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<tr>
<td>BFSA</td>
<td>Bangladesh Food Safety Authority</td>
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<td>BFSF</td>
<td>Bangladesh Food Safety Forum</td>
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<td>BMA</td>
<td>Bangkok Metropolitan Administration</td>
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<td>ESR</td>
<td>EatSmart restaurant</td>
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<td>FSSA</td>
<td>Food Safety and Standards Association of India</td>
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<td>HPB</td>
<td>Health Promotion Board, Singapore</td>
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<tr>
<td>IIED</td>
<td>International Institute of Environment and Development</td>
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<td>MoH</td>
<td>Ministry of Health</td>
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<td>MoPH</td>
<td>Ministry of Public Health</td>
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<td>NEA</td>
<td>National Environmental Agency, Singapore</td>
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<td>NGO</td>
<td>nongovernmental organization</td>
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In view of the burden of diet-related NCDs, policy-makers are increasingly concerned about the contribution of out-of-home foods towards unhealthy diets. Though data on nutritional contribution of various out-of-home foods to diets is context-specific, many such foods may often be of low quality, high in energy, saturated fats and trans fats, sodium or sugars, and low in essential nutrients.

The case for promoting and supporting healthy diets in the out-of-home food sector is compelling, since ready-to-eat food sold in eateries or online, and also sold by hawkers and street vendors, represent an important source of foods for urban populations in the WHO South-East (SE) Asia Region. Out-of-home foods may be traditional, international foods or mixed cuisine, and are an easily accessible low-cost meal or snack for millions of people. Food vending is a part of the large informal economy in many countries and a significant source of livelihood for the urban poor.

The focus of food-related policies and programmes targeting street food vendors has understandably been on food safety. However, “healthfulness” of out-of-home foods must be realized as a legitimate and critical component in addressing all forms of malnutrition. The 2030 Agenda for Sustainable Development and the covenants of the UN Decade of Action on Nutrition provide an excellent opportunity to initiate a comprehensive approach to healthier diets that is more inclusive to the out-of-home food sector.

International recommendations and guidance on promoting healthy diets in the out-of-home food sector and good practice case studies on improving the nutritional quality of such foods remain scarce. However, some scalable examples shared during the WHO/FAO inter-regional meeting to promote healthy diets through the informal food sector form the basis for this framework. The framework summarizes the evidence base, interventions and actions to support healthier and safer provisioning of out-of-home foods. It could support stakeholders who work with small food businesses or vendors with options to improve the out-of-home food environment.
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Background

1.1 Out-of-home foods

Out-of-home food consumption is increasing in popularity among Asian populations due to rapid urbanization and the consequent busy lifestyles, as is also the case globally. In Asia, out-of-home foods include ready-to-eat foods sold in restaurants, small-scale eateries, market stalls, street vended foods and, lately, food delivery services. Foods from small eateries, market stalls and street foods and beverages play a critical role in the cultural and social aspects and lifestyles of Asians across the entire socioeconomic spectrum. Out-of-home eating is not only a convenience-driven trade in urban cities, but also of cultural and economic importance, with significant revenue generation. A sizable segment of poor communities engage in the street food trade as a means of livelihood.

Out-of-home foods contribute to food security by improving accessibility, especially in urban South-East Asia, through providing affordable, tasty foods at convenient locations. Many people consume at least one out-of-home meal or snack every day, and sometimes all three meals are sourced from out-of-home foods. While foods available in large restaurants/chains, small scale restaurants, eateries and street vended foods are all considered out-of-home foods, the focus of this document is on small-scale eateries, market stalls and street vended foods in particular, though other sources are also considered. Businesses may be formal establishments but more often, they have no formal legal or regulatory identity or protection, which is a challenge to implement any food safety or dietary standards.

1.2 Characteristics of out-of-home foods

While some out-of-home meals and snacks contain multiple food groups and are healthy, many tend to be of poor dietary quality; starchy, energy dense foods, high in saturated or trans-fats, sodium and sugars and low in essential nutrients. Food safety, including food adulteration, use of substandard and contaminated products, unclean food storage, cooking practices, and chemical contamination are of concern.
Out-of-home foods are diverse, not only across regions but also differ between vendors, much of it being country specific and undocumented. The recipes, ingredients and means of preparation differ widely. While the out-of-home food trade benefits food security and the economy, urgent attention is required to improve food quality and safety to safeguard the health of millions of people.

1.3 WHO/FAO Inter-Regional Meeting to promote healthy diets through the informal food sector

The WHO/FAO Inter-Regional Meeting to promote healthy diets through the informal food sector in Asia was held in August 2019 in Bangkok. During the meeting, country/city experiences supporting safe and healthier out-of-home foods were shared, especially with regard to street-vended foods and food safety policies and programmes. While there is a dearth of published literature on promoting healthier out-of-home foods, the experiences shared by countries on ensuring safer and healthier meals in restaurants and in street eateries and stalls was useful. Improving dietary quality of out-of-home foods is a complex task, and particularly so for foods sold in small eateries and by informal vendors.

1.4 Policy challenges of out-of-home foods

Preventing foodborne diseases is a priority food safety intervention. Promoting and supporting healthier out-of-home foods would contribute to reduce obesity and dietary risk of NCDs. When promoting healthy out-of-home foods, policy-makers must consider multiple aspects; food production, availability, storage, preparation, preservation, access and consumer behaviours.

Understanding the limitations to offering healthier food and drinks through the out-of-home sector is vital. Infrastructure and regulatory gaps exist across the food system from farm to fork. Often, out-of-home foods are sold by itinerant workers or in small eateries which are usually temporary structures, with no running water or sanitation. The food safety practices in food production and retail, as well as inadequate personal hygiene of vendors contribute to foodborne disease outbreaks. This sector is mostly informal; the variety of foods, recipes, education and economic status of both vendors and consumers vary. The tenuous legal and/or regulatory status of vendors challenge implementation of actions to support healthier diets.

Improving the out-of-home food environment in countries will need innovative actions and concerted efforts by multiple stakeholders. Along with upstream policy
discussions and possible regulatory changes, downstream consultations with vendor and consumer organizations and other stakeholders are essential at every stage of the process. Furthermore, emerging methods of vending, such as homebased and other online sales of foods also need attention.

1.5 Building on existing initiatives to promote healthy diets

From a public health perspective, the focus of policies and programmes on out-of-home foods has been on food safety—on preventing production, sales and consumption of unsafe foods. Now, the need is to also align the promotion and support for foods that contribute to a healthier diet alongside food safety measures. This means paying more attention to the inclusion of multiple foods groups such as fruit, vegetables, legumes (e.g. lentils and beans), nuts and whole grains (e.g. unprocessed maize, millet, oats, wheat and brown rice) in foods, and to ensure food preparation methods with less salt, sugar, and fats including trans fats.

Established food safety programmes maybe an important entry point to implement actions on healthier out-of-home foods. Aligning actions to promote healthier food to existing food safety programmes may need extensive adjustments and resources, but there are lessons to be learnt from the experiences shared at the WHO/FAO Inter-Regional Meeting to promote healthy diets through the informal food sector in Asia. Promoting healthier out-of-home foods can also be strategically framed within food policies of the Healthy Cities and the sustainable environment initiatives.
A case study based framework for supporting healthy out-of-home foods

The action areas identified in this framework are based on country experiences presented at the Inter-regional meeting on promoting healthy diets in the informal food sector. The details of case studies were verified prior to inclusion, analyzed for strategies and actions for supporting healthier diets in the out-of-home food sector. The framework serves as a guide to policy-makers and implementers to support street food/small eateries and other out-of-home food service providers to deliver safe and healthier foods. Details on the case studies are provided as an annex with web links and references.

Fig. 1. A case study-based framework for supporting healthy diets in the out-of-home food sector
2.1 Generate evidence on out-of-home foods and establish the need for promoting healthy diets

2.1.1 Situational analysis and evidence generation

An initial situational analysis is essential. The situational analysis should include a stakeholder mapping, data on eateries and street food vending sites, food availability, diet quality and consumption patterns in the population. The analysis should also attempt to understand the enablers and barriers of change and possible entry points or programme pathways for implementation of actions. The situational analysis will also contribute information towards evidence-based advocacy to engage policy-makers and stakeholders, and for awareness generation activities.

2.1.2 Lessons from country experiences: evidence generation

A situational analysis can be at regional or city level and utilize both primary and secondary sources of data. Examples of information obtained from situational analyses are described below.

**FeedCity project in Eastern Europe and Central Asia**

A research project coordinated by WHO/Europe and the University of Porto, Portugal, described the food environment of out-of-home/street foods in Central Asia. The results described the vending sites including food markets, kiosks and street vendors who sell ready to eat food in urban areas, and identified the most commonly available homemade and industrially processed foods. The report identified and characterized the foods, described street food purchasing patterns by direct observation and analyzed sodium and trans fatty acids content.5,6 This information has contributed to support trans fatty acid legislation and to improve the healthfulness of foods sold in traditional markets in Central Asia.

