

EatSafe: Evidence and Action Towards Safe, Nutritious Food

Report on Normative Guidelines for Governments to Promote Safer Traditional Markets

Revised September 2021



USAID
FROM THE AMERICAN PEOPLE



gain
Global Alliance for
Improved Nutrition

ILRI
INTERNATIONAL
LIVESTOCK RESEARCH
INSTITUTE

M Pierce
Mill
entertainment
& education

This EatSafe report presents evidence that will help engage and empower consumers and market actors to better obtain safe nutritious food. It will be used to design and test consumer-centered food safety interventions in traditional markets through the EatSafe program.

Recommended Citation: Global Alliance for Improved Nutrition. 2021. Report on Normative Guidelines for Governments to Promote Safer Traditional Markets. A USAID EatSafe Project Report.

Acknowledgements: This review was undertaken, and the report written, by Caroline Smith DeWaal, with useful feedback provided by David Morgan, Augustine Okoruwa, Teale Yalch and Bonnie McClafferty. Appendix 1 was written by Robert Tuverson.

Agreement Type

Cooperative Assistance

Agreement Number

7200AA19CA00010/Project Year 2 output

Period of Performance

June 31, 2019 – July 30, 2024

Geographic Scope

Global Food Security Strategy Countries

USAID Technical Office

Bureau for Food Security (BFS)/Office of Market and Partnership Innovations (MPI)

Agreement Officer Representative

Lourdes Martinez Romero

For additional information, please contact:

- Bonnie McClafferty, EatSafe Project Director, bmclafferty@gainhealth.org
- Caroline Smith DeWaal, EatSafe Deputy Director, cdewaal@gainhealth.org

Global Alliance for Improved Nutrition
1701 Rhode Island Ave NW
Washington, D.C. 20026

This document was made possible through support provided by Feed The Future through the U.S. Agency for International Development (USAID), under the terms of Agreement #7200AA19CA00010. The opinions expressed herein are those of the Global Alliance for Improved Nutrition (GAIN) and do not necessarily reflect the views of USAID or the United States Government.



USAID
FROM THE AMERICAN PEOPLE



TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS	3
EXECUTIVE SUMMARY	4
1. INTRODUCTION	6
2. THE ROLE OF NORMATIVE GUIDANCE.....	7
3. METHODOLOGY.....	8
4. CODEX ALIMENTARIUS: STREET-VENDED FOODS REGIONAL GUIDELINES	9
5. ANALYSIS OF CODEX REGIONAL STREET-VENDED FOODS GUIDELINES	10
5.1.1 ROLES OF STAKEHOLDERS AND AUTHORITIES	10
5.1.2 REGULATIONS	11
5.1.3 REGISTRATION OF VENDORS.....	11
5.2 INFRASTRUCTURE	12
5.2.1 DESIGN AND INFRASTRUCTURE OF MARKETS.....	12
5.2.2 MAINTENANCE AND SANITATION IN MARKETS	13
5.3 FOOD HANDLING	14
5.3.1 FOOD SOURCING AND HANDLING IN MARKETS	14
7.3.2 THE REQUIREMENTS FOR FOOD PREPARATION	15
7.3.3 PROTECTION AND SALE OF READY-TO-EAT FOODS	17
5.4 FOOD VENDOR HEALTH AND HYGIENE	17
5.4.1 PERSONAL HEALTH OF MARKET PARTICIPANTS	17
5.5 TRAINING OF MARKETS PARTICIPANTS	18
5.5.1 TRAINING AND EDUCATION	18
6. REVIEW OF OTHER INTERNATIONAL GUIDANCE	24
6.1 WHO 1996 GUIDE (11)	24
6.2 FAO 2003 GUIDE (12).....	25
6.3 WHO 2006 GUIDE (13)	25
6.4. WHO INFOSAN 2010 INFORMATION NOTE (14).....	26
6.5 COVID-ERA DOCUMENTS FOR IMPROVING TRADITIONAL MARKETS	26
6.5.1 WHO/OIE/UNEP COVID GUIDANCE 2021 INTERIM GUIDANCE (15).....	26
6.5.2 2021 FAO/GAIN WORKSHOP REPORT (16)	27
7. FINDINGS.....	28
7.1 POLICY AND REGULATION	28
7.2 INFRASTRUCTURE	28
7.3 FOOD HANDLING	29
7.4 VENDOR HEALTH AND HYGIENE.....	29
7.5 TRAINING AND EDUCATION	30
8. CONCLUSION	30
9. REFERENCES	33
10. APPENDICES.....	34
10.1. APPENDIX 1. EATSAFE EXPERT CONSULTATION: REVIEW OF NORMATIVE GUIDELINES FOR FOOD SAFETY AND STREET FOOD: A ROADMAP FOR TRADITIONAL MARKETS.....	34
10.2 APPENDIX 2. EXPANDED REVIEW OF AFRICAN GUIDELINES FOR THE DESIGN OF CONTROL MEASURES FOR STREET-VENDED FOODS	46

LIST OF TABLES AND BOXES

Table 1. KEY CONTENT AREAS FOR STREET-VENDED GUIDANCE.....	20
Box 1. CODEX ALIMENTARIUS STANDARDS.....	7
Box 2. OBJECTIVES AND RATIONALE (AFRICA CODE SECTION III).....	12
Box 3. HACCP FOR STREET FOOD MARKETS	13
Box 4. HACCP WHERE FOOD IS PREPARED.....	14
Box 5. OBJECTIVE AND RATIONALE (AFRICA GUIDELINES SECTION 5).....	15
Box 6. HACCP FOR INPUT AND INGREDIENTS (LAC CODE SECTION 4)	15
Box 7. HACCP FOR FRUITS AND VEGETABLES (LAC CODE SECTION 6.1.1).....	16
Box 8. HACCP FOR FRESH MEAT AND FISH (LAC CODE SECTION 6.1.2)	16
Box 9. HACCP FOR OTHER FOODS (LAC CODE SECTION 6.1.3).....	16
Box 10. HACCP FOR FINAL PREPARATIONS (RTEs) (LAC CODE SECTION 6.2).....	17
Box 11. HACCP FOR PROTECTION AND SALE OF FOODS (LAC CODE SECTION 8.2)	17
Box 12. HACCP FOR HYGIENIC PRACTICE (LAC CODE SECTION 5.2).....	18
Box 13. HACCP FOR VENDOR RESPONSIBILITIES (LAC CODE SECTION 8.4).....	19
Box 14. KEY FINDINGS OF WHO 1993 SURVEY OF STREET-VENDED FOODS	24
Box 15. FIVE KEYS TO SAFER FOOD IN HEALTHY MARKETS.....	26

ACRONYMS AND ABBREVIATIONS

Below is a list of all acronyms and abbreviations used in the report.

Africa Guidelines	<i>CODEX Regional Guidelines for the Design of Control Measures for Street-Vended Foods (Africa) CAC/GL 22R-1997</i>
Asia Code	<i>CODEX Regional Code of Hygienic Practice for Street-Vended Foods in Asia, CXC 76R-2017</i>
Codex	Codex Alimentarius
FAO	Food and Agriculture Organization of the United Nations
FAO 2003 Guide	<i>The Informal Food Sector: Municipal support policies for operators;</i> Food and Agriculture Organization of the United Nations; Rome, Italy, 2003.
FAO/GAIN Workshop Report 2021	Proposing a set of fresh market performance indicators; Workshop Report from GAIN, the World Bank, PROKAS and FAO; 18th January 2021.
LAC Code	<i>CODEX Revised Regional Code of Hygienic Practice for the Preparation and Sale of Street Foods (Latin America and the Caribbean) CAC/RCP 43R-1995/Revised in 2001</i>
HACCP	Hazard Analysis and Critical Control Points
INFOSAN 2010	Information Note <i>Basic Steps to Improve the Safety of Street-Vended Food</i> ; INFOSAN Information Note no. 3/2010; WHO, 30 June 2010
Near East Code	<i>CODEX Regional Code of Practice for Street-Vended Foods (Near East), CXP 71-R-2013</i>
WHO	World Health Organization
WHO 1996 Guide	<i>Essential Safety Requirements for Street-Vended Foods</i> ; Food Safety Unit, Division of Food and Nutrition; World Health Organization; 1996.
WHO 2006 Guide	<i>A Guide to Healthy Food Markets</i> ; World Health Organization; WHO Press, 2006.
WHO/OIE/UNEP COVID guidance	<i>Interim guidance: Reducing public health risks associated with the sale of live wild animals of mammalian species in traditional food markets</i> , 12 April 2021

EXECUTIVE SUMMARY

Feed the Future's EatSafe: Evidence and Action Toward Safe, Nutritious Food (EatSafe) is a research project designed to develop and test interventions that impact consumer demand for safe food purchased from traditional food markets. Those markets are generally overseen by local governments that are under resourced.

In order to determine what standards EatSafe should apply when reviewing traditional markets, EatSafe reviewed existing normative guidelines that could be used by governments and other enabling organizations to promote safer food in informal markets. While Codex Alimentarius (Codex) does not have guidance specific to food safety in traditional markets, it has four regional guides to manage street-vended foods that contain several related guidance areas that overlap with traditional markets. EatSafe has reviewed those four Codex documents to determine their relevance for the development of interventions in selected traditional food markets to increase consumer demand for safe food and improve food vendor practices.

Codex's internationally recognized standards are designed to assist governments in adopting effective food safety systems, both to protect consumer health and to promote fair trade practices. Codex standards cover a broad range of topics, including food production and food safety. The goal of this review is to compile and synthesize the normative guidelines available from the Codex Alimentarius and other global organizations designed to assist national, regional, state, and local governments in overseeing the safety of the foods sold in traditional markets.

The review identified five intervention categories (in bold) and ten key content areas ("key elements") relevant to traditional food markets from the four Codex documents:

- **Policy and Regulation:** Roles of stakeholders and authorities; Regulations; and Registration of vendors
- **Infrastructure:** Design and infrastructure of markets; and Maintenance and sanitation in markets
- **Food Handling:** Food sourcing and handling at markets; Requirements for food preparation; and Protection and sale of ready-to-eat food
- **Vendor Health and Hygiene:** Personal health and hygiene of market participants
- **Training and Education:** Training and education

To determine if the four existing regional guidance, taken together, were missing important key elements, the review extended to other documents developed by FAO and WHO containing advice to governments on managing food safety in traditional food markets. Though individually, each of the Codex texts for street-vended foods may have missed some key elements relevant to food safety in traditional markets, when considered together, the intervention categories and key elements covered critical aspects for food safety. The supplemental documents however provided useful additional applications relevant to traditional food markets. For example, the application of Hazard Analysis and Critical Control Points approaches (HACCP) to the market environment is well described in the supplemental material from the World Health Organization (WHO) and the Food and Agriculture Organization (FAO). Also, innovations are recommended, such as providing health services

to vendors as a component of market infrastructure. Additional documents developed by WHO and FAO, post-COVID-19, also recommend market studies and indicators to manage public health and food safety at traditional markets.

The review determined that of the five intervention categories identified by EatSafe, those with the most direct impact on consumer demand and the clearest link to consumers shopping in traditional markets are **Food Handling, Vendor Health and Hygiene**, and **Training and Education**. This review concluded that despite the lack of normative food safety standards for traditional markets any proposed interventions could be informed by aspects of the Codex standards developed for street-vended foods to assure that the EatSafe interventions meet those minimum thresholds, and that for EatSafe's work in Nigeria and Ethiopia, the supplemental guidance from FAO and WHO also be considered.

I. INTRODUCTION

While Codex has not developed global standards covering food safety in traditional markets, there are overlapping food safety standards in existing Codex Guidelines and Codes of Practice covering street-vended foods. Street-vended foods are generally ready-to-eat and are sold for consumption at or close to the time of purchase. Traditional food markets sell raw or unprepared foods for preparation and consumption by consumers or other vendors at a different location. Traditional markets can be open-air or enclosed, and frequently have poor market infrastructure, limited access to potable water, poor hygienic conditions, and poor storage practices, making them especially risky for the growth and spread of foodborne pathogens (6).

Traditional markets also frequently lack effective government oversight. Government programs provide a foundation to manage food safety and promote consumer confidence in foods. This is done by setting and enforcing minimum food safety and quality standards and by establishing uniform standards for the conduct and performance for food businesses. Those product and performance standards are contained in national, regional or local food laws and regulations.

Normative products assist governments in developing standards that are consistent with international norms, both to ensure consumer protection and to harmonize standards for international trade. The Codex Alimentarius is a collection of internationally recognized standards, adopted as codes of practice, guidelines, and other recommendations relating to food, nutrition, food production and food safety. Codex has been developing food standards with and for governments since the 1960s and in the 1990s, it was recognized by the World Trade Organization as a key standard setting organization for food trade. This emphasis on standards for trade has raised concerns that Codex is not adequately focused on food standards in the domestic setting, especially for low- and middle-income countries (LMICs), that are crucial for consumer protection. There are also concerns that Codex standards may not be achievable in some countries, and for this reason, Codex standards have not been used as a key indicator of food security (including safety) in the development sector.

The goal of this review is to compile and synthesize the normative guidelines available from the Codex Alimentarius and other normative guideline sources that could be used by national, regional, state, and local governments in overseeing the safety of the foods sold in traditional markets. This review will help identify key performance standards that traditional markets are reasonably held to, to assist in developing food safety interventions to test and assess how to increase consumer demand for safe food in traditional markets.

Feed the Future's EatSafe: Evidence and Action Toward Safe, Nutritious Food is a research project designed to develop and test interventions that engage and empower consumers and market actors to better obtain safe, nutritious foods from traditional food markets. The majority of low-income consumers, including those most nutritionally vulnerable, purchase their food from traditional markets, as the food is generally more affordable and accessible (1). EatSafe consists of two distinct phases:

- Phase I gathers and consolidates the research needed to design interventions for traditional markets.
- Phase II will test interventions that engage and empower consumers and market actors to better obtain safe, nutritious foods.

