Dr. P.P. Chakrabarti

Principal Scientist

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Educational Qualifications

Degree	Year	Institutions	Area of specialisations
Ph.D.	1991	Calcutta University	Soil and water chemistry
M.Sc (Ag.Chem & Soil Chem)	1983	Calcutta University, **Rank : 1st class second**	Soil chemistry
B.Sc (Chemistry Hons)	1981	Calcutta University	Chemistry (Inorganic, Physical & Organic)
Higher secondary (class XII)	1978	W.B. council of H.S. education, Awarded **National scholarship**	Science (P,C,M and Bio)
Madhyamik (Xth class)	1976	W.B. Board of secondary Exam), awarded **national scholarship**	Arts (Beng, Eng), Science (P,C,M and Bio), hum (Hist, Geo),work ed, and addl. math

Professional Experience			
Post held	**Institution**	**Period**	**Remarks**
Principal Scientist	Regional centre of CIFA, Kolkata, West Bengal	August 2008-continuing	Research management, Research & Extension
Senior Scientist	Regional centre of CIFA, Kolkata, West Bengal	August 2000-August 2008	Research & Extension
Scientist (senior Scale)	CIFA, Bhubaneswar & Regional centre of CIFA, Kolkata	1995-200	Research & Extension
Scientist	CIFA, Bhubaneswar	1991-1995	Research & Extension

No. of Project handled: 12	
• Pond Bioenergetics, Digestive enzymes and Microflora in fish and prawn under aquaculture in National Agriculture Research Project (NARP Phase II/ World Bank) - **as Co-Investigator**	30.09.1992 - 29.05.1996
• Aquaculture as a tool for utilisation and treatment of domestic sewage funded by the National River Conservation Directorate, Ministry of Environment and Forests - as Co-Investigator	01.02.1994 - 31.03.1996
• Breeding and culture of some nonconventional food fishes like Anabas testudineus, Labeo calbasu, Mystus vittatus and Ompak pabda (Institute based project) - as Co-Investigator	01.04.1997 - 31.03.2005
• Microflora and Quality of Fish cultured in sewage-fed waters with reference to shelf-life and public health (A. P. cess fund) - as Co-Principal Investigator	16.01.1995 - 15.01.1998
• Mass scale seed production of Ompak & mystus sp., study on growth performance using different diets under variable physico-chemical conditions as **Co PI**	01.04.2005 - 31.03.2009
• Study of fish biodiversity, breeding and culture of carps and some selected ornamental fishes in North-eastern state of Meghalaya as **Co PI**	01.04.2004 - 31.03.2008
• Aquaculture in changing climate-A study based on perceptions of Freshwater aquaculture as **Co PI**	01.04,2008 - 31.03.2011

• Accumulation, magnification and removal of heavy metals in sewage-fed ecosystem as PI	26.10.1999 - 25.04. 2003
• Studies on soil resource for assessing pond productivity in contrasting agro-ecological regions of West Bengal as PI	01.05.2001 - 30 042004
• Aquaculture development in North Eastern Hill Region 2000-2008 as PI	01.05.2003 - 30.04.2008
• Grow out culture of *Ompok pabda* and breeding of *Ompok bimaculatus* as PI	01.04.2009 - 31.03.2012
• Development of Livelihood Through Freshwater Aquaculture of North-eastern states as Co-PI	01.04.2009 - 31.03.2012
• Characterization and utilization of wastes of wastes in Aquaculture as P.I.	01.04.2011 - 31.03.2013
• Performance of few high value regionally preferred SIFS in agri- horti-livestocks integrated culture system as P.I	01.04.2012 - 31.03.2015

