



# The Inland Fisheries News

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## Cage Culture of fish and prawn in Mathura Beel

**Preliminary trials to culture fish and prawn in cages installed in the *beels* of West Bengal produced encouraging results**

### Cage Culture

Netlon screen of 5 mm mesh size of black colour was selected for making the cage. The desired shape of the screen was set by sewing the outer edge with nylon thread for giving the shape of a box. The box was further strengthened by making the frame with acrylic pipes. The cage erected in Mathura *beel* was 3 m x 2 m x 2 m

The cage was positioned in place with the help of 4 bamboo poles in the open area of the *beel* with provision of proper water circulation and protection from strong currents and high waves. The cage was fixed at a height of 0.4 m from above the bottom of the *beel*.

Catla and rohu fingerlings of 100-180 cm size were stocked at a density of 10,000 nos./ha. Fishes were fed regularly with pelleted feed containing 25 percent protein @ 2% of the body weight. The growth of catla and rohu has been recorded on an average 300 g and 183 g respectively. The production obtained from the cage estimated at 11 kg/12m<sup>3</sup>/130 days.

Fish and prawn were also cultured in pens. Two pens of 0.08 ha and 0.064 ha size were erected to conduct fish and prawn culture demonstrations in Mathura *beel* (floodplain wetland), North 24 Parganas, West Bengal. The depth of water was 0.9 to 1.3 m. Pens comprised 3 layers where bamboo splits formed the outer layer, iron mesh the middle layer and nylon mosquito net formed the inner layer.



**Harvest of fish from Cage**

### Original name of CIFRI restored

The Original name of the Institute has been restored as **Central Inland Fisheries Research Institute** by removing the word 'capture'. The Institute deals with the whole gamut of fisheries activities in open waters above 10 ha in area. This Includes culture-based fisheries and all other forms of enhancement, apart from the capture fisheries. Thus, the rechristening is very appropriate.

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The pens were stocked with fingerlings of catla (45g), rohu (30 g), mrigal (27 g) and silver carp (42 g) at a stocking density of 10,000 nos./ha maintaining a ratio of c : m : r : sc :: 3 : 3 : 3 : 1. The fishes, which were fed on pelleted feed, were harvested after 130 days of operation, catla recorded an average growth of 400 g while rohu, mrigal and silver carp, 172, 143 and 200 g respectively. Actual production of fish from a pen was estimated at 210 kg/0.08 ha/130 days.

In another pen *Macrobrachium rosenbergii* weighing 5-8 g (82-100 mm) were stocked @ 25,000 nos/ha. The prawns were fed with commercial prawn feed, in addition to molluscan meat thrice in a week. Retrieval of prawn was only 56.39%. The growth of the prawn on an average has been estimated at 41 g. A total of 37 kg of prawns was harvested at a yield rate of 578 kg/ha/130 days.

## Research on stress diagnosis in fishes

In tropical waters fishes are often subjected to the hazards of rapid temperature changes either due to daily variations in water temperature in shallow waters or thermocline in deeper water bodies. These effects are often synergistic with those of other stressors. Temperature changes considerably stress the homeostatic mechanism of fishes. The study was aimed at understanding the physiological changes that occur in fishes subjected to sublethal thermal stress and the period of their metabolic recovery.

Investigations were conducted in the Fish Pathology Laboratory of Fish Health and Environment Division, on two fish species, *L. rohita* and *R. rita*. Rapid sublethal temperature increase from 28°C to 35°C caused significant increase in cortisol and decrease in interrenal ascorbic acid. Hypercholesterolemia, hyperglycemia and hyperlactemia were also evident accompanied by increased blood haemoglobin and haematocrit. Compensatory responses were initiated with 72 hrs. in both the fishes at 35 °C. Thus it is suggested that for proper fish health management of fishes subjected to sublethal temperature stress further stress should not be given within 72 hrs. for metabolic recovery.

## IMPORTANT EVENTS

### National Symposium on Fisheries Enhancement in Inland Waters - Challenges ahead

A National Symposium on Fisheries Enhancement in Open Waters - Challenges Ahead was organized at Central Inland Fisheries Research Institute, Barrackpore.