This desk review begins with an analysis of four normative guidance related to street vended foods developed through the Codex, specific to countries in the African region, the Near East region, the Latin America and Caribbean region and the Asian region. Overall, many food safety standards for street-vended foods and traditional markets are consistent, especially in areas like regulation, infrastructure and vendor practices and behavior. Therefore, we found that while each Codex guidance covers ready-to-eat street foods and vendors as the principal emphasis, they also provide guidance relevant to the traditional food markets that exist in many urban areas.

Box 1. CODEX ALIMENTARIUS STANDARDS

Codex provides the most comprehensive set of international normative standards for food safety that are designed to be broadly applicable in low- and middle-income countries (LMICs).

- While not intended as a substitute for national legislation, Codex guidelines provide a blueprint to guide countries that have not yet developed their own food safety policy or legislation.
- The standards and guidelines are developed at Committee meetings that include technical experts from each participating national government and observer organizations representing stakeholders. The Codex Commission also provides funding for LMIC to attend Codex meetings and participate in standard setting activities and training.
- Codex uses a consensus building process, which frequently takes several years to complete.
- Codex Committees develop standards of quality and safety for a broad range of food products.
- Codex standards can be adapted by governments to the specific national context.
- All Codex texts (standards, guidelines, and codes of practice) are voluntary, and must be adopted or referenced in national legislation to be enforceable.

The review describes how those Codex texts align across 10 key content areas applicable to traditional market settings. It will then describe additional documents and tools developed by the World Health Organization (WHO) and the Food and Agriculture Organization (FAO) that provide advice to governments and guidance to vendors and consumers in those markets.

2. THE ROLE OF NORMATIVE GUIDANCE

Normative guidelines contain standard provisions that can be used by national governments for legislation and policy. Those guidelines can be used to both manage and measure performance in the food safety area. The United Nations and its agencies, the WHO, FAO and the World Organization for Animal Health (OIE), provide global normative standards for governments in the areas of food safety and animal health. WHO defines “normative instruments” as both i) written products encapsulating normative content and ii) functions,

e.g., steps or activities used in policy making, in its 2017 *Evaluation of WHO's Normative Function* (2).

Normative products include international food standards, including Codes and Guidelines, developed and adopted by the Codex Alimentarius Commission (Codex), an international standard setting organization established in 1963 by the WHO and FAO. Codex provides guidance used by many countries on food safety principles, risk assessment and management approaches, and standards for specific foods. Codex guidelines and standards provide a common food safety vocabulary based on current knowledge, serving as a reference for information exchange across countries to better manage food safety, protect consumer health, and facilitate food trade. Countries frequently utilize Codex to establish their national standards (3, 4, 5).

WHO has said that the food safety and quality norms and standards defined by Codex are among the “strongest” and, in practice, most binding normative products” (2). The international standards and guidelines developed by Codex are a global reference point for national food control agencies and the World Trade Organization, as well as for the food industry, consumers and other stakeholders. They are based on scientific recommendations from global expert committees. Codex members are national governments, and those countries identify both the need for standards and scientific advice needed to inform their national policies (See Box 1).

The need for normative guidelines for street vended foods has been recognized by Codex and the UN agencies for over 25 years, while FAO and WHO guidance for traditional markets were first proposed much later, in 2003 and 2006. (7, 8, 11, 12, 13). The absence of normative guidance for traditional markets is remarkable, given the importance of traditional markets as sources of food for consumers in LMICs and as potential channels for the transmission of foodborne illness. The Codex codes of practice and guidelines that focus on street-vended food provide important advice for traditional markets, especially in the areas covering market infrastructure, regulation and vendor practices and behaviors. And those regional resources could provide important input for a global code of practice or guidelines for traditional food markets, which clearly deserve their own guidance.

3. METHODOLOGY

GAIN conducted a search for relevant documents starting with the Codex website and then conducted general searches of key words, including words in combination such as “normative,” “guidance,” “standards,” “food safety,” “informal food markets,” “traditional markets.” From this search, GAIN included documents i) relevant to traditional markets and ii) sourced from international standard setting organizations (e.g., Codex, WHO, FAO). Limiting the search to international organizations provided source guidance that seemed most relevant to shape normative guidelines for the countries in which EatSafe is operating. Although the search was conducted in English, most of the documents reviewed are available in multiple languages.

Using this method, we identified four regional Codex documents contained in this review, including both Codes and Guidelines (7) (8) (9) (10). GAIN also reviewed additional international guidance to identify content that might be lacking from the Codex documents:

- *Essential Safety Requirements for Street-Vended Foods*; Food Safety Unit, Division of Food and Nutrition; World Health Organization; 1996 (11).
- *The Informal Food Sector: Municipal support policies for operators*; Food and Agriculture Organization of the United Nations; Rome, 2003 (12).
- *A Guide to Healthy Food Markets*; World Health Organization; WHO Press, 2006 (13).
- *Basic Steps to Improve the Safety of Street-Vended Food*; INFOSAN Information Note no. 3/2010; WHO, 30 June 2010 (14).

Several guidance documents have been proposed by WHO and FAO since the emergence of COVID-19 (15, 16). They are covered briefly at the end of the review, showing how the standards for traditional markets are evolving.

Using these documents, this review will answer three questions:

- What are the key areas of content contained in the Codex text?
- Are there content areas missing from the Codex documents that appear in other international guidance for traditional markets?
- How can the key content areas be used by EatSafe in its development of interventions?

4. CODEX ALIMENTARIUS: STREET-VENDED FOODS REGIONAL GUIDELINES

While there are no global standards covering food safety in traditional markets generally, the Codex Alimentarius has adopted four regional documents providing guidance to governments to manage food safety risks from street-vended foods. Those Codes were developed in 1997 for the African region, 1995 and 2001 for the Latin America and Caribbean region, 2013 for the Near East region, and 2017 for the Asian region.

- *CODEX Regional Guidelines for the Design of Control Measures for Street-Vended Foods (Africa) CAC/GL 22R-1997 (Africa Guidelines) (7)*
- *CODEX Revised Regional Code of Hygienic Practice for the Preparation and Sale of Street Foods (Latin America and the Caribbean) CAC/RCP 43R-1995/Revised in 2001 (LAC Code) (8)*
- *CODEX Regional Code of Practice for Street-Vended Foods (Near East), CXP 71-R-2013 (Near East Code) (9)*
- *CODEX Regional Code of Hygienic Practice for Street-Vended Foods in Asia, CXC 76R-2017 (Asia Code) (10)*

While the titles of these Codes/Guidelines¹ emphasize street vended foods, the specific approach varies within each document, with most extending into the infrastructure and hygiene conditions present in the traditional markets where street foods are often vended. The **Africa Guideline**, for example, states that, “[these Guidelines aim] to assist relevant authorities in upgrading the operation of the street food industry to ensure that the population has available wholesome, safe and nutritious foods in accessible places.”

¹ Codes and Guidelines are used interchangeably in this review. There is little difference in the content, and the choice of the name is left to each Codex Committee. According to the Codex Alimentarius website, Standards, Guidelines and Codes of Practice are the core Codex texts and apply to all products and product categories. These texts typically deal with hygienic practice, labelling, additives, inspection & certification, nutrition and residues of veterinary drugs and pesticides.

The Codex texts provide governments, including municipal authorities, with advice on 10 key content areas:

- Roles of stakeholders and authorities
- Regulations
- Registration of vendors
- Design and infrastructure of markets
- Food sourcing and handling in markets
- Maintenance and sanitation in markets
- Requirements for food preparation
- Protection and sale of ready-to-eat food
- Personal health and hygiene of market participants
- Training and education

Those key content areas were selected from topics where themes, frequently identified through subject headings, were used in one or more documents. A comparison was made where comparable language was found in the other documents, with or without a subject heading. Where language on a key content area is lacking in a document, it is noted (See Table 1).

A review of the Codex regional Codes/Guidelines includes details on each of those key content areas, and how they are addressed in the normative guidelines. Table 1 aligns the content of the four Codex documents and provides citations for each area.

The ten key content areas are grouped into five intervention categories: **Policy and Regulation; Infrastructure; Food Handling; Vendor Health and Hygiene; and Training and Education.**

5. ANALYSIS OF CODEX REGIONAL STREET-VENDED FOODS GUIDELINES

For each key content area, similarities and differences were identified in the Codex text on street vended foods. The differences identified may reflect variances in regional approaches or the time period in which the texts were developed, especially as the **Africa Guidelines**, developed in 1997, preceded the Near East Code by 16 years and the **Asia Code** by 20 years, whereas **LAC Code** was originally developed in 1995 and updated in 2001. The **LAC Code** contains Hazards and Critical Control Points, which may be helpful for street-food vendors to utilize Hazard Analysis and Critical Control Point systems (HACCP) systems. For specific section citations to each document, consult Table 1.

5.1 Policy and Regulation

Policy and regulation are relevant to both street-vended food and traditional markets, and the provisions below should be considered for both.

5.1.1 ROLES OF STAKEHOLDERS AND AUTHORITIES

The Codes identify key stakeholders and define their roles and responsibilities to varying degrees of specificity.

The **Africa Guidelines** and the **Asia Code** identified three important market actors: the government authorities, the vendors and the consumers/customers. The **Asia Code** uses the stakeholder section to describe the various roles and responsibilities for each:

- Authorities are advised to use a multi-sectoral approach that includes all government authorities with food safety responsibilities and personnel, including at the local or municipal level, and even police. Authorities are charged with (1) monitoring the hygienic status to street foods; (2) managing the environmental conditions, such as water safety, and waste disposal; (3) generating awareness and training food vendors and customers, including other relevant stakeholders and experts in that process.
- Street food vendors are advised to monitor personal hygiene, e.g., clothes, use of gloves; hygienic behavior, including eating, smoking, coughing, and sneezing around foods, and advises on handwashing; and monitoring their health status.
- Consumers are advised to practice similar hygienic behaviors while shopping (e.g., dispose of litter/waste properly; report unhygienic behaviors to the proper authorities).

The **Africa Guidelines** contains broader language on responsibilities for both government authorities and vendors, such as providing assurances that the food is suitable for human consumption and protecting consumers from illness or injury. One notable difference, the **Africa Guidelines** advise Vendors to provide consumers with “clear and easily understood information” and labelling on storing and handling practices to prevent contamination and growth or survival of pathogens.

The **LAC Code** and **Near East Code** do not define the categories of stakeholders but separately assign responsibilities to vendors to ensure that food is produced under hygienic conditions.

5.1.2 REGULATIONS

The **Africa Guidelines**, the **Asia Code** and the **Near East Code** each contain broad provisions advising governments on the need for Regulations. The **Africa Guidelines** and **Near East Code** advise governments that general hygienic practices for vendors should be adopted as Codes of Practice that consider local conditions and specific risk factors of each operation. The **Asia Code** says the regulations should be drafted with the intention of “controlling the street food sector as an integral part of the food preparation process.” The **LAC Code** does not have a specific provision on Regulations.

5.1.3 REGISTRATION OF VENDORS

The **Africa Guidelines** advises government authorities on the issuance and renewal of licenses generally and includes training as a prerequisite for licensing. The **Near East Code** makes licensing and registration a condition of operation for each vendor, and vendors must be trained and agree to comply with food hygiene requirements. The **Asia Code** says, “where required by national legislation,” registration and/or licensing of street food vendors should be required before they start their business operations, and licenses should be displayed on their carts or kiosks; and issued or renewed to vendors who comply with “all requirements of the code of hygienic practice established by the relevant authority.” This language provides more specific advice, although the caveat “where required by national legislation,” could be limiting, as most jurisdictions may regulate street food vendors through

local legislation, rules or requirements. The **LAC Code** did not have a specific provision on Registration.

5.2 INFRASTRUCTURE

Provisions on infrastructure are relevant to both street-vended food and traditional markets, and the provisions below should be considered for both.

5.2.1 DESIGN AND INFRASTRUCTURE OF MARKETS

Codex defines “street food centers” as “any public place or establishment designated by the relevant authority for the preparation, display and sale of street foods by multiple vendors.” (7)(9)(10) Each of the regional Guidelines/Codes provides details on design and infrastructure, including elements like access to clean water and waste disposal that are important to keep food safe and protect consumer health.

The **Asia Code** recommends approval of the stalls, carts, and kiosks by the competent authority, and provides advice to governments on market design, including placement of common facilities, accessibility and spacing of vendor booths. The Code recommends sanitation and handwashing facilities for both vendors and consumers in the markets. Street food centers should have clean water, drainage, and waste management.

Box 2. OBJECTIVES AND RATIONALE (AFRICA CODE SECTION III)

OBJECTIVES – Depending on the nature of the operations, and the risks associated with them, premises, equipment, and facilities should be located, designed, and constructed to ensure that:

- Contamination is minimized,
- Design and layout permit appropriate maintenance, cleaning and disinfections and minimize air-borne contamination,
- Surfaces and materials, in particular those in contact with food, are non-toxic in intended use and, where necessary, suitably durable, and easy to maintain and clean,
- Where appropriate, suitable facilities are available for temperature, humidity, and other controls,
- There is effective protection against pest access and harborage.

RATIONALE – Attention to good hygiene design and construction, appropriate location, and the provision of adequate facilities is necessary to enable hazards to be effectively controlled.

The **Africa Guidelines** combine aspects of market design, maintenance, and sanitation under the same heading. The section is much more detailed, including sections on waste management, water supply, drainage and waste disposal, and facilities for cleaning food, utensils, and equipment. Toilets are specifically described and include changing facilities for personnel. Facilities for storage of food, ingredients and non-food chemicals are also required. The Guidelines contain Objectives and Rationale (see Box 2).

Government approval of the location and design of street food centers is advised in the **Africa Guidelines**, with provisions similar to those contained in the **Asia Code**. However, liquid and solid waste management provisions are more extensive.

The **LAC Code** does not have specific requirements for toilets and other aspects of infrastructure. The conditions for indoor and outdoor food preparation areas and hygiene facilities are described. Outdoor market areas should be protected from sun, dust and wind, and food should be off the ground. Another section, the Requirements for Street Food Marketing, also covers the types of structures and materials used for vending stalls. The **LAC Code** also outlines the hazards and critical control points to be considered (See Box 3).

