



# Water Harvesting Systems Adoption and Yield Implications for Smallholder Farmers in Northern Kenya: An Assessment

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## Abstract

Water scarcity is a significant challenge for smallholder farmers in northern Kenya, where erratic rainfall and rapid population growth exacerbate existing water shortages. A mixed-methods approach combining survey data and case studies to analyse farmer perceptions, system design, and agricultural performance outcomes. Water harvesting systems have the potential to improve agricultural productivity for smallholder farmers in northern Kenya, particularly when tailored to local climatic conditions and socio-economic needs. Policy makers should prioritise funding for research and development of climate-resilient water management technologies, alongside targeted extension services focused on sustainable farming practices.

**Keywords:** *Kenyan, Smallholder, Irrigation, Sustainability, Adaptation, Participatory, Quantitative, Qualitative*

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