Comprehensive Report: Extension Lecture Series on "Aquaculture"

Under Faculty/Student Exchange Program & Memorandum of Understanding (MoU)

Organized by: Department of Zoology

1. **Executive Summary & Event Details**

A two-day Extension Lecture Series on "Aquaculture" was organized by the **Department of Zoology on August 12, 2026, and August 13, 2026**. Designed under the Curriculum and Credit Framework (CCF) syllabus guidelines, the program operated under the broader umbrella of the Faculty/Student Exchange Program established via Memorandum of Understanding (MoU) with partner institutions: **Bangabasi Morning College, Kolkata & Surendranath College, Kolkata.**

Target Audience: B.Sc. Zoology Major Students — Semester I & Semester II

Total Student Attendance: 21 enrolled students

Core Subject Alignment:

Theme: Foundations, Health Diagnostics, and Contemporary Innovations in Aquatic Resource Management & Sustainable Aquaculture

Aquaculture & Fisheries Management (CCF Skill Enhancement / Skill-Based Core Modules)

1.Primary Objective:

To enrich foundational knowledge, bridge academic-industry gaps, and provide experiential exposure to modern aquaculture techniques through subject experts.

2. Profile of Resource Persons / Guest Speakers

A. Dr. Sreejata Biswas

Designation: Associate Professor, Department of Zoology, Bangabasi Morning College, Kolkata

Specialization: Applied Zoology, Aquatic Eco-biology & Waste Recycling

B. Dr. Adity Sarbajna

Designation: Associate Professor, Department of Zoology, Surendranath College, Kolkata

Specialization: Fish Physiology, Endocrinology & Aquatic Toxicology

C. Dr. Arnab Basu

Designation: Faculty Member, Department of Zoology, Vidyasagar College, Kolkata

Specialization: Freshwater Ecology, Water Quality Management & Fish Biology

3. Day-Wise Academic Deliberations

Day 1: August 12, 2026

The first session of the series featured lectures by Dr. Sreejata Biswas and Dr. Adity Sarbajna.

Lecture 1 — Dr. Sreejata Biswas:

Focused on basic principles of aquaculture practices, pond ecosystem management, and sustainable fish farming techniques.

Detailed the integration of biological waste recycling in aquatic systems to promote sustainable yields.

Lecture 2 — Dr. Adity Sarbajna:

Addressed physiological aspects of fish growth, reproductive strategies, and environmental impacts on fish culture.
Emphasized water chemistry maintenance, toxicological checks, and disease prevention in controlled culture units.

Day 2: August 13, 2026

The second day featured an intensive session led by Dr. Arnab Basu.

Lecture 3 — Dr. Arnab Basu:

Delivered an in-depth lecture on sewage-fed aquaculture systems (referencing systems such as the East Kolkata Wetlands), water quality parameter analysis, and feed formulation strategies.
Instructed students on freshwater monitoring, aquatic ecology, and bio-indicator organisms used to evaluate aquatic ecosystem health.

4. **Strategic Objectives & MoU Integration**

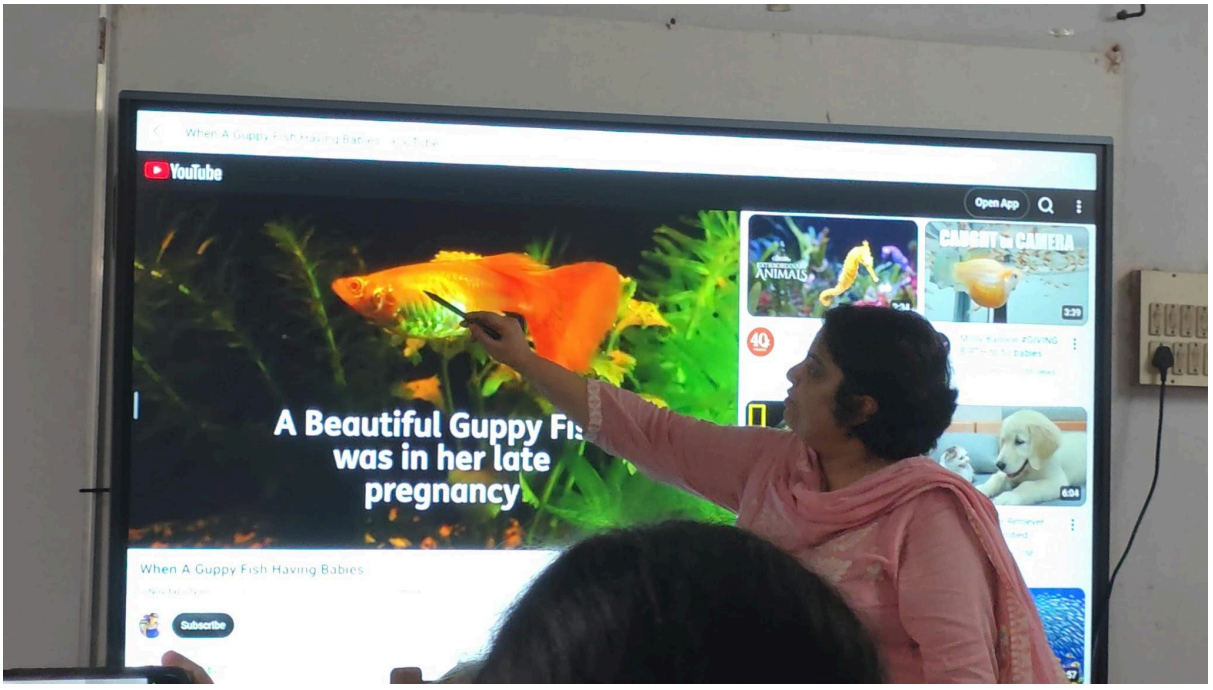
Inter-Institutional Collaboration: Activated inter-college academic exchanges to provide students access to varied expert perspectives without financial or geographical constraints.

