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Understanding the impact of ghana's food supply on food consumption trends, nutrition, and health outcomes

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Abstract

Understanding how Ghana's national food supply influences dietary patterns and nutritional outcomes is crucial to addressing the country's food security and public health challenges. This study analyses historical trends in food production and consumption in Ghana from 1982 to 2022 and projects future patterns using time series forecasting methods, specifically the ARIMA model. The research draws on secondary data from FAOSTAT, including indicators such as per capita food supply (kcal/capita/day), crop and livestock production volumes, and food trade data, with a focus on how these trends impact food consumption behaviours and health risks, particularly in urban areas like Accra.

Findings reveal a significant transformation in Ghana's food consumption pattern over the past four decades. Carbohydrate availability consistently exceeded national dietary recommendations (627 g/capita/day), increasing from 721.46 g/day (1983–1987) to 1,273.53 g/day (2018–2022). This overconsumption may be linked to the rising rates of obesity and diabetes. Conversely, protein intake remained below the recommended 144 g/day, indicating possible deficiencies that could affect growth and immune function. Fat intake also exceeded the recommended 6 g/day, rising from 36.69 g/day to 45.13 g/day over the same period, raising concerns about cardiovascular health. These shifts reflect a dual burden of malnutrition, where protein deficiency coexists with rising rates of overnutrition in the form of high energy intake.

While this study provides important early insights into Ghana's evolving food supply and its potential implications for nutrition and health, it remains premature to offer concrete policy recommendations. However, the findings point to notable imbalances in macronutrient availability, underscoring emerging risks of both overnutrition and undernutrition. These trends highlight the critical role that food supply plays in shaping dietary patterns and suggest the need for further investigation into the design of food environments, particularly in terms of availability and accessibility. As the broader project progresses, more comprehensive conclusions will be drawn to inform strategies that support healthier, more equitable food systems in Ghana.

Keywords: Food consumption trends and ARIMA model, food supply, keywords

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