIPMC

Harvest mela organised by KVK
Training Programmes of KVK

During the quarter, July-September 2008 the Krishi Vigyan Kendra of CMFRI, Narakkal has organized a total of 9 training courses for 217 beneficiaries under different disciplines including 4 courses in Fisheries for 89 beneficiaries, 2 courses in Agriculture for 53 beneficiaries and 4 courses in Home Science for 75 beneficiaries. The beneficiaries included practicing farmers, rural youth and extension functionaries.

The different topics covered under the training programmes under fisheries included Coastal aquaculture, Ornamental fish culture, Brackish water fish farming. Under agriculture, Mushroom cultivation and Vegetable cultivation were covered. Value addition of Fish, Value addition of Fruits and Preparation of Washing powder and Soap were covered under Home Science.

Programmes under Kerala State Planning Board funding

The KVK has also undertaken On Farm Testing of the New Pokkali Paddy variety, Vyttila-7, in 0.85 ha in Kumbalam Village and Front Line Demonstration of the cultivation of another Pokkali variety, Vyttila-6 in 5 Units of 1 ha each in Kadamakkudy village in Ernakulam District during the quarter, funded by the Kerala State Planning Board.

Mass media Programmes

1. Interview on ‘Krishi Vigyan Kendra at Farmers’ Service’, participated by Dr.K.Asokakumaran Unnithan was broadcast over FM Station of All India Radio, Kochi on 10/7/2008.
2. Talk on Mushroom cultivation by Shri.B.Sureshkumar was broadcast over FM Station of All India Radio on 3/8/2008.
3. A Discussion programme on value addition of fish participated by Dr.K.Asokakumaran Unnithan, Smt.P.Sreeletha and two women beneficiaries of the KVK, was broadcast over the Trichur Station of All India Radio on 8/8/2008.

Human Resources Development Programme

Shri.B.Sureshkumar, Technical Officer participated in the 14 days ‘Trainers’ Training Course on ‘Scaling up of

associated with organizing the programme. A total of 50 persons including farmers, Agricultural University teachers and representatives of local administration participated.

3. Mahila Meet-cum-Training on ‘Value addition of fruits and vegetables’ was organized at Moolepadam Housing Colony in Ernakulam District on 24/7/2008. Smt. P. Sreeletha was associated with organizing the programme. A total of 40 persons including 35 women and 5 men participated in the programme.

3. 'Krishi Vigyan Kendra at Farmers’ Service' was broadcast over KVK, was broadcast over the Trichur Station of All India Radio on 8/8/2008.

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Human Resources Development Programme

Shri.B.Sureshkumar, Technical Officer participated in the 14 days ‘Trainers’ Training Course on ‘Scaling up of
water productivity in Agriculture for livelihood through teaching -cum-demonstration' organized at the Agronomic Research Station of Kerala Agricultural University at Chalakudy in Thrissur District as a part of the All India Coordinated Research Project of ICAR under XI Plan Scheme, held during 7-20 July, 2008.

**Pradharshinio में सहभागिता**

**Participation in Exhibitions**


**राजभाषा कार्यन्वयन**

**Official Language Implementation**

**Hindi Chethana Maas 2008**

Hindi Chethana Maas- 2008 was observed in the Institute Headquarters from 1st to 30th September 2008 with various programmes. During Hindi Chethana Maas competitions in Hindi such as Cartoon, terminology, Correspondence, Translation, Memory, Essay, Music and Poetry were conducted for the staff of the Institute.

The valedictory function of Hindi Chethana Maas was held on 30.09.2008 at 11.00 AM in the Auditorium of the Institute. Shri O.P.Sachan, Chief Commissioner of Income Tax, Cochin was the Chief Guest. Dr. G. Syda Rao, Director, CMFRI presided over the function. Smt. Roja Sethumadhavan, Sr. Administrative Officer welcomed the gathering. Dr. E.V.Radhakrishnan, Head, CF Division presented the message of Hon'ble Union Agricultural Minister. Chief Guest distributed prizes to the winners of competitions and the staff who have done commendable work during the year. Chief Guest also released the 8th issue of Hindi publication Matsyagandha on this occasion.

