CODEX ALIMENTARIUS COMMISSION E

Food and Agriculture Organization of the United Nations

World Health Organization

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Agenda Item 3a **CX/ASIA/16/20/3**
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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

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FOOD SAFETY AND QUALITY SITUATION IN THE COUNTRIES OF THE REGION

Introduction and Background

1. Food safety needs and priorities are changing rapidly in the context of globalization of the food chain, changing patterns of food consumption, new technological advancement and growing awareness of food safety among consumers. This document summarizes the responses to the questionnaire on critical and emerging food safety and quality issues, and includes an initial analysis of the data. Critical issues are those that are the most pressing ones, and as such need to be addressed and considered as priorities. They can be known issues that are actually present/already occurring or even recurring for some time. They can also be completely new or emerging. Emerging issues are those that are new, unexpected, or can cause change in the status quo. Identification of emerging issues will help to provide proactive guidance and support to countries in addressing prospective issues that could be of regulatory significance.

2. The 70th Session of CCEXEC noted the importance to identify emerging issues, and to define priorities among them[1]. It was also noted that the Regional Coordinating Committees (RCCs) could play a role in this process. CCEXEC, and the 38th session of the CAC requested FAO and WHO, in collaboration with the Codex Secretariat and the Regional Coordinators, to develop a set of questions on needs and priorities in the regions; prepare an analysis of the information collected for presentation at the next round of the RCCs sessions.

Questionnaire on critical and emerging food safety and quality issues

3. An identical questionnaire prepared by FAO/WHO has been distributed to the member countries in all RCCs, thus providing a global overview of critical issues and emerging issues, once the responses from all RCCs are received and discussed.

4. Definitions of the key terms used in the questionnaire were provided – such as: issues, critical issues, emerging issues and drivers of change (see Table 1).

Table 1: Key terms in the questionnaire on critical and emerging food safety and quality issues.

Key terms	Definition
Issues	With the word *issues* is meant hazards/challenges, but also opportunities or trends that might have an impact on food safety and quality.
Critical issues	Those that are the most pressing ones, and as such need to be addressed and considered as priorities. They can be known issues that are actually present/already occurring or even recurring. They can also be completely new.
Emerging issues	Those that are new or unexpected. Although their effect is currently not necessarily being experienced, these issues may cause a change in the status quo. Identification of these issues will help to provide proactive guidance and support to counties in addressing prospective issues that could be of regulatory significance.
Drivers of Change	A driver refers to the underlying cause of change that might lead to the presence or potential occurrence of a food safety issue. A driver of change could lead to hazards as well as opportunities in food safety and quality.

[1] Paras 56-67 of REP15/EXEC

Summary of the responses received

5. A total of 17 responses were received out of a total of 23 Member countries in the Asian region (74% response rate). The countries which responded to questionnaire were: Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Democratic People's Republic of Korea, India, Japan, Malaysia, Maldives, Mongolia, Nepal, Philippines, Republic of Korea, Singapore, Sri Lanka and Vietnam. Individual country responses to the questionnaire on critical and emerging issues are summarized and tabulated in the Annex.