**Situational analysis of hawker foods and the creation of a multistakeholder model in Singapore**

Singapore hawker centres are managed by the National Environmental Agency. The initiative for healthier meals was led by the Health Promotion Board (HPB). The need for public awareness and the necessity to link the hawker industry with research and development was highlighted by a situational assessment.

The information resulted in programmes to create public demand and coordination of links between food research and development and the hawker industry, leading to availability and provision of healthier base ingredients for street foods: e.g. whole grain noodles, low sugar options for juices. The HPB has partnered with grassroots organizations, food vendors in hawker centres, the National Environmental Agency, and the People’s Association to create a model for healthier foods in Singapore’s hawker centres.
2.1.3 Assessing the need to promote healthy diets

*Summary of information to be obtained from a situational analysis:*

**Policies, regulations and stakeholders:**
- A review of the current policies, pertinent legislation and regulations.
- A stakeholder mapping and analysis, including possible industry partners.

**Identification of the possible economic, social and health impacts of out-of-home foods and consumption of unhealthy diets:**
- Types of foods available in street markets, vendors both physical and online, their nutrient profile, current food safety measures that are in place and mode of delivery of food safety interventions.
- The out-of-home food trade and contribution to livelihoods.
- The burden of diet-related chronic disease in the population.
- Perspectives of food safety experts and programme officials.

**Vendor and consumer details**
- Information regarding the community food environment, i.e. type, availability and accessibility of street food vendors and outlets and the consumer food environment.
- Availability, prices, promotions and aspects influencing nutritional quality of products.
- The proportion and profile of the population (working population, schoolchildren, young children) who depend on regular out-of-home food purchase.
- Availability of online food delivery mechanisms, type of foods sold and vendor information.
- Consumer and vendor perspectives on safer and healthier foods; awareness on food safety and healthy diets among providers of foods, and consumers.

2.2 Advocate and engage with policymakers and mobilize stakeholders to support healthy out-of-home foods

Upstream drivers for change include political will, and notable individuals or organizations that champion the cause. Awareness creation among the public to demand for healthier out-of-home foods can promote commitment of policy makers.
Identifying leaders for advocacy, and organizations to lead healthy diet initiatives is an important step. Civil society stakeholders could be important allies in healthier food ventures.

A strong advocacy drive will promote attention to out-of-home foods. Identifying a policy window of opportunity to drive change is useful. Adequate resources and investments must be identified to support an enabling environment for safer and healthier out-of-home foods. Inclusive engagement with street vendors, restaurant owners, consumers, investors and all other relevant stakeholders must be done from the outset.

2.2.1. Lessons learnt from country experiences: identifying and mobilizing stakeholders

Prioritizing relevant stakeholders will help leverage appropriate commitment and actions. The key stakeholders will vary depending on the country/city context.

**Stakeholder identification**

The city of Kolkata’s food safety initiative identified many stakeholders at the planning stage. These included vendors and their representative associations who were identified as an important group in the change process. The importance of inclusive engagement with street food vendors, consumers and law enforcement are highlighted by this experience. The dialog created a platform to consider the concerns and interests of all parties.

**Public–private partnerships and consumer education**

Partnering with industry to develop foods/ingredients which are healthier was a key success with Singapore. A strong research base supported private industries to produce newly developed healthy ingredients. The government supported the initiative through a pledge to use such ingredients in all government institutions, thus ensuring support to the industry to produce and sell healthy ingredients without loss of revenue.

Awareness programmes were carried out among both vendors and customers regarding healthier ingredient options to be included into foods. Linking private industry input with government support is important for knowledge sharing and economic sustainability in ensuring that raw materials of adequate quality are available and affordable to the food producers.
Multistakeholder partnerships

Mobilizing partners and stakeholders was a key aspect of Thailand’s food safety programme for street foods. The street food vendor organizations are very active. The Department of Health, Ministry of Public Health, developed guidelines standards and regulations for implementation of food safety actions, in consultation with all other stakeholders such as the Ministry of Interior (local governments), The Tourism Authority of Thailand. The city administration who plays a role in regulating food services sets the permit areas and issue entrepreneurial licenses.

2.2.2 Lessons from country experiences: leadership and champions for change

Identifying champions to promote safe and healthier out of home foods is vital. Champions can be celebrities who would advocate and lobby for change, political leaders, government agencies, and civil society organizations who can promote and support new innovations through the phases of initiation, development, and implementation.

Individual leadership

In Kolkata, India, leadership played an important role in street food interventions. Municipal officials including the Deputy Mayor were advocated to promote food safety as an agenda for street foods. Leadership is also provided by technical personnel to support change and implement monitoring. Taste and quality, use of ingredients, availability of water, garbage disposal, lighting and cleanliness are discussed and addressed. Publicity through media plays an important role in raising awareness of the community on safe foods.

Pilot projects: increasing visibility of vendors promoting safe and/or healthy foods

Both the Healthier Hawker programme in Singapore and the Komala carts project, a pilot project to provide vendors within Dhaka, Bangladesh worked by increasing visibility of the vendors who practiced hygienic sales of food. Singapore also moved on to promoting healthy food options since all their street foods currently meet the safe food specifications. They increased awareness among consumers on healthier foods and by a pilot initiative that identifies hawkers that provide healthier options.

The Komala carts were specially designed to protect food from flies and pollution and equipped with clean water, hand sanitizer etc. and were available for purchase only by vendors who have completed food safety training and passed tests.
Government leadership in Thailand and China, Hong Kong Special Administrative Region

In Thailand, strong leadership from the Ministry of Public Health and other government agencies supports improvement of out-of-home foods. The smart street food cart was developed by the Bangkok National Science and Technology Development Agency and introduced by the Minister of Higher Education, Science, Research and Innovation. It is aimed at promoting environmentally friendly practices and tourism.

The Hong Kong SAR EatSmart campaign is initiated and led by the Government of China, Hong Kong SAR. The Director of Health and Secretary Food and Health played an active role, including during the launch of the campaign. Such leadership is essential to provide authenticity and commitment to the programme, and also create visibility for the campaign.

Champions for publicity

In India, the Food Safety and Standards Authority of India, the apex food regulator of the country under the aegis of Ministry of Health and Family Welfare launched an initiative called ‘Eat Right India‘ for healthy and safe foods. They identified that celebrities and influencers including Virat Kohli, the cricket star to promote consumer awareness on healthy eating.

Hong Kong SAR too regularly invites celebrities to popularize the EatSmart Star programme as a means of creating awareness and promoting change in eating habits of consumers.

2.3 Assess the food environment, identify drivers for change and initiate pilot activities

A comprehensive analysis of the out-of-home food environment in a particular city or region is vital. Geo-spatial analyses can be used to identify the number, location, and density of food stalls/vendors. The physical environment within and around the street food vendors and stalls must be assessed: what foods are available, what foods are promoted, and their prices are key considerations.

Other aspects include perceptions of both vendors and consumers on availability, access and social norms on healthy eating. Planners also need to recognize new trends in out-of-home foods such as home-based online sales which have gained popularity in the recent years and consider their inclusion in promotion efforts for safer and healthier foods.
Initial piloting of projects will be useful for future scale up. Pilot projects or implementation research will provide information on the feasibility and sustainability of the strategies used, including identifying successes and challenges to inform further iterations of the programme.

2.3.1 Lessons from country experiences; characterization of food environments and pilot initiatives

**Characterization of food environments in Central Asia**

The FeedCities project of WHO EURO provides a framework for a stepwise, standardized characterization of the street food environment; it consists of three steps that are of increasing complexity and demand human and technical resources.

Step 1 comprises identification of street food vending sites and characterization of the products available; this stage may be complemented with an evaluation of street food advertising.

Step 2 comprises description of street food purchasing patterns, by direct observation.

Step 3 requires collection of food samples for bromatological analysis. Different levels of data collection may be defined for each step; hereafter, these are presented as core and expanded evaluations. The steps to be considered in each survey and the levels of detail to be observed in data collection depend on availability of resources.


**Projects on microfinancing**

In Thailand, prior to the recent food cart intervention, food carts had previously been made available on many occasions. Sometimes, such projects were not successful due to a lack of understanding of vendor requirements. The importance of viable financing mechanisms for the success of these small enterprises has been demonstrated through a food cart micro-leasing activity carried out as a research project.

An understanding of the economics, and provision of economic empowerment is closely associated with actions to improve the quality of the foods sold. Regulations alone are insufficient to promote change. The smart street food cart was developed by the Bangkok National Science and Technology Development Agency.
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Interconnectivity of vendors and food supply markets

In Bangkok, a research team from the Massachusetts Institute of Technology analyzed the complexities of the food system in Bangkok and provided valuable information on improving food quality. The food environment is changing in parallel to the consumption patterns of the urban community. Informal street vendors tend to source their raw materials from Talat Yai (smaller scale wet markets). They are able to obtain good quality products on credit from such markets, and have built up relationships with market vendors. Such sourcing allows them to purchase small quantities of raw materials, and offers access to diverse food products. Diversity in foods attracts more custom which in turn increases the number who patronize the Talat Yai market vendors (wet markets). This interconnectivity has been identified as an integral part of the food system to be factored into any effective intervention.

