



DEEP- SEA PRAWN FISHERY ALONG KERALA COAST

Results of extensive exploratory surveys conducted by different Governmental agencies along the Indian coast revealed the existence of a rich deep-sea prawn ground in the 'Quilon Bank', between Quilon and Alapuzha in 200-400 m depth. The exploitable yield of deep-sea prawns along the entire EEZ was estimated to be 3000 tonnes and the Working Group on revalidation of potential marine fisheries resources of EEZ in India recommended deployment of 15 stern trawlers per season to tap this wealth.

Some of the medium sized trawler operators of Munambam, Sakthikulangara and Neendakara ventured to exploit deep-sea crustacean resources of 'Quilon Bank' by modifying the existing winches, increasing the wire rope length to 1000-1800 m and its thickness to 9-11 mm. The boats of 38-65 feet OAL powered by 100-120 HP engines were engaged in the deep-sea fishing operations in

the depth range of 175-400m. Some of the boats were even equipped with Global Positioning Systems (GPS) and echo sounders.

Shrimp trawlers based at Sakthikulangara, Neendakara, Cochin Fisheries Harbour and



Aristeus alcocki (Red Ring), the highly priced deep-sea prawns

Munambam exploited the deep-sea prawns from 'Quilon Bank' and the total catch estimated was 25,647 t with catch/hr of 53 kg in 1999-2000 season. Pandalid prawns *Heterocarpus woodmasoni*, (37%) *Plesionika spinipes*, (28%) and *H. gibbosus*, (13%) were the dominant constituents of the prawn fishery. The penaeid prawns *Metapenaeopsis andamanensis* (14%) and *Aristeus alcocki* (6%) formed the rest of the fishery. In the ensuing season of September

2000-March 2001, 10,042 t of deep sea prawns at a catch rate of 31 kg per hour of trawling was landed. The pandalid prawns accounted for 49% of the fishery supported by *H. woodmasoni* 26%, *H. gibbosus* 14% and *P. spinipes* 9%. The penaeid prawns accounted for 51% of the fishery represented by *M. andamanensis* (34%), *A. alcocki* (15%) and *Penaeopsis jerryi* (2%).

The overall catch and catch rate registered heavy decline of 61% and 42% respectively within two years. Contribution of pandalids in the fishery declined by 29% which was compensated by penaeids. While the pandalid fishery in 1999-2000 season was mainly supported by large sized adult population, juveniles were represented fairly in good numbers in the following season. Specieswise percentage contribution of berried females in this group declined between 15 and 23% in the latter season. Juveniles formed 48% of the *M.*

andamanensis catch in 2000-01 against 26% in the previous season. Unlike coastal species the deep-sea prawns are highly susceptible to over-exploitation due to their long life span, slow growth rate and low fecundity. Hence utmost care should be taken for optimal exploitation of this vulnerable resource by drastically reducing the existing fishing effort.

Breakthroughs / Salient research results of direct importance to users/stake holders

Seed production

Success has been achieved in the seed production and larval rearing of sea cucumber *Holothuria spinifera* for the first time in the Tuticorin hatchery and breeding and larval rearing of the marine ornamental fish *Pomacentrus pavo* at Vizhinjam Research Centre.

Micro hatchery

A self-aerating micro hatchery for rearing penaeid shrimps and other decapod crustacean larvae was developed at Karwar Research Centre.

Important events

Brain storming session

A National brainstorming session on *Researchable*

issues in marine fisheries was organised at CMFRI, Kochi inviting various stakeholders including experts in marine fisheries, researchers, academicians from state universities, entrepreneurs and fish farmers on 15 May. The session was chaired by Dr. K. Gopakumar, DDG (Fy), ICAR.

Institutional Meetings

Staff Research Council

The 8th reconstituted SRC meeting of the Institute was held during 4th and 5th of April at CMFRI, HQ. Progress made in the research projects, both inhouse and externally funded, were reviewed.

Summer School

A summer school on "Advances in fish and crustacean nutrition and aquafeed biotechnology" sponsored by the ICAR was organised at CMFRI HQ during 6-25 June. A total of 25 members from central and state fisheries institutions attended the programme.



