



Tropentag 2021, hybrid conference  
September 15-17, 2021

“Towards Shifting Paradigms in Agriculture for a Healthy and Sustainable Future”  
Conference on International Research on Food Security, Natural Resource  
Management, and Rural Development  
University of Hohenheim, Germany

---

## **The Social Role of Food Vendors in Nutrition Security and Information Dissemination in Turkana County, Kenya**

Marisa Nowicki, Irene Induli, Francis Odhiambo Oduor, Céline Termote

*Alliance of Bioversity International and CIAT, Food Environment and Consumer Behaviour, Kenya*

### **Abstract**

#### ***Introduction***

The Food Environment (FE) is the context in which consumers choose what food to acquire, prepare, and consume. It includes the availability, affordability, convenience, promotion/ advertising, quality/ safety, and sustainability of food and beverages. The literature contains few FE studies in low- and middle-income countries (LMICs), and there is a gap on the social role of food vendors in the FE. This study bridges this gap by evaluating the potential social roles of rural food vendors in Turkana County, Kenya.

#### ***Methodology***

A vendor analysis was conducted across Lodwar town, and 10 rural community health units (CHUs) randomly selected in Loima and Turkana South sub-counties. It contained three components: 1) geocoding food and drink vendors, 2) inventories of their stock, 3) surveys on their business decisions.

#### ***Results***

A total of 384 vendors were geocoded, of which 68% were in Lodwar Town. A stratified sample of 45 vendors was interviewed. Of those interviewed, 84% allow their customers to buy food on credit. This most often occurs if the individual is a repeat customer and/or is in great need. Data suggests it is not only familiarity with the customer, but also the need of the customer that predicts if they will be allowed to buy food/drink on credit. Additionally, data showed 45 % of food vendors reported they at least “sometimes” give nutrition advice to their customers. However, vendors’ knowledge of nutrition is limited, and would benefit from nutrition education.

#### ***Conclusions***

Food vendors in Turkana County, Kenya, allow customers, particularly vulnerable customers, to buy food on credit, despite knowing they might not be paid back. Moreover, they have shown an interest in—and to some extent are already participating in—disseminating nutrition information within their communities. Yet, their nutrition knowledge is currently limited. There is potential to leverage food vendors current social roles within their communities to improve local food and nutrition security.

## Introduction

Food systems encompass a range of interlinked actors and their value-adding activities, including the production, aggregation, processing, distribution, consumption, and disposal of food products (FAO, 2018). The Food Environment (FE) is the context in which consumers acquire, prepare, and consume food. It is the interface between the external domain (food availability, prices, product properties, marketing) and the personal domain (food accessibility, affordability, convenience, desirability) (Turner et al, 2018).

Available literature on FE studies in low- and middle- income countries (LMICs) is limited, and lacks high-quality, detailed data (Turner et al, 2020). The literature available describes food vendors using passive terms, such as vendor density, vendor typology, and stock (Turner et al, 2018). In contrast, there is limited research on the social roles of food vendors within the FE. For example, little attention has been given to the potential of educating and engaging food vendors to improve the local FE. Our study addresses this gap by evaluating the potential informal social roles of rural food vendors in Turkana County, Kenya, and how they might impact the local FE.

## Methods

An analysis of food and drink vendors was conducted in August 2020 in Turkana County, Kenya, which is characterized by remoteness, harsh climate, and high poverty levels (GoK, 2019). Data was collected across Lodwar town, and in 10 rural community health units (CHUs) randomly selected in Loima and Turkana South sub-counties. The survey was conducted by five enumerators, who held at least a diploma, and were recruited with the assistance of the local county government. They were given four days of training, which included education on the concepts, role playing, and practice with the Kobo application. The vendor analysis contained three components: 1) geocoding, 2) inventories of stock, 3) surveys regarding vendors' business decisions. All data was collected using Kobo Toolbox.

In Part 1, enumerators geocoded vendors and used the Produce Color (ProColor) tool to capture a snapshot of the nutrients available within the market (Ahmed et al, 2019). In Part 2 and 3, we defined the FE using the Downs et al. (2020) definition, which has the following characteristics: availability, affordability, convenience, promotion/advertising, quality/safety, and sustainability. In Part 2, enumerators collected data on product availability, price, placement, promotion, and quality. Food items were categorized into food groups using the *Guidelines for Measuring Household and Individual Dietary Diversity* (Kennedy, Ballard, Dop, 2011). In Part 3, vendors were surveyed to understand how their business decisions might impact each component of the FE.

