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Developmental Metrics in Aquaculture for Food Security Enhancement in Senegal's Coastal Regions,

Muhammad Diallo[1,2], **Oumar Sène**[3], **Issa Niang**[2]

[1] Université Alioune Diop de Bambey (UADB)

[2] Department of Agricultural Economics, Institut Pasteur de Dakar

[3] Department of Animal Science, Institut Pasteur de Dakar

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Correspondence: mdiallo@hotmail.com

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Author notes

Muhammad Diallo is affiliated with Université Alioune Diop de Bambey (UADB) and focuses on Agriculture research in Africa.

Oumar Sène is affiliated with Department of Animal Science, Institut Pasteur de Dakar and focuses on Agriculture research in Africa.

Issa Niang is affiliated with Department of Agricultural Economics, Institut Pasteur de Dakar and focuses on Agriculture research in Africa.

Abstract

This study focuses on aquaculture development in coastal regions of Senegal aimed at enhancing food security. A mixed-methods approach involving surveys, stakeholder interviews, and statistical analysis was employed. Key data were collected from to using a validated Likert scale survey instrument designed to assess project effectiveness across various parameters such as yield, cost-effectiveness, and environmental impact. The survey revealed that aquaculture projects in Senegal achieved an average yield increase of 15% compared to traditional farming methods, with significant reductions in operational costs by 20%, indicating a substantial economic benefit for farmers. Based on the findings, it was concluded that targeted interventions could further enhance project outcomes and contribute to broader food security goals. Recommendations include scaling up successful projects, investing in infrastructure development, and fostering collaboration between local communities and government bodies to ensure sustainability. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Geographical Indicators of Aquaculture (GIA), Food Security Indices, Participatory Rural Appraisal (PRA), Integrated Pest Management (IPM), Small-Scale Fisheries Management, Sustainable Aquatic Resource Exploitation (SARE), Community-Based Natural Resources Management (CBNRM)*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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