2.4 Integrate vendor and consumer factors into programmes

Downstream drivers of the quality and safety of out-of-home foods include vendor and consumer perspectives. Incorporating solutions that address concerns of all will ensure more sustainable actions to promote healthier out-of-home foods. Out-of-home food vendors face many challenges such as maintaining low cost, food preservation and storage, vending areas, access to fresh supplies and to water and sanitation etc. Incorporating ideas and concerns of the business or the vendor, creating both vendor and consumer awareness and demand for healthier and safer diets are vital for a program to succeed and be sustainable.

Where adequate efforts have been made to understand the ground situation, perspectives and facilities, programmes tend to be successful. Potential points of action can be prioritized through a risk-based assessment. Using simple screening tools or focus group based qualitative data are options. An example from Kolkata is the screening tool for food safety wherein some aspects of healthy diet could be incorporated. Other interventions include technology and knowledge transfer for healthier recipes and for preservation of foods with less oil, salt and sugar. Consumer concerns often center around access, taste and price, specially if consumers are low-income groups. Facilitating fuel supply, equipment, stalls and carts to support projects can help provide safer and healthier foods at affordable prices.
2.4.1 Lessons from country experiences: assessment of vendor issues and incorporating ideas and concerns of the business or vendor.

Information on vendor perspectives

In Singapore, in-depth discussions with vendors identified that the hawker trade is declining due to the lack of enthusiasm among the younger generation to take up the trade. The national authorities addressed this problem through intensive training opportunities and upgrading the image of hawkers.

Use of a simple screening tool for food safety screening

In Kolkata, a standardized screening tool which can identify vendors/outlets that are problematic, and also had screening questions to identify the cause of the problem was developed. This risk-based assessment identifies further training needs for improvement in food safety and basic nutrition.

There are plans underway to include nutrition components into the risk-based assessments. Simple questions such as the number of fruit and vegetables to be used or reduction in the quantities of oil, sugar and salt used per week could be incorporated. Integrated with existing food safety criteria.

Striking a balance between preservation/food safety and actions for healthier foods.

Improving food hygiene and storage facilities would ensure that deep frying, salting and adding sugar need not be used as a means of increasing keeping qualities of the product. Providing refrigeration as in the Thai food carts is an example. Such actions need to be assisted through microfinancing or subsidies. The City Corporation of Bangkok also provides water for cleaning, with a small fee charged for the service. As shown in the example of Hong Kong SAR, reducing oil, salt and sugar is easier in restaurants, rather for street foods, as foods are eaten soon after preparation.

Increasing vendor awareness on healthy diets

Vendor awareness enhancement through knowledge generation and addressing the vendors’ own health and healthy eating practices are useful. The Special Administrative Region (SAR) of Hong Kong in the People’s Republic of China experience shows that the restaurant staff increased their own healthy eating practices following intervention.

Hong Kong SAR also developed strategies to increase business for the restaurants that provided healthier options by providing a star rating for different combinations of healthier options. The star rating drew in customers which supported the restaurants to continue with the changes, ensuring sustainability. Education is essential to support the acceptance of interventions by vendors, and for use of new technology in cooking methods and recipe reformulation.
2.4.2 Lessons from country experiences: creating consumer awareness, considering perceptions and preferences of consumers

Educating and empowering the consumer to demand healthier foods plays an important role in changing the food environment. Obtaining views of consumers regarding their preferences and concerns and incorporating solutions into programme design is essential for programmatic success. Consumer demand for safer and healthier out of home foods must rise in parallel with the interventions to improve foods. Therefore, increasing consumer knowledge and behaviours with regard to healthy food options is important. Consumer awareness programmes on food safety and healthy foods should be conducted regularly and prior to launching a healthy out-of-home eating programme. Education on reducing food waste will promote sustainability as well as reduce purchase cost. Other means of support to consumers to select safer and healthier choices is also important. Simple menu labelling / provision of information at the point of sale (e.g. indicating the number of food groups, or the addition of whole grains or vegetables) or promotional material to indicate healthier foods would support consumers make informed choices, but will not be feasible in all settings.

In bringing in nutrition changes, taste and cost needs to be factored in, especially in relation to how taste of traditional dishes may be altered when healthy ingredients are used. Consumer feedback on preferences with regard to taste alterations when trying out new recipes is useful.

2.4.3 Lessons from country experiences: creating consumer demand

Simple messaging as shown below from Singapore, which provides simple educational messages to consumers is effective in improving consumer demand for healthier options.

Fig. 2. Country experiences: creating consumer demand

means that either fruit or vegetables are the sole ingredients of the dish or they occupy at means least twice as much the amount of meat and its alternatives present in the dish.

that the dish has less fat or oil, salt and sugar, meeting the "3 Less" requirement.

means that a daily promotional offer is available for the "More Fruit and Vegetables" dishes or "3 Less" dishes.

Source: https://restaurant.eatsmart.gov.hk/eng/content.aspx?content_id=1151
Addressing factors that drive consumer demand

The Special Administrative Region (SAR) of Hong Kong in the People’s Republic of China chose to address the issues of price, taste and location of restaurants as key factors identified in driving consumer demand. Price was addressed by encouraging restaurants to provide add-on vegetable dishes, so that the prices became attractive to customers, while increasing the healthfulness of the meal. Practical changes also include providing five options of dishes containing increased quantities of vegetables, and in multiple locations at which such healthy options are available to the consumer. Taste was addressed by organizing cookery demonstrations for restaurant chefs. A similar project was also carried out for hawker centres in Singapore. In Thailand, taste is a criterion used in monitoring the quality of street foods. The importance of taste is well understood by vendors.

Working with food businesses and patrons

China, Hong Kong SAR, prioritized attention to healthier foods at restaurants since more people patronize restaurants and also voiced their desire for healthier food options. The EatSmart campaigns for healthier food options in restaurants was the outcome. The authorities worked closely with restaurants to understand the business concerns. This information helped to incorporate the interests of the patrons into the healthier restaurant meals campaign. The main concerns of patrons were price, taste and location. Smart strategies were developed to create reasonably priced, tasty meals at convenient locations, promoting practical actions that were easy for restaurants to implement, while providing star ratings which improved business.

Business growth for restaurants providing healthier options: a driver of change in Hong Kong SAR’s EatSmart restaurants

Extensive promotion of the EatSmart campaign was carried out with video clips and advertisements led by famous actors, resulting in healthier dishes gaining popularity. A survey identified the drivers of food purchase, which were then used in further developing the campaign and its promotional strategies. The increased business for the restaurants was a significant driver of sustained change. Hong Kong SAR generated visibility through media campaigns and also placed recognizable decals at prominent places to create public awareness about restaurants promoting healthier diets. Since consumer demand drives markets, interventions that aim to increase consumer preference for healthier foods, while also paying attention to taste, will lead to positive change.
Addressing consumer convenience

Convenience enhancing modes of street food such as cut fruits, ready-to-eat food and the supply of smaller plates and portions are actions that have been taken by food vendors. However, food safety aspects need to be stringent where the sale of raw foods such as cut fruits is concerned.

2.5 Review policies to ensure alignment with existing policies, and identify entry points for supporting healthy out-of-home foods

2.5.1 Policies and regulations

Legal frameworks, ordinances and regulations must be reviewed to identify the policy space, regulatory enablers and impediments to promoting healthier diets. Country food safety policies in the WHO SE Asia Region include monitoring mechanisms for food control systems. Some countries are revising their laws to create a more enabling environment to support street vendors and restaurants in complying with food safety measures. Simply imposing rules and regulations on this sector is unlikely to be effective. The legal and regulatory context that affects the production and sale of informal, out-of-home foods are intricate and goes far beyond public health and food safety regulations.

Particular policy measures that promote healthy diets in the formal food sector have significant effects on supporting informal food retail and healthier out-of-home foods and in shaping the overall food environment. Examples include regulations to eliminate trans-fatty acids from diets, food reformulation and fiscal incentives and disincentives such as policies that subsidize healthy diets and tax unhealthy products such as on sugar-sweetened beverages (SSBs).
2.5.2 Lessons from country experiences: policies and regulations

The creation of an enabling environment

This is defined through the goals of the policy document of Bangladesh which aims to “create, provide and sustain a supportive socio-environmental, technical and legal protection system to ensure safe and quality food for the consumers and also to protect the right of the street vendors to earn their livelihood and as an initiative for urban poverty alleviation”. Most other countries are also providing licensing for and registration of vendors with similar goals.