“Food vendors” were defined as all vendors that sold at least one food and/or drink item. The vendors were categorized into vendor types based the FE built environments subtypes (Downs et al., 2020). This includes informal market vendors (Street Hawkers, Kiosks/ Retail Shops, Mobile Vendors) and formal market vendors (Supermarkets, Open Air Markets, Restaurants). We excluded hypermarkets, institutional cafeterias, and online vendors because they are uncommon in the area of interest. We added Roadside Vendors and Wholesalers because they are commonly used food sources in our area of interest.

Four enumerators surveyed Lodwar town, while one enumerator surveyed the rural CHUs. First, enumerators geocoded as many vendors as possible within Lodwar over a two-day period. Next, a stratified sample of four respondents per vendor type was selected to participate in part 2 and 3. If those vendors were unavailable, others were selected. When we could not interview four vendors of that vendor type, those of other vendor types were selected. Part 2 and 3 were conducted in one day in Lodwar Town.

One enumerator traveled to a new CHU each day for ten days. Due to the small number of vendors, which were sparsely populated throughout the remote area, the enumerator interviewed (Part 1-3) the first 5 vendors they came across in each day. They geocoded (Part 1) the rest of the vendors they found that day.

## Results and Discussion

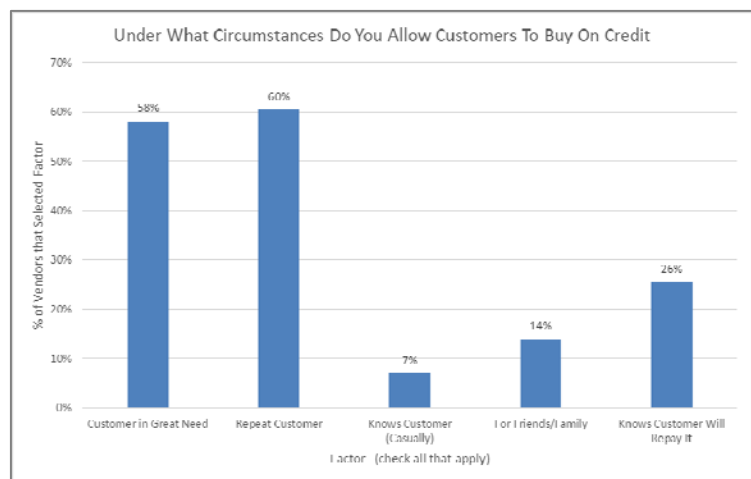
A total of 384 vendors were geocoded, of which 68% were in Lodwar Town. Of those, a stratified sample of 45 vendors were interviewed. The distribution of geocoded vendors was: Kiosks/Retail Shops (53%), Roadside Vendors (14%), Wholesalers (11%), Restaurants (10%), Mobile Vendors (4%), Open Air Markets (3%), Street Hawkers (2%), and Supermarkets (1%). Smaller, informal businesses were most frequently run by women, including roadside vendors (92%), street hawkers (75%), and open-air markets (72%). Larger, more formal businesses were mostly run by men, including wholesalers (88%), mobile vendors (65%), and supermarkets (57%).

Many food vendors sold relatively few food/ and drink items, with an average of 5 items logged per vendor. Of the 230 inventoried food items, the largest categories were cereals (26%), sugary beverages (14%), fruits (12%), and vegetables (10%). That said, fruits and vegetables are likely overrepresented in the sample because the stratified sample included a disproportionate amount of smaller, informal vendors, who tend to sell fresh produce. Recall that 53% of the geocoded vendors were kiosks, 70% of which do not sell any fruits and vegetables.

### *Selling Food on Credit*

Data suggests that food vendors play a key social role within their communities. Of the interviewed vendors, 84% allow their customers to buy food on credit. The most cited circumstances are if the individual is a repeat customer and/or is in great need. For example, one respondent reportedly allows

customers to buy on credit if they are elderly, poor, and/or disabled. In contrast, only 14% of interviewed vendors allow family and friends to buy food on credit. This suggests it is not familiarity with the customer, but more so concern for those in need that increases the likelihood that the vendor will sell them food on credit. This idea is supported by the fact that only 26% of interviewed vendors cited “the ability to pay them back” as a factor they consider when allowing customers to buy on credit. Therefore, food vendors might be selling food on credit to vulnerable community members with an awareness that they might not be paid back. This suggests vendors may be operating as an informal, social safety net within their communities.



