



# Precision Agriculture Techniques in Southern Tanzanian Highlands: Adoption Rates and Crop Yields across Farmers

Samuel Ndam Nhaka<sup>1</sup>

<sup>1</sup> Department of Interdisciplinary Studies, University of Dar es Salaam

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**Correspondence:** [snhaka@outlook.com](mailto:snhaka@outlook.com)

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## Author notes

*Samuel Ndam Nhaka is affiliated with Department of Interdisciplinary Studies, University of Dar es Salaam and focuses on African Studies research in Africa.*

## Abstract

Precision agriculture techniques are increasingly being adopted by farmers in Southern Tanzania to enhance crop yields and efficiency. A comparative case study approach was employed with a sample survey method for data collection from selected districts in the Southern Highlands. Precision agriculture techniques showed an uptake rate of 45% among surveyed farmers, leading to significant increases in maize yield by up to 20% compared to conventional farming methods. The adoption and implementation of precision agriculture have led to notable improvements in crop yields for Southern Tanzanian farmers, with substantial variations across different regions. Further research should explore the long-term impacts of precision agriculture on soil health and community resilience in the region.

**Keywords:** *Tanzania, Highlands, Precision Agriculture, Adoption Rates, Yield Analysis, Geographical Information Systems, Remote Sensing*

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