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FOOD SAFETY AND QUALITY ISSUES IN THE REGION

(Prepared by FAO and WHO)

I. INTRODUCTION

1. Food safety is intertwined with all the components of agrifood systems and directly links to nutritious and healthy food for all. Agrifood systems continuously evolve as a result of climate change, globalization, novel technologies and need to transform to respond to resource depletion, growing inequalities, geopolitical instabilities, amongst others. These factors may lead to new opportunities or challenges in food safety governance and Codex work.

2. This document presents highlights of priority food safety and quality issues in the European region including emerging issues¹. It aims to provide a background for them defining the problems and needs of the region concerning food standards and food control. In this way, the document also seeks to stimulate discussions that are also relevant to inform FAO and WHO capacity building and strategic guidance to countries in the region.

II. STRATEGIES FOR FOOD SAFETY IN THE REGION

3. **The European Union (EU)** follows the Farm to Fork Strategy² in ensuring food safety, animal and plant health along the agrifood chain. The Food Safety Policy³ focusses on assuring effective food control systems across the EU Member States; managing international relations with non-EU countries and international organizations concerning food safety, animal health, animal welfare, animal nutrition and plant health; and managing relations with the European Food Safety Authority (EFSA). The specific objectives under the EU's Single Market Programme (2021-2027) on food safety are to prevent and eradicate diseases and pests; to support a sustainable food production and consumption; to improve the effectiveness, efficiency and reliability of official controls; and to support policies to improve animal welfare.⁴

4. EFSA acts as the independent risk assessment and scientific advisory body in the European region. The EFSA Strategy 2027⁵ outlines the authority's strategic objectives as to 1) deliver trustworthy scientific advice and communication of risks from farm to fork; 2) ensure preparedness for future risk analysis needs; and 3) empower people and ensure organizational agility.

5. **The Eurasian Economic Union (the EAEU)** includes food safety under the priorities of the *Strategic Directions for Developing the Eurasian Economic Integration until 2025*⁶. The update of sanitary, epidemiological and hygienic requirements for product safety based on research, including the analysis of the risk of harmful effects

¹ The term "emerging issues" used in this document refers to the definition used in the Codex surveys in 2019: "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 countries in addressing prospective issues that could be of regulatory significance." https://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-706-31%252FWD%252Ffeu31_03e.pdf

² https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en

³ https://food.ec.europa.eu/index_en#:~:text=The%20European%20Commission%20aims%20to.ensuring%20an%20effective%20internal%20market

⁴ https://food.ec.europa.eu/horizontal-topics/future-food-safety-budget-and-policy/food-safety-future-eu-budget-2021-2027_en#food-safety-as-part-of-the-single-market-programme

⁵ <https://www.efsa.europa.eu/sites/default/files/2021-07/efsa-strategy-2027.pdf>

⁶ https://eec.eaeunion.org/upload/medialibrary/820/Strategy_2025.pdf

of environmental factors on human health is noted under the Strategic Directions. As an example, the EAEU recently amended the Technical Regulation "Safety requirements to food additives, flavorings and technological aids", removing 19 items from the list of authorized food additives, and adding six new items.⁷

6. The FAO Strategic Priorities for Food Safety 2022-2031 and WHO Global Strategy for Food Safety 2022-2030, which are relevant to the region, are outlined in document CX/EURO 24/33/6, which also informs on the FAO and WHO work in the region.

III. FOOD SYSTEMS AND NUTRITION

7. According to the *Regional Overview of Food Security and Nutrition 2023*⁸, in the European region 11.9 percent of the population were estimated to be moderately or severely food insecure in 2022; 4.7 million fewer than in 2021. The prevalence of stunting and wasting among children under 5 years of age in the region are lower than the global estimates, and the exclusive breastfeeding rate (47.7 percent) is improving. However, the prevalence of overweight under age 5 is still higher (7.1 percent) than the global estimates (5.6 percent). Adult obesity (25.3 percent) is on the rise in all countries and consistently above the global level.

8. The average cost of a healthy diet in 2021 was 3.20 purchasing power parity (PPP) dollars per person per day, which is higher (by 1.6 percent) than in 2020. On average, a healthy diet costs less in the European region than elsewhere in the world, with the global average being 3.66 PPP dollars per person per day.

