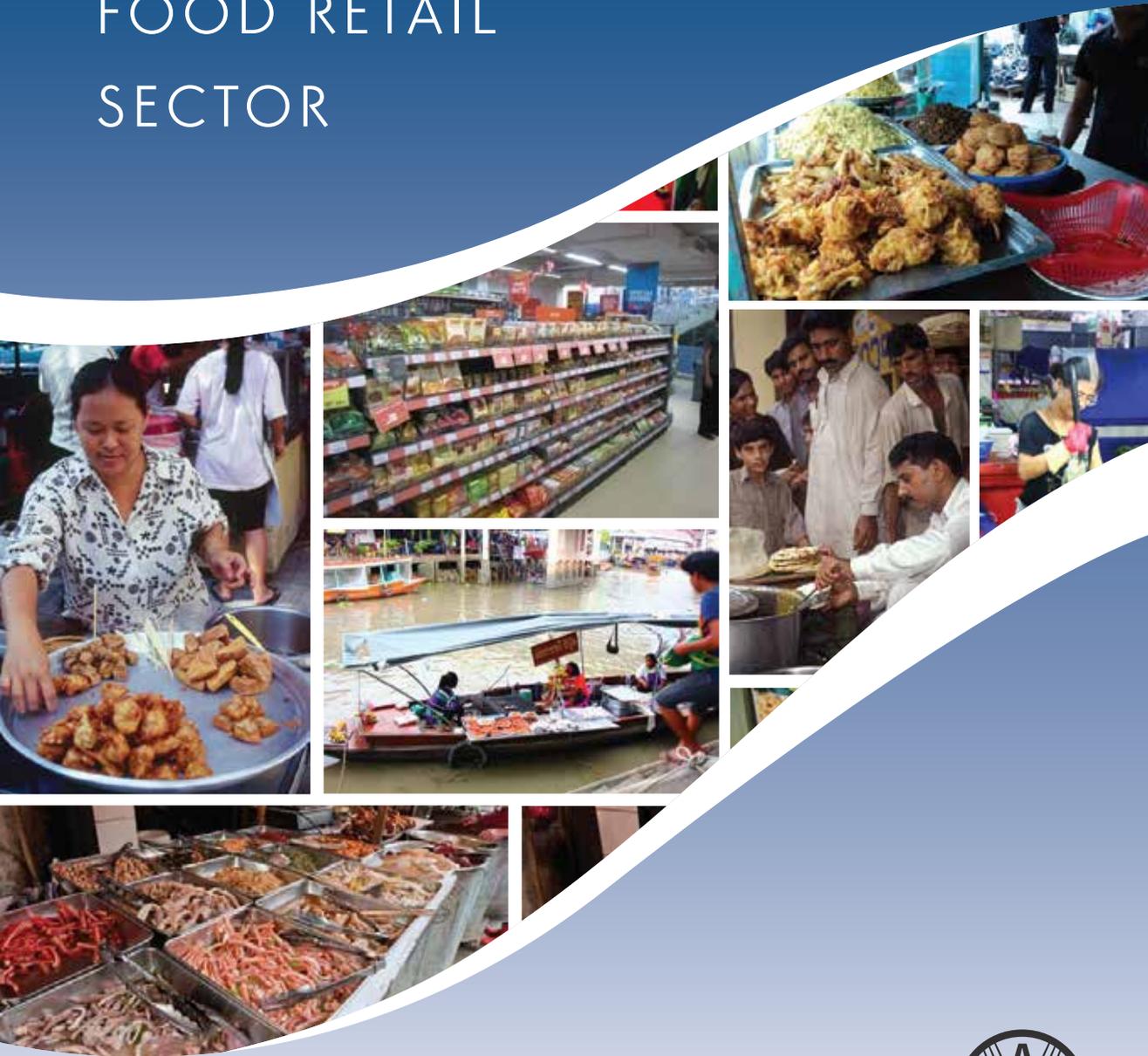


GUIDANCE ON HYGIENE AND SAFETY IN THE FOOD RETAIL SECTOR



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***GUIDANCE ON HYGIENE AND
SAFETY IN THE FOOD RETAIL
SECTOR***

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Food and Agriculture Organization of the United Nations

Regional Office for Asia and the Pacific

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FOREWORD

Foodborne disease and food contamination continue to be significant public health issues in Asia, in both the developed and developing countries. Unsafe food causes many acute and lifelong diseases, ranging from diarrheal disease to various forms of cancer, with more than 200 diseases being spread through contaminated food. Additionally, micronutrient deficiencies and dietary-related non-communicable diseases continue to have extensive public health, social and economic consequences.

The retail food sector is a particularly challenging area in addressing the safety of food sold, given both the size of the sector and the fact that it is the last point before the food reaches the consumer. The food retail sector is also specifically important in view of the tourist populations that depend on it as a source of daily food consumption. Because of socio-economic changes in many countries, this sector has experienced significant growth during the past few decades.

The food retail sector covers organized modern retail outlets as well as traditional groceries, food service industries such as restaurants and cafeterias, and street foods in their various forms. Although each type of food retail has its own food safety issues as well as risk management options, good practices, including hygiene, are important in all food sector related activities. Additionally, modern organized food retail has to deal with a large range of activities covering basic food procurement and sourcing, processing (simple as well as complex), storage or warehousing, imports and, finally, handling at the front end where the interaction with customers is high.

In view of the importance and sensitivity of this sector and requests received from the countries of the region, this guidance document has been developed to cover guidance for both organized food retail and street foods. The guidance is aimed at both governments and retail food business operators (FBOs). This guidance document is expected to be useful to governments as it will help them in developing their own food control systems to regulate this critical sector. These control systems include, for example, legislation, criteria, enforcement mechanisms, coordination mechanisms. The guidance will also be useful to FBOs to help them understand the critical areas in the retail sector so that they can put in place their own control mechanisms to ensure safe and quality products for consumers. The document can also help consumers to understand the important critical areas so that they can specifically look into these while purchasing and consuming retailed products.

The guidance document has been developed based on the discussions held during the regional workshop on hygiene and safety in the food retail sector held from 12 to 14 September 2013 in Singapore in which 41 participants from 22 countries of Asia participated. In addition, guidance has also been taken from various regional guidelines/codes developed by Codex Alimentarius Commission for Africa, Latin America and the Near East regions.

I wish to acknowledge the contributions made by all participants, resource persons and the National Environment Agency Singapore. I sincerely hope that the guidance offered in this document will be useful to governments and retail FBOs for managing food safety across the retail chain and will lead to greater safety in retailed food.



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FAO gratefully appreciates the contribution of all the participants from 22 countries who attended the workshop and provided inputs to developing the document, namely Dr Subash Kumar Saha and Dr Syed Abu Jafar Md Musa from Bangladesh; Mr Jamyang Phuntsho from Bhutan; Ms Jahayarani Binti Haji Bujang and Ms Hajah Suraya Binti Suhailee from Brunei Darussalam; Mr Hoksrun Aing and Mr Lim Chann from Cambodia; Ms Sun Jianping from China; Mr Kim Kyong Ho and Mr Kim Jong Nam from Democratic People's Republic of Korea; Col C R Dalal and Dr HG Koshia from India; Mr Nugroho Indrotrianto and Ms Evi Citraprianti from Indonesia; Mr Makoto Sakashita from Japan; Dr Sengthong Birakoun and Mrs Phoxay Sisomvang from Lao **People's Democratic Republic**; Ms Faiza Ismail and Mr Mohammad Jefri Crossley from Malaysia; Ms Aishath Juman from Maldives; Dr Ganzorig Dorjdagva from Mongolia; Dr Khin Saw Hla and Dr Wut Hmone from Myanmar; Mr Ganesh Dawadi and Mrs Jyotsna Shrestha from Nepal; Mr Saleem Sadiq and Mr Abdul Wahab Khan from Pakistan; Mr Roland Ilaya Santiago and Mr Raymond Sia from Philippines; Ms Siti Suriani Abdul Majid, Mr Geoffrey Kho, Mr Sarifudin Sapari, Mr Lee Wei Ping and Mr Teng Meng Hua, Simon from Singapore; Dr T.B.Ananda Jayal from Sri Lanka; Mr Thanacheep Perathornich, Mr Natthaphong Somsak and Mr Kitti Tissakul from Thailand; Mr Jose Moniz from Timor-Leste; Dr Lam Quoc Hung and Mr Nguyen Tien Dat from Viet Nam; Dr Ramona Gutierrez from NEA Singapore and Ms Jennifer Lisa Bishop Miller, Consultant.

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ABBREVIATIONS AND ACRONYMS

CAC	Codex Alimentarius Commission
FAO	Food and Agriculture Organization of the United Nations
FBO	Food business operator
GAP	Good Agricultural Practices
GDP	Good Distribution Practices
GHP	Good Hygiene Practices
GMP	Good Manufacturing Practices
HACCP	Hazard Analysis and Critical Control Point System
IEC	Information, education and communication
NCD	Non-communicable diseases
NGO	Non-governmental organization
QC	Quality control
SOP	Standard operating procedures
WHO	World Health Organization of the United Nations

GUIDANCE ON HYGIENE AND SAFETY IN THE FOOD RETAIL SECTOR

INTRODUCTION

The food retail sector covers organized modern retail as well as traditional groceries, food service industries such as restaurants and cafeterias, and street foods in their various forms. In the retail sector, food safety is very important as food retail is generally the final end of the food chain before the food reaches the consumer. Although different types of food retail have their own food safety issues as well as risk management options, good practices, including hygiene practices, are important in any food sector related activities including food retail. Additionally, modern organized food retail has to deal with a large range of activities covering basic food procurement and sourcing, processing (simple as well as complex), storage or warehousing, imports and finally the handling of the front end where the customer interaction is high. Activities such as bakeries, cafeterias, simple food handling joints or eateries may also be part of the food retail operations leading to additional food safety issues.

This guidance document covers guidance for both organized food retail and street foods. The document has been structured to cover the important requirements or foci in various areas important for the food retail sector, namely legislative requirements, intersectoral coordination, gaining political support, registration and licensing, enforcement, surveillance, norms or standards (separate for organized food retail and street foods), education, training and awareness raising, capacity strengthening, nutrition and related activities and reduction of food losses and wastes.

The guidance provided in this document is aimed at both the governments and retail food business operators (FBOs), the governments as they need to develop national food control systems and it will help them in developing their systems including legislation, criteria, enforcement mechanisms, and coordination mechanisms to regulate this critical sector. The guidance will also be useful to FBOs as it will help them understand the critical areas in the retail sector so that they can put in place their own control mechanisms to ensure safe and quality products for consumers. The document will also be useful for consumers as it can help them understand the important critical areas so that they can specifically look into these before purchasing and consuming products.

I. GENERAL

The basic activities in organized food retail cover the following:

- i. simple processing operations such as cleaning, sorting, grading, fumigation and packaging operations (fruits and vegetables, staples);
- ii. processed food, private labels or “own brands” manufacturing/ processing through contract manufacturers;
- iii. branded products procurements and supply chain including warehousing cold chain;
- iv. front end retail activities including “shop-in-shop” activity;
- v. eateries/restaurants/milling/bakery, preparing and packing cut fruit and vegetables, wine shops, etc;
- vi. fresh meat/ fish (shop-in-shop or stand-alone); and
- vii. live seafood/ fish.

The scope of food businesses covered by the street food guidance includes: street food, small eateries, street food centres/hawker centres and ready-to-eat food prepared and sold in markets.

II. LEGISLATIVE REQUIREMENTS

Historically, legislation covering both the organized food retail and street food sectors has been based on prescribed requirements focused on minimum standards for structures, which did not reflect hazards likely to cause foodborne disease. Modern or risk-based food legislation should be based on science and focused on controlling hazards known to cause foodborne disease. Additionally, legislation should be outcome/ performance based, where the outcome of a control requirement is specified and food businesses are able to determine the best way for them to meet these requirements.

