



JOINT FAO/WHO FOOD STANDARDS PROGRAMME
FAO/WHO COORDINATING COMMITTEE FOR EUROPE
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FOOD SAFETY AND QUALITY SITUATION IN THE COUNTRIES OF THE REGION:
CURRENT AND EMERGING ISSUES OF THE REGION

(Prepared by FAO and WHO)

1. INTRODUCTION AND BACKGROUND

1.1. The global food environment is constantly undergoing changes with new food safety and quality challenges and emerging issues, which require effective responses and new approaches to address. The 70th session of the Executive Committee of the Codex Alimentarius Commission (CCEXEC70) noted the importance of identifying emerging issues and defining priorities among them¹. It was also noted that the FAO/WHO Regional Coordinating Committees (RCCs) could play an active role in this process and therefore it was important to reinforce their activity.

1.2. The initiative proposed at CCEXEC70 on the cooperation of the Codex Secretariat with the Codex Regional Coordinators in the preparation of a questionnaire on the food safety and quality needs and priorities in the regions, and the subsequent analysis of the information collected, enabled efficient strategic planning of the activity. FAO and WHO, with the support of the Codex Secretariat, prepared a survey in 2016 and findings for the CCEURO region were presented at CCEURO30. This Committee noted that critical and emerging issues would be a standing item on RCCs' agendas and suggested to effectively use this opportunity to identify more concrete and precise areas that RCCs would recommend countries as well as the Commission and its relevant committees to work on.

1.3. FAO and WHO, in collaboration with the Codex Secretariat, prepared a second version of the survey for the current round of RCCs by revising and simplifying the first questionnaire. The inputs from Codex Members in the European region to the second questionnaire are presented in this paper. The Regional Coordinator played a key role in receiving feedback and responses from the countries, as well as drafting this paper with their analysis.

2. METHODOLOGY AND APPROACH TO THE SURVEY

2.1. For identifying the emerging issues related to food safety and quality worldwide, an online questionnaire using SurveyMonkey software was sent to the Codex Contact Points (CCPs) of all Codex Members across the regions inviting them to answer the following questions by consulting with the relevant stakeholders in their countries:

- Identify the three most important emerging issues that are expected to have an impact on food safety in the next 5 -10 years;
- For each of the issues identified, provide a title, a brief description and an explanation of why this was considered to be an important issue;
- Describe the process (who was consulted and contributed to responses) and the information sources that were used to identify the issues.

2.2. Definitions of "issue" and "emerging issues" used in the questionnaire were provided as in Table 1.

¹ REP15/EXEC para. 55

Table 1: Key terms and their definition

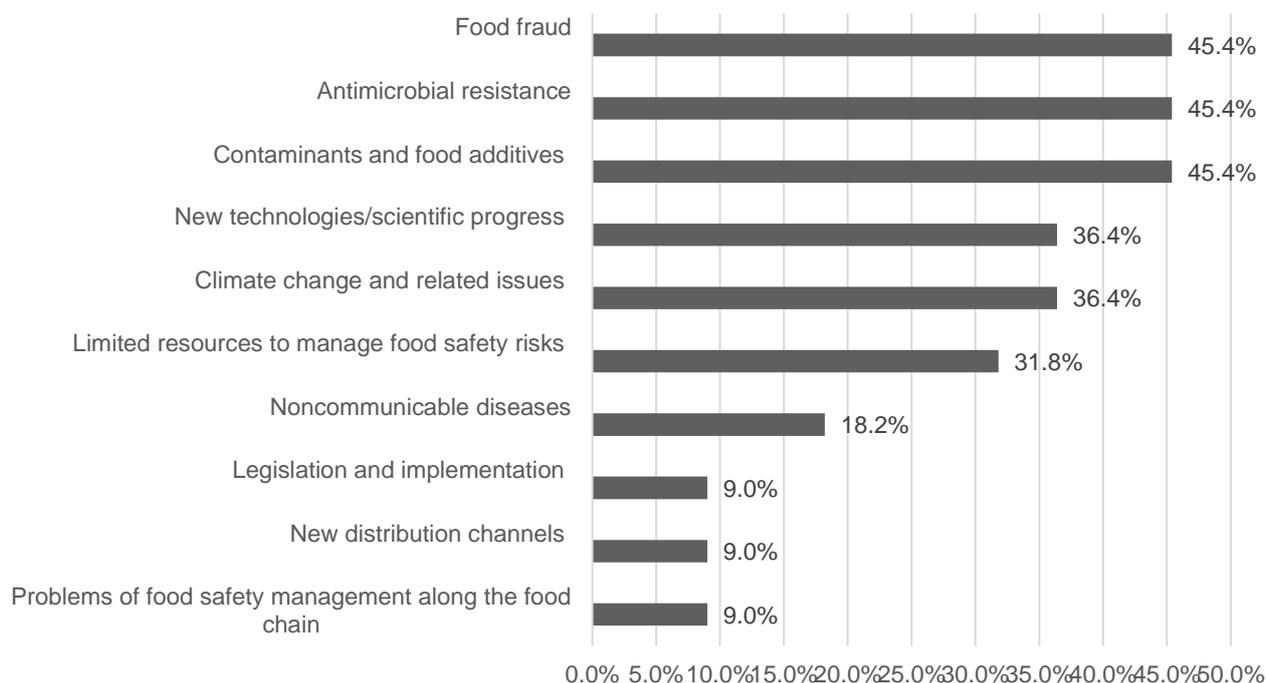
Key terms	Definition
Issues	With the word <i>issues</i> is meant hazards/challenges, but also opportunities or trends that might have an impact on food safety and quality.
Emerging issues	Those that are new or unexpected. Although their effect is currently not necessarily being experienced, these issues 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.