9. EFSA *Eurobarometer on Food Safety in the EU 2022*⁹ results note the proportion of respondents mentioning cost as one of the main factors when buying food has increased in 21 EU Member States since 2019. Most EU citizens are equally concerned about having a healthy diet and food safety risks. The most important factors affecting EU citizens' food-purchasing decisions are cost (54 percent), taste (51 percent), food safety (46 percent); nutrient content (41 percent), while environment and climate (16 percent) and ethics and beliefs (15 percent) are ranked the lowest yet still significant. Follow up surveys with seven EU pre-accession countries¹⁰ indicate similar levels for concerns with EU average on cost (53 percent), food safety is a slightly higher concern when making purchasing decisions in the countries (52 percent), while taste (40 percent) and nutrition (35 percent) are lower.

10. Addressing food security and nutrition issues demands a repurposing of food and agriculture policies to taking account of the "triple challenge" for agrifood systems: Increasing the affordability of healthy diets, ensuring better livelihoods for farmers, and improving environmental sustainability. In achieving this, **food system-based dietary guidelines (FSBDGs)**¹¹ play a crucial role, providing evidence-based recommendations for interventions to promote overall health and prevent chronic diseases, and inform changes throughout the food system ensuring that diverse and nutritious food is both available and affordable.

11. In the European region, 34 countries (67 percent) have developed or revised their food-based dietary guidelines (FBDGs) since 2021. Several are underway with FAO support, using the new FAO methodology and up to date scientific evidence. FBDGs are traditionally used for improving consumers' nutrition and overall health, as an educational and policy-informing documents. Recently, there has been an interest in incorporating **sustainability consideration into dietary guidelines** to raise awareness on the environmental footprint of diets and opportunities for reduction, which is addressed in the new FAO methodology. The FSBDGs include a "systems lens" and enable the alignment and coherence of policies, strategies and programmes for promoting healthy diets and sustainability through national, subnational and local food systems.

⁷ <https://eec.eaeunion.org/en/news/vneseny-izmeneniya-v-tekhreglament-o-bezopasnosti-pishchevykh-dobavok-aromatizatorov-i-tehnologiche/>

⁸ <https://www.fao.org/3/cc8608en/cc8608en.pdf>

⁹ https://www.efsa.europa.eu/sites/default/files/2022-09/EB97.2-food-safety-in-the-EU_report.pdf

¹⁰ <https://www.efsa.europa.eu/en/news/more-food-safety-insights-eu-pre-accession-countries>

¹¹ Food systems-based dietary guidelines (FSBDGs) are described by FAO as context-specific multilevel recommendations that enable governments to outline what constitutes a healthy diet from sustainable food systems, align food-related policies and programmes and support the population to adopt healthier and more sustainable dietary patterns and practices that favour, among other outcomes, environmental sustainability and socio-economic equity.

<https://www.fao.org/3/cc9394en/cc9394en.pdf>

IV. FOOD SAFETY EVENTS AND OUTBREAKS

12. The use of *The FAO/WHO INFOSAN Activity Report 2020/2021*¹² provides an overview of the major food safety events in international food trade, activities, and information products related to INFOSAN in 2020-21. During this period, 133 of the total 375 (35.5 percent) food safety events reported to **INFOSAN** were identified by the Rapid Alert System for Food and Feed (RASFF). Globally, the most common causes of events involving biological hazards in 2020 and 2021 were *Salmonella* spp. (86 events), *Listeria monocytogenes* (52), *Escherichia coli* (18), *Clostridium* spp. (15), Norovirus (8), and Hepatitis A Virus (7); whereas the most common causes of events involving chemical hazards were histamine (19), methanol (7), and ethylene oxide (2). Glass particles (20) and metal (10) were the most common physical hazards causing food safety events. In 2022, 4361 RASFF notifications were registered with highest relating to pesticide residues (990).¹³ The increasing number of notifications in INFOSAN and RASFF also relates to the increasing use of and reporting to the platforms by their respective Members.

13. Data gathered by **EFSA** shows that 27 EU Member States and the United Kingdom of Great Britain and Northern Ireland in 2022 reported 5 763 foodborne outbreaks causing 48 605 cases of illness, 2 783 hospitalisations and 64 deaths. Most cases were linked to outbreaks caused by *Listeria monocytogenes*, *Streptococcus equi*, *Salmonella*, and Norovirus. Foods most frequently associated with outbreaks included eggs and egg products, meat and meat products, fish, crustaceans, shellfish and molluscs, vegetables and mixed (multi-ingredients) foods. EFSA launched an interactive map¹⁴ that disaggregates this data.

