FOOD SAFETY IN KENYA
A consumer perspective
Contents

Executive summary 1

Introduction 3
Food safety in Kenya 4
Consumer Grassroots Association 5
The survey 5

Background 6
County background: Nairobi County 6
County background: Kajiado County 7
County background: Kirinyaga County 8

Consumer demographics 9
Gender composition 9
Participation by age 9
Role in food provision 10

Source of fresh produce 11
Consumer concern on the safety of food 11
Major food safety concerns 12
Major food safety concerns - county comparison 12

How do consumers ensure food safety? 13
Consumer safety practices - county comparison 13

Food markets and food safety 14
Consumer view on safety of markets – comparison by source 14
Comparison across counties 15
Safety in production and transportation 15
County comparison 16

Consumer awareness 16
Awareness levels per county 17
Source of information 17
Source of information per county 18

County score card 19

Proposed interventions 19

Recommendations 20
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGA</td>
<td>Consumer Grassroots Association</td>
</tr>
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<td>EU</td>
<td>European Union</td>
</tr>
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<td>Food and Agriculture organization of the UN</td>
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<td>KEPHIS</td>
<td>Kenya Plant Health Inspectorate Service</td>
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<td>KNBS</td>
<td>Kenya National Bureau of Statistics</td>
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<td>KOAN</td>
<td>Kenya Organic Agriculture Network</td>
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<td>NPRMP</td>
<td>National Pesticide Residue Monitoring Program (NPRMP)</td>
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<tr>
<td>MRLs</td>
<td>Maximum Residue Level (MRLs)</td>
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<td>NGO</td>
<td>Non-Governmental Organization</td>
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<tr>
<td>PCPB</td>
<td>Pest Control Products Board</td>
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<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
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Definition of Terms

**Consumer awareness** - the act of making sure the consumer is aware of the information about products, good, services and consumer rights

**Food market** - is a composition of systems and institutional structures that allows buyers and sellers to be able to sell or buy from each other. Food markets can be physical like retail outlet, or virtual such as online buying.

**Food safety** - Encompasses the routines in the preparation, handling and storage of food meant to prevent food-borne illness and injury. It is a systematic approach to hygiene and accountability that concerns every aspect of the global food industry.

**Food system** is a chain of activities involving the production, processing, transport, marketing, and consumption of food

**Provision** - An act of providing or supplying food to the household
Food safety is crucial to all consumers. Yet with numerous media exposés on food safety, the question often arises about whether the Kenyan consumer is concerned at all about the safety of their food. This is due to the varied reactions amongst consumers to these exposés; some get really worried and agitated about the state of affairs while others do not engage at all. This survey seeks to respond to this question by bringing to the fore the views of consumers on the issue of food safety, with a particular focus on pesticide contamination.

More than 67% of the respondents felt that their food markets did not guarantee food safety. The level of trust in food markets varied significantly depending on the source of food or type of market. Consumers who bought from big supermarkets felt their markets were safer followed by those who bought from local supermarkets. Consumers who bought from their local open-air markets had the least confidence in their markets followed by those who bought from *mama mboga*. Kirinyaga had the highest level of consumer confidence in food markets at 44%, followed by Kajiado (32%) and Nairobi (30%).

Only 33% of the respondents felt that the way food is produced and transported guaranteed safety. Kirinyaga had the highest level of confidence with 41% of the respondents expressing confidence in the way food is produced and transported, consumers in Nairobi had the lowest confidence at 28%. One-third of respondents in Kajiado expressed confidence in how their food is produced and transported.

The survey got views from 9,592 consumers from Nairobi, Kajiado and Kirinyaga counties. The gender composition of the respondents was **54% male and 46% women**. The age of the respondents ranged from below 18 years to 50 years with those between 35 to 50 and 18 to 35 years forming the majority. The respondents were involved in food provision as either the main providers or contributors. Only 1% of the respondents were not involved at all in food provision.

More than 67% of the respondents felt that their food markets did not guarantee food safety. The level of trust in food markets varied significantly depending on the source of food or type of market. Consumers who bought from big supermarkets felt their markets were safer followed by those who bought from local supermarkets. Consumers who bought from their local open-air markets had the least confidence in their markets followed by those who bought from *mama mboga*. Kirinyaga had the highest level of consumer confidence in food markets at 44%, followed by Kajiado (32%) and Nairobi (30%).