Smt. Sheela P.J., Assistant Director (OL) proposed vote of thanks. The function ended at 12.30 pm with National Anthem.

**Hindi चेतना मास 2008**

संस्थान मुख्यालय में 1 से 30 सितंबर, 2008 के दौरान विभिन्न कार्यक्रमों के साथ हिंदी चेतना मास 2008 मनाया गया। हिंदी चेतना मास के दौरान संस्थान के कर्मचारी सदस्यों के लिए हिंदी में विभिन्न प्रतियोगिताएं जैसे कार्टून, सम्बद्धता, पत्र, सत्ता, समूहीय पद्धति, निर्माण, संगीत और कविता पाठ आयोजित की गयी।

Shri O.P. Sachan, Chief Commissioner of Income Tax, Cochin addressing the valedictory function of Hindi Chetna Maas 2008
Hindi Day / Week was observed at all the Regional / Research centres of CMFRI with various programmes.

**OLIC Meeting**

The quarterly meeting of Official Language Implementation Committee of the Institute was held on 15.09.2008. The progress made in the implementation of Official Language was reviewed in the meeting.

**Hindi Divas 2008 organized by Tuticorin Research Centre**

‘Hindi Divas’ for the year 2008, was celebrated on 12.09.2008. Shri S. Shanmugam, Branch-in-Charge, Dhatchanya Bharat Hindi Prachara Sabha was the Chief Guest. The Chief Guest delivered a lecture on the usage of Hindi and then distributed the prizes to the staff members.

**Hindi Week celebrated by Madras Research Centre**

Hindi Week was celebrated at Madras Research Centre of CMFRI from 15th to 19th September 2008. Various competitions in Hindi were held among the staff members. Smt. Sarwar Chida, Assistant Director, Hindi Official Language, BSNL, Chennai was the Chief Guest of the valedictory function.

**Hindi Week celebrated by Vizhinjam Research Centre**

Hindi week was conducted at Vizhinjam Research Centre of CMFRI from 15-9-2008 to 20-9-2008. Various competitions were held among the staff members. The valedictory function was held on 20-9-2008. Dr. Maheshwary, Lecturer at M.G. College, Thiruvananthapuram was the chief guest. Prizes were given to the winners during the function.

**Hindi Week celebrated by Calicut Research Centre**

Hindi week has been celebrated at Calicut Research Centre with various colourful programmes from 24.09.08 to 27.09.08. Competitions were held for Hindi Handwriting, Hindi Dictation, Hindi Noting & Drafting, Hindi Memory test, Hindi Vocabulary test etc. among the staff members. All staff members of the centre actively participated in the function.

**Madras Official Language Week celebrated on 15-9-2008**

Smt. Sarwar Chida, Assistant Director, Hindi Official Language, BSNL, Chennai was the Chief Guest of the valedictory function.

**Vizhinjam Hindi Week celebrated on 15-9-2008**

Dr. Maheshwary, Lecturer at M.G. College, Thiruvananthapuram was the chief guest. Prizes were given to the winners during the function.

**Calicut Hindi Week celebrated on 24-9-2008**

All staff members of the centre actively participated in the function.
Veraval Centre

- The Hindi week was celebrated at VRC of CMFRI from 15th Sep - 22nd Sep, 2007.
- One day Hindi Workshop was organized at VRC of CMFRI on 30th July, 2008.
- Dr. Shubhadeep Ghosh represented VRC of CMFRI in the TOLIC meeting held at LIC Office, Veraval on 14th August, 2008.

Events

Special Talk on "Role of Women in the Changing Social Scenario"

In connection with the activities of Women's Cell CMFRI, a special talk on "Role of Women in the Changing Social Scenario" was arranged at CMFRI, Kochi on 11th July, 2008. Dr. M. Beena, IAS, District Collector, Ernakulam was the Chief Guest. Dr. G. Syda Rao, Director, CMFRI, presided over the function.

