



# Effectiveness of Climate Smart Agriculture Practices on Soil Fertility and Yields Among Maize Farmers in Zambia

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### Abstract

Climate change is increasingly affecting agricultural productivity in Zambia, particularly among maize farmers who rely heavily on soil fertility for their livelihoods. A mixed-method approach was employed, combining quantitative data from farmer surveys with qualitative insights through focus group discussions to understand the practical implementation of CSA practices. Farmers reported significant improvements in soil organic matter content and maize yields following the adoption of cover cropping and intercropping strategies. A notable proportion (75%) of farmers noticed increased crop productivity, attributed primarily to improved soil health indicators. The study concludes that CSA practices offer promising solutions for enhancing sustainable agricultural production in Zambia’s maize farming communities. Government support should be directed towards promoting and subsidizing the adoption of proven CSA interventions such as cover cropping and intercropping, alongside capacity building programmes to facilitate wider farmer uptake.

### Keywords:

*African  
Savanna*

*Geographic*

*Terms:*

*Methodological*

*Qualitative  
Quantitative*

*Terms:*

*Theoretical*

*Concepts:*

*Climate  
Soil  
Yield*

*Change  
Fertility  
Maximization*

*Environmental  
Ecosystem  
Resource*

*Factors:  
Services  
Management*

*Policy  
Institutional  
Adoption Rates*

*and*

*Practice:  
Support*

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