Sponsored jointly by the Inland Fisheries Society of India and the Central Inland Fisheries Research Institute, the Symposium was formally inaugurated by Dr. S. Z. Qasim, the renowned Fishery

Scientist and former Member of Planning Commission, at 1100 hrs on 27 April 2002. A galaxy of renowned Fishery Scientists, academicians, development authorities, extension functionaries, researchers, students, progressive fish farmers and other dignitaries from different parts of the country were present at the inaugural function. Dr. V. V. Sugunan, Director, CIFRI and President of Inland Fisheries Society of India, in his welcome address elaborated the concept and rationale behind the topic of the Symposium. On this occasion Honorary Fellowships of Inland Fisheries Society of India were conferred on eleven eminent scientists of the country. Dr. S. Z. Qasim distributed the Fellowships. An exhibition, 'Aqua-fair 2002' was organized at CIFRI Campus, Barrackpore. Dr. S. N. Dwivedi, former Director, CIFE inaugurated the Fair. There was a session on invited lectures and three Technical Sessions viz. On Biological and environmental implications of enhancements, Resource based approach and development strategies and Socio-economic aspects and institutional arrangements of enhancement. In the three concurrent sessions contents of more than 100 papers were discussed. Session-wise suggestions and recommendations were presented in the General Session and a 16 point recommendations were adopted.



**Dignitaries on the dais**



**Distinguished delegates and participants**



## Brain-storming session on the possibilities of fisheries projects in the Eastern and North-eastern Region

A brain-storming session was organized on March 7, 2002 at CIFRI, Barrackpore in collaboration with the Technology Information, Forecasting and Assessment Council (TIFAC), New Delhi, to discuss the possibilities of fishery projects in the Eastern and North-Eastern region. Dr. S. A. H. Abidi, Member, Agricultural Scientists' Recruitment Board, New Delhi and Chairman, TIFAC Fisheries Panel presided over the function



### The brain storming session in progress

Dr. V. V. Sugunan, Director CIFRI, Barrackpore, while welcoming the Chairman and other participants, made a brief presentation on status of the fisheries resources, present fish production, production potential and untapped fish-potential gap of the states of the North-Eastern region.

Dr. Abidi as Chairman introduced the theme of the session and role of TIFAC to the participants. He elaborated the need, scope and potential areas of fisheries research and development in the region. He stressed the need for concerted efforts from all the Fisheries Institutions in the region and CIFT, Kochi to : (i) identify the potential areas of fisheries development related to both fish production and post-harvest enterprises; (ii) assess the income and employment potential in identified enterprises; and (iii) scope for meeting the fish demands of the population and upliftment of standard of living of the fishermen community in the region.

## Summer School on Culture-based Fisheries of Inland Fisheries Development

A Summer School on Culture-based Fisheries for Inland Fisheries Development was conducted at the CIFRI, Barrackpore, from 18 July to 17 August, 2001, twenty-five participants from various states representing Fisheries Departments, Universities, Agriculture Universities and Research Organizations took part in the one-month programme. The Summer School was inaugurated by Dr. S. A. H. Abidi, Member, Agricultural Scientists' Recruitment Board, New Delhi on 18 July 2001 at a function attended by Prof. A. K. Bhattacharya, Vice- Chancellor, West Bengal University of Animal and Fishery Sciences. During the inaugural function, Dr. V. V. Sugunan, Course Director welcomed the participants and explained the background and relevance of the Summer School. While inaugurating the school, Dr. Abidi emphasized the importance of sustainable fish production from inland water resources for meeting the increasing demand for fish. He expressed the hope that the steps taken by CIFRI to disseminate the knowledge to the state functionaries will bear fruit. The course included definitions and concepts of culture-based fisheries, its relevance in the Indian context and the scope of adopting it for fisheries development of the country.

Nearly 1.5 million ha of small reservoirs, 0.2 million ha of floodplain wetlands and many other small water bodies are amenable for practicing culture-based fisheries in the country. This system of culture facilitates yield optimization on a sustainable and eco-friendly manner. Various methods of culture-based fisheries were explained to the participants during the Summer School. Lectures, laboratory work, field trips, dissertation and seminars were part of the course. Apart from the Faculty comprising the scientists of CIFRI, many experts from other organizations were also invited as Guest lecturers.

In the valedictory function the certificates were distributed by Prof. Debabrata Dasgupta. Speaking on the occasion, Dr. V. V. Sugunan, Director of CIFRI and the Course Director expressed the hope that the themes developed at the Summer School will be further discussed and disseminated by the participants at their respective organizations. He assured all back-up assistance from CIFRI. Dr. M. Sinha, former Director, CIFRI, Barrackpore, Dr. P. Das, former Director, NBFGR, Lucknow and Prof. N.C. Datta, former Head of Zoology Department, Calcutta University, attended the valedictory session. Two participants, Dr. B. Santosh and Dr. V. R. Suresh were awarded certificates of merit for securing highest marks in the tests conducted during the school. Dr. Suresh was adjudged the best participant.



