



Methodological Evaluation of Regional Monitoring Networks for Yield Improvement in Nigerian Poultry Systems: A Panel Data Approach

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Abstract

Poultry farming in Nigeria faces challenges related to yield improvement due to a lack of comprehensive monitoring networks. A systematic literature review employing econometric techniques, including $y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$ where y represents yield improvement, X_1 is network coverage, and X_2 is farmer education levels, with robust standard errors to account for potential heteroscedasticity. The analysis revealed a significant positive correlation ($p < 0.05$) between increased network coverage and improved poultry yields across regions in Nigeria. Regional monitoring networks play a crucial role in enhancing poultry yield improvement, with substantial evidence supporting this conclusion based on panel data from the present. Implementing more extensive regional monitoring systems coupled with targeted farmer education programmes can lead to significant yield improvements in Nigerian poultry farming.

Keywords: *African geography, panel data, econometrics, agricultural productivity, rural development, stochastic frontier analysis, spatial econometrics*

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