

Framework for Action on Food Safety in the WHO South-East Asia Region



REGIONAL OFFICE FOR

World Health
Organization
South-East Asia

Framework for Action on Food Safety in the WHO South-East Asia Region



REGIONAL OFFICE FOR

World Health
Organization
South-East Asia

Framework for Action on Food Safety in the WHO South-East Asia Region

ISBN: 978-92-9022-768-7

© World Health Organization 2020

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>).

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that WHO endorses any specific organization, products or services. The use of the WHO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: "This translation was not created by the World Health Organization (WHO). WHO is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition".

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization.

Suggested citation. Framework for Action on Food Safety in the WHO South-East Asia Region. New Delhi: World Health Organization, Regional Office for South-East Asia; 2020. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at <http://apps.who.int/iris>.

Sales, rights and licensing. To purchase WHO publications, see <http://apps.who.int/bookorders>. To submit requests for commercial use and queries on rights and licensing, see <http://www.who.int/about/licensing>.

Third-party materials. If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

General disclaimers. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by WHO to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO be liable for damages arising from its use.

Printed in India

CONTENTS

Foreword	v
Acronyms.....	vii
Executive Summary	ix
1. Introduction.....	1
1.1 Background.....	1
1.2 Food safety challenges in the SEA Region.....	2
2. Progress in Implementation of Regional Food Safety Strategies.....	6
2.1 Documented national food safety policies/ plans of action.....	6
2.2 Established national Codex committees, functional International Food Safety Authorities Network (INFOSAN) emergency contact points and focal points with active participation at regional and global meetings.....	7
2.3 Formulated protocols and mechanisms for investigating outbreaks of FBDs	8
2.4 Established national surveillance systems for FBDs.....	8
2.5 Established standards, legislation and monitoring criteria for the entire food supply chain, including street foods.....	9
3. Framework for Action on Food Safety	10
3.1 Scope.....	10
3.2 Objective and target audience.....	11
3.3 Time frame for implementation.....	11
3.4 Monitoring, evaluation and resource mobilization	11
3.5 Vision, mission, strategic goal and actions.....	11
3.6 Strategic approaches in strengthening a national food control system	24
4. Implementation of the Framework	26
4.1 Steps to implement the Framework.....	26



5. Connecting to Other Strategies and Programmes	29
5.1 Food safety initiatives to support the implementation of the framework	29
5.2 Food safety and health-related initiatives	30
Glossary	36
Bibliography	39

Annexes

1. Developing National Food Control Systems (adapted from CAC/GL 82-2013)	41
2. Dimensions, Subdimensions and Competencies in Assessment of the National Food Control System	45





FOREWORD

Unsafe food undermines food and nutritional security, human development and international trade. Today food safety is facing numerous challenges such as adulteration, microbiological, chemical and radio nuclear contamination. On the other hand, food should be safe and healthy as obesity, diabetes, cancer are emerging public health challenges due to high intake of salt, sugar and trans-fat and unhealthy lifestyle.

Food safety is complex in nature as it should be taken care from primary production level to consumption level and it may be contaminated anytime and anywhere in food-chain system. The theme of the first World Food Safety Day 2019 was “Food Safety is Everyone’s Business”. This message is most meaningful as food safety is a shared responsibility. At the same time, public health concerns due to misuse and overuse of antibiotics which consequently lead to anti-microbial resistance (AMR) is an emerging issue. The use of antimicrobials in farm animals for disease treatment, growth promotion and to improve feed efficiency plays a major role in the emerging public health crisis of AMR.

Food safety is one of the core capacities required for IHR implementation and it is one of the 19 technical areas to be assessed under Joint External Evaluation (JEE). The Regional Strategy for Food Safety 2014-2018 has contributed to good progress in food safety across the South-East Asia Region by strengthening Codex and foodborne disease surveillance activities.



As our food supply becomes increasingly globalized, the need to strengthen food safety systems in and between all countries is becoming more and more evident. The development of Regional Framework based on strengthening Codex and food control system is important as all countries are trying to harmonize food standards in order to provide safe and healthy food for all. Since WHO is currently working to implement the Thirteenth General Programme of Work 2019–2023 and the Codex Secretariat has developed the Codex Strategic Plan for 2020–2025, the development of this Framework for Action on Food Safety in the WHO South-East Asia Region is most timely. The WHO/FAO/African Union Global Food Safety Conference held in Addis Ababa and the follow-up conference in Geneva in 2019 highlighted the integral role of food safety in achieving the Sustainable Development Goals (SDGs). These global initiatives brought together key stakeholders such as representatives from ministries of agriculture, health and trade, food industries, consumer societies and international partners with the aim of achieving high-level political commitment to scale up food safety in the 2030 Agenda for Sustainable Development. These conferences mentioned, among others, the importance of increasing investment in national food control systems, enhancing risk-based approaches and capacity-building for managing food safety emergencies. These initiatives will ensure the safety of food supplies in informal and formal markets, with specific attention to vulnerable populations but also raise high expectation from Member States.

The Framework for Action on Food Safety in the WHO South-East Asia Region has been built on the achievement and lessons learnt from the Regional Food Safety Strategy 2014–2018. The Framework for Action aims at providing guidance to Member States, WHO and partner agencies for the next six years to help achieve the desired goal. I am confident that this Framework will contribute promote safe and healthier food for all individuals by strengthening food control system through multisectoral collaboration and public private partnership.



Dr. Poonam Khetrpal Singh

Regional Director
WHO Regional Office for South East Asia
New Delhi



ACRONYMS

AEC	ASEAN Economic Community
AFSRF	ASEAN Food Safety Regulatory Framework
AMR	antimicrobial resistance
APSED	Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies
ARASFF	ASEAN Rapid Alert System for Food and Feed
ASCC	ASEAN Socio-Cultural Community
ASEAN	Association of South-East Asian Nations
BAFRA	Bhutan Agriculture and Food Regulatory Authority
CCASIA	FAO/WHO Coordinating Committee for Asia
CSIs	cottage and small industries
CTF	Codex Trust Fund
DALY	disability-adjusted life-year
DFTQC	Department of Food Technology and Quality Control
EBS	event-based surveillance
ECP	emergency contact point
EPEC	enteropathogenic E. coli
ESBL	extended-spectrum beta-lactamase
EURASFF	European Union Rapid Alert System for Food and Feed
FAO	Food and Agriculture Organization of the United Nations
FBD	foodborne disease
FBO	food business operator
FDA	Food and Drug Administration
FERG	Foodborne Disease Burden Epidemiology Reference Group
FSER	Food Safety Emergency Response
FSSAI	Food Safety and Standards Authority of India
GFP	good farming practices
GFSP	Global Food Safety Partnership
GHP	good hygienic practices
GMP	good manufacturing practices



GPW	Global Programme of Work
GVP	good veterinary practices
HACCP	hazard analysis and critical control point
IBS	indicator-based surveillance
ICS	incident command system
IHR (2005)	International Health Regulations (2005)
IHR MEF	IHR (2005) Monitoring and Evaluation Framework
INFOSAN	International Food Safety Authorities Network
JEE	joint external evaluation
LMICs	low- and middle-income countries
M&E	monitoring and evaluation
MoU	memorandum of understanding
NAPHS	National Action Plan for Health Security
NCC	National Codex Committee
NCCP	national Codex contact point
NCD	noncommunicable disease
NFP	national IHR focal point
NGS	next generation sequencing
NTD	neglected tropical disease
OIE	Office International des Epizooties (World Organisation for Animal Health)
RMP	Risk management programme
RRA	rapid risk assessment
SDGs	Sustainable Development Goals
SimEx	simulation exercise
SMART	specific, measurable, attainable, relevant, time-bound
SME	small–medium enterprise
SPAR	state party annual reporting
SPS	sanitary and phytosanitary measures
SRRT	surveillance rapid response team
TBT	technical barrier to trade (agreement)
WHO	World Health Organization
WTO	World Trade Organization

EXECUTIVE SUMMARY

Food safety is a major element of public health and any compromise results in considerable burden of foodborne diseases (FBDs). The World Health Organization's (WHO)'s estimated burden of FBDs is comparable with that caused by malaria, HIV/AIDS or tuberculosis. One in ten people are estimated to suffer from illness associated with food they have consumed, mainly in developing countries. The economic impact of FBDs in low- and middle-income countries (LMICs) in Asia was estimated to be not less than US\$ 63.1 billion in 2016.

Food safety has multiple dimensions and it is intrinsically linked to the achievement of the Sustainable Development Goals (SDGs) such as zero hunger, good health and well-being, poverty elimination, gender equality, water and sanitation, sustainable production and consumption, and climate change. The integral role of food safety in achieving these SDGs was highlighted during the WHO/ Food and Agriculture Organization of the United Nations (FAO)/ African Union (AU) International Food Safety Conference in Addis Ababa earlier in 2019. Hence, there is a need to recognize that the SDGs will be unattainable without adequate, safe and healthy food, particularly for domestic consumers in developing countries.

The WHO South-East Asia Region is home to one quarter of the world's population. Therefore, strengthening the food control system is fundamental not only for countries in the Region but also for international health and trade. The burden of FBDs in the Region is the second highest among all WHO regions, accounting for 150 million illnesses, 175 000 deaths, and 12 million disability-adjusted life-years (DALYs) in 2010. Most Member States in the Region have challenges to delivering a risk-based food control system in domestic settings as a preventive approach to reduce FBDs. Some Member States are striving to cope with increased food risks associated with the emergence of food e-commerce. Besides, food safety in the Region has been continuously jeopardized by food fraud. Rejection of food products is frequent as exporting countries struggle to meet food standards and requirements imposed by importing countries. On the other hand, importing countries in South-East Asia do not have adequate import inspection and testing capacities and resources to ensure the safety and quality of imported food supplies. In other words, these countries have a double burden in terms of ensuring safe food for all in real terms.

The Regional Food Safety Strategy for WHO South-East Asia was formulated in 2014 to encourage Member States to initiate, develop and sustain multisectoral approaches and measures for the promotion of food safety among all population groups. Member States are at various stages of progress on the development of a national food safety policy and action plan, establishment of a functional National Codex Committee (NCC) and national FBD surveillance systems, and enactment of food safety standards and regulations. Much progress has been made in the past five years to strengthen Codex, FBD surveillance and emergency response activities through implementation of the Regional Strategy.

Based on the implementation of the Regional Food Safety Strategy and considering current challenges and emerging issues in the food control system, the Framework for Action on Food Safety in the WHO South-East Asia Region has been developed with the overall vision of safe and healthy food for all individuals through strengthening the food control system to safeguard consumer health. The proposed Framework for Action is aligned with existing and prospective food safety-related strategies and policies. The Framework is tailored for food safety authorities across the food chain, as well as for authorities involved in food safety emergencies, preparedness and response in Member States, within a time frame of 2020–2025.

The Framework underlines the strategy to safeguard consumer health by strengthening food control and FBD surveillance systems to reduce the burden of FBDs. Strategic actions and measurable indicators have been formulated under seven components of food control: (i) policy and legal framework, (ii) control management, (iii) risk-based inspection, (iv) data and information to support risk-based control measures, (v) national laboratory system, (vi) preparedness and response to food safety emergencies, and (vii) food safety communication and education. Strategic approaches are designed to guide and facilitate incremental changes in the national food control system, addressing the major impediments, e.g. lack of strong political commitment to food safety, lack of human and financial resources, and weak coordination mechanisms among food safety stakeholders at the national and subnational levels.

National policy and strategic plans should be developed through an evidence-based information and decision-making process with active participation of national stakeholders for implementation. In addition, a national food control system needs regular performance monitoring and evaluation (M&E) to systematically review the appropriateness and effectiveness of policy decisions and priority actions. FAO and WHO supported Indonesia to carry out an assessment of its National Food Control System on a pilot basis in 2017–2018. This assessment used a standardized tool which may serve as a model for other countries to assess the status of food control systems and formulate policy and priority actions for improvement through a multisectoral approach.

The Framework for Action on Food Safety is aligned with other strategic plans and programmes related to food safety at the regional and global levels. Similarly, the Framework acknowledges the contribution of other relevant sectors in promoting food safety and safeguarding consumer health within and outside the health system using a holistic approach. Food safety is a shared responsibility and implementation of the Framework should be coordinated with various health-related programmes in WHO, such as nutrition, environmental health, climate change, antimicrobial resistance (AMR), noncommunicable diseases (NCDs), and neglected tropical diseases (NTDs), taking into consideration the One Health approach. In addition, it should be coordinated with relevant national food safety stakeholders such as agriculture, animal health, livestock production, aquaculture, etc. at the country level.



