

KOUSHIK CHAKROBORTY

Lecturer

Department of Aquatic Environment and Resource Management
Sher-e-Bangla Agricultural University, Dhaka, Bangladesh

Email: koushik.aerm@sau.edu.bd | ORCiD ID | Google Scholar

RESEARCH PROFILE

My research is centred on aquatic and coastal systems, covering water quality, biodiversity, aquaculture, and fish nutrition. I am now extending this work to study landscape and environmental change using remote sensing, GIS, and spatial analysis, with a focus on land-use change, ecosystem services, and local communities.

Google Scholar Citations: 158
h-index: 5
i10-index: 3

EDUCATION

M.S. (Fisheries Biology and Aquatic Environment)

2019 - 2021

Gazipur Agricultural University (GAU), Bangladesh

CGPA: 4.000/4.000 (1st position)

(Formerly Bangabandhu Sheikh Mujibur Rahman Agricultural University)

B.S. (Fisheries)

2015- 2019

Gazipur Agricultural University (GAU), Bangladesh

CGPA: 3.997/4.000 (1st position)

(Formerly Bangabandhu Sheikh Mujibur Rahman Agricultural University)

ACADEMIC AND RESEARCH EXPERIENCE

Lecturer

2023 - Present

Responsibilities:

- Teach undergraduate and postgraduate courses in GIS and Remote Sensing, Water Quality Management, Fisheries Resources, and Inland Fisheries Management
- Supervise undergraduate research involving socioeconomic and geospatial analysis, statistical analysis, and scientific writing.

Principal Investigator (PI)

2024- 2026

R & D grant, Ministry of Science and Technology, Bangladesh

Projects:

- **2025-26: Remote sensing-based analysis of land use, land cover, and shoreline changes in Sonadia island: Impacts on ecosystem services and fishers' livelihoods** (*manuscript in preparation*)
- **2024-25:** Exploring the dynamics of phytoplankton abundance and its interplay with water quality parameters in clustered versus non-clustered shrimp farming environments

Research Supervisor

January 2025

Center for Environmental and Geographic Information Services (CEGIS)

- **Project: Generation of the Land Cover and Natural Capital Map and Developing Integrated Collaborative Forest Management Plans** (Project code: FOD011)
- **Role:** Planned and supervised wetland field data collection and ground-truthing for land-cover mapping across Dhaka and Mymensingh divisions.

TECHNICAL SKILLS

- **Programming & Data Analysis:** R, RStudio, Microsoft Excel, Data Visualisation
- **Statistical Analysis:** Hypothesis Testing (ANOVA, t-tests, normality/variance tests), Regression Analysis, Multivariate Analysis (PCA, RDA, CCA, NMDS), Bayesian mixing models (MixSIAR)
- **GIS & Remote Sensing:** ArcGIS Pro, QGIS, Google Earth Engine, raster and spatial analysis, satellite image processing, LULC mapping and change detection, spectral index analysis, shoreline extraction and change analysis

MANUSCRIPTS UNDER REVIEW

- **Chakroborty, K.**, Habib, N., Islam, M. S., Haque, M. R., Hossain, M. F., Ansaree, M. F., & Lima, R. A. Seasonal drivers of water quality and plankton dynamics in cluster shrimp farming system in coastal Bangladesh. Under review at *Heliyon*.
- Lima, R. A., Ali, A., **Chakroborty, K.**, Rahman, M. K., Al Mamun, S. M. A., Mia, M. L., Haider, M. I., Karim, M. E., & Bhadra, A. Ecological Health Assessment in a Sub-Tropical Lake: Integrating Water Quality Index with Multivariate Statistical Methods. Under review at *Environmental Science and Pollution Research*.
- Hossain, M. F., Rahman, M. R., Lima, R. A., Hasan, J., Talha, M. A., & **Chakroborty, K.** Spatiotemporal dynamics of physicochemical parameters, ichthyodiversity, and phytoplankton in a tropical urban river. Under review at *Cleaner Water*.

SELECTED PEER-REVIEWED PUBLICATIONS

- **Chakroborty, K.**, Lima, R. A., Hossain, M. F., & Rafiquezzaman, S. (2025). Biobased functional feed additives in Asian aquaculture: Trends, impacts, and future directions. *Animal Feed Science and Technology*, 320, 116222. [Link](#)
- **Chakroborty, K.**, Lima, R. A., Hossain, M. F., Islam, M. S., Mamun, S. a. A., & Rafiquezzaman, S. (2025). Upcycling Approaches of Invasive Suckermouth Catfish as a Control Strategy: Translating global practices to Bangladesh. *Asian Fisheries Science*, 38(3). [Link](#)
- Hossain, M. F., **Chakroborty, K.**, Chowdhury, G., Bhuyain, S., Hossain, A., Ritu, M. M. K., & Jahan, R. (2025). Assessing aquatic plant diversity and management potential in wetlands in northwestern and southwestern Bangladesh. *Environment and Natural Resources Journal*, 23(6), 1–14. [Link](#)
- Hossain, M. F., Asha, A. A., **Chakroborty, K.**, Truong, N. P., Yasmin, H., & Hasan, J. (2024). Impact of contemporary management practices in pond fish farming on the socio-economic condition of fish farmers in north-central Bangladesh. *Aquaculture, Aquarium, Conservation & Legislation*, 17(5), 1852-1868. [Link](#)
- Hossain, M. F., **Chakroborty, K.**, Lima, R. A., Reza, N. B., Bhuyain, S., Hossen, A., & Majumdar, B. C. (2025). Assessing Growth, Survival, and Physiological Responses of Gangetic *Mystus* (*Mystus cavasius*) to Incremental Salinity Levels: Implications for Aquaculture Management in a Changing Climate. *Journal of Applied Ichthyology*, 2025(1). [Link](#)
- Islam, M. S., Das, M., **Chakroborty, K.**, Lee, J. M., Islam, M. R., & Rafiquezzaman, S. (2024). Aquamimicry improves the growth performance and immunity of black tiger shrimp (*Penaeus monodon*) in low saline ponds. *Aquaculture Reports*, 36, 102082. [Link](#)

FELLOWSHIPS AND AWARDS

- Prime Minister's Gold Medal (2019) (Nominated)
- Nagao Environmental Foundation (NEF) Scholarship, Japan (2015-2018)
- National Science and Technology (NST) Fellowship (2019-20)
- Merit Scholarship of GAU as the highest CGPA holder (2015-2018)

LEADERSHIP AND COMMUNICATION ACHIEVEMENTS

- 2nd Runner-up, International Public Speaking Competition (National Round), English Speaking Union
- Best Debater, Inter Hall Debate Competition, GAU
- Best Debater, Inter Faculty Debate Competition, GAU
- Member, Champion Team, Inter Hall and Inter Faculty Debate Competition, GAU