In most countries, legislation is developed at the national level and implemented at the local level. National authorities may follow different approaches when developing legislation to regulate the food retail sector, including both the organized food retail and street food sectors, and these may include one or more of the following:

- i. developing regulations that specify the complete food safety requirements for food businesses to meet including specification requirements for end products and good practice codes;
- ii. developing regulations that define general food safety requirements and the need to implement a food safety programme, based on the Codex General Principles of Food Hygiene (CAC/RCP 1). Codes of Practice can then be developed by national/ local authorities or food business associations to assist food businesses to meet these requirements; and
- iii. recognizing the international obligations of the agreements on sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBT) and harmonizing legislation with international Codex requirements taking into account the provisions of the SPS and TBT agreements.

The legislation may cover both organized and street food sectors, or these sectors may have separate (but not conflicting) legislation. The legislation for the food retail sector should generally include provisions on the following aspects:

- i. that no misbranded/adulterated food should be manufactured or prepared, stored, distributed, sold or imported. It should cover the entire food chain and should be based on the application of risk analysis principles including GMP/GHP/HACCP requirements;
- ii. the mandate of the responsible agency to regulate the manufacture, preparation, storage, distribution, sale or retail and import of food - where more than one agency is involved, the different mandates of agencies and their roles, including consideration of roles at national and local levels, should be clearly identified;
- iii. the authority for carrying out controls at all stages of production, manufacture, importation, export, processing, storage, transportation, distribution and retail;
- iv. clearly defined authorities and responsibilities for all major activities such as enforcement, recall/ withdrawal, destruction, penalties;
- v. the competent authority for enforcement should be clearly defined and have ability to enforce actions based on legislation;
- vi. requirements and processes for designating enforcement officers, their role definition and qualification and training requirements;

- vii. powers and authority to develop regulations;
- viii. powers to allow entry, inspection, seizure, destruction, closure, penalties and restriction of sale of specific items or during specific times;
- ix. powers to facilitate rapid response, including restriction of sale, recall and privileged consumer advisories;
- x. a system of registration/ licensing along with the requirements to cover all types of food businesses and pre-registration requirements, including different categories for the different sizes of businesses and the fee structure for registration/ licensing and renewal of fees;
- xi. the time period for validity of licences and renewal as well as procedures for the same;
- xii. recognition and consideration of other licences/clearances needed and other related laws and regulations – preferably aim for a single window approach;
- xiii. establishment of an organized food retail/ street food sector committee to facilitate intersectoral collaboration and coordination;
- xiv. a system for approvals, grading of premises/ listing of approved operators, cost recovery or fee systems (note that this may be the same as item number xi above or an additional system, either voluntary or mandatory);
- xv. establishing systems for surveillance and monitoring, including the ability to respond to findings and also development and harmonization of a premises inspection checklist;
- xvi. a mechanism for review and update of procedures; and
- xvii. packaging, labelling and metrology related requirements as prescribed under the act with due recognition to other related acts/ regulations.

The legislation for the *organized retail sector* should also include the following additional provisions:

- i. operational definition of organized retail;
- ii. food hygiene and food safety norms (details are provided in Section VIII below);
- iii. specifications of sampling and laboratory analysis (preferably only accredited laboratories should be used);
- iv. consideration of other licences/clearances needed (license for store including shop-in-shop activities, fire safety clearance, no objection certificate (NOC) by local municipal authority under relevant act); and
- v. provisions of other laws – e.g. prevention of child labour, additional labelling requirements, calibration, weights and measures).

The legislation for the street food sector should also include the following additional provisions:

- i. operational definition of street food;
- ii. authority for carrying out controls within the street food sector;
- iii. authority for entering residential homes, where the home kitchen is being used to supply food to the street food sector, and for carrying out controls; and
- iv. food hygiene and food safety norms (details are provided in Section VIII).

III. INTERSECTORAL COLLABORATION AND COORDINATION

The regulatory oversight of the organized food retail and street food sectors involves several different agencies, both at national and local levels including, but not limited to:

National agencies: agencies responsible for agriculture, business development, consumer affairs, environment, food, health, tourism, trade and women's affairs.

Local agencies: Localized branches of national agencies, local government/people's committees.

To avoid gaps, duplication of effort, confusion in both food businesses and at the enforcement level and to ensure effective use of resources, it is important to coordinate activities at national and local levels through various mechanisms. One possible example is the establishment of a national and local organized food retail and street food sector committee or an apex body as a coordination body as well as an information sharing platform.

Terms of reference for the organized food retail and street food sectors committee may include:

- i. development of an intersectoral policy or strategy to manage the organized food retail and street food sectors;
- ii. development of service level agreements/ arrangements between agencies on coordinating the registration/ licensing of food businesses that incorporate all agencies' requirements and is issued by one agency. The intent and use of the registration and/or licensing fee should also be included in this agreement;
- iii. development of agreements between agencies on coordinating the approval/ certification of food businesses that incorporate all agencies' requirements and is issued by one agency. It is preferable that all food safety issues associated with a food business should be managed by one agency only. However, if multiple agencies are involved, the inspection or monitoring activity should be planned and carried out collaboratively;
- iv. sharing of information on planned activities, including enforcement priorities, resource development, relevant data and information, etc;
- v. discussing the development and revision of legislation associated with the organized food retail sector;
- vi. identifying, planning and implementing intersectoral activities;
- vii. coordinating consultation with the food retail sector and consumer representatives;
- viii. developing guidelines for the food retail sector for simplified understanding and implementation;
- ix. coordinating training and awareness raising programmes; and
- x. coordinating and building on efforts to gain political support for activities in the organized food retail and street food sectors.

Reporting requirements within each relevant agency should be discussed and established, and consideration of cross agency reporting should also be considered.

Other stakeholders may also be considered for involvement in the committee, especially as alternative approaches are considered to improve food safety in the retail sector. For example, universities may be involved to help redesign premises or vendors' carts that can meet food safety requirements and can be built on a cost-effective basis.

At the regional level, an information sharing mechanism is also required so that best practices and experiences relating to the organized food retail and street food sectors can be shared between countries. This could be an electronic forum, supported by meetings held periodically.

IV. GAINING POLITICAL SUPPORT

Political support is important to increase implementation of regulatory requirements in the organized food retail and street food sectors and to provide the required infrastructure and services to support implementation of food safety practices, especially in the street food sector.

Possible strategies to increase political support for improving food safety in these sectors include:

- i. Incorporate the development of the organized food retail and street food sectors into the political manifesto as a commitment by policy-makers.
- ii. Incorporate the development of the retail food sector into the food safety and quality policy, especially with regard to the impact on public health and the tourism sector as well as on the economy. Develop an action plan for implementation by government. This will also facilitate strengthening the intersectoral approach and collaboration.
- iii. Develop a recognition system aimed at local government leaders who have supported the provision of infrastructure and services to the informal food retail sector.
- iv. Sensitize leaders on the impact of food safety in this sector, provide information and summaries of data based on surveillance and monitoring activities and foodborne disease outbreaks associated with the food retail sector and their impact.
- v. Campaign for the consideration of the retail sector as part of urban development and healthy cities programmes.
- vi. Develop information (IEC material) emphasizing the impact on both health aspects and the economy to be used by mass media for creating awareness to stakeholders, including consumers, and organize press briefings.
- vii. Consider the mobilization of religious leaders, civil society organizations (CSOs) and society committees in support of advocacy for the sectors.
- viii. Engage food business associations and NGOs for support.
- ix. Consider sensitizing scholars, actors, leaders, etc. to further assist in awareness raising.

V. REGISTRATION AND LICENSING

For a retailer to conduct the business of preparation, packing, storage, display and sale of any retail foods, the vendor needs to be licensed or registered under the relevant food regulations. The two terms “registration” and “licensing” are being used interchangeably to mean the process of issuing a document after a satisfactory inspection of a food business to confirm that the business meets the acceptable standards and can legally sell food.

It should be noted that prior to granting a licence or registration certificate under the relevant food legislation, the food business may be required to get the approval (a separate licence) of a local government authority for starting a business. A premises inspection is not required as part of this process. Linking the food safety licence/ registration process with the local government business approval process is recommended but would require good cooperation between the two licensing bodies.

Licensing/ registration of food businesses allows the regulator to identify businesses, including the persons working in the food business and the food sold. Licensing and registration can also be used for ensuring correct implementation of the food safety or quality norms as applicable to the food business. Licensing and registration are also associated with fees that generate revenue, which ideally should be used to support enforcement activities associated with the organized food retail and street food sectors.

Ideally, all food businesses should be subject to an assessment of the proposed premises or vending stall and on confirmation that the premises/ facilities meet the basic infrastructure requirements, an interim license may be given. Once the food business is operational and based on a second safety inspection including appropriate training of persons handling food, a final licence may be given. The license should include information on the period of its validity. The registration and licensing requirements should be defined in the regulations and information on these requirements should be made freely available through different means, such as media, internet, business and community associations and local government bodies.

Currently, food businesses in many countries of the Asian region are required to have multiple registrations and licenses from various local government bodies. To facilitate adherence to these requirements, a single registration is recommended incorporating the requirements of various agencies. This issue is also covered in Section III “Intersectoral collaboration and coordination”.

Registration /licensing requirements for the organized food retail sector may include the following aspects:

- i. Licensing and/ or registration to be mandatory.
- ii. Pre-inspection of the premises by the local authority should be completed prior to issuance of license/registration based on the norms specified under Section VIII.
- iii. Shops preferably should be licensed by outlet/location and not as one company as a whole. In cases where these are licensed as an entire company and there is any irregularity, the withdrawal of the license for the entire company would be the eventuality.

- iv. Licence/registration should be renewed periodically, based on pre-defined frequency, subject to compliance with the norms developed under Section VIII that should be implemented by the organized food retail sector. Periodic inspections/monitoring visits should be carried out by the regulatory authorities responsible.
- v. For any shop-in-shop activities inside, for example, supermarkets, such as pharmacies, restaurants or eating joints, separate licenses should be obtained from the relevant government authority.

Registration and licensing requirements for the street food sector should include the following aspects:

- i. Licensing/registration should be made mandatory for all street food businesses, including mobile and stationery street vendors to facilitate the regulation of the businesses.
- ii. A system for registration and licensing (online or offline) needs to be developed to capture the information electronically. This should be centralized and be accessible by local authorities in both rural and urban areas.
- iii. Registration should be undertaken by a local government agency (or equivalent).
- iv. A registration fee should be collected and utilized for inspection and surveillance activities.
- v. Registration should be renewed periodically, preferably annually, if time and resources permit.
- vi. Once registration across the sector is achieved, a system for approvals (based on inspection) in all street food businesses, including mobile street vendors, should be developed.

VI. ENFORCEMENT

The enforceability of food safety legislation in this challenging sector is an important aspect that must be considered. The challenges associated with the organized retail and street food sectors include:

- i. large numbers of food businesses thus requiring significant resources from the enforcement body;
- ii. frequent opening and closing of food businesses;
- iii. continuous movement of mobile street food vendors;
- iv. limited education of food handlers and in some instances of food business owners on food safety hazards and risks;
- v. limited resources available to food businesses to meet legislative requirements;
- vi. services such as waste disposal, water supply, electricity, toilets and hand washing facilities are not available and often need to be provided by the local government as it is unlikely that food businesses, especially in the informal sector, would be in a position to provide these services;
- vii. non-availability of test facilities to the informal sector and sometimes even the organized food retail specifically for testing raw materials; and
- viii. lack of information to informal sector on the list of suppliers meeting the regulatory norms for their products.

