Promoting Aquaculture for Sustainable Food Production

UVAS Fisheries and Aquaculture Newsletter

UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES LAHORE

Introduction:

The Department of Fisheries &Aquaculture, UVAS aims to provide excellence in higher education, training, research and development, services and advice in the fields of sustainable Fisheries and Aquaculture consequently contributing to economic and social development of the country.

Mission:

Produce highly skilled professionals in the field of Fisheries and Aquaculture to meet the demand of growing fisheries industry by resolving food and environmental problems.

CONTENTS

Strategic Partnership: UVAS and Punjab Fisheries Department Explore Shrimp Aquaculture Growth

Historic Milestone: UVAS Produces First Post-Doctoral Researcher in Fisheries and Aquaculture

Empowering Youth: UVAS Trains 40 Professionals under Prime Minister's "Skills for All" Program

Bridging Theory and Practice: UVAS Hosts Specialized Limnological Research Training

Navigating the Genomic Era: UVAS Hosts Two-Day Workshop on NGS Data Analysis

UVAS Empowers Researchers with Hands-on Training in Fish Toxicity Assessments

Strategic Partnership: UVAS and Punjab Fisheries Department Explore Shrimp Aquaculture Growth



In a major step toward modernizing the province's aquatic sector, a high-level consultative meeting was held on Wednesday, June 11, 2025, between the University of Veterinary and Animal Sciences (UVAS), Lahore, and the Punjab Fisheries Department. The session, held in the Syndicate Room, focused on establishing a collaborative framework to enhance technical expertise and promote sustainable shrimp farming across Punjab.

The meeting was chaired by UVAS Vice-Chancellor Meritorious Prof. Dr. Muhammad Younus (DLA.I, T.I), who emphasized the university's commitment to providing technical support and academic research to uplift the local industry. Distinguished participants from UVAS included Prof. Dr. Aneela Zameer Durrani (Dean, Faculty of Veterinary Science), Prof. Dr. Arshad Javid (Dean, Faculty of Fisheries & Wildlife), and Dr. Muhammad Hafeez-ur-Rehman (Chairman, Department of Fisheries & Aquaculture).





Representing the Punjab Fisheries Department, Mr. Ahdad Dogar, Project Director of Shrimp Culture, led the discussion on large-scale infrastructure and field implementation. The dialogue centered on strengthening capacity-building initiatives, including specialized technical training for farmers, human resource

development, and joint research projects to address emerging challenges in shrimp health and nutrition. Both institutions agreed to bridge the gap between academic theory and practical industry needs, ensuring that Punjab becomes a leader in the South Asian aquaculture landscape.

Historic Milestone: Department of Fisheries and Aquaculture, UVAS Produces First Post-Doctoral Researcher in Fisheries and Aquaculture

The Department of Fisheries and Aquaculture at the University of Veterinary and Animal Sciences (UVAS) has achieved a major institutional landmark by producing its first-ever post-doctoral researcher. Dr. Tsoupou Kuete Suzy Gwladys, a scholar from Cameroon, successfully completed her intensive research tenure from December 2024 to May 2025 under the supervision of Dr. Muhammad Hafeez-ur-Rehman, Chairman of the Department. Her work was supported by a prestigious fellowship from the Chinese Academy of Sciences (CAS), highlighting the department's growing role in international scientific mentorship.



During her time at UVAS, Dr. Suzy focused on a practical challenge for the aquaculture industry: the production of floating fish feed without the use of expensive extrusion machinery. In many regions, including parts of Pakistan and Cameroon, farmers lack access to specialized floating pellet machines, which often forces them to rely on sinking feeds that are harder to manage and more wasteful. Dr. Suzy's research explored non-extrusion methods for creating buoyant pellets, utilizing natural binders and specific dough-processing techniques to ensure the feed remains on the water surface.