3. SUMMARY AND ANALYSIS OF THE EMERGING REGIONAL ISSUES THAT ARE EXPECTED TO HAVE AN IMPACT ON FOOD SAFETY IN THE NEXT 5-10 YEARS

3.1. Replies were received from 22 countries for inclusion in this document, namely from Austria, Armenia, Belgium, Bosnia and Herzegovina, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Kazakhstan, Kyrgyzstan, Lithuania, Montenegro, Poland, Slovakia, Sweden, the United Kingdom, and Uzbekistan. Based on the responses received, the issues were grouped into different categories. An overview of all emerging issues that were identified is provided in the Appendix I.

3.2. The following emerging issues that are expected to affect food safety in the next 5-10 years were identified (Figure 1): Food fraud (45.4%); Antimicrobial resistance (AMR) (45.4%); Contaminants and food additives (45.4%); New technologies/scientific progress (36,4%); Climate change and related issues (36.4%); Limited resources to manage food safety risks (31.8%); Non-communicable diseases (NCDs) (18.2%); Legislation and implementation (9%); New distribution channels (9%); Problems of food safety management along the food chain (9%).

Figure 1: Emerging Issues in Food Safety and Quality expected to affect food safety in the region



3.3. A summary of the emerging issues identified by the Member Countries is as follows:

Food fraud

3.4. The issue of food fraud covers both food safety and quality and in addition to potentially affecting public health, it also affects market competition and consumer trust in the food supply. The complexity of the global food chain involving many stages and actors causes difficulties in identifying and tracking food fraud. Respondent countries listed such useful countermeasures as operating an early warning system based on modern data analytics, the need for greater communication and international collaboration, establishing consistent approaches and controls for a range of foods.

Antimicrobial resistance (AMR)

3.5. The growing threat of AMR is caused both by overuse and misuse of antimicrobials in human, animal and plant health sectors. The importance of the food chain within the general issue of AMR should not be underestimated. The development and effective implementation of innovative national and international approaches to control the spread and impact of AMR are needed.

Contaminants and food additives

3.6. There is limited data on the accumulation of many pollutants (organic and inorganic) in the food chain and various value chains. Knowledge is needed for hazards characterization in terms of the potential impact of chemicals and their toxic impact on the immune, endocrine and other physiological systems, and on the development of the nervous system, in order to incorporate them into the risk assessment characterizing the risks caused by the presence of various chemicals in food products. Among others, there is a need to promote minimization of waste and pollution, and responsible utilization of agrichemical inputs, as well as a comprehensive approach to developing risk management solutions.

New technologies / scientific progress

3.7. New types of raw materials, new food products, new ingredients, and new technological processes are increasingly used by the food industry. It is important to understand the opportunities and threats posed by the use of new technologies in the food supply chain. This includes capacity to perform risk assessments, enabling regulatory frameworks to authorize and control new technologies, and enhanced consumer's knowledge about advantages and disadvantages of new technologies.

