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Indigenous Crop Varieties and Food Security in Ethiopian Agriculture: A Comparative Study

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Abstract

Ethiopia faces significant challenges in achieving food security due to climate variability and population growth, necessitating a deeper understanding of indigenous crop varieties' contributions. A comparative study approach was employed, involving field surveys and data collection from 10 randomly selected districts. Data on indigenous crops' yields, genetic diversity, and resilience to environmental stresses were analysed using a linear regression model with robust standard errors to account for potential confounding variables. Indigenous crop varieties demonstrated an average yield increase of 25% compared to conventional hybrids under similar conditions, highlighting their adaptability in challenging environments. Genetic diversity analysis revealed at least three distinct genetic clusters within the indigenous crops, providing a foundation for future breeding programmes. Indigenous crop varieties play a crucial role in ensuring food security in Ethiopia's diverse agricultural landscapes through their resilience and genetic variability. Policy makers should prioritise the conservation and promotion of indigenous crop varieties to complement conventional farming practices. Investment in research on these crops is essential for developing sustainable agricultural systems. The empirical specification follows $Y = \vec{\beta}_{0+\beta}\, p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Ethiopia, Indigenous Varieties, Genetic Diversity, Adaptation Strategies, Agroecology, Participatory Approach, Food Security*

ABSTRACT-ONLY PUBLICATION

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