As discussed in the sections above, authorities responsible for food safety should aim to ensure that each food business is inspected by one agency only. This avoids unnecessary duplication of activities by enforcement agencies, avoids gaps in inspection across the food chain and also avoids confusion within the food business.

For the organized retail sector, a risk-based approach to inspection frequencies should be established. Such an approach directs more inspection resources to food businesses considered to be of higher risk (based on the food sold, the intended consumer and proximity to high risk groups i.e. stalls/eateries near schools, quantities sold and compliance history).¹ Where a food safety programme based on GMP/Hazard Analysis and Critical Control Point (HACCP) system is in place, inspections may focus on the internal/ external audit reports and their findings. A system of recognition of audits undertaken by third parties may be built into the regulatory systems.

For the street food sector, again a risk-based approach to inspection frequencies should be undertaken. However, because of the additional challenges, defined above, making it very difficult for food inspectors to enforce legislation, alternative approaches to food safety enforcement may be considered. Some examples are:

- i. All food handlers from the informal sector can be required to undergo food safety training appropriate to the food sold. This could be the only legislative provision proactively

¹ An example of how to develop a risk-based inspection frequency system can be found in *Guidelines for risk categorization of food and food establishments applicable to ASEAN countries*. RAP Publication 2011/22.

enforced, outside of investigation of complaints. This approach would require a system to clearly identify those who have completed the training and also education of consumers to help ensure they only purchase food from trained handlers. Provision of training for the different food business types would also be required, ideally with an accreditation system to indicate the quality of training.

ii. Vendors can be grouped into purpose-built premises integrated into the community (commonly known as hawker centres). This approach is reliant on funding to build the facilities.

iii. Police officers and similar officials can be involved in food safety enforcement activities to allow for an increase in the number of personnel able to regulate this large sector. This approach would include identifying officers, provision of training and inspection checklists focused on key food safety issues and an agreement between relevant governmental agencies.

iv. The public and NGOs could be involved in informal committees for both awareness raising and monitoring of street food vendors and providing feedback to local governments for further actions.

Given that infrastructure and services must be provided by local authorities, there needs to be a separation between the agency providing these facilities and the agency responsible for food inspection to avoid a conflict of interest.

In addition to risk-based inspection frequencies for both sectors, a risk-based approach to the inspection within the food business should be followed. This requires a food inspector to consider the hazard associated with a non-compliance, the likelihood of the hazard causing unsafe food and what effective controls are required. This approach means that the inspectors' focus is on issues likely to cause foodborne disease. This also ensures that uncontrolled hazards likely to cause contaminated food are corrected immediately and low-risk hazards are resolved within a specified timeframe.

It is recognized that penalties should be reasonable and come as a last resort. The first priority is to improve the management of a food business with regard to food safety and hygiene through education.

Enforcement requirements for the organized food retail sector should include the following aspects:

- i. Inspection should be done at least once per year by the competent authority (auditing to be undertaken by an accredited body).
- ii. Minimum standards should be defined for licensing and registration.
- iii. There should be minimum qualifications for food inspectors so that inspections and other enforcement actions are based on legal provisions and are effective, efficient and ethical.
- iv. Training/capacity building should be provided for food safety officers/inspectors and a provision made to ensure consistency between inspectors.
- v. Inspection should follow a risk-based approach.

- vi. Inspection should look at the own-check systems of organized retail as well any certifications from private certification bodies and the records of the audits as well as actions taken on any non-compliances.
- vii. Adequate resources (e.g. equipment, transport, identification, records system, food safety resources) and manpower for inspection should be allocated (ratio of inspectors to population may be determined).
- viii. Other aspects to look into during inspection:
 - Organoleptic tests or visual inspections for perishables
 - Expiry dates for products on display should be checked
 - Imported products should be approved by importing authority.
- ix. Inspectors should preferably have designated roles as:
 - Visual inspectors
 - Sample collectors
 - Enforcement officers (prosecution should be separate as it requires specific skills). Sampling/visual checks and inspection to be undertaken by the same inspector in the specific premises.
- x. Quality of food should not be compromised even if there is a cost incurred for its disposal.

Enforcement requirements for the street food sector should include the following aspects:

- i. Enforcement actions should be undertaken by the local authority, as guided by national legislation.
- ii. Inspection should be done at least once a year, ideally twice a year or more, as resources allow.
- iii. Minimum standards should be defined for licensing and registration.
- iv. There should be minimum qualification for food inspectors so that inspections and other enforcement actions are based on legal provisions and are effective, efficient and ethical.
- v. Training/capacity building should be provided for food safety officers/inspectors and a provision be made to ensure consistency between inspectors.
- vi. Job functions and an accountability framework should be established.
- vii. Adequate resources (e.g. equipment, transport, identification, records system, food safety resources) and manpower for inspection should be allocated (ratio of inspectors to population should be determined).
- viii. National standardized simple checklist should be used for inspection for consistency and should reflect legislative requirements.
- ix. A risk-based approach to corrective actions to non-compliances/ non-conformities (including decision criteria and actions) should be adopted.
- x. Logistic support and communication facilities should be provided.
- xi. Area of responsibility for food inspectors should be rotated.
- xii. Inspections should be increased on seasonal occasions and during national events.

VII. SURVEILLANCE

Food surveillance is defined as “the continuous monitoring of the food supply to ensure consumers are not exposed to components in foods, such as chemical contaminants or biological hazards, which pose a risk to health”.²

Surveillance information, including analytical results of food samples taken and foodborne disease data, should be gathered, reviewed, analyzed and appropriate action taken.

The organized food retail sector should undertake its own food sampling and analysis of foods identified as high-risk (based on the likely presence of hazards in food, the ability of the food to support an increase in the hazard, if the food is sold ready-to-eat or is prepared further at home, etc.). Food inspectors should provide support in the identification of high-risk foods. The results of analyses should be available to the food inspector upon request.

For the informal food sector, periodic food sampling and analysis surveys focused on issues of public health concern undertaken by food inspectors are appropriate. It should be stressed that observational HACCP-based studies are just as, if not more, useful than analytical results when identifying uncontrolled hazards.

Foodborne disease data are not always available. Where they are, the link to food businesses should be investigated as resources permit. This may mean that only clusters or outbreaks are investigated in settings where resources are limited.

Surveillance can also include a review of inspection reports, food safety training evaluations and complaints to identify trends requiring action.

In addition to undertaking immediate action (such as inspection) in response to the surveillance information, longer term action should also be considered. This may include redirecting inspection resources to specific problematic food business types, restricting the sale of specific foods, developing education materials for sellers of a specific food, carrying out awareness raising or training programmes or undertaking additional surveillance in an identified area of concern.

Surveillance requirements for the organized food retail and street food sectors should include the following:

- i. A routine surveillance programme.
- ii. A seasonal surveillance programme – this may be designed in the country based on seasons and festivals as different food products may be available only during those occasions.
- iii. A lead agency should be appointed if multiple agencies undertake food surveillance – such an agency should coordinate the activity in terms of consolidation of food surveillance data, analysis and sharing the same among the relevant agencies.
- iv. Product recall and traceability systems should be put in place.

² FAO/WHO. 2003. Assuring Food Safety and Quality: Guidelines for Strengthening National Food Control Systems . FAO Food and Nutrition Paper 76 (available at <http://www.fao.org/docrep/006/y8705e/y8705e00.htm#Contents>).

- v. Regular testing of contaminants and adulteration – this should be done by competent authorities under their contaminant monitoring programmes. Such analysis should consider contaminants of concern to the national situation. Examples include: prohibited chemicals (formalin, pesticides, calcium carbide), drugs and antibiotics (such as chloramphenicol), toxins, additives, micro-organisms and unauthorized colouring and preservatives.
- vi. Laboratory capacities – these should be provided by the local or national government, either in the form of mobile test kits and in-house testing or outsourcing of samples to certified/accredited laboratories.
- vii. A surveillance system that captures foodborne disease – based on food contamination incidents reported by either doctors or the public.
- viii. The collation and analysis of premises and food handler behaviour information – this can be used to identify areas requiring additional education or enforcement action.

VIII. NORMS OR STANDARDS FOR FOOD RETAIL BUSINESSES

Norms or standards define the minimum requirements or criteria to be met by retail food businesses to ensure the food they produce, retail or sell is safe.

Norms or standards for the organized food retail sector³

1. Scope: These guidelines cover the minimum retail practices to be implemented throughout the supply chain to ensure availability of right quality and safe products at the point of sale to the consumer. The guidelines are basically oriented to cover food products. The guidelines are applicable to large as well as small retailers and cover the entire supply chain as applicable to the retailer.

2. Requirements: The basic requirements for each of the activities in retail are given below. The general requirements as applicable to all facilities and activities (i.e. fruits and vegetables grading and sorting, staples reprocessing, distribution / warehouses, stores) are given under 2.1, and activity-wise areas that need special focus are given under 2.2.

2.1 General requirements for all facilities and activities: The general requirements as given below for ensuring food safety should be complied with as relevant to the activity. Requirements are covered under two headings, namely: i) Good Manufacturing Practices (GMP)/ Good Hygiene Practices (GHP)/ Good Agriculture Practices (GAP)/ Good Distribution Practices (GDP); and ii) Food Safety Management Systems requirements.

2.1.1 Key elements: GMP/ GHP/ GAP/ GDP

2.1.1.1 Facility environment: The site or facility should be located and maintained so as to prevent contamination and enable the production of safe products.

Surroundings should be clean with no garbage accumulation, no excessive flies/ rodents and no accumulation of stagnant water near site and no open sewage lines.

2.1.1.2 Facility layout and product flow

Premises, sites and/or plants should be designed, constructed and maintained to control the risk of product contamination.

Layout should be clear. Product flow, as far as possible, should be uni-directional without crisscrossing. There should be adequate separation between storage areas (raw material, packaging material, finished goods, rejected/ accepted materials, etc.), processing area, packing area, utility area etc.

There should be provision of appropriate loading and unloading points that facilitate movement of material and these should be suitably covered to provide adequate protection from pests, rain, etc.

³ Based on guidance developed during the Workshop on Improving Safety and Quality in the Food Retail Chain, FAO Regional Office for Asia and the Pacific, 2012. Note that modifications have been made to reflect the 2013 workshop's discussion and recommendations.

2.1.1.3 Fabrication (raw material handling, preparation, processing, packing and storage areas)

The fabrication of the site, buildings and facilities should be suitable for the intended purpose with specific attention to the following:

- i. Flooring should be smooth, impervious, with no crevices or damages. Floors should be constructed to allow for adequate drainage.
- ii. Roof should be gap free, water resistant, and finished so as to minimize build up of dirt and shedding of particles.
- iii. Walls and partitions should have a smooth surface. Wall paint should not be flaking off. There should be no crevices to harbour pests.
- iv. Windows and ventilators should be easy to clean, and where necessary fitted with cleanable mesh that should not be cut or damaged and thus allow insects in. Glass on windows should preferably be avoided, however if used, this should be shatter proof or protected to ensure that food is not contaminated by breakages.
- v. Doors should be smooth and non absorbent and be easy to clean and disinfect as appropriate. Entry/exit points should be suitably fitted with measures such as strip PVC /air curtains/ wire mesh doors / doors with self-closing devices, etc. as appropriate to ensure dust, insects, birds and animals are kept out.
- vi. Storage facilities and storage should be adequate to the operations to maintain a safe product.
- vii. Drainage systems as relevant to the operations should be appropriately designed and constructed. The sewage discharge should comply with the requirements of the pollution control authority of the country. Drains, if any, in the operations area should be made of impervious rust proofing material and should be covered. These should have adequate trapping devices to avoid entry of pests. Drains should allow for effective cleaning as relevant. They should not allow any stagnation or backflow of water. There should not be any overhanging of sewage or sanitation pipes.
- viii. Temperature controls, both for operations and environment, as appropriate to food and operations, should be maintained to ensure the safety and suitability of food.
- ix. Ventilation, either natural or mechanical, as appropriate to the food and the operations should be provided for minimizing airborne contamination, controlling ambient temperatures and humidity, as necessary, that might affect the safety and suitability of food.
- x. Ventilation systems should ensure that air does not flow from unclean to clean areas. These systems should be adequately maintained and cleaned.
- xi. Lighting, natural and / or artificial, should be provided in premises for various operations and other activities within the facility (e.g. sanitary conveniences). The intensity of lighting should be adequate to the nature of operations (e.g. sorting, cleaning, grading, inspection and testing require greater intensity of light). Where necessary, lighting should be such that the resulting colour is not misleading. Lighting fixtures, especially where food or food contact surfaces are exposed, should be shatter proof or protected with shatter-proof covers to ensure that food is not contaminated by breakages. The fixtures should be designed to avoid accumulation of dirt and be easy to clean.

xii. Power backup - suitable power back up facilities e.g. generators, invertors should be provided to ensure uninterrupted supply, as necessary, for production/ maintenance of safe food.

xiii. Fire protection – suitable fire protection equipment should be provided that is functional and has not reached its expiry date. There should also be a designated area for the fire protection equipment.

