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INFORMAL CROSS-BORDER TRADE AND FOOD SECURITY IN BUSIA COUNTY, KENYA

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ABSTRACT

This study examined the link between informal cross-border trade (ICBT) and food security in Busia County, Kenya. It was driven by the significant contribution informal food trade makes to commodity movement, household income development and access to food in border communities. The study used a mixed-methods convergent parallel design. The target group comprised about 2400 informal food traders, and the study selected 270 respondents using stratified random sampling and simple random sampling. The study used structured questionnaires and field observations to collect data, which were then analysed using descriptive statistics and Pearson's product-moment correlation. Responses showed that respondents saw ICBT as playing an important role in household food security, especially by increasing food access, avoiding "food poverty" situations, ensuring "food never ran out," and helping keep commodity prices stable. Pearson's correlation showed a positive relationship between ICBT and food security ($r = 0.682$, $p < 0.01$). The study advocates considering informal cross-border trade as a significant element of the livelihood system and food security in Busia County. It recommends greater policy visibility for informal trade, improved border infrastructure, streamlined trading processes, better financial inclusion and stronger partnership between Kenya and Uganda in moving food commodities.

Keywords: Informal Cross-Border Trade; Food Security; Food Access; Food Availability; Busia County; Kenya–Uganda Border.

1 INTRODUCTION

The Food and Agriculture Organization (FAO, 2021) defines food security as the continuous availability of sufficient food and people's physical and economic ability to obtain food that meets their dietary requirements. The concept involves four dimensions – availability, access, utilisation and stability, with a clear understanding that sufficient food production is necessary, as is reliable access and continuity of supply. In sub-Saharan Africa, these dimensions remain sensitive to climate change, food production disturbances and economic shocks, which are compounded by the food distribution system (World Bank, 2023). Food market disruptions that reduce food supplies and/or lower food prices can be especially harmful to households that rely heavily on markets. Strengthening household food security includes improving food movement and distribution.

Informal cross-border trade plays a direct role in moving agricultural commodities between neighbouring countries and linking producers with consumers. Informal trade is an important source of employment and income for African economies, especially for those in the non-formal sector, according to the African Development Bank (AfDB, 2021). Informal trade in food products covers agricultural commodities such as cereals, fresh produce, fruits, and fish, and can facilitate the movement of food between areas with disparities in cereal production and consumption. Women are also a large part of the informal cross-border trading community and rely on cross-border trade to earn their livelihoods; thus, it is highly relevant to them (UN Women, 2020). Informal food trading is therefore both an economic activity and a means of transferring food from the agricultural market to household consumption.

The Kenya-Uganda border is an appropriate context for exploring these processes because it is established as a commercial zone for agricultural commodities, and other products are transhipped between the two countries through Busia. While the World Bank (2020) ranks cross-border trade as one of the salient activities in the life of border communities, cross-border traders still experience infrastructure-related, other border-related, and financial constraints. At the regional level, surpluses or shortages in agricultural production can create opportunities for goods to move from relative surplus to relative deficit (AfDB, 2021). Therefore, these transactions' other important implication in Busia County lies not in the income they generate, but in how food enters and moves through the various markets.

Although the economic importance of IBT cannot be overstated, the literature reviewed for this study places greater emphasis on livelihoods, income, and regional integration than on its direct link to household food security. The World Bank (2023) reinforces the importance of functioning markets in ensuring food access during economic and environmental shocks, and the FAO (2022) also emphasises the need for effective production and access systems. An exclusive focus on household-level food-security outcomes creates an empirical gap in a cross-border context where informal food trading is an integral part of people's lives. Analysing this relationship in the Busia County context can therefore generate locally specific data on the impact of informal border trade on food availability, food security, food access, and food stability.

AIM

This study aims to examine the relationship between informal cross-border trade and food security in Busia County, Kenya.

2 THEORETICAL FRAMEWORK

2.1 Sustainable Livelihoods Theory

The Sustainable Livelihoods Theory describes how households can draw on their abilities and resources to generate their livelihoods in a changing world marked by economic and social uncertainties. Chambers and Conway (1992) conceptualise livelihoods around people's capabilities, assets and activities through which they obtain food, income and other necessities. The framework is especially relevant for informal cross-border traders, who engage in trade as an economic activity that can help households earn income and enhance their access to certain elements. Livelihood sustainability is the capacity of households facing shocks to sustain their assets and capacities in the short run and enhance them in the longer term (Scoones, 1998). In this study, ICBT is used as a framework to understand it as a livelihood strategy that can affect household food security.