CCF Alignment: Directly catered to the practical and theoretical requirements mandated under the CCF syllabus for Semester I & II Zoology Major students.

Interactive Q&A: All sessions concluded with dedicated interaction rounds where students clarified core queries regarding career paths in fisheries science, commercial culturing, and environmental sustainability.

5. **Summary & Outcomes**: Feedback was from the students participating in the lecture series were taken individually for each lecture.

SESSION-I



Dr. Adity Sarbajna, Associate professor, Surendranath college



SESSION-II



Dr. Sreejata Biswas, Associate Professor, Bangabasi Morning College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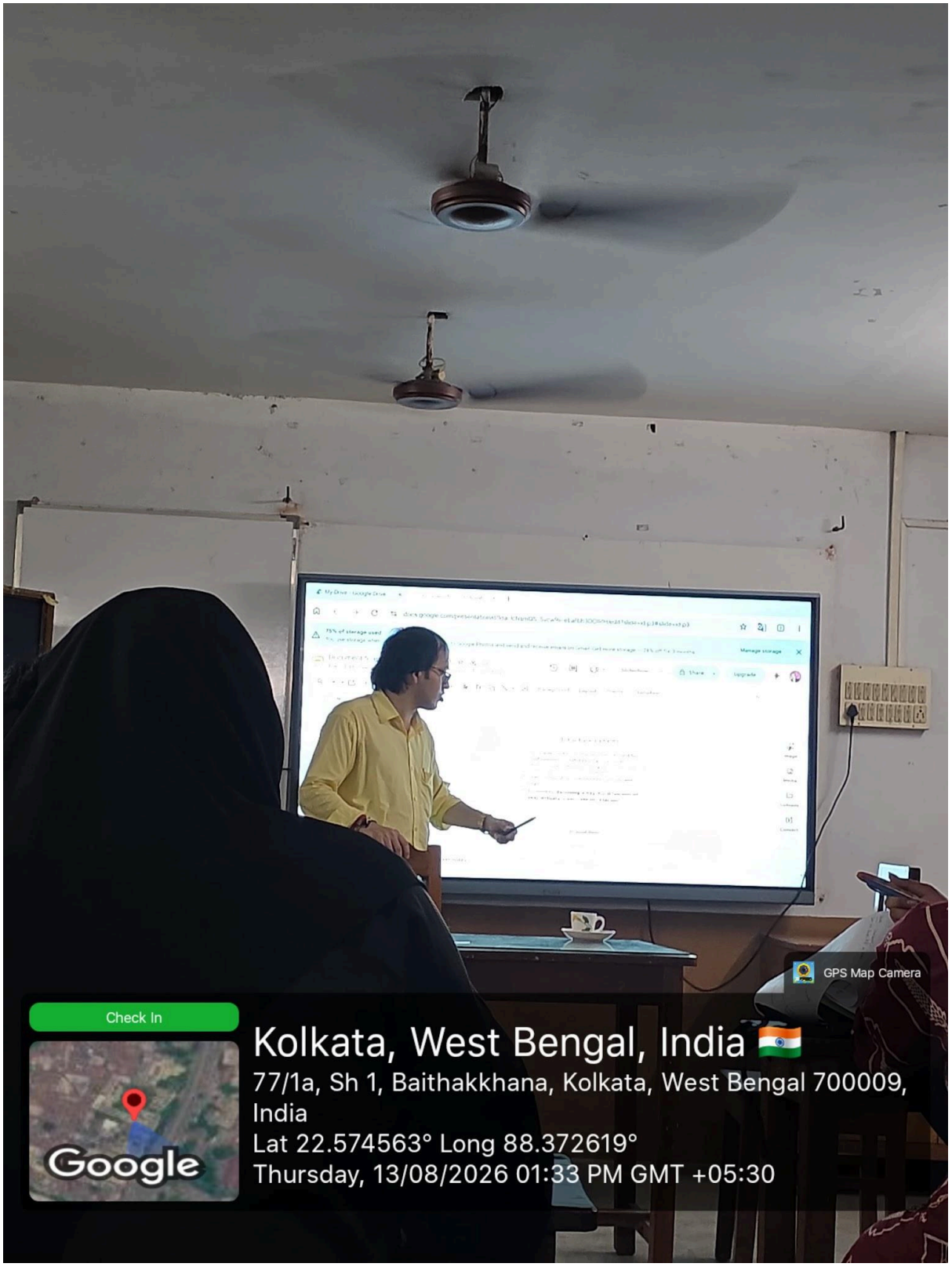
Check In
Google
Kolkata, West Bengal, India
114, Vivekananda Rd, Bag Bazar Colony, Manicktala, Simla,
Machuabazar, Kolkata, West Bengal 700006, India
Lat 22.585638° Long 88.374306°
Wednesday, 12/08/2026 03:04 PM GMT +05:30