2.1.1.4 Equipment

Equipment and re-usable containers coming into contact with food should be suitably designed and constructed for the intended purpose so as to minimize food safety risks. Equipment should be located so that it permits adequate maintenance and cleaning, and facilitates good hygienic practices, including monitoring, if required.

It should be ensured that equipment is adequately cleaned, disinfected where necessary, and maintained to avoid contamination of food. Where necessary, equipment should be movable or capable of being disassembled to allow for maintenance, cleaning, disinfection, monitoring, etc.

A system of planned maintenance should be in place covering all items of equipment that are critical to product safety. Maintenance programmes should cover maintenance schedule, responsibilities, methods, tools and gadgets, etc. Appropriate records should be maintained. Consumables such as greases and lubricants that come into contact with food should be food grade. Spares should be non-toxic, non-reactive and impervious.

Pallets should preferably be made of plastic. However, when wooden pallets are used they should not have any signs of infestation (fungus, termites, etc). Records of any antifungal /antitermite treatment that have been carried out should be available.

2.1.1.5 Staff facilities

Staff facilities should be designed, and should be operated, so as to minimize food safety risks. These may include the following as appropriate:

i. adequate means of hygienically washing and drying hands, including wash basins and supply of adequate water of potable quality (complying with IS 10500); taps may need to be non-hand operated, depending on the nature of operations;

ii. toilets/ lavatories of appropriate hygienic design at suitable locations with adequate natural or mechanical ventilation and natural or artificial lighting;

iii. adequate changing facilities for personnel, with lockers for personal belongings, as appropriate to the operations;

iv. a pantry, as necessary.

2.1.1.6 Physical, chemical and biological contamination risk

Appropriate facilities and procedures should be in place to control the risks from physical, chemical, or biological contamination of products. Appropriate controls should be in place to minimize incidence of foreign bodies, e.g. by the use of effective detection or screening devices (such as filters, sieves, magnets or metal detectors). Annual calibration is necessary for all detection and screening devices.

2.1.1.7 Segregation and cross-contamination

Procedures should be in place to prevent contamination and cross-contamination of raw materials, packaging and finished products, covering all aspects of food safety including micro-organisms, chemicals and allergens.

2.1.1.8 Stock management (rotation)

Procedures should be in place to ensure materials and ingredients are used in the correct order and within the allocated shelf life.

2.1.1.9 Housekeeping, cleaning and hygiene

Appropriate standards of housekeeping, cleaning and hygiene should be maintained at all times and throughout all stages of the operations.

Cleaning and housekeeping programmes as appropriate should be in place and should cover cleaning and housekeeping schedule, responsibilities, methods, equipment and cleaning and sanitizing aids, etc. to effectively control contamination. These should be continuously monitored for their effectiveness. It should be ensured that cleaning and sanitizing chemicals do not contaminate food.

2.1.1.10 Water quality management

The quality of water (including ice and steam) that comes into contact with food, food contact surfaces or hands should be potable and regularly monitored to ensure that it does not present a risk to product safety. Water for post-harvest washing should be potable. Potable water should be checked for contaminants at an appropriate frequency.

Water pipes and storage tanks should be made of materials that are non-toxic, corrosion resistant, free from cracks, impervious and should be sealed. These should be maintained in good condition at all times to prevent leakage or defects that could result in contamination of food. Water storage tanks for potable water should be regularly cleaned and disinfected to prevent contamination.

2.1.1.11 Waste management

Adequate systems should be in place for the collation, collection and disposal of waste material.

Waste should not accumulate in processing/ storage areas. Waste bins and areas should be identified, covered and kept clean. Containers for waste, by-products and inedible or dangerous substances should be suitably constructed and where appropriate made of impervious material. Those used to hold dangerous substances should also be lockable and access restricted to authorized personnel.

2.1.1.12 Pest control

Suitable pest control programmes should be in place for controlling or eliminating the risk of pest infestation on the site or facilities including vehicles. The pest control programmes should identify the pests to be controlled, the area / locations where control is to be applied, the method of control (for example physical, chemical), the dosage in case of usage of chemicals, the schedule, responsibilities, etc. These should include use of insectocutors, traps and baits as appropriate. Rodent traps, when used, should be in sufficient number and be mapped. Insectocutors, when used, should be functional and the collection tray cleaned at regular intervals.

The pest control activities should be performed by trained and authorized personnel. These should be continuously monitored for their effectiveness to ensure there are no signs of pest infestation including flies, cockroaches, lizards, rats. Updated records and pest control contracts should be available on site. It should be ensured that pest control chemicals do not contaminate food. The measures applied should be documented and records maintained.

2.1.1.13 Veterinary medicine (GAP only)

A system should be in place to ensure that drugs used are appropriate to their purpose and do not exceed permitted maximum residue limits (MRLs).

2.1.1.14 Pesticide, herbicide and fungicide control (GAP only)

An integrated crop management or equivalent system should be in place for the judicious use of chemicals during growing and post-harvest treatment and to control residues so that they do not exceed MRLs prescribed.

2.1.1.15 Transport

All vehicles, including contracted out vehicles, used for the transportation of raw materials (including packaging), intermediate/semi-processed products and finished products should be suitable for the purpose, maintained in good repair, be clean and pest free. The design and construction of transportation or transport containers should be such that they do not contaminate food, food ingredients or packaging material.

Food should be adequately protected during transport to ensure food safety. Food and non-food items should be suitably segregated during transportation. Where foods are transported after the transportation of chemicals or other non-foods, effective cleaning or, where needed, disinfection should be carried out between the loads.

The temperature, humidity, atmosphere and other necessary conditions, as appropriate to the product, should be maintained. In the case of transportation of fruits and vegetables, the vehicles should have suitable ventilation. In the case of transportation of chilled or frozen products, the vehicle should have facilities to maintain suitable temperature conditions and should have adequate temperature monitoring devices. In the case of cut fruits and vegetables, a temperature of 4 °C to 8°C should be maintained.

2.1.1.16 Personal hygiene, protective clothing and medical screening

Documented hygiene standards based on risk of product contamination should be in place. Hand washing and toilet facilities should be provided. Hands should be washed with soap/disinfectant after use of toilets; and after touching any contaminated material (including raw material, money, files etc.), unclean products, food contact surfaces or body parts, especially if dealing with exposed foods. No spitting, smoking, eating food and chewing gum or other such items should be permitted in the operations areas.

Suitable and appropriate protective clothing should be provided and worn. While working in areas where exposed food is handled, personnel should maintain a high degree of personal cleanliness and should wear a clean uniform and head gear/cap and wash hands regularly. They should not wear loose or hanging jewellery, glittering clothes, glass bangles, rings, watches or carry mobile phones. Nails should be trimmed, kept clean and without nail polish.

Personnel hygiene practices in simple local language or a language understood by the personnel, or a pictorial, should be suitably displayed in appropriate places.

In all cases the use of protective clothing and personal hygiene measures should also apply to contractors and visitors.

A medical screening procedure should be in place to include:

- i. checking of personnel likely to come in contact with food for communicable and infectious diseases on joining, and as required by national needs;
- ii. checking of personnel likely to come in contact with food for any open cuts or wounds/injury, contagious disease, or sickness such as jaundice, diarrhoea, fever, skin allergy; and
- ii. ensuring that sick persons including workers, contractors and visitors are not allowed to work in or visit the premises.

2.1.1.17 Training

A system should be in place to ensure that all employees involved in food handling are adequately trained, instructed and supervised in food safety principles and practices, commensurate with their activity. This should also include induction training.

Trainings should be held at required frequencies and records of training should be maintained.

2.1.2 Key elements: food safety management systems

2.1.2.1 Management commitment and responsibility

There should be a clear commitment by the retail management towards food safety. A clear organizational structure, which defines and documents job functions, responsibilities and reporting relationships of at least those persons whose activities affect product safety, should be documented.

2.1.2.2 Documentation and records

- i. Documented procedures for various processes and operations having an effect on product safety as relevant to the activity should be available and implemented.

ii. Appropriate records as applicable to the activity in relation to process, storage, transportation and distribution should be kept and retained for a period that exceeds the shelf life of the product. These should be controlled effectively and readily accessible when needed. At the very least, records for the following processes should be maintained:

- Incoming material checks
- Inspection and tests
- Temperature and time
- Product recall and traceability
- Storage
- Cleaning and sanitation, as appropriate
- Pest control
- Medical and health
- Hygiene inspection for food handlers
- Training
- Internal audit – both regular process and facility audits
- Calibration/ verification
- Non-conforming products
- Waste disposal.

2.1.2.3 Internal audit

The retailer should have an internal audit system in place in relation to all systems, procedures and activities that are critical to product safety.

2.1.2.4 Corrective action

The retailer should have documented procedures for the determination and implementation of corrective actions in the event of any significant non-conformity relating to product safety covering every activity.

2.1.2.5 Control of non-conformity

The retailer should ensure that any product that does not conform to requirements (regulatory and consumer safety) is clearly identified and controlled to prevent unintended use or delivery. These activities should be documented and implemented.

2.1.2.6 Purchasing (procurement/ sourcing)

All products must be obtained from sources approved by the authorities and SOPs should be documented to cover the same. The retailers should continually monitor suppliers in case of any doubt on the safety of the products.

2.1.2.7 Traceability

Effective and appropriate procedures and systems should be in place to ensure:

- identification of any out-sourced product, ingredient or service;

- complete records of batches of in-process or final product and packaging throughout the production process, as necessary; and
- record of purchaser and delivery destination for all products supplied.

2.1.2.8 Complaint handling

An effective system should be in place for the management of customer complaints and complaint data to control and correct shortcomings in food safety. Records of the complaints and their handling till final closure, including corrective and preventive actions, should be maintained.

2.1.2.9 Serious incident management

An effective incident management procedure for all “own-brand” products as well as branded products should be implemented and tested or verified regularly. This should cover both product withdrawal and product recall (as applicable).

2.1.2.10 Control of measuring and monitoring devices

Any measuring and monitoring devices used to assure product safety should be calibrated at defined frequencies or at least once a year from accredited centres and should be traceable to recognized standards. All weighing equipment should comply with relevant national requirements.

2.1.2.11 Product analysis

Any testing undertaken to confirm product safety should be in the retailers own laboratory or a government approved or accredited laboratory. Testing should be carried out by qualified manpower.

2.2 Specific requirements

Specific requirements that need to be addressed for various functions are highlighted below. These requirements are in addition to those given under 2.1.

