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Precision Agriculture in Zanzibar Highlands: An Ethnographic Study of Adoption Practices

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Abstract

Precision agriculture in Zanzibar Highlands refers to the adoption of advanced farming techniques aimed at enhancing productivity and sustainability. The research employed ethnographic methods including participant observation, semi-structured interviews, and document analysis to understand local farming contexts and farmer perceptions of precision agriculture. A key finding is that farmers primarily adopt drip irrigation systems for water management, with a proportion of 70% reporting improved crop yields as a result. The study concludes that while there are initial improvements in productivity, challenges related to cost and technical knowledge remain significant barriers to broader adoption. Recommendations include providing farmers with more affordable drip irrigation systems and conducting further training sessions on precision agriculture techniques.

Keywords: *African geography, ethnography, farmer practices, precision agriculture, sustainable development, qualitative methods, rural sociology*

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