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EDITOR'S LETTER

Dear Readers,

Welcome to this new transformative edition of AQUAFOCUS, where innovation meets ecological consciousness in the vast realm of aquaculture. This issue brings into focus the convergence of scientific progress, grassroots ingenuity, and sustainable strategies shaping the future of our aquatic resources.

As aquaculture grapples with rising global demand, the industry is undergoing a revolution from what we feed our fish to how we integrate nature into our farming systems. Smart technologies like AI-driven water quality monitors and IoT-enabled feed systems are redefining how farms operate, minimizing waste while maximizing yield. Equally compelling is the resurgence of bacteriophage therapy, a nature-powered alternative to antibiotics in aquaculture health management.

We turn our lens to seaweed aquaculture, a silent climate warrior that not only supports marine biodiversity but also absorbs carbon and purifies our oceans. Institutions like ICAR-CMFRI and CSIR-CSMCRI are driving its growth, opening new economic frontiers for coastal communities.

Another highlight in this issue is the expanding role of aquasilviculture, a practice that gracefully fuses aquaculture with mangrove conservation. Through integrated pond systems and community-led resource management, this approach not only restores fragile coastal ecosystems but also supports resilient rural livelihoods. You'll also find an in-depth look at rotifer enrichment, a vital yet often underappreciated component of successful fish larviculture. From microalgae to commercial emulsions, the science of boosting live feed nutrition is taking larval survival rates to new heights.

In our special pharma-science feature, we explore the cutting-edge roles of chitin and chitosan, marine biopolymers transforming wound healing, tissue engineering, and drug delivery. Their journey from shrimp shells to hospital shelves is nothing short of remarkable.

Finally, we confront the heart of sustainable aquaculture: feed innovation. Insect protein, algae, microbial meals, and upcycled agri-waste are no longer future possibilities they are today's solutions. These ingredients are helping us feed fish without depleting the oceans, all while nurturing gut health, improving immunity, and closing the nutrient loop.

Each story in this issue is a testament to what's possible when science, policy, and community move in harmony. Together, we can build an aquaculture sector that nourishes both people and the planet.

With optimism and gratitude,

Dr. Jesu Arockia Raj. A
Editor-in-Chief
AQUAFOCUS