2.2.1 Fruit and vegetable sorting and grading centres

- i. Procurement should be from identified sources (vendor/ farmer) that will allow trace back of the produce to the source. Testing to check the residues and contaminants (heavy metals, microbial, pesticide residues etc.) should be done at frequencies pre-defined by the retailer or when the source has changed.
- ii. Fruits and vegetables should be stored and transported under proper storage conditions. Cut fruits and vegetables should be stored at 4⁰C to 7⁰C.
- iii. Crates used should be clean and dry and not used for any other purpose, for example storing chemicals, garbage collection. Crates, once filled, should be stored away from walls. Identification tags should be there on all products.
- iv. Weighing scales should be checked once a day with standard weights and records maintained. Weight of products declared should be net weight and not gross weight when these are in a packed form or on trays.

v. Tables used for sorting and grading should be suitably designed and constructed so as to minimize food safety risks. These should be made of an appropriate material to ensure that the surface is smooth, impervious and without cracks and should be kept clean.

vi. Vehicles for dispatching product to stores should be clean and have suitable ventilation and temperature controls, as needed.

vii. Only knives made from an appropriate material should be used for preparing cut fruits and vegetables. Wood should not be used for cutting platforms. Platform/knives used for cut vegetables/fruits should be properly sanitized.

viii. In the case of waxing or any coating of products, the material used should be food grade. Only permitted chemicals may be used for ripening.

2.2.2 Meat cutting and packing centres

i. Raw meat procurement should be from authorized sources (slaughter house/processing units) that will allow traceability back to the produce/source. All the meat must be with ante-mortem and post-mortem certification from a qualified and registered veterinarian.

ii. Testing to check for microbes, residues and contaminants should be done at frequencies pre-defined by the retailer or when source has changed.

iii. All meat/carcasses should be stored and transported at 0°C to 4°C all the time.

iv. Crates/containers used for meat storage should be clean, sanitized and not used for any other purpose, for example vegetarian food, chemicals, and garbage collection. Colour coding should be used for proper identification and once filled the crates/ containers should be stored on pallets with proper identification tags/number.

v. Weighing scales should be checked once a day with standard weights and records maintained. Weights of products declared should be net weights and not gross weight when these are in packed form or on trays.

vi. The processing unit should be constructed and maintained so as to permit hygienic production. The floors, walls, ceiling, partitions, doors and other parts should be constructed of such material and finish that they can be cleaned and sanitized thoroughly. It must have efficient ventilation and drainage system. It must be with at least a sufficient capacity air conditioning unit to maintain the temperature from 15°C to 18°C.

vii. The processing unit should be provided with a separate cleaning and sanitation area for cleaning the crates, containers, equipments etc.

viii. Tables used for checking, cutting and packing should be suitably designed to avoid any food safety problems. No vessel, container or other equipment that is likely to cause metal contamination injurious to health should be used in the processing unit.

ix. Vehicles used for dispatching to stores should be clean, sanitized and with refrigeration equipment to maintain a temperature of between 0°C and 4°C during transportation.

x. Only knives made from an appropriate material should be used for cutting meat and wood should not be used for the meat cutting board. Cutting board and knives used for cutting should be sanitized with chlorine water solution /heat sterilization.

xi. Primary packing material that comes in direct contact with meat should be from food grade material and the printing ink must not contaminate the meat after long-term storage.

xii. The processing unit should be provided with adequate light at processing and during quality control (QC) inspection.

xiii. Personnel engaged in handling and processing should use protective garments, namely hand gloves, nose mask, head gears, foot covers and PVC aprons. These should be colour coded to avoid mix up with those used in vegetable processing areas.

2.2.3 Staples processing centres

i. Vehicles used for transporting bulk or packed products should be checked for cleanliness and where the earlier load has been chemicals or non-food items, effective cleanliness/disinfection between the loads should be ensured. A checklist may be effective for verification of cleanliness of arrival and dispatch trucks.

ii. Where dried fruits are handled or stored, there should preferably be an air conditioned room facility maintained at from 18°C to 25°C.

iii. Raw material/final goods/ packaging material should be stored on separate pallets/racks.

iv. All packed material should carry labels with date and code to ensure that material is not wrongly dated. The “best before” date should be monitored for all packed products at all points in the retail chain.

v. Fumigation should be carried out, where necessary, to ensure infestation free products until the end of their shelf life. There should preferably be provision for an enclosed fumigation chamber with exhaust fans for fumigation. Fumigation should be done by authorized personnel. Aeration time after fumigation should be a minimum of three to four hours. Fumigation records should be maintained. Fumigation activity should be carried out in such a way to ensure personnel and environmental safety. For spices, ethylene oxide as per appropriate doses may be used.

vi. Non-fumigated stock should be kept away from fumigated stock to avoid cross contamination.

vii. Weighing scales should be accurate to the level required and should be checked once a day with standard weights (1 to 25kg) and records should be maintained.

viii. No loose screws, nuts, bolts, etc. should be placed close to packing and processing area. In the manual packing area, the floor should be kept clean and clean surfaces (for example stainless steel/aluminium trays) should be used for cleaning operations. Effective detection and screening devices such as magnets and metal detectors should be used.

ix. If the cleaning/packing activity is done mechanically, it should be ensured that hygiene conditions are maintained and the product handled is free from cross-contamination and infestation.

x. Rejected material should be kept at identified locations with status tag and should be stored away from good stock. Timely disposal of rejected stock needs to be done to avoid cross-contamination by insects.

xi. The retailer should ensure that processor has approved licenses for the premises where such activities are carried out. All material invoiced to carry a declaration of vendor certifying the foods supplied should be of the nature and quality as purported.

xii. Products should be tested as per laid down frequency for all parameters specified under regulations of the country to ensure product safety.

xiii. Shelf life tracking should be carried out for both bulk stock and final products.

2.2.4 Warehouses /distribution centres

i. Loading and unloading bays should be covered.

ii. Layout should be clear. Storage areas should be separate and clearly demarcated and identified specially for food/non-food items (except in case of bundled items for offers, in which case a conscious decision should be taken on product compatibility); damaged/good stocks/scrap; corrosive /hazardous/highly inflammable materials.

iii. Drains inside the distribution centre operation area should be avoided. However, if there are drains, they should be covered.

iv. Temperature conditions should be maintained for storage of products such as confectionary items, dry fruits, dairy products, frozen and chilled products. Temperature should be monitored either continuously or at regular predetermined intervals and data maintained.

v. There should be identified locations for forklift parking, battery charging and spare parts at identified locations. The forklift should be under preventive maintenance to avoid oil grease leakage on floor/food packs. The battery charging area should be kept clean and battery water topped up.

vi. A first aid kit should be maintained with goggles, water for eye washing, sand cover, etc.

vii. Racks and products should be free from dust and products protected through primary/secondary packaging.

viii. There should be no eating, drinking, smoking, spitting, etc. inside the distribution centre storage area. Checks should be carried out for any consumed/ pilfered products lying in the distribution centre.

ix. Personnel should not climb on racks or sit on products.

- x. Products should be handled properly during loading, unloading and stacking to ensure that they do not cause any safety related problem or damages to the products.
- xi. Products should be accepted and released to stores as per acceptance and release norms in relation to shelf life. When sent to stores, products should have a sufficient shelf life remaining.
- xii. Damaged and expiry stocks should be segregated and stacked neatly and clearly. These should be clearly labelled. Disposal should be done at regular intervals so that there is no contamination of fresh stocks. Records should be maintained. Destruction of vendor non-returnable expired stocks should be ensured in the presence of a responsible person so that these do not find their way to consumers.

2.2.5 Stores or front end

- i. The store interior and exterior should be clean and there should be no seepage, cobwebs, dirt, dust, etc. that can compromise food safety.
- ii. The back room should be properly arranged, clean and free of hazardous materials, for example cleaning chemicals, diesel. No food product should be kept near a toilet. Products should be segregated and clearly identified such as food/ non-food; rejected/damaged/ expired/past “best before” date. Damaged and expired products should be clearly marked, for example as “not for sale”.
- iii. Product packs, refrigerators, storage racks, crates, shopping baskets and trolleys should be clean. Chillers and freezers should be clean and free from foul smells.
- iv. Products should be stored at correct storage temperature (e.g. dairy products, cut fruit and vegetables, mushrooms, sprouts, shelled corn at temperatures of +4⁰C to +7⁰C; frozen products at -18⁰C to -22⁰C), meat and fish chilled at 0⁰C to 4⁰C. Freezers and chillers should not be switched off at any time if these contain food products. Temperatures should be regularly checked (at least three times a day) and records maintained. Temperature display/ monitoring devices should be calibrated at least once a year.
- v. Food and non-food products should be stored separately in the entire store and backroom, especially where there is a chance of contamination. Vegetarian and non-vegetarian frozen products should be stored in separate freezers to avoid cross-contamination.
- vi. Displayed products should be free from insects, fungus, other damage/defects (puffing, open seal, etc.). Packed food products should be free from pin holes or damages which compromise the safety of the product.
- vii. If water is sprinkled on fruits/ vegetables, or used in any operations where it is added to food or is in direct contact with foodstuffs, it should be potable.
- viii. Food products should not be stored directly on the floor. They should be kept on racks or pallets.
- ix. No food product should be stored outside the store.

- x. Labels on products or shelf edge labels should not be misleading.
- xi. Pest control should be carried out on a regular basis and should be effective.
- xii. Waste should be removed at regular intervals and stored in closed waste bags /dustbins and bags cleared daily.
- xiii. Personal hygiene of store staff should be suitable – clean clothes should be worn, nails clipped, and appearance should be clean and neat.
- xiv. Toilets should be cleaned with running water, soap and with suitable hand drying facilities.
- xv. All regulatory compliances should be suitably complied with, within the existing legal framework.
- xvi. All staff should have been trained on food safety, legal and labelling requirements.
- xvii. Customer complaints on quality should be recorded and suitably addressed.
- xviii. In case of any processing inside the store, GMP/GHP should be ensured. For fresh meat/ fish retailing special precautions should be taken. These include the following in addition to the points already covered:
 - Suitable washing and sanitizing facilities for feet and hands at entry points should be available.
 - Wash basins with running water facility should be available.
 - Meat / fish chopping boards should be hygienically designed. They should be sanitized and washed whenever required, and always at the end of the day. Wood should not be used. Knives for cutting should be of stainless steel and rust free.
 - Refrigeration/ freezing equipment should be suitable to keep the internal temperature of the meat in a frozen condition. The equipment should be fitted with necessary gauges to indicate the temperature. The recording/ temperature logging devices should be calibrated at specified intervals.
 - A liquid and solid waste disposal system should be in place that meets requirements.
 - Ice should be made from potable water.
 - A certificate for pre-mortem inspection for meat by a qualified veterinarian should be available where carcasses are cut and sold at the premises.
 - Post-mortem inspection should indicate absence of any diseases.

2.2.6 Processed food vendors

Retailers should ensure that the vendors/ manufacturers for any food items to be sold under “Own Brand” should comply with regulatory requirements.

Norms or standards for the street food sector

1. Scope: The present guidelines define the general hygienic requirements and recommended practices concerning the preparation and vending of street foods. Additional requirements for street food centres (such as hawker centres) have been given under 3.8.

2. Definitions: For the purposes of this section, the terminology used is defined as given in **Annex A**.

3. Requirements

3.1 General

3.1.1 Rules and regulations

3.1.1.1 Appropriate rules and regulations should be drafted in order to be endorsed easily with the possibility of controlling the street foods sector as an integral part of the food preparation sector. Such rules and regulations can either be elaborated separately or incorporated into existing food regulations. See also Section II Legislative Requirements.

3.1.1.2 The general hygienic requirements and practices to be followed by the vendors should be translated by the relevant authorities into codes of practice that are recognized as cost-effective tools for the control of street foods, by fully taking into account local conditions including specific risk factors that are relevant to each operation.

