

# Cicfri



# NEWSLETTER

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## SHRI DEVI LAL LAYS FOUNDATION STONE OF NEW CICFRI LABORATORY



The Deputy Prime minister and Union Minister for Agriculture Shri Devi Lal laid the foundation stone of the new laboratory at the Riverine Division of CICFRI at Allahabad on 31 May 1990. Speaking on the occasion, Shri Devi Lal called upon the fishery scientists to explore all the possible avenues that could bring prosperity to the rural poor. He said the

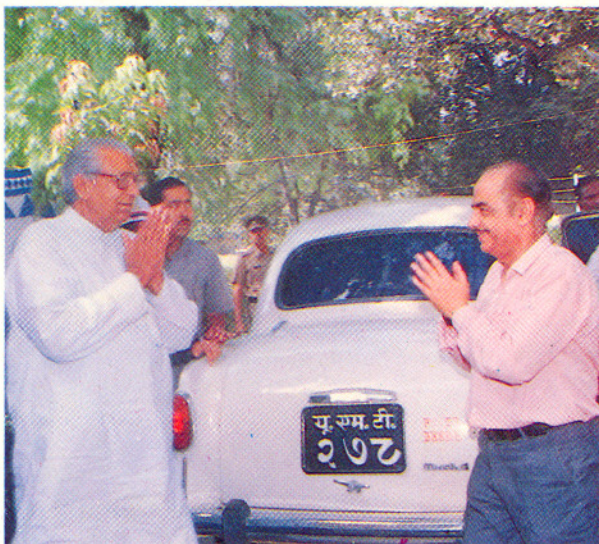
labour-oriented, capture fisheries scenario assumed special significance as it was capable of absorbing thousands of skilled, semiskilled and unskilled rural population in its fold through fishing and auxilliary sectors like net making, boat building and post-harvest activities. A galaxy of fishery scientists, administrators and fishermen were audience to the Minister's address.

*"Science and technology are weapons to fight poverty, backwardness and ignorance. The projects undertaken by the research establishments should have direct bearing on the socio-economic upliftment of India's rural masses".*  
- Devi Lal



The Deputy Prime Minister acclaimed the Institute's contribution in transforming the inland fisheries in the country from subsistence level to a viable profession. The technological innovation through research and the developmental measures adopted by the Ministry of Agriculture could enable the country to witness a phenomenal six-fold growth in inland fisheries from 1951 to 1990 against a corresponding four-fold increase in world fish production, the honourable Minister observed.

Shri Devi Lal described the Riverine Division of CICFRI as a repository of data on the ecology and fisheries of Indian riverine ecosystems including an inventory of riparian fishing community covering a stretch of 1400 km of the Ganga and 700 km of the Yamuna. This formed the baseline



information for monitoring the man-made environmental changes that have taken place in Ganga basin over the last three and a half decades and their impact on aquatic productivity in general and fish production in particular. He also commended the pioneering spawn prospecting work done by the Division covering 28 major rivers and establishing 84 spawn collection centres in 11 states. The Minister also called upon the scientists to fight against deteriorating quality of river waters, depletion of fish stock and the spread of fish diseases. The Deputy Prime Minister was happy that the research conducted at the centre had laid the framework for formulating management guidelines for fish yield optimisation from small reservoirs.

In his address Chowdhury Devi Lal reminded the scientific community that science and technology were weapons to fight poverty, backwardness and ignorance. The projects undertaken by the research establishments should have a direct bearing on the socio-economic upliftment of India's rural masses. Each rupee spent on research should be weighed against benefits it might bring to the poor and deprived farming community. He exhorted the scientists of CICFRI to dedicate themselves to the cause of the fisherfolk of the country. The Minister was confident that the new laboratory would give a fillip to the Institute's endeavours in developing appropriate systems for conservation and fish yield optimisation from open water resources of the country.

The Deputy Prime Minister Shri Devi Lal  
being received by Dr. Arun G. Jhingran Director CICFRI

## MINISTER CALLS FOR UTILIZATION OF TECHNOLOGIES

Shri Janeshwar Misra, Union Minister of State for Communications, speaking on the occasion said that the food raised from soil alone would become insufficient to meet the requirements of our teeming population. Therefore, aquatic resources like fisheries will have to be explored and put to their optimum exploitation. Fish occupies a significant position in the nation's socio-economic milieu, providing opportunities for improving the living standards of socially and economically deprived fishing community. He lauded the Riverine Division of CICFRI for the technological advancements made in the fisheries sector.



Shri Misra said that the Institute's stupendous research efforts spanning more than five decades enabled the formulation of guidelines for conservation and management of riverine fishery resources and also for an integrated approach for development of river basins. The Minister exhorted the agencies entrusted with the development of riverine and reservoir fisheries to make the best use of the technologies evolved by this Division. The Hon'ble Minister in his address called upon the society not to allow the misuse of our precious riverine resources and expressed his optimism that the research activities being carried out at the Institute would live up to the expectations of the nation.