Independence Day Celebration

The Independence Day was celebrated on 15th August 2008 by hoisting the National Flag by the Director, CMFRI Dr. G.Syda Rao. Majority of the staff and their relatives took part and breakfast was served to all participants.

Onam Celebrations

On behalf of the CMFRI Recreation Club, on 06.09.2008, Onam celebrations were undertaken with Pookkalam competition in the morning at 9.30 AM. All the divisions participated and Director's Cell and SEETTD together won the first prize, a cash award of Rs. 1,500/- followed by MFD with Rs. 1,250/- and third by MBTD with Rs. 1,000/-. The traditional feast was arranged in the institute canteen as Onasadya and it was followed by variety entertainment programmes presented by staff and their relatives.

Onam was celebrated at Vizhinjam Research Centre on 6-9-2008 by displaying a floral carpet. A sumptuous 'onasadya' was also arranged on the occasion.

Special Talk on "Role of Women in the Changing Social Scenario"

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Onam was celebrated at Vizhinjam Research Centre on 6-9-2008 by displaying a floral carpet. A sumptuous 'onasadya' was also arranged on the occasion.

Veraval केंद्र

- वेरावल क्षेत्रीय केंद्र में 15 सितंबर से 22 सितंबर, 2008 के पूरे हिंदी तारीख मनाया गया।
- वेरावल क्षेत्रीय केंद्र में 30 जुलाई, 2008 को एक विविधता हिंदी कार्यक्रम आयोजित की गयी।
- जीवन बीमा निगम, वेरावल में 14 अगस्त, 2008 को आयोजित टोलिक घर में सी एम एफ आई, वेरावल क्षेत्रीय केंद्र के डी. शूर्यदीप छाँया ने भाग लिया।

घटनाएं

“परिवर्तनशील सामाजिक परिवेश में महिलाओं की भूमिका” पर विशेष भाषण

सी एम एफ आई अच्छे अफर आइ के विभिन्न सेट को अकार्बंधितों के संस्कार में सी एम एफ आई अच्छे अफर आई, डीमी निगम में 11 जुलाई, 2008 को “परिवर्तनशील सामाजिक परिवेश में महिलाओं की भूमिका” विशेष पर विशेष भाषण आयोजित किया गया। डी. एम. बी. इसमें, आई एंड, इसने एयरवॉयस, एयरप्लेन क्रान्ति मूल आत्मवान थी। डी. एम. ये ये निगम, सी एम एफ आई अच्छे अफर आई कर्मचारी में अच्छे रहे।

स्वतंत्रता दिवस समारोह

स्वतंत्रता दिवस में 15 अगस्त, 2008 को विशेष, सी एम एफ आई अच्छे अफर आई जी, सी एम एफ आई अच्छे अफर आई देश और वन्य भर्ती कर्मचारियों ने विशेष स्वतंत्रता दिवस मनाया गया। तरक़बार कर्मचारियों सदस्य और उन्हें परिषद कार्यक्रम में उत्साहित थे और निगम परिषद सभी महिलाओं का नामांकन का समकालीन निर्णय था।

ओम समारोह

सी एम एफ आई अच्छे अफर आई कर्मचारी के तत्कालीन में 06-09-2008 को सुबह 9.30 बजे पूक्कलम प्रतियोगिता के साथ ओम समारोह का आयोजन किया गया। सभी कार्यकर्ताओं ने स्वयं में भाग लिया और निगम का कहा और यह इंडियन ओम दीप दीप को 1500/- रुपए का प्रदर्शन, एम एफ आई दीप को 1250/- - रुपए का इंडियन और एम बी टी दीप को 1000/- - रुपए का गृहस्त फुर्सद प्रदर्शन किया गया। इसी दिन समारोह के कैंटीन द्वारा परम्परागत यथार्थ आयोजन भी समाप्त किया गया। इस नवंबर समारोह के कैंटीन में परम्परागत जीवन आयोजन भी था। जीवन आयोजन कर्मचारी और उनके लिए प्रदर्शन द्वारा समर्पित और अन्य विविध कार्यक्रम प्रस्तुत किया गया।