3.1.2 Licensing/ registration of vendors

No vendor should conduct his/her business of preparation, packing, storage, display and sale of any street foods unless he/she is licensed or registered under the relevant food regulations. See also Section V Registration and Licensing.

3.1.3 Conditions for licensing

3.1.3.1 No relevant authority should issue or renew the license of any vendor who does not commit to complying with all the requirements of the code of practice established by the officially recognized authorities within a specified period of time.

3.1.3.2 It is essential that basic training in food hygiene is carried out by the relevant authorities prior to issuing or renewing the license/ registration of street food vendors.

3.1.4 Display of notices

3.1.4.1 Every licensed vendor should at all times display visibly his/her vendor's license/ registration and any other notices that are required to be displayed by the relevant authorities.

3.2 Design and structure

3.2.1 Location, environmental surroundings and facilities

3.2.1.1 The location of street food stalls should be such as to avoid contamination of the food prepared, served or sold at the stall. Stalls should be located in areas that are not potential sources of hazards, for example pollution, pests, prone to flooding and stagnating water, waste sources, dust and fumes, polluting factories. The areas should be designated by the relevant authorities who should assess the areas based on risk. These food stalls should be located at suitable distances from garbage dumps so as not to be a potential source of risk from pests, pollution, etc.

3.2.1.2 The area where the stall is located and immediate surroundings should be easily cleanable and have facilities for clean running water, garbage or waste collection and disposal system, and suitable drainage system for disposing of waste water in a sanitary manner.

3.2.1.3 The space in and around the street food stall should be free of unnecessary stored goods or articles and discarded articles in order to permit easy access for cleaning.

3.2.1.4 Toilets - Every vendor, helper or food handler should have easy access to sanitary facilities which are kept at all times in a clean and operational condition.

3.2.2 Structures

3.2.2.1 Street food stalls should be made of impervious materials that are easy to clean and disinfect, and can be maintained in a good state of repair. The design should be such that there are no jagged edges, protruding nails or any crevices which can harbour dust and micro-organisms or cause physical injury.

3.2.2.2 The food preparation areas and working surfaces or food contact surfaces should be made of a smooth and impermeable food grade material.

3.2.2.3 All cooking ranges, washing equipment, working tables, shelves and cupboards on or in which food is placed should be at least 45 cm above the ground. The size of the workplace should be adequate for the food to be prepared and the equipment to be kept.

3.2.2.4 There should be adequate provision of natural or artificial light of sufficient intensity to ensure a reasonable standard of illumination for every part of the stall in order to allow safe food preparation and adequate cleaning. This is especially important during night time.

3.2.2.5 There should be an area for handling, storing, cleaning and preparing raw food ingredients, separate and away from the cooked, street food display, handling and serving areas.

3.2.2.6 The areas of food temporary storage as well as display areas should be constructed so that they are easily cleaned and adequately covered to prevent contamination.

3.2.2.7 Measures such as signage or showcases should be in place to prevent customers from touching food on display.

3.3 Maintenance and sanitation

3.3.1 Maintenance

The stalls and work surfaces and equipment should be kept in an adequate state of repair so as not to contaminate the food as a result of chipping surfaces, loose nails or breakages.

3.3.2 Cleaning

All food contact surfaces should be cleaned at regular intervals and disinfected at least once a day. Floors and surrounding areas should be thoroughly cleaned at least daily. An appropriate cleaning chemical should be used and it should be ensured that residues do not remain on the work surfaces. Rinsing of all work surfaces and any equipment that comes in contact with food should be with potable water. Special care should be taken to clean thoroughly at the end of the day.

3.3.3 Water supply and quality

Vendors should ensure that a sufficient supply of potable water is available at all times. Where necessary, such as in the case of mobile vendors or where potable water supply is not yet available, potable water should be stored in clean water containers.

3.3.4 Pest and animal control

Every vendor should at all times take appropriate measures to keep his/her stall free from animals (e.g. cats and dogs) and pests (e.g. rodents or insects) to prevent contamination of the food. Some measures will include ensuring that the stall is not adjoining a wall or located near places having insects or animals or near garbage dumps, keeping the stall and surroundings clean, keeping food covered, storing food at least 45 cms above ground level.

Every vendor should, on becoming aware of the presence of any such pest or harbourage, immediately take all practicable measures to get rid of the pest or harbourage and to prevent re-infestation.

Any food found to have become contaminated by pests should not be served to customers and should be appropriately disposed of in a hygienic manner.

The direct or indirect contamination of food with pest control materials such as poisons must be absolutely prevented.

3.3.5 Waste handling

Waste material should be handled in such a manner as to avoid contamination of food and/or potable water. Waste should not be allowed to accumulate and should be removed from the working area of the stall as often as necessary and at least daily.

All solid waste should be properly disposed of in suitable containers that are secured with tight fitting lids or placed in waste bins or central waste/ garbage bins. Waste liquids should only be discharged in drains/ sewers and not on the road side.

Immediately after disposal of the waste, receptacles used for storage and any equipment that has come into contact with the waste should be cleaned thoroughly. The waste storage area should also be cleaned daily. Only appropriate and suitable sanitizing agents should be used. In areas without a garbage collection service, solid waste is to be disposed of in a sanitary manner, as recommended or approved by the competent authority.

3.4 *Equipment and appliances*

3.4.1 All equipment, including containers for storing drinking water, should be made of materials that do not transmit toxic substances, odour or taste, are not absorbent (unless its use is intended for that purpose) and will not result in food contamination, are resistant to corrosion and capable of withstanding repeated cleaning and disinfection. Every cutting surface used in the preparation of food should be free from cracks and crevices, with only reasonable wear and tear. All defective, damaged, cracked, rusted, chipped and unsuitable appliances and crockery should be removed from use and discarded.

3.4.2 Cooked and uncooked food should be handled in separate utensils and separate chopping boards should be used.

3.4.3 All equipment, appliances and cutting surfaces should be kept clean and should be cleaned before and after daily operations and immediately after being used to prepare raw food. All non-disposable utensils should be regularly cleaned by thoroughly washing them in warm water containing an adequate amount of soap or other suitable detergents and then either immersing them for 30 seconds in boiling clean water and draining them or, for two minutes in potable water at a temperature of not less than 77°C and draining them. If water at 77°C or boiling temperatures is unavailable, a running water rinse with potable water should be carried out after cleaning with detergent.

3.4.4 Disposable crockery and cutlery should be used only once and properly disposed of. If non-disposable crockery and cutlery is used, the same is to be cleaned after each use, using the method described for utensils (3.4.3).

3.4.5 All appliances are to be maintained in good state of repair and working order.

3.5 *Personal hygiene*

3.5.1 *Health condition of the vendors*

3.5.1.1 No vendor should be allowed to handle food if showing any symptoms of jaundice, diarrhoea, vomiting, fever, sore throat with fever, discharge from ear, eye and nose or having visibly infected skin lesions (boils, cuts, wounds, injury, etc.).

3.5.1.2 Any vendor who has been identified as or is known to be or has previously been a carrier of foodborne disease organisms, should not be involved in any food handling activity until certified by a medical officer of health or any other medical practitioner as a non-carrier.

3.5.1.3 Every vendor should be required to undergo medical examination prior to and during employment if national or local situations require such measures and should be required to be immunized as required by the relevant authority.

3.5.2 Personal hygiene and behaviour

3.5.2.1 While handling street food, every vendor should wear an identification tag if issued and required by the relevant authority. They should maintain a high degree of personal cleanliness and wear clean and suitable clothing. Hair should be kept clean and tidy and should be covered during operations. Wearing loose or hanging jewellery, glass bangles and rings during food preparation should be avoided. Nails should be trimmed and kept clean at all times and without nail polish.

3.5.2.2 Hands should be washed thoroughly with soap and clean running water at the start of food handling, immediately after visiting the toilet, after handling unsanitary or contaminated articles (including raw material, food contact surfaces, money, body parts, etc.) or touching animals. If clean running water is not available, an acceptable alternative hand cleaning method or gloves should be used. Non-infected cuts and wounds should be completely protected by a waterproof dressing that is firmly secured and regularly changed.

3.5.2.3 Unhygienic behaviour such as spitting, smoking, eating food and chewing gum or any other material, sneezing or coughing over or onto the food, cleaning nose, ears or any other body orifice or touching any body part should be avoided while preparing, handling or serving food. Using the stall as a sleeping or dwelling place, or for any other personal activity should be absolutely avoided.

3.5.2.4 Touching of food by customers should be discouraged to avoid its contamination. Use of signage or showcases will help in preventing customers from touching foods.

3.6 Training of vendors

3.6.1 The vendor and all food handlers and helpers should have completed basic food hygiene training organized by either the competent authority or other institution recognized or approved by the competent authority. The training provided should include specific control measures required for specific food items sold by the vendor, especially high-risk foods. The training component should also cover the issue of left-over foods.

3.6.2 Food inspections should include an educational component that would reinforce the key food safety issues.

3.6.3 *Vendors associations* - the formation of street food vendor associations or cooperatives should be encouraged to provide a liaison point with the relevant authorities in view of facilitating the implementation of control measures.

3.7 Food preparation

3.7.1 Requirements for raw materials, ingredients and packaging

Every vendor should ensure the following:

- i. All raw materials, other ingredients, including ice, should be from known and reliable sources. If there is any doubt on the safety of the raw material, it should not be used.
- ii. The raw material and ingredients used should be fresh and wholesome to maintain the quality and safety of the food made.
- iii. Water used for the purpose of drinking, preparation of hot or cold drinks and beverages should be potable. Ice should be made from potable water and should be handled and stored so as to protect it from contamination. Containers used to transport or store water or ice should meet the requirements for containers in 3.4.
- iv. Transportation of ingredients should be in a manner so as to prevent exposure to the environment, spoilage and contamination.
- v. Only permitted food additives should be used and the amount added should be according to the specifications provided.
- vi. Printed material should preferably never be used to serve food. Only food grade aluminium foil, waxed paper, food grade plastic and any other suitable material should be used for packing and serving food. Government authorities should provide guidance on which source/suppliers are suitable. It should be stored in a hygienic manner and should not be reused unless it is suitably cleaned.

3.7.2 Cooking and handling

3.7.2.1 Fresh vegetables and fruit whether for cooking or consuming raw, should be thoroughly washed with sufficient running potable water, to remove adhering surface contamination. For any soaking, potable water should be used.

3.7.2.2 Where appropriate, raw food should be washed before using in food preparation to reduce the risk of contamination. Raw food should not be washed with other foods that will be consumed raw or in a semi-cooked state.

3.7.2.3 Thawing of large pieces of meat or large poultry carcasses before cooking, when carried out as an operation separate from cooking should be performed only in:

- i. a refrigerator or thawing cabinet maintained at a temperature of 4°C; or

- ii. a commercial microwave oven only when the food will be immediately transferred to conventional cooking units as part of a continuous cooking process or when the entire, uninterrupted cooking process takes place in the microwave oven.

Note: Hazards associated with thawing include cross-contamination from drip and growth of micro-organisms on the outside before the inside has thawed. Thawed meat and poultry products should be checked frequently to make sure the thawing process is complete before further processing or the processing time should be increased to take into account the temperature of the meat.

3. 7.2.4 The time and temperature of cooking should be sufficient to reduce to safe levels any pathogens that may be present in the food.

3. 7.2.5 Food should not be re-heated more than once and only the portion of the food to be served should be re-heated. A temperature of at least 75°C should be reached in the centre of the food within one hour of removing the food from refrigeration.

3.7.2.6 In the case of tasting food, the utensils or cutlery used for the purpose should be washed immediately after each use.

