

Expert Consultation on Development of a Roadmap for Translational Genomics in Indian Aquaculture Held at ICAR-NBFGR

Lucknow, 29.08.2025

ICAR–National Bureau of Fish Genetic Resources, Lucknow, in collaboration with the Asian Fisheries Society (Indian Branch), Mangalore, and the Aquatic Biodiversity Conservation Society, India, organized an *Expert Consultation on the Development of a Roadmap for Translational Genomics in Indian Aquaculture* on 29 August 2025 at ICAR-NBFGR, Lucknow. The programme commenced with a welcome by Dr. Kajal Chakraborty, Director, ICAR-NBFGR. In his introductory address, Dr. J. K. Jena, Deputy Director General (Fisheries Science), ICAR, and Coordinator, ICAR-CRP-Genomics, highlighted the transformative potential of genomics in accelerating trait improvement and advancing the Indian aquaculture sector towards the vision of *Viksit Bharat@2047*. Dr. Jena highlighted that while fish production in India has grown remarkably since independence, future productivity gains must be technology-driven, particularly through genomic innovations. Dr. Ajit K. Shasany, Director, CSIR-NBRI, Lucknow, emphasized the importance of genomics-based approaches for aquatic health management and metabolite studies. Dr. B. K. Behera, Chief Executive, NFDB, highlighted the role of genomics in developing aquaculture species with desirable traits such as faster growth, disease resistance, and enhanced nutritional quality. Dr. N. K. Singh, Former ICAR National Professor, called for high-quality genome assemblies, capacity building in bioinformatics, and indigenous protocol development for translational applications. The Chief Guest, Dr. T. R. Sharma, ICAR National Professor and Former DDG (Crop Sciences), stressed the need for pan-genome analysis, single-cell transcriptomics, and proteomics to strengthen translational genomics in aquaculture. The inaugural session concluded with a vote of thanks by Dr. Rajeev K. Singh, Co-coordinator & PI, CRP-Genomics. The eminent experts, Dr. Vindhya Mohindra, Dr. Satendra Kumar Mangrauthia, Dr. A. R. Rao, and Dr. Victor Martinez (University of Chile), shared their vast experiences to set the tune for creating a roadmap. The panel discussion emphasized on species prioritization, bioprospecting of elite germplasm, genomic interventions, sustainable aquaculture management, molecular diagnostics, health management, and AI applications in large-scale genomic data analysis. The consultation culminated in the synthesis of key recommendations and a roadmap for advancing translational genomics in Indian aquaculture.