Box 3. HACCP FOR STREET FOOD MARKETS

HAZARD ANALYSIS – Surroundings of a sales point can represent a source of food hazard.

CRITICAL CONTROL POINTS – Outdoor area(s) for food sales should be carefully selected and, to the extent possible, the surroundings should not present inappropriate conditions.

The **Near East Code** covers market and vendor locations, structures, and sanitation. It requires approval of areas where food stalls are located and sets requirements for wastewater management. The material for food stalls should be impervious, and easy to clean, disinfect and repair. Equipment on which food is held or prepared should be above ground level. It requires that sanitary facilities (toilets) be available to all vendors and other food handlers that are kept clean and in good operation. A separate section covers customer hygiene/toilet facilities, which should be conveniently located but separate from food preparation, handling, storage areas, etc.

5.2.2 MAINTENANCE AND SANITATION IN MARKETS

Maintenance and sanitation are covered in each of the Codex documents, and generally includes advice on cleaning of equipment, food contact surfaces, and areas around the food vendors. Some of the sections are blended with the infrastructure sections, e.g., access to potable water is covered in both. Maintenance provisions are requirements that the stalls, equipment and environment in the markets are kept in good condition, while sanitation covers cleaning activities. All the codes give vendors certain rights and responsibilities, e.g., the right to potable water; the responsibility to clean their areas.

The **Asia Code** states that vendors should have access to clean water, with quality monitoring at three points: at the water source, at the collection containers; and at usage points. Wastewater should be drained into sewers and not allowed to accumulate. Monitoring of environmental conditions in the market, water safety, and garbage disposal are all market authority responsibilities, while individual stall waste management, pest control and pesticide uses in the market should be managed by the vendors.

The **Africa Guidelines** also outline specific requirements for cleaning the market, describing physical methods such as heat, scrubbing, turbulent flow, vacuum cleaning, and methods that avoid the use of water. Pest control systems, waste management, and sanitation are described in detail. The guidance also requires market authorities to monitor the effectiveness of its sanitation systems, including through periodic audits and microbial sampling of the environment and food contact surfaces. Vendors are responsible to maintain

their premises and equipment to ensure sanitary procedures and prevent physical contaminants from entering foods.

The **Near East Code** contains a sanitation section that requires vendors to have a supply of potable water and manage wastewater and solid waste disposal. It requires that vendors keep their areas free of animals and pests to prevent food contamination. General requirements for cleaning equipment and food contact surfaces are provided.

The **LAC Code** provides generalized advice on waste and wastewater management and pest control. General cleaning advice is provided. This section overall seems less detailed than the other texts as the emphasis of that Code is on food handling. The **LAC Code** also outlines the specific hazards and critical control points to be considered (See Box 4).

Box 4. HACCP WHERE FOOD IS PREPARED

HAZARD ANALYSIS – Surrounding and surface areas can be a source of chemical, physical and biological contamination. Inadequate or contaminated water is a source of contamination of food, food handlers, food consumers and environment.

CRITICAL CONTROL POINTS – Surrounding and surface areas should always be clean, disinfected and well maintained. Water should be potable since it is a food ingredient (as water and ice) and a commodity used to clean food, surfaces in contact with food, hands, utensils, etc.

5.3 FOOD HANDLING

Guidelines on food handling include food sourcing, food preparation, and sale of ready-to-eat foods. Food sourcing and handling (see 5.3.1) in markets are relevant to both street-vended food and traditional markets.

5.3.1 FOOD SOURCING AND HANDLING IN MARKETS

Ensuring food safety is a farm-to-table proposition, so market vendors must select suppliers who can reliably provide safe products. The Codes/Guidelines cover food sourcing and handling in markets to different degrees of specificity. The topics covered include sourcing of ingredients, food preparation, handling, storage, conditions for sales and transportation of food and ingredients. Food additives are also mentioned in some Codes.

The **Asia Code** contains advice on sourcing of raw ingredients, including ice, and packaged foods. It covers preparation of raw, frozen, and cooked foods, including the use and cleaning of knives and food contact surfaces. Hot-holding advice has specific temperature recommendations. Handling and storage advice cover utensils, leftover food, refrigeration and transportation.

The **African Guidelines** contains similar advice on ingredients but has more comprehensive guidance on cooking and handling of foods and serving food, with specific advice on temperatures to be achieved and maintained for safe food production (For the Objectives and Rationale, see Box 5).

Box 5. OBJECTIVE AND RATIONALE (AFRICA GUIDELINES SECTION 5)

OBJECTIVE – To produce food which is safe and suitable for human consumption by: formulating design requirements with respect to raw materials, composition, processing, distribution and consumer use to be met in the manufacture and handling of specific food items; and designing, implementing, monitoring and reviewing effective control systems.

RATIONALE – To reduce the risk of unsafe food by taking preventive measures to assure the safety and suitability of food at an appropriate stage of operation by controlling food hazards.

In the **Near East Code**, vendors are required to assess their suppliers and manage ingredients to ensure freshness and wholesomeness. Transportation of ingredients is covered along with the use of food additives. It also has a separate section on food storage covering readily perishable foods; dry ingredients; and milled legumes, cereals and pulses. Storage conditions and practices are described, such as shelving and refrigeration.

The **LAC Code** has comprehensive guidance on purchasing, transporting, receiving and storage of ingredients and inputs, including assuring adequate temperature controls prior to receipt, purchasing from known manufacturers, and checking for signs of adulteration. It also emphasizes the importance of preventing cross-contamination during transportation, rotating stock, and cold storage of items like meat, offal, and fish. Use of containers that previously carried toxic substances for food is prohibited. Hazards and critical control points are described (See Box 6).

Box 6. HACCP FOR INPUT AND INGREDIENTS (LAC CODE SECTION 4)

HAZARD ANALYSIS – Food products can be contaminated by pathogenic microorganisms. Bacteria can grow in inadequate time/temperature conditions. Proximity between different products can cause cross contamination. Physical and chemical contamination can occur when edible and nonedible products are transported together. Chemical, physical and biological contaminants should be controlled from the source/origin of food products.

CRITICAL CONTROL POINTS – Control of time/temperature is an effective measure to prevent bacterial multiplication and food spoilage. Separation of food items can prevent cross-contamination. Protect food from air, dust and other environmental vectors in order to preserve its safety and quality. Cleanliness and disinfection of transport area is basic to prevent physical, chemical and biological contamination. Selection of place of purchase/origin of products ensures hazard control until the stages of transportation and storage.

7.3.2 THE REQUIREMENTS FOR FOOD PREPARATION

Food preparation is a key aspect of ensuring food safety. As the Codes cover “street-vended” food, the conditions for food preparation are described, and some basics on safe food preparation are provided, such as advice on cleaning foods, which has direct application for traditional markets as well.

Food preparation advice is contained in the **Asia Code** (Food Preparation, Handling, Display and Storage); the **Near East Code** (Cooking and Handling), and the **Africa Guidelines** (Control of Operations). The advice covers washing of vegetables and fruits, thawing meat, avoiding cross contamination, separation of meat and poultry from other raw ingredients,

among other items. The **Africa Guidelines** contains a section titled, *Key Aspects of Hygiene Control Systems*, that covers *Time and Temperature Control*, *Microbiological Cross-contamination* and *Physical and Chemical Contamination*, outlining the scientific considerations needed to keep food safe in markets.

The **LAC Code** describes standards for different foods sold at the markets, including fresh and prepared foods. It covers preliminary preparation for fruits and vegetables; fresh meat and fish; other foods; and has a separate section with requirements for final preparation. Those sections emphasize issues of cross-contamination; washing and disinfecting; cleanliness of equipment and tools; thawing and temperature control; storage; cooking; and hot holding. Each section contains a hazard analysis relevant to the specific foods and identifies critical control points (See Boxes 7, 8, 9, 10).

Box 7. HACCP FOR FRUITS AND VEGETABLES (LAC CODE SECTION 6.1.1)

HAZARD ANALYSIS – Fruits and vegetables can be contaminated at source and/or by cross-contamination in the market (chilling water, contact with surfaces and other products), with pathogenic bacteria, viruses and parasites. Take care not to contaminate the surface of the product and/or the final product. Other contaminants of a chemical nature should be controlled at source and during transport and storage, since there is no other effective preventive measure that can be applied during final preparation. Physical hazards can be controlled by manual separation.

CRITICAL CONTROL POINTS – Selection, rinsing, washing and disinfecting are important and indispensable measures that can be carried out before storage (to prevent contamination in refrigerators and other storage areas) or immediately before use. Avoid leaving excessive water on the product to prevent bacterial multiplication and for better storage of the product. Select place of purchase and origin to ensure hazards are under control.

Box 8. HACCP FOR FRESH MEAT AND FISH (LAC CODE SECTION 6.1.2)

HAZARD ANALYSIS – Fresh meat or fish can be contaminated from origin and by handling/marketing conditions and can present pathogenic bacteria, viruses and parasites, thereby acting as a potential source of contamination (surfaces, food handlers, utensils, etc.). Inadequate thawing can lead to pathogenic bacterial multiplication on the product surface, since these foods will be at room temperature for a prolonged period of time.

CRITICAL CONTROL POINTS – Clean and disinfect all surfaces that have been in contact with fresh meat or fish to prevent contamination. Avoid excessive exposure at room temperature of fresh meat or fish to prevent excessive multiplication of pathogenic bacteria. Select place of purchase and origin of products to ensure that hazards in the previous stages are under control.

Box 9. HACCP FOR OTHER FOODS (LAC CODE SECTION 6.1.3)

HAZARD ANALYSIS – Foods can be contaminated at source and by inadequately washed and disinfected appliances and utensils. Eggs can be internally contaminated with pathogenic bacteria.

CRITICAL CONTROL POINTS – Avoid all source of contamination and/or pathogenic bacteria growth. Select place of purchase and origin to ensure hazard control.

Box 10. HACCP FOR FINAL PREPARATIONS (RTEs) (LAC CODE SECTION 6.2)

HAZARD ANALYSIS – Microorganisms are sensitive to heat to a degree depending on biological type and on form and duration of exposure at detrimental temperatures. The remaining bacteria can multiply exponentially at room temperature and their final number will depend on the time of exposure at inadequate temperature. Multiplication is reduced below 5°C in such a way as to avoid high numbers of pathogenic bacteria with the same intensity and high level of risk. Other factors can control/intensify the effect of heat: low pH, high acidity, high concentration of salt, presence of additives, etc. (low humidity is used to control but not strengthen heat effect). Other pathogens, such as fish parasites, can be controlled by freezing during adequate periods of time prior to use. Some bacteria can produce heat stable toxins in the product.

CRITICAL CONTROL POINTS – Considering that heat sensitivity and other factors can be used to control pathogenic microorganisms, cook the food completely to reach its internal parts and keep it at low temperatures to control the risk of bacterial growth.

7.3.3 PROTECTION AND SALE OF READY-TO-EAT FOODS

This section outlines how ready-to-eat food should be held, displayed, and vended. The **LAC Code** describes in detail conditions for the sale of ready-to-eat food from street vendors. This includes the use of disposable serving items; leftovers; take-away foods; reheating of foods; and vehicles used for food sales.

Similar advice is contained in the **Asia Code** (Food Preparation, Handling, Display and Storage); the **Near East Code** (Serving Food) and the **Africa Guidelines** (Control of Operations), though much less detailed.

The **LAC Code** also outlines the specific hazards and critical control points to be considered (See Box 11).

Box 11. HACCP FOR PROTECTION AND SALE OF FOODS (LAC CODE SECTION 8.2)

HAZARD ANALYSIS – Dishes, glasses, serving utensils and similar items can also be important sources of food contamination. Leftovers can attract domestic animals and/or vectors, which can also represent a source of food contamination.

CRITICAL CONTROL POINTS – Dispose of dishes, glasses and similar items in separate containers from food leftovers. Avoid attracting domestic animals and/or vectors. Keep serving utensils in good condition and cleanliness.

5.4 FOOD VENDOR HEALTH AND HYGIENE

Guidance related to vendor personal health and hygiene translates directly to essential food safety behaviors for those working with raw and fresh foods sold at retail.

5.4.1 PERSONAL HEALTH OF MARKET PARTICIPANTS

Personal health and hygiene behaviors are emphasized in each of the Codex documents as a key area of control for vendors. The health conditions and behaviors described are similar between all the Codex documents.

The **Asia Code** includes personal health advice under the section that describes the stakeholder's roles and responsibilities. For vendors, the Code requires that they should

wear clean clothes, use gloves when necessary, keep fingernails short and clear; avoid jewelry; and bandage cuts. The **Code** also describes behaviors to be avoided, e.g., eating, chewing or smoking, personal hygiene; or sneezing and coughing over food. Vendors should also avoid the market if they have certain symptoms of illness. Consumers are also advised to practice hygienic behaviors while at the markets, and to inform authorities about unhygienic behavior of any vendor.

In addition to the practices and behaviors described in the **Asia Code**, the **Africa Guidelines** assigns responsibility to each vendor, helper and food handler to wear identification tags, if required by authorities, and to report signs of illness to market authorities. It advises a high degree of personal cleanliness for food handlers, including wearing protective clothing. It also provides specific advice on hand washing that can help ensure food safety.

Two sections in the **Near East Code** address the symptoms and health conditions where food handling should be avoided and describe specific behavioral “dos and don’ts.” The **LAC Code** similarly covers personal hygiene, including hair, nails, clothes, jewelry, and hand washing. It also includes the following hazard analysis and critical control points (See Box 12).

Box 12. HACCP FOR HYGIENIC PRACTICE (LAC CODE SECTION 5.2)

HAZARD ANALYSIS – There are many sources of food contamination and/or cross contamination between different food products, surfaces and hands by direct or indirect contact, as well as conditions that can promote growth of pathogenic bacteria or contamination in foods.