Brief and salient research achievements from different research programme project wise of last 10 years for development of livelihood of Farmers through aquaculture are as follows:	
Studies on soil resource for assessing pond productivity in two contrasting agro-ecological regions of West Bengal	Pond sediment and water resources **394** sites of all sub-division level in two agro-ecological region (AER) namely hot dry sub-humid red and lateritic soils of Bankura and Purulia districts, hot moist sub-humid alluvial soils of Nadia and Hoogly districts were studied for fish culture.**64 thematic maps** also prepared in four districts of few soil sediment, water attributes, primary productivity and fertiliser & mannuring schedule. Fish growth experiments in selected sites of four districts in comparison to control were also successfully studied from the prepared nutrient management maps.
Breeding and culture of some non-conventional food fishes like *Anabas testudineus, Mystus vittatus, Ompak pabda* and *Macrobrachium rosenbergii* (culture only)	Ompak pabda, a highly priced food fish was possible to breed first time in captivity. Simulation of natural environmental physico-chemical attributes was done in ponds. Soil and pond water quality was possible to standardised for breeding, rearing, and culture. Importance of alkalinity as a critical input for pabda breeding and providing shed by semi submerged weed & organic sediment are critical for their rearing and culture were assessed. Among research highlights eco-physiological manipulation in indoor and outdoor facilities for induced spawning of *Ompak pabda*, pond environment management for brood raising and

	rearing of *Ompak pabda* for large scale breeding and aquatic environment management and monitoring for seed rearing of *Pabda* are few to be mentioned.
Accumulation , magnification & removal of heavy metals in sewage fed eco-system	1. Nutrient load & heavy metal deposition in Kolkata sewage fed *bheries* near inlet & throughout 36 Esq. Stretches of outlet of sewage effluents in different seasons for fish culture were assessed. 2. Efficacy of different macrophytes and molluscs for removal heavy metals from the system in laboratory and field conditions were studied. 3. Interaction of heavy metals and nutrients in sewage effluents with sediments were studied. Fish cultured in sewage system contain high levels of the latter, especially in the liver and kidney portions. However, the concentrations of the heavy metals have been found to be very low in the muscles which is well within the permissible limits as prescribed by WHO. Fish depurated in fresh water after removal from the sewage-fed bheries have been found to release large amounts of the heavy metals, particularly from the liver and kidney portions. 4. Characterisation of organic fractions of bottom sediment: Bottom sediments in the raw sewage canal as well as the bheries are polyprotic in nature which suggests that the humification is higher. As a result of humification, aromatic properties in the soil sediments is higher rather aliphatic moiety.
Aquaculture development in North Eastern region of India from 2000 under NEH development programme of ICAR	Work as nodal officer for development of community aquaculture in those area. Organised few regional consultative workshop for development of livelihood of tribal farmers engaged in aquaculture in eight states North eastern India and formed a net work of aquaculture professionals. **Integrated Fish culture** Modified technology in nutrient rescheduling in pond soil sediment ant water parameters in acidic north eastern Hilly States for Integrated Fish culture resulted increase in production in following States. **Arunachal Pradesh** • Pilot scale experimentation on Pig-cum fish culture were conducted in 32 locations covering all 16 districts. Fish production achieved 3000 kg to 3500 kg/ha/yr in comparison to earlier average 800 kg/ha/yr

	Meghalaya • Pig-cum fish culture through nutrient management were conducted in16 locations covering all 7 districts Fish production achieved 2100 kg to 8400 kg/ha/yr in comparison to earlier average 1000 kg/ha/yr and gain of weight of pig ranged from 75-100kg/yr. **Nagaland** • Pig-cum fish culture demonstrations were conducted in 4 locations covering 1 district. Fish production achieved 2900 kg to 3200 kg/ha/yr in comparison to earlier average 800 kg/ha/yr.
Development of region specific input balance practice for composite fish culture in selected NEH states using modified technology of nutrient management in these acidic pond environment	**Meghalaya** • Pilot scale composite fish culture demonstrations using specific nutrient balance were conducted in 40 ponds covering all the 7 districts • Fish production of CIFA demonstration over State FFDA production has increased from 1000kg/ha/yr to 4500kg/ha/yr **Arunachal Pradesh** • Pilot scale composite fish culture demonstrations using specific nutrient balance were conducted in 22 ponds covering 2 districts • Fish production of CIFA demonstration over State FFDA production has increased from 800kg/ha/yr to 4000kg/ha/yr. **Tripura** • Composite fish culture demonstration were conducted in 2 locations • Fish production of CIFA demonstration over State FFDA production has increased from 2000kg/ha/yr to 4500kg/ha

