

# A note on 100th birth anniversary of the late Dr Hiralal Chaudhuri

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Dr Chaudhuri injecting a brooder IMC. Courtesy ICAR-CIFE Kolkata Centre.

The year 2021 is the one-hundredth anniversary of the birth of the 'Father of Induced Fish Breeding in India', the late Dr Hiralal Chaudhuri, DSc, former Senior Fishery Scientist at the ICAR-Central Inland Fisheries Research Institute, Barrackpore, India and Ex-Chief Technical Advisor in Aquaculture, FAO/UNDP at Lao PDR. In his honour, National Fish Farmers' Day is celebrated annually on 10 July, to acknowledge the contribution made by professional fish farmers and breeders to India's economy, food supply and production of table-sized major carps and other important inland food fishes. As the architect of first induced breeding and spawn production of the economically important carp *Cirrhinus reba* in captivity on 10th July 1957, Dr Chaudhuri's unique success generated unprecedented fish culture activity in sub-urban and rural India leading to prosperity among fish farmers. West Bengal moved ahead and produced 22891 million healthy carp fry (22-26mm) in 2018-2019 with first position in India; having

454 private carp hatcheries and another seven operated by the state government. Such production and prospects owe much to Dr Chaudhuri. It was mentioned in the 1959-1960 ICAR-CIFRI Annual Report 'During 1959 fish breeding season (May to August), work on induced breeding by injection of pituitary hormones was taken up at Cuttack in Orissa and Joysagar in Assam under CIFRI's Pond Culture Division. Breeding was successfully induced in *Catla catla*, *Labeo rohita*, *Cirrhinus mrigala*, *Puntius sarana* and *Labeo calbasu* and commercial production of large number of spawn and fry achieved for the first time by this method'.

Dr Chaudhuri was born in Sylhet Town in the then Colonial Assam (now in Bangladesh) on 21/11/1921. He died on 12/9/2014 and his obituary was published in Current Science Vol. 108 No. 2 on 25/1/2015 authored by Dr A. P. Sharma and Dr B. P. Mohanty; in Fishing Chimes Vol. 34 No. 7 in October

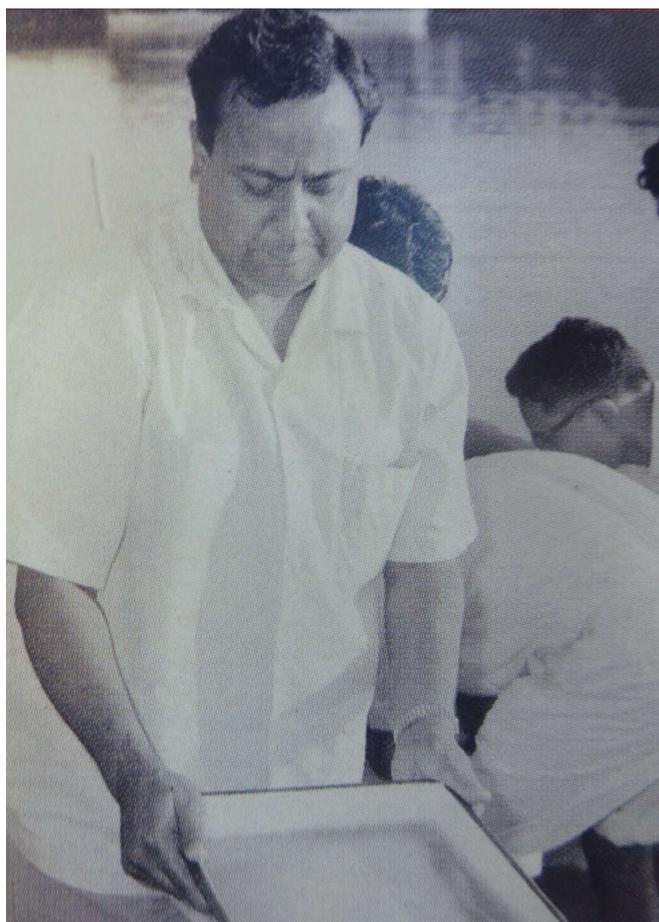
2014 by Dr B. K. Mahapatra; in the CIFRI Newsletter Vol. 19 No. 2 in July-December 2014; in Aqua International Vol. 22 No. 9 in January 2015 by the author and in other places. The backdrop, time and site of Dr Chaudhuri's discovery; significance and widespread application of induced breeding technology; his life sketch, career and pivotal scientific contributions have been discussed in many programmes and published in books, magazines and documents (Fishing Chimes Vol. 24 No. 10 in January 2005; SEAFDEC Asian Aquaculture Vol. XX No. 2 in April 1998 and others). In a brochure published by the Kolkata Centre of the ICAR-Central Institute of Fisheries Education entitled 'Celebration of Fish Farmers' Day at CIFE Kolkata Centre', two rare black and white photos captured the attention of the author where Dr Chaudhuri in his early days is wearing a half-sleeve white shirt, preparing fish pituitary extract and carefully injecting it into a brooder Indian major carp, helped by his colleagues.

