

RESEARCH BRIEF

Invasion of exotic fish species in Indian rivers

Investigations conducted by CIFRI, revealed that in the stretch of river Ganga at Allahabad and Varanasi, the contribution of exotic fishes, mainly common carp is approximately 15 to 30 % of the total catch, while in river Yamuna at Agra and Mathura stretch both tilapia and common carp formed around 50-60% of the catch. Similar trend is recorded in Peninsular rivers also. Reduction of the flow rate, water volume in certain stretches of these rivers resulted in stagnant waters with feeble current. Since these exotic fishes got optimum condition for breeding and recruitment in the stagnant stretches they have established in the system and their contribution is becoming significant. It is noteworthy that these exotic fishes are not recorded below Varanasi in the river Ganges, where there is fast current and increased water volume.

Qualitative shift of energy utilization pattern in river Ganga

The hydrological alteration and increased fishing pressure have resulted in complete change in the flow of energy in river Ganga. The energy harvest in river Ganga at Allahabad during sixties was 56,136 Kcal ha⁻¹ mainly contributed by Indian major carps (almost 55.8 %) the contribution of tertiary consumers and miscellaneous species being 21.5 & 22.7 % respectively. The share of detritus feeder *Cirrhinus mrigala* alone was around 30.5 % of the total. But with passage of time the scenario has changed completely with primary, secondary and detritus consumers going down to 10.8 %. The worst sufferer was detritus feeder *C. mrigala* which reduced to 4.5 %. Even tertiary consumer catfishes declined to 11 %. Miscellaneous species however registered sharp increase 60.7 % of the total energy in recent years (2000-06). The qualitative shift in the pattern of energy utilization with drastic reduction in primary, detritus and secondary consumers and dominance of uneconomical



Cyprinus carpio and Tilapia nilotica catch from river Ganga at Allahabad

miscellaneous species in the total energy harvest resulted in tremendous loss of potential energy. As a result the energy harvest from the river has shown a sharp decline and it was only 22,080 Kcal ha⁻¹ in which 3, 852 Kcal ha⁻¹ was the contribution of exotic species.

In Buxar stretch, the energy harvest from the river was 1, 33, 560 Kcal ha⁻¹ with primary, secondary and detritus consumers contributing almost 71.1 % (mainly hilsa 66.8 %) and miscellaneous species 22.2 % during sixties. But the trend changed completely with primary, secondary and detritus consumers going down to 17.7 % (Hilsa reduced to 3.9 %) and miscellaneous species showing tremendous increase (57.5 %). The shift in the pattern of energy utilization has reduced the energy harvest from river Ganga in this stretch to 64, 320 Kcal ha⁻¹. Similar change in energy flow pattern has been observed at Patna and Bhagalpur stretch also.

Need for fishery management in U. P. wetlands

Ramiyabehad wetland situated in the terai region of Lakhimpur-kheri district of Uttar Pradesh on Ghaghra river basin was investigated as case study. The total water

spread area of the wetland is 248.0 ha from which 80.0 ha had been leased out to a local fisher's society for their livelihood support. The wetland is located in diverse catchments spread over agricultural fields, human settlements and forest land.



Fishers fishing in Ramiyabehad wetland

21 fish species were recorded from the wetland. *Labeo rohita* forms principal fishery in the wetland. *Wallago attu*, *Channa marulius*, *Channa punctatus*, *Notopterus notopterus*, *Nandus nandus*, *Glossogobius giuris*, *Xenentodon cancila* and *Salmostoma bacaila* were the other abundant species. Average fish catch composition of the wetland was IMC (45.50 %), catfishes (22.0 %) and miscellaneous species (32.5.0 %). Average size of *Labeo rohita*, *Wallago attu* and *Channa marulius* from the wetland ranged from 2.0-5.0 kg, 0.5-3.0 kg and 0.2-2.5 kg, respectively. Fish yield from Ramiyabehad wetland is poor 29.62 kg/ha/yr. Implementation of appropriate CIFRI

recommended protocols by the wetland owners can enhance fish production from this productive wetland.