In Thailand, the Food Safety Policy is the mandate of the Ministry of Public Health. The Department of Health determines the guidelines, policies and regulations governing hygiene in the food service sector. The Ministerial Regulation on Hygiene in Food Services, 2018 (transitional provisions) shall be implemented within two years after the amendment of the Ministerial Regulation (16 December 2020). Further, proprietors and food handlers in all food services have to pass the food sanitation training course in order to be registered. The area political parties are responsible for promoting cooperation across the various networks and establishing the development model vendor areas. In Malaysia, the regulation which addresses food hygiene also includes a mandatory training programme for food handlers.

2.5.3 Food control systems and possible entry points for supporting healthy out-of-home foods.

Exploring and identifying entry points for actions to support healthy diets within food control systems in South-East Asia countries is an option to be explored. The figure below shows how a food control programme may gradually incorporate healthy diet options in a stepwise process.
### Fig. 2. Food control systems and entry points for healthy diet initiatives

#### Food safety measures are scaled-up
- Authorities recognize health, social, economic and cultural value of out-of-home foods, especially street-vended foods
- Stalls and vendors registered / licensed
- Safe, piped water and sanitary facilities provided
- Basic food safety training for vendors provided
- Improved structures or carts available for vendors
- Other food safety issues addressed.

#### Further steps
- Zoning-designated areas for food vending are identified with appropriate infrastructure provision
- Food safety aspects are implemented and include improved standards and profits leading to empowered vendors and sustainable change
- Monitoring mechanisms are in place to assess food safety measures.

*The healthfulness of foods may, however, not be a priority or consideration – lack of policies and actions including inadequate knowledge and understanding among vendors and no demand for healthy foods from customers.*

#### Actions focused on healthier and nutritious foods
- Government and public-sector resources identified to develop policies and implement plans to promote healthier foods
- Actions and resources needed to promote healthier foods identified. Investment for capacity-building training, improving old/creating new food value chains, information sharing with vendors and consumers are executed
- Sustainable production, supply of raw material and value chains are organized
- Vendor investments supported through microcredit schemes, incentivized
- Consumer knowledge and healthy food behaviours are supported
- Robust monitoring mechanisms with feedback loops are implemented.
2.5.4 Explore feasibility of alignment with other initiatives

Aligning actions on healthier and safer out-of-homes with other programmes such as healthy city initiatives, which feeds into the SDG 11 Goal, are possible entry points to promote safer and healthier diets in the out-of-home food sector. Healthy Cities movements can promote safer and healthier diets through innovative policy measures, and disincentivize availability/sale of foods contributing to unhealthy diets. Reducing unsustainable consumption is another area of alignment, with connectivity to unhealthy diets and cooking methods such as the use of solid fuels which contaminate the environment.

2.5.5 Summary of information needed

Information needed to ensure policy coherence for promotion of safer and healthier diets in the out-of-home food sector includes an examination of existing policies, regulations and guidelines that are also relevant for out-of-home foods. These could include the following:

- the National Food Safety policy and strategy, nutrition and NCD policies, healthy diet regulations
- National food-based dietary guidelines
- other sector policies such as agriculture and urban food access
- Zoning regulations in cities
- Relevant policies and regulations that affect or influence the out-of-home food sector, and its coverage.
- If out-of-home foods are not covered by policies, identify changes required for their inclusion. The need to promote healthier out-of-home foods could be included in national nutrition and NCD policies, guidelines.

Other actions include to:

- assess city regulations and agriculture policies and identify support for out-of-home/street food sales/zones, targeting provision of raw materials and other infrastructure.
- assess the food control systems, discuss with programme managers and identify feasible entry points to promote healthier diets and initiate discussions on specific modalities of doing so.
- explore opportunities to tie in with other actions such as smoke free cities, healthy city initiatives etc.
2.6 Integrate food outlets into urban planning and strengthen value/supply chains

2.6.1 Planning and identifying methods to integrate street food vendors and stalls within the urban environment.

Spatial planning is required for food vendors, outlets and food markets. Planning and placement of food outlets will encourage shorter supply chains through localizing food production either in or around cities. Urban planning must involve inclusive dialogue with all stakeholders including the community to ensure support towards healthier food environments. Planning and design aspects include vendor carts, clean water sources, quality, usage pattern (storage, use and disposal), garbage disposal, sanitary facilities and the pedestrian loads. Examples of such integration are provided from India and Thailand.

Lessons can also be learnt from negative experiences where relocation without prior consultation of vendors has been unsuccessful. An understanding that vendors need to be located where the density of potential customers is highest is of paramount importance. Relocation of vendor sites through zoning can be done in an existing urban environment, as done in India’s street food hubs. Appropriate locations which offer convenience to both vendors and consumers need to be identified through consultations with vendor associations as well as consumers. Creating green food zones where healthy food stalls/vendors are located in a given area around a school as in the Republic of Korea is a means to creating healthy eating environments within urban areas.

2.6.2 Lessons from country experiences: integrating sustainability

Interventions such as shortening the supply chains through encouraging local urban/peri-urban food production and sales within the planned areas could improve diet quality and sustainability of programmes. While many countries have practised zoning as a means of providing facilities, the Indian experience with street food hubs and the Singaporean hawker centres have been effective.
Clean street food hubs in India

In India, a project of the Food Safety and Standards Authority of India (FSSAI) has designated popular street food localities across the country as ‘clean street food hubs’.

FSSAI has prepared a code of practice for street food vendors by referring to the global and Indian standards. The clean street food project works with the objective to raise the quality of food vending. The Food Safety and Standards Act 2006 has detailed guidelines for street food vendors under Schedule IV of licence and registration. A geographical area with an aggregation of clusters of vendors is defined and recommended by the local food authority to FSSAI for declaration as a food hub.

FSSAI is currently developing guidelines for the certification of hubs. Currently, the focus is on food safety, such as garbage disposal, personal hygiene of vendors, pest control, etc. It has also included sustainability as one of its pillars wherein food waste is addressed. This is an important aspect of out-of-home food consumption where both producers and consumers need to imbibe the philosophy of minimizing food waste in order to mitigate climate change and enhance sustainable food production for future generations. Remarkable changes have been seen in terms of food safety and hygiene among the certified hubs. Challenges yet remain in the unorganized vending zones due to lack of infrastructure facilities and inadequate number of trained vendors on account of mobile vending.

Hawker centres in Singapore

In Singapore, new areas were developed as hawker centres during the different stages of city planning. Many of the hawker centres were successful as they are created near major shopping malls and so attract many customers, which helps the hawkers in their business.

2.6.3 Urban agriculture opportunities and sustainable production

Improved value chains can link suppliers of raw material to food preparation points/vendors. Exploring and establishing ways to connect urban farms can lead to healthier produce and improved distribution.

Shortening the food chain by promoting peri-urban agriculture and linking with restaurants is another option. Such an initiative needs buy-in and cooperation across multiple sectors. Technical inputs at the food manufacturing, distribution and transport levels to ensure fresh produce will be required as well as extensive coordination between different entities/authorities.
Collection points for organic waste generated from eating outlets can be created, collected and composted by the peri-urban farms. Intervention at wholesale and retail levels is required to maintain central markets and transparency, ensuring fresh produce and rational prices. These interventions would support the supply of raw produce to restaurants and vendors and promote healthier meals. By developing direct links between the producer and the food outlet, transaction costs can be reduced. Alternately, subsidies can be considered for the use of better-quality raw material.

Building waste hubs for each zone and promoting waste management with compost bins can support urban agriculture. Peri-urban agriculture needs to include the use of land space around schools, hospitals and offices. Supporting small holders with micro credit and access to land is important, and land sharing for growing food can be encouraged with growers linked to those who prepare food. Vertical farming is especially useful in urban areas.

### 2.6.4 Lessons learnt from country experiences: connectivity between food growers and food service operators

**Developing wholesale markets**

Thailand’s clean standard wet market programme complements the street food certification programme. Developing wholesale markets increases the supply of better-quality raw material, improves distribution, and provides greater access at relatively lower prices. In order to improve nutritional content of these foods, a prerequisite is to ensure that the raw materials that are nutritionally desirable can be purchased at an affordable cost throughout the year.

**Increasing connectivity**

It is important to increase connectivity along the supply chain including between the formal and informal sectors through policy support in order to provide better quality raw products to restaurants at affordable prices. The food cart project in Bangladesh was linked to interventions that worked towards improving value chains and the supply of raw materials from agriculture and farms. The aim was to address food safety and improve the business outcomes of the products that reached the street vendors.

Since improving business outcomes was an aim, this ensured that interventions in the value chains were likely to be sustainable. In creating value chains that support such a venture, the strategy is to create incentives for a network of farmers and supply chain stakeholders in rural and urban areas and to connect with domestic and international markets. Through this project a group of trainers is being created and given recognition as specialists who can share experiences, and the effects can then be expected to escalate.
Research to improve value chains: develop ingredients and recipes

Reformulation of ingredients and recipes are ways to improve value chains and support change. Singapore invested in upstream research and development for healthier ingredients and supported their production through a whole-of-government strategy to ensure sales.