Climate change and related issues

3.8. Extreme weather events (drought, temperature increase, severe storms, local floods, etc.) affect ecosystems. The effects of climate change have a direct impact on food security and food safety. At the first stage, it is important to determine the change in virulence pattern of foodborne pathogens, in the occurrence of chemical hazards and natural toxins (e.g. mycotoxins), and the impact of these changes on the biological and chemical safety of food products.

Limited resources to manage food safety risks

3.9. Limited resources to manage food safety risks are presented by:

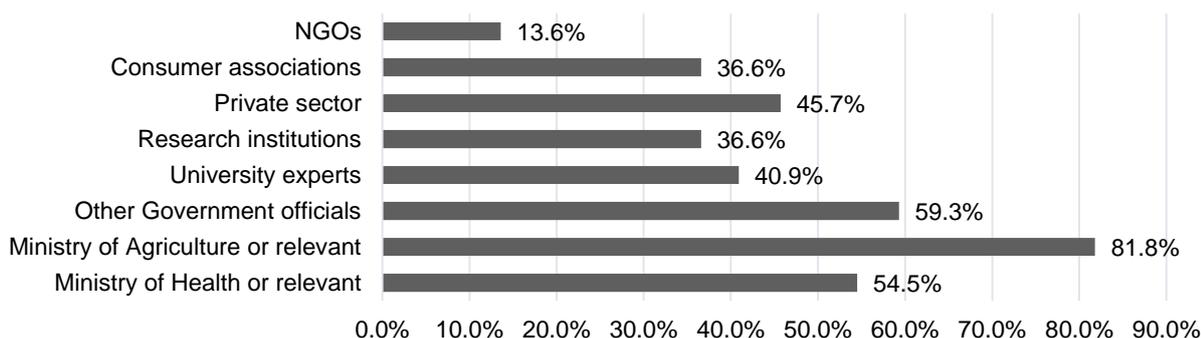
- (i) limited access to appropriate food testing capacity to support ongoing monitoring of food hazards and public health surveillance, and investigation and response to food safety emergencies;
- (ii) lack of methods for the quantitative determination of certain food additives, which are included in the list of permitted additives;
- (iii) limited number and capacity of veterinary specialists and food safety officers at national and sub-national levels; and
- (iv) limited capacity in food safety risk analysis and authority of institutions responsible for food safety.

Non-communicable diseases (NCDs)

3.10. The significant socio-economic impacts due to mortality and disability from diet-related NCDs underlines the need to strengthen the public health care system for preventive measures and an effective and timely response. Concern is rising about the increase in the number of food ingredients, which may negatively affect the development of cross-allergy.

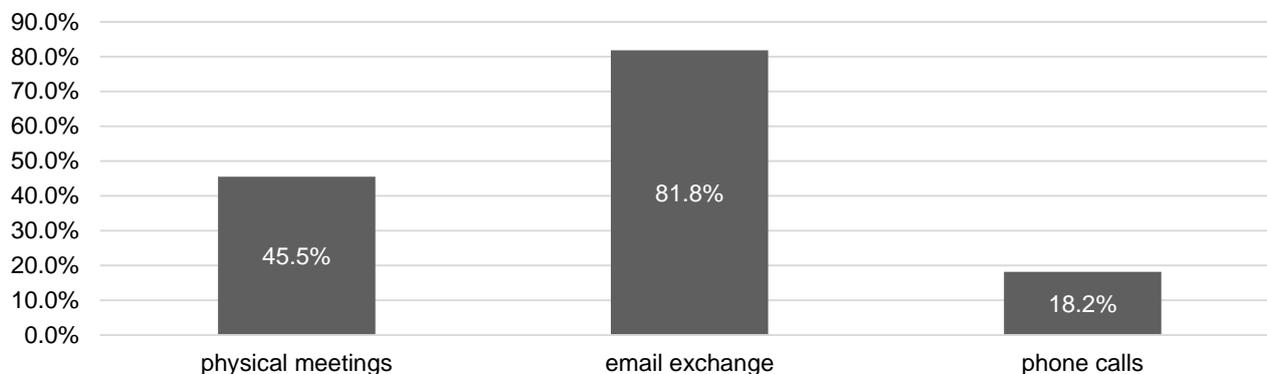
The process of the national consultations