3.7.2.7 Reuse of cooking oil should be as per norms.

3.7.3 Serving food

3.7.3.1 Vendors purchasing street foods for the purpose of serving or selling must ensure that such food is from licensed and reliable sources.

3.7.3.2 Cooked street foods should not be handled with bare hands. Clean tongs, forks, spoons or disposable gloves should be used when handling, serving or selling food. The use of gloves should be carefully managed to ensure that these are not reused once contaminated.

3.7.3.3 All items of crockery and cutlery used should be clean and dry and kept in a manner so as not to contaminate them.

3.7.3.4 Plates filled with food should not be stacked one on top of the other during display, storing or serving.

3.7. 3.5 Blowing into plastic bags, wrappers or packages used for food should not be done.

3.7.3.6 All beverages offered for sale should be dispensed only in their individual original sealed containers or from taps fitted to bulk containers and made of food grade plastic or other suitable material. Bulk containers should be covered with tight fitting lids.

3.7.3.7 Cut fruit or other foods ordinarily consumed in the state in which they are sold may be set out in an enclosed display case, cabinet or similar type of protective device and should be displayed in a manner to protect the food from contamination.

3.7.3.8 Ready-to-eat foods intended for continuous serving should be protected from environmental contamination and kept at the following holding temperatures:

- i. for food served hot : above 60°C;
- ii. for food served cold : below 5 °C;
- iii. for food served frozen : -18°C or below.

3.7.3.9 A food warmer should be used to maintain continuous holding temperatures (see 7.3.8), and should not be used for re-heating purposes (see 7.2.5).

3.7.3.10 Any unsold cooked food and prepared beverages that cannot be properly preserved should be disposed of safely at the end of the day.

3.7.4 Transportation of street foods

3.7.4.1 Street foods that require transportation to the point of sale/stall should be placed in a well-protected, covered and clean container to avoid contamination.

3.7.4.2 Any vehicle used in transporting food should be clean and in good condition, appropriately equipped for any special requirements of the food being transported (such as maintaining temperatures) and provide protection from environmental contamination.

3.7.4.3 Perishable food should be transported under temperature control.

3.7.4.4 Street foods should not be transported together with raw food and ingredients, animals, toxic substances and any other materials that may contaminate the food.

3.7.5 Food storage

3.7.5.1 The food, should at all times, be kept clean and free from contamination, and be adequately protected from pests, environmental contaminants and stored at proper temperatures, as appropriate.

3.7.5.2 Perishable food should be placed or stacked so that it is not likely to be contaminated by contact with raw food, toxic materials or any other materials that may cause contamination. It should be stored in clean containers under temperature control. Quantities displayed for continuous serving should be handled according to the temperature requirements given in 7.3.8. Foods such as perishable raw food including wet milled legumes, cereals or pulses should be stored in clean separate containers preferably placed in a clean ice box, a refrigerator or a freezer to prevent spoilage.

3.7.5.3 All non-perishable food should be stored in a clean, protected and closed container/cupboard to prevent cross contamination by pests. Dry ingredients should be stored and maintained in their original labelled commercial containers or in cases where they are transferred to

other containers, the container should be clearly labelled as to the content. The containers should be such as to prevent moisture absorption.

3.7.5.4 Refrigerators and freezers should not be overloaded and their temperatures should be maintained at a maximum of 4°C and -18°C or below, respectively.

3.7.5.5 All food stored in bulk should be stored in an orderly fashion and should be placed so as to facilitate ventilation, inspection and the detection of pests.

3.7.5.6 All food should be stored separately from toxic, poisonous, deleterious and injurious substances.

3.7.5.7 The principle "first in, first out" should be applied to stock rotation.

3.7.5.8 Date marking on all food containers should be checked before the food is used. Expired food should not be sold or used for the preparation of food.

3.8 Street food centres

3.8.1 General requirements

All vendors located in a street food centre should comply with all provisions stated in the officially recognized regulations applicable to street food vendors.

3.8.2 Location, design, construction and facility

3.8.2.1 The location of any street food centre is to be approved beforehand by the relevant authority, having taken into consideration the provisions stated in 3.2.1 of these guidelines.

3.8.2.2 The design of the street food centre should:

- i. be reviewed and approved beforehand by the relevant authority;
- ii. provide sufficient and adequate space and orderly placement of vendor stalls, carts, display cases, food preparation, handling, storing, serving and selling areas;
- iii. allow for the orderly flow of materials and goods in and out of the centres as this will help to avoid possible sources of food contamination;
- iv. allow for the proper placement of client facilities such as toilets, hand washing and eating facilities and be located or arranged in a manner that prevents sources of food contamination;
- v. provide suitable, sufficient and properly placed areas for solid waste storage and crockery and appliance cleaning, washing and sanitizing;

- vi. be adequately ventilated to remove hazardous obnoxious gases and odours, cooking fuel fumes and other offensive airborne materials and provide a continuous and sufficient supply of fresh air to support the activities within the centre;
- vii. have adequate natural/ or artificial lighting to support the vendors for their various operations;
- viii. be provided with sufficient and adequate electrical power supply to support the vendors in the centre to operate appliances, equipment and other implements used in the preparation, handling, storage, serving and selling of food; and
- ix. have available an ample supply of potable water, under adequate pressure and of suitable temperature, with adequate facilities for its storage, where necessary, and distribution, and with adequate protection against contamination. Samples should be taken and checked regularly. Chlorine or other suitable disinfectants may be used. If chlorination has been employed checks should be made daily by chemical tests for available chlorine.

3.8.2.3 Street food centres should be properly constructed in a manner using materials approved by the relevant authority, taking into consideration the provisions stated in 3.2.2 of these guidelines. In addition to these provisions, street food centres should:

- i. have smooth cement, glazed tile or tarmac paved floors, equipped with properly placed floor drains for the purpose of removing surface water and to facilitate cleaning and sanitizing;
- ii. have, where applicable, smooth non-permeable surfaces with respect to walls or partitions, such as glazed tiles, to facilitate cleaning and sanitizing;
- iii. have, if applicable, a smooth non-absorbent ceiling to facilitate cleaning;
- iv. provide sufficient artificial lighting, properly placed to facilitate food preparation, handling, storage, serving and selling for each vendor located at the centre;
- v. provide for smoke hoods and flues above cooking ranges to enable the removal of fuel and cooking gases, smoke and fumes from the centre into the open air.
- vi. provide centralized or individualized appliance, crockery, utensil and other implement washing facilities, equipped with hot and cold running potable water, wash basins or sinks with appropriate drains to an approved sewer or drain system, detergent and sanitizing agents to satisfy the proper sanitary and complete cleaning needs of the vendors in the centre; and
- vii. comply with any other requirement of the relevant authority related to the structure of street food centres.

3.8.3 Liquid and solid waste

3.8.3.1 Pertaining to liquid waste disposal, street food centres should:

- i. be equipped with an efficient centralized or individual (for each vendor in the centre) liquid waste disposal system approved by the relevant authority and of suitable size and design to cater to requirements at peak levels of activity by the vendors in the centre;
- ii. maintain the liquid sewage disposal system in good working condition;

- iii. ensure that the liquid waste disposal system exits to an approved sewage drain system capable of efficiently carrying away the liquid waste from the centre; and
- iv. comply with any other relevant authority requirements related to liquid waste disposal.

3.8.3.2 Regarding solid waste disposal, street food centres should have an efficient system for disposal of solid waste complying with all solid waste disposal requirements of the relevant authority and should include:

- i. the allocation of an appropriate and separate amount of space for solid waste storage, located at a convenient but suitably distant location from food preparation, storage, handling, serving or selling areas to prevent contamination;
- ii. a sufficient number of suitably designed and constructed waterproof solid waste containers with tight fitting lids to adequately contain the volume of accumulated solid waste produced by vendor activity in one day. Containers should be lined with suitable disposable liners or inner containers for securing waste and which are easy to handle at time of disposal;
- iii. the daily, and more often if necessary, disposal of solid waste from the street food centre to:
 - rubbish bins approved, designed and intended for the centralized collection of solid waste by garbage service agencies;
 - approved sanitary land fill; or
 - other disposal methods authorized and approved by the relevant authority;
- iv. routine inspection of solid waste disposal areas for the presence or harbourage of pests, taking any and all practical measures to eliminate and further prevent any infestation; and
- v. compliance with any other requirement of the relevant authority related to solid waste disposal.

3.8.4 Pest control

Suitable pest control programmes should be in place for controlling or eliminating the risk of pest infestation on the site or facilities. The pest control programmes should identify the pests to be controlled, the areas / locations where control is to be applied, the method of control (for example physical or chemical), the dosage in case of usage of chemicals, the schedule, responsibilities, etc. These should include use of insectocutors, traps and baits as appropriate. Rodent traps, when used, should be in sufficient numbers and be mapped. Insectocutors, when used, should be functional and the collection tray cleaned at regular intervals.

The pest control activities should be performed by trained and authorized personnel. Pest control activities should be continuously monitored for their effectiveness to ensure there are no signs of pest infestation including flies, cockroaches, lizards and rats. Updated records and pest control contracts should be available at site. It should be ensured that pest control chemicals do not contaminate food. The measures applied should be documented and records maintained.

3.8.5 Maintenance and sanitation

Street food centres should be well maintained and the centre should be kept in an adequate state of repair so as not to contaminate the food as a result of chipping surfaces, loose nails or breakages.

The centre should be kept clean and disinfected at least once a day. Floors and surrounding areas should be thoroughly cleaned at least daily. Special care should be taken to clean thoroughly at the end of the day. A cleaning schedule should be maintained.

3.8.6 Vendor and customer hygiene facilities

Street food centres should have sufficient toilet facilities for each gender to accommodate the vendors, their employees and the clientele, conveniently located but separate and apart from food preparation, handling, storage, serving and selling areas, in order to prevent contamination of the food. The toilet facilities should be approved and subject to all requirements for such facilities by the relevant authority. Among other requirements the facilities should:

- i. have smooth walls of glazed tiles to a height of at least two metres;
- ii. should be clean, free of bad odours and provided with a flushing system;
- iii. be well lit, ventilated, and routinely cleaned and sanitized and maintained in good working condition;
- iv. include hand washing and drying facilities and properly supplied with soap and other necessary supplies;
- v. contain posters instructing vendors and employees to wash hands thoroughly after each use of the toilet facilities before returning to work; and
- vi. have doors which are equipped with self-closing devices.

IX. EDUCATION, TRAINING AND AWARENESS

Education and training of food handlers, vendors and consumers of street foods is a fundamental and most urgent need. The purpose of such programmes is to make them aware of hygienic, sanitary and technological aspects of street food vending and consumption. It is only through such training and subsequent monitoring of the situation that street food vendors can be integrated into, and considered a responsible part of, a city's food supply system. Consumers who are aware of food hygiene and nutritional requirements become discriminating buyers and thereby not only protect themselves and their families but also place pressure on vendors to practice good food handling and preparation practices.

1. Food handlers and food business owners

Food safety training of food handlers and food business owners is critical in the production of safe food. A good understanding of the hazards associated with the food they produce, the possible health impact that uncontrolled hazards may have, and how to effectively control such hazards, is absolutely necessary to providing safe food.

Training materials should reflect the hazards associated with the foods produced. For example, a seller of fruit and vegetables requires different food safety training from sellers of ready-to-eat street food. The frequency of training requirements also vary depending on the risk of the food produced or sold. The use of hazard analysis studies in the retail sector can be used as a base for development of training materials to ensure that the training reflects hazards present in a food business and also feasible control options.

Participants' learning abilities should be considered; for example pictures may be more appropriate than text especially in groups where the level of literacy is low.

Because of resource limitations, training providers often charge participants for the training. Where possible, other sources of revenue should be sought to cover this cost, particularly for the informal sector where it is unlikely that they could afford such training.

