Theoretical Foundations of Integrated Farming Systems for Resource-Poor Farmers in Benin

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Abstract

Integrated Farming Systems (IFS) have been proposed as a solution to enhance agricultural productivity in resource-poor farming communities, particularly in Benin where land and water resources are limited. Theoretical modelling will be employed to simulate different scenarios of IFS integration into existing farming practices in Benin, incorporating variables such as soil fertility management, crop diversification, and livestock integration. The theoretical framework developed in this article provides insights into designing effective IFS that can be scaled up from conceptual models to practical applications in Benin's agricultural landscape. Policy makers should encourage research on the specific effects of different livestock integration levels within IFS, with a focus on empirical validation of model predictions through pilot projects and monitoring systems. The empirical specification follows $Y = \vec{\beta}_{0+\beta} \, p \, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African, GIS, Participatory, Ecological, Systems, Models, Sustainability*

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