I. INTRODUCTION

I.1 Background

Unsafe and unhealthy foods cause a staggering range of diseases and illnesses. From diarrhoea, cancer, hepatitis, etc., foods containing harmful bacteria, viruses, parasites or chemicals are a major threat to public health, both globally and in the WHO South-East Asia (SEA) Region. Every year, an estimated 420 000 people die worldwide due to foodborne diseases (FBDs). The burden of FBDs is comparable to that of malaria, HIV/AIDS or tuberculosis. Tackling the problem of FBDs is more important than ever. The globalized nature of modern food chains, alongside emerging hazards such as antimicrobial resistance (AMR) and climate change, is making the threat of FBDs increasingly acute. Informal food production at the community level meanwhile poses an ongoing challenge, with basic hygiene and food fraud being the key concerns.

Food safety is a major element of the public health system, and compromising it results in a considerable socioeconomic burden. FBDs can have a significant effect on economic development and international trade. In a globalized world, a local incident can quickly become an international emergency due to the speed and range of food distribution, impacting health, economy and trade. WHO has established the Foodborne Disease Burden Epidemiology Reference Group (FERG) to estimate the global burden of FBDs to better identify the magnitude of public health impact due to consumption of contaminated food. As per a WHO FERG report, one out of ten people get ill due to unsafe food every year globally. The WHO SEA Region has the second highest burden of FBDs among WHO regions. In fact, 98% of the FBDs burden is accounted for by developing countries.¹

¹ WHO Estimates of the global burden of foodborne diseases: foodborne disease burden Epidemiology Reference Group 2007–2015. Geneva: WHO; 2015.

Availability of safe and nutritious food is a prerequisite for maintaining a healthy population, which contributes to overall socioeconomic development on a sustainable basis. The Sustainable Development Goals (SDGs), particularly Goal no. 2 (Zero Hunger), emphasize the elimination of starvation and ensure the access of safe, nutritious and sufficient food throughout the year for all individuals especially for the poor and vulnerable target groups, including infants. Food safety is also closely related to other SDGs such as good health and well-being, elimination of poverty, gender equality, water and sanitation, sustainable production and consumption, and climate change. In other words, without food safety, it will be difficult to achieve the SDGs. The integral role of food safety in achieving the SDGs has also been highlighted during the WHO/Food and Agriculture Organization (FAO)/African Union (AU) International Food Safety Conference in Addis Ababa earlier in 2019.

It is important to note that explicit attention to food safety is lacking in the SDGs, stemming from the low evidence of the burden of FBDs (lack of surveillance and adequate data) and the overall low awareness of development partners about the economic significance of unsafe food. The World Bank has estimated that low- and middle-income countries (LMICs) in Asia suffered from the loss of human capital valued at not less than US\$ 63.1 billion in 2016 from public health impacts due to FBDs, as well as economic and social impacts on consumers, business and economies as a whole.² In fact, the benefits of food safety are much broader than those quantified by economic models. For instance, safe and nutritious food directly influences overall well-being and reduces mortality and morbidity among children, their school performance, birth and fertility rates.³ There is a need to advocate and create awareness that the SDGs are unattainable without the achievement of adequate, safe and healthy food, particularly for domestic consumers in developing countries.

Considering the importance of food safety for public health and overall socioeconomic development, it is crucial to ensure the provision of safe and healthy food for all individuals. Achieving food safety is a complex endeavour addressing various challenges throughout the value chain, influenced by many internal and external factors, including the scientific, sociocultural and economic aspects. Food safety is a shared responsibility and it needs joint efforts of all stakeholders; governments, food business operators, consumers and academics across the food chain, to include the broader network beyond food and health, and to engage the food security, nutrition, environmental and socioeconomic sectors for making food safety a long-term investment to meet important SDGs.

1.2 Food safety challenges in the SEA Region

1.2.1 Burden of Foodborne Diseases

The WHO SEA Region is home to over 1.5 billion people in its 11 Member States: Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste. The Region is prone to foodborne events due to its climatic conditions, deep-rooted food habits, poverty, inadequate basic hygienic and sanitary facilities, and low public awareness of food safety.

2 Jaffee S, Henson S, Unnevehr L, Grace D, Cassou E. The safe food imperative: accelerating progress in low- and middle-income countries. Agriculture and Food Series. Washington, DC: World Bank; 2019. doi:10.1596/978-1-4648-1345-0. License: Creative Commons Attribution CC BY 3.0 IGO

3 Kristkova ZS, Grace D, Kuiper M. The economics of food safety in India – a rapid assessment. Wageningen Economic Research; 2017

FERG has defined the WHO SEA Region as a region with the second highest number of foodborne illness globally. Based on the data from 2010, the annual burden of FBDs in the SEA Region includes more than 150 million illnesses and 175 000 deaths, accounting for 12 million disability-adjusted life-years (DALYs) annually. The top four foodborne bacteria were: *Campylobacter* species, *Shigella* species, enterotoxigenic *Escherichia coli*, and non-typhoidal *Salmonella enteritidis*. Regarding the cause of death, the top four were: *Salmonella typhi*, norovirus, hepatitis A virus followed by non-typhoidal *S. enteritidis*. Children under five years were most vulnerable to FBDs, with a prevalence of three in ten children, contributing to one third of global death associated with diarrhoea.⁴ Enteropathogenic *E. coli* (EPEC) was identified as the biggest cause of death and the highest DALYs for children under five years.

Nevertheless, the above-mentioned figures have been generated from a limited number of official reports and scientific publications on FBDs from the Region. As most Member States are struggling to establish a functional surveillance system for FBDs, this burden may have been grossly underestimated. Even when major pathogens causing FBDs in the Region have been identified by FERG, it is challenging to link an FBD event with the food sources unless there is a laboratory-based surveillance system for outbreak investigation of such events. As a result, it is difficult to advocate for food safety as a priority for investment by countries and development partners.

1.2.2 Food Monitoring for the Domestic Market

It is challenging for Member States in the Region to fully implement risk-based food control in domestic markets. Capacities (personnel, registration, labelling, traceability, laboratory) are limited to implementing risk-based official control, resulting in partial food monitoring activities conducted to check final food products for compliance with standards, followed by removal of contaminated or substandard food products from the market. A similar approach is applied for imported food control. Instead of performing risk-based food control, food-importing countries in the Region simply carry out physical examination and basic laboratory analysis for some common contaminants according to regulations and standards. There are common inherited non-compliance issues such as mislabelling in foreign languages, tendency to import processed food products having close to best-before use dates, adulteration as well as food importation through informal or even illegal routes.

Furthermore, food businesses in some Member States are currently moving towards e-commerce platforms. They develop businesses by selling food products online and deliver them to customers. This poses a new set of risks for food safety as buying food products online impedes customers from examining the credibility of the seller (e.g. the hygiene of the food establishment) as well as safety characteristics of the food products (e.g. physical condition, best-before use date, labelling, authenticity, etc.). Besides, the delivery and storage of food products sold online can compromise the safety aspect of food, when the online food producers, traders or restaurants fail to comply with the safety requirements. This emerging issue was raised by Member States in the meeting of the Codex Committee for Asia in 2016. A novel control approach is needed to protect consumers from the risks associated with food e-commerce platforms.

⁴ Burden of foodborne diseases in the South-East Asia Region. New Delhi, India: World Health Organization Regional Office for South-East Asia; 2015.

1.2.3 Food Fraud and Adulteration

Food safety in the Region has been continually compromised by food fraud practices through deliberate illegal substitution, mislabelling, counterfeiting and adulteration of food products. These economically motivated malpractices pose either direct or indirect health risks, ruin consumers' confidence on the entire food control system and challenge fair food trade practices. Nonetheless, it is noted that some food fraud practices in the Region are associated with poverty, inadequate food safety awareness and knowledge of food handlers on the public health consequences that arise from these practices.

1.2.4 Assuring the Safety and Quality of Food Exports

The WHO SEA Region has been an important player in international food and agricultural trade, contributing as a major global supplier of several food commodities, including fish, rice, spices, as well as fruit and vegetables.⁵ However, rejections of food products dispatched from exporting countries at the port of entry, particularly in industrialized countries, remain significant. In the European Union Rapid Alert System for Food and Feed (EURASFF), export rejections for products dispatched from the WHO SEA Region were associated with (i) food contamination, including the presence of pathogenic bacteria (*Salmonella*, *Vibrio* spp., *Bacillus cereus*), residue of antibiotics (chloramphenicol), natural biotoxins (aflatoxin), heavy metals (mercury, cadmium), physical contaminants; (ii) mislabelling; (iii) poor handling, including violation of temperature control; (iv) absence of health certificates on relevant food commodities; and (v) excessive use of food additives.⁶

On the other hand, Member States are striving to comply with importing countries' stricter requirements on food safety along with the emergence of private standards on food trade, creating higher competitiveness for food and agricultural trade, which could promote parallel importation. Technological advancements, including laboratory analysis, such as next generation sequencing (NGS), have been introduced in some countries to support food import control, encouraging exporting countries in the Region to consider developing an equivalent system, which needs careful planning and execution.

1.2.5 Information for Consumers and Training for food handlers on Food Safety

Delivering reliable food safety information to consumers seems challenging for countries in the Region, either in conventional or online sources and social media. Food safety events in the Region have been dominated by misperceptions of food safety that escalated into public scares on social media while the competent authorities were struggling to provide timely and trustworthy food safety information. For this reason, the government must develop a platform to capture food safety issues in social media and establish measures to reduce the consumer's exaggerated reactions to such issues, while educating them on factual risks of unsafe food.

On the other hand, training for food handlers is not sufficiently implemented, especially those in the informal food sector. Safety of the food provided by street vendors in the Region has been compromised by poor hygiene practices, resulting from low awareness on food safety as well

5 OECD-FAO. Southeast Asia: prospect and challenges. In: OECD-FAO Agricultural Outlook 2017–2026. Paris: OECD Publishing; 2017

6 EURASFF. RASFF Portal notification list [online database]. August 2018

as from lack of investment on food safety in areas such as a cold chain system and clean water sources. In fact, this sector plays a significant role in supplying affordable food to consumers in the Region. Therefore, it is critical for the government to develop food safety programmes targeting food handlers in the informal sector.

I.2.6 Cross-sectoral communication, coordination and collaboration

Member States of the Region face difficulty in cross-sectoral communication, coordination and collaboration among competent authorities. There is limited understanding of roles and responsibilities, which often results in confusion on some cross-cutting issues among food safety implementing agencies.

To address cross-sectoral issues, it is important to encourage food safety leadership and culture at the national and subnational levels. National food safety policies and strategic plans need to be clearly articulated, adopted and implemented by various stakeholders as per their specific roles and responsibilities. Functional multistakeholder coordination and communication is critical to enhancing the effectiveness of programme implementation as well as of performance monitoring and review of the food control system at the national and subnational levels.

2. PROGRESS IN IMPLEMENTATION OF REGIONAL FOOD SAFETY STRATEGIES

The Regional Food Safety Strategy 2013–2017 aimed to encourage Member States to initiate, develop and sustain multisectoral approaches and measures for the promotion of food safety among all population groups. It emphasized four strategic elements of the food safety system, i.e. food safety policies and plan of action, food control system across food chains, control and prevention mechanisms for FBDs, as well as partnerships and networking.⁷ Progress has been made in Member States in reaching regional food safety goals as reflected in the five defined indicators below:

2.1 Documented national food safety policies/plans of action

Some Member States have developed a national food safety policy and others are in the process of doing so. National food laws and food regulations have been formulated or updated as per international and regional standards and commitments.

Most Member States have established a food and drug agency to coordinate food control activities among competent authorities at the national level. Other countries have developed a dedicated food safety authority and are trying to improve the food safety system as per the country-specific situation and needs.

⁷ WHO-SEARO. Regional Food Safety Strategy, 2013–2017. WHO Regional Office for South-East Asia; 2014



2.2 Established national Codex committees, functional International Food Safety Authorities Network (INFOSAN) emergency contact points and focal points with active participation at regional and global meetings

All Member States in the Region have joined the Codex Alimentarius Commission, with Timor-Leste as the 188th Member of the Codex in 2018. Facilitated by WHO and in cooperation with FAO, Codex advocacy workshops have been conducted in six Member States. This programme has given significant impetus to Codex-related activities in these countries.

