



# Climate-Smart Agriculture Practices Among Maize Farmers in Eastern Ethiopia: A Three-Year Impact Assessment

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## Abstract

Climate change poses significant challenges to agricultural productivity in Eastern Ethiopia, particularly for maize farmers who rely on rain-fed crops. A systematic literature review was conducted using databases such as Web of Science, Scopus, and Google Scholar. Studies published between and were included based on predefined inclusion criteria related to climate-smart agriculture practices for maize farming in the region. The analysis revealed a mixed pattern of adoption rates across different regions with an average adoption rate of approximately 45% among farmers who received training, indicating varying levels of effectiveness and acceptance of these practices. While climate-smart agriculture shows promise as a strategy to enhance maize yields under changing climatic conditions, there is room for improvement in scaling up effective interventions across the region. Policy makers should prioritise targeted extension services and incentives to promote sustainable agricultural practices among farmers who are receptive to these innovations. The empirical specification follows  $Y = \beta_{0+\beta}^- p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** *Sub-Saharan, Arid, CropManagement, Sustainability, EcosystemServices, Vulnerability, Conservation Agriculture*

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