Potential limitations

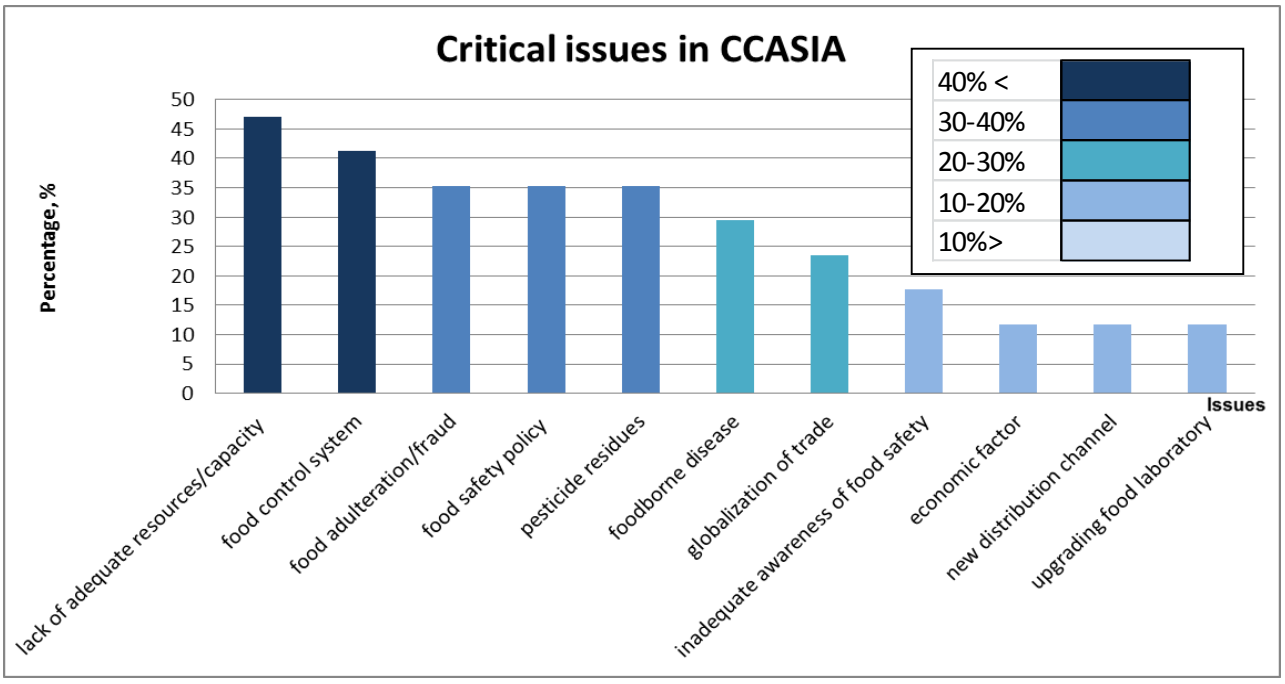
6. The analysis is based on the simple compilation of the survey responses from 17 countries and thus is not necessarily supported by quantifiable background data sets. In addition, as examples of critical and emerging issues were provided in the questionnaire, this may have limited the participants' vision to cover those areas to some extent, but there were also additional issues identified by some countries. The issues were grouped into 11 drivers of change for both critical and emerging issues, with the percentage of countries indicated it as an issue.

7. It is evident that national food safety systems in the Asian region are at different stages of development and as such critical and emerging issues differ between countries. It is important to note that some countries have identified the same issue under critical and emerging issues such as antimicrobial resistance (AMR), food adulteration and food fraud. Most countries have identified 3 critical and emerging issues whereas some countries have identified 4-5 issues. Therefore some issues are covered under both critical as well as emerging issues.

Critical issues

8. The major critical issues identified by countries responding to the questionnaire are presented in Fig. 1.

Fig. 1: Critical issues identified by participating countries (N=17), CCASIA 2016