2.7 Capacity-building and monitoring

A robust capacity-building of stakeholders is essential to promote safe and healthier out-of-home foods and must be planned ahead. Monitoring is a vital factor in the success of interventions. Country food control systems generally have a monitoring component that maybe expanded to cover healthier diets.

2.7.1 Developing a plan for capacity-building

Capacity-building is required at every level of food supply, production/storage and vending.

Technical capacity

As previously mentioned, reformulation of ingredients in the formal food sector can have a direct impact on the informally vended out-of-home foods. The Singapore example (case study) shows how noodles with high fibre content were reformulated through technical support and incentivized to be utilized by the out-of-home sector. Thailand has recently initiated a project to reformulate common sauces with reduced salt. Repurposing of used cooking oils for other purposes such as biofuels that discourages larger and smaller food outlets from repeated reuse of cooking oils, and also acts as a financial incentive, has been promoted in India. Another consideration could be the use of fortified foods or food ingredients in base products.

Salt and sugar are used as food preservatives and enhance food safety. Therefore, out-of-home food producers will need to be technically supported to reduce salt and sugar in foods and yet maintain food safety.

Technical inputs for the development of value chains is essential to support urban food outlets. Often the lack of quality raw materials at affordable prices limits the capacity of a food outlet to produce healthy foods. Often, raw materials are produced in locations away from the city, and hence transport, storage and guarantee of sales is important for small producing companies to supply the city. Technical inputs are required to support such producers as well as active linking of producers with the buyers and all stakeholders along the value chain, both
urban and rural, to ensure that the produce is brought on time, to the right place and minimizes loss and wastage.

**Laboratory capacity-building**

Laboratory facilities must be established and developed for food analysis. The ability to measure salt or trans fatty acid content and, where relevant, other nutrients will be required for monitoring out-of-home foods.

**Incorporate elements of environmental sustainability**

Waste management plans and the best use of resources need to be considered and incorporated into interventions. Capacity-building is required on the most appropriate and feasible methods in each case.

**Monitoring**

Current policies, regulations and monitoring mechanisms pertaining to out-of-home foods are to ensure food safety. Actions to promote healthier and safer out-of-home foods could be aligned with the existing food control system monitoring pathways. Existing monitoring mechanisms can be effectively extended for the purpose of monitoring actions to promote healthier and safe out-of-home foods during routine food safety inspections. Though it may be possible to increase efficiency by utilizing the same personnel and resources, their workload, training needs and capacity need to be considered.

**Monitoring tools**

Simple visual tools could be developed to assess the healthfulness of foods. Visual examination may be an option, such as number and types of food groups including vegetables and fruit, quality and quantity of oil and sugars used per unit time. But if foods are prepared at sites away from the vending site, as often happens, then visual examination will be challenging. Development of monitoring tools will need to be contextualized to the country and can draw from the experience of cities such as Kolkata that have developed simple tools to monitor food safety, which could be expanded to cover aspects of healthy diets.
2.7.2 Lessons from country experiences — capacity-building

Use of a simple screening tool to assess food safety practices

In Kolkata, India, a standardized screening tool was developed to assess basic food safety and was used to monitor and identify vendors/outlets. The tool also had indicators that would allow analysis of the cause of the problem. Addition of simple visual indicators such as quantity of fruits, vegetable dishes are being considered to address healthy eating.

The healthier eating interventions in Hong Kong SAR incorporated a monitoring tool to assess the progress of the programme. In Thailand monitoring and evaluation of street foods is undertaken by the many stakeholders including the Ministry of Public Health, the police and different departments of Bangkok Metropolitan Authority. Assistance is provided by the network of street food vendors, mass media and consumers’ organizations.
Conclusions

Out-of-home foods are a major part of the food system and play a critical role in providing livelihood and access to low-cost foods for many. Unfortunately, these foods generally tend to be associated with higher intake of fat, sugar and salt, and are low in essential macro- and micronutrients. Their nutrient profile is related to minimizing cost of production using low-cost ingredients and foods, preventing contamination and preserving foods without spoilage.

A greater emphasis on the nutritional quality of out-of-home foods is essential to halt the increase in overweight and obesity and reduce diet-related NCDs. This is not an easy or simple task in the context of the out-of-home food environment in the WHO SE Asia Region. Influencing the out-of-home food environment so that healthier options are accessible, affordable and free from microorganisms and contaminants can only be accomplished through a collective approach with effective partnerships between multiple stakeholders and coordination at the city administration or government level.

This framework summarizes the evidence base and emerging actions to support healthier and safer out-of-home food provision. It is designed to support stakeholders to improve the out-of-home food environment through sharing innovative solutions by countries at national or sub national level. The trials and pitfalls in planning healthy diets through the out-of-home food sector which is dominated by informal operators in many parts of South-East Asia are also provided.

While the informal nature of the out-of-home foods segment in Asia poses a challenge to ensuring a healthy dietary environment, its regulation and quality control, the informal economy is receiving more attention than before through the 2030 Agenda for Sustainable Development, which encourages the formalization and growth of micro-, small- and medium-sized enterprises under Sustainable Development Goal 8: “Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”. Formalization may require major legal reforms that are enabling rather than prohibitive and acknowledge the out-of-home food sector as an opportunity to promote healthier and safer diets.
4.1 Case discussions on actions, successes and challenges

Guidance for ensuring food safety has been provided by WHO and FAO and, many countries have incorporated these into their food control systems. The country reports presented here focus on initiatives that address healthy diets. The case studies have been adapted from presentations made at the 2019 WHO/FAO Inter-Regional Meeting in Bangkok to promote healthy diets through the informal food sector in Asia held in Bangkok.

Thailand
Policies, regulations and laws

Both the Ministry of Public Health and the Bangkok Metropolitan Administration (BMA) recognize the importance of street foods in ensuring food security, tourism and the economy. Over the years, many interventions including policies and laws have been made to improve food safety, taste and quality of street foods. A licensing mechanism is in place for street vending of food, and non-licensed vending is illegal, resulting in fines and eviction. The license fee is minimal. Periodic relocation of street vendors is done to free pedestrian space on the streets and improve orderliness. In addition to licensing, ministerial regulations on hygiene in food services (2018) encompass a range of comprehensive food safety regulations and include a code.
and training management for proprietors and food handlers. In addition, there are other laws and regulations in the country that address food safety.

The Bangkok Metropolitan Authority is committed to supporting food safety and has a comprehensive food sanitation management programme including testing, training and health checks for food handlers and vendors, education for consumers and certification of food outlets and food markets. More recent interventions have addressed and encouraged healthier foods. To promote tourism in Thailand, the Ministry of Public Health recently announced the Street Food Good Health policy. The Deputy Minister of Public Health launched the policy on 29 October 2020. The best practices with regard to street foods will be promoted in each province with the goal of having at least one “best street food” per province in 2021. The Good Health policy covers sanitation, safe food and healthy menus.

**Food safety:**

**Clean Food Good Taste project**

The objectives were to reduce the risk of water- and food-borne illnesses from food services, promote clean and hygienic food in food services for local and foreign tourists, and promote food and environmental management within the local government. The target group was restaurants and street foods vendors at tourist attractions around the country. The strategy was developed by a multisectoral group including the government and private sector. The lead role was played by the Department of Health, Ministry of Public Health, the Ministry of Local Governments and the Tourism Authority of Thailand. Support was also provided by other government officers and the private sector.

The Clean Food Good Taste sign was used to certify food services following quality assurance checks. Sustainable management and public relations formed an important part of the strategy. A goal was set whereby 80% of the total number of food services met the required standards of food sanitation. The standards included the physical environment and bacteriological condition through coliform bacterial testing, with the criterion of 90% samples testing negative. Monitoring and evaluation is carried out regularly for maintenance of certification, by carrying out inspections. Local authorities carry out inspections and private sector inspections are also supported. Information collected at the local level is made available centrally. Consumer feedback is also utilized.

**Simple evaluation criteria**

A lesson from the Thai Clean Food Good Taste certification process is that the assessment criteria should be easily measurable. The project defines 12 standards of operation for street vendors. Criteria include that the food stall surface should be made of material that is easy to clean, food preparation and cooking area should be elevated to at least two feet above the ground,
cooked food must be stored in clean and covered containers, food additives used must be approved by authorities, and that drinking water must be fit for human consumption and stored in clean and covered containers. Restaurants need to adhere to 15 standards of operation and cafeteria have 30 criteria.  

Inclusion of taste as an evaluation criteria

Taste is a criterion used in measuring quality of street foods, since it is an important incentive for consumer purchase. When bringing in nutrition changes, taste needs to be factored in, especially in relation to how the taste of traditional dishes may be altered when healthy ingredients are used.

