Mr. Ajmal Hussan

Scientist

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1. **AFFILIATION:** ICAR-Central Institute of Freshwater Aquaculture
Kausalyaganga, Bhubaneswar, Odisha, India.

2. **ADDRESS OF CORRESPONDENCE:** Regional Research Centre, Rahara & Kalyani FS
ICAR-Central Institute of Freshwater Aquaculture
Rahara, Kolkata-700118, West Bengal

3. **DATE OF BIRTH:** 07th December, 1982

4. **ACADEMIC RECORD:**

Year of passing	Degree	University	Marks obtained & Grade	Major field
2014	ARS	Indian Council of Agricultural Research, New Delhi	----	Fisheries Resource Management
2012	NET	Indian Council of Agricultural Research, New Delhi	---	Fisheries Science
2011	Master of Fisheries Science (M.F.Sc.)	Karnataka Veterinary, Animal and Fisheries Sciences University (KVA&FSU), Bidar, Karnataka	91.90% (1st Class with distinction)	Fisheries Environment and Ecology
2006	Bachelor of Fisheries Science (B.F.Sc)	Central Agricultural University (CAU), Imphal, Manipur	82.90% (1st Class)	Fisheries Science

5. EMPLOYMENT RECORD/EXPERIENCE:

Designation	Institution	Period	Nature of work
Scientist (ARS)	Regional centre of ICAR-CIFA, Kolkata, West Bengal	31.08.2015 – Till date	Research, Teaching & Extension in small indigenous carps/catfish (like Ompok bimaculatus, Mystus sp., Labeo calbasu, Labeo bata etc.) breeding and culture. Invasive fish biology and their management. Climate change and aquaculture. Aquaculture in North Eastern states and remote tribal areas.
Scientist (ARS)	ICAR-CIFA, Bhubaneswar & ICAR-CIFE, Mumbai	01.04.2015 – 30.08.2015	ARS Training
Scientist (ARS)	ICAR-NAARM, Hyderabad	01.01.2015 – 31.03.2015	ARS Training
Fishery Officer (Gazetted)	Department of Fisheries, Government of Tripura	22.04.2008 – 26.12. 2014	Training and demonstration on scientific fish culture techniques, aquaculture farm & fish breeding hatchery management and administrative works.

6. SPECIAL ASSIGNMENT:

(A) International Assignment:

i) Consultancy service for World Bank project:

- ***As a Consultant (Fishery Expert) successfully completed the World Bank funded Consultancy Project "Revival of FISHFED, status of Co-operatives & Marketing" in Assam.*** Study team for the Consultancy Service included four scientist of ICAR-CIFA as Consultant having expertise in different fields.
- The aim of the consultancy was to prepare a comprehensive and implementable revival plan for government-owned Assam Cooperative Fish Marketing and Processing Federation Limited (FISHFED) to transform it into a self-supporting business organization in the long run. Work has been completed successfully and final report submitted with comprehensive revival plan to restore the FISHFED as a central organisation in supporting large number of PFCS and fishermen and fish farmers of the state of Assam.

(B) National Assignment:

i) **State Coordinator/ NEH states working committee member** to coordinate the research and demonstration activities to be undertaken under NEH program of ICAR-CIFA:

(a) ***Mizoram State Coordinator*** (from 21st April 2017 to 17th May, 2018)

(b) ***Mizoram Working Committee Member*** (from 18th May 2018 to 21st June, 2019)

(c) ***Manipur Working Committee Member*** (from 25th November 2019 to Till date)

(d) ***Tripura State Coordinator*** (from 22nd June, 2019 to Till date)

7. RESEARCH HIGHLIGHTS:

A) *Research projects:*

Project Completed:

