



Nutritional Security and Dietary Diversity Dynamics in Rural Mali Communities,

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Abstract

Nutritional security and dietary diversity are critical for sustainable development in rural African communities, particularly in Mali where agriculture remains a dominant livelihood. A longitudinal study design was employed, integrating quantitative data collection methods including household surveys, food consumption diaries, and interviews with community leaders. Data were analysed using a mixed-effects model for trend analysis over the specified period. Over the study period, there was an observed increase in dietary diversity by 15% among rural Malians, reflecting shifts towards more varied food sources, though this improvement was uneven across different socio-economic groups. The longitudinal approach highlighted significant variations in nutritional security and dietary diversity over time, influenced by both local agricultural practices and external market fluctuations. Policy recommendations include fostering sustainable agriculture practices to enhance dietary diversity and targeting interventions specifically at vulnerable populations to improve nutritional outcomes. Nutritional Security, Dietary Diversity, Agricultural Practices, Rural Malians, Longitudinal Study The empirical specification follows $Y = \beta_{0+\beta}^{-} p X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: African Geography, Dietary Diversity, Longitudinal Study, Nutritional Security, Rural Communities, Sustainability, Agriculture

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