## The Sundarbans Day

The National Fellow Scheme, ICAR of the Calcutta Research Centre of Central Inland Fisheries Research Institute (CIFRI), in collaboration with the Calcutta Wildlife Society, observed the 6th Sundarbans Day on 3 June, 2002 at the Kolkata Research Centre of CIFRI, CGO-Complex, Salt Lake, Kolkata. The Sundarbans day coincides with the birth anniversary of Sir William Roxburgh, the renowned Botanist. A one-day seminar on 'Identification of problems and their possible remedial measures' was also organized on the occasion. The main objective of the seminar was to identify the different problems related to conservation and management of the mangrove ecosystem in the Sundarbans. More than 180 eminent personalities ranging from Ministers, Officials, Scientists, Professors and NGOs discussed various issues pertaining to Sundarbans and suggested remedial measures.

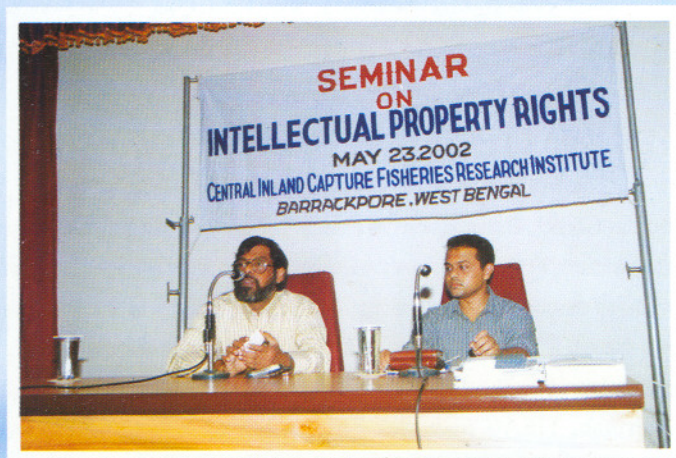
Mr. Kanti Ganguli, Hon'ble Minister-in-Charge, Sundarbans Affairs was present as the Chief Guest. Earlier, Swami Viswamayananda, Assistant Secretary, Ramakrishna Mission Ashram, Narendrapur paid tribute to Sir William Roxburgh, while inaugurating the Seminar by lighting the auspicious lamp. Seedlings of the plant of 'Sundari' (Heritiera fomes) was presented to the Minister and other dignitaries present on the occasion. Dr. Kumudranjan Naskar, National Fellow, ICAR, CIFRI, explained the background and objectives of the seminar.

Dr. V. V. Sugunan, Director, CIFRI, Barrackpore, chaired the inaugural session.

In the Technical Sessions that followed, main discussions centered round the uniqueness of the Sundarbans and the problems related to its conservation and management.

### Seminar on Intellectual Property Right Key to New Wealth

A one day seminar on IPR was organized at Institute's Headquarters, Barrackpore in collaboration with IPR-Aid Institute - an organization supported by Department of Scientific and Industrial Research (DSIR), Government of India on May 23, 2002 to create awareness about patent and IPR among the scientific community of the Institute. Seminar became lively with multimedia presentation of role play and subsequent interaction.



**Dr. V.V. Sugunan explaining  
the importance of IPR**

## World Environment Day

The **World Environment Day** was observed at CIFRI on 5 June, 2002. On this occasion Dr. V. K. Unnithan Memorial Lecture was introduced in fond memory of Late Dr. V. K. Unnithan. The first lecture in this series entitled 'Environmental Awareness' was delivered by Dr. K. Chandra, Principal Scientist. On the occasion lectures were also delivered by Dr. D. Kumar, Dr. B. C. Jha, Dr. M. A. Khan, Dr. D. Nath and Dr. S. Samanta. The meeting was chaired by Dr. V. V. Sugunan, Director of the Institute.

## MEETINGS

### Management Committee

The 28th Meeting of the Institute Management Committee was held at Barrackpore on 26th March, 2002 under the Chairmanship of Dr. V. V. Sugunan, Director and attended by other members viz., Shri S.L. Mewrah, Dr. K.C. Dora, Shri Narendra Pratap Mishra, Shri Ashok Kr. Bhattacharjee, Dr. R.S. Panwar, Dr. D. Nath, Shri D. Moitra, Shri V.S. Subramanian and the Finance & Accounts Officer, CRIJAF, Nilganj, Barrackpore.



## Annual Staff Research Council

The Annual Staff Research Council meeting of the Institute was held on 22-23 April, 2002 under the Chairmanship of Dr. V. V. Sugunan, Director, CIFRI. Progress achieved under all the research projects of the Institute was presented by respective project leaders. After elaborate deliberations future project Programme for 2002-2003 was formulated.