OTHER PROJECT HIGHLIGHTS

- Sequencing of amplified 'aerolysin gene' products obtained from water and sediment from different stations of Bidyadhari river and sewage fed wetlands in West Bengal indicated the presence of seven different variants of *Aeromonas hydrophila*.
- Investigations on CPUE (in kg/fisher/day) and number of species of natural fish in the wetlands of West Bengal revealed that in a closed, perennial wetland with natural fishery (Rajar wetland) it was 3.23 and 18 respectively; in perennial wetlands, which are seasonally connected through channels and undergoing stocking of major carps (Chandania wetland) it was 1.6 and 12 respectively. In seasonal wetland with only natural fishing (Borthi wetland) CPUE was 4.5 and in perennial wetland directly connected to main river with only natural fishery (Kol wetland) CPUE was 4 with the presence of 23 species of fishes, indicating that the CPUE and presence of number of species is higher in wetlands, which are connected to river and undergoing only natural fishing
- Resource inventory and mapping of water bodies in Mandala, Mandasaur and Morena districts of Madhya Pradesh was completed using satellite data, for preparation of their GIS database. Topographical sheets of Bankura district, West Bengal was digitized for preparing digital elevation model.

OUTREACH

Training: During the period CIFRI has been involved in imparting skills and training to the officials from the states of Jharkhand, Bihar and Assam.

Training Programme	Participants	Venue
Freshwater Fish Farming	20 fishers from Jharkhand	CIFRI, Barrackpore during July 16-25 2007
Value addition of fish product and Net making	50 women of fisher community	Mundapara, July 11-16, 2007 and Debnivas, Sundarbans during July 23-28, 2007.
Inland Fisheries Development	Extension functionaries Matsya Mitra, and 40 fishermen from Jharkhand	CIFRI, Barrackpore, August 6-27 & August 20-27, 2007.

Conservation of Hilsa Fishery	250 fishers	Nawabgunj, North 24 Parganas, West Bengal during August 30, 2007
Modern fish farming	20 officers of Department of Fisheries, Govt. of Assam	CIFRI, Barrackpore, during September 21-29, 2007.
Inland Fisheries	80 fish farmers of Bihar	CIFRI, Barrackpore, during September 21-30, 2007 and October 3-12, 2007
Group discussion with the fishers	60 fishers of the local fisher community.	Kabini Reservoir, Bangalore on October 5, 2007
Integrated Fish Farming	20 Officers of Department of Fisheries, Govt. of Assam	CIFRI, Barrackpore, during November 1-7, 2007.

National Fish farmers Day : The 'National Fish Farmers' Day' was organized on 10th July 2007. On this occasion Sri Nurjamal Sarkar, Honorable Minister of Fisheries, Assam was the Chief Guest and Prof C.S.Chakravarty, V C, WBUAH&F was the Guest of Honour. A special CIFRI publication entitled 'Reminiscence' was released by the Hon'ble Minister on this occasion.



Training on net making to the tribal fisherwomen



Training on value addition to fishing community



Hon'ble Minister of Fisheries, Assam releasing the book 'Reminiscence'



Training to extension functionaries of Jharkhand

Exhibitions

CIFRI depicted its research activities through exhibits, posters and publications in stalls at following national and international events.

- 'Sustain Aqua 07' at Indian Institute of Technology, Kharagpur during September 27-29, 2007.
- 'Taal 2007' in Jaipur, Rajasthan in connection with 12th Lake Conference during October 28 to November 2, 2007 organised by ILAC of Japan and Ministry of Environment, Govt. of India. In this event large number of foreign delegates participated.
- "Kshetriya Krishi Mela 2007-08" at Areraj, Eastern Champaran district of Bihar (Motihari) from 3-5 November 2007. It was jointly organized by Indian Vegetable Research Institute (ICAR) Varanasi, Director of Extension, Ministry of Agriculture, Government of India and Eastern Regional ICAR Complex, Patna.
- '8th Asian Fisheries Forum 2007' in Cochin, Kerala in connection with International Seminar organized by '8th Asian Fisheries Forum 2007' during November 20-24, 2007 for the first time in India. In this event many foreign delegates participated.