During periods of fluctuating income, food prices, and local economic activity, Sustainable Livelihoods Theory becomes even more relevant. Informal cross-border traders' business activities can generate income, market opportunities and access to food commodities that can help augment HLRs. In this regard, Chambers and Conway (1992) stress that livelihood security entails coping with stress and shocks without losing productive assets, and Scoones (1998) outlines livelihood strategies as the various ways households mix and match resources and activities. In the county of Busia, the theory implies that ICBT can be used to equip households better to access food-the food and coping cycle theory- which could sometimes be combined with economic hardship. This theory therefore links trading behaviours to the harm to household food security.

2.2 Market Integration Theory

The core idea of Market Integration Theory is the establishment of links between markets, enabling commodities to move from relatively surplus markets to relatively scarce markets. Barrett and Li (2002) argue that market integration is not only a matter of prices but also involves factors such as tradability, transaction costs, and trade flows between markets in different locations. Similarly, FAO (2003) describes market integration as the transmission of supply and demand conditions from one market to another through trade and price changes. The theory is therefore applicable to studying linkages between food markets across the Kenya-Uganda border.

Market Integration Theory provides a good account of the characteristics of informal movement of food commodities and their potential to affect local food markets in Busia County, particularly in terms of availability and pricing. Traders facilitate the movement of cereals, fish, fruits and vegetables between markets, linking supply to markets with demand or stock gaps. According to FAO (2003), spatial arbitrage can stimulate commodity movements between markets when price differences offer incentives that exceed transportation and transaction costs. Barrett and Li (2002) further show that trading has another important aspect as a marker of market connectivity, though market barriers and transaction costs can limit market integration. The theory therefore explains how informal cross-border trade can play a phenomenological role in increasing food availability, access and food stability in Busia County.

3 METHODOLOGY

The study used a mixed-methods convergent parallel design to investigate the linkages between informal cross-border trade (ICBT) and food security in Busia County, Kenya. The target population was informal food traders. These fish traders comprised about 1200 traders: cereal traders (256), fruit and vegetable traders (201), and traders of other food commodities (849). Of these, 270 traders participated in this study. Traders were classified using 'stratified sampling', and those within each stratum were sampled using 'simple random sampling'. Structured questionnaires collected quantitative data on trading activity, income, food availability, food access, and household stability. The methodology provided concrete evidence of the relationship between ICBT and food security among all the traders involved.

This data was qualitative and was collected through field observation at the major trading points in the study area in Busia County, following the movement of food commodities, market activities, transport, traders' interactions, and the factors affecting cross-border trade. The questionnaire's validity was checked through supervisor review and by research scholars, and a pilot exercise with people outside the sample was conducted to improve it. Data analysis was quantitative, with frequencies and percentages, means and standard deviations computed using SPSS. Pearson's product-moment correlation coefficient was used to quantify the relationship between ICBT and food security. The study explored observational data thematically to identify dominant themes in commodity movement, access to markets, and market constraints. This approach supplemented the quantitative and contextual evidence collected on food security.

4 RESULTS

4.1 Effect of Informal Cross-Border Trade on Food Security

The study evaluated respondents' perceptions of the role informal cross-border trade (ICBT) plays in food security in Busia County. The study assessed ICBT's contribution to household food security, household food availability, food access, food-price stability, continuity of food supplies, reduction of food shortages, and resilience during food crises using 7 statements. A 5-point Likert scale was used, with higher mean scores indicating greater agreement.

Table 1: Contribution of Informal Cross-Border Trade to Food Security

No.	Statement	Mean	Std. Deviation
1	ICBT contributes to household food security	4.46	0.50
2	ICBT reduces food shortages	4.18	0.94
3	Income from ICBT improves household food access	4.34	0.64
4	ICBT sustains food access during crises	4.16	0.61
5	ICBT ensures continuous supply of agricultural commodities	4.07	0.93
6	ICBT supports food-price stability	4.33	0.99
7	ICBT increases food availability in Busia County	3.86	1.17

Source: Field Data (2026).

Table 1 shows that respondents generally viewed informal cross-border trade as contributing positively to food security in Busia County. The statement "ICBT helps improve food security in the home" received the highest mean score ($M = 4.46$, $SD = 0.50$), indicating strong agreement among respondents. Continuous income from ICBT was also rated highly, with a mean of $M = 4.34$, $SD = 0.64$, indicating that earnings from trading activities are substantial in helping households feed themselves. For this reason, respondents also agreed that ICBT helps achieve food-price stability ($M = 4.33$, $SD = 0.99$) and reduces food shortages ($M = 4.18$, $SD = 0.94$). The moderate score for maintaining food access in times of crisis

($M = 4.16$, $SD = 0.61$) also indicates the significant role of cross-border trading activities during economic or supply shocks. Busia County had the smallest positive mean ($M = 3.86$, $SD = 1.17$). Overall, the results showed that respondents felt ICBT negatively affected several aspects of food security, including household food access and the continuity of the food supply.