Shri. Jose Cyriac, IAS, Chairman, MPEDA delivering the inaugural address.

Training Programmes Organised

Date	Subject	Venue	No. of participants
3 to 9 January	Ornamental fish culture	Calicut	17
29 January to 3 February	Techniques of food analysis & Biochemistry	Cochin	4
5 to 9 February	Culture of mussels, and edible oysters	Cochin	8
24 February	Ornamental fish culture refresher programme	Calicut	150
5 March to 10 April	Scuba diving training	Tuticorin	6
21 to 26 May	Low cost shrimp feed production	Cochin	19
12 to 14 June	Live feed culture	Cochin	2
11 to 30 June	Application of statistical methods in marine fisheries research	Cochin	7

Official Language

Implementation activities

The 51 meeting of the Official Language Implementation Committee of the Institute was held on 25 February and the progress was reviewed.

Women's Day Celebration

Women's day was celebrated in CMFRI on 8 March. The function was presided over by Dr. Mohan Joseph Modayil, Director, CMFRI and the Chief guest was Smt. Retnakala S. Menon, Vice President, Indian Red Cross Society of Ernakulam. The report was presented by the Chairperson, Dr. (Mrs.) S. Sivakami, Senior Scientist.



Smt. Ratnakala S. Menon
Inaugurating the Women's Day
Celebration of CMFRI

Recreation Club Inauguration

The newly formed recreation club of CMFRI HQ was inaugurated by the noted artist, Shri. Kaladharan and the function was presided over by Dr. Mohan Joseph Modayil, Director, CMFRI on

Radio talks

Name and Designation	Date	Topic
Dr. (Mrs) Preetha Panikkar, Scientist, Calicut	7 March	Nutritive Feed for fishes
Shri.Philipose, Scientist (SS) Calicut	2 February 5 June	Ornamental Fishes and aquarium tank settings Bio diversity and conservation
Dr.P.K. Asokan, Scientist (SS), Calicut	17 March 12 May	Mussel farming Sea farming
Dr. V.P. Vipinkumar, Scientist, Calicut	10 June	Women self help groups in fisheries sector
Dr. Gulshad Mohamed, Scientist, Calicut	18 June	Marine water pollution

26 January which was followed by a painting competition for the children of the staff members.



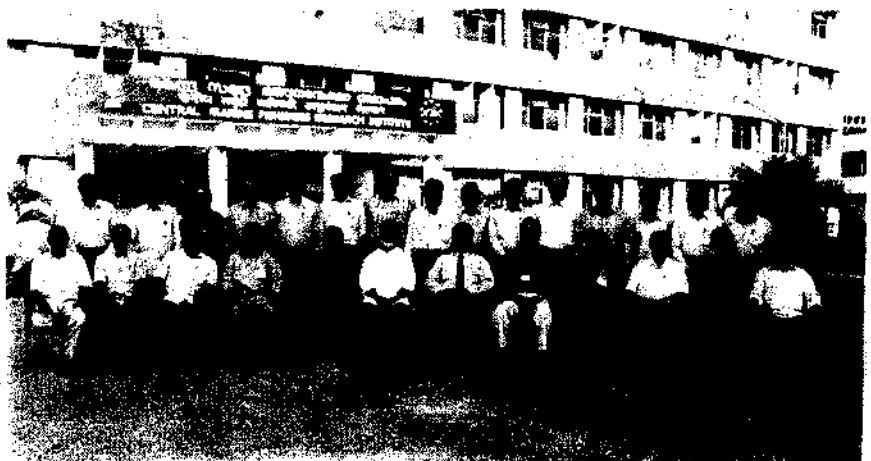
Inaugural function of the
Recreation Club

Club day celebration at Calicut

The Staff Recreation Club of Calicut Research Centre of CMFRI celebrated the Club day on 20 February at Town Hall, Calicut. Cine artist Shri Mammukoya was the chief guest. Dr. Mohan Joseph Modayil, Director, CMFRI presided over the programme.

Training on Human Resource Development

A senior level training programme on Human Reso-



Participants of the HRD training programme

urce Development was imparted to 23 officers of the Institute comprising of HODs and OICs of Research Centres from 12-18, February by the College for Leadership and HRD, Mangalore, under the guidance of Prof. Sunny Tharappan, Director, AIM.