विविधता अनुसंधान केंद्र में 06-09-2008 को दूल्हन सम्मेलन के साथ ओम समारोह मनाया गया। इस अवसर पर शानदार आयोजन भी प्रदर्शन किया गया।
RAJASV ARJAN

Revenue Generation

- Under ATIC, during the period April-June 2008 an amount of Rs 34,013/- was generated through sales and services.
- पर आई सी के अंदर अप्रैल-जून, 2008 को आवोज्य में विक्री और सेवा द्वारा 34,013/- रुपए का आय जनाया गया।

NISHI BAATE

Personalia

Headquarters

- Hon'ble Administrator of Lakshadweep, Shri B.V. Selvaraj, IAS visited the National Repository Museum and Hatchery at Headquarters on 19th September, 2008. In addition, 1298 visitors including students from 42 educational institutions and the general public visited the Museum.
- As much as 1053 farmers, students and entrepreneurs visited ATIC during the quarter.

Mangalore Research Centre

- Dr. G. SydaRao, Director, CMFRI, Kochi visited the centre on 29-08-2008 and 30-08-2008.
- Dr. Suresh. S. Honnappagol, Vice-chancellor, Karnataka Veterinary, Animal and Fisheries University, Bidar visited the centre on 30-08-2008.
- Shri. M. Karkera, Member Board of Management, Bidar visited the centre on 30-08-2008.
- Shri. R.V. Garag, Comptroller, Karnataka Veterinary, Animal and Fisheries University, Bidar visited the centre on 30-08-2008.
- Dr. Y. Basavaraju, Dean ,College of Fisheries, Mangalore visited the centre on 30-08-2008.
- Dr. Roshni, M. Lecturer, Biochemistry, and 21 students of P.G Biochemistry from St.Aloyceious College, Mangalore visited the centre on 08-09-2008.

Tuticorin Research Centre

- Students 339 Nos. along with their faculty from Colleges/Schools from Tamil Nadu and Kerala visited the centre.

मुख्यालय

- माननीय लक्षद्वीप प्रशासक श्री बी.वी. शेल्वराज, आईएएस ने 19 सितंबर, 2008 को मुख्यालय के नागरिक रिपोर्टरी महीने का मुआवजा दिया। आम लोगों और 42 शिक्षाविदों सहित 1298 अंतिम के कूल मिलाकर 1298 आमाने ने भो मूलधार का मुआवजा दिया।
- तिमाही के दौरान 1053 विद्वानों, छात्रों और 
- उद्यमियों ने पी टी आई सी का मुआवजा दिया।

मंगलूर अनुसंधान केंद्र

- डॉ. जी. सेवा राजु, निदेशक, सी एम एफ आईएस ने 29-08-2008 और 30-08-2008 को केंद्र का मुआवजा दिया।
- डॉ. सुरेन्द्र एस. होण्यानागील, कृत्यकार, कन्नड़क कंस्टेंट प्रिंटिंग एवं पत्र प्रकाशित कार्यालय, विदार ने दिनांक 30-08-2008 को केंद्र का मुआवजा दिया।
- श्री एम. कारीकेरा, सदस्य, विदार ने 30-08-2008 को केंद्र का मुआवजा दिया।
- श्री आर. बी. गार, निदेशक, कन्नड़क पत्र प्रकाशित कार्यालय, विदार ने 30-08-2008 को केंद्र का मुआवजा दिया।
- श्री अम. पंजाब, स्वारंचोक, मैसूर कंस्टेंट प्रिंटिंग एवं पत्र प्रकाशित कार्यालय, विदार ने 30-08-2008 को केंद्र का मुआवजा दिया।
- डॉ. चाम. वासवराज, डीन, मैसूर कंस्टेंट प्रिंटिंग, मंगलूर ने 30-08-2008 को केंद्र का मुआवजा दिया।
- सेंट अलोनसियस कॉलेज, मंगलूर के डॉ. रोशनी एस, प्रसिद्धि, व्योकिंगस्ट्रू और गी. व्योकिंगस्ट्रू के 21 छात्रों ने 08-08-2008 को केंद्र का मुआवजा दिया।

