

## Future Strategies for Development of Shrimp Culture Industry

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### Abstract

Shrimp culture industry in Sri Lanka has a history of over 2 decades. It originated from the private sector and developed rapidly with little input from the government sector. Initially, research for the production of good quality shrimp and disease control were the major roles undertaken by the government sector in addition to approving new projects. During the rapid development phase in early 1990's the sector expanded into small and medium sized ventures due to its high returns. However environmental considerations were over looked during the expansion and the consequences of these activities have resulted in the present problems of the industry.

Continuous disease outbreaks and rapid spread of viral infections have caused heavy losses to farmers and these have been attributed to environmental degradation and water quality deterioration in the estuarine system which acts as the main water source and receiver of effluents. During the past year most farms were non operational due to environmental conditions.

At present, research has introduced the suitability of physico- chemical environment for culture activities, use of biological treatment for effluents and upgrading water quality in the estuarine system and the disease conditions –infectious and non infectious and precautionary measures to prevent disease spread. Also the use of many probiotics has been studied and their impact in disease management, water quality and effectiveness under prevailing environmental conditions has been documented. The environmental impact of shrimp culture and other fishery activities in the Mundel- Puttalam estuarine system which is the main water source for shrimp culture has been studied. Many management options introduced have not been adopted properly and disease conditions ails the shrimp industry and causes many problems in the estuarine system and its resource users since the latter part of the last decade.

Further research is needed to identify other suitable species that could be used in crop rotation, the many chemical and biological agents used in shrimp culture activities and their impact on our estuarine environment as well as on the farming practices, and technology to uplift the shrimp culture industry including brood stock domestication, development of disease resistant strains, and use of best management practices [BMP's] to reduce disease risk. – one of the main strategies developed by other shrimp farming countries. It is also needed to monitor the environmental quality in the estuarine system, its biodiversity, resource use, and the impacts on fishery in the area due to the recent developments in the shrimp culture industry, including the opening of lagoon mouths, release of diseased shrimp to environment, and impact of water and resource use by shrimp industry in the estuarine system. It is important to identify the BMPs that could be adopted in Sri Lanka to ensure the sustainability of the industry and the conservation of the coastal environment in shrimp farming areas.

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