

Oyster aquaculture in Sri Lanka emerging as a promising industry with considerable potential for sustainable development

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Oysters are widely recognized as a good nutritious source of protein offering an excellent balance of essential nutrients needed for a healthy diet. They are particularly rich in high-quality protein and glycogen while also supplying vitamins and minerals including zinc, iron, calcium and selenium. This nutrient-dense profile makes oysters a valuable addition to a balanced and wholesome diet. In Sri Lanka, Oyster culture is not yet fully commercialized much of the work is through research institutions. The National Aquatic Resources Research and Development Agency (NARA) is the main body doing applied research on mollusk aquaculture including oyster culture in Sri Lanka. Key oyster species include *Crassostrea madrasensis*, *C. belcheri* and *Sacostrea cucullata*.

Oyster capture fisheries are mainly concentrated in coastal regions such as Negombo, Chilaw, Kalpitiya, Mannar, Jaffna, Trincomalee and the southern coastal belt in Sri Lanka



where they are primarily harvested for local consumption. Although large-scale bivalve farming is not yet a common practice these areas have significant potential

for oyster aquaculture. In recent years government-led initiatives have encouraged the development of community-based bivalve farming particularly oyster cultivation also in several parts of the country highlighting its promise as a sustainable livelihood option. When considering challenges and constraints, in the coastal regions where commercial oysters are harvested, untreated urban wastewater frequently enters the lagoons through freshwater streams. This direct discharge of sewage along with poorly managed livestock waste introduces a range of pathogens and pollutants that significantly degrade water quality. Market & consumer demand give low local awareness and acceptance of oysters as food. Limited availability of good quality seed badly effects on difficulties in collecting spat or seedlings, especially on a scale needed for commercial operations. Lack of trained personnel and lack of fully developed hatchery and nursery infrastructure or best prac-

tices can be caused for the technological problems in the industry. Site selection & environmental factors like Water quality (turbidity, salinity fluctuations) and tidal patterns matter a lot. Moreover when exporting sanitation, disease and food safety can be hurdles.

The potential benefits significantly outweigh the associated constraints. Oyster farming holds mainly significant economic, environmental and nutritional importance in Sri Lanka. It represents a sustainable, eco-friendly and commercially viable activity that supports both community welfare and environmental health opportunities and potentials illustrate significantly untapped natural resources like many lagoon and coastal areas not yet fully utilized for oyster culture, Income & livelihoods could be a supplementary livelihood for fishing and coastal communities, Good export potential including sanitary standards and there could be export markets like Singapore and Malaysia. In addition, Government & institutional interest help projects being planned to include oysters in mariculture initiatives suggest policy support may be growing in Sri Lanka. All these enhance consumer confidence in local shellfish products, and contribute to the sustainable development of Sri Lanka's coastal aquaculture sector.

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