



# Rice Farmers' Adaptive Irrigation Techniques and Resilience in Kenyan Agriculture: Efficiency and Income Dynamics

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## Abstract

Rice farming in Kenya is threatened by erratic rainfall patterns, necessitating innovative irrigation techniques to maintain productivity and income stability. A qualitative study involving semi-structured interviews with 50 rice farmers in different regions of Kenya, utilising thematic analysis for data interpretation. Farmers reported a significant increase (38%) in water use efficiency through the adoption of drip irrigation systems. Income stability was achieved by diversifying income streams such as off-farm employment and livestock rearing. Adaptive irrigation techniques are crucial for enhancing both rice farming productivity and resilience against climate variability, offering potential models for other resource-limited agricultural sectors in Kenya. Government policies should incentivize the adoption of water-saving technologies and promote diversification strategies to support farmers' income stability.

**Keywords:** *Cultivation, Geography, Irrigation, Methodology, Resilience, Sustainability, Theory*

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