A robust project proposal with WHO support has been submitted to the Codex Trust Fund (CTF). It has been successfully approved as the first group application at the CTF global level and also as the first CTF project implemented in the Asia region. This project will ultimately help three participating countries (Bhutan, India and Nepal) to work together for better understanding of Codex and for more active participation in the Codex standard-setting process in future.

Almost all Member States have established National Codex Committees (NCCs); however, some NCCs have not yet become operational, which impedes the main role of this committee in setting standards and in adopting international standards at the country level. Member States have been actively participating in regular Codex meetings. Some countries of the Region need to improve the generation and dissemination of scientific data, which underpins the standard-setting functions of the Codex Alimentarius.

The activities of INFOSAN are notable in all Member States, which are proven by the appointment of INFOSAN emergency contact points in Member States. Some Member States have developed a wider INFOSAN at the national level by appointing focal points from the relevant competent authorities, which has helped the network to communicate on food safety. Certain countries have used the system for emergency coordination at the national and subnational levels. Most Member States actively participated in meetings and workshops of INFOSAN.

Nonetheless, Member States still need to increase the use of the existing website of the INFOSAN community as a regional communication platform, especially at the time of food safety events. Further, a mechanism needs to be developed to facilitate coordination between the INFOSAN emergency contact point and the International Health Regulations (IHR) contact point at the national level. It is also important to focus on INFOSAN at the national level to strengthen coordination within the country – both interagency and between national and subnational levels.

For the above reason, the WHO Regional Office for South-East Asia in collaboration with the INFOSAN Secretariat in 2018 organized the first simulation exercise (SimEx) on a food safety event, with participation by the national IHR focal points (NFP) and INFOSAN emergency contact points from Member States. The SimEx aimed to test the functional status of multisectoral coordination and response to such an event at the country level. As discussed at the bi-regional “INFOSAN in Asia” meeting in Seoul, SimEx was considered as cost-effective and resource-efficient means of creating an information exchange platform and strengthen intercountry collaboration for a better response to food safety events in the Asia-Pacific region.

2.3 Formulated protocols and mechanisms for investigating outbreaks of FBDs

Mechanisms for investigating FBD outbreaks have been established in all Member States, although in several countries the protocols have not been formalized thus the implementation is less binding. In some Member States, rapid response teams have been established to conduct multidisciplinary outbreak investigation on an ad-hoc basis at the national and subnational levels. Information technology has been embedded into the FBD investigation system of four Member States, such as mobile texting or web-based surveillance, to facilitate early detection and rapid coordination of investigation and response to foodborne outbreaks, and for data collection at the national level. However, cross-sectoral coordination needs to be formalized for foodborne investigation, including linking food control laboratories with public health and clinical laboratories using the One Health approach.

2.4 Established national surveillance systems for FBDs

Assessment and validation workshops for the surveillance and response system of FBDs have been conducted in eight of the eleven countries in the Region. These workshops put into action a guidance manual on *Strengthening surveillance and response to foodborne diseases* developed by WHO to assist countries in developing surveillance of FBDs in their existing system to address minimum core capacity requirements under the IHR (2005).

These Member States were facilitated to conduct self-assessment on current country capacity for and challenges to key components of a functional FBD surveillance and response system, including event-based surveillance (EBS), indicator-based surveillance (IBS), rapid risk assessment (RRA), response and multisectoral collaboration. The validation workshops were instrumental in facilitating interaction. They also identified relevant options for strengthening FBD surveillance together, and subsequently mapped action plans for implementation.

By and large, all Member States have conducted EBS to detect foodborne events, including the assignment of personnel to report the events. Public health interventions and investigations have been in place as responses to detected outbreaks. Some Member States have initiated IBS on FBDs as an integral part of their national surveillance system for notifiable diseases, although it has been reported as syndromic surveillance rather than as laboratory-based findings in most cases.

However, providing reliable epidemiological analysis based on laboratory findings linking human cases with suspected contaminated food during investigation of FBD outbreaks has remained a major challenge in all Member States. It is therefore difficult to establish source attribution analysis, resulting in incomplete and poor data quality, which is insufficient for generating evidence-based information to estimate the burden of FBDs. Thus, increasing capacity for epidemiological analysis as well as laboratory testing to support investigation of FBD outbreaks is of high importance.

2.5 Established standards, legislation and monitoring criteria for the entire food supply chain, including street foods

Most Member States have established food safety standards and regulations harmonized with Codex standards. Four Member States recently revised and updated the regulations on food safety. Yet, some countries still need to increase the consistency of current food regulations with Codex standards, such as to include provision for major responsibilities of the food business in the national food control system. Besides, collecting scientific information for risk assessment for the purpose of setting standards, e.g. data on exposure and consumption, remains challenging in some countries. Thus, some countries adopt Codex standards for food safety for their national systems based on their individual context and needs.

In most Member States, food safety regulations are dispersed among various competent authorities according to their own specific roles in food safety, which in most cases results in some gaps and overlaps of regulation throughout the food chain. Hence, it is crucial to develop more integrated legal frameworks in Member States to avoid duplication and promote synergy in action.

3. FRAMEWORK FOR ACTION ON FOOD SAFETY

3.1 Scope

Unsafe food causes diseases, ranging from diarrhoea to various lifelong illnesses such as cancer. FBDs pose a significant global burden, as reported in the *Estimates of the global burden of foodborne diseases* published by WHO in 2015.⁸ On the other hand, a system of safe food supply supports a country's economy, trade and tourism, and therefore stimulates sustainable development. The 2030 Agenda for Sustainable Development includes a vision of sufficient, safe, affordable and nutritious food. This is reflected in target 2.1 which, inter alia, commits the world to ensuring access to safe food for all people.

Achieving food safety demands multisectoral collaboration and multidimensional activities. However, evaluation of the food safety situation in the SEA Region through various assessment tools indicates that food control systems in Member States are challenged by fragmentation between different institutions, lack of strong leadership for food safety at the national level, and poor coordination and collaboration among national stakeholders to achieve common national goals. Member States still face fundamental food safety problems related to poor food hygiene standards and the prevalence of food fraud, while a new set of threats have emerged, including access to international food markets, which have significant socioeconomic and public health consequences for the Region. Besides, lack of political attention and commitment at the highest level has been a major impediment in improving the food control system in the Region. There is limited access to human and financial resources for investment in the food safety sector at the national and international levels.

⁸ Estimates of the global burden of foodborne diseases: Foodborne Disease Epidemiology Reference Group 2007–2015. Geneva: WHO; 2015

This Framework for Action is based on a situation analysis of the food control system in Member States of the Region, of progress made through implementation of the Regional Food Safety Strategy, including the WHO Thirteenth General Programme of Work, Codex Strategic Plan and recommendations of WHO/FAO/AU Global Food Safety Conference. It is envisaged that it will provide guidance to competent authorities involved in food safety in Member States for key activities prioritized for delivery in the next six years (2020–2025). These will protect, promote and support consumer health by strengthening the national food control system across the food chain.

3.2 Objective and target audience

The Framework for Action on Food Safety is designed for national food safety authorities across the food chain, including public health authorities involved in food safety emergency preparedness and response in Member States. This document serves as a guidance to prioritize actions for strengthening the food control system at the national level, as well as to support policy advocacy at higher levels, such as authorities responsible for national programme planning and evaluation, as well as for law-makers. In the regional setting, the document supports harmonization in terms of setting priorities in the food safety regulatory framework.

3.3 Time frame for implementation

The implementation of the Framework is planned for a six-year period, i.e. 2020–2025.

3.4 Monitoring, evaluation and resource mobilization

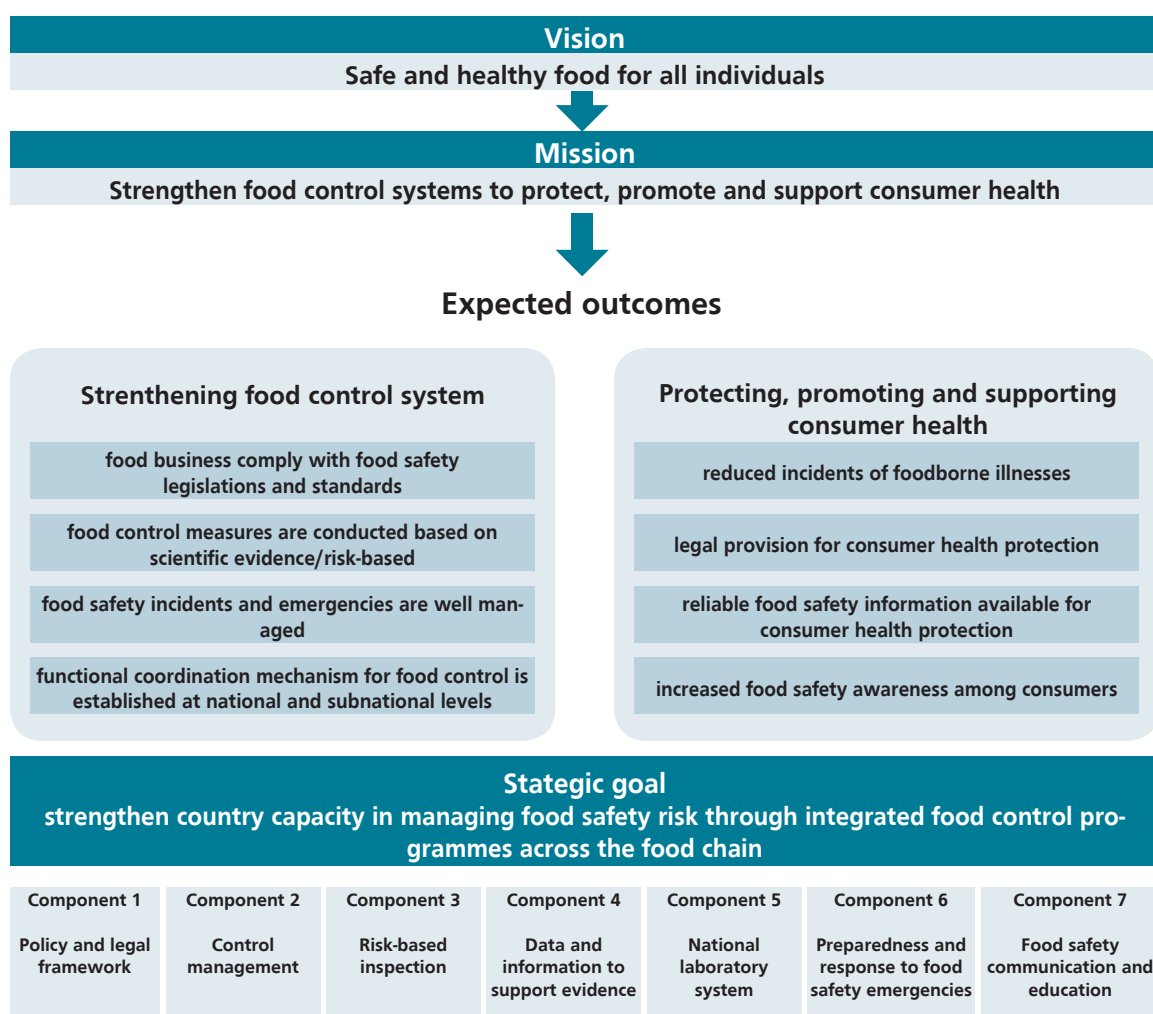
Monitoring and evaluation (M&E) of implementation of the Framework will be conducted at the end of the time frame. However, progress will be reviewed through existing M&E tools such as State party annual reporting (SPAR), joint external evaluation (JEE), etc.

It is recommended that the Framework for Action be used for policy advocacy to make a case for investment through domestic funding. Similarly, the food safety component under the National Action Plan for Health Security (NAPHS) will be useful for international funding.

3.5 Vision, mission, strategic goal and actions

Strategic actions are defined under seven components of the food control system to facilitate Member States in establishing strategic activities to achieve the overall goal. Member States may measure the outcomes of conducted activities by indicators provided for each component of the food control system as described in Figure 1 and Box 1.

Figure 1: Vision, mission, strategic goal and food control components



Box 1: Components, strategic actions and indicators for strengthening the national food control system

Component I: Policy and legal framework

Strategic actions

1. Develop, review and regularly update food safety policies, legislations and standards to include all requirements of a risk-based food control system, to address current emerging issues, and to harmonize food legislations across various competent authorities in line with international requirements such as Codex Alimentarius Commission, the World Trade Organization the World Organisation for Animal Health (OIE), Sanitary and Phytosanitary (WTO SPS) agreement and Technical Barriers to Trade (TBT) measures, where applicable.
2. Disseminate food safety policies, regulations and standards through various means, including online tools such as official websites.

