

# Mighty Seaweeds in Integrated Multi-Trophic Aquaculture (IMTA): A Biofiltration System for Mitigating Inorganic Waste and Carbon Dioxide in Philippine Context

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Aquaculture systems using fed species (finfish, shrimps) often results in inorganic and organic pollution in the surrounding waters as a result from excess feed materials and waste from cultured species of animals. Mitigating pollution as a result of this aquaculture operation often becomes a nightmare for many aquaculture operators, usually at economic and social costs. Existing technology using seaweeds offers sufficient means to address pollution due to fed aquaculture. Carrageenan-producing seaweeds integrated into aquaculture systems is a new approach for sustainable aquaculture. The use of economically-important algae as biofilter in aquaculture offers opportunity for best practice for sustainable aquaculture. Algae, unless themselves the main product in aquaculture systems, have not been used as an integral part of aquaculture system with animals in the Philippines. However, they can be an important tool as a self-cleansing mechanism against pollution if integrated in culture system, usually in semi- or closed system using marine animals such as fish and shrimps.



23-27 November • Manila, Philippines