

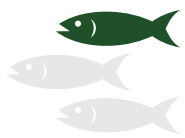
# **‘Funny-looking’ but fully edible:** Addressing food waste at traditional markets in Kenya and Nigeria



## OVERVIEW

### **Where we are (and why we shouldn't be)**

Food waste represents a significant market and environment failure, with over US\$1 trillion worth of food being discarded globally each year, while nearly 30% of the world's agricultural land is used to produce food that is ultimately wasted, driving the conversion of natural ecosystems and contributing to habitat loss. (UNEP, 2024).



# 1.3

billion tonnes  
annually is lost  
or wasted

Globally, approximately one-third of all food produced for human consumption (around 1.3 billion tonnes annually) is lost or wasted across the entire supply chain, from farm to fork (FAO 2019). Of this total, an estimated 14% is lost between harvest and the retail level prior to reaching consumers, highlighting substantial post-harvest inefficiencies (Gustafen, 2019).

Within this broader context of food waste, less visually appealing produce (LVAP) represents a meaningful share of market-level waste, as vendors and consumers often reject edible items due to cosmetic imperfections, reinforcing the role of behavioral drivers in perpetuating this ‘invisible’ but critical form of waste. And this is when we know that between 713 and 757 million people go hungry each year (UN, 2023), and 149 million children under five suffer stunted growth due to chronic nutrient deficiencies (WHO, 2022).

The persistence of food waste on this scale highlights an urgent imbalance in how global food systems operate, when resources are depleting and ecosystems are degrading, only to produce food that never reaches those who need it.

Preventing Food Waste in Traditional Kenyan and Nigerian Markets is a multiyear behavioral research and intervention project led by the Food, Agriculture and Resilience Management (FaRM) team at the Busara Center for Behavioral Economics, with the support of the Posner Foundation of Pittsburgh. Together, we are tackling this problem head on by addressing the behavioural barriers that drive vendors and consumers to reject ‘funny-looking’ produce. We are collaborating and creating practical solutions that can be scaled, to prevent edible food from being wasted.



# 713-757

million people go hungry each year



## PROJECT OBJECTIVES



### What we are solving for

- ✓ Understand the behaviors of consumers and vendors in traditional markets in Kenya and Nigeria.
- ✓ Create dual interventions that encourage both consumers and vendors in Kenyan and Nigerian markets to buy and sell visually imperfect or 'funny-looking' produce.
- ✓ Prevent food waste at the point of selection.

## UNDERSTANDING WHY FOOD IS WASTED

### The road to rejection

Research across Kenya and Nigeria revealed that food waste in markets is largely behavioral. Consumers equated appearance with quality, discarding nutritious food based on looks alone. Vendors, worried about their reputation, often preemptively discarded LVAP. Without interventions, these choices locked both groups into wasteful practices.

By surfacing these insights, we identified where and how waste was happening, giving us the leverage points needed to intervene:



**Consumer level:** Aesthetic bias and misinformation about safety and nutrition.



**Vendor level:** Fear of reputational risk, lack of incentives to sell funny-looking produce.



**System level:** Weak infrastructure, poor storage, and low visibility of alternatives.

Understanding these barriers was the first step in reducing food waste.

## CO-DESIGNING HUMAN-CENTERED SOLUTIONS

### Featuring stalls, labels, and brochures

A human-centered co-design approach is a collaborative process that engages end users and stakeholders throughout the design cycle to create solutions that are informed by lived experiences grounded in local realities, and tailored to the needs, preferences, and constraints of the people they are intended to serve ([Jones, 2018](#)).

Busara then applied this human-centered co-design by convening three workshops with vendors, consumers, market authorities, and key stakeholders. These workshops focused on identifying barriers to food waste and generating behaviorally informed interventions and prototypes.

These interventions were tested through lab experiments with:

500

consumers per country

80

vendors per country

Some notable interventions are as follows:



**LVAP stalls:** Dedicated LVAP stalls that normalized imperfect produce.



**Produce display:** Bundled and segmented produce displays that made funny-looking produce more attractive.



**Labelling with positive taste/nutrition messaging:** Taste and nutrition labeling that reframed appearance-based rejection.



Each of these solutions was designed to stop waste before it happened by shifting perceptions, making funny-looking produce more appealing, and creating opportunities to sell rather than discard produce.

Testing also showed that economic incentives outperformed environmental appeals, social proof boosted LVAP acceptance, and tailored outreach such as brochures or radio interventions with messaging that emphasized freshness, taste, affordability, and health benefits increased vendor confidence and consumer uptake. These insights informed the refinement of scalable, context-specific strategies to reduce food waste.

## THE IMPACT



94

vendors trained  
and supported

### What changed?

In markets across Kenya and Nigeria, 94 vendors were trained and supported to actively sell LVAP rather than throw it away. They received on-site assistance to restructure displays, bundle produce, and use signage that reassured consumers about safety and nutrition. As a result, vendors felt equipped to sell LVAP instead of discarding it, especially when backed by peer networks and customer-facing tools.

Consumers were engaged through interactive games, recipe flyers, and culturally tailored posters that showed how to use LVAP in everyday meals.

These activities helped people see that funny-looking produce was edible, safe, and even versatile, turning potential waste into meals.

In true circular fashion the sudden rise in consumer interest gave vendors a reason not to quietly bin the lumpy carrots and curvy cucumbers. Instead, they sold them. In fact, in a randomized controlled trial with over 900 people (and presumably just as many opinions), vendors cheerfully reported that waste was down and sales were up.



900

people in the randomized  
controlled trial

*PS: One notable finding from our study was that women are more likely to purchase LVAP for making soup. So, in the spirit of well-informed soup-making, here's a traditional recipe to enjoy, a vegetable soup native to the Yoruba people of South West Nigeria*

# Toolkit in action:

## Strengthening impact where it matters

As the culmination of Year 2, the Practitioner's Toolkit brings together two years of behavioral insights, intervention testing, and market learning into a practical resource for organizations working to reduce food waste. It translates evidence into action through adaptable tools. These tools range from point-of-sale guidance and vendor display templates to consumer engagement activities, each designed to identify behavioral barriers and implement low-cost, scalable solutions that prevent waste before the point of consumption.

Building on this foundation, Year 3 focuses on deepening impact through intermediary and grassroots partners who are uniquely positioned to integrate these strategies within local food systems. Through co-creation workshops, these partners helped refine the toolkit materials for contextual relevance, identified operational realities, and strengthened collective ownership. Targeted training and technical support then equipped them to apply, adapt, and champion the behavioral interventions within their own initiatives and programming, thus extending the reach and sustainability of the project.



Scan to access  
the toolkit



For more information on this and related projects, contact Juhi at [juhi.jain@busara.global](mailto:juhi.jain@busara.global)