Indicators of success

1. Food safety legislations are in place, regulations are updated and consistent definitions are applied across various sectors.
2. Food standards and food safety regulations are in line with Codex, the WTO SPS/TBT and other international requirements.
3. Regulations include the provision of primary responsibility of food business operators in food control systems based on the country context.
4. Legal provision for consumer health protection is in place.
5. National food safety policies, strategic plans, including setting of priorities, are in place.
6. Food safety policies, regulations and standards are communicated to, and accessible for all stakeholders on official websites.

National Food Safety Policy – creating a comprehensive environment for food safety in Nepal

There is growing concern to develop capacity for enhancing food safety and quality in the food supply chain in Nepal as envisioned by the Sanitary and Phytosanitary (SPS) agreement of the World Trade Organization (WTO). The food safety regulatory system needs to be revamped to embody all relevant stakeholders in the mission of food chain safety assurance and consumer protection in the entire production to consumption chain. The Department of Food Technology and Quality Control (DFTQC) felt the need for a national policy to harmonize the execution of food safety programmes and the need for fostering multisectoral collaborations among various sectors such as public health, animal health, agriculture and other sectors for better communication and joint action for effective implementation of food safety-related activities.

The National Food Safety Policy has been formulated by the Government of Nepal and it is developed on the basis of an assessment of the national food safety system and a series of stakeholder consultations with the participation of private sector including public hearing. The policy provides a basis for the establishment of national food safety objectives and requirements, and guidance for its application to specific sectors of the food continuum (production, processing, storage, transportation and marketing). Various food safety laws and regulations are to be upgraded and harmonized with international standards providing the legal framework for establishing an effective food safety infrastructure for ensuring consumer protection and fair trade. The policy gives more thrust to capacity enhancement, strengthening of services, expansion of consumer awareness and encouragement for food business operators to adopt food safety management systems. It also encompasses formulation of necessary regulations of food business operators; inspection and certification of exports and imports; International networking for harmonization of standards, regulatory procedures and the alert system; roles of three-tier government agencies and other institutions; risk analysis including management; food epidemiology, consumers protection, human resource development, laboratory development; and institutional mechanisms for implementation.

Component 2: Control management

Strategic actions

Facilitate cross-sectoral coordination, integration of food control services and synergy in actions at the national and subnational levels to achieve common food safety goals.

Indicators of success

1. The roles and responsibilities of competent authorities in the food control system along the food chain are clearly defined, including the responsibility of food business operators at all levels.
2. Food safety competent authorities are supported with adequate resources in terms of quantity and quality (e.g. human, financial, logistic, etc.) to fulfil their roles and responsibilities.
3. A lead agency and/or mechanism is formally established and is empowered with adequate legal authority to direct/manage the food control programme at the national and subnational levels.
4. The national food control system has developed measurable indicators to assess the effectiveness of food safety actions/measures.
5. A regional or subregional food safety network has been established to create a platform for harmonization of standards and regulatory practices, mutual recognition of inspection, and discussions on how to resolve issues related to import and export of food.
6. Internal audits to review the effectiveness, transparency and independence of control programmes are in place.

Promoting self-compliance by food business operators in Bhutan

The Bhutan Agriculture and Food Regulatory Authority (BAFRA) did a pilot study on the adoption and implementation of a food safety self-checking system by food establishments in an effort to promote food safety culture in Bhutan. For this study, 64 agro-based cottage and small industries (CSIs) based in Thimphu district were approached. The objectives of the study were to establish a baseline on CSIs adopting the self-checking system to ensure food safety; assess current status/gap on adopting food safety practices; examine compliance to the Food Rules and Regulations 2017; and prioritize areas for focused food safety interventions for CSIs. The CSIs in this study were primarily involved in the manufacture and retail of dairy, bakery, confectionery, honey, pickle, snacks, savouries, fast food and packaged drinking water. The study was carried out from July to October 2019. For this study, BAFRA prepared a self-compliance checklist based on GHP/GMP with the option to do score-based compliance inspection. BAFRA distributed the checklist to the CSIs and explained on how to do self-inspection, record observations, calculate scores and assess their food safety situation for corrective action. At the end of three months, BAFRA assessed the use/adoption of the checklist by the CSIs over this period.

Of the 64 CSIs which were introduced to the self-checking system through the distribution of checklists for self-inspection, only 46 (71.9%) CSIs adopted the checklists. The CSIs adopting the checklist shared that it is a useful tool that allows them to check their food safety practices and prompts them to take corrective action as per the report. Those who did not adopt the checklist cited reasons such as time constraint, misplaced checklist, no ongoing production and the need for more information on the self-checking system. From the study, it can be concluded that the food safety self-checking system for food business operators (FBOs) can be promoted in Bhutan through better capacity building and awareness among FBOs. This can gradually impart food safety culture among the Bhutanese FBOs and eventually reduce the regulatory burden on the food regulatory authority.

Component 3: Risk-based food inspection

Strategic actions

1. Develop and implement risk-based inspection across the food chain.
2. Allocate adequate resources for inspection including appropriate inspection tools and sampling plans.
3. Establish a monitoring programme for specific contaminants and residues.
4. Develop guidance documents and tools for food business operators (FBOs) to develop food safety management systems such as good hygienic practices (GHP), good manufacturing practices (GMP), hazards analysis and critical control points (HACCP), traceability, recall, labelling, and food fraud vulnerability assessment and mitigation plan, and encourage them to conduct self-audit programmes.

Indicators of success

1. National registration systems for FBOs, including e-commerce, based on the country context, are in place to facilitate risk-based inspections.
2. Risk-based inspection plans are available and being implemented.
3. Resources for risk-based inspection (trained personnel, protocol and equipment) are adequately available and are geographically distributed throughout the country.
4. Food inspection is conducted on the basis of risk profiling, categories and priorities across the food chain.
5. Monitoring programmes for specific hazards (contaminants and residues) are regularly conducted, and the findings are shared with relevant stakeholders, and corrective actions are taken.

Risk Management Programme to encourage food industries in undertaking major food safety responsibility in Indonesia

The CODEX Principles and Guidelines for National Food Control Systems (CAC/GL 82-2013) emphasize the major responsibility of food business operators (FBOs) in providing safe food products to their consumers. It is the government's obligation to monitor and verify food safety management programmes conducted by the industries.

In accordance with the above provision, the Indonesian FDA has launched the Risk Management Programme (RMP) in 2015. It is a platform for national industries producing pre-packaged food products in implementing their risk-based food safety management system. Guidance on RMP implementation was developed, equipped with structured assessment activities to improve industries' compliance to food safety standards and regulations. RMP-qualified industries are proficient to do self-audit on the implementation on GMP and hazard analysis and critical control point (HACCP). The implementation of RMP is mandatory for industries producing food for special dietary purposes such as infant formula and commercially sterile food products. Industries manufacturing other products are also encouraged to implement the RMP on a voluntary basis.

The implementation of RMP consists of four major steps:

1. Food industries register and submit documents via a dedicated web-based system (pmr.pom.go.id);
2. A team from Indonesian FDA conducts data verification and audit, including field audit on implementation of GMP and HACCP. For commercially sterile food items, the field audit also includes verification of thermal process sufficiency. The result of this step is sent to a scientific panel for further assessment, which identifies whether or not a food industry is qualified to implement RMP;
3. Qualified food industries implement the RMP on a continuous basis. They must submit the report of internal audit activities at least every 6 months, supplemented with all information on any food safety issues and the corrective actions taken;
4. The Indonesian FDA team systematically monitors the implementation of the RMP in food industries by conducting surveillance on various relevant data including foodborne disease outbreaks, public warning, product recall, export detention, consumers' complaints, non-compliance of the regulations on food packaging and advertisements, and violation of GMP.

The RMP benefits industries in several ways. Firstly, it increases customer confidence on FBOs as well as on food products through the implementation of self-regulatory control. Rewards are also given to industries which successfully fulfil RMP requirements, such as receiving an RMP award which is equivalent with Rate A of GMP Implementation, quick access to product registration (pre-market) system, as well as to export licensing mechanism. Besides, the RMP is supported by an interactive online system, which enables food industries to access guidance and to discuss any food safety issues with the regulators through a live chat. On the other hand, sanctions are imposed on food industries which fail to implement the RMP, including revocation of the RMP certificate.

As of December 2019, a total of 54 industries in Indonesia have successfully implemented the RMP. The performance of RMP is continuously improved to assist food industries in performing their primary responsibility of providing only safe food for the consumer.

Component 4: Data and information to support evidence-based control measures

Strategic actions

1. Establish a national integrated data management system (data collection, central database, quality monitoring), conduct structured and timely data analysis for risk assessment, set standards, prioritize and participate in regional and international data-sharing, e.g. Codex, global environment monitoring system (GEMS-food database).
2. Encourage utilization of information for evidence-based policy advocacy and decision-making.
3. Collect and share data on FBD outbreaks through national disease surveillance systems (EBS and IBS).
4. Develop platforms for collaboration with academicians and researchers in conducting scientific studies to support risk assessment on food safety, conduct specific research to test hypotheses generated from FBD surveillance, and provide and sustain continued education for professional development of food safety officials.

Indicators of success

1. Policies on data-sharing at the national and international levels are in place.
2. Food safety data and reliable information at the national level involving various line agencies (FBD surveillance, food sampling and laboratory analysis, inspection) are available to underpin the food safety control programme.
3. National systems of notifiable diseases, including prioritization of foodborne pathogens and contaminants, are established and functional.
4. Notification systems (e.g. on FBD outbreaks, results of inspection, export rejection) are in place at the national level and are connected to international systems.
5. FBD surveillance data are analysed and disseminated to all stakeholders in a timely manner.
6. Scientific publications on food safety topics are available, such as on economic burden of FBD, food consumption data, total diet study.

Grading the restaurants: an initiative in Bangladesh

The Bangladesh Food Safety Authority (BFSA) has undertaken several initiatives to improve the food safety situation in the country. One of the initiatives is to conduct audits of the restaurants, food outlets and food-catering services. Based on the audit points, the BFSA awards safety stickers to the restaurants and food outlets. A comprehensive audit checklist has been developed and guidelines have been prepared for the restaurants. The restaurants and food services are free (non-mandatory) to adopt these guidelines when they are prepared to welcome the audit.

Restaurants and food outlets are graded in four categories, i.e. Grade A+ for Excellent, A for Good, B for Average and C for Pending. Printed stickers are issued by the BFSA for hanging at a prominent place in front of the restaurant.

GRADES	MAIN CRITERIA
A+ EXCELLENT	Necessary proof/certification documents Individual hygiene Legitimate source (of food and others)
A GOOD	Relative contamination Cleanliness
B AVERAGE	(Food) processing procedures and temperature control Equipment/ machinery
C GRADE PENDING	Chemical substance Pests and insects control Drainage and pipeline management.

Usually the gradations are issued for a period of one year but the BFSA conducts regular inspections. Based on the inspection report, a restaurant or a food outlet may be upgraded or downgraded, which may happen at any time during the one-year period.

Initially, this is a pilot programme for the capital city of Dhaka; gradually it will be expanded to different cities and at the district level. Restaurant owners and their association have shown a keen interest and they are highly enthusiastic in having a gradation mark from the BFSA. They believe that this initiative builds customer confidence and makes their business popular. Mobile phone-based applications are being developed so that customers can get more information about those restaurants and their food safety measures. The initiative seems useful for creating awareness among restaurant owners and customers for preparing and serving safe food.

Restaurant Grading System			
Grades	Meaning	Colour	Points
A+	Excellent	Green	Above 90
A	Good	Blue	80-89
B	Average	Yellow	60-79
C	Pending	Orange	59 and below

Component 5: Data and information to support evidence-based control measures

Strategic actions

1. Establish or have access to adequate laboratory services, including reference laboratories and satellite/mobile laboratory units equipped with reliable rapid test kits for on-the-spot testing.
2. Develop and implement a laboratory network at the national and subnational levels, collaborate with regional reference laboratories to improve efficiency and cost-effectiveness.
3. Develop and implement a sample management system.
4. Ensure that internal and external quality control/assurance systems (proficiency testing) for food testing are in place, including accreditation, where necessary.

Indicators of success

1. Laboratory network is developed and made functional at the national and subnational levels.
2. There is presence of (or access to) sufficient accredited laboratories, where feasible, which are capable of delivering reliable laboratory services to support the food control system throughout the country.
3. National laboratory systems are connected with regional and/or international reference laboratories.
4. Sample management systems are in place.
5. Internal and external quality control/assurance systems (proficiency testing) for food testing are in place.