CRITICAL CONTROL POINTS – All ingredients and stages in food handling should be considered and analyzed for the possibility of pathogenic bacterial growth and/or direct or indirect introduction of contaminants. Avoid excessive time spans/temperatures and possibilities of contamination in each and every stage of the chain (purchasing, transport, storage, display, handling, etc.)

5.5 TRAINING OF MARKETS PARTICIPANTS

Guidelines on training of market participants are relevant to both street-vended food and traditional markets, and the provisions below should be considered for both.

5.5.1 TRAINING AND EDUCATION

Food safety/food hygiene training of market vendors is identified as a critical food safety tool in each Codex document, though they are not uniformly mandated. Two codes make training a condition of licensing/registration for street food vendors. Making food safety training conditional for traditional market vendors registration or licensing, as modelled after the street food vendors described below, is worthy for consideration.

The **Asia Code** advises that every street food vendor, helper and food handler undergo basic food safety training by the authorities, with content focused on prepared foods. The Code advises the use of pictorial training materials. One unique proposal is that training materials should be made waterproof, so they can be maintained easily on the cart or stall.

The **Africa Guidelines** advise both training on food handling and training on the use and handling of “strong cleaning chemical or other potentially hazardous chemicals.” The training programs are described and appear more relevant to a broad category of fresh foods. Where

possible, programs should be evaluated for effectiveness and should be reviewed and updated routinely.

Training is recommended as a condition for vendor licensing in the **Africa Guidelines**. In another unique proposal, vendors gain access to credit as part of their training to assist vendors in making business improvements. Posters are recommended to provide food safety advice to both vendors and consumers in the market. Consumer education is also recommended, including informing consumers of the hazards associated with street foods and the steps authorities require vendors to take to manage them. Both Vendor Associations and Street Food Advisory Services are described as important to facilitate training and education.

The **LAC Code** only briefly mentions training under the Responsibility of Vendors heading, where it is identified as a Critical Control Point (See Box 13). The **Near East Code** recommends that all vendors, food handlers and helpers complete basic food hygiene training, and it makes vendor training a condition for licensing/registration.

Box 13. HACCP FOR VENDOR RESPONSIBILITIES (LAC CODE SECTION 8.4)

HAZARD ANALYSIS – The food handler can be an important source of contamination.

CRITICAL CONTROL POINTS – Appropriate training and observance of hygienic practices for the food handler are important to assure food safety.

Table 1. KEY CONTENT AREAS FOR STREET-VENDED GUIDANCE

Content Areas	Africa 1997	Latin America and the Caribbean 1995/2001	Asia 2017	Near East 2013
Roles of Stakeholders and Authorities	In <i>Roles of Relevant Authorities, Vendors and Consumers</i> , municipal authorities, vendors and consumers are recognized, and responsibilities assigned (Sec. 2.1.1).	The <i>Responsibility of Vendors</i> to prepare and sell safe food is described. Consumer and market authorities are not specifically referenced (Sec. 8.4).	In <i>Stakeholders in Street Food Vending</i> , municipal authorities, vendors and consumers are recognized, and responsibilities assigned (Sec. 4).	Stakeholders are not separately described. Vendor responsibilities are described (Sec. 4).
Regulations	In <i>Regulations</i> , it advises that general hygienic practices for vendors should be adopted as Codes of Practice (Sec. 2.4.1).	No specific provision	In <i>Rules and Regulations</i> , it advises appropriate rules and regulations should be adopted to control the street food sector and food preparation (Sec. 3.1).	In <i>Rules and Regulations</i> , it advises appropriate rules and regulations should be adopted and translated into Codes of Practice for the vendors (Sec. 3.1).
Registration of Vendors	In <i>Licensing of Vendors</i> , mechanisms for issuance and renewal of licenses for vendors should be set up. Training is a recommended prerequisite for licensing. (Sec. 2.4.2).	No specific provision	In <i>Registration/Licensing of Street Food Vendors</i> , it advises that vendors should have registration/licensing from relevant authorities before starting their business. The registration/identification should be displayed on the cart/kiosk. Issuance/renewal should indicate compliance with Codes of Hygienic Practice (Sec. 3.2).	In <i>Licensing/ Registration of Vendors</i> , licensing/ registration is required for all street vendors. Basic training in food hygiene is a condition of licensing/ registration. Licenses/ registration should be visible (Sec. 3.2-3.4).
Design And Infrastructure of Markets	The section <i>Street Food Centres</i> includes sections on general requirements; location, design and	The section <i>Requirements for the Area or Place of Preparation</i> provides guidance on the conditions	Under two sections, <i>Street Food Stalls/Cart/Kiosks</i> and <i>Street Food Centers</i> , it recommends approval of	Under <i>Design and Structure</i> and <i>Street Food Centers</i> , both the design of street food stalls and the

	<p>construction; liquid and solid waste; customer facilities (toilets) (Sec. 4). Advice on the location of centers is also covered in <i>Control of Operations</i> (Sec. 5).</p>	<p>for indoor and outdoor food preparation areas, and hygiene facilities. References to toilets are not included (Sec. 5). <i>Requirements for Street Food Marketing</i> also covers the types of structures and materials used for vending stalls (Sec. 8.1).</p>	<p>design of the Centers and Stalls; sanitation and handwashing facilities for vendors and customers; waste storage and removal; clean water (Sec. 5).</p>	<p>centers where stalls are located are described. Center design should include adequate ventilation, lighting and electrical supply. Recommendations on water sampling, liquid and solid waste disposal and customer hygiene (toilet) facilities are included (Sec. 5 and 8).</p>
<p>Maintenance and Sanitation in Markets</p>	<p><i>Establishment Design, Facilities, Maintenance and Sanitation</i> includes sections on premises and rooms; equipment; facilities; maintenance and cleaning; cleaning programs; pest control systems; waste management; sanitation; monitoring effectiveness (Sec. 3).</p>	<p><i>Handling and Disposal of Waste and Pest Control</i> are described, with general advice on waste containers, liquid and solid waste. Pest controls should be managed in accordance to municipal regulations (Sec. 9).</p>	<p><i>Maintenance and Sanitation</i> includes sections on maintenance; water supply and quality; pest control; solid and liquid waste handling (Sec. 6).</p>	<p>Provisions covering maintenance and sanitation are combined into other sections. <i>Pest and animal control</i> is part of the <i>General Requirements</i>. <i>Cleaning</i> is part of <i>Design and Structure</i>. There is a section called <i>Appliances</i> that describes minimum standards for food contact surfaces and has specifications for cleaning equipment and surfaces (Sec. 3.5, 5, and 6).</p>
<p>Food Sourcing and Handling in Markets</p>	<p><i>Control of Operations</i> includes sections on requirements for ingredients; cooking and handling; serving food; unsold food; transportation of street foods; use and</p>	<p><i>Requirements for Inputs and Ingredients</i> provide guidance on the purchase, transport, receiving and storage of ingredients (Sec. 4).</p>	<p>In <i>Food Preparation, Handling, Display and Storage</i>, there are sections on raw materials/ingredients and packaging; preparation and</p>	<p>In <i>Food Preparation</i>, vendors are required to assess their suppliers and manage ingredients. Transportation of ingredients is covered</p>

	<p>maintenance; food storage; key aspects of hygiene control systems; incoming material requirements; water; management and sanitation; street food advisory service (Sec. 5).</p>		<p>cooking; handling and storage (Sec. 8).</p>	<p>along with the use of food additives (Sec. 7.1). <i>Food Storage</i> is covered separately, including handling bulk ingredients (Sec. 7.6).</p>
<p>Requirements For Food Preparation</p>	<p>While this is not a separate section, aspects are covered in Sec. 5 (see Food sourcing and handling description above).</p>	<p>In <i>Requirements for Food Preparation</i>, preliminary preparation of fruits and vegetables, fresh meat and fish and other foods are described. A separate section covers requirements for final preparation. It also outlines the specific hazards and critical control points to be considered for each food type and stage of preparation (Sec. 6).</p>	<p>While this is not a separate section, aspects are covered in Sec. 8 (see Food sourcing and handling description above).</p>	<p>The <i>Food Preparation</i> section covers <i>Cooking and handling</i> practices, including washing raw food, avoiding cross-contamination, thawing advice, and reheating (Sec. 7.2).</p>
<p>Protection And Sale of Ready-To-Eat Foods</p>	<p>Serving ready-to-eat food is covered generally, including the temperatures for holding ready-to-eat food; handling of unsold food; and food storage (See Sec. 5.3 and 5.4).</p>	<p>In <i>Protection and Sale of Foods</i>, handling and service of food for consumption at markets are covered, including the use and handling of disposable service items; leftovers; take-away foods; reheating of foods; and vehicles used for food sales (Sec. 8.2).</p>	<p>Under <i>Handling and Storage</i> provisions, it covers food protection and food service for ready-to-eat products; management of leftovers; and refrigeration (Sec. 8.3).</p>	<p>In <i>Food Preparation</i>, the <i>Serving food</i> section outlines specific requirements for vendors that sell ready-to-eat food to consumers. Additional sections cover <i>Unsold food and Transportation of street foods</i> (Sec. 7.3, 7.4 and 7.5.).</p>

Personal Health of Market Participants	<i>Personal Health</i> includes sections on health status; illness and injuries; personal cleanliness; personal behavior; visitors (Sec. 6).	<i>Hygienic Practices</i> for food handlers and others in contact with food items as well as utensils, dishes and surfaces (Section 5.2).	In <i>Stakeholders in Street Food Vending</i> , vendor hygiene and consumer hygiene and behavior are covered (Sec. 4.1 and 4.2).	Two sections, <i>Health conditions of the vendors</i> and <i>Personal hygiene and behavior</i> address the symptoms and health conditions where food handling should be avoided and describe specific behavioral “dos and don’ts” (Secs 4.1 and 4.2).
Training and Education	<i>Training</i> includes sections on awareness and responsibilities; training programs; instruction and supervision; refresher training; training of vendors; vendor’s associations; consumer education (Sec. 7).	While this is not a separate section, training is identified as a critical control point (Sec. 8.4).	<i>Education and Training</i> recommends all food vendors and staff undergo basic training (Sec. 9).	<i>Training of vendors</i> recommends that all vendors, food handlers and helpers complete base food hygiene training (Sec. 4.3).

6. REVIEW OF OTHER INTERNATIONAL GUIDANCE

In order to evaluate if there are content areas missing from the Codex documents that appear in other international guidance for street-vended and traditional markets, additional international guidance documents were reviewed.

6.1 WHO 1996 GUIDE (11)

The **WHO 1996 Guide** was developed to provide “simple techniques for regulation of street food,” as recommended by a 1986 Joint FAO/WHO Expert Consultation on Food Protection for Urban Consumers. Advice was also requested by the Codex Committee on Food Hygiene. The Guide reports on results from a survey of 109 countries in all six WHO regions (See Box 14).

The **WHO 1996 Guide** emphasizes the use of Hazard Analysis and Critical Control Point systems (HACCP) in improving conditions in street food markets. Several countries also participated in HACCP pilot studies of street-vended foods. (11). The document was a compilation of two earlier guidance documents for governments prepared by WHO to provide a unified approach to clarify the use of HACCP-based strategies to prioritize food control measures. (11).

As the Hazard Analysis and Critical Control Points were identified in the **LAC Code**, this does not appear to be a gap in the Codex guidance. However, the WHO guide does provide valuable detail on how governments can use HACCP to assess food safety conditions in traditional markets in addition to street foods, an approach that might prove useful for EatSafe.

Box 14. KEY FINDINGS OF WHO 1993 SURVEY OF STREET-VENDED FOODS

In 1993, the World Health Organization (WHO) surveyed its Member States to assess the prevalence of street-vended food and to obtain the views of responsible authorities concerning the hazards posed by street-vended foods and contributing factors, as well as approaches for managing these hazards. Over 100 countries participated in the survey, representing the most extensive report on street-vended foods.

Findings included:

- 74% of countries reported street-vended foods to be a significant part of the urban food supply; · Street-vended foods included foods as diverse as meat, fish, fruits, vegetables, grains, cereals, frozen produce and beverages;
- Types of preparation included foods without any preparation (65%), ready-to-eat food (97%) and food cooked on site (82%).
- Vending facilities varied from mobile carts to fixed stalls and food centers;
- Infrastructure developments were relatively limited with restricted access to potable water (47%), toilets (15%), refrigeration (43%) and washing and waste disposal facilities; ·
- The majority of countries reported contamination of food (from raw food, infected handlers and inadequately cleaned equipment) and time and temperature abuse to be the major factors contributing to foodborne disease; and
- Most countries reported insufficient inspection personnel, insufficient application of the HACCP concept and noted that registration, training and medical examinations were not amongst selected management strategies

Source: WHO 1996 Guide (11)

Overall, the **WHO 1996 Guide** was the most comprehensive, with provisions that aligned most closely with the **Codex Codes/Guidelines**. Specific advice from this report is provided in Section 7, Findings.

6.2 FAO 2003 GUIDE (12)

The **FAO 2003 Guide** was developed to provide specific advice to mayors, city executives and urban planners on ensuring the safety of traditional and informal food markets. It highlights a selection of interventions, and highlights successes in certain cities. It does not contain normative guidelines comparable to the Codex standards. This report does identify a number of Modalities of local authority interventions, that stress the importance of improvements in infrastructure and services at the market level; improving supply chains; and improving the quality and safety of food sold at market. The *Lines of intervention* for vendors focuses on information and training; enhancing the role of market associations; and promoting private investment in food safety infrastructure and equipment to improve production, transport and storage of food, through enhanced access to credit.

6.3 WHO 2006 GUIDE (13)

The **WHO 2006 Guide** provides advice to governments on how to perform pilot studies to improve food safety conditions in traditional markets. General guidance on creating Healthy Food Markets is in some areas quite similar to Codex and also provides some innovations.

Under the section, *Improving Market Environments*, the Guide provides guidance similar to that found in the Codex texts, especially in the infrastructure section, which covers toilets; the water supply; drainage; waste removal; and maintenance. The suitability of construction materials is also described. The *Environmental Health* section describes areas covered by the Codex text, such as pest control programs and solid and liquid waste.