Figure 2: Participants involved in the consultative process at the national level



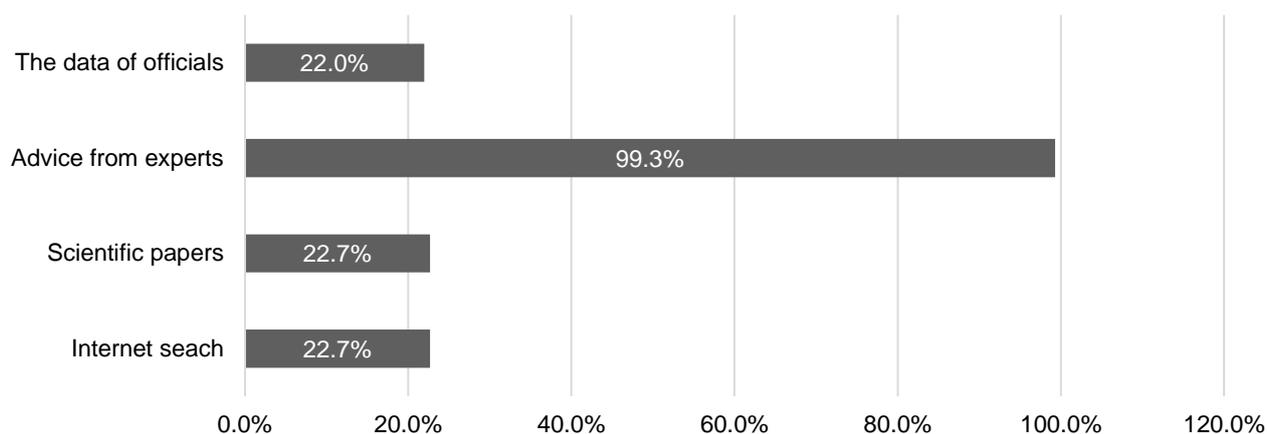
3.11. The respondent countries of the region, when listing participants in national discussions to identify emerging issues, most frequently indicated the Ministry of Agriculture and its departments (81.8%), other government departments (59.3%), the Ministry of Health and its departments (54.5%). This is followed by university experts (40.9%), private businesses (45.7%), and, as indicated by every third country, research institutions (36.6%) and consumer associations (36.6%). In some countries, non-governmental organizations were involved in discussion (13.6%).

Figure 3: Consultation forms of the national discussions



3.12. Countries responded that they conducted national consultations of emerging issues by three means, of which the overwhelming majority used electronic correspondence (81.8%), then physical meetings (45.5%) and much less phone calls (18.2%).

Figure 4: Used information sources



3.13. When preparing answers to a question about national priority issues countries used such sources of information as internet searches (22.7%), scientific articles (22.7%), data from government bodies (22%) and expert consultations (99.3%).

4. CONCLUSION

4.1. The results of the survey summarized in this document provide information to support the discussion in CCEURO31 on the food safety and quality situation in the countries of the region. Active involvement of the Regional Coordinator to keep close contact with countries in the region enabled the high response rate and quality of results.

4.2. Food fraud (45.4%), AMR (45.4%), contaminants and food additives (45.4%), and new technologies/scientific progress (36.4%), were among the most frequently mentioned emerging issues. Among the means for conducting national consultations, electronic correspondence prevailed significantly (81.8%) and, in 99.3 percent of cases the source of information in identifying potential problems was related to expert advice.

4.3. Emerging issues identified and listed in this paper are recommended to be taken into account in the strategic and operational planning to strengthen food safety at national and regional level. This may take the form of future work needed in Codex, or direct measures and policies to be addressed by food safety regulators at country level as an integral part of national food control systems. Information exchange on common emerging issues should also be facilitated.

4.4. Among the respondents on emerging issues involved in the discussion process at the national level, the majority represented government institutions: the Ministry of Agriculture (81.8%), the Ministry of Health (54.5%), and other government bodies (59.3%). Lower participation rate was observed among consumer associations (36.6%), research institutions (36.6%) and non-governmental organizations (13.6%), indicating the need to strengthen the work with these stakeholders.