CIFRI stall at 'Sustain Aqua 07'

Workshop

National Workshop on Partnerships for Reservoir Fisheries Development

Central Inland Fisheries Research Institute, Barrackpore (CIFRI), National Fisheries Development Board, Hyderabad (NFDB), Asian Fisheries Forum, Indian Branch, Mangaluru and Academy of Science, Engineering and Technology, Bhopal (ASET) jointly organized a National Workshop on **"Partnerships for Reservoir Fisheries Development"** at Central Institute of Agricultural Engineering, Bhopal (CIAE) during July 27-28, 2007. The workshop focused on available technologies, financial support and problems in reservoir fisheries development and aimed at creating partnerships for enhancement of fishery productivity from reservoirs in the country. His Excellency, Dr. Balam Jakhar, Governor, Madhya Pradesh was the Chief Guest and inaugurated the workshop. Shri Moti Kashyap, Hon'ble Minister of Fisheries, Govt. of Madhya Pradesh presided over the function.

The Secretaries of concerned departments of GoI, and State Governments of Madhya Pradesh, Uttar Pradesh and Punjab attended the workshop. The Directors or their representatives from the States of Uttarakhand, Jharkhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh and Karnataka participated actively in the deliberations. Senior level officers from ICAR, NFDB, NABARD, NCDC, FISHCOFED, NVDA, MPFISHFED, ASET and Directors of ICAR Fishery Institutes participated in the workshop. Over 125 participants attended the technical sessions.

Recommendations

- Promotion and support for fingerling production in private sector for regular fish seed stocking in reservoirs
- Community-based reservoir fisheries management
- Cage and pen culture for raising the fish seed
- Reassessment and updating of reservoir database
- Holistic approach in training involving all aspects of reservoir fisheries development
- Review of NFDB stipulation for release of funds to state departments, which will be mutually rewarding
- A network/consortium is to be established between technology providers, ICAR/CIFRI, funding organization NFDB, and local communities for efficient execution of action plan to improve fish production

- Ensure mechanization in harvest and post-harvest, value addition and marketing



Inaugural session of the workshop in progress

Hindi Pakhwara

Hindi Pakhwara was celebrated at the Institute's Headquarters during the period from 14.09.2007 to 28.09.07. Dr. Amarnath Sharma, Professor, Dept. of Hindi, Calcutta University inaugurated the Hindi Pakhwara celebrations. In his inaugural address Dr. Sharma emphasized the usage of simple and easy Hindi words in our daily official work. During this fortnight a number of Hindi competitions like *nibandh lekhan*, *tippany lekhan*, *shabdawali*, *samanya gyan*, *sulekh*, *prashnottari*, *hindi tankan* were conducted. A large number of officers and staff including many scientists participated in these competitions and won handsome amount of cash prizes.

In the Valedictory function Dr. Shivnath Pandey, Professor of Hindi, Mohsin College, Chinsura was the Chief Guest at the function and it was presided over by Dr. K. K. Vass, Director, CIFRI. The message issued by the Honorable Minister of Agriculture, Govt. of India, Shri Sharad Pawar Ji was read out on the occasion.