Under both *Operational Environment* and *Environmental Health*, the Guide goes beyond Codex recommendations in several important ways. The *Operational Environment* section says that the market administrative system should include food inspection and access to analytical services. Zoning should ensure that live animals and animal food products are separated from ready-to-eat foods. It also describes access and flow of pedestrians and vehicles in the market. Security services and/or a police presence is also recommended. The *Environmental Health* section recommends composting and recycling systems that contribute to animal feed; local water quality monitoring; and veterinary public health services.

The *Health Services* section is unique to this Guide and covers two areas dealing with public health surveillance:

1. It recommends providing accessible health care services to market vendors and employees, designed to help recognize symptoms of foodborne illness, as ill workers should not handle foods. It advises the use of laboratory specimens to identify illnesses and says that suspected outbreaks should be investigated to identify the agent, food and conditions that might have contributed to the outbreak.
2. It advises that local health services should develop capacity to measure the incidence of foodborne disease, in order to measure and improve the health of communities that access the market.

Promoting Safe Food Handling describes the education and training needed to address unhygienic practices by market vendors or consumers that can contribute to unsafe foods.

The Guide says, “Many food safety problems of the market, such as smoking, blowing the nose when handling food, uncovered cuts or sores, touching food with unclean utensils and tools, coughing or sneezing over food, handling ready to eat food when ill and not disposing of waste materials cannot be addressed solely with controls but require hygiene training in order to instill awareness and change behavior” (13).

To address those practices, the Guide recommends use of Five Keys to Safer Food in Healthy Markets (similar to the WHO Five Keys to Safer Food). Each of the Keys describes specific steps and also identifies the food safety problems targeted and why the activity is needed. However, the level of detail is generally less comprehensive than what is included in the Codex text (See Box 15).

Box 15. FIVE KEYS TO SAFER FOOD IN HEALTHY MARKETS

Key 1. Keep clean

Key 2. Avoid contamination

Key 3. Destroy hazards when possible

Key 4. Minimize growth of microorganisms in food

Key 5. Use safe water and raw materials

6.4. WHO INFOSAN 2010 INFORMATION NOTE (14)

“Street foods show great variation in terms of ingredients, processing, methods of marketing and consumption. They often reflect traditional local cultures and exist in an endless variety encompassing meals, drinks and snacks. There is much diversity in the raw materials as well as in the method of preparation of street foods” (14).

In this short information note, WHO’s International Food Safety Authorities Network (INFOSAN) identifies both safe and risky practices in the production of street-vended foods that are ready-to-eat. It reports on the development of training courses directed at street vendors, utilizing both the Five Keys for Safer Food and the concepts of Communications for Behavioural Impacts (COMBI) method. It provides access to the training materials, and outlines the measures developed for use in training street-food vendors.

6.5 COVID-ERA DOCUMENTS FOR IMPROVING TRADITIONAL MARKETS

Two additional documents were shared with GAIN following COVID-19, stressing several areas that are relevant to this enquiry.

6.5.1 WHO/OIE/UNEP COVID GUIDANCE 2021 INTERIM GUIDANCE (15)

In response to COVID-19, WHO developed interim guidance targeted at improving disease surveillance in and management of traditional markets where live animals are sold and slaughtered. It focuses on three areas: (1) animal health issues; (2) environmental health concerns associated with poor hygiene and sanitation standards in traditional markets; and (3) risks to human health, including both market workers and the general public, associated with markets where wild and domestic animals are sold and slaughtered.

The interim guidance related to environmental health and the traditional food markets recommends that government authorities in charge of traditional markets conduct two planning activities and two risk management activities. The planning activities are: (1) a science-based risk assessment to identify food safety and public health risks to provide the

rationale for interventions; and (2) a survey to provide a baseline assessment of the level of awareness of market vendors, food handlers; market supervisory personnel and consumers on food safety, food hygiene and the transmission of COVID-19. The risk management activities are (1) phasing out the selling and slaughtering of live animals in areas of the markets where public access is allowed; and (2) upgrade hygiene and sanitation standards and sanitary facilities (toilets, handwashing), pest control, waste management and disposal (solid and liquid waste), drains and sewage disposal, and regular market cleaning programs.

The **WHO/OIE/UNEP COVID guidance** also recommends governments develop and implement training programs and communication plans for market workers, stall holders, the public, and food and veterinary inspectors encompassing a One Health model. The baseline survey on levels of awareness would be used in developing those programs and plans.

Overall, the recommendations contained in this document are oriented to markets where animals are sold and slaughtered. They are also COVID-specific, including recommendations to overcrowding in markets; ensuring compliance with face mask requirements; encouraging the use of contactless payments; daily cleaning and sanitation; and supporting physical distancing through unidirectional traffic patterns and floor marking in traditional food markets.

6.5.2 2021 FAO/GAIN WORKSHOP REPORT (16)

In 2021, GAIN Bangladesh created a set of *Proposed key indicators* (Key Indicators), together with the FAO Dhaka Food System Project, the World Bank, and PROKAS. The Key Indicators are designed as a pilot to evaluate the performance of the markets. The objective is to give market associations a clear set of goals to measure market improvements and provide a standard approach to evaluate market conditions. It was designed for use in Dhaka, which has over 300 public and private markets across the city and is being piloted to help FAO access which ones are cleanest, have the best basic services, and are the safest.

The Key Indicators cover 11 areas and have up to 8 indicators under each area. While some areas are linked to COVID, many are general and support the common hygiene requirements outlined in the Codex Codes and Guidelines.

Areas covered by the proposed key indicators for fresh market performance:

1. Separated vegetable, fish, meat, and grocery stalls to prevent cross contamination;
2. Overcrowding is controlled and proper mask use is followed to prevent COVID infection;
3. Filtered, clean water is available to all vendors so that vegetables, fish, poultry and meat can be well cleaned;
4. Hand washing facilities are available at the entry of the fresh market and in the meat and fish areas;
5. Waste management and pest control is exercised to ensure market hygiene;
6. Slaughter of animals takes place in a separate area to the rest of the market;
7. Well maintained, clean, covered, and sloped drains service the fresh market areas;
8. Cold storage is available for perishable items;
9. Regular monitoring systems are in place;
10. Toilets that are accessible and functioning for all; and
11. Fire safety measures are in place and are functional.

Some of the key indicators may be useful for EatSafe as a tool to assess market conditions.

7. FINDINGS

The absence of normative guidance for traditional markets is remarkable given the importance of traditional markets in providing food for domestic consumers in LMICs, as well as the opportunity for those markets to be sources of unsafe food, due to poor infrastructure. The Codex guidance documents that focus on street food contain important advice for traditional markets. The fact that four regions have developed such guidance over the last 25 years illustrate the importance of street-vended foods for different regions and global guidance is overdue, for both street-vended foods and especially for traditional markets.

Ten key content areas were identified in the four Codex street-vended food guidance documents based on the subject headings used in the documents. Those areas were grouped into five intervention categories: Policy and Regulation; Infrastructure; Food Handling; Vendor Health and Hygiene; and Training and Education.

The content for Training and Education will be informed by several others, especially Food Handling and Vendor Health and Hygiene.

7.1 POLICY AND REGULATION

This intervention category contains three key content areas from the Codex documents: i) Stakeholders and authorities; ii) Regulations; and iii) Registration of vendors.

Stakeholders and authorities are described in some guidance documents but not in others. The provisions addressing regulations generally have little detail, indicating that they were not the primary emphasis for the Regional Committees developing the guidelines. This is likely because each country has its own system for adopting normative standards into regulations.

More advice is provided on registration of food vendors. The **Asia Code** recommends licensing prior to starting operation, with a license visible on the vendor station, cart or kiosk. The **Near East Code** prohibits operations by unlicensed street vendors. Both the **Africa Guidelines** and **Near East Code** recommend making licensing/registration dependent on training in food hygiene. The **WHO 1996 Guide** recommends that authorities should tie licensing to food safety knowledge or training, especially based on HACCP principles. The **FAO 2003 Guide** discussing enhancing the role of market associations.

7.2 INFRASTRUCTURE

This intervention category contains two key content areas from the Codex documents: i) Design and infrastructure of markets and ii) Maintenance and sanitation in markets.

Hygienic conditions in traditional markets are largely driven by their design and infrastructure; followed by their maintenance, cleaning, and sanitation of markets. The Codex documents provide advice on many aspects, including the designs of markets, vendor stalls, construction materials, and methods of cleaning. All the Codes/Guidelines specify that vendors have the right to potable water and the responsibility to clean and maintain their areas, including managing waste and pests. The **Asia Code** recommends approvals for vendor stalls, carts and kiosks as a regulatory function. The **Near East Code** recommends the location and design of markets be approved by government authorities. Toilet facilities in the market setting are described in detail in the **Africa Guidelines**, while not mentioned in the **LAC Code**, which showed the emphasis on street-vended foods in the LAC region. That

guidance focused less on infrastructure and more on specific food preparation guidance. Cleaning methods are also well described in the **Africa Code**. Additional advice is provided in the **WHO 1996 Guide**, which recommends infrastructure advances to improve food safety, including to support access to a safe water supply; and design and construction that reduces cross-contamination between raw and cooked foods (11).

7.3 FOOD HANDLING

This intervention category contains three key content areas from the Codex documents: i) Food sourcing and handling in markets; ii) Requirements for food preparation; and iii) Protection and sale of food.

While each Codex document covers food handling to varying degrees, the **LAC Code** has the most relevant information for fresh foods, including comprehensive information on food sourcing, primary preparation (handling) advice for fruits and vegetables, fresh meat and fish, and also a section on final food preparation and instructions for serving ready-to-eat foods in the markets. The **LAC Code** describes specific food safety hazards to manage and critical control points to implement for the market vendors. Less specific advice is contained in the **Asia Code**, the **Near East Code**, and the **Africa Guidelines**.

The **WHO 1996 Guide** also provides useful advice, similar to what is in the **LAC Code**. It directs that before purchasing, ingredients should be examined for signs of temperature abuse; visible deterioration and off-odors; physical hazards; gross chemical contamination; and illegal or excessive food additives. Care should be taken to avoid new hazards during transportation and storage. Specifically, ingredients that will be consumed raw should be transported separately to avoid contamination, and all foods items should be transported in a manner that minimizes pathogen growth and toxin formation (11).

7.4 VENDOR HEALTH AND HYGIENE

This intervention category contains one key content area from the Codex documents: i) Personal health of market participants.

Each Code provides significant detail on hygienic practices and behaviors for vendors to avoid. As food pathogens can be transferred between foods by vendors (cross contamination) and can also be added to foods through unsanitary handling practices, it is essential for vendors to understand safe and risky practices. Focusing on vendor health and behaviors might be a highly relevant area for EatSafe interventions, as it has both an immediate food safety impact and can be observed by consumers. The normative guidelines provide a list of behaviors that could be targeted in training and education materials.

The **WHO 1996 Guide** is consistent with the normative documents. It advises that food handlers with specific health conditions or symptoms should stop work promptly. They should wear clean clothes and should wash their hands with soap and water at specified times, e.g., after handling raw meat, visiting the lavatory, handling non-food items or touching animals, handling pesticides or disinfectants. The use of tobacco or chewing gums is discouraged when handling food, as is sneezing or coughing around food (11).

The **WHO 2006 Guide** has a number of innovations in the area of *Health Services* that would provide vendors with tools to help manage their health, rather than just instructions. However, this falls outside EatSafe's mandate (13).

7.5 TRAINING AND EDUCATION

This intervention category contains one key content area from the Codex documents: i) training and education.

Training programs are described in the normative guidelines, and each Codex document recognizes to some degree the importance of vendor training. Consumer education is also highlighted in the Africa Code.

Three of the normative codes make food safety training mandatory, including as part of licensing (**Africa Guidelines, Near East Code**), and recommend waterproof pictorial training materials, for use at the vendor's sales point (**Asia Code**).

The **WHO 2006 Guide** and the **INFOSAN 2010 Information Note** both emphasize training, using the WHO's model, the *Five Keys to Safer Food in Healthy Markets* (13, 14). In the **WHO 1996 Guide**, it recommends that training is done in conjunction with licensing, and ongoing training is available for vendors at regular intervals. WHO recognizes training and education should be informed by local conditions, and low literacy rates may necessitate the use of simplified training materials. WHO says that certification is also useful both to identify vendors with appropriate training and to assist consumers in selecting trained vendors (11).

For consumers, WHO recommends the use of mass media, national seminars and community health education. To encourage consumer selection of safer vendors and markets, WHO recommends that education include (1) benefits of street-vended foods; (2) their association with foodborne illness; and (3) what are safe and unsafe handling practices. WHO also suggests some techniques for informing children and the parents of young children, as there are specific risks for those consumers (11).

8. CONCLUSION

Though focused on street-vended food and not traditional markets, the Codex documents do not contain any glaring deficiencies when considered together as guidance for street foods. Regional differences may represent certain deficiencies. For example, the **LAC Code** has the most detail on the handling of both fresh and cooked foods in the market while the **Africa Guidelines** have the greatest detail on street food market cleaning practices. Those differences, and the absence of traditional food market guidelines, point to the need for a standardized Codex document for traditional markets globally.

Several innovations described in other international guidances are worth considering:

The **WHO 1996 Guide** advises governments to undertake a HACCP study to identify and integrate critical control measures into strategies for improving the safety of street foods. This could also be applied to traditional markets. It says that HACCP will help government authorities identify the potential hazards and target control measures most relevant to food safety, while allowing governments to distinguish interventions related to aesthetics and environmental planning. HACCP can also help guide inspection, enforcement and education priorities (11) for vendors in traditional markets.

The **WHO/OIE/UNEP COVID guidance** recommends two planning activities for market interventions: (1) a science-based risk assessment to identify food safety and public health

risks to provide the rationale for interventions; and (2) a survey to provide a baseline assessment of the level of awareness of market vendors, food handlers, market supervisory personnel, and consumers covering food safety, food hygiene and the transmission of COVID-19. Some of those activities are part of the EatSafe research design (15).