## BRING TECHNOLOGIES TO THE FARM - SHRI MULAYAM SINGH YADAV

*"India on the whole and Uttar Pradesh in particular are blessed with diversified wealth of fishery waters. As such, these form an invaluable resource for raising nutritional and employment status of rural society of the State"*  
- Mulayam Singh Yadav

Shri Mulayam Singh Yadav, Chief Minister of Uttar Pradesh in his message described inland fisheries as an important rural based economic activity catering to the domestic market and providing gainful employment to millions.

Fish provides cheaper source of quality protein and forms an integral component of the diet of a large part of India's rural mass. Shri Yadav called upon the Institute scientists to build up a sound scientific base for optimum exploitation of these resources and take the information thus generated to the user clientele for their benefit. The Chief Minister in his message reiterated his confidence that the new laboratory would fulfil a long cherished desire of the fishery scientists and would further accelerate the pace of development through incessant research support.

< Sri Janeswar Misra

## FISHERIES A PROFITABLE PROPOSITION

Smt. Subhada Mishra, Minister for Panchayat Raj and Rural Development, Government of Uttar Pradesh also addressed the audience on the occasion. She spoke on the higher margin of profit realised from fisheries systems than from the land-based farming sectors. She reposed her faith in the task shouldered by the scientists of the Institute in providing guidance to farmers and planners in technology development and implementation leading to better yield and income levels from the fisheries and allied occupations.



A public meeting, organised on the occasion was attended by a cross section of the Allahabad's citizenry. Apart from the noted public figures, scientists, academicians and administrators and the local fishing community comprised the audience. The Deputy Prime Minister was inquisitive about the welfare of the fishermen and held detailed discussion with them. He exhorted the scientists to be in constant touch with the fishermen for effective feedback. (Above) Sri Janeswar Misra, Sri Devi Lal, Smt. Subhada Mishra, Dr. P.V. Dehadrai and Dr. Arun G. Jhingran are on the dais. (Below) A section of the audience.





The new multi-storied CICFRI laboratory envisages to house modern facilities for conducting advanced research to support open water fisheries development. The Centre will also serve as a data bank for computerised information on resource status and state-of-the-art technologies in the field. (Above) The Deputy Prime Minister is having a glance at the model of the laboratory building. Commemorating the ceremony, the Institute organised an exhibition on the available technologies on openwater fisheries development. (Below) Dr. Arun Jhingran briefs Smt. Subhada Mishra on the accomplishments of the Institute.



## CICFRI'S PIONEERING ROLE IN FISHERIES RESEARCH



Dr. P. V. Dehadrai, Deputy Director General, Indian Council of Agricultural Research underlined the need of streamlining the research endeavour in developing packages for optimum exploitation of fisheries resources of the country. India, with its rich water resources and adequately backed by scientific know-how and implementation strategies is poised for a giant leap in inland fish production, he observed. However, there are avenues that still require indepth scientific probe to arrive at reliable technological status. Capture fishery waters, being constantly subjected to vagaries of nature and human-induced changes, demand incessant monitoring. CICFRI has been able to shoulder this responsibility with the limited resources at its disposal. Many a laurels earned by the Institute so far stand as its testimony. Dr. Dehadrai made special reference to the Institute's achievements in the areas of small reservoir management, spawn prospecting investigations in rivers, hilsa breeding and seed raising, fish population dynamics, ecotoxicology and integrated river basin management. He was confident that the new laboratory building of the Riverine Division would further step up the investigations being carried out at the Institute.

## LANDMARKS IN CICFRI'S ENDEAVOURS

Proposing a vote of thanks to the Hon'ble ministers and distinguished assemblage, Dr. Arun G. Jhingran, Director CICFRI recollected the milestones in Institute's endeavours over the last four decades. Apart from bringing forth economically viable fishery technologies for the benefit of the nation in general and the farming community in particular, the Institute had been instrumental in unravelling the dynamics of fishery ecosystems. The principles thus evolved formed the edifice for revolutionising the concept of fishery management in the country. There has been a wide range of entrepreneurs and agencies patronising the CICFRI's concepts of aquatic resources management. The Institute today stands as a principal nodal centre in the fishery sector recognised by the Central and State departments as well as several international agencies. The Director reassured the anguish gathering that the new laboratory would be put to use to the maximum benefit of the poor and down-trodden fisherfolk of the country and would help in conserving our invaluable fishery wealth.