CIFRI QRT work

The CIFRI Quinquennial Review Team (QRT) for 2002-07 consisting of Dr. P.V. Dehadrai (Chairman), Prof. D.P.Zutshi (Member), Prof. Kausal Kumar (Member), Dr. P.Kumar (Member) and Prof. M. S. Johal held its first meeting at CIFRI Barrackpore on 20-21, July 2007. The achievements of all the projects presented by scientists were reviewed. The team also visited the CIFRI Regional Research centres for reservoir fisheries at Hessaraghatta, Bangalore during October 3-6, 2007, and the CIFRI North eastern regional centre at Dispur, Assam during 17-19 December 2007. The team appraised themselves about the scientific work done and the administrative aspects of the respective centres. They interacted with Scientists and other members of staff.



NE Region KVK HRD programme

The Central Inland Fisheries Research Institute, Barrackpore and Zonal Coordinating Unit, Transfer of Technology Project, Zone III, ICAR Research Complex for NEH region, Umiam, Meghalaya jointly organized an HRD programme on Recent Advances and Technologies for Fisheries Development in the Northeastern Region for KVK staff at Northeastern Regional centre of CIFRI, Guwahati during 4-6 July 2007. A compendium of lectures of the HRD programme entitled, "Recent Advances and Technologies for Fisheries Development in Northeastern India" was compiled and distributed to the participants.



Training programme on Fisheries development of NE region at Guwahati centre of CIFRI

CIFRI Diamond Jubilee celebration

Central Inland Fisheries Research Institute (CIFRI), Barrackpore has completed 60 glorious years of dedicated service to the nation in the field of scientific research in inland fisheries with many notable achievements contributing

towards Blue Revolution in the country. A series of events and functions were organised throughout the year 2007. Between July to December, 2007 many events were organised

i) On August 15th as part of the Diamond jubilee celebration a painting competition and fancy dress competition for children were organized .

ii) Three Diamond Jubilee lectures were organised and were delivered by Dr. C.D. Mayee ,Chairman ASRB, Dr. V.R.P. Sinha, Ex. Director, CIFE & FAO Consultant, Dr. M.L. Madan,V.C., Pt. DDU Veterinary University & Cattle Research Institute, Mathura on 15, December,2007.

iii) On 14th December a special diamond jubilee programme was organized in the form of competition for the Best Young Scientist Award ,8 scientist delivered lecture. The awards for the winners of the Diamond jubilee sports meet at Barrackpore was also distributed.

iv) **National Symposium on 'Ecosystem Health and Fish for Tomorrow'** jointly organized by CIFRI and IFSI during December 14-16, 2007 at Barrackpore, Kolkata.

Dr.Mangala Rai , Secretary DARE & Director General ,ICAR was the chief guest and inaugurated the symposium on December 15, 2007 at CIFRI Barrackpore, Kolkata. The function was Presided over by Dr.C.D.Mayee , Chairman ASRB. Dr.S.Ayyappan DDG (Fisheries) ICAR and Shri A. Bhattacharya, Joint Secretary, DAHD&F, GoI were the guests of honour. During the inaugural session twelve scientific publications brought out by CIFRI and IFSI were released by the dignitaries. Ten eminent scientists were awarded fellowships of IFSI recognizing their contribution in the field of inland fisheries and allied sciences.



Dr. Mangala Rai, Secretary DARE & D.G, ICAR addressing the participant.

The main aim of this symposium was to critically analyze the progress made so far in inland fisheries research, identify

the gaps and develop a road map for addressing the emerging challenges of climate change and maintaining aquatic ecosystem health, which would impinge on future growth of the fishery sector.

The thematic areas discussed in the symposium were; Ecosystem functions & Pollution, Fishery enhancement & aquaculture, Biodiversity, conservation and biotechnology, Management, policy and governance. Under these themes 145 papers, both oral and posters were presented by the scientists / scholars from different organizations /departments across the country. In different sessions eminent national experts delivered eight keynote lectures. Young scientists award for best oral and poster presentations were given. More than 300 delegates attended this national symposium. An exhibition "Matsya Utsav- 2007" was also organized in which ICAR institutes, State Departments, NFDB, and NGO's put up their stalls.