**Staff Research Council  
Meeting in progress**

## Research Advisory Committee

The Research Advisory Committee meeting of the Institute was held at CIFRI, Barrackpore on 24-25 April 2002 under the Chairmanship of Prof. J. S. Datta Munshi and was attended by other members Dr. P. Das, Dr. S. P. Ayyar, Dr. B. N. Singh, Dr. B. B. Jana and Shri A. K. Bhattacharya.



**View of Research Advisory  
Committee Meeting**

After discussion on the Action Taken Report of the last meeting, the Heads of Divisions presented the progress and achievements under various projects. After a thorough discussion on individual projects recommendations for future research programmes were decided.

## HUMAN RESOURCE DEVELOPMENT

Dr. P.K. Katiha, Senior Scientist participated in a special session on 'Strategies and options for increasing and sustaining fisheries and aquaculture production to benefit poor household in Asia' during the meeting of the World Aquaculture Society (WAS-2002), 24-27 April, 2002 at Beijing, China and presented the paper 'Production and consumption of aquacultural products in India : Past trends, present status and future prospects'.

## VISITORS

### The Governor of Assam visits Pen Culture Site of CIFRI

His Excellency Governor of Assam, Lt. Gen. (Rtd.) S. K. Sinha visited the pen culture sites of the Central Inland Fisheries Research Institute (CIFRI) and expressed the view that the project was "crucial step towards the self-sufficiency in the fish production in Assam". The Governor visited pens erected in Samaguri *Beel*, Nagaon Dist. on 14th May, 2002. CIFRI is undertaking extensive pen culture experiments covering four districts of Assam under Mission mode NATP Project, **Jai Vigyan Scheme on Nutritional Security for Hilly and Tribal Region**. The main objective of the project is refinement and transfer of pen culture technology for ensuring food and nutritional security of the fishers of Assam.

His Excellency had extensive interactions with the beneficiaries of the Scheme. Earlier, the Scientists of CIFRI had explained to His Excellency, the basic need and objectives of launching this technology in the *beels* of Assam. This technique of fish culture was specially suited for the weed-choked *beels* of Assam, the Governor was told.





### **His Excellency the Governor of Assam visits pen culture project of NATP**

His Excellency was highly impressed by the success of this technology and acclaimed CIFRI's contribution towards making Assam a self-sufficient state in fish production. He also found time to spend with the scientists of CIFRI to know about other activities of the Institute for furthering the fisheries development of the State.

● Dr. Panjab Singh, Director General, ICAR and Secretary, DARE, New Delhi visited the Institute on 19th January 2002. He inspected the various laboratories and addressed a general meeting of the staff members of CIFRI. He exhorted the scientists to pursue their scientific work with dedication and purpose.



### **Dr. Panjab Singh, Director General, ICAR interacting with scientists**

● Dr. M. Mahadevappa, Chairman, Agricultural Scientists Recruitment Board visited the Institute on 9th February 2002. He visited various laboratories and discussed with scientists about the research activities undertaken. He addressed the staff members of the Institute and released three publications of the Institute. He was impressed with the quality of research work undertaken and the working environment in the Institute.

● Dr. S. Z. Qasim visited the Institute on 28th April 2002. While commending the work done so far by CIFRI he exhorted the scientist to focus research on improving the habitat quality of aquatic ecosystems to make fisheries sustainable.

## **EXTENSION SCENE**

### **National Technology Day**

The Institute celebrated the **National Technology Day** on May 11, 2002 organizing Group Discussion, Fish farmers' Day, Demonstration on Pen and Cage Culture technology, Film shows at Kancharapara Fishermen Cooperative Society, Kancharapara, North 24 Parganas district, West Bengal. About 300 fish farmers/fishermen participated in the function. The day is celebrated with the objective of focussing attention of the Nation on issues of technological development and advancement.



## HONOURS / AWARDS



### Fish Farmers' Day

#### Mass Awareness Campaign

A mass awareness campaign was organised by CIFRI in collaboration with NBFGR, Lucknow at Farakka, West Bengal on June 19, 2002 towards conservation of fish and fisheries of the country. The campaign focussed on the need for conservation of fish species facing extinction due to natural and anthropogenic causes. The role of fishermen in such conservation measures were emphasized. The speakers emphasized the need to stop hilsa juveniles being caught and sold as *Gudusia chapra* and the wanton destruction of huge quantity of other fish and prawn seed while collecting larvae of *P. monodon*.



