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Adoption Dynamics of Climate Resilient Rice Varieties in Coastal Tanzanian Communities: Economic and Food Security Assessment

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Abstract

Climate change impacts are increasingly evident in coastal Tanzanian communities, where rice cultivation is a critical livelihood activity. Rising sea levels and more frequent floods threaten traditional rice varieties, necessitating new adaptive strategies. We employed qualitative research methods including semi-structured interviews and focus group discussions with farmers in selected villages. Data analysis focused on thematic coding. Farmers reported a significant increase (30%) in adoption rates of climate-resilient rice varieties, attributing this to improved yield stability under changing climatic conditions. Adoption of these resilient varieties has led to substantial economic gains and enhanced food security for coastal communities. However, there is a need for sustained support to overcome initial cost barriers. Government should provide incentives and technical assistance to promote wider adoption. Agricultural extension services must tailor their interventions to address specific community needs.

Keywords: *Coastal, resilience, sustainability, agronomy, agroecology, participatory, evaluation*

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