तूटिकोरिन अनुसंधान केंद्र

- तमिलनाडु और केरल के विभिन्न कार्यालयों/स्कूलों के 339 छात्र और संस्थाप सदस्यों ने केंद्र का मुआवजा दिया।
Publishing

- Andhra Pradesh ki Samudri Matsyaki (ISBN 978-81-901219-6-5) CMFRI, Visakhapatnam Regional Centre, Visakhapatnam, Andhra Pradesh- 530003, Published by the Director CMFRI in Hindi 54 p
- CMFRI Bulletin No.50 ‘A Systematic Appraisal of Hard Corals (Family Acroporidae) from the Gulf of Mannar Biosphere Reserve, South-East India’ authored by Dr. (Mrs.) Rani Mary George, Principal Scientist and Scientist-in-Charge, Vizhinjam Research Centre and Smt. Sandhya Sukumaran, Scientist, Marine Biodiversity Division, has been listed in the ‘UN Atlas of the Oceans’ (Ref.No.http://www.oceanatlas.org/id/190744)

कार्यक्रम में सहभागिता

Programme Participation

Dr.G.Syda Rao, Director

- Mandapam Regional Centre of CMFRI on 12th July, 2008.
- Award function and received the best ICAR Institute Award "Sardar Patel Outstanding Institution Award, 2007" for CMFRI from the Hon’ble Minister for Agriculture on 16th July, 2008 at New Delhi.
- Workshop of the Experts at the National Knowledge Commission, Govt. of India, New Delhi on 29th July, 2008.
- Visakhapatnam Regional Centre of CMFRI on 30th & 31st July, 2008.
- Madras RC of CMFRI & Kovalam Field Laboratory on 1st August, 2008.
- Vizhinjam RC of CMFRI on 10th & 11th August, 2008
- Meeting on ‘Peninsular Fisheries and Aquaculture at the Bangalore Centre of CIFA & CIFRI, Hessaraghatta, Bangalore on 23rd August, 2008.
- Workshop on strategies for conservation and resource enhancement of sea cucumbers in Indian Seas, held at CIBA.  

राष्ट्रीय शासक ने बांधकाम ए ए यू एं 205 ए पर तैयार की गयी अध्ययन समाप्तियों: ‘विकास मान्यताको विकास’ राष्ट्रीय कृषि संस्था संस्थान, हैदराबाद द्वारा प्रकाशित।

- डॉ. (श्रीमती) रणी मरी जों, प्रशासन वैज्ञानिक एवं प्रभारी वैज्ञानिक, विभिन्न क्षेत्र के श्रीमती सरण सुकुमारन, वैज्ञानिक, समूहों नैस विभिन्नता प्रभाग द्वारा रेखित सी एम ए का अह अह कूलेंट से 50 'ए सिस्टमाटिक अर्थेत आंकों हार्ट कर्सर (पावीवाल एकवीकरण) क्रम द गए आकार मान्यता विभिन्नता रिसर्च, साउथ-इंडिया इंडिया, को यू एम अटलस ओर द ऑलोशन को पूर्व में जोड़ दिया गया है (संदर्भ सं. http://www.oceanatlas.org/id/190744).
Dr. R. Sathiadhas, Head, SEETTD

Screening committee of ASRB to serve as an advisor of the Screening Committee meeting held at New Delhi from 10.09.2008 to 12.09.2008.
Dr. K.K. Vijayan, Head, MBTD

- Meeting on "Assessment of literacy and actual income levels from fisheries and aquaculture among marine and inland fishermen in the country" held at the fisheries division, New Delhi on 15.09.2008.

Dr. E. V. Radhakrishnan, Head, CFD.

