Tropentag, September 20-22, 2023, hybrid conference

"Competing pathways for equitable food systems transformation: Trade-offs and synergies"

Crop-livestock integration in urban agriculture: Implication for urban food security in Ghana

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Abstract

The severity of food insecurity in urban regions is illustrated by factors such as growing food prices, rapid urbanisation, and the lack of rural areas' capacity to feed the city's population. Urban agriculture has recently gained popularity as a means of addressing urban food poverty, but few studies have specifically examined the possibilities of integrated urban crop-livestock (ICL) systems. The purpose of the study, therefore, was to analyse the impact of ICL on the food security of urban households in the Kumasi Metropolis of Ghana. Data were solicited from 430 households through a multi-stage sampling technique. The study uses the household food insecurity access scale (HFIAS) and household dietary diversity score (HDDS) to measure the food security situations of urban households. Further, a seemingly unrelated regression equation (SURE) was used to examine the precursors of food security among urban households while the inverse probability weighted regression adjustment (IPWRA) model that corrects selection bias was used to determine the impact of integrated crop-livestock farming on food security of urban households. Findings of the food security indices show a low prevalence of food insecurity among the urban households who practised integrated crop-livestock production systems compared to counterpart households engaged in no-farm, crop-only, and livestock-only producers. The SURE reveals a diverse range of covariates that affect the food security status of non-farm households, crop-only farm families, livestock-only households, and integrated crop-livestock producers, suggesting special considerations to target the various urban households towards the promotion of urban agriculture in the study area. The IPWRA shows better access to food and dietary diversity for urban residents engaged in integrated crop-livestock farms compared to non-farm, only crops and only livestock farm households in the study area. The study presents pertinent recommendations and explores the consequences of the findings.

Keywords: Dietary diversity, farming systems, impact assessment

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