The results of the survey show that most consumers were concerned about the safety of their food with 55% indicating that they were very worried about the current food safety situation, 33% were slightly worried and 12% were not worried at all. This shows the level of concern amongst consumers translating to about 9 out of 10 consumers expressing concern. The major food safety concerns as identified by the consumers were pesticide use/misuse (87%), lack of proper sanitation at the market (60%), contamination during transportation (37%) and contamination during preparation (30%).
The survey also sought to find out the level of awareness amongst consumers on one of the most pressing food safety issues - pesticide use. The survey results showed that most consumers are not aware of the issues with only 36% having received information on human, food safety issues coming out of pesticide use in the past year. The trend appeared to be the same across the three counties with Kirinyaga leading in awareness. Nairobi had the lowest level of awareness.

The survey also showed that consumers receive information on pesticide use/misuse as well as other food safety issues through multiple channels. The leading sources of information by percentage of respondents include non-governmental organizations (37%), social networks (30%), agro-vet operators (15%), county governments (11%), the National Government (7%). Different counties had different dynamics as can be seen in the detailed analysis.

Are county governments doing enough to ensure food safety in these counties? The respondents scored the performance of their counties in regards to food safety and only 11% felt their counties were doing enough. Out of the surveyed respondents only 89% felt their counties were not doing enough. Only 9% of the respondents were aware of county laws or policy interventions in place or proposed to address food safety issues in their particular counties.

What do consumers think needs to be done? The survey also provided an opportunity for consumers to share their proposals on what they feel needs to be done. The leading proposal was more awareness and public education on food safety, followed by implementation and enforcement of the current policies and laws. Consumers also felt that food safety laws needed to be enhanced, regular monitoring be implemented and mechanisms to be put in place for consumers to raise alarm on food safety issues in their localities.

89% of the respondents felt their counties were not doing enough to ensure food safety.
Introduction

The safety of food is one of the fastest rising global concerns. With increased pressure to produce more food due to growth in human population, there are increased risks of food safety from production through to distribution of fresh and processed foods. With food safety in its very nature encompassing food security, access as well as health, the issue attracts the attention of both agriculture and health sectors.

According to the United Nations World Health Organization, unsafe food containing bacteria, viruses, parasites or chemical substances causes more than 200 diseases, ranging from diarrhea to cancers. Globally, one in ten people fall ill after consuming contaminated food and 420,000 die from food-related illnesses every year. Children under five years carry 40% of the foodborne disease burden, accounting for 125,000 deaths every year.

Food safety, food security and nutrition are linked. Unsafe food causes diseases, affecting food intake, which in turn leads to malnutrition. In the long-term malnutrition affects productivity, physical and cognitive development in children fueling a vicious cycle of poverty and food insecurity. The high costs of dealing with food-borne illnesses and the resultant effects in a population also puts pressure on public resources. Developing countries bear the biggest burden of food safety concerns and resulting food-borne illnesses. The regulatory, surveillance, and control systems in most of these countries are unable to address the wide range of potential hazards.
Food safety in Kenya

In Kenya, due to the absence of a strong regulatory body, most of the identified food safety issues are yet to be addressed despite being brought to the attention of the government. One of the major concerns has been the use of chemical pesticides in food production. There have been reports that have elicited significant public outcry regarding the levels of pesticide residues in fresh produce consumed locally.

Note

To illustrate, the National Pesticide Residue Monitoring Program (NPRMP) undertaken by KEPHIS analyzed 1,139 food samples (KEPHIS, 2018; EC 2013)

- Out of these, 46.5% had pesticide detections and 10.8% had exceeded the set EU maximum residue levels (MRLs).

- With respect to the samples collected, kales, peas and capsicum had the most pesticide residue detections at 94.40%, 75.84% and 59.18% respectively. This translates to a high level of exposure for both producers and consumers.

Additionally, a study released in October 2020 by the Kenya Organic Agriculture Network (KOAN) showed high levels of pesticide residues in kales and tomatoes produced in Kirinyaga county. Kales and tomatoes are the two most consumed vegetable products in Kenya. The study further looked at issues of misuse of pesticide products and lack of information amongst growers on the potential effects of these products.