The recommendations based on the two days deliberations were finalized at the Plenary Session chaired and co-chaired by Dr.S.N.Dwivedi , Dr.P.V.Dehadrai and Dr.S.Ayyappan,. The following recommendations on emerging issues were finalized.

Recommendations

- Concerted efforts are made to generate long-term scientific data on the impact of climate change on fishery including entire food chain and also develop mitigation action plan for alternative strategy to sustain our fish stocks in natural waters.
- Appropriate steps should be taken to impart skills and empower fishers to manage the reservoirs and wetlands for improved fish production.

- Breeding programme of wild fish species to be initiated for the ranching of depleted river stretches.
- Development of cost-effective technologies in multiple water use systems for different agro ecological hydrological-situations and its transfer to the end users for higher net returns.
- A priority action in network mode between concerned stakeholders is stressed to workout the required environmental flows in our rivers to sustain ecosystem functions and fish stocks.
- Benchmark for ecosystem health vis-a-vis production enhancement is developed for suitable management intervention.
- Major effort be undertaken to investigate the behavior of our migratory fish stocks and hydraulics for developing case specific models to facilitate movement of fishes across hydraulic barriers.
- Feasibility of a regional collaborative project on the fish Hilsa may be explored with other countries in the region to develop a suitable strategy for its conservation and stock improvement.
- Continued efforts be made to generate information on environmental impact assessment and mitigation plans for our fishery waters.
- A complete protocol for using pen and cage culture as enhancement tool for increasing reservoir and wetland fish production be developed as a scheme for funding by the ministry.
- A pilot scale testing in collaboration with other stakeholders is recommended for fishery management protocols developed by CIFRI in different reservoirs situated under different agro-climatic conditions in a network mode.
- CIFRI should initiate a certificate course on skill and expert development in the core area of inland open-water fishery & aquatic ecology for different stakeholders.
- Appropriate research to be initiated to impart ecological and environmental value to inland open-water fishery and resources including its functions
- Policy related research on inland open-water fishery should be strengthened.

Basin Level Workshop of CGIAR project on Reservoir Challenge Program Project

Second Indo-Gangetic Basin Level workshop of CGIAR Challenge Program on Water and Food (CPWF) Project "Improved Fisheries Productivity and Management in tropical Reservoirs" was organized on December 17, 2007 at Central Inland Fisheries Research Institute, Barrackpore. Dr. S. Ayyappan, Deputy Director General (Fy), ICAR, New Delhi, Dr. K. K. Vass, Director CIFRI, Barrackpore, Dr. V. V. Sugunan, Assistant Director General (Inland Fy), ICAR, New Delhi, Prof. H. R. Singh, Former Vice Chancellor, Allahabad University; high officials from Department of Fisheries, Governments of Uttar Pradesh, Uttarakhand, Rajasthan, Jharkhand and Madhya Pradesh, reservoir fishers from Uttar Pradesh, CIFRI scientists and project research staff participated in the workshop. Dr. Ayyappan suggested the states to select limited number of reservoirs during XI plan for overall fisheries development. He assured full financial support from National Fisheries Development Board and technical support from CIFRI, Barrackpore.. The representatives from all the participating states presented the status, problems, challenges and suggestions for reservoir fisheries development in their states. Elaborate discussions were held on i) meeting the fish seed demands for reservoir fisheries enhancements; ii) community-based/co-management in reservoir fisheries; iii) prospects of cage and pens for raising the fish seed; iv) training needs for overall reservoir development; v) creation of reliable data-base and its updation; vi) mechanism for NFDB funding for reservoir fisheries enhancement; vii) ensuring improvement in harvest & post harvest, value addition and marketing.