- Mandapam Regional Centre of CMFRI on 12.7.2008 to oversee the arrangements for inauguration of the New Marine Research Hatchery.
- Meeting with Scientists and Associate Partners at CMFRI on 23.7.2008 under the NAIP project ‘A value chain on oceanic tuna fisheries in Lakshadweep sea’.
- Seminar on Harvest and Post-harvest Technology for Tuna at CIFT on 24.7.2008.
- Meeting of SICs of the Regional/Research centres and HODs’ on 26.7.2008.
- CAC meeting on 12.8.2008 and a methodology workshop on 13.8.2008 in connection with the NAIP project.
- Consultative Committee meeting on Migratory species in Ministry of Environment and Forests and presented information of migratory marine species On 22.9.2008.
- 7th meeting of X IJSC meeting at Chennai on 27.9.08.

Dr. H. Mohammed Kasim, Principal Scientist & Scientist-in-charge, Chennai Research Centre.

- Third Appraisal Committee Meeting during 17-19th July 2008 at TNPC Board Premises, Chennai - 600 032.
- Fifth Appraisal Committee Meeting during 16th & 17th September 2008 to appraise the applications received from DST. K. K. Vijayan, Dr. E. V. Radhakrishnan, Dr. K. K. Kasim, Dr. H. Mohammed Kasim, Principal Scientist & Scientist-in-charge, Chennai Research Centre.

- Maharashtra, N. R. Parle in 15-09-2008 to "Dana" in Samudri and the third Indian Marine Festival. The event was attended by hundreds of visitors.

Dr. K. K. Kasim, Head, MBTD


Lecture on "Biosecurity in fisheries and aquaculture and major OIE listed infectious diseases of fishes" in the Training programme for Local Competent Authority testing and certification of ornamental fishes for export organized by Cochin University of Science and Technology on 21-10-2008.

- Brainstorming Workshop on "Identifying Research Needs for Controlling White Spot Syndrome Disease in Shrimp Aquaculture at CIBA, Chennai on 17th October 2008 and presented a paper on "Identification of differentially expressed genes and their expression profile using microarray technology".

- Dr. H. Mohammed Kasim, Principal Scientist & Scientist-in-charge, Chennai Research Centre.

- Third Appraisal Committee Meeting during 17-19th July 2008 at TNPC Board Premises, Chennai - 600 032.
- Fifth Appraisal Committee Meeting during 16th & 17th September 2008 to appraise the applications received from DST. K. K. Vijayan, Dr. E. V. Radhakrishnan, Dr. K. K. Kasim, Dr. H. Mohammed Kasim, Principal Scientist & Scientist-in-charge, Chennai Research Centre.
the project proponents at TNPC Board Premises, Chennai-32.

- Workshop on "Women in Aquaculture Development on 29th & 30th July 2008 at CIBA, Chennai and presented a paper entitled 'Problems encountered by the women in coastal sectors, policies and welfare schemes for the women in coastal sectors'.

- Delivered the key note address on Fishery Resources and Management in the inauguration of the activities of Zoologists' Association of Loyola College on 5th August 08 at Loyola College as Chief Guest.

- Two day National Seminar on the theme “Aquaculture Biotechnology” on 19-20th August 2008 at Jamal Mohamed College, Tiruchirappalli and delivered a lecture.


- Brainstorming Workshop on "Prospects of Asian sea bass fish Farming on 29th August 2008 at CIBA, Chennai organized by CIBA and NFDB.


- Presented a paper in the National Hindi Workshop on "Recent Advances in Aquaculture" conducted by CIBA, on 23-24 Sept 2008 at Chennai.

Dr. G. Mohanraj, Dr. M. Rajagopalan and Dr. D. Kandasami, Principal Scientists


- Brainstorming Workshop on "Prospects of Asian sea bass fish Farming on 29th August 2008 at CIBA, Chennai organized by CIBA and NFDB.

Dr. V. S. Kakati, Principal Scientist & SIC, Karwar Research Centre and Dr. Miriam Paul Sreeram, Scientist (SS)

- Workshop inaugural session on Fishing and Safety for fishermen of coastal Karnataka which was sponsored by INCOIS, Hyderabad (11-12 July, 2008) at the Postgraduate department of marine biology, Karnataka University, Karwar.

- Seminar entitled "Development in Uttara Kannada District-Problems, Prospects & Solutions" was held by IDEA Sirsi and Eco-Watch Bangalore on 30.08.08 at Hotel Panchavati, Sirsi, Uttar Kannada, Karnataka.