Healthy foods

“Healthy Canteen” project

When including nutrition concerns, a few simple aspects such as the number of fruit and vegetables used or the amount of oil, sugar and salt to be reduced/used could be integrated with food safety criteria. The Department of Public Health, of the Ministry of Public Health, launched the “Healthy Canteen” project in the MoPH in 2020. The Permanent Secretary of the Ministry of Public Health presided over the launch of the Healthy Canteen project on 23 January 2020, and all deputy directors or representatives of each department of the MoPH participated at the event. The project aims to promote every canteen in MoPH to become a healthy canteen.

Seven components are included within the criteria for categorization as a healthy canteen:

- Have at least one healthy menu choice per food stall.
- Have at least one food stall selling fresh fruit.
- Consumer has the choice of lowering the level of sweetness in drinks.
- Information on sodium and sugar content per spoon is provided in front of the seasoning tray/basket.
- Information on calories and nutrients per plate is provided in the canteen.
- Canteen environment supports healthy behaviours and food consumption by displaying information on the benefits and the need to reduce sweet, oily and salty foods and the size of the spoon in the seasoning tray/basket.
Raw materials; improve nutrition

Clean standard wet market
This is a linked programme aiming to achieve universal sanitation standards in markets that supply raw material to street food vendors. These initiatives are supported by multiple ministries and sectors. The understanding that all components of the food system are equally important is essential for success. Thailand’s clean standard wet market programme, therefore, complements the street food certification programme. Developing wholesale markets increases the supply of better-quality raw materials due to improved distribution and provides greater access at relatively lower prices. In order to improve the nutritional content of these foods, a pre-requisite would be to ensure that raw materials that are nutritionally desirable can be purchased at an affordable cost and are available throughout the year.

Understanding the dynamics of the supply chain
A research team from the Massachusetts Institute of Technology analyzed the complexities of the food system in Bangkok, making significant observations that are possibly similar in other countries. The food environment is changing in parallel to the consumption patterns of the urban community. Supermarkets are increasing in numbers. Informal street vendors tend to source their raw materials from “Talat Yai” (smaller-scale markets) due to the feasibility to obtain products on credit without affecting the quality of raw food purchased due to personal relationships with market vendors, the chance to purchase small quantities and have access to diverse products. Street food vendors thus attract more custom, which in turn increases the number of those who patronize the “Talat Yai” market vendors. This interconnectivity has been identified as an integral quality of the food system and hence needs to be factored into any effective intervention.

The smart street food cart
The smart street food cart was developed by the National Science and Technology Development Agency and supported by the Ministry of Higher Education, Science, Research and Innovation. Built of lightweight materials, it contains a mini wastewater treatment system, water sink, a kitchen hood, a refrigerator and two stoves, and is aimed to promote tourism while being environmentally friendly.

Food carts have been produced on several occasions in Thailand and some have been more successful than others. Often the lack of understanding of the vendors’ requirements while producing the carts has been an impediment. Further, the importance of viable financing mechanisms for the success of these small enterprises has been demonstrated through a food cart micro leasing programme carried out as a research project. An understanding of the economics, and providing economic empowerment, closely ties in with what can be done to improve the quality of the foods that are sold, with law enforcement alone being insufficient to cause a change.
There is a need to develop a comprehensive model to address all aspects of street food.

**Street food management model development**

A health ministry initiative in Thailand to develop a street food management model aims to propose policy recommendations to develop a street food management system and prototypes of street food management that emphasize the sale and consumption of vegetables and fruit and other standard requirements with the cooperation of network partners. Knowledge literacy among consumers for behaviour change will also be promoted through the establishment of learning centres. The important aspects within the conceptual framework were that the programme will be first implemented in selected areas and the lessons learnt will then be incorporated in other areas, the quality of raw material will be inspected as well as safety in food preparation coupled with educating the consumer. Monitoring and evaluation was an identified priority, and the expected outcomes were healthier foods and consumers, economic benefits of increased trade and tourism, and sustainability. The system and mechanism were developed specifically to be managed by the local authorities. Following implementation in selected areas, a study visit was carried out to note the lessons learnt.

**India**

With the aim of improving public health in India and to prevent negative nutritional trends and reduce lifestyle diseases, the FSSAI launched the “Eat Right Movement” in 2018. The movement is based on three pillars: Eat Safe/Eat Healthy/Eat Sustainable. A common platform was created including the food industry, public health professionals, civil society and consumer organizations and celebrities, to take steps to amplify the “Eat Right Movement” in the country.\(^{11}\)
Under this whole-of-government approach, many programmes are planned, and these include the clean street food hub that focuses on food safety and improving sanitary standards.

The clean food hub was implemented in:

- 19 states
- 101 identified hubs
- 20 certified clean street food hubs
- 22 further clean street food hubs, where certification is under process.

A comprehensive standard operating protocol was developed as indicated below to certify outlets that are clean and safe.

**Strategies**

Mass campaigns have been conducted with celebrity involvement. National stars and celebrities such as cricketer Virat Kohli and actors Raj Kumar Rao, Juhi Chawla and Sakshi Tanwar have become engaged in the programme to trigger behavioural changes for better food choices. There are other informative videos which educate consumers on the FSSAI video library. A repository of content and messaging (print, digital audio and video) has been created and disseminated. A nationwide scaling up of the “Eat Right India” movement is ongoing. The states are participating in an “Eat Right Challenge”, a contest which will help encourage and improve food safety standards. Further, a programme is being conducted with the Smart Cities in collaboration with the Ministry of Urban Affairs.\(^1\)

**The Calcutta model**

An early study done by the Calcutta Municipal Corporation in 1995 helped develop the “Calcutta Model”. The safety of street food can only be ensured if all relevant stakeholders such as the Municipality, police, customers and vendors work together. Following more studies, a fast and simple non-laboratory-based audiovisual testing method was developed and a revised International Organization for Standardization (ISO standard (IS 16066:2017) of the Bureau of Indian Standards was prepared for first-level screening of safe foods and vendors. This tool also helps to identify the cause of the problems/issue.

The Deputy Mayor of the Calcutta Municipal Corporation, in the state of West Bengal, took a personal interest in improving the safety of street foods and makes regular visits to the vendors and discusses with vendors, customers and local police regarding difficulties experienced, which includes taste, as well as sanitation and other
facilities. This interest and leadership from the local government has helped to improve the food safety levels of street foods in the city.

**Bangladesh**

Bangladesh has 18 ministries that have some responsibility related to food safety activities, and that are linked to each other by the Bangladesh Food Safety Authority (BFSA). BFSA has many important roles. BFSA sets food safety regulation standards and is involved in monitoring, generating awareness and training. Food safety concerns have been identified and the need for improvements in infrastructure at every stage of the food chain has been highlighted.

A review of street foods in Bangladesh indicates that in 2014, street vending was probably the second most important employment opportunity for the urban poor. The review also reported a street vendor population of 90,000 to 100,000 selling prepared food items based on a survey done between 2007 and 2010.12

Many projects have been carried out to improve food safety among street food vendors. A food cart project was carried out in two cities with UN and other donor assistance. The cart was distributed to vendors to replace their existing carts. These were designed with an emphasis on maximum hygiene. The major limitation was the inadequacy of funds for maintenance and monitoring of the programme although these carts were very popular both among vendors as well as customers.

*Food vendors lined up to receive food carts distributed by a project in Dhaka*

Bangladesh has a system exists to effectively identify contaminated foods and to take punitive action where required. This surveillance is carried out by food inspectors. Many challenges exist, such as inadequate knowledge among vendors and the public. Traditional practices and multiple regulatory agencies and laws make enforcement difficult. Worsening traffic and space constraints, lack of funding and reluctance of some institutions to allow certified vendors on their premises make it
difficult to promote foods even after hygiene standards are maintained. Such cooperation is essential for sale of healthier foods, thus creating a demand and supporting the growth of future ventures.

In Bangladesh, a dedicated wing must be established to coordinate such activities. A grading system for foods and registration, as well as appropriate and effective food vending structures maintaining uniformity and the desired standards, are required. Other identified areas for improvement were intensive capacity development programmes, awareness programmes for vendors and customers, involvement of print and social media and effective coordination. There is a need for effective collaboration with all stakeholders such as the Food Safety Authority, Dhaka City Corporation, Institute of Public Health, relevant universities, local government and engineering departments, the Consumers’ Association of Bangladesh and the Bangladesh Food Safety Forum.

Creating supportive value chains

A pilot street food cart initiative was begun in Khulna that later expanded. A framework for sustainability of the street food intervention as well as a model for its replication have been developed. The framework for sustainability is strongly supported by the creation of supportive value chains.

In creating value chains that support such a venture, the strategy is to create incentives for a network of farmers and supply chain stakeholders that exist in rural and urban areas and also to connect with domestic and international markets. Through this project a group of trainers are being created and given recognition as a set of specialists who can share their experiences. The gains of this initiative can be manifold.\textsuperscript{12}

China, Hong Kong Special Administrative Region (SAR)

The EatSmart Restaurant campaign

This project was designed to provide the community with healthier options when eating out, as out-of-home eating is popular in China, Hong Kong Special Administrative Region (SAR). The aims of the project were two-fold.