The use of standardized training materials based on the 5 Keys model is useful. While training is clearly identified in each of the Codes, training methods and concepts are more fully outlined in the **WHO 2006 Guide** and the **INFOSAN 2010 Information Note** (13, 14).

Supporting accessible health care services for market vendors, with monitoring for foodborne illnesses, as proposed in the **2006 WHO Guide**, is highly innovative (13); however, it is unclear if this would require infrastructure improvements that fall outside the EatSafe focus.

The **2021 FAO/GAIN Workshop Report** proposed a set of market indicators that align with many normative standards but are designed to be readily understandable and applicable in the market setting. Once piloted, these indicators may be important new tools (16).

This review identified five intervention categories and grouped the key content areas from the Codex documents into those categories.

- **Policy and Regulation:** Requires engagement and support from government authorities, though this is not the primary target for EatSafe interventions
- **Infrastructure:** Requires engagement from both government authorities, market authorities and funders; vendors would likely support infrastructure improvements
- **Food Handling:** Involves the vendor as the principal actor; consumers can play a role in observing food handling practices
- **Vendor Health and Hygiene:** Involves the vendor as the principal actor; consumers can play a role in observing hygiene behaviors of vendors and a secondary role in practicing good hygiene when at the market
- **Training and Education:** Can involve market authorities, vendors and consumers; training and education can include content from the *Food Handling* and *Vendor Health and Hygiene* categories above.

Only three categories had a direct impact on the consumer demand and the clearest link to consumers, **Food Handling, Vendor Health and Hygiene**, and **Training and Education**. Identifying interventions in those categories could be adapted from street food guidance and considered for Phase II of EatSafe.

The utility of using normative guidelines to help shape EatSafe interventions lies in the fact that they have already been through a consensus building process to ensure their acceptance across a broad number of countries. While guidelines specific for traditional markets do not exist, Codex standards related to street foods are available in multiple languages for governments around the world. For EatSafe's work in Nigeria and Ethiopia, the normative guidance for street food for the African region will have value for our work in traditional markets, especially where they provide specific thresholds for markets and vendors.

Recommendations for Intervention Design and Future Studies under EatSafe

EatSafe aims to generate the evidence and knowledge on leveraging the potential for increased consumer demand for safe food to substantially improve the safety of nutritious foods in traditional market settings. Central to EatSafe's work is understanding (and potentially shaping) the motivations, attitudes, beliefs, and practices of consumers and food vendors. While EatSafe will undertake novel primary research on consumer and vendor motivations and practices, it is essential to ensure that this work is informed by and builds on what has already been done—both in terms of methods used and results obtained. Based on the results of this review, we recommend EatSafe consider the following lessons in the design of its interventions going forward:

- Though designed for street-vended foods, and not traditional markets, the Codex normative guidelines provide appropriate baseline standards to use when designing interventions.
- The Africa Guidelines for street food provide some regionally appropriate guidance for the governments where EatSafe is currently operating. (See Appendix 2.)
- The LAC Code identifies Hazards and Critical Control Points for a variety of market activities, including the handling of raw foods, an approach may be useful.
- Several supplementary documents from WHO and FAO have useful advice on the application of HACCP to traditional markets. See especially the 1996 WHO Guide and the WHO/OIE/UNEP COVID guidance.
- Several supplementary documents provide useful advice and content for food safety training programs for vendors. See especially the WHO 2006 Guide and the INFOSAN 2010 Information Note.
- The five intervention categories defined for street foods could also be applied to traditional markets. Those include Policy and Regulation; Infrastructure; Food Handling; Vendor Health and Hygiene, and Training and Education.

9. REFERENCES

- (1) Fraser E, Moonga M, Wilkes J. The role of the informal economy in addressing urban food security in Sub-Saharan Africa. 2014.
- (2) WHO Evaluation Office, *Evaluation of WHO's Normative Function Report*, July 2017. Available at: [annexes_who_normative_function_report_july2017.pdf](#)
- (3) Joint FAO/WHO Food Standards Programme. FAO/WHO Coordinating Committee for Latin America and The Caribbean; Twentieth Session. Use of Codex Standards in the Region. 2016. Viña del Mar, Chile, 21-25 November 2016; CX/LAC 16/20/5 Rev, October 2016.
- (4) Joint FAO/WHO Food Standards Programme; FAO/WHO Coordinating Committee for Asia; Twentieth Session. Use of Codex Standards in the Region. 2016. New Delhi, India, 26 - 30 September 2016; CX/ASIA 16/20/5, June 2016.
- (5) Joint FAO/WHO Food Standards Programme; FAO/WHO Coordinating Committee for Africa; 22nd Session. Use of Codex Standards in the Region. 2016. Nairobi, Kenya, 16-20 January 2017; CX/AFRICA 17/22/5, October 2016.
- (6) Global Alliance for Improved Nutrition. 2020. Food Safety Interventions in Africa and Asia: A Review of studies relevant to traditional markets in low-resource settings. A USAID EatSafe Project Report
- (7) *CODEX Regional Guidelines for the Design of Control Measures for Street-Vended Foods (Africa) CAC/GL 22R-1997*
- (8) *CODEX Revised Regional Code of Hygienic Practice for the Preparation and Sale of Street Foods (Latin America and the Caribbean) CAC/RCP 43R-1995/Revised in 2001*
- (9) *CODEX Regional Code of Practice for Street-Vended Foods (Near East), CXP 71-R-2013*
- (10) *CODEX Regional Code of Hygienic Practice for Street-Vended Foods in Asia, CXC 76R-2017*
- (11) *Essential Safety Requirements for Street-Vended Foods*; Food Safety Unit, Division of Food and Nutrition; World Health Organization; 1996.
- (12) *The Informal Food Sector: Municipal support policies for operators*; Food and Agriculture Organization of the United Nations; Rome, 2003.
- (13) *A Guide to Healthy Food Markets*; World Health Organization; WHO Press, 2006.
- (14) *Basic Steps to Improve the Safety of Street-Vended Food*; INFOSAN Information Note no. 3/2010; WHO, 30 June 2010.
- (15) *Interim guidance: Reducing public health risks associated with the sale of live wild animals of mammalian species in traditional food markets*, OIE/WHO/UNEP, 12 April 2021
- (16) *Proposing a set of fresh market performance indicators*; Workshop Report from GAIN, the World Bank, PROKAS and FAO; 18th January 2021. *Proposed key indicators for fresh market performance.*

10. APPENDICES

10.1. APPENDIX I. EATSAFE EXPERT CONSULTATION: REVIEW OF NORMATIVE GUIDELINES FOR FOOD SAFETY AND STREET FOOD: A ROADMAP FOR TRADITIONAL MARKETS

INTRODUCTION AND PURPOSE

On June 17 and 18, 2021, 34 experts gathered virtually and in Washington, D.C. for a consultation to review normative guidelines for food safety and street food and provide a roadmap for traditional markets. The consultation was convened by Feed the Future's EatSafe: Evidence and Action Toward Safe, Nutritious Food. EatSafe is a research project designed to develop and test interventions that impact consumer demand for safe food purchased from traditional food markets.

The experts were informed that while Codex Alimentarius (Codex) does not have guidance specific to food safety in traditional markets, it has four regional guides to manage street-vended foods that also provide insights that can help guide food safety practices in traditional food markets. EatSafe reviewed those four Codex documents to determine their relevance for the development of interventions in selected traditional food markets to increase consumer demand for safe food and improve food vendor practices and this review was shared with the experts.

The purpose of this meeting held over 2 half-days was to contribute to the following outcomes:

- Improved understanding of the content of existing normative guidelines outlining acceptable conditions and practices in traditional markets.
- Improved understanding of the other resources available through WHO and FAO providing guidance to governments on traditional markets.
- Recommendations on the application of normative guidelines and other WHO/FAO resources to design of interventions that result in increased food safety in traditional markets.
- Recommendations on the utility of the regional normative guidelines and whether standardizing normative guidance for traditional markets across all the regions is needed.

The group covered a broad range of expertise in food safety, nutrition, and food systems, while also representing both "evidence generators" (e.g., researchers), technical experts and "evidence users" (e.g., program officers and decision makers). It included several representatives from USAID.

The consultation took place both in person and over video conference, in the form of a working group meeting, over two days (for a total of 7 hours). On day 1, experts had the opportunity to comment on the gaps and overlaps in existing normative food safety guidance relative to traditional markets. They also provided advice for future EatSafe interventions in five categories identified by EatSafe as common across all four regional food safety guidance documents (Africa, Asia, Latin America and the Near East). Those categories are policy and regulation, infrastructure, food handling, food vendor health and hygiene, and training of market participants. On day 2, participants critically evaluated the four-existing regional guidance and had the opportunity to comment on whether normative guidance is needed for traditional markets and, if so, who is responsible and how the guidance should be developed and introduced.

Questions considered by the participants included:

- *Is normative guidance needed for traditional markets?*
- *Is regional guidance the best approach?*
- *Should Codex develop global guidance for traditional markets?*

- *Are there gaps and overlaps in the existing regional guidance?*
- *How to update and improve existing regional guidance?*

Day 1: Presentation on Normative Guidelines for Street-Vended Foods (Draft Report), overview of intervention categories and key content areas, WHO and FAO Updates

The expert group received an overview of EatSafe’s review of existing normative guidelines that identified five intervention categories and ten key content areas common to all four Codex regional guidance documents:

- **Policy and Regulation:** Roles of stakeholders and authorities; Regulations; and Registration of vendors
- **Infrastructure:** Design and infrastructure of markets; and Maintenance and sanitation in markets
- **Food Handling:** Food sourcing and handling at markets; Requirements for food preparation; and Protection and sale of ready-to-eat food
- **Vendor Health and Hygiene:** Personal health and hygiene of market participants
- **Training and Education:** Training and education

The experts considered the categories developed by EatSafe, including the five intervention categories identified by EatSafe that had the most direct impact on consumer demand and the clearest link to consumers. Those included food handling, vendor health and hygiene, and training and education, which could be considered for Phase II of EatSafe. EatSafe described how it intended to use the normative guidance and supplemental guidance from WHO and FAO to develop EatSafe interventions for traditional markets.

Other Relevant WHO/FAO Guidance

The expert group provided additional resources that could be used to supplement existing normative guidance. The following publications were identified as additional references to use in conjunction with the Codex regional guidance to determine appropriate food safety measures, training and guidance for traditional markets:

1. **Good Hygienic Practices in the Preparation and Sale of Street Food in Africa - Tools for Training (FAO 2009).** This FAO manual identifies five core sources of contamination (raw materials, environment and equipment, workforce and methods) and provides more details in areas considered relevant to street food, including basic information to understand microbiological contamination, water and critical control points during food preparation, with an emphasis on those stages where corrective action can be instrumental.
2. **“A Better Classification of Wet Markets is Key to Safeguarding Human Health and Biodiversity”, Bing Lin, AB, Madeleine L. Dietrich AB, Rebecca A Senior, Ph.D., David S. Wilcove, Ph.D., Lancet, June 2021.** This article proposes a taxonomy of wet markets, oriented around the presence of live or dead animals, and whether those animals are domesticated or wild (either captive-reared or wild-caught). It identifies levels of risk that different types of wet markets pose to people and to biodiversity. It identifies six key risk factors of wet markets that can affect human health: (1) presence of high disease-risk animal taxa, (2) presence of live animals, (3) hygiene conditions, (4) market size, (5) animal density and interspecies mixing, and (6) the length and breadth of animal supply chains. Also, the article identifies key factors informing risk to biodiversity and recommends targeted, risk-adjusted policies to more efficiently and humanely address the dangers posed by wet markets.

3. **Exposure of Humans or Animals to SARS-CoV-2 from Wild, Livestock, Companion and Aquatic Animals (FAO 2020).** This publication provides:
 - assessment of the risk of human or animal exposure to SARS-CoV-2 through contact with, handling or consumption of wild, domestic and aquatic animal species or their products.
 - identification of current knowledge gaps regarding the zoonotic origin or animal-human spillover of SARS-CoV-2 and provides recommendations on priority studies;
 - summary of available evidence for SARS-CoV-2 susceptibility of different animal species;
 - evidence-based recommendations on how to prioritize animal species for targeted field investigations or research studies;
 - recommendations for targeted One Health investigations and epidemiological, laboratory, anthropological or seasonality studies to fill critical knowledge gaps evidenced by this exposure assessment.

4. **Codex Alimentarius General Principles of Food Hygiene CXC 1-1969 Adopted in 1969. Amended in 1999. Revised in 1997, 2003, 2020. Editorial corrections in 2011.** This document outlines the general principles that should be understood and followed by food business operators at all stages of the food chain and which provide a basis for competent authorities to oversee food safety and suitability. These food hygiene principles enable food businesses to develop their own food hygiene practices and control measures, while complying with requirements set by competent authorities. In developing their food safety programs, food business operators are advised to take into account the stage in the food chain, the nature of the product, the relevant contaminants, and whether the relevant contaminants adversely affect the product's safety and suitability.

Comments from Representatives from the WHO, FAO, and Codex Alimentarius

Peter Ben Embarek (WHO) – The WHO representative described collaborative efforts with its offices in Senegal and Ghana to mobilize intersectoral cooperation in traditional markets and suggested this effort may yield information about effective interventions. He observed that there is a need to improve knowledge of emerging pathogens and their vectors of disease in humans, especially with respect to the public health risk posed by the sale of live animals in traditional markets. WHO recognizes there is a need to develop “how to” guidance for improving food safety in traditional markets. This will get more attention at the upcoming Food Systems Summit.

Eleonora Dupouy (FAO) The FAO representative noted that FAO has a new publication, “Good Hygienic Practices in the Preparation and Sale of Street Food in Africa,” which includes a section devoted to regulation and controls. FAO intends this as a guide for local authorities on food safety in traditional markets, including interventions and infrastructure/service improvements. FAO has also published on the human health risks associated with exposure to live animals in traditional markets, including mitigation measures and risk assessment approaches. Finally, Eleonora highlighted FAO’s work on legal tools and methodologies for sustainable wildlife management covered in its latest newsletter issues (November 2020 and April 2021).