4.2 Relationship Between Informal Cross-Border Trade and Food Security

Pearson's product-moment correlation coefficient was used to determine whether the observed contribution of ICBT was statistically linked to food security. The analysis examined the direction and strength of the relationship between the composite measures of informal cross-border trade and food security.

Table 2: Pearson Correlation Between Informal Cross-Border Trade and Food Security

Variables	Informal Cross-Border Trade	Food Security
Informal Cross-Border Trade	1.000	0.682
Food Security	0.682	1.000
Sig. (2-tailed)	—	0.000
N	270	270

Source: Field Data (2026).

Table 2 shows a significant and positive correlation between informal cross-border trade with neighbouring countries and food security ($r = 0.682$, $p < 0.01$). The correlation coefficient of 0.682 suggests a moderate association between the two variables. As more people participated in informal cross-border trade, they reported better food security outcomes. The significance value below 0.01 indicates that the observed relationship was statistically significant. Therefore, the study rejected the null hypothesis that no significant relationship exists between ICBT and food security. The results indicate a positive relationship between food security and informal cross-border trade in Busia County, based on statistical evidence. Importantly, the study showed association, not causation, because it used correlational analysis.

5 DISCUSSION

The results indicate a significant role for informal CBT in traders' food security in Busia County. Most participants agreed that ICBT positively impacts household food security ($M = 4.46$, $SD = 0.50$) and that trading the product increases household food security ($M = 4.34$, $SD = 0.64$). This finding aligns with Sustainable Livelihoods Theory, which posits that income-generating activities and livelihood assets are key coping strategies for meeting household needs amid economic constraints (Chambers & Conway, 1992; Scoones, 1998). The findings also mirror the overall evidence that informal trade creates income and market opportunities for households in buffer economies. ICBT is thus more than a commercial enterprise; it is also a livelihood tool that helps households access food.

The Pearson correlation result ($r = 0.682$, $p < 0.01$) also supports a positive correlation between measures of food security and ICBT. The result indicates that cross-border trading activity is related to better food-security outcomes, specifically through commodity availability, continuity of supply, and household purchasing capacity. This corroborates Market Integration Theory, which suggests that trade integrates geographically distant markets and allows commodities to flow from regions of relative excess to those with relative excess consumers (Barrett & Li, 2002). The findings show consensus that ICBT contributes to food-price stability ($M = 4.33$; $SD = 0.99$) and reduces food shortages ($M = 4.18$; $SD = 0.94$), highlighting the role of market connectivity in local food systems. The evidence therefore suggests that informal trade boosts food security in Busia County.

6 CONCLUSION

The study concludes that food security and informal cross-border trade are significantly associated among cross-border study participants in Busia County, Kenya. The results reveal that ICBT has a multi-faceted impact on household food security, all of which are connected: income generation, improved food access, fewer food shortages, and food continuity. Overall, respondents strongly agreed that ICBT contributes to household food security ($M = 4.46$, $SD = 0.50$) and that ICBT income improves food access ($M = 4.34$, $SD = 0.64$), with the former showing higher agreement. Correlation analysis also confirmed a statistically significant positive correlation between ICBT and food security ($r = 0.682$, $p < 0.01$). The study thus concludes that ICBT is a key component of the local food security/livelihood system in Busia County.

RECOMMENDATIONS

The study recommends strengthening policy recognition of cross-border trade, improving border infrastructure functionality, simplifying trading procedures, and expanding financial services for traders in informal trade. In addition, Kenya and Uganda should strengthen cooperation to smooth the flow of food commodities and market information. Targeted support, such as finance, secure trading facilities, and business information, should be made accessible to women traders. Additional research should focus on household-level food-security outcomes, using longer-term data or larger sample sizes to provide stronger evidence of the link between ICBT and food security.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

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Disclosure of Conflict of Interest

The authors declare that they have no conflict of interest regarding the publication of this article.

Statement of Ethical Approval

Ethical approval for the study was obtained from the National Defence College (NDC), Kenya. Permission to conduct the study was also obtained from the relevant authorities. The study was conducted in accordance with applicable ethical principles governing research involving human participants.

Statement of Informed Consent

Informed consent was obtained from all participants before their participation in the study. Participants were informed of the study's purpose, the voluntary nature of their participation, and the confidentiality of the information provided.

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