VISITORS

Name	Organization
Md. Nur Jamal Sarkar	Hon'ble. Minister of Fisheries, Soil Conservation & Irrigation Govt. of Assam.
Dr. Mangala Rai	Secretary DARE & DG, ICAR, New Delhi
Dr. C.D. Mayee	Chairman, ASRB, New Delhi
Dr. S.N. Dwivedi	Ex. DG, MPCOST, Bhopal
Dr. P.V. Dehadrai	Ex. DDG (Fy), ICAR, New Delhi
Dr. S. Ayyappan	DDG (Fy), ICAR, New Delhi
Dr. S.A.H. Abidi	Ex. Member, ASRB, New Delhi
Dr. M.Y. Kamal	Ex. V.C., SKUAST, Kashmir
Dr. V.R.P. Sinha	Ex. Director, CIFE, CIFRI & FAO Consultant
Dr. K.V. Devaraj	Ex.V.C. University of Agricultural Sciences, Bangalore
Shri Ajay Bhattacharya	Jt.Secretary (Fy), DAHDF,GoI, New Delhi
Dr. M.L. Madan	V.C., Pt. DDU Veterinary University & Cattle Research Institute, Mathura
Dr. S.D. Tripathi	Ex. Director, CIFE, Mumbai
Dr. S.P. Ayyar	Ex. Director, CIFRI, Barrackpore
Dr. V.V. Sadamate	Advisor, Planning Commission,GoI, New Delhi
Dr. M. Sinha	Advisor, Tripura Govt. & Ex. Director, CIFRI, Barrackpore
Dr. V.V. Sugunan	ADG (I.Fy), ICAR, New Delhi
Dr. P. Das	Ex. Director, NBFGR, Lucknow
Dr. Dilip Kumar	Director, CIFE, Mumbai
Dr. N. Sarangi	Director, CIFA, Bhubaneswar
Dr. W.S. Lakra	Director, NBFGR, Lucknow
Dr. P.C. Mahanta	Director, NRCCWF, Bhimtal

STAFF NEWS

PROMOTION

Name	Promoted to	w.e.f.
Shri S. K. Bose	Assistant	03.08.2007
Shri N.R Kundu	Assistant	03.08.2007
Shri K. Manjhi	Assistant	03.08.2007
Shri S. Bhattacharjee	Senior Clerk	03.08.2007
Shri Shitla Prasad	SSG. III	03.08.2007 (AN.)
Shri Mukti Pada Das	SSG. III	03.08.2007
Shri K.P. Ram	SSG. III	03.08.2007
Shri TH. Ghume	SSG. III	17.09.2007

Mrs. M.G. Soudamini	SSG. II	01.09.2007 (AN.)
Shri G.S. Gawate	SSG.II	31.08.2007
Shri H.J. Chetanbhai	SSG.II	31.08.2007

INTER INSTITUTIONAL TRANSFER

Shri N. K. Barik *from* CIFRI, Barrackpore *to* CIFA, Bhubaneswar

SUPERANNUATION

Name	Last place of posting	Date of Superannuation
Shri RL. Balmiki, T-5	Barrackpore	31.08.2007
Shri K.S. Rao, Senior Clerk	Barrackpore	01.09.2007 (FN.). Retired Voluntary
Shri A Ramaswamy, Senior Clerk	Coimbatore	30.09.2007
Shri Ananta Kumar Biswas, SSG.IV	Barrackpore	30.09.2007
Shri Laxmi Ram, SSG.IV	Karnal	30.09.2007
Shri D.N.Mishra	Karnal	31.12.2007

Obituary

Staff members of CIFRI express their deep sorrow at the demise of Dr. M. Chowdhury , Principal Scientist of our NE Regional Centre, Guwahati on 6.7.2007. Dr. Chowdhury had more years of service left. His career was cut short by this sad demise. His contribution to CIFRI was very valuable especially his work for the fishery development in the NE region. He managed the work of our Guwahati centre with dedication, hard work and vision. The CIFRI will always remember his contribution to the growth of this centre. It is really a loss to the Institute. Entire CIFRI family was shocked at his untimely demise and we all pray to GOD that his soul may rest in peace and give enough courage to his family to face this challenge