Edible Oyster Farmers Meet

An Edible oyster farmers' meeting was organized by the CMFRI in collaboration with the BFDA, Kollam at Dalavapuram, on 23 March. The meet was inaugurated by Kum. K. Devaki, Panchayat President, Quilon and presided over by Shri Kamal V. Rao, IAS, District Collector, Kollam. The best farmer award was presented to Shri Vincent Mukkadan by Dr. Mohan Joseph Modayil, Director, CMFRI.

Fishermen-Farmers-Industry-Institution Meet

The 42 monthly Fishermen-Farmers-Industry-Institution meet was conducted on "Prawn farming" at Kumbalam on 30 January. Dr. Ashok Kumaran Unnithan, Technical Officer presented the subject matter, which was attended by a good number of prawn farmers.

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A seminar was organised on 'Traditional medicine in primary health' at KVK of CMFRI at Thapovanam, Puthuvypu, on 21 May. Dr. K.I. Vasu, former Pro-Vice Chancellor, CUSAT inaugurated the programme.

Exhibitions

CMFRI participated in the International Agrovision 2001 exhibition at New Delhi, 3-7 January.

A marine aquarium stall was set up by Vizhinjam Research Centre of CMFRI at Trivandrum in connection with "Flower Show 2001" from 20-31 January and bagged the first prize.



A view of the CMFRI stall

CMFRI participated in the exhibition conducted in connection with the *National symposium on fishery technologies and their commercialisation* at CIFE, Mumbai 11-12 January, and won a certificate of appreciation from Dr. S. A.H. Abidi, Member, ASRB.

The Visakhapatnam Research Centre of the



Union Minister visiting the CMFRI stall in the International Seafood Show

CMFRI participated in the "International Seafood Show" held at Visakhapatnam from 9-11 February.

Guests

Dr. Richard Fuche, Secretary, International Foundation of Science (IFS), Sweden visited CMFRI and gave a talk on the role of IFS in funding research projects. 6, February.

Mr. John Sanchez, Mr. Ansan Ward, Mr. John Esser and Mr. Venkatasalagrama, a team from DFID visited CMFRI HQ and had discussions with the Director and Head of Divisions on post harvest technology, 5, March.

A high power committee headed by Registrar of Mangalore University visited CMFRI and held discussions with the Director and Head of Divisions regarding grant of affiliation of the University to CMFRI for research guidance.

Dr. A. Venkataraman, IAS, (Rtd) State Planning Commission Chennai, Dr. Y. S. Rajan, Scientific Secretary, Govt. of India and Dr. K. Pradeep Kumar, Department of Bio Sciences of Inland Fisheries, Bhopal, visited the Tuticorin Research Centre of CMFRI.

Staff News

Director's Engagements

Dr. Mohan Joseph Modayil, Director CMFRI attended the following

Fisheries Divisional Meeting for preparation of the X Plan Document for CMFRI with DDG (Fy) ICAR, 31 January and 1 February.

Executive Development Programme in Agricultural Research Management at NAARM, Hyderabad. 2-5, February.

Visited Kottakkadam mussel farm and inaugurated the harvest mela, 22 May.

Attended the panel meeting of SMD (Fy) under the chairmanship of DDG (Fy), ICAR, 12-14 June.

Participated in the inaugural function of CTCRI's library, museum and conference hall, at Trivandrum, 26 June.

Others

Dr.V.S. Kakati, OIC, Karwar Research Centre participated in the state level workshop conducted by NABARD, Bangalore on *Innovative Schemes* under Mariculture and Inland Fisheries in Karnataka.

Dr. R. Sathiadhas, HOD, SEETTD and Dr.R Narayana Kumar, Scientist participated in the one day National Workshop on *Use of Farm Made Aqua-feeds for the Sustainable Development of Fresh Water Prawn Farming* organised by CUSAT and Agency for Development of Aquaculture Kerala and presented a paper, 15 January.

