Integrated Farming Systems in Benin: An Intervention Study for Resource-Poor Farmers

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Abstract

Integrated farming systems (IFS) have been proposed as a solution to enhance agricultural productivity and sustainability in resource-poor settings such as Benin. A randomized controlled trial was conducted with resource-poor farmers in Benin, randomly assigning them to either the intervention group (receiving IFS training and materials) or the control group (no interventions). Data were collected through surveys and field measurements over a period of two years. The analysis revealed that the intervention group showed a statistically significant increase in maize yields by 15% compared to the control group, with a confidence interval of ±3% ($p < 0.05$), indicating a robust effect due to IFS training and materials provided. IFS proved effective in improving crop productivity among resource-poor farmers in Benin, although further research is needed to explore long-term sustainability impacts. The findings suggest that policymakers should consider scaling up IFS programmes as a sustainable approach for enhancing agricultural productivity in similar contexts. Additionally, continuous support and monitoring are essential for the programme's success. Integrated Farming Systems, Resource-Poor Farmers, Crop Yields, Soil Fertility, Benin The empirical specification follows $Y = \vec{\beta_{0+\beta}} \, p \, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African agriculture, resource management, sustainable farming, agroecology, randomized trial, poverty alleviation, integrated systems*

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