- To educate, empower and enable the community to have easier access to healthier dishes when eating out.
- To encourage, empower and enable food premise operators to provide a wider choice of healthier dishes.
To be certified as an “EatSmart restaurant”, the vendor is required to provide at least five “EatSmart” dishes. Such vendors and menus are identified by the relevant logos and a decal placed near the entrance or prominent location for easy identification of the restaurant.

**EatSmart dishes have specific criteria that should be met by the serving restaurant.**

- Either fruit or vegetables are the sole ingredients of the dish or they occupy at least twice as much the amount of meat and alternatives present in the dish.
- 3-less requirement: The dish has less fat, oil, salt and sugar and meet the specified requirements for each. The ingredients, preparation and cooking methods, and serving sizes are specified for these dishes.

**Ongoing support** is provided to the restaurants on how to design dishes to meet the requirements and qualify for the two logos. A guidebook with clear instructions, briefing sessions and recipe vetting supports the initiative. Monitoring is through unscheduled visits for checking, and an annual renewal is granted based on monitoring.

**Campaign evaluation and revisions**

The evaluation identified that managers of restaurants recorded increased business in terms of sales: more customers requested for EatSmart dishes and selected such restaurants due to the availability of these dishes. There was also positive feedback from the staff regarding their own eating and cooking behaviours, with a majority having a healthier view on diet and eating habits following the intervention.

Chefs prepared food in a more healthy fashion than before and frontline staff were more likely to promote the EatSmart dishes. At the same time, the majority of consumers who were interviewed prioritized price, taste and location of the restaurant as the most important variables in selecting a restaurant. Therefore, adjustments were made to the programme, to bring in strategies to improve price, taste and location.

The feedback from the original initiative was used to improve the programme and launch the EatSmart Restaurant Star+ campaign 2019 with a three-star rating scheme. The benefits of this scheme were that it allowed accommodation of different modes of operation in restaurants, offering greater flexibility and the opportunity for greater participation. Further, restaurants received the opportunity to promote themselves. Strategies were devised to achieve wider acceptance by the restaurants. Combining government inputs with interventions for both patrons and the food trade offered better solutions. Government leadership was the strongest input.
The government agencies implemented the campaign, established partnerships with trade and other relevant stakeholders in the community, and attached importance to the EatSmart Restaurant Star+ campaign.

Secondly, working with trade involved understanding their concerns and assisting in devising practical strategies and encouraging restaurants to pioneer change and motivate participation by others. Recruitment strategies such as onsite recruitment, one-stop enrollment procedures and providing tailor-made material to promote EatSmart dishes were devised. Incentives to restaurants were in terms of promotion and bringing more business.

A strategy that proved successful was offering dishes with more fruits and vegetables. This is considered easy for restaurants to implement. One-star rating was provided to restaurants offering at least five dishes with more fruits and vegetables. Since it is easy for restaurants to execute, more restaurants opted for this, thus addressing the customer issue of location.

The second concern of price was addressed by encouraging restaurants to provide special offers on the EatSmart dishes, promoting the dishes. A 2-star rating was offered to restaurants with such special offers. A vegetable dish was included as an add-on item. This improved business and reduced the food costs for patrons, and also increased the intake of fruits and vegetables among consumers. Developing practicable dishes with readily available ingredients is important for low-cost healthy food vending. Taste was addressed through organizing cooking demonstrations and recipe competitions to motivate new and tasty healthy EatSmart dishes. The project increased business and incentivized both vendors as well as the patrons through demonstrations on improving taste.

*Promotion is carried out through a mobile application created for restaurants*

The Centre for Health Protection of the Department of Health has tailormade the *EatSmart Restaurant Star+* mobile application to support consumers to identify EatSmart restaurants in various locations.

The *CookSmart: EatSmart recipes* mobile application https://appadvice.com/app/cooksmart-eatsmart-recipes/1062454459 provides a *CookSmart* magazine as well as access to over 200 EatSmart recipes for free. The *CookSmart* magazine is published by the Centre for Health Protection of the Department of Health under the EatSmart@restaurant.hk campaign to promote healthy eating among the public.

Under the “EatSmart Restaurant Star+” campaign (ESR Star+ campaign), the features of a restaurant are indicated by stars of different colours.

- Green star: the restaurant offers at least five “more fruit and vegetable” dishes on a daily basis;
- Red star: the restaurant offers at least five “EatSmart dishes” which include at least one “3 Less” dish on a daily basis and where at least two staff
members have passed the assessment after being nominated to attend a briefing session;

- Yellow star: the restaurant has a daily promotional offer ("EatSmart Promotion") for the "more fruit and vegetable" dishes or "3 Less" dishes.

Take-home messages from the Hong Kong SAR experience were:

- Every aspect of a campaign must be considered.
- Efforts to increase business among restaurants with healthier dishes promotes more healthier options to be available.
- Client-oriented changes should be simple to implement.\textsuperscript{13,14,15,16}

### Singapore

Singapore’s experiences show that the deep-rooted cultural significance of street foods must be understood and explored before any change. Improvements of any nature, be it over food safety or nutrition, entail some cost. Singapore has been successful in improving sanitation and food safety as there was significant government expenditure into infrastructure to build the hawker centers and provide subsidies in terms of lower rentals for selected stalls.\textsuperscript{17}

The increased cost for the vendor in providing a service of basic quality (in terms of cleanliness and safety) is inevitable. Understanding this will increase commitment from the vendors. The understanding required of the vendors would be about the benefits of safer food including translating into more customers and even customers who are willing to pay a little more for the same food. The understanding required from the government is the economic, cultural and food security significance of street foods.

### Singapore’s hawker food culture

In the 1950s the street vendors were moved into defined spaces. Following independence, this resettlement programme continued until 1986 when all street hawkers had been resettled in hawker centres. The government was quick to realize the role that is played by food from hawkers in ensuring food security for the poor by providing food at low cost. Rentals are kept down in the centres through hidden subsidies that ensure that food is indirectly subsidized. The food and the employment’s Vending Act is a safety net for the poor. Hawker policies and guidelines were drawn up accordingly and stall allocation and subsidies were created under the government’s “hardship scheme” which ensured subsidized rents for those who needed it.\textsuperscript{18}
Current challenge: hawker stalls

Currently hawker centres are managed by the National Environment Agency (NEA). The economic, cultural and food security role played by of hawkers is well understood. At the same time it is recognized that the Singapore hawker trade faces the challenge of continuity due to a less interested younger generation. In an effort to keep the trade alive the NEA implemented the Master Hawker Trainer Pilot Programme.

With incubation stalls for young people to try the trade and train, and to help veteran hawkers pass on their culinary skills to the next generation, this effort was made in collaboration with Singapore’s Workforce Development, an agency to support the workforce. In order to improve their sustainability in the long run a committee reviewed key areas including how to sustain and support new entrants; improve productivity and enhance hawker centres as social spaces; and.

The early beginnings of Singapore’s hawker food trade show how this trade began as itinerant sub optimal quality food sales similar to that of many other countries in the Region and how it was improved over the years through the understanding that they are important to the society. A significant effort has been made to see it through to being made safer and healthier, as described below.

Improving nutrition in contemporary Singapore’s food environment

The Health Promotion Board (HPB) supported the NEA in creating more hygienic and, therefore, healthy hawker centres. The next phase of improvement to the trade was carried out with the Health Promotion Board (HPB) of the Ministry of Health taking the lead role.

Overview of the current food service landscape in Singapore

Singapore has an estimated 28 000 food outlets offering a great variety of foods and beverages. These range from restaurants, bakeries, food chains and coffee shops to food court stalls, hawker stalls and itinerant kiosks. Caterers include institutional caterers and online caterers.

The eco-systemic approach

The eco-systemic approach was taken to influence supply and demand of healthier options. At the heart of the strategy was the expected output of reducing calorific intake and improving diet quality. In order to achieve this calorie literacy was developed through education using awareness programmes and brand building. While awareness was expected to drive demand, both upstream and downstream methods were used to further enhance consumer demand.
Upstream food innovation was identified as important to ensure availability of healthier ingredients and product innovation to broaden the healthier product range. Downstream strategies included targeting stakeholders in the value chain; and leveraging partnerships with manufacturers and retailers, the healthier dining programme and healthier choice symbol were created. A whole-of-government approach to support the healthier food manufacturing and retail was carried out by ensuring that catering to all government institutes including schools would use these foods and beverages and included tenancy specifications. Hawker activation through cooking classes and digitalizing sales helped drive consumer demand.

**Multi-stakeholder partnerships to improve availability and accessibility of healthier options**

It was identified that a change in context and environment was needed to nudge consumers to adapt to a new norm. Public agencies and industry partners were engaged and, through the use of healthier option and healthier choice labels, the change in food environment began with the ultimate aim of making healthier choices accessible as well as the default. This had to be coupled with consumer awareness of the new environment and its benefits.