Consumers have been conspicuously missing in food safety discussions in the country despite bearing the biggest brunt of the implications. Major food safety exposésin national media often provokes public uproar but this typically quickly dies off. Sociologistshave describedthis pattern as amnesia, claiming that most Kenyan consumers might be too quick to forget issues and move on. There have however been very few formal attempts to understand the views of consumers about food safety issues.

Consumer Grassroots Association

Consumer Grassroots Association (CGA) is a national, independent, non-political, non-profit and non-religious organization committed to grassroots consumer protection through research, education and advocacy. CGA has individual membership of 130,000 across Kenya’s 47 counties. Through its grassroots network and with the support of the Route to Food Initiative and other partners, CGA has initiated and implemented various campaigns and programs focusing on food safety and consumer awareness on some of the food safety issues in their localities.

The survey

The purpose of the survey was to assess the level of awareness and concern amongst consumers on issues of food safety. The survey focused on three counties: Kirinyaga, Kajiado and Nairobi. Kirinyaga and Kajiado counties were selected because of a high level of production of horticultural produce targeting consumers in Nairobi.

The survey was conducted using two main channels; an online questionnaire and phone interviews. The survey reached 9,591 respondents (8,873 through phone interviews and 718 respondents through the online questionnaire). Each of the respondents responded to 16 questions that covered various aspects, from the respondents’ bio data, county, role in food provision, source of food, the level of concern, awareness on food safety issues as well as proposed interventions.
Background

County background: Nairobi

Nairobi County is home to more than 4 million\(^2\) Kenyans. Due to its high population and shrinking space for urban farming, Nairobi relies on other counties for more than a third of its food. Some of the food also comes from outside the country, as is the case for mangoes, onions and tomatoes from Tanzania, oranges from South Africa and fish from China amongst other commodities that are brought in to meet the city’s demand for food.

The food supply system, with multiple sources coupled with an even more complicated demand side of the market makes it difficult to understand and possibly make interventions. On the supply side, the fact that food gets into the city from multiple sources makes it hard to trace back to the actual source. On the demand side, consumers are quite diverse and often with different preferences, varying levels of concern for safety and quality of their food as well as where they get it from. This difference amongst consumers can be mainly attributed to income levels and the level of awareness on some of the food safety issues and risks that one might be exposed to.

In the recent past, there have been concerns on the safety of the food consumed by Nairobi residents. These concerns have implicated different food products ranging from fresh produce, grains and cereals, animal products and food commodities. This is further aggravated by the fact that city consumers do not have much of a choice when it comes to the food they buy due to economic barriers to accessing safe, certified food as well as the inability to produce own food due to limited space.

Food grown in Nairobi and its environs is also not off the hook. There have been many concerns on the safety of food grown in and around Nairobi. Various studies have shown a high use of pesticide products as well as the use of contaminated water for irrigation, which pose serious health risks to consumers. A study that looked at the concentration of heavy metals and pesticide residues in leafy vegetables and its implications for peri-urban farming in Nairobi showed high levels of harmful substances in food produced within Nairobi. The study\(^3\), which collected samples from 60 farms, located in Nairobi proved contamination of food by at least 8 different pesticide active ingredients that exceeded the allowed MRLs\(^4\).

While this study and many other that have shed light on the food security situation in the city might not be a significant statistical representation of the food consumed in Nairobi. The findings are substantial enough to show cause for concern amongst consumers and action by the relevant authorities.

\(^2\) KNBS: https://www.knbs.or.ke/?wpdmpro=2019-kenya-population-and-housing-census-volume-i-population-by-county-and-sub-county#

\(^3\) https://www.foodsystemsjournal.org/index.php/fsj/article/view/152

\(^4\) MRLs: Maximum Residue Limits
The Nairobi County government has pioneered the return of urban agriculture through the Nairobi City County Agriculture Promotion and Regulation Act passed in 2014. Prior to enactment of the Act, it was illegal to practice any form of agriculture in the county. The Act not only legalizes farming in the capital, but also provides mechanisms through which farmers who choose to practice urban farming will be supported by the county government. While the Act does not specifically mention pesticides, it gives instructions that the executive should implement to ensure that those engaged in food production in the city follow best agricultural practices to ensure the food produced is safe.