HRD activities for development of skilled manpower in aquaculture in different States of West Bengal and North-eastern hilly regions as per Institute mandate: More than 2000

Methodology/Process developed from different projects	1. Mapping of pond soil and water resources for aquaculture system in two varied agro ecological regions of West Bengal 2. GIS mapping of fertilization, manuring schedule, primary productivity in the above system 3. Pilot scale demonstration of fish production using maps of fertilizer and manuring schedule 4. Developing a data base for soil and water resources in two

	contrasting agro ecological regions (four districts) of West Bengal. 5. Development of region specific input balance practice for freshwater composite carp culture in selected NEH regions 6. A modified methodology for NEH region with regard to pig-fish integration over traditional system 7. Developing a data base of changes of physico-chemical properties in Kolkata sewage fed *bheries* near inlet & throughout 36 sq.km. streches of outlet of sewage effluents in different seasons for fish culture and characterization of organic fractions of sewage canal sediments 8. Evaluation of tolerance limit of heavy metals (Pb,Cr,Cd) in different fish species. 9. Establishment of biological efficacy of different macrophytes and molluscs for removal heavy metals (Pb,Cr,Cd) from the system in laboratory and field conditions 10. Developing a process of accumulation and magnification of few heavy metals (Pb,Cr,Cd) in water, sediment in raw sewage canal and bheri and in different parts of fish in sewage fed system at Kolkata for safe consumption of fishes 11. Characterisation organic fractions of sewage sediment from outlet to disposal to river of in kolkata sewage system 12. Pond environment management for brood raising and rearing of *Ompak pabda* for large scale breeding 13. Eco-physiological manipulation in indoor and outdoor facilities for induced spawning of *Ompak pabda*. 14. Aquatic environment management and monitoring for seed rearing of *Pabda*
Research areas	• **Nutrient management in fish culture.** • **Culture aspects of small indigenous high value freshwater fish species.** • **Integrated fishery with high value agri-horticultural crops and livestock.** • **Wastewater fisheries.** • **Chemistry of pond, soil & water.**

National Awards	• Received the prestigious ICAR award for Team Research along with four other scientists of CIFE and CIFA under leadership of Dr. S. Ayyappan from Hon'ble Minister for Agriculture, Shri Nitish Kumar in 2000, Vigyan Bhawan, New Delhi**.** • Received Young Scientist Associate award from Bioved Research foundation award in 2010 from Allahabad University for contribution to NEH states. • Received Smt. Juthika memorial award in 2010 from Bengal Association of Science, Jadavpur University. for contribution to R &D.
Institutional award	• Received Institutional (National) award for contribution and unique support to the cause of consolidating the institute- building and R & D activities during 2005-06, 2006-2007 and 2008-09
Publications	• Mandal, R. N., Adhikari, S., Pani, K. C., **Chakraborty, P. P.** and Sarangi, N., 2010. Role of aquatic macrophytes for removal of nutrients from fish culture ponds, **Environment and Ecology,** 28 (1): 164-167. • **Chakrabarti, P.P.** Chakrabarti,. N.M. and S.C.Mondal.2009.Breeding and seed production of butter catfish, *Ompok pabda* (siluridae) at Kalyani centre of CIFA, India. *Aquaculture Asia*,14 (1),pp 33-3. • **Chakrabarti**, **P.P.** Chakrabarti,. N.M. and S.C.Mondal.2009.Breeding and seed production of butter catfish, *Ompok pabda* (siluridae) at Kalyani centre of CIFA, India. *Aquaculture Asia*,14 (1),pp 33-37 • Chakrabarti,. N.M.**, Chakrabarti, P.P.** and S.C.Mondal.2009. *Ompak bimaculatus* and *Ompak pabda* comparative Morphometric and Meristic Study of Embryonic Larval Development. *Fishing Chimes* Vol. 29. No.6. September, 2009 8 – 9 P. • **P.P.Chakrabarti**, S.C.Mondal and N.M. Chakrabarty and Tage Moda, 2008. Management of aquaculture productivity in some acidic ponds of Arunachal Pradesh through composite polyculture. *Journal of Interacademicia*,**12(4)**,pp • Chakrabarty N. M., **P.P. Chakrabarti**, and Mondal, S. C. 2008. Captive breeding and culture of butter cat fish ompak pabda (Ham)-achallenging step in advanvement of culture fiaheries. *Journal of Interacademicia* 12(3): pp. 350 – 355