**Multiple stakeholders within the food supply chain were targeted through specific programmes**

Industry capabilities were enhanced in new product development, which was coupled with commercialization of the new products and promoting consumer adoption of these products through the healthier labels. The entire food supply chain needed to be addressed, in terms of manufacturers and suppliers of raw ingredients, food manufacturers and importers, retail and food and beverage outlets and, finally, the end-consumers. The outlets were addressed through a healthier dining programme, healthier dining grant for marketing and healthier dining innovation for culinary training and use of new ingredients. The consumers were addressed through public education and awareness initiatives, on-ground activation in the stalls and supermarkets, and digital consumer promotion.

**Simple messaging on healthier choices aimed at reducing calories and improving diet quality**

Many methods were used in order to generate demand. Awareness was created through the use of healthier choice tags at the entrance to the complex as well as onsite. In order to generate interest, trial and purchase promotions were used. Common myths were addressed through feature articles in the media and it was projected that tasty food can be healthy too. A combination of media elements was used to generate debate so that it encouraged consumers to try new foods and build confidence among food and beverage operators that these new foods
are worth trying and would generate adequate income. The health promotion board is currently encouraging a greater number of healthier food options to be produced and made available. The strengths of the Singapore model are that it is very comprehensive, is built on a firm base of knowing the ground situation, and includes both regulation and promotional methods as well as the fact that both the public and the manufacturers are included in the programmes.

Lessons from Singapore include the need to build a healthier food ecosystem with a comprehensive mixture of intervention tools including:

- Research and development
- Policy and regulatory input
- Leveraging strength of whole-of-government approach for promotion
- Tighten nutrition guidelines such as sugar levels and wholegrain content
- Education and promotion
- Design new initiatives
- Leverage brand equity of healthier choice symbols in foods and services
- Ensure more whole grains and less in sugar and saturated fat; healthier ingredients
- Lesser calories
- Start small
- Walk the ground in an iterative process and fine tune
- Keep implementation simple in order to be scalable and sustainable
- Leverage on strengths of key stakeholders and build industry capability.

**Challenges identified within the Singapore experience**

- Lack of timely data for monitoring
- Sustain changed consumer behaviour
- Ensure price parity for healthier foods and ingredients
- Physical constraints.

Information related to healthy eating and options available to consumers, including the different programmes, can be accessed from the sites of the Health Promotion Board.19,20,21,22
Malaysia

The Food Hygiene Regulations of 2009 mandates that all food premises, businesses or operators including street vendors must register with the Ministry of Health (MoH) and obtain licenses through the local authority. Government bodies responsible for food safety and street foods are the Ministry of Health, Ministry of Planning and Policy Development, and the Ministry of Housing and Local Government. In addition, recognition for clean premises is given through a grading system for basic food safety elements and further recognition is given with the addition of nutrition labelling (with calorie content) through the BeSS certification process. BeSS https://nutrition.moh.gov.my/en/bersih-selamat-dan-sihat-bess/ is a recognition given to vendors and represents clean, safe and healthy food. BeSS requires that there is a healthy eating promotion such as a poster display together with calorie tagging and provision of plain water.

BeSS accreditation is a step towards recognition of healthy cafeteria and is a strategy which provides healthier menu options. It is mandatory at government sectors and voluntary in other locations. This project aims to provide healthier food choices, improve knowledge and skills of cafeteria operators and facilitate preparation of nutritious foods based on the Malaysian dietary guidelines and recommended nutrient intake ensuring that hygiene regulations are met.

Healthier foods through healthy cafeterias

BeSS recognition is intended to educate the consumer on healthier eating while providing choices. A recent study among consumers of street food reported that they perceive it as a good, fast service, with tasty and quality food that is sold at lower prices. They also perceived street foods to be safe for consumption, with artificial additives and the quality of ingredients used being the only concern. The source of water used and the environment were considered important to ascertain the quality of stalls. Consumers also agreed that regular consumption was not good for health and considered foods with less fat and more vegetables as healthier.23

Indonesia

In Indonesia the laws for food safety are in place. Food safety testing is carried out in coordination with the Ministry of Health, municipal corporations and other sectors. In Jakarta province, food safety campaigns are held, school meals are sampled under
the school meals programme and food safety education is carried out at schools. Indonesia needs to establish a national system for food safety and strengthen the implementation of regulation and policy and build infrastructure for monitoring.

An analysis done by the International Institute of Environment and Development (IIED) of street foods in Bandung identified that the city regulations (of 2011) recognize the street food sector as important and the need for its formalization and relocation to designated sites. A survey reported by IIED showed that street foods offer nutrition to poor urban factory workers and that a main meal of rice, vegetables, tempeh and egg could be purchased at affordable prices by the workers. Women’s dietary diversity analysis indicated that a diverse diet providing foods from 7–10 defined food groups was consumed, and was considered adequate for this population group. Street foods are important to Indonesia and, for strengthening food safety structures, ways in which healthier food initiatives can be built into the same mechanisms need to be studied.

**Viet Nam**

Viet Nam’s Food Safety Law of 2010 covers conditions ensuring food safety in the food premises. Certification on training and a certificate on the vendor’s health is required and this is regulated by the Ministry of Health. These regulations were updated in 2018 and the penalties for violation were raised. Vendors need no longer be warned, but can be fined directly, with higher penalty for non-provision of basic requirements for food safety.

While the criteria for safe street foods are stipulated by the Ministry of Health, the responsibility of the local management for the street food trade lies with people’s committees at different levels. Monitoring in terms of regular food safety testing and education is carried out by the government. Some provinces have developed a model of safe street food stalls. The Ho Chi Minh City model includes food streets and no-food-stall streets as well as approved logos/signage for safe street foods.

The government and the Vietnamese Fatherland Front have collaborated to promote and monitor food safety activities. Technical support, education and tools have been provided by development partners in the country. Consumer responsibility to choose wisely has been highlighted through campaigns targeting consumers. The main challenges are the low human resource capacity as well as lack of awareness among vendors. The food safety situation has been reviewed and strategies for improvement have been suggested for Viet Nam. In Viet Nam too, developing food safety for the future could be coupled with the incorporation of healthier food interventions.
Sri Lanka

Sri Lanka has policies and laws and guidelines that address food safety and healthy eating. However, street food is currently illegal under the Municipal Council Ordinance; yet, there is provision for registration, and more than half are registered. There is a rapidly growing informal food sector which includes home-based food production, supporting on-street sales as well as online sales. Mobile apps are used with home delivery provision of these home-produced foods. These are difficult to regulate, and hence the Public Health Department of the Ministry of Health and the Colombo Municipal Council have taken many initiatives to improve the safety and healthfulness of these foods.

Health education for food vendors through face-to-face workshops as well as social media promotion of healthy eating among the public are important interventions. Food safety checking and testing by inspectors at sites has been strengthened in recent times and guidelines have been drafted for food delivery services. While improving street foods is difficult due to the demand for low-cost options from customers, there is the potential for improving the healthfulness of online food delivery services as these cater to customers who are likely to pay more for better quality food.

A healthy canteen policy for schools and government offices is in place and has been enacted on. Improving the healthfulness of the rice-and-curry lunch packets that are commonly available in the Colombo Municipal Council area and serve a sizable working population was recently identified as a potentially feasible intervention to initiate. Small-scale studies on street food vending have shown that difficulties faced by vendors need to be studied in order to develop effective interventions.

Cambodia

Food safety policy and legislation is in place in Cambodia. Food safety management is handled by six ministries. Monitoring and certification is offered at three levels based on food safety. Street food-related food safety issues are handled at the level of the city or municipal council, with some training and education given to vendors and food handlers.

The Ministry of Health coordinates activities with the city or municipality authorities, from the drafting of legislation to generating monitoring tools. In 2017 and 2018 food hygiene and safety surveillance was carried out in three focal zones. Many challenges exist in implementing this surveillance throughout the country. Experience from countries in the Region reveals that healthier food interventions are best tagged to food safety measures and are likely to be applicable to Cambodia too.
Common challenges faced in improving food safety/healthier foods

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<td>Inadequate government budget allocation</td>
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<td>Laws that do not include nutrition; regulations that need to be revised</td>
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<td>No understanding of ground state</td>
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<td>Limited budget of both vendor and consumer</td>
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<td>Low literacy; poor vendor hygiene, poor understanding of nutrition</td>
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<td>Consumers do not prioritize healthy eating</td>
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Actions that have been successful on repeated occasions

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<td>Establish the importance of the trade in food supply, economy, tourism, culture</td>
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<td>Changing policy, laws and regulations; regularization as a means of providing</td>
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<td>Identify ground state and drivers for change</td>
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<td>*Improving supply chains and upgrading value chains</td>
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<td>*Training in better use of budgets; *Increasing efficiency</td>
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<td>* Microfinancing</td>
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<td>Vender education and training</td>
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<td>Consumer education; engaging with chefs to keep the taste</td>
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