Component 6: Preparedness and response to food safety emergencies

Strategic actions

1. Develop, update and test cross-sectoral preparedness and response plans for food safety emergencies in line with the One Health approach and integrated with the NAPHS.
2. Use the INFOSAN community website/network to communicate on food safety incidents or emergencies and participate in identification/traceability/recall of implicated products.
3. Build or strengthen capacity to conduct investigation on FBD outbreaks and food safety events using the One Health approach.

Indicators of success

1. Food safety emergency preparedness and response plans and mechanisms, including risk communication, are developed, updated, tested and made readily available.
2. Simulation exercises on food safety event are organized and participated by line agencies (NFP, INFOSAN emergency contact point) and training on joint outbreak investigation and response for food safety events are in place.
3. Functional systems of INFOSAN are in place at the national and subnational levels.
4. Guidelines/systems/mechanisms for traceability and recall are in place.
5. FBD outbreak investigation is in place and reports are available.
6. Functional regional or subregional food safety networks are established and communication/meetings are taking place regularly.

National Food Safety Emergency Response Plan in Thailand

Thailand joined the meeting in Abu Dhabi, UAE in 2010 and advocated the formation of a working group for developing a Food Emergency Response Plan (FSER) supported by Food and Agricultural Organization (FAO) of the United Nations. Thailand volunteered to develop the national FSER plan as well as its implementation. Earlier, Thailand had only fragmented response plans in each major ministries without any integrated response plan, which made coordination a challenge. The FSER plan was urgently needed for early detection and rapid response to food safety events. Thailand used the FAO/WHO guide for risk analysis principles and procedures during food safety emergencies to develop the FSER plan. When a food safety event is detected by the National Food Control System, the event is decided by using the "Decision tree for the assessment and notification of events that may constitute a Food Safety Emergency Response". The FSER plan is designed to integrate the food safety authority with the existing system rather than creating a new infrastructure such as use of surveillance and rapid response team (SRRT) at the field level and the existing Incident Command System (ICS) and the support unit for food safety issue under the public health system. The role and responsibility of each stakeholder and operational team for emergency response including the standard operating procedure at the provincial level have been identified and specified to avoid confusion. It was also important to establish a single network for ensuring effective coordinated communication during food safety emergencies from farm to table including the food recall system. A series of table-top exercises have been organized to test the functional status of FSER plan at the field level. Learning from Thai experience, many ASEAN countries and India have developed their FSER plans.

Component 7: Food safety communications and education

Strategic actions

1. Develop education and capacity-building programmes on food safety for professionals through various means, including online training.
2. Establish guidance documents for FBOs to manage food safety risks in line with national requirements.
3. Identify training needs and provide assistance/encouragement to FBOs to deliver continuous education and communication on food safety for all personnel involved in the food chain.
4. Provide food safety awareness and training for food handlers/street food vendors/small-medium enterprises (SMEs) to improve hygiene and food safety practices.
5. Develop and implement consumer awareness programmes promoting food hygiene practices, food labelling, healthy diets, food allergy prevention, including the “Five keys for safer food” through various means such as online communication channels (e.g. official websites and social media) as per country context and needs of the target population.
6. Review and update available food safety information regularly.
7. Design and provide tailored and specific food safety information targeting vulnerable populations (infants, pregnant and lactating mothers, the elderly and immunocompromised).
8. Develop appropriate mechanisms to monitor public concerns and social media information on food safety and response.
9. Develop media and FBO sensitization programmes on food safety.
10. Encourage incorporation of food safety-related lessons and activities in school.

Indicators of success

1. Educational programmes on food safety for professionals through various means, including online training, are in place.
2. Guidance documents (e.g. GHP, GMP, HACCP implementation, fraud vulnerability management, traceability and recall) for FBOs are available.
3. Education and communication on food safety are delivered for all personnel involved in the food business through various means (structured training, team meetings, informal events, messaging via email and intranet, etc.).

4. Food safety awareness and training for food handlers/street food vendors/SMEs are in place to improve hygiene and food safety practices.
5. Continuous campaigns on food safety (e.g. the “Five keys for safer food”, good hygiene practices, etc.) are being held.
6. Consumer awareness, education and protection of consumer health, including risk communication, are in place.
7. Awareness and training programmes to increase consumer awareness (e.g. in labelling, food allergen information, healthy and balanced diets) are in place.
8. Reliable and updated food safety information is available on the government’s official websites and on social media as well as on the websites of all major organizations related to food safety.
9. Mechanisms are in place to monitor and appropriately respond to public concerns and social media information on food safety.
10. Media and FBOs sensitization programmes on food safety are developed.
11. Food safety-related lessons and activities are organized regularly in school, for example, on World/National Food Safety Day.
12. Specific food safety information for vulnerable target populations (e.g. infants, the elderly and immunocompromised) is available and accessible to them.

FSSAI clarifying consumers’ misperception on milk adulteration – lesson learnt in India

The Food Safety and Standards Authority of India (FSSAI) conducted a nationwide survey on milk adulteration in 2012 to identify common adulterants in loose and packaged milk products in rural and urban areas of 33 Indian states. The survey found that the non-conformity rate was 68.4%, mostly associated with water dilution and traces of detergent resulting from poor sanitation and hygiene associated with equipment. However, misperceptions regarding the FSSAI milk adulteration survey findings went viral in the media. Consumers perceived that adulteration of milk was associated with hazardous chemicals, including urea and detergent, thereby endangering consumers with serious health risks. In fact, that was not the case. The issues were predominantly quality aspects rather than safety.

The FSSAI National Milk Quality Monitoring System conducted a more comprehensive survey on milk in 2018. More than 6400 milk samples were collected from 29 states and seven Union Territories to be tested against food contaminants, including pesticides’ residue and mycotoxin, also on 13 common milk adulterants such as vegetable oils, detergent, urea, glucose and ammonium sulphate. It found less than 7.1% of the samples to be non-compliant.

The findings of this recent national survey were aired nationally through various communication channels. These findings are accessible with detailed figures on the FSSAI website. The chief executive officer of FSSAI addressed the media to explain the efforts of FSSAI in cooperation with milk producers on guarding the safety and quality of Indian milk supplies. Factual and reliable information on milk safety is available on social media to help consumers in understanding the facts in the right perspective.

3.6 Strategic approaches in strengthening a national food control system

Actions to strengthen a national food control system require high-level political commitment for articulating policies and providing the human and financial resources needed. It is apparent that food safety is seldom a sensitive priority in the Region. National food safety authorities lack the technical capacities and adequate financial resources at the national level, while international partners are interested in supporting a few selected countries. The Framework for Action could be used for policy advocacy to make food safety an investment case for domestic funding.

Strategic approaches are needed to foster the delivery of integrated food control programmes across the food chain, address national and subnational challenges on broader food safety issues such as limited funding and investment, poor coordination and collaboration across sectors and line ministries, the growing informal food sector, food e-commerce, etc.

Food safety is a shared responsibility. The private sector manufactures food products and they are ultimately responsible for the safety of the food. Universities and educational institutions have a role to play in supporting the efforts of the government and industry. This means that it is essential to promote public–private collaboration in order to combine efforts to bridge gaps and identify solutions to serious food safety issues at the national level. On the other hand, public–private partnerships provide a better opportunity to improve food safety across the food chain.

Such approaches include the following:

Establish cross-sectoral collaboration mechanisms to increase the efficiency of control programmes at the national level

- ◉ Conduct advocacy for a culture of food safety to embed food safety indicators into national health development plans, provide reliable data and evidence, take advantage of international events such as World/National Food Safety Day to attract the attention of higher-level policy-makers on food safety issues.
- ◉ Promote coordination mechanisms among government institutions at the national level through the setting up of legal entities for further cooperation programmes including inter-ministerial memoranda of understanding (MoUs) or agreements on specific activities (e.g. MoUs with concerned ministries – finance, health, agriculture, civil services) such as resources and infrastructure for food safety investment, agreement on a coordination mechanism between NFP and INFOSAN emergency contact point (ECP), agreement on FBD outbreak surveillance through the national surveillance system for notifiable disease, MoU on data and information-sharing among competent authorities, etc.
- ◉ Conduct integrated activities across competent authorities as appropriate to reduce gaps and overlaps along the food chain.
- ◉ Encourage integrated surveillance activities (e.g. for pesticides, AMR, heavy metals, FBDs) across competent authorities as appropriate.
- ◉ Promote and/or strengthen an integrated One Health approach along the food chain.

Encourage scientists to support the government in food control programmes, and collaborate with international scientists to generate scientific evidence on food safety

- ◉ Establish rosters of designated food safety experts to support the government in specific programmes such as outbreak investigation, risk assessment and risk communication, to assist in food safety awareness programmes for food handlers and consumers.
- ◉ Explore potential collaboration with international experts for research and publication on relevant food safety topics, such as generating more data and information on the economic burden of FBDs, source attribution studies, risk assessment, impact of climate change on food safety, among others.
- ◉ Establish links with more advanced food safety laboratories at the regional and/or international level for capacity-building of national food laboratories as well as for mutual recognition programmes in Member States.

Motivate FBOs in undertaking their primary responsibilities

- ◉ Provide training, education and awareness to FBOs to take primary responsibility for ensuring food safety.
- ◉ Establish a reward/recognition scheme for developing a culture of self-compliance in food safety management by FBOs.
- ◉ Support food business associations/forums to promote food safety improvement in the informal food sector through training and certification using the cluster-based approach.

Implement technological advancements for food control

- ◉ Use digital platform/tools to support food control activities, communication and education such as electronic certification, mobile applications for inspection reporting, e-learning for training of food inspectors and consumer education on food safety.
- ◉ Establish an official account of the competent authority representative on websites and social media to provide reliable and factual food safety information to clarify public misperceptions on food safety and to educate consumers on actual food risks.

4. IMPLEMENTATION OF THE FRAMEWORK

4.1 Steps to implement the Framework

Step 1: Assessment of the status of the national food control system

The Framework for Action on Food Safety in the WHO SEA Region has been developed to facilitate Member States in conducting activities related to enhancement of food control, acknowledging the status and key challenges facing their national food control systems. As food control systems in Member States are in various stages of development, the prioritization of strategic actions should be tailored to the country situation. Thus, Member States need to identify strengths and weaknesses of their national control systems by applying common assessment methods.

FAO and WHO have jointly developed and introduced a new tool for assessment of national food control systems, which aims to evaluate the performance of a national food control system in a structured manner by implementing an evidence-based method to provide quantitative results. Based on Codex guidance on food control systems and incorporating IHR requirements and other relevant regulations such as WTO SPS/TBT, the assessment covers four main dimensions of control, namely, inputs and resources, control functions, interaction with stakeholders, science/knowledge-based and continuous improvement, with subsequent nine subdimensions and 185 assessment criteria. This tool has been piloted in the Gambia, Iran, Indonesia, Moldova, Morocco, Sierra Leone, Zambia and Zimbabwe.⁹ The list of dimensions and subdimensions in competencies of the FAO/WHO tool for Food Control Assessment is given in Annex 1.¹⁰

⁹ FAO. Evaluation of FAO's Contribution to Strategic Objective 4: enabling inclusive and efficient agricultural and food systems: review of the implementation of FAO's Strategy for Improving Food Safety Globally. Thematic Evaluation Series. Rome: FAO; 2017

¹⁰ FAO, WHO. Food control system assessment tool: introduction and glossary. Food safety and quality series no. 7/1. Rome: FAO and WHO; 2019

The WHO/FAO Food Control System Assessment tool facilitates countries in conducting a comprehensive evaluation based on available evidence (e.g. documents, tools, systems) through a participatory approach at the national level, with assistance of external experts as applicable. The assessment process generally consists of introductory workshops and meetings with a wide range of participants from the national competent authorities and other stakeholders to evolve common views and objectives. This is followed by participants' self-assessment on defined criteria verified by relevant data and evidence; data validation and analysis by experts; and a final reporting and dissemination workshop. The results of the assessment are presented quantitatively on the percentage of fulfilment of defined criteria and qualitatively on recommendations for actions to be implemented in strengthening the national food control system. Member States may define their prime concerns and targeted objectives in strengthening their national food control systems accordingly.

Step 2: Establish a national strategic plan and policy setting for implementation

Objectives, strategic intervention, target and institutional arrangement of a national food control system should be clearly articulated, communicated to and adopted by key food safety stakeholders. An adequate legal basis is needed to facilitate the implementation of the national plan, including performance monitoring and review of the food control system.