The Nairobi City County’s department of public health has several guidelines concerning food handling. They include; requirement for food handlers to ensure their facilities get the county’s approval and that there is adequate refrigeration for perishable foods, maintain hygiene in their facilities, and ensure all operators have valid medical certificates. The Food and Drugs Act\(^5\) also requires the city county to supervise food sold in open-air markets. Notably, there are no laws that address food contaminants (including pesticides) in Nairobi County, leaving consumers exposed to risks.

While some of the legal and policy framework structures seem progressive towards achieving the right to adequate food, there are still glaring gaps that need to be addressed. Nairobi County lacks a strong monitoring and surveillance program to effectively look at the status of food safety in the city. The county does not conduct regular sampling of food in the market to test for safety. There also lack enforceable laws at county level to address unscrupulous practices by food traders who endanger the health of consumers through bad practices. This gap means that the county only relies on national legal framework laws, which do not adequately address the specific issues and needs of the Nairobi City County.

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5 Food and Drugs Act: An Act of Parliament to make provision for the prevention of adulteration of food, drugs and chemical substances and for matters incidental thereto and connected therewith

6 Population based on 2019 census report
While those who engage in these activities are well aware that it is illegal to use products not registered in the country, or smuggle pest control products through the border, they are able to get away due to ineffective monitoring and enforcement by the relevant agencies.

From the published reports, there are no county laws regarding the use of pesticides at county level. As an agriculture-intensive county, it would be necessary to have a both a legal and policy framework that addresses pesticides use in food production and a regular monitoring program on food items in the market to ensure that consumers are not subjected to pesticide residues in food that exceed MRLs.

While the stakeholder engagement sessions showed that there is clear understanding of the issues by all stakeholders, there lacked adequate legal and policy frameworks to address them. Kajiado County Assembly has two bills which are still in process to address some of the pressing issues. These are Kajiado County Crop Regulation Bill and Tomatoes and Potato Bill, both awaiting public participation.

**County background: Kirinyaga County**

Kirinyaga County borders three counties namely Nyeri, Muranga and Embu. Like most counties in the Mount Kenya region, Kirinyaga’s main economic activity is agriculture. The County is arguably best known for its Mwea rice. Other crops produced in the cooler areas of Ndia, Gichugu, and Kirinyaga Central constituencies include maize, beans, tomatoes and French beans in addition to coffee and tea.

There have been concerns amongst the public over excessive use of pesticides in production which results in high levels of residues in food, soil and water. Most farmers tend to use pesticides without an adequate appreciation of the risks to the environment and people and how those risks can be managed. This has resulted in environmental pollution and pesticide-related health concerns on operators, immediate communities and consumers. Informed consumers are more concerned about the safety of their food and the risks posed by use of pesticides than those who are less informed.

Carbamate and organophosphate pesticides have been widely used in rice production in the Mwea region for control and elimination of pests. Depending on the type of pesticide applied, the vapours and residues may also drift or volatilize off the treatment site thereby contaminating water, air, soil and vegetation and increasing the potential for human exposure. For instance, since rice is grown using flooding irrigation technique, pesticide residues settle in the water and are absorbed by the plant. When this water is released into rivers, the residues find their way into domestic water, putting consumers at risk. While all persons can be affected by the pesticide residues, children and pregnant women are particularly vulnerable to adverse effects of exposure through food, water, and air. Some of the health indicators associated with users in the county include chest pains, coughing and sneezing, colds, swellings, itchiness, stomach upsets, eye irritations, dizziness, fatigue and uneasiness.

Being an agricultural county, farmers use pesticides in large volumes for pest control. The use of pesticides is left at the discretion of farmers. There is a lack of policy and regulations that focus on pesticide use and monitoring of food samples to test for residues in a bid to protect consumers. There is no clear strategy to educate the farmers on safe handling of pesticides and the enforcement of regulations on pesticide use. There should also be adequate financial allocation of the county budget committed to agriculture in order to able to implement these programs effectively.
Consumer demographics

Gender composition

The survey had nine thousand, five hundred and ninety-one (9591) participants. Out of this, 46% were women and 54% were men. The participation of men was higher in all the counties except in Kirinyaga where the participation of women was more than that of men. There was however no major difference between the different genders in the overall participation of the survey.