Sl. No.	Funding agency /source	Project Title	Involvement	Duration
Externally funded				
1.	NICRA	Adaptation and mitigation strategies in fisheries and aquaculture to climate change with special reference to freshwater aquaculture	Co- Project investigator (Co-PI)	April, 2017 - March, 2020
2.	AICRP	Development of user friendly portable pabda hatchery with tubifex culture & rainwater harvesting facilities.	Project investigator (PI)	April, 2017 - March, 2020
Institute based				
1.	ICAR (CIFA)	Studies on technical and economic feasibility of integrated crop-livestock-fish farming systems involving *Mystus gulio, Eutropiichthys vacha Cirrhinus reba, Puntius sarana* and *Oreochromis nilotica* along with carps.	Co-PI	April, 2015-March,2018
2.	ICAR (CIFA)	Evaluation on increasing production of safe fish with feed in sustainable wastewater aquaculture.	Co-PI	April, 2015-March,2018
3.	ICAR (CIFA)	G/E interaction evaluation for growth rate of Jayanti rohu in different parts of India.	Co-PI	April, 2017 - March, 2020

Projects ongoing:

Sl. No.	Funding agency/source	Project Title	Involvement	Duration
Externally funded				
1.	DST-SERB	Ecological assessment of exotic sailfin catfish on the Indian Freshwater systems and developing a species specific tool to measure their detection in the wild	Co-PI	April, 2019-March, 2022
2.	AICRP	Development of economically viable and farmer friendly aquaponic systems for fish and plant biomass production	Co-PI	April, 2020 – March, 2023
Institute based				
1.	ICAR (CIFA)	Efficient use of critical inputs towards sustainable aquaculture in the Moyna of Purba Midnapur, West Bengal through cluster approach.	Co-PI	April, 2018-March, 2021
2.	ICAR (CIFA)	Growth performance of Hilsa, Tenualosa ilisha in captivity.	Co-PI	April, 2018-March, 2021

B***) Major research Achievements:***

- ✓ Designed and developed a portable FRP hatchery for breeding and seed production of *Ompok bimaculatus* (Pabda).
- ✓ Developed captive breeding, seed rearing and grow-out culture techniques of a euryhaline catfish, *Mystus gulio* in freshwater.
- ✓ Evaluated threats and studied the impact of invasive alien armoured sailfin catfish *Pterygoplichthys* spp. on aquaculture and ecosystem of East Kolkata Wetlands.
- ✓ Analyzed the breeding performance of Indian Major Carps in relation to temperature in different states.
- ✓ Developed integrated fish culture models involving high value agri-horticulture crops and livestock.
- ✓ Developed breeding and seed rearing protocol of *Ompok bimaculatus* using FRP made hatchery.
- ✓ Developed grow-out culture method of *Ompok bimaculatus* at reduced water depth to conserve water.
- ✓ First case of Lordosis in *Pterygoplichthys* spp. and first case of dropsy in *Ompok bimaculatus* were reported.

8. LIST OF PUBLICATIONS:

Research papers	❖ **Hussan, A**., Mohapatra, B.C., Das, A., Chakrabarti, P.P., Majhi, D., Panda, S.K., Adhikari, S. and Pillai, B.R. (2020). *Induced Breeding of Butter Catfish Ompok bimaculatus Using Developed Portable FRP Pabda Hatchery for Seed Production*. Int. J. Curr. Microbiol. App. Sci., 9(06): 1835-1844. doi: https://doi.org/10.20546/ijcmas.2020.906.228 ❖ **Hussan, A**., Sundaray, J.K., Mandal, R.N., Hoque, F., Das, A., Chakrabarti, P.P. and Adhikari, S. (2019). *Invasion of non-indigenous suckermouth armoured catfish of the genus Pterygoplichthys (Loricariidae) in the East Kolkata Wetlands: Stakeholder's perception*. Indian Journal of Fisheries, 66(2): 29-42. DOI: 10.21077/ijf.2019.66.2.86267-05 ❖ **Hussan, A**., Choudhury, T.G., Ahmed, I., Gita, S., Das, A., Udit, U.K., Chakrabarti, P.P. and Mandal, R.N. (2016). *Effect of Mercury and Cadmium on the Oxygen Consumption and Gill Histology of Catla catla (Ham. 1822).* Proc. Natl. Acad. Sci., India, Sect. B Biol. Sci., DOI 10.1007/s40011-016-0806-z ❖ **Hussan, A**., Choudhury, T.G., Prakash, C., Tripathi, G., Jayasankar, P., Chadha, N.K., Sundaray, J.K. and Dhamotharan, K. (2016). *Feasibility of using Diluted and Chemically Treated Wastewater for Fish Culture.* Fishery Technology, 53: 96-104. ❖ Hoque, F., Adhikari, S., **Hussan, A**., Mahanty, D., Pal, K. and Pillai, B.R. (2020). Effect of water salinity levels on growth performance and survival of Catla catla, genetically improved Labeo rohita (Jayanti rohu) and Cirrhinus mrigala. International journal of Oceanpgraphy & Aquaculture, 4(2): 000190. ❖ Ghosh, A., Mohapatra, B.C., Chakrabarti, P.P., **Hussan, A**. and Das, A. (2019). *Induced breeding of Catla catla carried out at low temperature in FRP carp hatchery of Arunachal Pradesh, India*. J. Environ. Biol., 40: 328-334. DOI: http://doi.org/10.22438/jeb/40/3/MRN-768 ❖ Kumar, B., Kumar, S., Biswal, A., Dey, A., Thakuria, J., **Hussan, A**., Baruah, A., Udit, U. K., Meher , P. K. and Singh, D.K. (2018). *Present Status, Abundance and Threats of Fish Diversity on Ramsar Site (East Kolkata Wetlands) of West Bengal, India.* Int. J. Curr. Microbial. Appl. Sci., *7(7): 4000-4007.* ❖ Udit, U.K., Nandi, S., Meher, P. K., **Hussan, A**., Das, R., Sundaray, J.K. and Jayasankar, P. (2017). *DNA barcoding of Puntius sarana (hamilton, 1822) : species validation and phylogenetic assessment*. J. Exp. Zool. India, 20(1): 273-279.