5. RECOMMENDATION

5.1. CCEURO is requested to provide inputs to the following points that could guide future action by FAO/WHO, Codex Members and the Codex Alimentarius Commission:

- (i) Is the survey considered useful to identify national and regional food safety and quality priorities?
- (ii) How can the process of identifying emerging issues in the region be improved?
- (iii) What are your experiences and ongoing activities to identify, and address emerging issues?
- (iv) What follow-up actions need to be taken at the regional or country level to address common emerging issues identified in the survey? In this regards, what is the role of Codex?

Appendix I – Summary of Issues

The issues and corresponding explanations described in the questionnaire's responses were grouped into different categories. The table below contains a summary of the issues noted by the respondent countries in the order of frequency of their mention.

Category	Description of the problem
Food fraud	<p>Food fraud, or food authenticity covers both food safety and quality and affects the food chain on many levels and ways, including market competition and consumer's confidence in food supply. The complexity of the global food chain involving many stages and actors causes difficulties in identifying and tracking the frauds, and creates favorable conditions for criminal activity. As a result of the uncontrolled circulation of food, depravity creates a threat to national security, creates additional risks and conditions for bioterrorism.</p> <p>Food fraud examples provided by countries include adulteration, deliberately replacing, diluting, imitating, falsifying ingredients, substandard production, or distorting information about food products or their ingredients or origins, unsuitable food packaging, and intentionally false or misleading statements about products being sold. Previous EU level research has highlighted reported cases of fraudulent practices in olive oil, honey, fish and fish products, milk and milk products, fruit juices, alcohol and spices/herbs.</p> <p>Falsification of food products poses great risks both for consumers' health and for their material well-being, negatively affecting consumer confidence and financial viability of food industry enterprises.</p> <p>A number of countries noted the need to put pressure on current and future food safety policy and highlight the need for greater international cooperation, to establish consistent approaches and controls on food products and investigation of the risks of fraudulences. Countermeasures as an early warning system based on modern data analytics, for example new sophisticated analytical methods (for example, DNA, NMR methods) could be useful for detecting and preventing falsification of food products.</p>
Contaminants and food additives	<p>Chemical contaminants in food products e.g. natural toxic substances, food additives, trace elements, pollutants in the environment, and natural plant substances, pesticides and veterinary drugs are intentionally used in the food chain and they are significant sources of acute and chronic foodborne diseases. In this regard, there appears the acute question of risk management for many pollutants (organic and inorganic). There is a concern about the lack of MLs for some toxins and mixtures of mycotoxins, as well as the toxicity of modified mycotoxins.</p> <p>Several countries have raised questions about endocrine-disrupting chemicals (EDCs), and stated that scientific information regarding the effects of endocrine disruptors on human health and the environment is not available, although recent assessments (ANSES, EFSA, WHO) have shown that they contribute to negative consequences (non-communicable diseases, biodiversity crisis, etc.). It was noted that in order to conduct risk assessment on the potential of chemicals, new knowledge is needed in terms of their impact on the immune and endocrine systems, the development of the nervous system in order to incorporate them into the system of describing the risks caused by the presence of chemicals in food products. The risks of long-term human consumption of dietary supplements with herbal substances, and the risk of the combined effects of several chemicals (chemical mixtures) were also noted.</p>
Antimicrobial resistance	<p>Emergence and spread of AMR is associated with the overuse or misuse of antimicrobial agents (for growth promoters), or for prevention or treatment of infectious diseases in humans, animals (including fish), and plants. The need to strengthen the ongoing efforts with One Health approach by applying internationally integrated surveillance, developing innovative international approaches to control the spread via understanding the new and multi-resistance mechanisms is noted. Ongoing country, regional and global level efforts to develop strategies and actions plans on raising awareness and promoting prudent use of antimicrobials may remain ineffective if there is no political commitment, implementation of AMR action plans by countries is uneven, or, awareness of the problem will still remain low.</p> <p>In parallel with changes in the use of antimicrobials in medicine, it is necessary to update the practice of use in the food chain. It is assumed that the transfer of bacteria or genes conferring AMR from food to human plays a crucial role in development and spread of AMR.</p>