While the overall participation of men was slightly higher than that of women, it is interesting to note that more women took part in the online questionnaire than men. This shows a high level of interest amongst women on the subject of food safety.

Participation by age

The survey also sought to find out whether different age groups had different perspectives on the subject of food safety and therefore asked for the age of the respondents. From the study findings there was no significant difference in perspective according to age of the respondents. The following table shows the age distribution of the respondents:
Role in food provision

The role one takes in food provision has a great influence on the level of awareness as well as overall understanding and perspective when it comes to food safety. The survey collected data on the role of respondents in food provision to ensure that it is capturing the consumers that are actually responsible in food production and purchase at household level as well as to compare the different perspectives of consumers taking different roles in food provision. The pie chart below shows how the roles of the respondents in food provision compares:

- **57%** Main Provider/Breadwinner
- **42%** Contributor
- **1%** Not Involved at all
Source of fresh produce

The source of food is an important factor of food safety. The main sources of fresh produce in Kenya include *Mama mboga kiosks*, open air markets, supermarkets and direct purchases from producers. These sources have varying practices and there offe varying levels of food safety assurance. The survey clearly showed that a majority of consumers, 75%, get their fresh produce from *Mama mboga kiosks* followed local open air markets which serves 68% of the respondents, local supermarkets at 37%, big supermarket chains and direct purchases from farmers at 13% each. Only 3% of the consumers indicated that they grow their own food with most of them coming from either Kirinyaga or Kajiado counties.

**Consumer concern on the safety of food**

To assess the level of concern amongst consumers, the respondents were asked whether they are worried about the safety of their food. A majority of the respondents (55%) indicated that they were very worried about the safety of their food, 33% indicated they were slightly worried while 12% of the respondents said they were not worried about food safety. The trend was the same in all the three counties showing that consumers are concerned about food safety.
Major food safety concerns

While it is clear that most consumers are concerned about the safety of their food, it is important to identify and compare different food safety issues and level of concern amongst consumers. Consumers were asked to identify what they considered to be major food safety issues. Pesticide use/misuse was ranked the highest most concerning food safety issue followed by lack of proper sanitation in the market. Contamination during preparation was ranked lowest in terms of consumer concerns.

Major food safety concerns-county comparison

While the trend was largely similar, there were some clear differences on the level of concern placed on the different food safety issues through the three counties. Contamination during transportation was seen as a significant issue in Nairobi scored by 37% of the respondents compared to 24% in Kajiado and only 19% in Kirinyaga. Pesticide use/misuse was the leading cause of worry amongst consumers in all the three counties.
How do consumers ensure food safety?

A majority of consumers believe that by using simple methods such as washing, proper cooking, they can ensure their safety. Sixty one percent of the respondents said that they ensure the safety of their food by thorough cleaning, 25% believed that properly cooking the food makes it safe. Only 14% of the respondents reported to buy from reliable sources as a way of ensuring their food is safe.

Consumer safety practices-county comparison

The methods consumers use to ensure food safety were similar in all the three counties. There were however some significant variations between the different counties. For instance, 81% of the respondents in Kirinyaga relied thorough washing as a means to ensure food safety compared to 65% in Nairobi and 52% in Kajiado. Kajiado had the highest number of consumers who relied on trusted suppliers for their food at 25% compared to Nairobi and Kirinyaga at 6% and 5% respectively.
Food markets play a major role in food safety. Food handling at the market during either transportation, storage or actual transactions present potential entry points for contamination especially when they are not properly managed. The respondents were asked whether their food markets guaranteed food safety. A majority of the respondents, 67% felt that their food markets did not guarantee food safety, only 33% felt their markets guaranteed food safety.

**Consumer view on safety of markets – comparison by source**

A comparison of the different markets and the level of confidence in them amongst consumers shows that there is a significant difference in what consumers think and feel about their safety. Respondents who bought from big supermarket chains had the highest level of confidence in the safety of their market.
Comparison across counties

The level of confidence in the safety of food markets varies slightly with Nairobi scoring the least at 30% confidence followed by Kajiado at 32%. Kirinyaga had the highest level of confidence in food markets at 44%.