Tom Heilandt (Codex Alimentarius) - Street food is not traded internationally, so Codex will likely not issue global guidance. General guidance is easier to update than multiple spin-off texts. WHO and FAO might be the best originators, with augmentation done by national governments. Perhaps consider a good coalition to do this repackaging work in the most relevant ways possible. Capacity building might be a good context for this work to answer key questions: *What kind of capacity building is needed? What are the key priority areas? What are the key drivers and gaps to address? A*

stakeholder consultation with FAO and WHO, including regional staff might be an option to improve synergies and avoid duplication of effort.

Group Discussion

The expert group discussion on Day 1 occurred around two questions: i) Are there gaps and overlaps in existing regional guidance? and ii) Are there suggestions for future EatSafe interventions in traditional markets? Highlights of the discussion are inventoried below.

Are there gaps and overlaps in the existing regional guidance?

General observations and participant views:

- Guidance must be driven by public health concerns. In many urban areas, there is a desire to maintain traditional markets, so it is important to focus on municipal health authorities as key stakeholders.
- Focus on affordable solutions. Traditional markets do not generate large amounts of revenue, so infrastructure maintenance must be low-cost to be successful.
- What existing judgments about food safety can be leveraged so that it appears that the universal standards are not that much of a stretch from existing practices?
- There is a need to synchronize demand for safe food with supply side capabilities to meet this demand. Controls must be applied with education; penalties alone will not work. Rather than approach this as a supply intervention, consider instead the power of demand in changing behaviors, such as triggering vendors to source product from a better producer.
- Some of the recommendations (such as requiring a license or medical certificate for vendors) have been shown ineffective and have unwanted negative side effects in developing countries.
- There is opportunity in understanding the roles of associations in the setting and enforcing of standards. Private sector actors are already doing things to address the constraints that they face. EatSafe could explore what market associations could do to support the supply and consumption of safe food all along the food chain. Thinking about the supply chain more broadly may impact guidance targeted to traditional markets.
- The guidance generally ignores the behavioral aspects, incentives, choice architecture and enabling environment that are essential if the measures recommended (many sensible) are to be actually adopted.

Codex relevance and country adoption practices:

- Is the need for a traditional market guideline central or should we consider how to more effectively package and augment existing guidelines?
- The Codex regional guidance are largely common sense/expert opinion rather than evidence based. The guidance varies greatly in approach, cover etc. in ways that are not clearly explicable by differences between regions.
- Codex has not produced global guidance for traditional markets because Codex standards are focused on products traded internationally. Traded products benefit from a level regulatory playing field with respect to food safety standards applied globally.
- Existing Codex food hygiene guidelines could be adapted for local implementation; the question is how to do that and who does this? It may be useful to consider disaggregated codes of practice for different market sectors, e.g., suppliers, transportation, storage, because each has its own hazards and critical control points. These codes would take a food systems approach to details like temperature control for food storage, cooking times and temperatures, etc. and could

synchronize capacity building among relevant stakeholders. It is not clear that these disaggregated codes fall within the remit of Codex to develop.

- Codex guidelines have not been able to achieve universal adoption given differing local and regional market conditions. Street food vendors and traditional markets see differing conditions/practices. Consequently, while overarching guidance, such as Codex guidelines on food hygiene, can convey agreed-upon scientific principles, there is a need to adapt guidance and regulations to regional circumstances/conditions.
- There is almost no information on whether the normative regional guidance have been implemented, monitored and evaluated and the costs and benefits of this.
- There may be parallels with other types of guidance that balance global principles with local conditions that can be used as a model.
- The challenge is in the implementation of the food safety standards in the Codex guidance. In Ghana, national food safety laws are enforced by local authorities. Slaughtering of animals happens in markets and roadside vendors, not in abattoirs, and consumers are comfortable with these practices. Implementation depends on governments being properly resourced.
- New guidance could focus on the “how to” specifics of standard implementation. Guidance might be developed around the accountability framework, which would differ from country to country. Disseminating practice and guidance on roles and responsibilities would be helpful.
- Because of the size of the businesses, advance warning is needed before starting to enforce regulations. Regulations should be widely publicized among the traditional market operators (perhaps included as part of the awareness programs by consumer associations but also the government) and the actual enforcement may rely on spot checking and publicizing non-conformity to encourage compliance over time instead of penalizing individual market operators.

Are there suggestions for future EatSafe interventions in traditional markets?

The expert group offered some advice for EatSafe interventions that might be effective in influencing the behavior of traditional market participants (consumers, vendors and traditional market associations) in ways not fully addressed by existing guidance. Suggestions included:

- It is important to focus on three dimensions of capacity building: i) Consumers/vendors – behavioral; understanding perceptions; ii) Institutional; iii) Enabling environment (regulations/guidance)
- One issue for intervention design is the distinction between observable vs. unobservable hazards. What are the indicators of a problem? Opportunities for intervention can be borrowed from the experience with the use of hazardous chemicals in fruit and vegetable production.
- Work on aflatoxins could provide a template for success; especially on the question: How do we train consumers to identify hazards and verify the safety of products?
- Market associations played an important role in organization of activities in traditional markets, and EatSafe was advised to enlist the help of producer/vendor associations in training.
- In Nigeria there are seasonal local foods that come with a set of consumer expectations about presentation and preparation. Interventions should take those expectations into account.
- Local authorities have duties to customers and vendors, which is perhaps where the guidance is lacking. What are the expectations for what local authorities must provide to both vendors and consumers?
- Would it be possible for GAIN/EatSafe to put together an innovative model for food safety regulation in the traditional market and pilot the model in one or two countries (working with governments). Once piloted, it could inform normative guidelines for use by other countries.

- Training is important, but its effectiveness must be monitored. Collaboration in public-private partnerships may assist in developing benchmarks and monitoring of market actor behaviors.
- EatSafe is charged with examining food safety issues from a behavioral perspective. What motivates consumers and other market actors in markets? If EatSafe identifies ways that consumers are actually changing their behavior, what is causing their behavior change?
- The aspect of food safety regulation in traditional markets is important because vendors are small businesspeople. Vendors need a reason to apply better product sourcing and food safety measures; regulation is one driver. In traditional markets, enforcement is difficult. Consider a pilot project on innovative traditional market food safety regulation.
- The more regulation imposed on one tightly controlled area, the more likely you are to force vendors into the surrounding areas where they can escape regulation. Perhaps less emphasis needs to be placed on regulation/enforcement and more focus given to duty bearers.
- Quality water supply is essential. Interventions showcasing how to recycle water for safe reuse may be useful.
- Consider street food testing protocols, e.g., residue limits. While it is not possible to test every vendor, randomized market surveillance testing could be done. One focus could be on adopting Codex residue limits within national standards.

Day 1 Reflections

Traditional markets are unlikely to disappear as they are both essential and preferred by many people. No current guidance exists providing specific food safety standards in traditional markets. While there is regional variability in existing street food guidance, it is not clear why that regional variability exists or if it reflects scientific or cultural differences. Commonalities between the guidance also exist.

Gaps and overlaps in the guidelines need to be better understood: 1) overarching key elements exist in current Codex standards but comparisons expose gaps to be addressed, 2) implementation occurs locally, and there is potential for market associations to assist with implementation, 3) zealous enforcement might have unintended consequences, e.g., changing the footprint of markets to be less centralized.

Where does the responsibility sit to provide appropriate guidance and regulations for traditional markets? How do we engage duty bearers to act as needed? Who will pay for it? How do we ensure that the appropriate actors assume this responsibility? How can EatSafe contribute?

Day 2: Review of Codex regional guidance (Africa, Latin America, Asia, Near East); Discussion of the need for and approaches to developing food safety guidance for traditional markets

In Breakout groups, the experts considered separately the strengths and gaps in three of the four guidance documents as shown in the table below. An expanded review for the Africa Guidelines is in Appendix 2.

Africa
Strengths
<ul style="list-style-type: none"> • Regulation exists – Policy review required • Presence/availability of Environmental Health Officers at the Ministry of Health (LGA level) • Compliance with market leaders or association. • Capacity to implement laws and regulations. • Registration of market stalls.

- Provision of basic infrastructure amenities by Private investors
- Increased awareness on suitable designs and infrastructural development.
- Market leadership and government Environmental Task force(s).
- Cultural beliefs that promote sanitation. Existing Local Government authorities are in charge.
- Increased hygiene awareness to prevent food contamination (LASSA Fever and COVID-19).
- Market visits and inspections.
- Availability of herbs and spices.
- Provision of food for a large population/populace.
- Improved food presentation and packaging.
- Licensing of food outlets
- Medical examination/test for food vendors.
- Existing health officers and institutions of learning.
- Dedicated International (UN) days.
- Food safety awareness campaigns by various associations

Gaps

- Enforcement is poor as LGA structure is too weak for the responsibility assigned.
- Stratification of responsibilities is missing.
- No compliance to regulations.
- Inadequate knowledge of food safety, health, and hygiene practices
- Cultural nonchalance about food safety
- Lack of stakeholder motivation
- Enforcement is a major issue.
- Harassment by local government officials.
- No code of practice.
- Punitive measure is tokenistic and legal process is cumbersome
- Inadequate coverage of vendors with no stall allocated.
- Products purchased cannot be traced.
- No water, no power(electricity), no toilet facilities.
- Where they exist, the infrastructure does not function well or are derelict
- Open market is common.
- No specific regulations for developers of markets
- Poor market layout.
- Market congestion
- Poor maintenance and sanitation.
- Inadequate waste disposal equipment.
- Ineffective monitoring.
- Poor knowledge of Local Government officials.
- Weak enforcement capacity of the Local Government officials.
- Poor transportation and logistics/ supply chain.
- Poor knowledge of handling food products.
- Poor infrastructure for sorting and storing of food
- No waste disposal equipment and layout.
- No SOPs/guidelines for food preparation.
- No consideration for people with ill health such as NCDs and allergies.
- Poor infrastructures for food preservation-cold chain, refrigeration, packaging materials, etc.
- Non declaration of illness after examination or staying away from work when ill.
- No provision of Personal Protective Equipment.
- Poor knowledge of market leaders on food safety and hygiene.
- Obsolete learning curriculum and poor topical contexts.

Latin America

The content of this guidance is more focused on prepared foods and less on the market infrastructure. It is the only guidance that contains Hazards and Critical Control Points, in an effort to align it more closely with the Codex General Principles of Food Hygiene. Several aspects of this will be relevant to fresh foods, like fruits, vegetables, meat and fish.

Strengths

- Concise, easy to read.
- HACCP focus, but some lack of detail.
- Good treatment of handling of fresh foods.
- Identifies need to address people's preconceived notions about food safety.
- General reference to need for potable water, but lacking in specifics

Gaps

- No clear definition of street foods.
- No distinction between formal vs. informal markets.
- Lacks "how to" specificity around subsectors of food preparation, e.g., bakeries, canneries; codes of practice not disaggregated by type of preparation and actor.
- CCPs not sufficiently articulated; no concrete examples for each type of relevant trainings
- No CCP checks for water quality.
- No accounting for plumbing in street vended food stalls.
- No responsibility identified for potable water supply.
- No mention of toilet facilities, other public health infrastructure.
- No mention of contingencies related to power loss, etc.

Asia

The document fails to clearly state its objective. Participants felt that duty bearer responsibilities are unclear in the document, but that document's treatment of regulatory oversight of facilities is particularly good. The participants pointed out that consumer behavior modifications are difficult to implement and that the document is unclear about what kind of training should be associated with the registration of vendors. The expert group praised the document for pointing out the need for time/temperature controls, as well as the difficulty of achieving consistent temperatures throughout food storage and cooking. Participants agreed that infrastructure design and facilities separation are difficult for local authorities to regulate.

Strengths

- Identifies roles of street vendors and consumers
- Addresses regulatory oversight of personal vendor hygiene and facility sanitation.
- Addresses traditional market infrastructure design and set-up.
- Good treatment of food handling and storage in market setting.
- Explicit training guidance

Gaps

- Training section does not provide enough detail on motivational factors to engage vendors.
- More specificity needed related to roles/responsibilities of the authorities.
- Regulation section fails to address consumer behavior.
- No authority identified for vendor registration.
- Fails to address size of investment needed to improve existing infrastructure.
- Facility and waste management specifications not included.
- Food sourcing and safe food handling throughout the supply chain not addressed.
- Food preparation fails to stress separation of cooked from uncooked foods.
- No reference to potable water for ice used in food storage.
- No reference to food storage and temperature abuse.

Group Discussion on Normative Guidelines

A moderated discussion guided participants through a series of questions designed to generate ideas for EatSafe to consider in deciding next steps for developing food safety guidance for traditional markets.

Is normative guidance needed for traditional markets? The expert group posed four additional questions to consider in establishing the purpose for guidance. These include:

- **What is the goal/ultimate purpose?** The ultimate goal is to ensure a continuous supply of safe, nutritious food obtainable through traditional markets. A subsidiary goal is to get practical food safety guidance implemented at the local level. Guidance should outline an accountability framework, to include best practices and roles/responsibilities. In order to measure impact, we need an evaluative standard that is integrated at the local level, perhaps through Codex-derived country-specific traditional markets guidance. But questions remain: Who is responsible for developing it? How do we contextualize it for traditional markets?
- **Will normative guidance change the behavior of key stakeholders?** Motivations for behavior change are harder to put into normative guidance, while penalties are easier to codify. Without guidance, operators will not gain awareness of positive behavior; they will continue to believe in the adequacy of their traditional behaviors. Normative standards are an evaluative mechanism but also can tell us how far away we are from achieving the standard. They are not just incentives and rules; standards must be communicated in accessible ways (e.g., relatively easy to achieve and valuable). Standards should also describe envisioned outcomes. The more descriptive the better in terms of motivation. Choice architecture matters more than sticks or carrots, because we cannot be sure about the latter given revenue constraints.
- **Is there precedent for impactful guidance?** The group discussed Pakistan's experience using guidance (color coded grading of food establishments) and enforcement to foster a food safe vendor environment. All employees in Pakistan's food establishments wore hair nets, gloves, masks – no matter where the establishment was.
- **Guidance, or checklist/questions?** Whatever format is adopted, it should be one which would best help local authorities develop local guidance. Guidance would be aided by supplemental, commodity- and sector-specific codes of practice for street vendors. Consensus is that whatever format is adopted, it must support application of an evaluative standard.