SESSION-III



Dr. Arnab Basu, Vidyasagar College



Extension Lecture Series on Aquaculture

Organized by: Department of Zoology

Dates: August 12 & August 13, 2026

Theme: Foundations, Health Diagnostics, and Contemporary Innovations in Aquatic Resource Management & Sustainable Aquaculture

Overview of the Event

The Department of Zoology hosted a three-session extension lecture series focused on the multidimensional aspects of aquaculture. Bringing together expert academic perspectives from prominent institutions, the series bridged foundational ecological concepts, practical health diagnostics, modern tech-driven culture systems, and career/entrepreneurial pathways for undergraduate Zoology students of our college.

Summary of Sessions

Session I: Fundamentals & Sustainable Farm Management

- **Date & Time:** August 12, 2026 | 12:00 PM – 1:00 PM
- **Speaker: Dr. Adity Sarbajna**, Associate Professor, Surendranath College
- **Key Focus Areas:**
    - Principles of freshwater and brackish water aquaculture systems.
    - Sustainable fish farming strategies and eco-friendly management.
    - Maintaining optimal soil-water chemistry, nutrient balance, and overall pond dynamics.
- **Session Highlights:**
  Dr. Sarbajna set the foundation for the series by discussing ecological balance within artificial and semi-intensive culture ponds. The talk underscored how understanding hydrobiological parameters (pH, dissolved oxygen, alkalinity, and organic loading) directly impacts yield, highlighting that ecological sustainability is essential for long-term economic viability in modern fish farming.

Session II: Fish Health, Breeding & Commercial Opportunities

- **Date & Time:** August 12, 2026 | 2:00 PM -3:00PM
- **Speaker: Dr. Sreejata Biswas**, Associate Professor, Bangabasi Morning College
- **Key Focus Areas:**
    - Aquatic pathology, health diagnostics, and disease intervention.
    - Induced breeding protocols, hormonal treatments, and seed quality management.
    - Economic avenues, post-harvest operations, and local fishery entrepreneurship.
- **Session Highlights:**
  Dr. Biswas transitioned the focus toward practical and commercial dimensions. She covered diagnostic methods for identifying fungal, bacterial, and parasitic pathogens common in commercial stocks. Additionally, the presentation detailed modern hatchery management and induced breeding techniques, concluding with an inspiring outline of career prospects, startup opportunities, and government initiatives available in the fisheries sector for biological science graduates.

Session III: Aquatic Resource Management & Applied Aquaculture Technologies

- **Date:** August 13, 2026
- **Speaker: Dr. Arnab Basu**, Specialist in Fish Biology & Aquaculture
  Vidyasagar College
- **Key Focus Areas:**
    - Ecological assessment and conservation of local aquatic ecosystems and natural fishery resources.
    - Modern culturing innovations (e.g., Biofloc technology, feed formulation, and water quality bio-monitoring).

    - Environmental toxicology, habitat productivity, and sustainable harvest strategies.
- **Session Highlights:**
  Building on the themes of the previous day, Dr. Basu addressed contemporary practices in fishery resource assessment and advanced culture techniques. He emphasized the role of field-level ecological evaluations, toxicological impacts on fish health, and technological integrations like biofloc and optimized feed formulations to enhance productivity while minimizing environmental footprint.

Core Outcomes & Academic Value

Dimension	Key Takeaways
Ecological & Chemical	Deepened understanding of pond hydrobiology, soil-water chemistry, and sustainable ecosystem maintenance.
Applied Biological	Practical exposure to induced breeding, pathogen identification, seed rearing, and feed technology.
Socio-Economic & Career	Clear roadmap of entrepreneurial prospects, fisheries management roles, and higher-research domains in aquatic biology.

The three-session extension lecture series organized by the Department of Zoology successfully provided a holistic overview of contemporary aquaculture, blending academic theory with practical, real-world application. Across the two days, participants gained valuable insights into the full spectrum of aquatic resource management—ranging from foundational pond dynamics and eco-friendly farm management with **Dr. Adity Sarbajna**, to disease diagnostics, seed production, and commercial entrepreneurship with **Dr. Sreejata Biswas**, through to advanced culture technologies and ecological resource conservation with **Dr. Arnab Basu**.

By bridging the gap between ecological principles, technological interventions, and socio-economic opportunities, the seminar highlighted aquaculture not only as a vital field of biological research but also as a sustainable solution to global food security and a thriving avenue for green entrepreneurship. The interactive sessions enriched the academic perspective of students and researchers alike, inspiring them to explore higher studies, field research, and commercial ventures in fisheries and aquatic sciences.