This development is particularly significant for small-scale and subsistence farmers. Floating feed allows for the direct observation of fish health and feeding behavior, preventing overfeeding and protecting the water from pollution caused by uneaten sinking waste. By developing a method that allows these pellets to be produced on-farm using simple tools, Dr. Suzy has provided a sustainable path toward reducing costs and improving the efficiency of local aquaculture operations. This historic achievement solidifies the department's position as a premier hub for research that bridges the gap between high-level science and practical, field-based solutions for the global "Blue Economy".

Empowering Youth: Department of Fisheries and Aquaculture, UVAS Trains 40 Professionals under Prime Minister's "Skills for All" Program

In a major initiative to strengthen the national livestock and aquatic sectors, the Department of Fisheries and Aquaculture at UVAS, Ravi Campus, successfully hosted two batches of students for a specialized three-month diploma on fish farming organized under the Prime Minister's Hunarmand Pakistan (Skills for All) Program in collaboration with NAVTTC. The course provided 40 trainees with the technical expertise needed to excel in the modern fish farming industry.

The program moved beyond traditional classroom learning, focusing on a market-centric approach. Students received intensive hands-on training in site selection, water quality management, fish breeding techniques, and disease control. A core objective of this certification is to prepare participants for international job opportunities. To support this, the curriculum included specialized modules on Job Search & Entrepreneurial Skills, teaching students how to navigate job







processes and apply for technical roles in overseas markets, particularly in the Gulf countries.

To reinforce their practical skills, the students conducted an educational and research visit to Tawakkal Fish Hatchery on May 27th. Accompanied by Dr. Muhammad Hafeez-ur-Rehman (Chairman) and Dr. Muhammad Akmal, along with MPhil and PhD scholars, the trainees observed modern breeding and hatchery management practices firsthand. This visit allowed students to engage with industry experts and see how large-scale commercial operations function.

By combining technical mastery with professional ethics and international job-seeking strategies, UVAS is ensuring that these graduates are not only ready for local employment but are also competitive candidates for the global workforce. This

program marks a significant step in transforming the youth into skilled professionals who can contribute to the sustainable growth of the fisheries sector both at home and abroad.

Bridging Theory and Practice: Department of Fisheries and Aquaculture, UVAS Hosts Specialized Limnological Research Training

As part of its ongoing commitment to fostering scientific excellence, the Department of Fisheries and Aquaculture at the University of Veterinary and Animal Sciences (UVAS), Ravi Campus, hosted a comprehensive hands-on training session titled “Sediment Sampling and Analysis for Limnological Research” on May 26, 2024.

The session brought together 50 participants, including final-year BS Zoology students and postgraduates, to provide vital practical exposure to techniques essential for modern limnological studies. Participants were guided through the technical complexities of sediment collection, specialized handling protocols, and laboratory analysis methods. This practical immersion allowed students to develop critical field skills while deepening their understanding of the role sediments play in aquatic ecosystem monitoring and management.



By integrating theoretical knowledge with direct field experience, the training significantly enhanced the participants' capacity for data interpretation and prepared them for complex environmental studies. This initiative highlights UVAS’s role in developing a skilled generation of researchers capable of addressing the ecological challenges of Pakistan's inland water bodies. The session concluded with a focus on how these scientific competencies directly contribute to the sustainable management of aquatic resources and the broader goals of environmental stewardship.