Review Papers (Scientific/ Technical)	❖ **Hussan, A.,** Chakrabarti, P.P., Sundaray, J.K., Das, A., Mohapatra, B.C., and Ananth, P.N. (2018). *Status and future of aquaculture development in Mizoram, India.* Int. J. Fisher. Aquat. Studies, 6(4): 42-48. ❖ Udit, U.K., Biswal, A., Mane, A.M., Sinha, V., **Hussan, A**., MunilKumar, S., Saurabh, S. and Naik, A. R. (2020). *Culture of Brachionus calyciforus as fish food organism: an approach to improve larval survival of freshwater fish*. Journal of Experimental Zoology, India, 23(1): 313-321. ❖ Gita, S., **Hussan, A**. and Choudhury, T.G. (2017). *Impact of Textile Dyes Waste on Aquatic Environments and its Treatment*. Environment & Ecology, 35 (3C):2349-2353.
Book Chapters	❖ **Hussan A.** and Sundaray, J.K. (2020). *An evaluation of the role and impacts of regulated and non-regulated invasive fish species in aquaculture in India*. In: V.V. Sugunan, V.R. Suresh, C.K. Murthy (Eds.). ***Indian Aquaculture 2020*.** Society for Indian Fisheries and Aquaculture, Hyderabad, India. pp. 70-92. ❖ **Hussan, A.,** Sundaray, J.K, Pillai, B.R., Chakraborti, P.P., Giri, B.S. and Mandal, R.N. (2019). *Cultivable exotic fish species in inland waters of India: Status, impact and policy. In:* Sundaray, J.K. and Rather, M.A. (eds.) ***Next Generation Research in Aquaculture*.** Narendra publishing house, Delhi, India. pp. 267-295. ❖ Sundaray, J.K., Chakrabarti, P.P., Mohapatra, B.C., Das, A., **Hussan, A.,** Ghosh, A. and Hoque, F. (2019). *Freshwater Aquaculture in Sundarbans India*. *In:* H. S. Sen (ed.), ***The Sundarbans: A Disaster-Prone Eco-Region*.** Coastal Research, 297-322. https://doi.org/10.1007/978-3-030-00680-8 ❖ Mandal R.N., Chakrabarti, P.P., Paul, B.N., Chattopadhyay, D.D., Das, A., **Hussan, A.** & Jayasankar, P. (2018). *Recycling of Sewage in Aquaculture: Decadal Technical Advancement.* In: Jana B., Mandal R.N., Jayasankar P. (eds) ***Wastewater Management Through Aquaculture***. Springer, Singapore, pp 95-118.