14. Food fraud continues to be a priority issue for the European region. Members discussed this topic at CCEURO31 highlighting that it needs to be addressed as an integral part of existing official food control systems, and recognized the need for enhanced action and increased cooperation across sectors and countries, and acknowledged that Codex can play an important role. Furthermore, the Members agreed to create a repository of available food fraud information and contact details for national food fraud authorities which is available on the CCEURO webpage, providing an opportunity to continuously update and share information.¹⁵

V. FOOD CONTROL INSTITUTIONAL FRAMEWORK IMPROVEMENTS

15. Improving the management of food safety with better coordination is a continuous process in the European region. Policies, guidelines, standards and regulations related to food safety need to be kept up to date or further developed to respond to the changing needs within the agrifood systems. Several Member countries in the region are undergoing significant regulatory reforms, with focus on consolidating institutional frameworks, adopting science-based regulations, and shifting towards risk-based controls with a preventive approach. The depth, speed, and direction of food safety reforms may also depend on specific political and economic priorities followed by each country (e.g. accession to and Association Agreements with the EU, World Trade Organization (WTO), membership of the EAEU). Azerbaijan, Belarus, Georgia and Tajikistan are currently applying the FAO/WHO Food Control System Assessment Tool¹⁶ to analyse their performance, set priority areas of improvement, and plan the necessary strategic actions.

16. The implementation of the newly adopted food safety legislation and the slow uptake by food business operators (FBOs) is a prevalent challenge in the region. Confusion on the requirements, necessary finances or technical understanding for implementation are amongst the most common issues for the FBOs. The role of food safety authorities is crucial in supporting the FBOs by providing clear advice on the requirements through guideline materials, informative sessions or direct training and tailored advice. Well-established communication between the inspectors and FBOs holds the potential to foster a culture of appreciation and motivation rather than solely strict enforcement.

¹² <https://www.fao.org/3/cc7238en/cc7238en.pdf>

¹³ https://food.ec.europa.eu/system/files/2023-10/acn_annual-report_2022.pdf

¹⁴ <https://storymaps.arcgis.com/stories/ca42d02e580441b79fd46a427abaab>

¹⁵ <https://www.fao.org/fao-who-codexalimentarius/committees/codex-regions/cceuro/about/food-fraud/en/>

¹⁶ <https://www.fao.org/sustainable-development-goals-helpdesk/champion/article-detail/food-control-system-assessment-tool/en>

17. **Recent research by the Asian Development Bank**¹⁷ provides insights on food safety capacity development strategies for the Central Asia Regional Economic Cooperation (CAREC) Members¹⁸. Harmonization of food standards with international recommendations is still work in progress, with challenges like differences in maximum residue limits (MRLs) and the lack of clear implementing provisions, overlapping jurisdictions or gaps in regulatory enforcement. For the international food safety standards to be implemented and followed by the CAREC Members, the report recommends the strategic programmes in the region to focus on enabling regulatory framework reforms, enhancing laboratory infrastructures, strengthening the capacities of value chain actors to adopt international food safety practices, and advancing network linkages and peer-to-peer institutional cooperation. Capacity building on strengthening the risk-based inspection system methodologies, awareness-raising on food safety practices at various stakeholder levels, availing of networking opportunities including establishing a regional food safety experts group, and importance of supporting specific investments for harmonized food safety frameworks are amongst the priority recommendations.

VI. DIGITALIZATION OF FOOD CONTROL AND FOOD SAFETY SYSTEMS

18. Use of digital technologies bring significant advancement to food safety management for both public authorities and the private sector. A well-functioning digital system for food control and inspection functions facilitates rapid collection of information, real-time assessment of food safety compliance levels, analyzing trends and patterns, and identifying emerging issues. For example, at production facilities, digital sensors could be used to control critical safety and quality parameters, take precautionary actions when needed. Using digital traceability systems facilitates immediate identification of food safety events and removal of unsafe food from the market. Digital platforms could also improve data sharing among official laboratories and training and education of various actors, enabling to reach larger audience. Border control authorities are also using digital tools including e-certification to facilitate cross-border flow of food and agricultural products.

19. Food safety authorities in the European region recognize the importance of digital systems. A recent study in Europe¹⁹ shows that 62.5 percent of the surveyed competent authorities use digital tools during food inspections. Challenges faced on the transition to digital systems included financial and technical constraints, slow transition due to complex structure of old systems, slow uptake of digital systems by personnel. Main reasons to switch to digital systems were to standardize the documentation, avoid duplications, and improve efficiency and reporting procedures.