In countries with various competent authorities for food safety, the national strategic plan should ideally be translated into detailed activities corresponding with the roles and responsibilities of each competent authority focusing on the achievement of common objectives.

Step 3: Monitor the performance of the national food control system

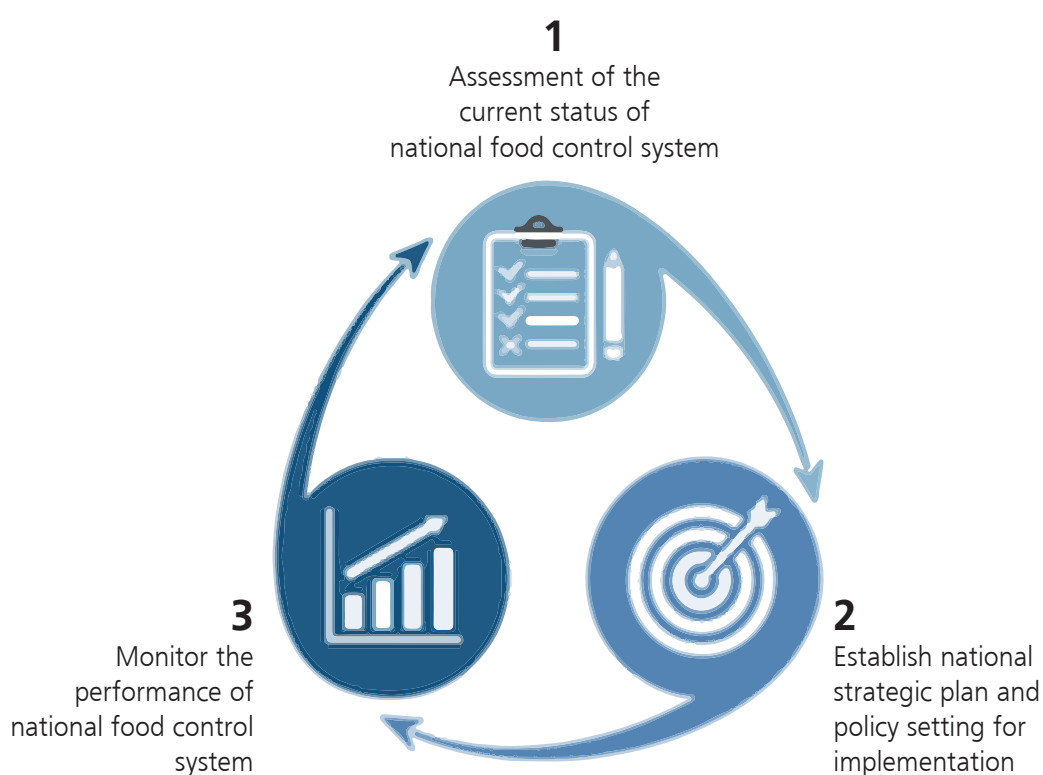
Once the national system for food control has been implemented, it is critical to frequently conduct performance monitoring and review of the system to evaluate its effectiveness and appropriateness (Figure 2). Performance monitoring and review of the national food control system may adopt the following arrangement:¹¹

1. Prepare at an initial stage to ensure that these components are sufficiently available: organizational commitment, process and mechanism for data collection, resources (financial, human, technical and material), as well as access to individual experts.
2. Define in a participatory process, with relevant stakeholders and competent authorities, the outcomes to be monitored and evaluated. Properly defined outcomes will help competent authorities to make informed decisions and set better programme targets. Follow the SMART principle (specific, measurable, attainable, relevant, time-bound).
3. Establish indicators both for inputs and outputs, with involvement of relevant experts. Countries may begin with limited numbers of indicators and expand into more complex ones when national capacities escalate.

¹¹ Principles and guidelines for monitoring the performance of national food control system. Rome and Geneva: FAO and WHO; 2017 [CXC/GL 91-2017]

4. Formulate a performance monitoring plan, which includes definition of indicators; sources of data; methods and frequency of data collection; methods of data analysis and quality control; roles and responsibilities for data collection, analysis and quality assurance; baseline data and targets.
5. Collect and analyse data by comparing the results with baselines and targets, and assess the trends over time.
6. Report and incorporate findings through a clear, understandable report tailored for specific audiences. Use diverse formats as appropriate (e.g. written summaries, executive summaries, oral presentations, visual presentations, dashboards), to inform and influence the policy-setting design and implementation of the national food control system.

Figure 2: Steps for implementing the Framework



5. CONNECTING TO OTHER STRATEGIES AND PROGRAMMES

5.1 Food safety initiatives to support the implementation of the framework

Developing a food control system at the national level is merely a first step towards achieving food safety. It needs common efforts beyond countries' borders to address the foodborne health risks that easily spread across countries and continents along with the distribution of food products in the context of international trade. Besides, information technology enables the flow of emerging food safety issues regardless of any physical barriers. Cooperation and networking among countries is crucial to advance national food control systems and should involve governments, food businesses, consumer representatives and academics beyond the country level.

Various collaboration platforms and initiatives on food safety have been established at the bilateral, regional and global levels to facilitate national food safety authorities in establishing common control measures, sharing expertise and information, and thereby support the implementation of the Framework. On the other hand, implementation of the Framework aligns with the existing food safety initiatives and promotes the achievement of goals.

At the regional level, the FAO/WHO Coordinating Committee for Asia (CCASIA) was established in 1977 to facilitate countries in Asia to promote mutual communication among the Asian members as well as to develop regional standards for certain food products. Since the very beginning, CCASIA has been working to protect the health of consumers and ensuring fair practices in food trade. The 20th Session of CCASIA was held in New Delhi in September 2016, which discussed the food safety and quality situation in countries of the Region. The Regional Code of hygienic standards for street-vended foods was approved in 2017, which was initiated by CCASIA.¹² Member States could follow the recommendations of CCASIA in developing their food control systems at the national level.

¹² CCASIA. CCASIA 20th Session: Monitoring the implementation of the Codex Strategic Plan. Meeting report, New Delhi; 2013

The Global Food Safety Partnership (GFSP) is a public–private initiative supporting food safety capacity-building in Africa and Asia. GFSP aims to deliver system-based interventions on food safety, and facilitates sharing of expertise and resources from developed economies to LMICs. Some initiatives of GFSP are being implemented in the SEA Region through various activities. In May 2017, GFSP, in cooperation with the Food Safety and Standards Authority of India (FSSAI), initiated the “Delhi Declaration: a commitment to work collaboratively to strengthen food safety systems in South Asia”. GFSP has also delivered capacity-building programmes such as laboratory capacity-building through training of trainers, development of a module on aquaculture, development and piloting of an online training module on chemical risk assessment for several countries in South-East Asia. Member States may further benefit from these GFSP initiatives to strengthen their national food control systems.

At the sub-regional level, initiatives on food safety by the Association of South-East Asian Nations (ASEAN) have been implemented through various activities. The ASEAN community highlights food safety as a major component to be achieved in the region. Ensuring food safety while developing competitive markets is clearly stated in the ASEAN Economic Community (AEC) blueprint 2016–2025. The ASEAN Socio-Cultural Community (ASCC) blueprint for 2016–2025 includes the preparedness of and better response to health-related hazards as one of the strategic measures. For that reason, the ASEAN Food Safety Policy was adopted in 2015 to provide a basis for enhancing consumer protection on health and ensuring food safety, followed by the development of the ASEAN Food Safety Regulatory Framework (AFSRF) as a guidance for ASEAN countries in implementing the ASEAN Food Safety Policy. Harmonization of the regulatory framework is being strengthened to reduce food trade barriers in the ASEAN region. In laboratory capacity, the establishment of ASEAN laboratory networks and ASEAN reference laboratories enables ASEAN countries to share resources and expertise in developing an effective laboratory system at the country level and supports mutual recognition of the results of laboratory analysis in the region. The ASEAN Rapid Alert System on Food and Feed (ARASFF) has also been introduced to promote rapid information-sharing among food safety and public health authorities in ASEAN member countries on the health risks arising from food products distributed in the ASEAN market.

5.2 Food safety and health-related initiatives

Food safety influences various health concerns and vice versa. Inadequate food safety increases not only FBDs but also presents an additional burden for some major health risks such as malnutrition and AMR. On the other hand, the characteristics of FBD risks have been impacted by diverse health and environmental issues, including climate change. The Framework for Action on Food Safety has been developed in alignment with other strategic plans on various health initiatives at the global and regional levels. The Framework would contribute to better implementation of relevant strategies (Figure 3).

Figure 3: Food safety and various public health-related initiatives in WHO



5.2.1 Nutrition and noncommunicable diseases

Food safety, nutrition and noncommunicable diseases (NCDs) are closely interconnected determinants of health. Certain types of food contamination have been scientifically proven to promote malnutrition and cause degenerative illnesses, e.g. long-term exposure to aflatoxin contamination of corn has been associated with stunting in children and with liver cancer in adults. FBD outbreaks dominantly manifest as diarrhoea, and it is known that repeated diarrhoea contributes to stunting and vice versa.

The Strategic Action Plan to Reduce the Double Burden of Malnutrition in the SEA Region 2016–2025¹³ has been developed. It comprises food safety-related strategies to overcome the challenges in malnutrition, namely, integrated efforts to prevent infections, promote healthy and safe food for informal food business, and establish/upgrade health infrastructure to facilitate the implementation of policy and legal directions to ensure food safety and promote healthy diets (laboratory, safe water and sanitation).

The Framework for Action on Food Safety in the SEA Region supports the initiatives on nutrition through the following programmes:

- initiatives on regulation of healthy diet include nutrition labelling on packaged food, marketing of food and non-alcoholic beverages (high fat/sugar/salt food products) to children, and health claims;

¹³ Strategic Action Plan to reduce the double burden of malnutrition in South-East Asia Region 2016–2025. New Delhi, India: WHO; 2016 (<https://apps.who.int/iris/bitstream/handle/10665/253377/Strategic%20Action%20Plan%20to%20reduce%20the%20double%20burden%20of%20malnutrition%20in%20SEAR%202016-2025.pdf?sequence=1&isAllowed=y>, accessed 16 December 2019).

- risk-based inspection to manage FBD risks, particularly to reduce infections contributing to malnutrition;
- food monitoring on specific hazards, including those associated with malnutrition such as mycotoxin;
- food handlers' awareness programme on hygiene and sanitation to prevent infections;
- consumer awareness programme to promote food safety, labelling awareness, healthy and balanced diets.

5.2.2 Climate change

Climate change has altered the precipitation rate and has caused an increase in extreme weather events in many parts of the world. These circumstances affect the food system and its safety in diverse ways. The changing weather characteristics, e.g. humidity and temperature, are associated with the modification of survival and transmission patterns of bacteria, virus and pathogenic contaminants in water and food, leading to the escalation of foodborne risks from these contaminations. Increased frequency of incessant rain and flash floods enable the vast spread of faecal contamination to food crops from areas where open defaecation is practised. Harsh environmental conditions also alter food production as more pesticides and veterinary drugs are used in primary production, posing a higher risk of pesticides and veterinary drug residues at the consumption point.¹⁴

There is also a more prevalent risk of mycotoxin contamination of food as higher humidity and warmer temperature are favourable for fungal growth across the food chain from the farming, distribution and storage phase of mycotoxin-prone food products such as maize and spices. Further, climate change triggers warmer sea temperatures disrupting the marine ecosystem with more frequent algal blooms, which increase the production of natural biotoxins, causing a serious food safety threat from toxic seafood products, including fish and shellfish.

*Climate change, food safety and the role of WHO*¹⁵ encourages Member States to raise awareness and to prepare for specific increased foodborne risks due to climate change. Member States need to incorporate food safety mitigation into broader health initiatives implementing the One Health approach, and involve non-health sectors to foster food safety investment strategically so that they are prepared for the impacts of climate change. It is also important for Member States to develop emergency preparedness, response and capacity-building to better manage FBD risks associated with climate change, and to conduct risk assessment on such emerging food risks.

The Framework for Action on Food Safety in the SEA Region is in line with the Regional Plan of Action to implement the Global Strategy on Health, Environment and Climate Change, 2020–2030.¹⁴ The Regional Plan of Action does not intend to duplicate the Global Strategy but to operationalize it by focusing on the actions needed from the national and regional perspective of the WHO SEA Region. It supports WHO efforts to address health risks arising from climate change through:

- conducting risk-based inspection and monitoring of specific hazards to detect emerging microbiological and chemical contamination associated with climate change, such as mycotoxins, pesticide residues and shellfish poisoning;

¹⁴ Climate change: implication for food safety. Rome: FAO; 2008.

