



# Water Harvesting Cooperatives' Strategies for Climate Change Adaptation in Coastal Mozambique: Evaluating Water Efficiency and Food Security Impact

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## Abstract

Coastal regions of Mozambique are facing increasing challenges due to climate change, including unpredictable rainfall patterns and rising sea levels. Rainwater harvesting cooperatives have emerged as a community-driven response to mitigate these impacts. A participatory action research approach was utilised, involving semi-structured interviews with cooperative members and field observations. Data collected from four cooperatives across two regions of Mozambique. Cooperatives demonstrated an average 20% increase in water storage capacity through improved infrastructure and management practices, significantly enhancing their resilience to droughts. Food production increased by 15% among participating households due to more reliable water supplies for irrigation. Rainwater harvesting cooperatives have proven effective in adapting to climate change by improving both water efficiency and food security outcomes in coastal Mozambique. Future research should explore scaling up these cooperative models and integrating them with broader agricultural development initiatives. Policy makers are encouraged to support infrastructure improvements and policy frameworks that incentivize such community-led solutions.

**Keywords:** *Coastal, Mozambique, Participatory Methods, Climate Resilience, Community-Based Initiatives, Integrated Development Models, Water Scarcity, Food Security Assessment*

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