POLICY BRIEF

FOOD SAFETY IN FRESH FOOD MARKETS IN KISUMU CITY

From Knowledge to Safer Practice: Strengthening Food Safety, Market Infrastructure and Public Health Support in Kisumu's Fish Markets

AfriFOODlinks

IN BRIEF:

A pilot in Kisumu's Obunga Fish Market combined a solar-powered cold room, PHO-led vendor training and six months of workplace supervision. Vendor compliance, safe fish handling and sanitation practices all improved, fish losses fell and trader profits rose, though overall knowledge and practice scores did not shift significantly. Kisumu County can now institutionalise this model - pairing market infrastructure investment with routine PHO supervision - and scale it to other markets under its existing devolved mandate over markets and food safety.

TARGETED AUDIENCE:

- Kisumu County Departments of Agriculture, Irrigation, Livestock and Fisheries; Health and Sanitation
- Municipal Market Administrators
- Development Partners
- National government line ministries and departments

KEY MESSAGES:

- **Informal food markets are essential to Kisumu's food security, but vendors often operate in conditions that make safe food handling difficult.** Limited clean water, poor drainage and sanitation, inadequate waste management and insufficient cold storage can increase food-safety risks. Improving food safety therefore requires attention to both vendor practices and the market environment.
- **A food-safety intervention in Obunga Fish Market tested a combined approach of infrastructure, training and ongoing public-health support.** The intervention provided a 10-tonne solar-powered cold room, food-safety training led by Public Health Officers (PHOs), and six months of workplace-based supportive supervision and monitoring. This tested whether improving both vendor capacity and operating conditions could support safer food handling.
- **The intervention produced encouraging improvements in several food-safety practices.** Vendors achieving at least 50% overall compliance increased from 31% to 47%, safe sourcing and handling of raw fish increased from 58.2% to 89.9%, and routine sanitation improved from 23.3% to 49.8%. Food-safety attitudes also improved significantly, although overall knowledge and practice scores did not change significantly.

- **Kisumu has an opportunity to build on these lessons by making safer market environments part of routine county investment and oversight.** This means combining fit-for-purpose infrastructure with practical PHO-led training, supportive supervision, reliable maintenance and monitoring rather than relying on training or enforcement alone. The approach can be progressively adapted to other markets according to their food-safety risks, commodities and infrastructure needs.

INDICATOR	BASELINE	ENDLINE	CHANGE
Vendors meeting ≥50% overall compliance	31%	47%	+16 pp
Safe sourcing and handling of raw fish	58.2%	89.9%	+31.7 pp
Routine sanitation practices	23.3%	49.8%	+26.5 pp
Food-safety attitudes	–	–	Improved significantly
Food-safety knowledge score	–	–	No significant change
Food-safety practice score	–	–	No significant change
Avg. fish frame/head losses per trader	34.3 kg	17.4 kg	−16.9 kg
Traders reporting profit gains above 50%	–	48%	–

01 Statement of problem

The urban food system is dominated by informal markets, which serve as the primary source of food for low-income households. These markets, including open-air markets, street vendors, and kiosks, provide affordable and accessible food, particularly for residents in informal settlements where more than 60% of the population resides. However, despite their importance, informal food systems operate under constrained conditions, including inadequate infrastructure, limited regulatory support, and weak integration into formal planning processes.

Food safety is a major issue within Kisumu's predominantly informal food system. The challenge is driven by several interacting factors, including inadequate access to clean water, poor drainage and sanitation, limited cold storage, inadequate market infrastructure, and constrained access to appropriate food handling equipment. While food safety knowledge and training remain important, unsafe food handling practices are not only a knowledge problem. Vendors may understand the importance of safe food handling but still face practical barriers that limit consistent adoption of good practices, including lack of infrastructure, limited resources, and difficult working conditions. Weak regulatory enforcement and limited routine supportive supervision further exacerbate these risks, exposing consumers to unsafe food. **Fish markets warrant priority within this system, as fish spoils rapidly without reliable cold storage, making it especially vulnerable to bacterial contamination and consumer health risk when cold-chain infrastructure is absent.**

The Afrifoodlinks project implemented an integrated food safety and market upgrade intervention, developed through a co-creation process with food vendors and other market stakeholders. The intervention package included: (i) the establishment of a 10-tonne solar-powered cold room; (ii)

capacity strengthening of Public Health Officers (PHOs), and a PHOs-led food safety training of food vendors and supportive supervision.