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- Dasgupta, M. ,Chakrabarty, N. M., **P. P**. **Chakrabarti,**. and S.C. Mondal. 2008. Breeding and farming of mud Eel (*Monopterus cuchia*). Fishing Chimes. Vol **28.** N0. **1,** 55 - 59 P
- Chakrabarty N. M., Mondal, S. C. and **P.P. Chakrabarti**, 2007. Captive breeding, early life history and rearing and rearing of hatchling of *Ompak pabda*(Ham).*Environment and Ecology* **Vol.25(1) : 58 – 61 P.**
- Chakrabarti,. N. .M ,.Das, N.K, **Chakrabarti** , **P.P.**and S.C.Mondal.2006,Integrated Fish Culture With Piggery in Different districts Of Meghalaya- an enterprising approach for Economic Benefit of Tribal community. *J.Indian soc.Coastal agric.res.*,**24** (2),278-281
- Sangma, C.T., Chakrabarty, N..M., **P.P**. **Chakrabarti** and S C Mondal.2007. Composite carp culture- CIFA-assisted projects in Meghalaya—Boon to the State**.** Fishing Chimes. Vol **27.** N0. **1,**92-96P
- Chakrabarty, N..M., **P.P**. **Chakrabarti** and S C Mondal. 2007. Artificial breeding, seed production and rearing of butter fish, *Ompok pabda* – a significant Milestone in technology advancement**.** Fishing Chimes. Vol **26.** N0. **10,** 134 - 136 P
- Chakrabarti N.M and **P.P.Chakrabarti.** 2005. Embryonic development and larval rearing of ompok pabda (Hamilton),*J.Inland Fish.Soc.India*.vol **37** (1)71-74.
- Chakrabarty, N..M., **P.P**. **Chakrabarti** and S C Mondal, 2006. Mass seed production of pabda and their farming- A challenging step for sustainable utilisation of this vulnerable fish species. Fishing Chimes. Vol **26.** N0. **1,**133-135P
- Chakrabarti,. N..M,. Das, N.K, **Chakrabarti**, **P.P.**and S.C.Mondal. 2006, Integrated Fish Culture With Piggery in Different districts Of Meghalaya- an enterprising approach for Economic Benefit of Tribal community. *J.Indian soc.Coastal agric.res.*,**24** (2),278-281
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	Chattopadhyay A., 2001. Ice storage characteristics of *Hypophthalmichthys molitrix* raised in fresh and waste water system. *Journal of Interacademicia* 5(4), pp. 480 – 485 • M. L., Bhowmik, S.C. Mondal,, **Chakrabarti,P.P**., N.K. Das, Das, K.M.,R.N. Saha and S. Ayyappan. 2000: Captive breeding and rearing of *Ompak pabda* (Ham.) -A threatened species.1 bid: A 11: 33-34.

Publications : last 10 years	
Research papers	18
Books	1
Book Chapters	2
Popular technical articles	8

(PARHAPRATIM CHAKRABARTI)