New technologies / scientific progress	<p>With the rapid development of the economy and science in the food industry, new types of raw materials, food products and supplements, ingredients, and new technological processes, are increasingly used. While new technologies such as nanotechnology and synthetic biology offer considerable opportunities for the development of innovative products and applications in the food sector, those products need to go through a comprehensive food safety risk assessment. International and national regulatory framework needs to be in place to elaborate a fit-for-purpose authorization and registration approach for new technologies, new materials and compounds. In addition, consumers lack information about new technologies that may cause negative perception of such technologies. For the timely provision of scientific advice by the scientific bodies of FAO and WHO, member countries confirm the importance of the budgets of FAO and WHO as the main source of funding in this context.</p> <p>The Big Data problem was noted. Those who know what to do with the data and how to use it for marketing, biological tracking, etc. will have a leading position.</p>
Climate change and related issues	<p>Climate change is affecting ecosystems adversely and causing a threat on availability of safe food and the viability of agriculture in certain regions as a result of extreme weather fluctuations (e.g. decrease/increase in precipitation and temperature, severe storms, local floods). It is necessary to understand how this may affect the biological safety and chemical safety of food products.</p> <p>Countries raised concerns on the food supply associated directly with climate change including the availability of clean water, decrease of arable land, increase and spread of pathogenic microorganisms and toxins (for example, the formation of mycotoxins, pollution by pathogens, the spread of marine biotoxin) weeds, insects, non-carrier-induced diseases, and zoonoses, leading to increase in foodborne diseases. With the change of climatic conditions in agriculture, new pests and pathogens appear, with potentially more invasive and resistant properties. Plant protection actions may require updates to respond and control the new and unknown effects rapidly. It was also noted that the problems of food insect safety as protein resources can become a global topic.</p> <p>The temperature in the entire region of the western Balkan is increasing faster than the average global trend, which leads to a threat on safety and quality of crops for food and feed such as high mycotoxin formation, pathogen contamination.</p> <p>The rise in sea temperature, especially in the Mediterranean region, which has led to the migration of new marine species, is disturbing. This phenomenon of migration / invasion of new marine species, in addition to affecting the ecology of a particular area, facilitates the transfer of microorganisms to the Mediterranean, as well as those that already existed and adapted. Moreover, an increase in sea temperature contributes to the reproduction of microorganisms found in marine waters, as well as in marine organisms. In the end, the presence of pathogenic microorganisms (such as <i>Escherichia coli</i>, <i>Salmonella</i> spp., <i>Vibrio parahaemolyticus</i>) or an increase in their population can potentially cause serious gastrointestinal effects in humans.</p> <p>The increase in international trade, especially when combined with climate change, can actually increase the incidence of foodborne diseases, pollutants and toxins in food and makes it difficult to track pollution.</p>
Resources to manage food safety risks	<p>Countries expressed concerns about the lack of production laboratories; Kyrgyzstan does not have a Centralized Integrated Testing Laboratory for testing food products for all safety indicators; lack of methods for the quantitative determination of certain synthetic dyes, preservatives, cross allergies and unregulated preservatives; the difficulty of implementing HACCP in enterprises due to lack of financial and competent human resources; the limited authority of institutions responsible for food safety; lack of veterinary specialists.</p>
Non-communicable diseases	<p>The priority of NCDs is reflected in the WHO Global Plan of Action for the Prevention and Control of Non-communicable Diseases 2013–2020 in the WHO report on the non-communicable diseases situation in the world. It has been reliably proven that by correcting diet-related risk factors, myocardial infarction, cerebral stroke, diabetes mellitus, alimentary obesity, and some forms of cancer can be prevented in many people.</p> <p>Countries expressed concern about the increase in the number of food ingredients, which negatively affects the development of cross-allergy. In addition, some emerging allergens, such as dehydrated whey powder, can be found in many products (bakery, confectionery and sausages). Also one of the listed issues was the development of a mechanism for analyzing an essential list of hazardous substances in the field of food safety.</p>
Legislation and its implementation	<p>A number of Eastern European countries are in the process of accession to the European Union; therefore, these countries are harmonizing regulations in accordance with EU requirements.</p>
New distribution channels	<p>New distribution channels in particular e-commerce and sharing economy, are already being used in the food industry which may elude the official control channels. There is the need to regulate and develop methods to monitor and inspect the food safety of the foods sold online.</p>
Food safety management along the food chain	<p>Reduction of the use of plastic packaging (and other related items in plastics) of food and beverage in order to save the oceans from plastic litter may increase the risks of foodborne illnesses due to lack of food protection.</p>