*"The principles evolved through research form the edifice for revolutionising the concept of fishery management in the country"*

## THE RIVERINE DIVISION OF CICFRI

# ENDEAVOURS AND ACHIEVEMENTS



The present office and laboratory building at the Riverine Division Headquarters of CICFRI at Allahabad

*The Division established in 1953 at Allahabad to conduct research for conservation and optimum exploitation of the biological resources of various river systems and their floodplains, reservoirs, natural lakes and tanks of the country:*

*.....Explores the biological traits of riverine fishes in general and major carps in particular and monitors yield and trends in fisheries of selected major rivers of India*

*.....Undertakes massive spawn prospecting investigations (1964-71) in stretches of 28 major rivers, covering a total distance of 5 560 km and locates 84 major centres as viable sites for commercial exploitation of riverine spawn of major carps.*

*.....Standardises the Midnapore-type shooting net for exploiting the carp spawn potential in rivers. The modified gear proves five times more efficient than the conventional ones in their spawn yield.*

*.....The spawn prospecting survey elucidates the trend and magnitude of fluctuations in the availability of spawn in time and space and*

*delineates the factors responsible for it. Defines indices of quality and quantity of spawn availability.*

*.....The Division surveys the rivers Yamuna, Ganga, Brahmaputra, Narmada, Tapti, Mahanadi, Jhelum, Godavari and prepares an inventory of the fishing communities of selected areas of these river basins. Data collected from a stretch of 1400 km of the Ganga and 70 km of the Yamuna covered under this survey forms baseline information on the subject for other national agencies.*

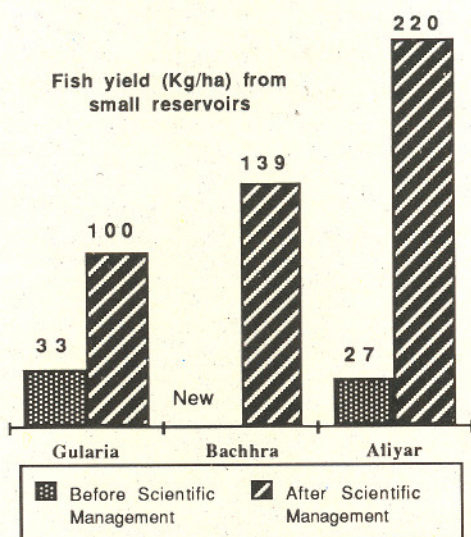
*.....Develops a viable hilsa breeding and seed raising technology for restocking the depleted stretches of the Ganga system. The technology receives national recognition and awarded the coveted Rafi Ahmed Kidwai Memorial Prize for the biennium 1980-81.*

*.....Evolves a novel inexpensive method to breed Indian major carps in the plains in shallow depression by flooding them from irrigation canals and diverting the flow of canal water through the depressions. The method comes to be known as canal breeding technique and contributes substantially to the quality seed production during 70s and 80s.*

.....Breeds the riverine catfish *Mystus seenghala* under pond conditions and avoids riverine phase in its life cycle.

.....Collects massive fisheries-related ecological data from several small and large Indian reservoirs situated in various eco-climatic regions of the country. Consequently, for the first time, scientific principles for management of Indian reservoir fisheries based on ecological status of the reservoirs are expounded. The approach yields substantial hike in several reservoirs, both large and small.

.....Evolves management guidelines for developing small irrigation reservoirs in Ganga basin employing production models.



The two small reservoirs, viz., Gularia and Bachhra register a phenomenal increase in the yield when managed through short term experimental management approach. The harvest rate touches 100 kg and 140 kg ha<sup>-1</sup> yr<sup>-1</sup> against the 15 kg prior to their management. The

strategy bears a relevance to thousands of underexploited small reservoirs of the country.

.....Includes under its study programme, the ecological characterisation of the river stretches adjoining eight cities along the Ganga and four cities along the Yamuna. Identifies, quantifies and monitors the concentrations and impacts of heavy metals, pesticides and organic load finding way to the river from industrial, agricultural and domestic sources on the aquatic biota.

-----Pen culture experiments conducted for raising carps in kol draining sewage to the river Ganga at Bhagalpur results in a production of 203 kg from 0.1 ha area in three months without the application of fertilisers and supplementary feed.

.....Makes a significant stride in estimating the energy flux at selected sites of Ganga using radio-isotope <sup>14</sup>C and brings to light the staggering gap between present harvest and the actual potential of fish yield from the river.

.....Unveils through ecological investigations the significant improvement in water quality and productivity of river Ganga at Kanpur due to diversion and treatment of effluents since 1987 under the Ganga Action Plan.

.....Unravels the anthropogenic adverse impacts on the fish population structure, productive potential and ecology of river Ganga and Yamuna and comes up with a package of approach for restoration of water quality biotic diversity and biogenic capacity of the ecosystem.

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