Certification of successfully completed training should be provided, both to assist with enforcement of the training requirement and to show the importance of training. Such certificates also help consumers to recognize the vendors and therefore the possibility of a higher chance of safe products.

An evaluation of the impact of the training or test should be included during the training to help ensure that an acceptable level of learning has occurred.

Education, training and awareness requirements for food handlers in the street food sector should include the following:

- i. mandatory training and licensing – compensation for inconvenience/time spent/distance travelled for training may be considered;

- ii. competencies identified include food regulations, food preparation, proper maintenance of mobile facilities to protect food from environmental contamination, prevention and control of foodborne diseases, sanitation requirements;
- iii. simplified visuals to be used as training tools;
- iv. formalized training provided by institutions certified/accredited by governments, and certificate given; and
- v. refresher courses to be provided.

In addition to the above points, education, training and awareness raising requirements for food handlers in the organized retail sector should also include mandatory requirement for food businesses to provide or facilitate training for employees on general food safety issues and also issues relevant to their position, for example

- cashiers - basic food hygiene when bagging of cooked and raw food, edible and non-edible household groceries;
- warehouse personnel/ packers/ inventory crews - labelling, stock rotation, Good Distribution Practices (GDP), temperature control, product knowledge, pest control;
- workers handling raw meat and seafood - basic food hygiene, cross-contamination, food handling, cold chain management;
- workers handling cooked food - basic food hygiene, cross-contamination, food handling;
- supervisors - problem-solving skills, management skills, auditing skills, internal controls; and
- cleaners - cleaning and sanitation.

2. Consumers

Consumers potentially represent a considerable force in influencing the behaviour of food businesses because of their purchasing-power. As consumers become more aware of the importance of food safety and look for evidence of safe food when making a purchase they could influence good hygienic and safe practices in food businesses, by ensuring that those having adequate control systems in place remain in operation.

To develop this influence in the retail sector, consumers need to receive information on the importance of food safety and the key issues to consider when purchasing food. For example, meals must be piping hot, perishable foods cold, cans without rust and dents, the importance of temperature for storage, importance of “use-by” date, etc. This information can be provided through media, posters in common places in the community and also within the food business (for example, key messages included on the certificate).

Information on the grading system and what to look for also needs to be provided to consumers.

Partnerships with other sectors should also be considered as a means of delivering food safety messages. For example, the introduction of food safety as part of school health education, or the provision of information to mothers through clinics or schools.

Education, training and awareness raising for consumers should include the following aspects:

- i. educate consumers to assess the safety of street food through visual observations, e.g. the wearing of protective clothing by food handlers, hygiene practices of food

- handlers, physical appearance of the food (e.g. wholesome, fresh, natural colour), cleanliness of food containers and vehicles, licence displayed, not to unnecessarily touch food that is not to be purchased;
- ii. educate consumers to assess the safety of food in the organized food sector and include information on storage temperature, labelling of e.g. allergens, nutritional values, shelf life, halal/ vegetarian, registered and approved food sources, physical appearance of products, e.g. damaged packaging, bulging cans, post-handling of purchased products;
 - iii. utilize communication platforms such as posters, pamphlets, mass media, schools, exhibitions, social forum groups and bulletin boards along the aisle at supermarkets/hypermarkets; and
 - iv. for premises with registration certificates, use these certificates to include key messages for consumers, relevant to the scope of food businesses. The availability of this information should be promoted to consumers. Information may include information on operators, feedback channels (e.g. phone, Web), grade of hygiene rating (also sharing success stories of those who have implemented good systems) and partner with others to include nutritional aspects.

3. Food inspectors

Food inspectors are the “face” of the national food control system and their training should be prioritized as part of an effective system.

Core capacities of food inspectors should be identified and reflected in education requirements. Ongoing training should be provided as part of a functioning food inspection service to ensure that up-to-date requirements are reflected in food inspections.

For food inspectors to put this knowledge into practice, adequate tools (i.e. temperature probe, flashlight, sampling kits, etc.) and resources (transportation, recording materials etc.) must also be provided.

Education, training and awareness raising requirements for food inspectors working in the street food sector should include:

- i. competencies identified: Laws, regulations, HACCP principles, food hygiene, food sanitation, food contamination, food safety, food microbiology;
- ii. formalized training to be provided by institutions (including schools/ universities) certified/accredited by governments or other partners, e.g. post-graduate diploma;
- iii. intermediate (on-the-job) training: attachment with experienced inspectors in order to familiarize with inspection protocols and the enforcement of laws, approximately one-month duration, e.g. for newly inducted inspectors;
- iv. the promotion and maintenance of constant awareness of international and local food safety issues through national/regional/international monthly meetings, online platforms, forums, workshops;
- v. ensuring that rule makers and decision-makers get awareness raising and training; and
- vi. ensuring that policy-makers undergo awareness raising training.

In addition to the points above, education, training and awareness raising requirements for food inspectors working in the organized food retail sector should include:

- i. equipping inspectors with knowledge and understanding of retail business and inspection skills, emphasizing critical food safety areas - training should encompass whole process chain from warehouses to retail outlets and two methods of training should be utilized, namely, a) classroom training covering legislation, norms/standards, basic food hygiene, labelling, pest management, sanitation standards, "shelf-life", cold chain management, food safety management system, GHP, GDP, GMP, ISO 22000, product sampling, product knowledge, e.g. dried goods, frozen products, seafood, preservatives, additives, and b) on-the-job training conducted by experienced inspectors, attachment to supermarkets with good systems;
- ii. equipping inspectors with auditing skills, so that as supermarkets and hypermarkets adopt food safety management systems such as HACCP, they are able to audit the processes effectively;
- iii. ensuring that continuous training for food inspectors is available so that inspectors are up-to-date with changes in the sector and have the chance to refresh their food safety and inspection knowledge - possible methods of continuous training include consultations with retailers and other stakeholders, including discussions on new products, technologies and automation machineries in the market, study tours to understand retail operations in various countries and attending seminars and training.

For all three groups discussed above, training modules may be formulated at national level, and delivered by national or local authorities or accredited training providers depending on the country situation.

In the absence of national resources, there are many resources available on the internet from other countries and from FAO and the World Health Organization (WHO). See for example, *Prevention of foodborne disease: Five keys to safer food*⁴ from the WHO. This provides simple food safety messages for food handlers and consumers. The information is available in over 80 languages. Countries may also share the resources they have already developed for use across the region.

⁴ Available at <http://www.who.int/foodsafety/consumer/5keys/en/index.html>

X. CAPACITY STRENGTHENING

It is recognized that in the street food sector food handlers are challenged financially to improve their carts, premises or access to essential services such as water and electricity and this impacts on food safety and hygiene. Therefore, both national and local governments need to provide support in terms of infrastructure, awareness raising and training etc. The following actions may be considered to assist in strengthening capacity:

- i. Government to provide well designed and hygienic carts at low cost to food handlers.
- ii. Government to organize prescribed locations for street food vendors with basic facilities such as potable water supply, electricity supply and waste disposal system and provide these at affordable fees to food handlers.
- iii. Government to fund and organize training for inspectors, street vendors and even organized food retailers.
- iv. Government to provide necessary facilities and equipment to inspectors for enforcement/surveillance/training, e.g. rapid test kits to detect chemical contaminants, mobile vehicles with food safety messages to bring educational messages to food handlers.

XI. NUTRITION RELATED ACTIVITIES

The growing burden of non-communicable diseases (NCDs) is recognized by many national governments as a priority health issue and they are therefore considering several ways to reduce and prevent NCDs. The four main types of NCDs are cardiovascular diseases (such as heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructed pulmonary disease and asthma) and diabetes. NCDs are caused, to a large extent, by four shared risk factors: unhealthy diet (high in sugars, fat and salt), physical inactivity, harmful use of alcohol and tobacco use.

Actions to reduce the sodium, sugar and fat (both trans-fatty acids and saturated fats) content of foods will assist in the wider efforts to reduce and prevent diet-related NCDs. Efforts to increase the fruit and vegetable content of meals will also assist in this approach.

Micronutrient deficiencies are also a public health concern, impacting on countries of Asia as well as other regions around the world.

To ensure a good use of resources and to avoid duplication and confusion for the food business, it is suggested that efforts to improve food safety and the nutrition content of food are coordinated at national and local levels. The following are some examples of actions to be considered when developing programmes to address food safety and nutrition:

- i. National authority to develop programmes and provide technical support to local authority.
- ii. Local authority to implement and promote nutritional programmes through multiple channels, e.g. public outreach (food safety month, eat healthier food month), signage for consumers to request for food with less salt, educational materials freely accessible to public, include nutritional values on menu, healthier choice of street food, do not reuse cooking oil, use of fresh and nutritious ingredients from approved sources.
- iii. Integration of nutrition and food safety requirements into the food business grading system for street vended foods.
- iv. Promotion to the organized retail and street food sectors to use ingredients and foods that follow any national fortification recommendations or requirements.

XII. REDUCTION OF FOOD LOSS AND WASTE

Both the organized retail and street food sectors generate considerable waste. In the interest of supporting wider environmental efforts and reducing the cost of waste removal through the reduction of waste, the following ideas may be considered:

- i. Introduce discount schemes for near-expired products.
- ii. Order only sufficient stock and practice good stock management.
- iii. Practice segregation of wastes for recycling.
- iv. Promote the use of environment-friendly disposable plates/bowls and cutlery in the street food sector.
- v. Reduce use of plastics and encourage use of reusable bags for the organized food retail sector.
- vi. Base portion sizes of servings on actual consumption patterns of consumers.

TERMINOLOGY

Appliances - The whole or any part of any utensil, machinery, instrument, apparatus or article used or intended for use, in or for making, preparing, keeping, selling or supplying of food.

Clean water - Water that does not compromise food safety in the circumstance of its use.

Crockery and cutlery - All tools used for food serving and consumption (whether non-disposable or disposable), and they include cups (glasses), plates, trays, mugs, spoons, forks and ladles.

Disposable articles - Any appliance, container, implement, utensil or wrapper that is intended for use only once in the preparation, storage, display, serving or sale of food.

Impermeable - Preventing the passage/absorption of water and/or fluids.

Micro-organisms - Any microscopic living organism that can cause disease or food spoilage.

Street food vendor - Individual selling street foods in street food stalls or centres. These also include any helpers or assistants handling food.

Perishable food - Any food that needs to be kept refrigerated or frozen to minimize or prevent growth of food poisoning organisms (and/or food spoilage) (e.g. food that consists wholly or in part of milk, milk products, eggs, meat, poultry, fish or shellfish).

Potable/Drinking water - Treated water, which should comply with WHO Guidelines for Drinking Water Quality.

Ready-to-eat foods - Any food (including beverages) which is normally consumed in its raw state or any food handled, processed, mixed, cooked, or otherwise prepared into a form in which it is normally consumed without further processing.

Relevant authority - Any ministry having competent responsibility or any local officially recognized authority.

Sealed containers - Food grade containers such as:

- hermetically sealed containers;
- sealed jars, with anchor and crown type closures;
- milk bottles sealed with aluminium caps;
- glass jars and bottles with screw caps; and
- cans and similar containers with seals.

Street food centre - Any public place or establishment designated by the relevant authority for the preparation, display and sale of street foods by multiple vendors.

Street foods - Wide range of ready-to-eat foods sold and sometimes prepared in public places, notably streets.

Street food stall - A place where street food is prepared, displayed, served or sold to the public. It includes carts, tables, benches, baskets, chairs, vehicles with or without wheels and any other structure approved by the relevant authority where on it or in it, any street foods are displayed for sale.

Waste water - Waste water means sullage water arising as a result of the activity of vendors.

Water containers - Any form of food grade container which is used solely for the purpose of storing and serving water and has not been used previously for any other purposes that could cause contamination of the water stored in it.

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