



# Climate-Resilient Agriculture Technologies Among Smallholder Farmers in Southwestern Kenya: Two-Year Adoption Rates Analysis

Climate-Resilient  
Agriculture Technologies  
Among Smallholder Farmers

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## Abstract

Climate change poses significant challenges to agricultural productivity in Southwestern Kenya, particularly among smallholder farmers who rely on rain-fed crops and livestock. A mixed-methods approach was employed, including quantitative surveys ( $n = 150$ ) supplemented with qualitative interviews ( $n = 20$ ) among smallholder farmers across three counties. Data collection occurred at baseline, six months, and twelve months post-intervention. Initial adoption rates of climate-resilient technologies were low, with only 20% of surveyed households adopting new practices by the end of the first year. Factors such as perceived risk and lack of financial resources significantly hindered technology uptake. Despite initial challenges, there is potential for increased adoption through targeted interventions focusing on education, financial support, and policy incentives aimed at improving local climate resilience. Policy recommendations include the provision of low-interest loans to finance agricultural innovations, enhanced farmer training programmes in climate-resilient technologies, and the establishment of community-based insurance schemes to mitigate risks associated with weather-related losses.

**Keywords:** *African Geography, Smallholder Farmers, Climate Change Adaptation, Participatory Research, Technological Diffusion, Sustainability Models, Livestock Integration*

## ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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