

How can we address food waste in traditional Kenyan and Nigerian markets?

Influence of behavioral nudges on food waste prevention participation- This study explored how behavioral nudges affected vendor and consumer participation in food waste prevention, at the point of sale, in traditional Kenyan and Nigerian markets. Clear, timely messages that tap into identity, social norms, and loss aversion significantly boost participation in food waste prevention campaigns, exhibiting that small behavioral nudges can lead to changes in real-world engagement.

Background: Food waste at the point of sale in traditional markets

Funny-looking produce represents a significant share of waste at the point of selection since both vendors and consumers reject it based on cosmetic imperfections, despite it being nutritious. This project aimed to reduce food waste in traditional markets in Kenya and Nigeria, by targeting the rejection of less visually appealing produce (LVAP) or funny-looking produce. We launched dual interventions targeting both parties in the form of vendor training, market activation, and campaigns emphasizing the safety, nutrition, and taste of funny-looking produce. In each country we held a one day training for 50 vendors, and spread our campaigns over six weeks. These interventions fostered trust, reduced waste, and promoted positive purchasing behaviors for funny-looking produce.

Conducting the research

As part of this study, we executed a field experiment (randomized controlled trial) with 910 consumers in traditional markets in Kenya (Kikuyu and Ngong) and Nigeria (Utako and Karu). This was to assess the effect of tailored awareness campaigns on consumers' knowledge, attitudes, and willingness to pay for funny-looking produce.

On the other hand, we also employed an observational study and conducted in-depth interviews with 94 vendors (across both countries) to evaluate actual adherence to best practice guidelines. We measured this across five key areas and based on a 10-question scale, which reflected the overall guideline adoption.

Project facts

Key words

Behavioral science, consumers, food waste, vendors, nudges

Behavioral themes

Loss aversion, cognitive load

Research design

Qualitative research and field experiment

Scope

Start date: January 2024

End date: December 2024

n = 910

Location

Kenya: Kikuyu and Ngong Markets

Nigeria: Utako and Karu Markets

Partner

Posner Foundation of Pittsburgh

Ethics approval

Kenya: Meru University Science and Technology, MIRERC

Nigeria: National Health Ethics Research committee (NHREC)

- » In traditional markets in Kenya and Nigeria, food waste at the point of sale stems more from market behaviors than from supply issues. Visual and safety concerns lead consumers to avoid misshapen produce, even when perfectly edible. While consumers are uncomfortable with food waste, they rarely see their own rejection of funny-looking produce as part of the problem
- » Women lead in reuse. Female vendors are more proactive in repurposing funny-looking produce, selling them at a discount or using them for soup. Moreover, women who are household shoppers are more likely to buy funny-looking produce when made aware of their nutritional benefits.
- » Consumer misconception fuels vendor assumptions about what customers want. Since consumers equate funny-looking produce with spoilage or poor nutrition, vendors tend to throw them away to protect their stalls' image. There is a significant lack of visual signals normalizing these funny-looking produce and presenting them in innovative ways.

Implications

For market authorities and food waste practitioners:

The findings of this study highlight the need for training sessions, for existing and untrained vendors with the aim of educating them on food waste prevention, the presenting of funny-looking produce (emphasizing on nutrition, offering pre-chopped LVAP), and encouraging them to emphasize on nutritional value.

There is also a need to establish a union or a committee consisting of traditional market vendors to increase market-wide awareness and social influence to accept funny-looking produce and establish innovative ways of selling them.

Recommendations for future research

The findings reflect short-term changes in behavior and the durability of these effects is unclear. To examine the long-term effects of these nudges, future research should design longitudinal studies to track whether behavior persists after initial nudges, and lead to habit formation and routine disruption.

Both social recognition and loss aversion were effective in driving behavior. Understanding which is more influential (or how they interact) can optimize message framing. Future research should conduct A/B testing of interventions using the template of gain framed social norm v/s loss-framed individual messages to determine comparative efficacy.

Further reading

Jumare, F., Muthike, W., Hammann, J., & Kuria, N. (2023). Preventing Food Waste in Kenyan and Nigerian Markets. <https://www.steconfer.org/wp-content/uploads/2023/06/GCA-9735-4.pdf>

De Hooge, I. E., van Giesen, R. I., Leijsten, K. A. H., & van Herwaarden, C. S. (2022). Increasing the Sales of Suboptimal Foods with Sustainability and Authenticity Marketing Strategies. *Foods*, 11(21), 3420. <https://doi.org/10.3390/foods11213420>

Hezarkhani, B., Demirel, G., Bouchery, Y., & Dora, M. (2023). Can “ugly veg” supply chains reduce food loss? *European Journal of Operational Research*, 309(1), 117-132. <https://doi.org/10.1016/j.ejor.2023.01.033>

Mmereki, D., David Jr, V. E., & Wreh Brownell, A. H. (2023). The management and prevention of food losses and waste in low-and middle-income countries: A mini-review in the Africa region. *Waste Management & Research*. <https://doi.org/10.1177/0734242X231184444>

Study team

Busara: Jonathan Carl, Fadila Jumare, Wanjuku Kiarie, Edel Koki, Mugambi Muriithi, Nimo Muthike, Anthony Mogaka, Laura Schun

Posner Foundation of Pittsburgh: Key Stakeholder and Funder

To cite:

Busara. 2025. *How can we address food waste in traditional Kenyan and Nigerian markets (The aha! moment No. 25)*. Nairobi: Busara. DOI: doi.org/10.62372/OVVL3574

The aha! moment summarises key facts and insights from Busara's research projects.

Disclaimer: The views presented in this publication are those of the author(s) and do not necessarily reflect the positions of funders or partners. ©Busara 2025.

38 Apple Cross Road, Nairobi, Kenya www.busara.global