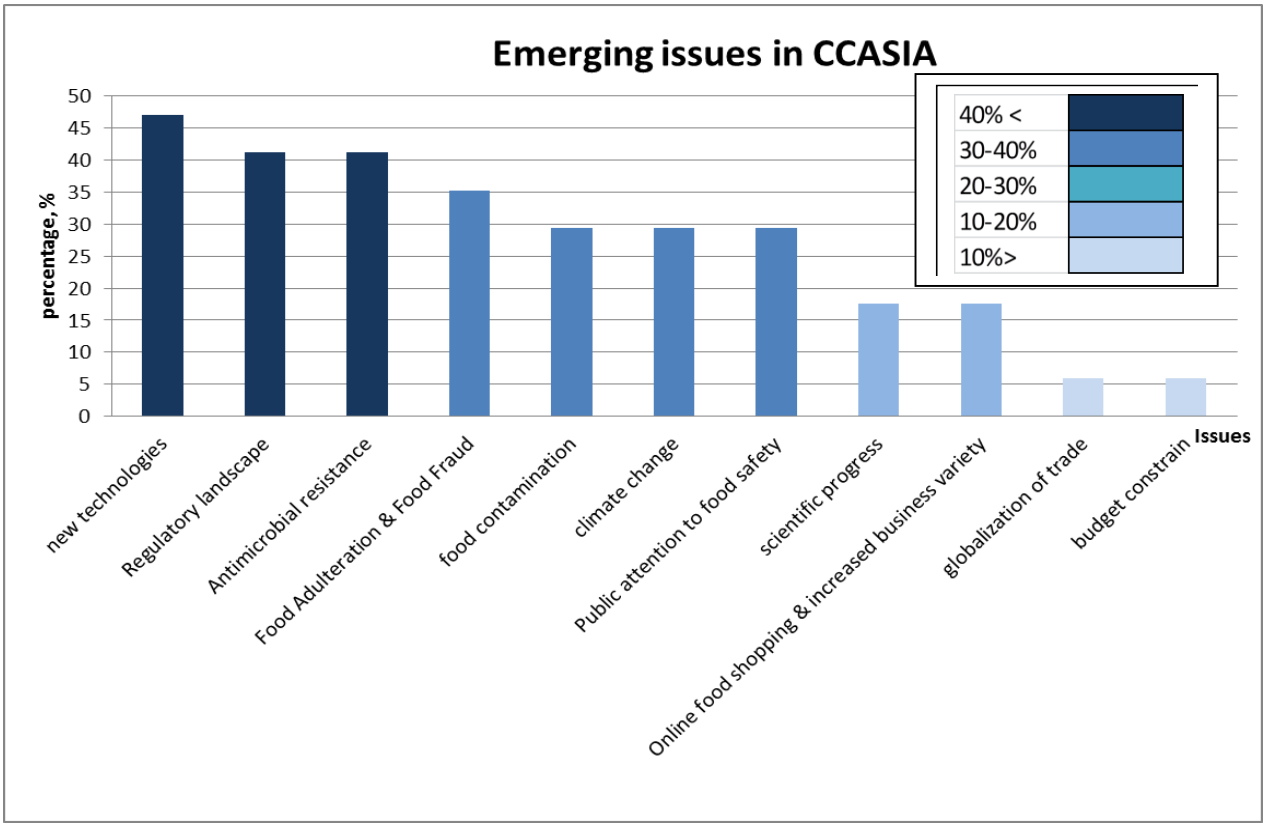


9. Harmonization of testing methods, sustainability of scientific support to Codex, risk communication, cross-sectoral coordination and collaboration, establishment of risk-based inspection and food safety system, import of substandard food, identification and traceability, veterinary drug residue monitoring, food authenticity are other critical issues of interest.

Emerging issues

10. The major emerging issues identified by participating countries are presented in Fig. 2.

Fig. 2: Emerging issues identified by participating countries (N=16), CCASIA 2016



11. In addition, changing food consumption patterns, caffeine in energy drinks and genetically modified foods are also emerging issues as identified by some countries.

Analysis of the feedback on critical and emerging issues

CRITICAL ISSUES

12. All participating countries highlighted hazards, challenges, opportunities or trends that could impact on food safety and quality. The countries were requested to define their critical issues as those that urgently need to be addressed and considered as priorities. Of all responses, the most common critical issues identified were lack of adequate resources and capacity; import food control; food adulteration and food fraud; food safety policy and legal frameworks; pesticide residues; globalization of food chain and foodborne disease surveillance and response.

National capacity building on food safety and quality

13. Challenges to food safety include capacity constraints in national food safety systems to ensure implementation of appropriate food safety and quality measures as well as challenges for food businesses to comply with prevailing food safety measures. These difficulties include cross-sectoral cooperation and collaboration in implementing food safety measures throughout the food chain and limited capacity in food businesses to implement prerequisite food safety programmes. **Insufficient budgets, lack of resources including laboratory facilities, guidelines and protocols on food safety, training of relevant government authorities, producers and importers; inadequate institutional capacity including human resources and facilities are other challenges countries have stated as barriers to improving food safety and quality.** Ministries have attempted to identify and address gaps in capacity by developing national plans on food safety with the assistance from agencies such as the FAO and WHO; setting targets to improve consumers' protection and ensure fair practice in food trade in order to enhance food safety for the well-being of the consumers.

Food import control and scientific evidence to support trade

14. Legal measures to control the importation of food must be based on scientific evidence and justification to avoid technical barriers to trade. **The use of scientific evidence and justification is a particular challenge for the development of food standards for which there is no international standards to be used as references.** It has been noted by one country that applying food import restrictions should be supported by scientific evidence and appropriate risk assessment, and should be appropriately notified through the World Trade Organization.