The cold room was identified by the vendors as their top infrastructural facility need, hence the choice to integrate it into the intervention.

PHOs were first equipped with technical food safety knowledge and participatory engagement skills, supported by **a structured training manual** covering key areas such as food safety hazards, safe water use, cold chain management, fish handling and processing, personal and environmental hygiene, sanitation, and regulatory requirements. Vendors then received an initial one-week face-to-face training facilitated by PHOs, followed by monthly on-site follow-up visits for six months. Each follow-up session lasted approximately 30 to 45 minutes, depending on the issues identified, and was used to reinforce training, provide troubleshooting, and support corrective action at the point of operation. Monitoring was conducted using a standardized checklist applied consistently across vendors, and a baseline and endline evaluation conducted to assess the impact of the intervention on vendors' knowledge, attitudes and practices (KAP).

02 Current policy or process gap

Kisumu has an opportunity to strengthen food safety in informal markets by moving beyond approaches that rely primarily on vendor knowledge and compliance towards an enabling market infrastructure. The evaluation indicates that vendors may understand and value food safety while still facing physical and operational constraints that make safe practice difficult. Poor drainage, inadequate waste disposal and sanitation, limited water access and insufficient cold storage therefore remain important gaps alongside continued training and regulatory oversight. Food safety enforcement in Kenya's informal markets is carried out by **Public Health Officers under the Public Health Act (Cap. 242) and the Food, Drugs and Chemical Substances Act (Cap. 254),** while the Constitution's Fourth Schedule devolves both markets and the licensing and control of food-selling undertakings to county governments. The **gap is therefore not an absence of legal authority but a lack of county investment in the infrastructure and routine supervisory capacity** needed to make that authority enforceable in practice.

The pilot also highlights an opportunity to strengthen routine public-health support. Monthly PHO-led workplace supervision and a structured monitoring checklist enabled practical troubleshooting and reinforcement at the point of operation, but sustaining these gains requires this approach to be embedded within routine county and market-management functions rather than depend on time-bound projects.

Cold-chain infrastructure presents a further opportunity, but infrastructure investment needs an operational sustainability model. There is no reliable cold chain infrastructure support, leading to a high level of food loss. The opportunity is consequently to treat informal-market food safety as a shared systems responsibility. County public health, trade and markets, fisheries, engineering and market-management structures can jointly create conditions in which vendors are able, not only expected, to comply with food-safety requirements, linking regulation and training with infrastructure, routine monitoring, technical support and accountability.

03 Lesson learnt and insights

CO-CREATION AND STAKEHOLDER ENGAGEMENT

We co-created the interventions with the relevant stakeholders, and very actively engaged the stakeholders throughout the project. This significantly enhanced ownership of the initiatives. We had the vendors take over management of the cold room, enhancing sustainability of the initiative.

MOVE FROM AWARENESS TO PRACTICAL APPLICATION

Vendors already had relatively high food safety knowledge at baseline, which may explain why knowledge scores did not improve significantly following the intervention and suggests that knowledge alone was not the main barrier to safer food handling. This creates an opportunity to build on existing knowledge by shifting from general awareness training towards practical demonstrations, workplace coaching and problem-solving that help vendors apply food safety principles in their daily operations.

BUILD ON POSITIVE ATTITUDES TOWARDS FOOD SAFETY

Although vendors operate under demanding market and livelihood conditions that can make food safety difficult to prioritise consistently, the intervention significantly improved their attitudes towards food safety and strengthened recognition of the importance of safe food handling. This positive shift provides an opportunity to build on vendors' willingness to improve by combining continued engagement with the practical support and enabling conditions needed to sustain safer behaviours.