Is regional guidance the best approach? The expert group posed additional questions to consider in formulating its response:

- Is there sufficient heterogeneity between regions to justify a regional approach?
- Is there sufficient heterogeneity between countries within regions to justify a regional approach?
- How is regional membership decided?
- What is the process?

Participants discussed the need for guidance to codify a set of common scientific principles appropriate for national and regional adaptation and acknowledged that each of the regional guidance already include common scientific principles. This would argue for a common, global set of standards that provides room for transnational harmonization.

The expert group recognized that there is no need to reinvent the wheel, as global standards can be modified for national/local applicability. There will necessarily be contingencies to account for when tailoring global standards for national/subnational implementation. To this end, local authorities will

need to be sufficiently empowered to implement a universal standard. In most cases, this will require capacity building.

Should Codex develop global guidance for traditional markets?

The benefit of having Codex standards is derived from the fact they are based on scientific evidence that is believed to have universal application; in other words, the standards are grounded in international scientific consensus around food safety. General Codex food hygiene standards could be applied to traditional markets. One goal could be to promote these Codex standards within a local context.

Historically Codex standards are developed for products traded internationally to provide a level regulatory trading field. This begs the question how to address unique cultural practices in relation to these standards. The group questioned how a Codex document on traditional markets could be most effective and what should be its areas of focus. Participants recognized that translating a Codex normative standard down to the national/subnational levels is a huge effort. Without it, however, the same obstacles to adoption persist and consumers are left vulnerable.

The Codex Secretary reminded the group that Codex standards are voluntary and that countries are free to decide whether or not to apply those standards locally. Codex does not provide country level standards and it is up to member countries to recommend that regional guidance be considered for a global standard. Furthermore, local standards for street foods are outside its purview. Codex believes regionally specific guidance for street foods to be appropriate, whereas traditional markets present a different set of needs for which universal guidance may be appropriate.

As an alternative to Codex, the expert group discussed other global standard-making frameworks. A precise definition of “traditional market” will be needed before guidance can be developed. In terms of scoping the guidance, a decision must be made about what markets to look at.

Specific mention was made of the WHO’s 2006 Handbook on Healthy Food Markets, which considered all relevant Codex guidance while making valuable additions. FAO can assist with implementation through its network of regional offices. Discussion noted that because of their overlapping mandates, WHO and FAO should work cooperatively and consider the existing and relevant Codex standards. The expert group agreed that international harmonization would follow from a Codex-inspired global guidance/set of standards. Further, a joint WHO/FAO statement could be highly credible and impactful.

Ultimately, a decision is needed on whether this is a shared mandate among Codex/WHO/FAO or a joint activity of WHO and FAO. National governments will need to modify these standards in order to facilitate their adoption at the local level.

How existing regional guidance be updated and improved?

The expert group discussed the lack of specific guidance around the raw, unprepared foods typically sold in traditional markets and whether street food guidance was consistent given the complexity of ready-to-eat (RTE) foods across all regions.

A question of definitions arose, with the term “informal markets” often used in the context of both traditional markets and street vended food. Definitions need to encompass markets typically exempt from inspection requirements.

The experts noted that much of the street food guidance with respect to infrastructure, sanitation and handling would translate well to unprepared foods in traditional markets. Questions arose about whether countries have adopted these regional guidelines as a national standard. With most traditional market regulation occurring locally, will guidelines adopted nationally be implemented locally? Participants believed these issues merit further research, perhaps to identify whether parallels exist in other types of guidance that balance global principles with local conditions.

The expert group recognized that regional guidance has not been updated to reflect current HACCP principles and this should be done to align with recently updated Codex HACCP guidance. As part of this effort, one focus of training should be to educate consumers about unobservable food safety hazards, e.g., pesticides, microbial pathogens, aflatoxins.

Identifying the indicators of food safety problems in markets and incorporating them into intervention design constitutes a huge challenge for EatSafe. Can consumers use cues linked to sanitation and hygiene to recognize observable vs. unobservable hazards?

Capacity building needs can be identified and prioritized to support this and efforts made to improve the uptake of training activities (a future emphasis for GAIN). Behavioral research can influence capacity building efforts with respect to understanding the perceptions of consumers, vendors, and institutions and creating the enabling environment to facilitate food safety (regulations/incentives/enforcement). Caution should be taken, however, not to place too much burden on consumers themselves regarding safe choices.

Regulatory noncompliance can cause failure elsewhere in food chain. Consumers cannot test for unobservable hazards. Producers, vendors, and regulators need to be involved and a clear division of responsibilities will be necessary for success. Vendor associations play an important role and their help should be enlisted. Private sector actors are already doing things to address the constraints that they face; therefore, it is advisable to explore what more associations could do to support the supply and selection of safer food.

Discussion on this point included the need to more effectively augment and package universal guidelines to improve their relevance and attractiveness to local consumers. Training is important to successful implementation; however, training will need follow up monitoring to measure its effectiveness

GAIN reported that EatSafe is exploring innovations for working with consumer to determine what motivates them to purchase safe food and identify in what ways consumers are actually changing their behavior and why. By using targeted education to influence consumer choices and thus market demand, vendors may be incentivized to source higher quality products from more reliable producers.

Closing Observations by WHO Representatives

- Traditional markets provide fresh, affordable food to millions of people throughout the world.
- They serve people who cannot source food elsewhere, are flexible in nature, and are very adaptable to global development.
- They constitute a dynamic setting that is unlikely to disappear.

- In many ways traditional markets venues are neglected; they are frequently unhygienic, overcrowded and with limited infrastructure needed for modern environments.
- Because they do not generate much revenue, they do not garner much global investment.
- EatSafe should consider borrowing from the experiences of traditional markets run by private companies in some larger cities (e.g., Jakarta, Indonesia). Because of their commercial scale size, they are forces to be reckoned with.
- EatSafe should consider evaluating the design and governance of these markets and see what attributes could be borrowed to facilitate investment in traditional markets on a global scale.
- The opportunity exists to generate new resources and investment given the heightened profile and interest in these market venues globally due to COVID 19. These markets are perceived as a contributing source of future pandemics and thus are considered a major public health concern.

Additional documents, including the workshop agenda and participant list, are available upon request.

10.2 APPENDIX 2. EXPANDED REVIEW OF AFRICAN GUIDELINES FOR THE DESIGN OF CONTROL MEASURES FOR STREET-VENDED FOODS

The following table was prepared by Professor Ben Ogunmoyela, CAFSANI and Dr. Augustine Okoruwa, GAIN/EatSafe, as part of the expert consultation.

Key Content Areas	Strengths	Gaps	Opportunities
Policy and Regulation	<ul style="list-style-type: none"> ● Regulation exists – Policy Review required ● Presence and availability of Environmental Health Officers at the Ministry of Health (LGA level) 	<ul style="list-style-type: none"> ● Enforcement is poor as LGA structure is too weak for the responsibility assigned. ● Stratification of responsibilities is missing. ● COVID-19 has shown the vulnerability of informal markets. ● No compliance to regulations. 	<ul style="list-style-type: none"> ● Capacity development for the existing LGA Health Officers and Institutions. ● There is general public consciousness about Health, Nutrition, and Food Safety ● State Level Food Safety Management Committee ● LGA Food Safety Officers
Roles of Stakeholders and authorities	<ul style="list-style-type: none"> ● Compliance with market leaders or association. ● Capacity to implement laws and regulations. 	<ul style="list-style-type: none"> ● Inadequate knowledge of Food safety, Health, and Hygiene practices ● Cultural nonchalance. ● Lack of motivation 	<ul style="list-style-type: none"> ● Regard and respect for market leadership. ● There is a widespread of influencers (social media, Role models.)
Regulations	<ul style="list-style-type: none"> ● Regulations exist. 	<ul style="list-style-type: none"> ● Enforcement is a major issue. ● Harassment by Local Government officials. ● No code of practice. ● Punitive measure is tokenistic and legal process is cumbersome 	<ul style="list-style-type: none"> ● Mobilizing Stakeholders participation and inputs in the Legislative Public hearing (Ongoing) on Food Safety and related Bills. ● Adapting National Policies, Regulations and Guidelines to meet State and especially LGA who have control over traditional markets
Registration of vendors	<ul style="list-style-type: none"> ● Registration of market stalls. 	<ul style="list-style-type: none"> ● Inadequate coverage of vendors with no stall allocated. ● Products purchased cannot be traced. 	<ul style="list-style-type: none"> ● Creating Available Revenue collection system from vendors. ● Linking Existing and Ongoing National Data Capturing System e.g., NIN, SIM Reg can be used to track registered vendors.
Infrastructure	<ul style="list-style-type: none"> ● Government is taking responsibilities in building infrastructure. ● Provision of basic infrastructure amenities by Private investors 	<ul style="list-style-type: none"> ● No water, no power(electricity), no toilet facilities. ● Where they exist, the infrastructure does not function well or are derelict 	<ul style="list-style-type: none"> ● Available landmass in markets for infrastructure. ● Availability of make-shift or moveable/mobile infrastructure.

		<ul style="list-style-type: none"> ● Open market is common. 	<ul style="list-style-type: none"> ● Philanthropic support activities from individuals, political actors, donor agencies, NGOs, and associations.
Design and Infrastructure of markets	<ul style="list-style-type: none"> ● Increased awareness on suitable designs and infrastructural development. 	<ul style="list-style-type: none"> ● No specific regulations for developers of markets ● Poor market layout. ● Market congestion 	<ul style="list-style-type: none"> ● Masterplans are now being developed for Towns and Cities ● Engaging Town planners at Ministry of Works at LGA Levels
Maintenance and sanitation in markets	<ul style="list-style-type: none"> ● Market leadership and government Environmental Task force(s). ● Cultural beliefs that promote sanitation. 	<ul style="list-style-type: none"> ● Poor maintenance and sanitation. ● Inadequate waste disposal equipment. 	<ul style="list-style-type: none"> ● Sanitation activities and awareness increased during COVID-19. ● There is special day for general market sanitation.
Food Handling	<ul style="list-style-type: none"> ● Existing Local Government authorities are in charge. ● Increased hygiene awareness to prevent food contamination. ● (Cases of LASSA Fever and COVID-19 in the past) 	<ul style="list-style-type: none"> ● Ineffective monitoring. ● Poor knowledge of Local Government officials. ● Weak enforcement capacity of the Local Government officials. 	<ul style="list-style-type: none"> ● NGOs are concentrating on Food safety (e.g., CAFSANI, NHF, and EatSafe). Increase consciousness of consumers about benefits if safe, nutritious foods ● Conduct health seminars on Food safety and foodborne diseases for more awareness and enlightenment
Food sourcing and handling at markets	<ul style="list-style-type: none"> ● Market visits and inspections. ● Health consciousness at individual levels. 	<ul style="list-style-type: none"> ● Poor transportation and logistics/ supply chain. ● Poor knowledge of handling food products. ● Poor infrastructure for sorting and storing of food 	<ul style="list-style-type: none"> ● Online delivery service platforms. ● Develop new or simplify existing food handling techniques and practices ● Promote Producer and Buyer linkages ● Simple/Central shared storage facility - pay as you use e.g., cold room for perishables
Requirements for food preparation	<ul style="list-style-type: none"> ● Availability of herbs and spices. ● Provision of food for a large population/populace. 	<ul style="list-style-type: none"> ● No waste disposal equipment and layout. ● No SOPs/guidelines for food preparation. ● No consideration for people with ill health such as NCDs and allergies. 	<ul style="list-style-type: none"> ● Availability of cookbooks. ● Online Food handling and Preparation classes and sessions

Protection and sale of ready-to-eat food	<ul style="list-style-type: none"> ● Easy access to foods for consumption ● Improved food presentation and packaging. ● Licensing of food outlets 	<ul style="list-style-type: none"> ● Poor compliance and monitoring system. ● Poor knowledge of nutrition and food safety and their linkage. ● Poor infrastructures for food preservation-cold chain, refrigeration, packaging materials, etc. 	<ul style="list-style-type: none"> ● Deploying Various packing systems and packs. ● Installation of barriers/shields during COVID-19 peak period. ● Promote 100% Solar and/or Hybrid-solar powered cooling systems ● Conventional cold rooms
Vendor and Health Hygiene	<ul style="list-style-type: none"> ● Existing training and awareness. ● Medical examination/test for food vendors. 	<ul style="list-style-type: none"> ● No illness declaration after examination or staying away from work when ill. ● No provision of Personal Protective Equipment. 	<ul style="list-style-type: none"> ● Relative availability of Personal Protective Equipment. ● Elevating importance of Food handlers test and foodborne disease prevention
Personal health and hygiene of market participants	<ul style="list-style-type: none"> ● Increased health consciousness and awareness. 	<ul style="list-style-type: none"> ● Poor compliance to health advice. ● Crowded market spaces. 	<ul style="list-style-type: none"> ● COVID-19 awareness messages can be replicated ● Sanitation equipment and areas are allotted during COVID-19 & maintained post-COVID
Training and Education	<ul style="list-style-type: none"> ● Existing health officers and institutions of learning. ● Dedicated International (UN) days. ● Awareness creation by various associations 	<ul style="list-style-type: none"> ● Poor knowledge of market leaders on food safety and hygiene. ● Obsolete learning curriculum and poor topical contexts. 	<ul style="list-style-type: none"> ● Establishment of Education advisory committee. ● Ongoing training on nutrition and food safety. ● Catching them young in the school system (Primary and Secondary) with food safety messages ● Messaging on World Food Safety ● Public enlightenment and awareness creation on food safety through Faith and Traditional (Community) Leaders ● Food Safety Champions in markets-Market Management/Associations