The 31-page article 'History of induced breeding in fishes and its application to aquaculture' authored by him and published in the Proceedings of the Zoological Society Vol. 47 No. 1, 1994, provides a clear understanding of successful experimental works on induced breeding of Indian inland fishes. His article 'Modern aquaculture - its contribution to human nutrition' published in the Souvenir of the National Symposium on Finfish and Shellfish Farming organised by the Department of Zoology, University of Calcutta during 17-18 July 1998 is comprehensively written for students. During this time, the author, studying in his second year of a BSc in Fisheries, read and heard about Dr Chaudhuri and in this programme had opportunity to see him during his address as Chief Guest. In Current Science, the most high-valued science journal in India, his works on induced breeding and intensive composite carp culture were published in Vol. 26 No. 12 in December 1957 (co-authored by Dr K. H. Alikunhi) and Vol. 43 No. 10 in May 1974 (with five co-authors) respectively.

In the Book 'Reminiscence CIFRI 1947-2007' published on 10 July 2007 by ICAR-CIFRI, Dr Chaudhuri is seen in two black and white photos, standing in knee-depth water holding a white rectangular enamel tray and observing carp larvae obtained from controlled breeding in hapa enclosures in the pond, and examining the developing embryos inside fertilised eggs with a simple microscope wearing white shirt, khaki pants and gumboots. Such noteworthy moments of the past of distinguished persons greatly inspired the author as an extension worker, who understands that Dr Chaudhuri



*Garlanded photo of Dr Hiralal Chaudhuri. Courtesy ICAR-CIFRI Barrackpore.*



*Dr Chaudhuri observing fertilised carp eggs in enamel tray. Courtesy ICAR-CIFRI Barrackpore.*



*Cirrhinus reba brought success to Dr Chaudhuri on 10 July 1957.*

did laboratory and field work painstakingly and with great dedication, perseverance and sincerity in the late 1950s, 1960s and 1970s, in less-favourable conditions as compared of today. In this book, the first chapter was contributed by Dr Chaudhuri, entitled 'My journey from breeding a mud goby to global aquaculture through CIFRI', where he writes: 'CIFRI during 1948 had primitive facility, without electricity, instruments; even drinking water was difficult to get. Throughout the night under light of hurricane lantern, I sat watching the developing fertilized eggs of small fish Gobiopterus chuno in petridish under microscope and drew sketches of developing embryonic stages. My excitement had no bounds when I saw some eggs hatched out in about two days and live goby hatchlings wriggle out'.

Nowadays commercial products are available to kill aquatic insects and undesirable organisms in fishponds but Dr Chaudhuri during 1951-1954 formulated safe soap-oil emulsion method to eradicate such predatory insects from



*Dr Hiralal Chaudhuri. Courtesy ICAR-CIFA Bhubaneswar.*

In 'Aquaculture Beyond 2000: New Horizons', Dr Chaudhuri writes: 'I have always been averse to name, fame and public appreciation for whatever I have achieved little in my scientific endeavours'. In the early 1970s, Dr Chaudhuri used to tell his colleagues: 'If you want to know how to distinguish between matured male and female of *P. sarana* before administering injection, you have to meet the semi-literate elderly fish farmers who will make you understand it clearly. Perhaps they know more than us'. His large wood-bound photo can be seen as one enters into Dr Hiralal Chaudhuri Library on the 3rd floor of the ICAR-Central Institute of Freshwater Aquaculture, Bhubaneswar, India. After revisiting at some of lesser-known facts and moments, finally, without boasting, the author brings into remembrance the happy feelings upon receiving a hand-written affectionate Bengali inland letter from 'Sir' Dr Hiralal Chaudhuri on 30/8/2000 with words of inspiration and blessings and expresses homage humbly to this great person with reverence in his birth Centenary year, to whom Indian pisciculture sector will remain ever grateful.

nursery ponds before stocking carp spawn to increase its survivability. This is still practiced in many nurseries associated with hatcheries and fish seed farms in West Bengal. He devised pond zooplankton culture methods to increase availability of natural live food for growing spawn. According to Dr R. D. Chakraborty, Retired Head, PCD of ICAR-CIFRI and his co-worker: 'Dr Chaudhuri was a teacher of outstanding ability. I feel his extension work of demonstrating and teaching aquaculture has contributed largely to its spread and he remains the Guru par excellence'. Dr J. H. Primavera, Aquaculture expert from SEAFDEC, Philippines mentioned: 'At his home at Tigbauan, Dr Chaudhuri would painstakingly gather the freshly fallen fruits of popular tree *Muntingua calabura* and offer these to local children who lined up in morning for the delicious red berries. He was as generous with the fruits of his garden as those of his research'. Dr D.R. Bhatia, the then Deputy Fisheries Advisor to Government of India once said: 'Chaudhuri, if you succeed in induced breeding of major carps, it will be comparable to getting the Nobel Prize'. Dr V. R. Pantalu has mentioned: 'Dr Chaudhuri is a very unassuming, amiable gentleman and a good songster with sonorous voice'. At International Festival of Films on Aquaculture organized at Kyoto, Japan during May-June 1976, the Indian film on induced breeding won the 1st prize, which was shot under technical guidance of Dr Chaudhuri.



*Dr Chaudhuri giving a talk at CIFRI. Courtesy ICAR-CIFRI Barrackpore.*