TRANSLATE POSITIVE ATTITUDES INTO SAFER EVERYDAY PRACTICES THROUGH ENABLING ENVIRONMENT

Despite improvements in attitudes, there is need for infrastructural support to provide an enabling environment for improvement in everyday practices among the vendors. Inadequate drainage, sanitation, waste management, access to clean water and cold storage continue to make it difficult for vendors to consistently apply recommended food safety practices, meaning training alone cannot address all food safety risks. This presents an opportunity for Kisumu County to combine vendor capacity strengthening with targeted investments in basic market infrastructure and services, creating conditions in which vendors can comply with food safety requirements.

STRENGTHEN THE SUSTAINABILITY OF COLD-CHAIN INFRASTRUCTURE

The cold room demonstrated potential to improve food storage and reduce fish losses, but unreliable solar power, limited battery capacity and specialised maintenance needs affected its operation and could undermine longer-term sustainability. Future cold-chain investments therefore provide an opportunity to incorporate backup power, trained operators, preventive maintenance, accessible technical support and sustainable financing arrangements from the outset.

EMBED SUCCESSFUL APPROACHES WITHIN COUNTY SYSTEMS

Training, supportive supervision and infrastructure improvements may be difficult to sustain if they remain dependent on time-bound projects, particularly once external implementation support ends. The experience from Obunga therefore provides an opportunity to integrate PHO-led training, supportive supervision and structured monitoring into routine county public health and market-management functions, while progressively adapting the approach to the needs of other markets in Kisumu.

SUGGESTED ACTIONS

ACTION N° 1: INVEST IN SAFE AND SUSTAINABLE MARKET INFRASTRUCTURE

Kisumu County should upgrade food-market infrastructure to create conditions that enable vendors to consistently meet food-safety standards. Priority investments should include clean water, improved drainage and sanitation, effective waste management, hygienic trading spaces, and fit-for-purpose cold-chain facilities tailored to the needs of different markets and commodities. To ensure sustainability, cold

-chain investments should be supported by reliable backup power, trained operators, routine maintenance, accessible technical support and clear financing and management arrangements.

Lead	Kisumu County Department of Trade and Markets, with County Department of Health and Sanitation (cold chain/hygiene standards)
Tier	County
Timeline	Medium-term (12–24 months)
Key partners	Development partners (co-financing); National government line ministries (technical standards)

ACTION N° 2 : ADOPTION OF PRACTICAL LEARNING AND TAILORED CAPACITY STRENGTHENING FOR FOOD VENDORS

Kisumu County should integrate practical, workplace-based food safety capacity strengthening into routine Public Health Officer (PHO) support for food vendors. Training should be tailored to vendors' literacy, language, commodities and working conditions, combining accessible materials with demonstrations, on-site coaching, regular supportive supervision and corrective feedback. The Obunga PHO-led model can be refined and institutionalised, using structured monitoring checklists and regular follow-up to reinforce safe practices and address food-safety risks as they arise.

Lead	Kisumu County Department of Health and Sanitation (Public Health Officers)
Tier	County
Timeline	Short-term (0–12 months), then ongoing
Key partners	Municipal Market Administrators; AfriFOODlinks/APHRC (technical support)

ACTION N° 3 : SCALE AND INSTITUTIONALISE THE OBUNGA FOOD SAFETY MODEL

The intervention established in Obunga Fish Market should be institutionalized by the County Government of Kisumu and progressively scaled to other formal and informal markets. Expansion should be guided by each market's food safety risks, infrastructure needs and county implementation capacity, recognising that different markets require context-specific approaches. Routine monitoring should track food safety practices, infrastructure performance and corrective actions to support continuous learning, quality improvement and evidence-informed decision-making.

Lead	County Government of Kisumu (Office of the Governor / County Executive Committee for Trade and Health)
Tier	County, with national government policy alignment
Timeline	Long-term (2–5 years), phased rollout to additional markets
Key partners	National government line ministries; development partners; Municipal Market Administrators

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