

BUBT

Bangladesh University of
Business and Technology



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Illuminating
Sustainable
Aquaculture.





Healthy Fish, Healthy Communities

1

Critical Protein Source

Over 60% of all animal protein consumed in Bangladesh comes directly from fish, highlighting its irreplaceable role in the national diet and public health.

2

Massive Livelihood Support

More than **2+ million people** depend on fisheries for their livelihoods, encompassing fishermen, traders, processors, and related industries.

Beyond the Plate: When Fish Health Becomes a Human Risk



Heavy Metals

- **Safe limit:** Mercury $\leq 0.5 \text{ mg/kg}$ in fish (EU/FAO standard).
- **Current situation:** Lead and cadmium **bioaccumulate** in farmed fish over time, especially from contaminated feed and water.

Source: FAO; NIH (2022)



Microplastics

Contamination: Fishmeal contains 0–526 particles/kg,

Current scale: 5–12 million tons of microplastics enter oceans each year.

Risk: Microplastics (0.15–5 mm) enter fish via feed and water, posing food safety concerns.

Source: (2021) Environmental Toxicology and Chemistry Review



Chemical Residues

Pesticides, PCBs, and dioxins accumulate in farmed fish. EPA tolerable dioxin limit: **0.7 picograms/kg body weight/day**. Fish consumption alone can exceed safe daily limits.

Source: EPA Guidelines; Nutrition Facts Research (2025)