

Feasibility analysis for the cage culture of saline tilapia (*Oreochromis spp*) in the Southern Part of Batticaloa Lagoon, Sri Lanka

K. Paranthagan¹, V. Suboganga², S. Ravikumar³, G. Nishanthan⁴, R.M. Nikzaad⁵

^{1,2,5}*Department of Biosystems Technology, Faculty of Technology, South Eastern University of Sri Lanka*

³*Coastal Aquaculture Extension and monitoring units, National Aquaculture Development Authority (NAQDA), Batticaloa*

⁴*Department of Aquaculture and Fisheries, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka*

¹kparanthagan98@gmail.com, ²suboganga98@gmail.com, ⁴seenishan@wyb.ac.lk,

⁵mnikzaad@seu.ac.lk

Abstract

Aquaculture meets growing seafood demand, with saline tilapia suited for brackish waters, fostering sustainable practices. The study aims to analyze factors contributing to the successful cage culture of Saline Tilapia in Batticaloa Lagoon and seeks to conduct a feasibility analysis and offer suggestions for further development to assist in its success. A technical feasibility analysis evaluates water quality parameters crucial for tilapia cage culture. Socio-economic feasibility involves a survey of 40 nearby farmers in Southern Batticaloa Lagoon. Legal feasibility assesses the permit acquisition process, while financial feasibility considers cost and revenue estimations. The collected data were analyzed using SPSS version 27. In the southern region of Batticaloa Lagoon, aquaculture is male-dominated with farmers aged 40-50 and low educational qualifications. Technical feasibility analysis indicates favourable conditions for saline tilapia cage culture with optimal pH, salinity, and water depth. Socio-economic factors highlight economic challenges but also opportunities, with all farmers expressing a desire to transition to tilapia cage culture. Environmental awareness is high, and financially, most farmers believe in the profitability of tilapia cage culture, though challenges exist. Ongoing monitoring and support are recommended for sustainable success. The study concludes with a financial viability assessment of saline tilapia cage culture in the southern Batticaloa Lagoon, emphasizing its potential benefits and addressing identified challenges.

Keywords: Batticaloa Lagoon, Culture feasibility, Saline Tilapia, Sustainable aquaculture

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