Dr. R. Narayana Kumar, Scientist attended a training on *Agricultural Development and Policy* organised by the Centre of Advanced Studies in Agricultural Economics, IARI, New Delhi ,13 March to 2 April.

He also attended the National Seminar on *Tourism and Environment* organised by the School of Economics, M.K. University, Madurai, January 29.

Ms. Sheela Immanuel, Scientist attended a training on *Web Designing*, organised by NAARM. 17-19 January.

Dr. C. Ramachandran, Scientist attended a short course on *Computer Application in Agricultural Research* at NAARM Hyderabad, 13-23 February

Dr. Ashaletha and Dr.Wilson Mathew, Scientists attended a short course on *Digital Imaging (STORM)* at CIFE, Mumbai, 26 February to 3 March.

Shri. A. Raju, Senior Scientist participated in the CAS training programme on *Brood Stock Management and Genetic Selection in Fish Seed Production* at CIFE, Mumbai, 12 Feb - 4 March.

Appointments

Dr. M. Sriuath, as Head, FRAD at Kochi, 19 February.

Smt. K. Parukutty as SSG-I (Safaiwala) at Kochi, 2 March.

Promotions

Dr.(Miss) P.Laxmilatha, as Sr.Scientist at Calicut,14 May.

Dr. A.K.V. Nasser, as Sr.Scientist at Calicut, 16 May.

Dr. G. Maheswarudu, as Sr.Scientist at Visakhapatnam, 19 May.

Dr.R. Narayanakumar, as Sr.Scientist at Kakinada, 14 May.

Dr.K.Asokakumaran Unnithan, Technical Officer

(T.O.) (T-9) as Sr.Scientist at Kakinada, 14 May.

Shri L.Chidambaram, as T-4 at Madras, 1 January 2000.

Shri V.M. Dhareshwar, as T-II-3 at Karwar, 1 January 99.

Shri Udaya V.Arghekar, as T-II-3 at Mangalore, 1 July.

Shri S.Rajapackiam, as TA (T-II-3) at Madras, 1 January 95.

Shri P.V.Devassy, as Assi-stant at Kochi , 30 May.

Smt. A. Ranjini, as Assistant at Kochi, 23 February.

Smt. Alice Valooran, as Assistant at Kochi, 23 February.

Smt. K.C. Girija, as Assistant at Kochi, 23 February.

Shri U.Purandara Shetty, as UDC at Mangalore, 2 June.

Shri K.M. Joseph, as UDC at Kochi, 23 February.

Shri M.M. Vanvi, as UDC at Veraval, 14 March.

Smt. Binny Cherian, as UDC at Kochi, 23 February.

Ms. B. Madhavalatha, as UDC at Visakhapatnam, 24 February.

Smt. Gouri Hareendran, as UDC at Kochi, 23 February.

Shri S. Narayanan

Achari, as LDC at Kochi, 3 January.

Shri. M. Govindraj, as SSG-IV Watch Man (WM) at Mandapam Camp, 11 June.

Shri. R. Alagan, SSG-III as SSG-IV Field Man (F.M.) at Mandapam Camp, 11 June.

Shri. K. Guruswami, as SSG-IV (Safaiwala at Mandapam Camp, 11 June.

Shri. P. Karuppaiah as SSG-IV (WM) at Mandapam Camp, 13 June.

Shri. M. Ramu as SSG-IV (FM) at Mandapam Camp, 11 June.

Shri K.T.Rajappan, as SSG-III (WM) at Kochi, 7 June.

Shri M. Ravindran, as SSG -III (Messenger) at Chennai, 2 February.

Shri C.O. Viswambharan, as SSG-III (FM) at Kochi, 30 January.

Shri T. Vijayakumar, as SSG-III (Messenger) at Kochi, 3 January.

Shri V. Kochunarayanan Nair, as SSG-III (WM) at Vizhinjam, 2 February.

Shri S. Antony, as SSG-III (Messenger) at Vizhinjam, 2 February.

Shri G. Vijayan, as SSG-III (WM) at FHL, 31 January.

Shri S. Mariappan, as SSG-II (WM) at Tuticorin , 3 February.

Shri M.K. Anilkumar, as

SSG-II (FM) at KVK Narakkal, 3 February.