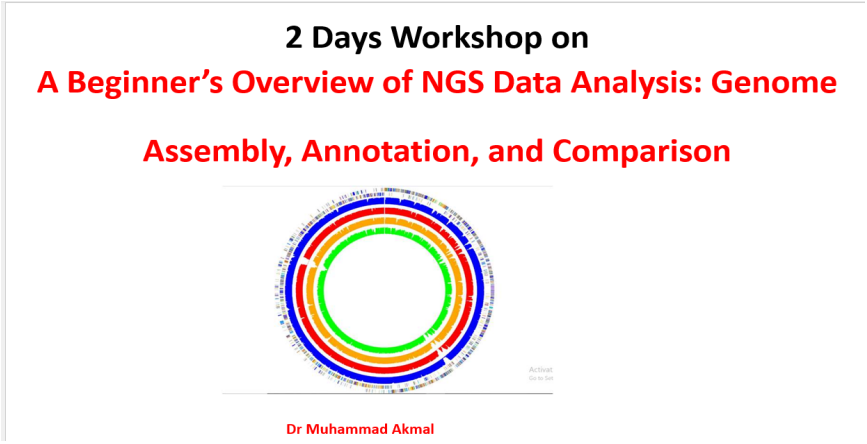
Navigating the Genomic Era: Department of Fisheries and Aquaculture, UVAS Hosts Two-Day Workshop on NGS Data Analysis

As the cost of DNA sequencing continues to decline, more researchers are turning to large-scale data analysis to solve complex biological questions. To meet this growing demand, the Department of Fisheries and Aquaculture at UVAS, Ravi Campus, organized a practical two-day workshop on May 21–22, 2025, titled “A Beginner’s Overview of NGS Data Analysis: Genomic Assembly, Annotation, and Comparison.”

The workshop was designed to demystify Next-Generation Sequencing (NGS) and empower students to manage and interpret their own datasets.

Rather than focusing solely on theory, participants engaged in the technical aspects of bioinformatics. They began by setting up Ubuntu operating systems and installing the specialized software environments required for high-level data processing. The training then moved into the core workflows of genomic assembly-the process of piecing together short DNA reads-and annotation, which involves identifying and labeling the functions of specific genes.

By the end of the session, students progressed to comparing genomes across different species to identify significant biological patterns. This training represents a major step forward for the department, bridging the gap between traditional laboratory work and advanced computational science. It ensures that our researchers are fully equipped to lead the scientific discoveries that will shape the future of fisheries and aquatic management.



Department of Fisheries and Aquaculture, UVAS Empowers Researchers with Hands-on Training in Fish Toxicity Assessments



On May 22, 2025, the Department of Fisheries and Aquaculture at UVAS, Ravi Campus, conducted a specialized training session on "Fish Toxicity Assessments" for 55 researchers and students. The workshop provided practical exposure to evaluating the toxicological impacts of environmental pollutants on aquatic life.

A central focus was the Comet Assay technique, a highly sensitive method for detecting and quantifying DNA damage in individual fish blood cells. Participants gained hands-on experience in the complete analytical process, including blood sample collection, preparation, electrophoresis, staining, and microscopic evaluation of DNA damage patterns.

By mastering these molecular biomarker tools, participants are better prepared to link laboratory findings to broader environmental monitoring and aquatic health management. This initiative reinforces UVAS's commitment to advancing practical skills and innovation within Pakistan's emerging "Blue Economy".

Training Milestone: FDB Equipped 125 Graduates and farmers for the Shrimp Sector

In a major step to boost Pakistan's "Blue Gold" economy, the Fisheries Development Board (FDB) recently completed two intensive 15-day training programs focused on modern shrimp farming. These sessions, held in Karachi and Multan during April and May 2025, were funded by the Prime Minister's National Agriculture Emergency Program to bridge the gap between academic study and practical field skills.

A total of 125 participants, including a large number of Fisheries and Aquaculture students from across Punjab, received hands-on experience in hatchery management and sustainable farming practices. This initiative is the first of its kind to offer such high-level technical training, ensuring that the next generation of graduates is ready to lead the country's billion-dollar export dream.









Office Secretariat: Department of Fisheries and Aquaculture, UVAS Lahore-Pakistan

Dr. Muhammad Hafeez-ur-Rehman (Chairman): mhafeezurehman@uvas.edu.pk 0345-4588289
Dr. Muhammad Akmal (Lecturer): Muhammad.akmal@uvas.edu.pk 0334-9222250