Food adulteration and food fraud

15. Intentional or accidental food adulteration was identified as critical issues with negative implications on the health of consumers and economic development. **A common belief echoed in these responses was that food adulteration is generally an economically motivated crime whereby the safety of food is placed at risk in a bid to improve the profit margin. There is also concern that the advancement of science** creates opportunities for unethical food manufacturers to adulterate food products with non-permitted substances, and concern that some traditional food risk assessment tools are not applicable to predict and prevent food adulteration and food fraud incidents.

Food safety policy and legal frameworks

16. Clear policy and legal frameworks for food safety and quality is a critical issue to prevent food safety incidents and emergencies. **Absence of information, data and scientific evidence was highlighted as a challenge to advancing food policy and legal frameworks.** One country also highlighted difficulties in implementing best practices programmes such as GAP, GHP, GMP and HACCP and the possible impact this may have on food exports.

Foodborne diseases (FBD) surveillance and response

17. There is a concern of the growing threat of foodborne diseases rapidly spreading across borders due to the globalization of food trade and changing eating habits. **In several countries, capacity for FBD surveillance is limited or non-existent**. There is a need to establish and strengthen FBD surveillance systems as part of overall emerging disease surveillance systems as well as a need to strengthen countries' capacity to respond to foodborne disease outbreaks.

Globalization of food chain

18. Food safety needs to be considered within a global context that is dynamic and evolving as part of the globalization process. **International trade in food commodities has escalated tremendously over the last decade, requiring harmonization of food quality and safety standards that are science-based and uniformly acceptable**. Ensuring food safety along the food supply chain is a continuous challenge and needs improved collaboration and coordination across sectors and national borders. The respondents indicated that food safety standards are kept up-to-date and harmonized with international standards. The need for harmonized laboratory analysis of food products as well as traceability and recall systems for food needs to be urgently addressed.

EMERGING ISSUES

18. According to the comments in the questionnaires, more emphasis appeared to be placed on emerging issues than the critical issues. The speed and direction of the development of the food supply sector and how the food safety and quality possibly could be affected by the future context is a theme of great importance to address to ensure safe standards of food safety. As mentioned in the comments in the questionnaires, food safety and quality are dependent on many factors inside and outside the food production system(s), which consequently directly or indirectly can lead to emerging issues in food safety and quality.

19. As there were various emerging issues mentioned in the questionnaires, the following five were most frequently mentioned and discussed: new technologies, regulatory landscape, AMR, food contamination and climate change. These issues will therefore by definition be the ones to put most focus on in the future.

New technologies

20. The increasing role of new and emerging technologies in food production, post-harvest treatment, processing, packaging and sanitary treatment was identified as an emerging issue which food safety authorities need to consider in the control of food safety. New technologies include technologies such as nanotechnology, gene technology, high pressure processing and non-thermal preservation techniques. In terms of food distribution, online food sales are expected to continue to expand and impact food safety control along the supply chain.

21. **The continuous introduction of new technologies is a challenge all countries, but in particular developing countries in the region.** To address food safety issues associated with the introduction of new technologies, new risk assessment methods, new food safety standards, guidelines and recommendations and revision of existing food standards, guidelines and recommendations may be needed.

Regulatory landscape

22. Concerns relating to the regulatory landscape are an emerging issue, though countries did not give many details to clarify why the issue was selected nor the foreseeable impacts. This may be because three of the respondents highlighted similar concerns when identifying critical issues. However, **this issue appears to be defined as a critical issue on a national level, and an emerging issue on an international level due to the increased importance on bilateral or multilateral treaties as well as the emergence of private standards.** These factors can impact the food supply chain and the way countries manage their national systems on monitoring and surveillance, compliance, inspection, and response. As such, harmonization of regulatory food safety and quality measures is expected to become even more important in the future.

Antimicrobial resistance (AMR)

23. Public health concerns due to misuse and overuse of antibiotics which consequently lead to AMR was a major emerging issue. The use of antibiotics 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. Countries have emphasized that **AMR has major public health implications as it attributes to deaths of patients who do not respond to standard treatments, threatening infectious disease control, causing the re-emergence of some pathogens or increasing their virulence, and making medical treatments more costly.** These consequences affect human and animal health and contribute to environmental pollution with waste and resistant microorganisms, impacting negatively on economic development. As AMR is a multisectoral issue, it is important food safety authorities to carefully consider their contribution to address this emerging health issue.