¹⁵ Food safety, climate change and role of WHO. Geneva: WHO; 2019

- establishing integrated data and information management and analysis for food safety surveillance to enable identification and assessment of emerging FBD risks associated with climate change;
- developing a national plan on emergency preparedness and response, including preparedness for food safety events in time of natural disasters.

5.2.3 Environmental health, water and sanitation

The Regional Plan of Action to implement the Global Strategy on Health, Environment and Climate Change provides guidance up to 2030 on how to respond to environmental health challenges through six strategic objectives, which are also relevant to food safety:

- primary prevention: scaling up action on determinants of health for health promotion and protection in the 2030 Agenda for Sustainable Development;
- cross-sectoral action: to address the determinants of health in policies in all sectors and ensure healthy energy, transport and other health-determining transitions;
- strengthening the health sector: to strengthen health sector leadership, governance and coordination;
- governance: building mechanisms for governance and political and social support;
- new evidence needed: to provide the evidence base on risks and solutions, and efficient communication with stakeholders to guide choices and investments;
- monitoring: to guide actions by monitoring progress towards the SDGs.

The Framework for Action on Food Safety in the SEA Region is linked to initiatives on environmental health for promotion of hygiene and sanitation practices (including waste management) for food handlers, FBOs and consumers, and integration of food safety programmes with chemical safety programmes.

5.2.4 Public health emergency and emerging diseases

The Asia Pacific Strategy for Emerging Diseases (APSED) was developed in 2006 to facilitate Member States in developing the core capacities required for implementation of IHR (2005). Strengthening surveillance and risk assessment, emergency preparedness and response are major focus areas under APSED, which covers FBDs and food safety events.

Food safety is one of the focus areas under JEE and SPAR. The JEEs conducted in eight countries of the SEA Region have highlighted the need for strengthening food safety and FBD surveillance, and priority actions have been identified. Member States have considered priority actions on food safety while developing NAPHS. The priority actions identified under JEE, NAPHS and the Regional Strategy for IHR implementation have been considered in the development of the Framework for Action on Food Safety, particularly on enhancing the capacity of Member States in establishing or strengthening FBD surveillance and response, cross-sectoral coordination, preparedness for and response to food safety emergencies (NFP, NCCP and ECP), including development of food safety emergency preparedness plans.

The Framework for Action on Food Safety is aligned with the IHR and relevant policies and strategies for promotion of real-time surveillance of FBDs and emergency preparedness and response to food safety events with the following priority actions:

- developing and updating cross-sectoral coordination, preparedness and response to food safety emergencies;
- strengthening FBD surveillance integrated with IBS and EBS.

5.2.5 Antimicrobial resistance (AMR)

AMR is a global public health threat. The high prevalence of antibiotic-resistant bacteria around the world is an alarming public health problem compromising the achievement of the SDGs. A multisectoral approach is fundamental to tackling AMR at the global, regional and national levels.

In 2015, the World Health Assembly endorsed the WHO Global Action Plan on Antimicrobial Resistance (resolution WHA 68.7). One of the five objectives stated in the Global Action Plan linked to food safety is to reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures.

The Framework for Action on Food Safety recognizes AMR as an emerging food safety challenge and proposes the following measures for risk reduction:

- a risk-based inspection and monitoring programme on contaminants across the food chain, including the introduction of residue monitoring of antimicrobial agents at the primary production level;
- promoting good farming practices (GFP), good veterinary practices (GVP), and good aquaculture practices such as the prudent use of antimicrobial agents in animal production and aquaculture;
- introducing policies and regulations to restrict the use of critically important antibiotics (human) for veterinary purposes, over-the-counter sales of veterinary antibiotics at the primary production level, e.g. animal production and aquaculture;
- promoting biosecurity and vaccination against poultry and livestock diseases to reduce antibiotic use in animal production;
- promoting the integrated AMR surveillance activities (e.g. ESBL *E. coli* tricycle project) to generate evidence-based information on AMR at the human, animal and environment interfaces.

5.2.6 One Health (Multisectoral collaboration at the human, animal and environment interfaces)

The One Health initiative has been considered as comprehensive and effective in managing infectious diseases contracted from animals and the environment. It promotes collaboration and collective actions across disciplines, groups and stakeholders. There is a momentum at the regional and country levels to operationalize One Health, as food safety is a shared responsibility and different stakeholders are involved in food production to consumption. For instance, Bhutan's One Health strategic plan has included the food safety agency as one of its key stakeholders and incorporated food safety as one of its key areas. The use of hormones and antibiotics in animal production and

chemicals in agricultural production will lead to residues in foods and food products to be consumed by humans. Thus, AMR and chemical contamination of food can be prevented only through a holistic multidisciplinary approach at the primary food production level. While the impetus of the One Health approach until now has been on infectious diseases and AMR, it has huge potential for tackling NCDs and nutritional security, where a multisectoral approach is a must. The Framework for Action on Food Safety emphasizes multisectoral collaboration involving multiple stakeholders in the food chain system.

The Framework for Action on Food Safety would positively contribute to the enhancement of the One Health approach through:

- a risk-based inspection and monitoring programme on contaminants across the food chain, including at the primary production level;
- increasing the capacity for FBD surveillance to reduce the incidence of infectious FBDs through joint outbreak investigation of food safety events;
- introducing a regulatory framework to ban the use of growth promoters (hormones, antibiotics) in food animals and indiscriminate use of agrochemicals in agricultural production;
- educating food handlers and consumers at the household level on safe food handling practices, particularly on hygiene and sanitation.

5.2.7 Neglected tropical diseases

Many neglected tropical diseases (NTDs) are foodborne parasitic zoonoses, e.g. involvement of animals in completion and maintenance of a parasitic lifecycle, including transmission to humans. The foodborne parasitic zoonoses are usually transmitted through ingestion of the larval stage of parasites attached to leafy green vegetables or in uncooked meat and raw fish or crustaceans. These are highly correlated with poor hygiene and sanitation, and with traditional food habits and culinary practices.

The Framework for Action on Food Safety in the SEA Region envisages prevention and control of NTDs through the following priority actions:

- educating food handlers and consumers at the household level on safe food handling practices, particularly on hygiene and sanitation to eliminate the spread of foodborne parasites;
- a risk-based inspection and monitoring programme on contaminants across the food chain, including monitoring the primary production chain for parasitic contaminations;
- collaborating with NTD groups to contribute to the elimination of priority parasitic zoonoses such as taeniasis/cysticercosis, hydatidosis and foodborne trematodes.

GLOSSARY

Terms	Definition and description
Antimicrobial resistance	The ability of a microorganism (such as bacteria, viruses, fungi and parasites) to stop an antimicrobial (such as antibiotics) from working against it.
Codex Alimentarius	A collection of internationally recognized standards, codes of practice, guidelines and other recommendations relating to food, food production and food safety.
Climate change	A change of climate attributed directly or indirectly to human activity that alters the composition of the global atmosphere, in addition to natural climate variability observed over comparable time periods.
Competent authorities	Government agencies or institutions responsible for food control, covering food safety and quality as defined in legislation.
Event-based surveillance	The organized collection, monitoring, assessment and interpretation of unstructured information about health events that may represent a risk to public health.
Foodborne diseases	A wide spectrum of illnesses resulting from ingestion of foodstuffs contaminated with microorganisms or chemicals.
Foodborne disease outbreak	An incident in which two or more people develop a similar illness after ingesting the same contaminated food or drink.
Foodborne disease surveillance	The systematic collection, analysis, interpretation and dissemination of health data on an ongoing basis, to gain knowledge of the pattern of disease occurrence and potential in a community, to control and prevent disease in the community.
Food business operator	The owner of the business or the person in control of the food business, including farmers, food producers, processors and distributors, and food service providers, retailers, wholesalers, as well as suppliers of equipment, technology and ingredients.

Food control system	A system to ensure compliance with regulatory requirements either on food safety or essential food quality characteristics.
Food fraud vulnerability	The susceptibility or exposure to a food fraud risk, which is regarded as a gap or deficiency that could place consumers' health at risk if not addressed.
Food safety culture	Food safety attitudes, values and beliefs shared by a group of people. It is the product of employee attitudes, beliefs and behaviours that determine the commitment to and robustness of an organization's food safety management.
Indicator-based surveillance	The regular, systematic collection, monitoring, analysis and interpretation of structured data, e.g. of indicators produced by several well-identified, mostly health-based, formal sources.
HACCP (hazard analysis and critical control point)	A scientific and systematic way of enhancing the safety of foods from primary production to final consumption through the identification and evaluation of specific hazards and measures for their control to ensure the safety of food.
Hazard	A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect.
Noncommunicable disease	A medical condition or disease that is not caused by infectious agents (non-infectious or non-transmissible). NCDs can refer to chronic diseases that last for long periods of time and progress slowly.
Neglected tropical diseases	A diverse group of tropical infections that are especially common in low-income populations in developing regions of Africa, Asia and the Americas. They are caused by a variety of pathogens such as viruses, bacteria, protozoa and helminths.
One Health	Collaborative, multidisciplinary work at the local, national and global levels to attain optimal health for humans, animals and the environment.
Response	Any public health action (e.g. event monitoring, providing information to the public, field investigations and control or mitigation measures) triggered by the detection of a public health risk.
Risk	A function of the probability of an adverse health effect and the severity of that effect, consequential to a hazard(s) in food.

Risk assessment	A scientifically based process consisting of the following steps: hazard identification, hazard characterization, exposure assessment, and risk characterization.
Risk-based inspection	Structured activities to identify risk factors and to assess the effectiveness of current control practices in preventing food safety challenges as well as to determine compliance with regulations and standards.
Risk communication	The exchange of information and opinions concerning risk and risk-related factors among risk assessors, risk managers, consumers and other stakeholders.
Risk management	The process of weighing policy alternatives in consultation with all stakeholders, considering risk assessment and other factors relevant for the health protection of consumers and for the promotion of fair trade practices and, if needed, selecting appropriate prevention and control options.
SPS (sanitary and phytosanitary measures)	Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization.
Stakeholder	A person or group of people, or an industry, association, organization, etc. with an economic or professional interest/responsibility in an area or (involuntarily) affected by developments in the same area.
Sustainable Development Goals (SDGs)	Refer to the 17 interlinked, integrated and indivisible SDGs, adopted by UN Member States in September 2015. They set out a vision of economic, social and environmental development until 2030 with a specific focus on equity by leaving no one behind.
Universal health coverage	Means that all people and communities receive the health services they need. This includes health promotion, treatment, rehabilitation and palliation of sufficient quality to be effective while at the same time ensuring that such care does not cause financial hardship.
Zoonoses	Any disease or infection that is naturally transmissible from animals to humans or vice versa.

BIBLIOGRAPHY

1. ASEAN Food Safety Regulatory Framework. ASEAN (website). ASEAN, 2016. <https://asean.org/storage/2016/08/ASEAN-Food-Safety-Regulatory-Framework.pdf> - accessed 8 May 2020.
2. ASEAN sectoral networks of laboratories. ASEAN (website). ASEAN, 2016 <https://asean.org/storage/2012/05/ASEAN-Guidelines-for-Sectroal-Ref-Lab-Networks-endorsed-46th-ACCSQ.pdf>, accessed 8 May 2020.
3. CCASIA 20th Session: Monitoring the implementation of the Codex Strategic Plan. Meeting report, New Delhi; 2013 (https://old.fssai.gov.in/20th_Session_CCASIA.aspx - accessed 8 May 2020).
4. Codex Alimentarius. Principles and guidelines for national food control systems (CAC/ GL 82-2013). Codex Alimentarius, 2013. http://www.fao.org/input/download/standards/13358/CXG_082e.pdf - accessed 8 May 2020.
5. CAC/GL 91-2017 Principles and guidelines for monitoring the performance of national food control system. Codex Alimentarius, 2017. <http://www.fao.org/fao-who-codexalimentarius/codex-texts/guidelines/en/> - accessed 8 May 2020.
6. RASFF Portal Notification List. EURASFF Portal, 2018. <https://webgate.ec.europa.eu/rasff-window/portal/?event=notificationsList&StartRow=1> - accessed 9 May 2020.
7. Climate change: implication for food safety. Rome: Food and Agriculture Organization, 2008. <http://www.fao.org/3/i0195e/i0195e00.pdf> - accessed 9 May 2020.
8. Evaluation of FAO's contribution to strategic objective 4: enabling inclusive and efficient agricultural and food systems: review the implementation of FAO's strategy for improving food safety globally, Thematic Evaluation Series. Rome: Food and Agriculture Organization, 2017. www.fao.org/3/a-bd712e.pdf - accessed 9 May 2020.
9. Assuring food safety and quality: guidelines for strengthening national food control systems. Rome and Geneva: Food and Agriculture Organization and World Health Organization, 2003. <http://www.fao.org/3/a-y8705e.pdf> - accessed 9 May 2020.
10. Food control system assessment tool: introduction and glossary. Food safety and quality series (Vol. No. 7/1.). Rome: Food and Agriculture Organization and World Health Organization, 2019. <http://www.fao.org/3/ca5334en/CA5334EN.pdf> - accessed 9 May 2020.
11. Jaffee S, Henson S, Unnevehr L, Grace D, Cassou E. The safe food imperative: accelerating progress in low- and middle-income countries. Agriculture and Food Series. Washington, DC: World Bank, 2019.