### Environmental Conservation Excellency Award and Gold Medal for Dr. V. V. Sugunan

The Nature Conservators, India (NATCON) has bestowed **Nature Conservation Excellency Award** and a **Gold Medal** to Dr. V. V. Sugunan, Director, CIFRI. The Award was given in recognition of Dr. Sugunan's outstanding contributions in the field of Wetland and Reservoir Ecology, the citation read out on the occasion says. The award and Gold Medal were presented to Dr. Sugunan at a ceremony conducted in the Gurukul Kangri University, Haridwar on 25 May 2002. The award was given to Dr. Sugunan by Dr. S.A.H. Abidi and the Gold Medal was presented by the Vice-Chancellor, Gurukul Kangri University, Haridwar.



### Mass Awareness Programme for Conservation of Fish

The extension personnel of the Institute have been organizing various programmes to sensitize the issue through awareness amongst the fishermen so that they follow conservation measures themselves and motivate others to follow the same.



## STAFF NEWS

### Promotion Position Effective from

Sri P.K. Dutta	Assistant	08.02.2002
Sri A.C. Biswas	Senior Clerk	-do- (A.N.)
Sri N.L. Das	SSG-IV	20.04.2002
Sri P.C. Kachari	-do-	22.04.2002
Sri Karna Bahadur	SSG-III	27.04.2002
Sri S. Mahendran	SSG-III	30.04.2002
Sri N.K. Mitra	A.A.O.	06.05.2002
Sri Fatik Manna	T-6	01.01.2002
Sri A.K. Mondal	T-2	29.06.2001
Sri V.G. Dhindore	-do-	-do-
Sri Ram Prasad	-do-	-do-
Sri Ram Sajiwan	-do-	-do-
Sri Subhendu Mondal	-do-	-do-
Sri A.K. Jana	-do-	-do-
Sri B.K. Naskar	-do-	-do-
Md. Yousuf Ali Sk.	-do-	-do-
Sri S.L. Bairagi	-do-	-do-
Smt. A. Sengupta	T-4	27.08.2001

### Merit increment(s) on recommendations of the Assessment Committee

	No. of Increments	Effective from
Sri H. Chaklader, T-5	Three	01.01.2002
Sri A.K. Banerjee, T-5	-do-	-do-
Sri P. Dasgupta, T-5	One	01.07.2000
Sri A.K. Goswamy	Two	29.06.2001

### Transfer

Sri Ritesh Saha, Scientist	Inter-Institutional
	From CIFRI to ICAR Research Complex for NEHR, Barapani.
Sri M. Feroz Khan, Scientist (SG)	
	From CMFRI, Calicut to CIFRI, Bangalore
Sri Sujit Chowdhury, T-3 (Artist)	
	From NRCOP, Pedavegi, A.P. to CIFRI Barrackpore
Sri I.N. Kodandaraman, AAO Bangalore	to Allahabad

### Retirement

### Date of retirement

Sri N.C. Mandal, T-5	31.01.2002
Sri L. Somulu, SSG-IV	-do-
Sri S. Chakraborty, T-I-3	30.04.2002
Shri R.K. Dwivedi, Principal Scientist	31.05.2002
Sri Baij Nath, Assistant	-do-
Sri C.K. Pandey, Senior Clerk	-do-
Sri Sudhangsu Kr. Burman, SSG-IV	-do-
Sri M. Kachhap, Superintendent	23.08.2001

### Obituary

The members of staff of CIFRI express their deep sense of sorrow at the sudden and untimely demise of Shri K. Ganeshan, T-4, posted at Allahabad whose tragic end came on 18<sup>th</sup> January, 2002.

May the departed soul rest in peace.



## LIBRARY

### New Additions (Books)

- *Endemic fish diversity of Western ghats* by Ponniah, A.G. & A. Gopalakrishnan (Ed)
- *Freshwater fish distribution* by Berra, Tim M. (Ed)
- *Ecology of polluted waters*, Vol.1&2, by Kumar, Arbind (Ed)
- *Water quality control handbook* by Alley, E. Roberts (Ed)
- *Food intake in fish* by Houlihan, Dominic, Jhierry Boujard & Malcolm Jobling (Ed)
- *Manual of bioassessment of aquatic sediment quality* by Mudroch, alena, Jose M. Azcue & Paul Mudroch (Ed)
- *Encyclopedia of environments*, Vol.(1-4), by Shaaravi, Abdel & Walter W. Piegorsch (Ed)
- *RNA Viruses - a practical approach* by Cann, Alan J. (Ed)
- *Data analysis in molecular biology and evolution* by Xia, Xuhua (Ed)
- *Applied ecotoxicology* by Rombke, Jorg & Johann F. Mottmann (Ed)