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with planetary health”

Structural divergence, shared insecurity: A comparative analysis of the drivers of food expenditure patterns in Rwanda and Tanzania

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Abstract

Rwanda and Tanzania present a striking geographic contrast: the former is land-constrained and landlocked, while the latter enjoys vast farmland and coastal access to regional and international markets. These differences in agroecological and trade endowments suggest divergent potential for food production and distribution. Yet paradoxically, both countries continue to face persistently high levels of food and nutritional insecurity, with a large share of household expenditure on food. This study investigates why such structural disparities have not translated into significantly different food consumption outcomes.

Drawing on nationally representative household living condition survey data, Rwanda's 2016/17 EICV5 (14,580 households) and Tanzania's 2020/21 National Panel Survey (4,073 households), we use Quantile Regression to examine how the determinants of household food expenditure vary across the income distribution in the two countries.

The findings reveal that food budget shares remain high in both countries (often 40–50 %), especially among poorer households. Diets are dominated by starchy staples such as cereals, legumes, and tubers, while consumption of nutrient-rich foods particularly animal-source products and fruits/vegetables is limited especially in rural areas. Consequently, micronutrient deficiencies persist, with child stunting rates hovering around one-third in both countries.

Urban households show slightly better dietary diversity but increasingly face food insecurity due to price pressures, especially in cities like Dar es Salaam and Kigali. Quantile regression reveals heterogeneous drivers of food spending. Among the poorest households, factors such as household size, remoteness, and land scarcity are linked to disproportionately high food shares. In contrast, wealthier households benefit from access to education and non-farm income, reducing food spending burdens. In Rwanda, even farming households rely heavily on market purchases due to small land sizes and limited irrigation. In Tanzania, only relatively wealthier farmers can substantially substitute purchased food with home-grown produce.

The findings emphasise that poverty, market constraints, and livelihoods, not just geography and endowments, are central to food security outcomes. Policy responses must reflect this complexity. Rwanda should foster sustainable intensification, regional trade, and social protection. Tanzania should invest in irrigation, trade, logistics, and value chains. Both must enhance dietary diversity, nutrition-sensitive agriculture, and pro-poor livelihoods for resilient, equitable food systems.

Keywords: Food and nutrition security, household food expenditure, quantile regression, Rwanda, Tanzania