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From tradition to transition: A multidimensional analysis of household dietary sustainability in Uganda

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Abstract

Sustainable diets are increasingly central to global food systems research, yet evidence from low- and middle-income countries remains limited. This study assesses changes in the sustainability of Ugandan household diets from 2005 to 2020. The study constructed a Sustainable Diet Index (SDI) that encompasses healthfulness (measured as food variety score), environmental impact (measured as carbon dioxide emissions equivalent), cultural appropriateness (measured as the ratio of expenditure on ultra-processed foods to total food expenditure), and economic affordability (measured as the ratio of expenditure on food to total household expenditure). Using nationally representative time-series data and structural equation modelling, the study found that diets generally became more diverse over time. The increased diversity of household diets was driven by increased consumption of plant-based foods, while intake of animal-sourced foods remained low. In addition, economic affordability showed mixed patterns, generally worsening in Eastern and Northern Uganda, while showing no particular pattern in Western Uganda compared to the Central region. Higher carbon dioxide equivalent emissions decreased in the northern and eastern regions but increased in the western region compared to the central region. Although healthfulness improved, overall dietary sustainability declined slightly due to reduced affordability and rising consumption of ultra-processed foods. Households headed by more educated or urban residents had more diverse diets and lower shares of food expenditure, but also higher spending on ultra-processed foods. These findings highlight that urbanisation and education both enhance and challenge dietary sustainability. Policies that promote access to nutritious, affordable, and culturally appropriate foods, alongside education on sustainable eating and monitoring of dietary transitions, are essential for advancing sustainable food systems in Uganda.

Keywords: Dietary trends, food affordability, household food consumption, sustainable diet index, sustainable food systems, Uganda

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