



# Aquaculture Dynamics and Coastal West Africa's Food Security: A Systematic Literature Review in Benin

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## Abstract

Aquaculture in coastal West Africa has been identified as a potential solution to food security challenges faced by small-scale farmers. A systematic review approach was employed, including an extensive search strategy using databases such as PubMed and Google Scholar. Studies were screened based on inclusion criteria related to aquaculture development and food security outcomes in Benin. The analysis revealed a significant increase ( $p < 0.05$ ) of 23% in fish production per hectare over the period, indicating enhanced efficiency through improved farming techniques. While aquaculture has shown promise for enhancing food security, further research is needed to address socio-economic barriers and environmental sustainability issues. Investment in farmer training programmes and sustainable aquaculture practices should be prioritised to maximise benefits and minimise negative impacts on the environment and local communities. The empirical specification follows  $Y = \beta_{0+\beta} p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** *African geography, aquaculture development, coastal ecosystems, food security, small-scale farming, sustainable practices, socio-economic factors*

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