

The goal of **sustainable aquaculture** is to provide a continued supply of farmed aquatic nutrients beneficial for human sustenance without harming existing ecosystems or exceeding the ability of the planet to renew the natural resources required for aquaculture production.

THE ROLE OF MECHANICAL AERATION AND WATER CIRCULATION IN THE INTENSIFICATION OF SUSTAINABLE AQUACULTURE - CLAUDE E. BOYD
development of an efficient, floating, electric paddlewheel **aerator** → reduces the cost of mechanical aeration and is a contributor to economic sustainability → Aeration allows greater **efficiency** of land and water use at the farm level than possible in unaerated ponds, thereby favoring sustainable production practices



RECIRCULATING AQUACULTURE SYSTEMS (RAS): ENVIRONMENTAL SOLUTION AND CLIMATE CHANGE ADAPTATION- N.AHMED, G. TURCHINI

growing fish in indoor tanks where water is recycled and reused after mechanical and biological filtration and removal of suspended matter and metabolites → reduce water usage & improve waste management and nutrient recycling → intensive fish production compatible with **environmental sustainability**

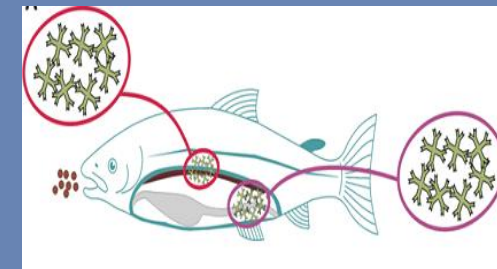
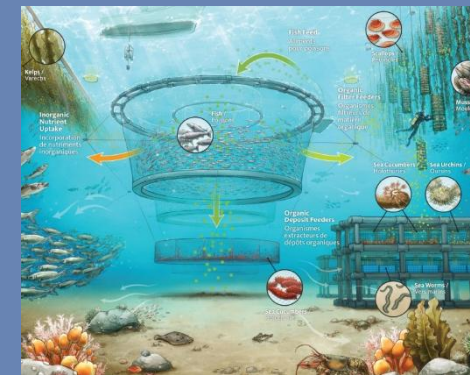
POND MANAGEMENT SYSTEMS: STRATEGIES FOR SUSTAINABILITY - CRAIG S. TUCKER

Ponds offer advantage over other culture systems → waste nutrients can be recycled back into a crop → increase feed-use efficiency. Waste nutrients in ponds are assimilated by endogenous **microflora** (phytoplankton, zooplankton, bacteria) → transforming wastes into a potential food source at no cost to the farmer.



APPLICATION OF PROBIOTIC, PREBIOTIC AND SYNBIOTIC FOR SUSTAINABLE DEVELOPMENT OF AQUACULTURE-S.DAS,K.MONDAL, S.HAQUE

Probiotics → important role in feed conversion, growth rates, weight gain, immune response, fish disease resistance
Prebiotics → disease resistance and nutrient availability of fish
Synbiotics → combined application of probiotics and prebiotics → increase in growth performances, survival rate, serum protein → enhance feeding efficiency



THE ROLE OF INTEGRATED PRODUCTION SYSTEMS FOR SUSTAINABLE AQUACULTURE- G.LOCKWOOD, W.VALENTI

Integrated multi-trophic aquaculture (IMTA) → combines the cultivation of fed species (finfish/shrimp) with organic extractive species (shellfish/herbivorous fish) and inorganic extractive species (seaweed) → create balanced systems for environmental and economic sustainability, economic stability, social acceptability