Interestingly, there were vendors that sold food on credit across almost all vendor types—including both informal and formal subtypes. Further research is needed to better understand which vendors follow this practice and why, as well as how it impacts the food security of community members.

### *Disseminating Nutrition Information*

Data also suggests that vendors are disseminating nutrition information within their communities. Approximately 45% of food vendors reported they at least “sometimes” give nutrition advice to their customers. This was particularly common among smaller, more informal businesses, such as roadside vendors, open air markets, and kiosks. However, the accuracy of their nutrition advice was unclear.

Data suggests vendors’ knowledge of nutrition is limited. Most food vendors could reliably cite fruits and vegetables as “healthy,” and alcohol and sodas as “unhealthy.” Beyond this, there were misunderstandings. When discussing “unhealthy food items, vendors were as likely to cite grains / white roots / tubers / plantains (23 %) and nuts / seeds (14%), as they were sweets / candy (14%) and crisps / cookies / crackers (14%). This pattern was even larger among the vendors that offered nutrition advice, with 43% citing grains / white roots / tubers / plantains as an example of “unhealthy” food. This data

suggests food vendors do not view starchy staples as a component of a nutritious, balanced diet. Moreover, this misunderstanding is likely being passed on to consumers.

This confusion might be occurring for a variety of reasons. Food vendors might have been referring to popular fried versions of these foods, such as mandazis and chapati, rather than the entire food group. However, even if that's true, it would be odd that those foods are cited more often than other prevalent and clearly unhealthy options, such as sweets and cookies. Perhaps their nutrition

information is limited because food vendors are not traditionally the target audience of nutrition education programming; as a result, they might learn their information second or third hand. If some vendors have received nutrition education—likely as “consumers” at the household level—then perhaps these programs focused so heavily on the importance of fruits and vegetables that they unintentionally implied other foods are “unhealthy.” Further research is needed to determine why these misconceptions exist.

Not only would vendors benefit from nutrition education, but they are also already expressing interest in the topic. When given a list of hypothetical programs, 12% selected nutrition education training as a program they would benefit from. This suggests there is potential to leverage food vendors consumer-facing role in the FE to disseminate nutrition information.

## Conclusions

Food vendors in Turkana County, Kenya, allow customers, particularly vulnerable community members, to buy food on credit, despite knowing they may not be paid back. Moreover, they have shown an interest in (and to some extent are already participating in) disseminating nutrition information. However, their knowledge base is currently limited, and would benefit from nutrition education trainings.

There is potential to magnify vendors' social role within the FE to improve local food and nutrition security. For example, practitioners should engage food vendors in dialogues and programming. To improve the accuracy of local knowledge, education programs should highlight the importance of eating a diverse, nutritious diet—which includes fruits and vegetables, as well as grains, roots, nuts, and seeds. During collaborations, care should be taken to protect the interests of food vendors, as they are often not much more financially stable than the vulnerable community members that they are helping. That said, there is immense potential for organizations to identify mutually beneficial partnerships to improve local food and nutrition security.

## References

- Ahmed, S., Shanks, C. B., Dupuis, V., & Pierre, M. (2019). Advancing healthy and sustainable food environments: The Flathead Reservation case study. *UNSCN nutrition*, 44, 38.
- Downs, S. M., Ahmed, S., Fanzo, J., & Herforth, A. (2020). Food environment typology: advancing an expanded definition, framework, and methodological approach for improved characterization of wild, cultivated, and built food environments toward sustainable diets. *Foods*, 9(4), 532.
- Government of Kenya. (2019). The 2019 Long Rains Season Assessment Report
- Kennedy, G., Ballard, T., & Dop, M. C. (2011). Guidelines for measuring household and individual dietary diversity. Food and Agriculture Organization of the United Nations.
- Turner, C., Aggarwal, A., Walls, H., Herforth, A., Drewnowski, A., Coates, J., Kalamatianou, S., & Kadiyala, S. (2018). Concepts and critical perspectives for food environment research: A global framework with implications for action in low-and middle-income countries. *Global food security*, 18, 93-101.
- Turner, C., Kalamatianou, S., Drewnowski, A., Kulkarni, B., Kinra, S., & Kadiyala, S. (2020). Food environment research in low-and middle-income countries: a systematic scoping review. *Advances in Nutrition*, 11(2), 387-397.

