



Adoption Dynamics of High-Yield Rice Varieties Among Smallholder Farmers in Northern Burkina Faso: A Critical Review

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Abstract

High-yield rice varieties have been introduced to improve agricultural productivity in Burkina Faso's northern regions. However, their adoption among smallholder farmers has not been uniformly successful. A comprehensive literature review was conducted using databases such as PubMed, Google Scholar, and African Journals Online (AJOL). The analysis revealed that while the varieties offered higher yields, their adoption was significantly influenced by farmers' perceived benefits, access to credit, and geographical proximity to markets. Despite challenges in terms of market accessibility and financial support, there is potential for increased adoption through targeted interventions focused on enhancing farmer knowledge and providing financial incentives. Farmers' organizations should be strengthened to facilitate collective bargaining with rice seed companies. Government programmes aimed at improving rural infrastructure can also boost the uptake of high-yield varieties. The empirical specification follows $Y = \beta_{0+\beta} X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Sub-Saharan, AgriculturalAdoption, SustainableDevelopment, HerbicideResistant, CroppingSystems*

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