

From the Director's Desk



It gives me immense pleasure to welcome you to the official website of the ICAR–National Bureau of Fish Genetic Resources (ICAR-NBFGR), a premier research institute under the Indian Council of Agricultural Research (ICAR), dedicated to the conservation, management, and sustainable utilization of Aquatic Genetic Resources (AgGR) in India. Since its inception in 1983, ICAR-NBFGR has emerged as a global leader in fish genetic resource research. With a mandate rooted in the scientific cataloguing, characterization, and conservation of India's rich aquatic biodiversity, the Bureau plays a pivotal role in supporting the national fisheries sector through innovative science, advanced biotechnology, and a policy-relevant approach to sustainable development. The institute houses the world's largest collection of fish cell lines (83 accessions), serves as an Associate Partner Laboratory to the World Organization for Animal Health (WOAH), and collaborates with international centres such as CEFAS, UK, in emerging aquatic animal disease management. Our National Fish Museum and Repository, designated under Section 39 of the Biological Diversity Act, 2002, has gained national recognition for its efforts in fish biodiversity documentation and outreach. In past years, ICAR-NBFGR has achieved remarkable milestones:

- Discovery and Taxonomic Contributions: Over 70 new finfish species, shrimps, and molluscs, as well as the redescription of several species, have been documented from critical habitats like the Western Ghats, Northeastern Hill regions, Deep-sea, Himalayan rivers, and Ramsar wetlands.
- Whole Genome and Transcriptome Sequencing: High-quality genome assemblies have been completed for key species such as *Tenualosa ilisha*, *Labeo rohita*, and *Clarias magur*, enabling a better understanding of genetic structure and adaptation.
- Innovative Research Platforms: Development of the FisOmics portal, including sub-platforms like FBIS, FishMicrosat, Fish Karyome, and HRGFish, provides molecular access to fish biodiversity data.
- Live Gene Banks: Eight live gene banks across diverse biogeographic zones serve as *in-situ* conservation hubs, including special centres for ornamental fishes and clownfishes.
- Health and Biosecurity Initiatives: The NSPAAD Phase II and INFAAR network, supported by MoFAHD and FAO respectively, are addressing disease surveillance, AMR, and pathogen management in a coordinated "One Health" framework.
- Breakthrough Technologies: A new anti-oomycete formulation, 'OoNIL', and recombinant vaccines against viral pathogens have been developed. CRISPR/Cas9-based gene editing has been initiated for *Labeo rohita* (to reduce intramuscular bones) and *Trichogaster chuna* (to enhance colour).
- E-Governance and Digital Innovation: The institute has received the National e-Governance Silver Award (2024) for its comprehensive aquatic animal disease reporting and digital fish health management system.

The Bureau's focus extends beyond research and technology. We believe in inclusive capacity building and livelihood augmentation. Our community-based aquaculture models in Lakshadweep, Tamil Nadu, and Maharashtra, and participatory conservation programmes across river basins such as the Ganga, Brahmaputra, and Godavari, highlighted our commitment to social impact and ecosystem-based management.

Heartiest congratulations to the scientists and staff of ICAR-NBFGR involved, and many thanks to the visionary leadership of ICAR-NBFGR over the decades, spearheading cutting-edge R&D works. My sincere gratitude to all our leaders and compliments to researchers.

In alignment with India's vision for a Viksit Bharat @2047, our roadmap emphasized the discovery of undocumented species, genomics for climate resilience, artificial intelligence for species distribution modelling, and a robust fish germplasm repository network. As we navigate the complexities of biodiversity loss, climate change, and biosecurity threats, ICAR-NBFGR remains committed to its mission to lead scientific advancements for conserving India's aquatic genetic wealth. I invite researchers, policy-makers, farmers, and the public to engage with us, explore our resources, and partner in this vital endeavour of national and global significance. Thank you for visiting our website.

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