Shri N. Nagamuthu, as SSG-II (Safaiwala) at Mandapam Camp, 3 February.

Shri P.B.Jeevaraj, as SSG-II (FM) at Kochi, 8 June.

Shri Thirumangalathu, Koman, as SSG-II (LA) at Calicut, 11 June.

Shri K.Govindan, as SSG-II (Khansama) at Mandapam Camp, 11 June.

Smt. Rajani Sekharan Tambe, as SSG-II (Messenger) at Mumbai, 12 June.

Shri M.Mariappan, as SSG-II (Safaiwala) at Tuticorin, 12 June.

Shri Makwana Somapitha, as SSG-II (WM) at Veraval, 16 June.

Transfers

Shri K.R.Manmadan Nair, Sr.Scientist from Kochi to Mandapam Camp.

Dr.K.V. Somasekharan Nair, Sr.Scientist from Kochi to Karwar.

Shri M. Sivadas, Scientist (Sr.Scale) from Minicoy to Calicut.

Smt. P.T. Sarada, Scientist (Sr.Scale) from Minicoy to Calicut.

Shri M. Ferozkhan, Scientist (Sr.Scale) from Calicut to Kakinada.

Shri K.P. Said Koya, Scientist (Sr.Scale) from KVK to Minicoy.

Shri Chandrakant Pandit Rao Tayade, Scientist from Kochi to Visakhapatnam.

Shri P.R. Leopold, Technical Officer (T-9), FMC, Narakkal to Kochi.

Shri G.C. Lakshmiah, T.O. (T-6) from Nellore Field Centre to Madras Research Centre.

Shri N.Venugopalan, T.O. (T-6) from KVK to Kochi.

Shri K. Soman, T.O. (T-5) from Calicut to Kochi.

Shri S.Chandrasekhar, Senior Technical Assistant (STA) (T-4) from Madras to Nellore Field Centre.

Shri V. Thanapathy, STA (T-4) from Madras to Mahabalipuram Field Centre.

Shri T.Dhandapani, STA (T-4) from Cuddalore Field Centre to Kakinada.

Shri K.Muthiah, STA (T-4) from Mandapam to Tuticorin.

Shri M.G. Sivadasan, STA (T-4) from KVK to Kochi.

Shri K.Diwakar, TA (T-4), from Cochin to Tuticorin.

Shri P.Paul Sigamony, T.A. (T-3) from Kanyakumari Field Centre to Vizhinjam.

Shri Sijo Paul, T.A.(T-3) from Mahabalipuram Field Centre to Ongole Field Centre.

Shri K.K.Surendran, T.A. (T-3) from KVK to Kochi.

Shri C.S. Sasidharan, T.A. (T-3) from KVK to Kochi.

Shri V.K. Suresh, TA (T-3) from KVK to Kochi.

Shri K.C. Devassy, Deckhand (T-3) from KVK to Kochi.

Shri T.G. Thippeswamy, TA (T-3) from Madras to Kochi.

Shri Sekhar V.Rayar, TA (T-3) from Tuticorin to Vizhinjam.

Shri V.M.Dharieswar, TA (T-II-3) from Karwar to Mangalore.

Smt. D. Geetha, Assistant Administrative Officer from Chennai to Kochi.

Smt. Ponnamma Radhakrishnan, UDC from Vizhinjam to Kochi.

Shri S.Jeyachandran, Assistant from Mandapam to Kochi.

Shri K.Ramadasan, UDC from Calicut to Kochi.

Shri A.Yagappan, UDC from Mandapam to Kochi.

Shri N.Ilamparuthi, LDC from Mandapam to Kochi.

Shri M.E. Durgekar, JTA (T-2) from Karwar to Goa Field Centre.

Shri D.G. Jadhav, JTA (T-2) from Janjira Murud Field Centre to Mumbai.

Shri N.Boominathan,

F.A. (T-1) from Nellore Field Centre to Mandapam.

Shri K.G. Radhakrishnan Nair, Motor Driver (T-1) from Vizhinjam to Kochi.

Shri M.Rajkumar, FA (T-1), from Madras to Pondichery Field Centre.

Shri K.K.Raman, SSG-IV (WM) from Madras to Pondichery Field Centre.