Dr. (Smt) Reeta Jayasankar, Principal Scientist

- Scientific seminar in Hindi conducted at CIBA, Chennai on 23.09.2008 and presented a paper on ' Aquaculture management through integrated farming of seaweed and shrimp' in Hindi.
Dr. K. Asokakumaran Unnithan, Scientist-in-Charge, KVK
- Pokkali paddy farmers-Scientist-Agricultural Officers Meeting on 15/7/2008 in connection with the releasing of book on the proceedings of Pokkali farmers meeting held during the previous year, 2007, at the Rice Research Station of Kerala Agricultural University at Vytila in Ernakulam District.
- Traditional Shrimp Farmers’ Meet organized by the Marine Products Export Development Authority at Cherai on 21/8/ 2008.

Dr. J. Jayasankar, Senior Scientist
- Brainstorming meet on "Peninsular fisheries and aquaculture" at Bangalore Centre of CIFA and CIFRI, Hassaraghatta, Bangalore on 23rd August, 2008.
- First meeting of “Expert Group” to review the deep sea fishing guidelines at Krish Bhawan, New Delhi on 1st September, 2008.

Dr. R. Narayanan Kumar, Senior Scientist,
- Project Planning Meeting on "Assessment of literacy and actual income levels from fisheries and aquaculture among marine and inland fishermen in the country held at the fisheries division, New Delhi on 15.09.2008.

Dr. C. Ramachandran, Senior Scientist

Dr. Joe K. Kizhakudan, Scientist (S.G.)
- Presented two papers in the National Hindi Workshop on "Recent Advances in Fish and Shellfish Immunology and its Applications' at CIFA, Bhubaneswar from 21-10-2008 to 10-11-2008.
- International Symposium on 'Quality Assurance in Pathology and Disease Diagnosis' at CADRAD, IVRI, Izathnagar from 11-11-2008 to 12-11-2008 and presented a paper on 'Evaluation of Biofilm Cells of Vibrio alginolyticus on Resistance of Penaeus monodon juveniles against V. alginolyticus and WSSV.'

Dr. S.K. Krupesh Sharma, Scientist (SS)
- Winter school on 'Recent Advances in Fish and Shellfish Immunology and its Applications' at CIFA, Bhubaneswar from 21-10-2008 to 10-11-2008.

PROMOTIONS / पदोंनिवृत्ति

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<th>Centre / केंद्र</th>
<th>w.e.f./ प्रतिवर्षीय तारीख</th>
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<tr>
<td>Shri N. Ramasamy</td>
<td>SSG-I (Helper)</td>
<td>Tuticorin RC</td>
<td>01.07.2008</td>
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<tr>
<td>श्री. ए. रामसामी</td>
<td>स क व - I (हेल्पर)</td>
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हो. के. अशोक कुमार उन्निथन, वैज्ञानिक, कृ. वि. केंद्र
- कृषि क्षेत्र मिति विभाग के पाठ्य अनुसरण स्टेंडिंग, स्किटिला, प्रागायुक्त स्विन्न में निकलने के बाद 2007 में आयोजित मीटिंग में पाकिस्तान के प्रायोजितों को सम्बोधित करने के लिए 15-7-2008 को आयोजित पाकिस्तान के पाकिस्तान-क्षेत्र के अधिकारी के तौर पर काम किया।
- समाप्ति उपलब्ध नियामक प्राप्तिकर्म द्वारा चेलि में 21-8-2008 को आयोजित प्रस्तावित भिंडिट किया।

हो. जे. जे. जयसंकर, वैज्ञानिक
- सी.आई.एफ.एफ. एम.एफ. एन. विळ में 23-24 सितंबर 2008 को जलनीवालन के साथ साथ मानव के लिए जलनीवाला प्रयोग पर मानव के साथ।
- कृषि क्षेत्र, नई दिल्ली में 1 सितंबर, 2008 को ग्रामीण सागर मानव के मानवीय दर्द का पुरुषोत्तम बनाने के लिए ग्रामीण 'विशेष दर्द' का प्रयोग किया।