Food contaminants and residues

24. Food contamination occurs at the time of production, processing and distribution. Microbiological contamination of food products remain a challenge for countries in the region. With the environmental pollution, the wide varieties of substances leech into food that can cause health issues besides bacterial and viral contamination of food. Heavy metals like lead, mercury, and cadmium can be found in food which may lead to serious cases of poisoning as well as related diseases. Common concerns included the introduction of chemical contaminants such as unsafe pesticides, polychlorinated Biphenyls (PCBs), dioxins, Polycyclic Aromatic Hydrocarbons (PAH) entering the food chain through various channels including human activities, agriculture and primary production, food contact materials and food processing techniques.

25. The mortality and morbidity risks to human health through consumption of contaminated foods was demonstrated through examples such as melamine contamination of dairy products; arsenic contamination of water and rice; concerns about residues of antibiotics and hormones in food products and the use of unsafe chemicals as preservatives. Other examples of concern included the epidemic of chronic kidney disease presumed to have arisen from food contaminated with cadmium. **Many countries have a limited technical capacity for monitoring and detection of chemical contaminants in food and food products.**

Climate change

26. Climate change was identified as an emerging issue due to the wide impact it has on agricultural development strategies, food safety and patterns of occurrence on food safety hazards. **Climate change can give rise to new food safety hazards, which can pose risks to animal, plant and human health.** There is a need for countries to develop contingency plans to prepare for the management of emergency situations brought about by extreme weather events which are expected to be more frequent as a result of climate change.

Conclusion

27. The identification of critical and emerging issues provides useful information about Member countries concerns regarding future management of food safety. The issues may also help identify priority action to be taken at national and regional level to strengthen food safety and quality.

28. Food adulteration and food contamination are still a major problem in most Asian countries and these are considered as both critical as well as emerging issues. There is a growing concern about new technologies, antimicrobial resistance and climate change.

29. The summary and analysis of the survey provided here will serve as the basis to promote discussion (in the following agenda item 3b) by the Committee and determine any relevant follow up action and strategies for the various issues identified. Follow up action could include national or regional actions, or appropriate action within the Codex system.

Annex

Individual Country Responses on Critical and Emerging Issues

COUNTRY	CRITICAL ISSUE	EMERGING ISSUE
Afghanistan	Capacity enhancement	New distribution channels
	Policy framework development	Scientific progress
	Establishment of Institutional mechanisms	Regulatory landscape
	Scientific advices	New technologies
Bangladesh	Microbiological contaminants(*E.coli*, *Salmonella*, *S. aureus*) in fish and poultry meat	Drug residue (Enrofloxacin) in poultry meat
	Pesticide(Dimethoate) in green chili	Trans-fatty acids produced duing re-use of edible oil for frying
	Arsenic in drinking water	Caffeine in energy drinks
Bhutan	Food adulteration or food fraud	Food contamination
	Food borne diseases	GM Foods
	Pesticide Exposure	Microbiological hazards
Brunei Darussalam	Enforcement procedures for imported agricultural commodities	Budget constraint, seeking other budget sources e.g. implement laboratory charges, sponsorship, cooperation with manufactures /stakeholders to support laboratory operations
	Implementation of risk based management on imported agricultural commodities (Pre-border activities)	Implementation of risk based management and strengthen food safety risk analysis and traceability system of imported consignment
	Monitoring of pesticide and veterinary drug residues in imported agricultural commodities through sampling program (Post- border activities)	Stronger legislations and regulations to cover Sanitary and Phytosanitary (SPS) measures , quarantine enforcement and import / export requirements
	Act/ Regulation/ Guidelines to specifically handle issues of food safety and quality particularly Maximum Residue Limits (MRLs) of pesticides in agricultural produce	Commitment of Brunei Darussalam in international trade agreements and as member of international organisation bodies such as WTO, FAO and OIE
	Implementation of Brunei Good Agriculture Practice (BruneiGAP) on the local farms and identification of initiatives to support the project	Standardized Food Labelling e.g. organic produce, GMO etc
	Insufficient national studies & research, limitation of scientific progress due to limited resources, budget and expertise/ workforce	Increase in number of new age vendors and business types (e.g. social media, ‘cube’ shops selling food items
	Facilities at Border Control/Inspection Post e.g. cold storage to retain suspected sample until lab results are issued and facilities at pesticide laboratory e.g. latest analytical procedure to detect residue at very low levels	Adulteration of food
	Food poisoning due to unsatisfactory hygienic practices	
	Food recalls (Food contaminants)	
	Enhance government support for primary food production	
Cambodia	Pathogenic bacteria	Foodborne illness
	Chemical added	Public attention to food safety