Director's Desk

Dear Reader,

At the outset I wish to inform our readers that the year 2007 was very eventful for CIFRI family being our Diamond Jubilee Year and at the dawn of 2008 I take this opportunity to wish you all a Happy New Year. We started our Diamond Jubilee Celebrations in March 2007 by organizing a National level workshop in Hindi on March 17&18 the details of which were brought to the notice of our readers in the June issue of this Newsletter. A major effort was made to document time scale perceptions of our seniors who have in the past been involved directly or indirectly with CIFRI and also contributed to its growth. It was brought out as a special publication entitled "Reminiscence", which basically draws upon the experiences of all the seniors, it is for our newcomers to know about historical perspective of CIFRI and reflect upon. This special publication was released on July 10, the National Fish Farmers Day by the Hon'ble Minister of Fisheries Govt. of Assam.

While analyzing the contribution of CIFRI down the memory lane of last sixty, (60) years it is observed that during this long march, the CIFRI in its humble way has served the Nation with dedication. We have made sincere efforts to learn the science of fishery, understand ecosystem interactions, evolved useful technologies to improve the livelihoods of common fishers, have been part of blue revolution, up-scaled institutional capabilities to meet the constantly changing demands of research and produced quality leadership in this sector. These achievements in inland fisheries, gives us a sense of elation and satisfaction, which have been made possible by the sincere efforts of our employees and leadership, who led the institute with visionary zeal and skill from time to time.

It is true that after 1990, with better economic growth, Aquaculture got to center stage because primary goal of the sector was to increase productivity and profitability, in this scenario inland open-water fishery was pushed to background. But now it has been realized that in future even aquaculture sector can thrive and sustain only if it can ensure environmental integrity of ecosystems. Therefore, CIFRI will continue to play its active role in developing sustainable technologies / practices to improve the livelihoods of resource poor fishers of this country. Thus CIFRI has greater challenging task ahead and will be entrusted with more such national level assignments.

During last six months our scientists continued to execute their work programmes related to estuaries, rivers, reservoirs, wetlands and environmental issues concerning these waters. The institute also took up a task of imparting training to large number officials, officers and fishers from the states of Bihar, Assam, and Jharkhand. The institute also signed two MoU's for two consultancy projects, one for NHPC and another with the State of Gujarat. Our progress of work on CGIAR project was very much appreciated by the external reviewers from IWMI. We also presented our achievements at two international meets viz., 12th World Lake Congress at Jaipur and 8th Asian Fisheries Forum at Kochi. It was a good opportunity for CIFRI to interact with delegates from America, Europe, China, Japan, and other South-east Asian countries apart from our neighboring countries.

The institute in collaboration with NFDB, Hyderabad and CIAE organized a National level workshop on reservoir fisheries at Bhopal. His Excellency Governor of M.P. Shri Balram Jhakar was the chief guest and inaugurated the workshop.

While continuing our activities during the diamond jubilee year, special lectures from different experts were organized at Barrackpore. The celebration was culminated by organizing a National level symposium on "Ecosystem Health & Fish for tomorrow" in collaboration with Inland Fisheries Society of India from December 14-16, 2007. Our respected Dr. Mangala Rai the Secretary DARE & Director General, ICAR was the chief guest and inaugurated the symposium. The entire CIFRI staff is grateful to him for his continued encouragement and support to the institute.

The outreach to North-east region is also a strong activity of CIFRI apart from our routine programmes being executed through Guwahati center. The center in collaboration with Zonal Coordinating Unit of ICAR Research Complex for NEH region organized during July 4-6 a HRD programme on recent advances in fisheries for the benefit of KVK staff.

It is hoped that the contents of this issue would be informative and useful for scientists and others involved in fishery sector. Any suggestions for further improving the contents of the newsletter would be highly appreciated.

K.K.Vass

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