



Adoption Dynamics and Outcomes of Climate-Smart Agriculture Techniques in Maize Farming Communities of Western Kenya: An Economic and Environmental Assessment

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Abstract

Climate-smart agriculture (CSA) techniques have emerged as promising solutions to enhance agricultural productivity and sustainability in maize farming communities of Western Kenya under changing climatic conditions. The research employs a mixed-methods approach combining household surveys with focus group discussions. Data from 150 randomly selected households were analysed using econometric methods to determine the impact of CSA on farm income and environmental sustainability. Findings indicate that while approximately 45% of farmers adopted at least one CSA practice, there was a significant variation in outcomes across different practices (e.g., improved crop varieties led to a 20% increase in maize yields). The study highlights the importance of tailored interventions and supportive policies for maximising benefits from CSA adoption among maize farming communities. Farmers should be encouraged to adopt multiple CSA practices, while policymakers need to implement targeted subsidies and extension services to facilitate wider uptake and sustainability of these practices in the region.

Keywords: *Kenyan, adoption, sustainability, resilience, impact assessment, participatory, econometrics*

ABSTRACT-ONLY PUBLICATION

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