12. Kristkova ZS, Grace D, Kuiper M. The economics of food safety in India: a rapid assessment. Wageningen Economic Research, 2017. <https://edepot.wur.nl/431795> - accessed 9 May 2020.
13. Southeast Asia: prospect and challenges. In: OECD-FAO Agricultural outlook 2017–2026. Rome: Organisation for Economic Co-operation and Development and Food and Agriculture Organization, 2017. <http://www.fao.org/3/a-bt099e.pdf> - accessed 9 May 2020.
14. WHO estimates of the global burden of foodborne diseases: Foodborne Disease Burden Epidemiology Reference Group, 2007–2015. Geneva: World Health Organization, 2015 https://apps.who.int/iris/bitstream/handle/10665/199350/9789241565165_eng.pdf -accessed 9 May 2020.
15. International Health Regulation 2005, third edition. Geneva: World Health Organization, 2016. <https://www.who.int/ihr/publications/9789241580496/en/->, accessed 9 May 2020.
16. Food safety, climate change and role of WHO. Geneva: World Health Organization, 2019 https://www.who.int/foodsafety/publications/all/climate_change/en/ - accessed 9 May 2020.
17. Regional Food Safety Strategy, 2014–2018. New Delhi: World Health Organization, Regional Office for South-East Asia, <https://apps.who.int/iris/handle/10665/205746>-accessed 9 May 2020.
18. Foodborne diseases in the South-East Asia Region. New Delhi: World Health Organization, Regional Office for South-East Asia, 2015. <https://apps.who.int/iris/handle/10665/327655> - accessed 9 May 2020.
19. Strategic Action Plan to reduce the double burden of malnutrition in South-East Asia Region 2016–2025. New Delhi: World Health Organization Regional Office for South-East Asia, 2017. <https://apps.who.int/iris/handle/10665/253377> - accessed 9 May 2020.

ANNEX I – DEVELOPING NATIONAL FOOD CONTROL SYSTEMS (ADAPTED FROM CAC/GL 82-2013)

A Principles of a national food control system

1. Protection of consumers

National food control systems should be designed, implemented and maintained with the primary goal of protecting consumers. In the event of a conflict with other interests, precedence should be given to protecting the health of consumers.

2. The whole food chain approach

The national food control system should cover the entire food chain from primary production to consumption.

3. Transparency

All aspects of a national food control system should be transparent and open to scrutiny by all stakeholders, while respecting legal requirements to protect confidential information as appropriate. Transparency considerations apply to all participants in the food chain and this can be achieved through clear documentation and communication.

4. Roles and responsibilities

- All participants in a national food control system should have clearly defined roles and responsibilities.
- Food business operators have the primary role and responsibility for managing the food safety of their products and for complying with requirements relating to those aspects of food under their control.
- The national government (and in some cases a competent authority) has the role and responsibility to establish and maintain up-to-date legal requirements. The competent authority has the responsibility to ensure the effective operation of the national food control system.

- Consumers also have a role in managing food safety risks under their control and, where relevant, should be provided with information on how to achieve this.
- Academic and scientific institutions have a role in contributing to a national food control system, as they are a source of expertise to support the risk-based and scientific foundation of such a system.

5. **Consistency and impartiality**

All aspects of a national food control system should be applied consistently and impartially. The competent authority and all participants acting in official functions should be free of improper or undue influence or conflict of interest.

6. **Risk-based, science-based and evidence-based decision-making**

A competent authority should make decisions within a national food control system based on scientific information, evidence and/or risk analysis principles as appropriate.

7. **Cooperation and coordination between multiple competent authorities**

The competent authorities within a national food control system should operate in a cooperative and coordinated manner, within clearly assigned roles and responsibilities, for the most effective use of resources in order to minimize duplication and/or gaps and to facilitate information exchange.

8. **Preventive measures**

To prevent and when necessary to respond to food safety incidents, a national food control system should encompass the core elements of prevention, intervention and response.

9. **Self-assessment and review procedures**

The national food control system should possess the capacity and capability to undergo continuous improvement and include mechanisms to evaluate whether the system is able to achieve its objective.

10. **Recognition of other systems (including equivalence)**

Competent authorities should recognize that food control systems or their components, although designed and structured differently, may be capable of meeting the same objective. This recognition can apply at the national and international levels. The concept of recognition of systems, including equivalence, should be provided for in the national food control system.

11. **Legal foundation**

National governments should have in place fundamental legal structures to enable the establishment of food laws and competent authorities, so that they can develop, establish, implement, maintain and enforce a national food control system.

12. **Harmonization**

When designing and applying a food control system, the competent authority should consider Codex standards, recommendations and guidelines, whenever appropriate, as elements of their national food control system to protect the health of consumers and ensure fair practices in the food trade. Standards, recommendations or guidelines from other international, intergovernmental organizations whose membership is open to all countries may also be useful.

13. **Resources**

A national food control system should have sufficient resources to enable it to meet the system's objectives.

B Role of competent authority in the national food control system

1. A competent authority:

- provides leadership and coordination for the national food control system;
- designs, develops, operates, evaluates and improves the national food control system;
- establishes, implements and enforces science- and risk-based regulatory requirements that encourage and promote positive food safety outcomes;
- establishes, implements and enforces regulatory requirements supporting fair practices in the food trade;
- establishes and maintains arrangements with supporting organizations such as officially recognized inspection, audit, certification and accreditation bodies, where appropriate;
- advances and fosters knowledge, science, research and education regarding food safety;
- engages with stakeholders to ensure transparency and to obtain their views; and
- where appropriate, establishes and maintains arrangements with other countries, e.g. cooperation programmes, equivalence agreements, etc.
- Where there is more than one competent authority, their roles and responsibilities should be clearly defined, and their activities coordinated to the greatest extent possible to minimize gaps and overlaps.
- The design and implementation of a national food control system should follow a logical and transparent process. This should include the consistent application of a systematic framework for the identification, evaluation and, as necessary, control of food safety risks associated with existing, new or re-emerging hazards.
- In developing a national food control system, the competent authority, in consultation with stakeholders, should adopt the framework, which will reflect the principles of a national food control system.

C Legislation

Legislation should clearly reflect the intended policy objective and be commensurate with the risks they are intended to mitigate. Legislation should, where appropriate, take into account relevant scientific information and focus on prevention and outcomes, thereby allowing flexibility and innovation.

To reflect national policies and strategies, legislation should, among other things:

- frame the structure of the national food control system and its goals and objectives;
- provide clarity on the roles and responsibilities of participants in the national food control system, e.g. the central government, the competent authority (or of each competent authority where there is more than one), third party providers (where these are used), food business operators and other stakeholders, as appropriate;
- set out the overarching objectives of the national food control system and any specific or lower-order objectives that relate to participants or sectors;
- clearly define obligations for food business operators and other participants in the food chain to establish and monitor controls; and
- clearly define obligations of food businesses to place only safe food on the market and apply fair practices in trade.

- The legislation should provide the competent authority with the range of powers and mechanisms sufficient to manage and operate the national food control system. These authorities may include and are not limited to the following:
 - (i) Establish standards or other management options to prevent and control foodborne hazards such as disease-causing organisms, contaminants, veterinary drug and pesticide residues.
 - (ii) Establish, monitor and enforce national standards.
 - (iii) Recognize other competent authorities' standards at the appropriate stage(s) in the food chain.
 - (iv) Establish cooperative arrangements with other government entities.
 - (v) Establish approaches to ensure the safety and safe use of inputs to the food chain, such as food additives, pesticides, veterinary drugs.
 - (vi) Recognize and/or harmonize with Codex standards.
 - (vii) Perform audits, verification, inspections and investigations, gather evidence, collect and analyse samples and otherwise verify compliance with standards and requirements.
 - (viii) Consider official recognition of inspection, audit, certification and accreditation bodies.
 - (ix) Enforce legislation and take proportionate, dissuasive and effective action in case of non-compliance with requirements including, as appropriate, investigations and application of sanctions and penalties.
 - (x) Ensure that risks associated with non-compliant foods are evaluated and the appropriate action taken, e.g. disposal, treated appropriately or redirected.
 - (xi) Ensure the integrity, impartiality and independence of officially recognized inspection, audit, certification and accreditation.
 - (xii) Enable traceability/product tracing.
 - (xiii) Ensure that unsafe food is prevented from entering the market or is withdrawn and dealt with appropriately.
- Legislation may also include provisions, as appropriate, for the registration and approval of establishments, licensing or registration of traders, approval of equipment design, penalties in the event of noncompliance and charging of fees or levies.
- The competent authority should engage with stakeholders, including food business operators and consumers, in the development of new legislation, and when making regulatory changes. The competent authority should also disseminate the legislation.

ANNEX 2 – DIMENSIONS, SUBDIMENSIONS AND COMPETENCIES IN ASSESSMENT OF THE NATIONAL FOOD CONTROL SYSTEM

DIMENSIONS	SUBDIMENSIONS	COMPETENCIES
A Inputs and resources	A.1 Policy and legal frameworks	A.1.1 Policy and legal drafting process
		A.1.2 Institutional framework
		A.1.3 Elements for food control legislation
	A.2 Infrastructure and finances	A.2.1 Financial resources
		A.2.2 Infrastructure and equipment
		A.2.3 Analytical resources
	A.3 Human resources	A.3.1 Qualification of personnel
		A.3.2. Training of personnel
		A.3.3 Staff management and motivation
B Control functions	B.1 Routine control activities over food products	B.1.1 Domestic controls
		B.1.2 Import controls
		B.1.3 Export controls
	B.2 Monitoring, surveillance and response functions	B.2.1 Monitoring programmes for specific hazards
		B.2.2 Foodborne diseases surveillance
		B.2.3 Management of food safety emergencies

C Interactions with stakeholders	C.1 Domestic stakeholders	C.1.1 Relationship between competent authority and the private sector regarding training needs
		C.1.2 Information flows and integration of FBOs into risk management
		C.1.3 Communication flows and involvement with consumers
	C.2 International stakeholders	C.2.1 Interactions among competent authorities at the international level
		C.2.2 Engagement of competent authorities with international organizations
D Science/ knowledgebase and continuous improvement	D.1 Evidence/risk base	D.1.1 Access of competent authority to updated scientific and technical information
		D.1.2 Capacity to collect and analyse data for purposes of risk analysis
		D.1.3 Knowledge and use by competent authority of risk analysis framework
	D.2 Continuous improvement	D.2.1 Performance monitoring of competent authorities and continuous improvement
		D.2.2 Consideration of newest scientific and technical information for food control

Food safety is a major public health concern and is closely related to Sustainable Development Goals such as good health and well-being, elimination of poverty, gender equality, water and sanitation, sustainable production and consumption, and climate change.

Food safety is a shared responsibility and demands multisectoral and multidimensional collaboration of all stakeholders – governments, food business operators, consumers and academics across the food chain – to make it a long-term investment to meet the Sustainable Development Goals. Various global initiatives have brought together key stakeholders, including representatives from ministries of agriculture, health and trade, food industries, consumer societies and international partners, to achieve high-level political commitment to scale up the food safety agenda for sustainable development.

This Framework for Action for Food Safety identifies key activities prioritized for delivery in 2020–2025. It is based on a situation analysis of the food control system in Member States of the WHO South-East Asia Region, of progress made through implementation of the Regional Food Safety Strategy, including through the WHO Thirteenth General Programme of Work, Codex Strategic Plan and recommendations of WHO/FAO/AU Global Food Safety Conference. This Framework provides guidance to food safety authorities across the food chain, as well as those involved in food safety emergencies, preparedness and response