COUNTRY	CRITICAL ISSUE	EMERGING ISSUE
	Food borne parasites and AMR	Food Frauds
	Lack of technical capacities and resources	Climate change
	Lack of human resource in the field of food sciences and technologies	Regulatory Landscape
Democratic People's Republic of Korea	Poor communication of international food safety standards and updates	Food safety issue related to new food technology
	Insufficient material resource to inspect and control food hazards	New food safety and control challenge with rapid progress of food industry
	Inadequate human resource to deal with food safety and quality	The sufficient supporting document of food safety is not provided along with increase of importing food
	No availability of standardized tool to control food production, labelling, marketing	
India	Traceability	Emerging Contaminants
	Food safety related data generation and risk analysis	Climate Change
	Harmonisation of testing methods	AMR
Japan	Code of Practice for the prevention and reduction of arsenic contamination in rice	
	Sustainability of Scientific support to Codex	
Malaysia	Food adulteration	AMR
	Food authenticity	Online food business
		Food fraud
Maldives	Inadequate legislation and standards	Perceived increase in Non-Communicable Diseases (NCD), especially cancer due to unknown causes, which may be linked to the food consumed
	Import of substandard products	
	False claims and advertisement of food products	
	Economic factors	
	Inadequate awareness among public regarding food safety and nutrition; including pesticide residue and food additives in food products	
Mongolia	Revise regulations related to the food safety	Implement Food Traceability system
	Implementation of rules and regulations especially new organic food law	Improve food control
	Management of logistic system	Enhance domestically produced food supply /Mongolian imported food consists 23.1% of all food supply. We should support domestic food production
	Strengthen cross-sectoral cooperation	Implementation of GAP, GMP, GHP
	Improve capacity of food analysis laboratory /Multiple laboratory facilities, inefficiently used	To improve animal health and veterinary service control /Mongolian main food is meat. We have livestock. Meat safety and quality issue is important in my country. We should improve our veterinary service control

COUNTRY	CRITICAL ISSUE	EMERGING ISSUE
Nepal	Rampant use of agrochemicals or pesticides in vegetable and agriculture production	Excess use of food additives/ preservatives in processed food products
	Veterinary drug residues in poultry meat and milk	Emergence and spread of AMR
	Poor harmonization of standards and regulations with international practices and inadequate address to horizontal standards such as pesticide residues, mycotoxins, heavy metals, veterinary drug residues and food additives	Increased use of new production/ processing technologies (nano-technology, GMOs) and new products (functional foods, food supplements)
	Poor food hygiene and sanitation in food industries and food business operation	
Philippines	Food safety policies, guidelines, and standards	AMR
	Inadequate institutional capacity (e.g. human resources and facilities) for implementation, monitoring, and evaluation of food safety policies guidelines and standards	Food fraud
	Inadequate information/advocacy on food safety among consumers	Non-compliance to standards of food and food products
	Issue on Food Handling	
Republic of Korea	Globalization of the food supply	Climate change
	Sound system of food safety information dissemination	Regulatory landscape
	Food fraud and economically motivated adulteration	New technologies
	New distribution channels	Scientific progress
Singapore	Globalization of trade	New technologies
	New distribution channels	Climate Change
	Scientific progress	Public attention to food safety
Sri Lanka	New initiative to revamp the food control system in Sri Lanka	Epidemic of chronic Kidney disease presumed to be food contamination with Cadmium
	Global trends in food safety; more emphasis on quality	National concern on pesticide toxicity
	Upgrading the food laboratories	Inadequate capacities of food control system
Vietnam	Urbanization/Industrialization	New food processing technologies
	Misused of chemicals in agriculture	Globalization/Integration
	Globalization of food trade	Food consumption pattern
	Economic development	Public catering services
	Climate change	Food microbial resistance