



# Indigenous Crop Varieties and Food Security in Ethiopia: A Comparative Study

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## Abstract

Indigenous crop varieties play a crucial role in food security across diverse agro-ecological zones of Ethiopia. A mixed-methods approach was employed, combining yield assessments and farmer surveys to evaluate the performance of both traditional and modern crops under local conditions. Indigenous varieties exhibited a significant increase ( $p < 0.05$ ) in average yields by 12% compared to modern varieties across diverse ecological settings, underscoring their adaptability and resilience. The study highlights the potential of indigenous crop varieties as a sustainable strategy for improving food security, particularly in resource-limited areas. Farmers should be encouraged to maintain and enhance traditional seed banks while integrating modern breeding practices to maximise yield and stability. The empirical specification follows  $Y = \beta_{0+\beta}^{-} p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** *Ethiopia, Agroecology, Indigenous Knowledge, Genetic Diversity, Farming Systems, Sustainability, Participatory Methods*

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