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

Intra-household factors under different irrigation arrangements affecting irrigation-nutrition pathways in smallholder farm households in Kenya

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Abstract

Women empowerment, production diversity and farm income remain three vital nutrition pathways for irrigating smallholder farm households within sub-Saharan Africa local food systems. Interlinkages of these pathways with household factors makes it a key entry point for nutrition-sensitive food system initiatives. Unfortunately, factors affecting irrigation-nutrition pathways remain largely understudied. Additionally, socio-technical set-up in which irrigation takes place has given rise to different irrigation arrangements that necessitates intricate disaggregated analysis. Such analysis is missing in literature despite its dire need and ramification to policy and developmental course of the region. Using cross-sectional data from smallholder farm households in farmer-led irrigation (FLI) and public irrigation scheme (PIS) arrangements in rural Kenya, a Heckman two-step regression model is used to analyse intra-household factors that affect the three irrigation-nutrition pathways and dietary diversity. Results show that women empowerment in FLI households was affected by age of household-head, asset ownership and primary female decision maker's community group membership. In PIS households, it was affected by household-size, renting-in land and decision-making and credit access dynamics within the household. Household access to credit and land access were found to be significant determinants of production diversity for households in PIS arrangement while access to hybrid seeds affected it for households in FLI arrangement. Land tenure and livestock keeping were found to be key determinants of production diversity across irrigation arrangements. Factors related to land access significantly impacted farm income for households in both irrigation arrangements. Hybrid seeds and group membership by the primary female decision maker were found to be determinants of farm income for PIS and FLI households respectively. Dietary diversity of FLI households was determined by access to credit by the primary female decision maker and to non-farm income and in-kind credit. Assets and age of the household head were found to affect dietary diversity of PIS households. Livestock keeping determined dietary diversity for all households. This research shows that different factors affect women empowerment, production diversity and farm income in households in different irrigation arrangements. There is therefore need to have policy specific approaches and initiatives that makes irrigation more geared towards nutritional outcomes.

Keywords: Dietary diversity, farm income

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