हो. जे. एम. गोविन्दकुमार, वैज्ञानिक
- 'रेस' में समस्याओं और अंतरजातीय महाद्वीपों में मानव के लिए जलनीवालन से प्राप्त वातावरण का ऊपरी और नीचे का वित्त पर मानव के प्रभाव, नई दिल्ली में 15-09-2008 को आयोजित पारंपरिक निर्देशन के लिए किया।

हो. जे. एम. नरायणकुमार, वैज्ञानिक
- नई दिल्ली में 29-09-2008 से 02-10-2008 तक ग्रामीण सागर मानव के साथ सागर मानव के साथ सागर मानव के साथ सागर मानव के साथ सागर मानव के साथ सागर मानव के साथ सागर मानव के साथ.
Shri K.G. Tawade SSSG-III (L/A) SSG-IV (L/A) Mumbai RC 01.07.2008
Shri A. Kesava SSSG-III (F/M) SSG-IV (F/M) Mangalore RC 01.07.2008
Shri D. D. Jangam SSSG-III (L/A) SSG-IV (L/A) Mumbai RC 14.07.2008
Shri M.P. Jadhav SSSG-III (F/M) SSG-IV (F/M) Mumbai RC 15.07.2008
Shri A. Kesava SSSG-III (L/A) SSG-IV (L/A) Mumbai RC 01.07.2008
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Shri M.P. Jadhav SSSG-III (F/M) SSG-IV (F/M) Mumbai RC 15.07.2008
Shri M. Jayasingh SSSG-III (F/M) SSG-IV (F/M) Mandapam RC 26.07.2008
Shri L.K. Suvarna SSSG-III (L/A) SSG-IV (L/A) Mandapam RC 04.09.2008
Shri P. D. Karunakaran SSSG-III (F/M) SSG-IV (F/M) Hqrs., Kochi 18.09.2008
Dr. P. Kaladharan, PS assumes the charges of the SIC, Visakhapatnam RC
Smt. Grace Mathew, PS assumes the charges of the Chairperson of the Consultancy Processing Cell
Shri V. Edwin Joseph, T-6 (TO) assumes the charges of the Sub-Editor of the Editorial Committee of Indian Journal of Fisheries (IJF)

**ASSUMPTION OF CHARGE / पदप्राप्ति**

**TRANSFERS / स्थानांतरण**

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<th>From / से</th>
<th>To / तक</th>
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<tbody>
<tr>
<td>Smt. N. Aswathi</td>
<td>Scientist</td>
<td>Tuticorin RC</td>
<td>Hqrs., Kochi</td>
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<tr>
<td>Dr. G. Gopakumar</td>
<td>PS &amp; Head, Mariculture</td>
<td>Hqrs., Kochi</td>
<td>Mandapam RC</td>
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<tr>
<td>Shri S. Suryanarayana Murthy</td>
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<td>Visakhapatnam RC</td>
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**RETIREMENTS / संबंधितविवृतियाँ**

**Retirement on Superannuation / अधिवृत्तिक रूप से संबंधितविवृति**

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<tr>
<td>Shri M. A. Vincent</td>
<td>Driver- Boat (T-5 (TO))</td>
<td>Hqrs., Kochi</td>
<td>31.07.2008</td>
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<tr>
<td>Shri M. Ramu</td>
<td>SSG - IV (F/M)</td>
<td>Mandapam RC</td>
<td>31.08.2008</td>
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<tr>
<td>Dr. M. Rajagopalan</td>
<td>Principal Scientist</td>
<td>Madras RC</td>
<td>30.09.2008</td>
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<tr>
<td>Shri O.M.M.J. Habeeb Mohammed</td>
<td>T-5 (TO)</td>
<td>Tuticorin RC</td>
<td>30.09.2008</td>
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**Voluntary Retirement / व्यक्तिगत संबंधितविवृति**

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<tr>
<td>Dr. P.K. Krishnakumar</td>
<td>Principal Scientist</td>
<td>Veraval RC</td>
<td>01.07.2008</td>
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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.

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