Shri P.I. Koya, SSG-IV (L.A.), from Minicoy to Kochi.

Shri M.R. Bharathan, SSG-IV (Deckhand) from KVK to Kochi.

Shri K.Ganesan, SSG-III (F M) from KVK to Kochi.

Shri K.Kunjuraman, SSG-II (WM) from KVK to Kochi

Shri K.U. Gopi, SSG-II (Safaiwala) from KVK to Kochi.

Shri N.K.Shanmughan, SSG-II (Messenger) from KVK to Kochi.

Shri T.V. Shaji, SSG-II (Messenger) from KVK to Kochi.

Shri K.Thankappan, SSG-II (FM) from KVK to Kochi.

Shri M.D.Suresh, SSG-II(FM) from KVK to Kochi.

Shri P.V. Gopalan, SSG-I (Messenger) from KVK to Kochi

Shri M.P. Devadasan, SSG-I (WM) from KVK to Kochi.

Shri A.K. Shaji, SSG-I (F M) from KVK to Kochi.

Shri S.Srinivasulu, SSG-I, from Kochi to Visakhapatnam.

Inter-institutional transfer

Dr. S.M. Pillai, Senior Scientist from KVK, Narakkal to CIBA, Chennai, 9 February.

Miss. Mini K.G, Scientist, from IASRI, New Delhi to Cochin, 14 June.

Shri Radhey Sham, SFAO from CMFRI to PIU, NATP, New Delhi, 20 February.

Shri C.K. Sajeev, T 0 (T-5) from CIFE to Visakapatnam Research Centre of CMFRI, 14 December.

Shri P.K. Harikumar STA (T-4) from IARI, New Delhi to CMFRI, Cochin, 19 February.

Smt. C. Devaki, (LDC) from CPCRI, Kasaragod to Cochin, 1 March.

Smt. K. Jayshree, LDC from Karwar Research Centre of CMFRI to CPCRI, Kasaragod, 28 February.

Smt. K. Smitha, LDC from CIFE, Mumbai to Cochin, 1 June.

Shri M.Gopinathan Nair, Motor Driver (T-4) from KVK to CIBA, Chennai, 16 May.

Shri S.Srinivasulu, SSG-I from CARI, Port Blair to Cochin, 22 June.

Retirements

Dr. V. Thangaraj Subramaniam, Senior Scientist at Chennai, 31 January.

Shri K.N.Rajan, Sr.Scientist at Kochi, 31 May.

Shri M.J.John, Superintendent at Kochi, 31 March.

Shri M.K.Peethambaran, SSG-IV (FM) at Kochi, 31 March.

Shri A.Muniasamy, SSG-IV (LA) at Mandapam, 30 April.

Shri M.B.Kotharkar, SSG-III (WM) at Karwar, 30 April.

Shri S.Pitchai, SSG-IV (Daftry) at Mandapam, 31 May.

Voluntary retirement

Shri C.Yohannan, Assistant Administrative Officer at Kochi, 1 June.

Shri K.Pandi, Motor Driver (T-3) at Madras, 1 April.

Shri V. Sasidharan Pillai, SSG-IV (LA) at Vizhinjam, 1 February.

Termination

Shri C. Mugesh, Skin Diver (T-2) at Tuticorin, 30 January.

Obituary

Shri N.P. Chandrakumar, T.A. (T-1-3) at Srikakulam Field Centre, 13 February

Shri T.A. John, SSG-IV (Khalasi) at Kochi, 10 May.

Shri Y. Balu, SSG-III (Oilman) at Mandapam, 18 February.

CONSULTANCY SERVICES

Consultancy services are offered by the Institute in the following specialised areas:

- Coastal zone and marine environment monitoring, environment impact assessment and bio diversity.
- Fishing impact assessment, under water investigations, stock assessment, fisheries forecasting, remote sensing, conservation and management, and socio-economic evaluation
- Shell fish and fin fish farming systems, hatchery technology and sea ranching.

TRAINING PROGRAMMES

Training programmes are also offered for a wide spectrum of clients in private, quasi government and government sectors at nominal rates on the topics of clients' interest.