Safety in production and transportation

The respondents were asked whether they felt that the way their food is produced and transported ensured safety. A majority, 67% felt that food production and transportation did not ensure safety.
County comparison

Respondents from Kirinyaga expressed the highest level of confidence at 41% followed by Kajiado at 33%. Only 28% of respondents from Nairobi felt that the way their food is produced and transported guaranteed its safety.

Consumer awareness

To assess the level of awareness and information on the use of pesticides and food safety, the respondents were asked if they have received any information in the past one year. Only 36% of the respondents reported to have received information on pesticide use in the past one year. This shows that the level of awareness amongst consumers is still low.
Awareness levels per county:
The level of awareness appeared to be level across the three counties with Nairobi scoring the least. This shows that across the three counties, the level of information and awareness amongst consumers on the use of pesticide is low.

Source of information
To identify the main sources of information, consumers were asked where they get information on pesticide use. The leading source of information as identified by consumers was NGOs, followed by social networks, Agrovet operators and county governments. The national government was ranked the least as a source of information on pesticide use.
Source of information per county

A comparison of the different sources per county proved different dynamics between the three counties. More respondents relied on NGOs for information in Kirinyaga and Kajiado at 50% and 41% respectively. Only 32% of respondents in Nairobi got their information from NGOs.

Interestingly, respondents in Nairobi relied got more information from agrovet operators than in the two counties. The validation sessions provided various reasons for this: including the fact that a sizeable proportion of city dwellers engage in farming activities and are more inclined towards chemical inputs. The other factor was the increased sharing and presence of agro-dealers online.

In all the counties person to person sharing appeared to have a huge impact in information access. The level of information from both county and national governments is quite low.
County score card

Considering that food production and marketing issues are largely a county government function, the survey sought the views of the respondents on how they felt their counties were performing. Only 11% of the respondents felt that their counties are doing enough to ensure food safety. A big majority of the respondents (89%) felt that their counties are not doing enough to ensure food safety.

The respondents were also asked whether they were aware of any policies and laws whether proposed or in place on food safety. Only 9% of the respondents indicated to have knowledge on existing/proposed policies, laws on food safety.

Proposed interventions

On what interventions are needed, the respondents rated six different possible interventions with public education and awareness creation topping as a priority for consumers.
a) **Awareness creation amongst consumers.** Through the survey and subsequent stakeholder engagements, it was clear that there is a need for more consumer awareness on food safety issues, practices, and the legal and policy framework on food safety. Consumers should also be sensitized on their role in ensuring food safety through reporting bad practices and taking a leading role in advocating for both policy and legal mechanisms to ensure food safety.

b) **Foster multi-sectoral and multi-layer collaboration.** All stakeholders, including the consumer, need to work together to realize and sustain gains in food safety. The engagements during this survey clearly showed that most actors within government and outside working on food safety do so in isolation. This reduces efficiency in interventions and creates unnecessary duplication in roles that sometimes result in conflicting approaches and mandates.

c) **Establishment and implementation of a robust legal and policy framework on food safety.** The survey and subsequent discussions on food safety showed a clear gap in both policy and legal frameworks on food safety. All the three counties of focus (Nairobi, Kajiado, Kirinyaga) lacked clear, actionable policies on food safety, despite the issues affecting most residents. The county legal framework on food safety is yet to be developed in the three counties, thus hindering action on offenders. There is a need to enact and operationalize county laws on food safety to address the current legal framework gap.

d) **Develop and implement a consumer reporting/feedback mechanism.** While consumers interact with food safety issues every day, there is no precise mechanism to report food safety issues. There is a need for counties to consider developing a food safety issues capturing tool/system that will help gather food safety issues from consumers for immediate action and long-term policy/legal interventions.

e) **Regular market monitoring.** Regular monitoring in food markets came up as one of the critical recommendations both from the survey and the different stakeholder engagements. Monitoring helps to ensure that the set food safety standards and procedures are observed in the trade and handling of food and food commodities at the market level. Regular monitoring can also help identify emerging gaps, both structural and institutional, which can help design practical and timely interventions.