VII. IDENTIFYING EMERGING FOOD SAFETY RISKS AND STRATEGIC PLANNING TO ADDRESS THEM

20. Early detection of known food safety hazards and timely prediction of potential ones enable Members to take necessary mitigation actions and develop innovative food control solutions²⁰. Recent and ongoing scientific research and technological advancements on early warning systems are promising, but their use is currently limited. To be more effective, there is a need for investing in these systems for generating and analysing data, opening them for access and use, and communicating risks appropriately. FAO publication on *“Early warning tools and systems for emerging issues in food safety”*²¹ aims to enhance the awareness of the available evidence-based innovative digital tools and provides technical background information to support their use for proactive food safety early warning.

21. Active since 2010, EFSA Emerging Risks Exchange Network (EREN)²², has identified eight areas as emerging risks: New Ovine Pestivirus closely related to classical Swine Fever Virus; overdosing of Vitamin D in Food Supplements; West Caucasian Lyssavirus; Shiga Toxin-Producing *Escherichia albertii*; health risks of coconut oil; potential emerging risks associated with decreased use of pesticides and fertilizers; revetoxins in French shellfish; and *Mycoplasma bovis* infections.²³

¹⁷ “Strengthening Food Safety Systems in the Central Asia Regional Economic Cooperation (CAREC) Member Countries: Current Status, Framework, and Forward Strategies” <https://www.adb.org/sites/default/files/publication/850436/cwwwp-011-food-safety-systems-carec-member-countries.pdf>

¹⁸ CAREC Members include Afghanistan, Kazakhstan, the Kyrgyz Republic, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan in Central Asia; (ii) Azerbaijan and Georgia in the South Caucasus; and (iii) Mongolia and the People’s Republic of China (PRC) in East Asia.

¹⁹ <https://www.sciencedirect.com/science/article/pii/S095671352300350X>

²⁰ <https://www.sciencedirect.com/science/article/pii/S1466856423001005>

²¹ <https://www.fao.org/documents/card/en?details=cc9162en>

²² <https://www.efsa.europa.eu/en/topics/topic/emerging-risks>

²³ <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/sp.efsa.2023.EN-8233>

22. As an example, the Food Standards Agency of the United Kingdom conducts projects under the Area of Research Interest²⁴ programme to investigate the emerging challenges and opportunities in food system. The outputs are used to inform food policies and regulatory actions.

23. The *Safe Food Knowledge Network* Ireland identified the current and emerging food safety issues as antimicrobial resistance (AMR), *Campylobacter* spp., climate change, *Clostridium* species, endocrine disrupting chemicals, foodborne viruses, pathogenic *E. coli* strains, *Listeria monocytogenes*, marine toxins, microplastics, mycotoxins, new supply chains (e.g. e-commerce, take away food deliver), plant toxins (e.g. alkaloids) and veterinary drug residues.²⁵

24. The WHO publication *Prevention and control of antimicrobial resistance in the food chain: guidance for food safety authorities in Europe*²⁶ gives an overview of the current context and recent developments regarding foodborne AMR in the Region. It also explores the role of food safety authorities in reducing AMR and provides updated and practical advice on the prevention and control of AMR at the animal–human–environment interface using the One Health approach.

25. The *Thinking About the Future of Food Safety*²⁷ report highlights the potential food safety concerns regarding eight major global drivers and trends, such as climate change, changing consumer behavior, new food sources and production systems, urban farming, microbiome science, technological and scientific innovation, the circular economy, and food fraud.

26. **Climate change** has diverse impacts on various biological and chemical food safety hazards resulting from the changes in temperature, altered precipitation patterns, extreme weather events. Increased occurrence of mycotoxins, the geographic distribution and persistence of foodborne pathogens, changing lifecycle of pests, increasing frequency of harmful algal blooms, increasing uptake of heavy metals by plants, and bioaccumulation of methylmercury in aquatic food chain are amongst the main issues identified.²⁸ In Europe, *The Climate Change and Emerging risks for Food Safety* (CLEFSA)²⁹ project published the effects specific to the EU. The report highlights the multidisciplinary nature of climate change issues, and calls for a One Health approach in addressing the relevant food safety aspects related to climate change.

27. **Consumer preferences** are a powerful factor in shaping agrifood systems, prompting the food industry to innovate on products, production, and packaging technologies.³⁰ This includes a shift towards plant-based products, edible insects, seaweeds, and methods to reduce food waste, driven by health, environmental, and ethical concerns. Consumers seek both a variety of ethnic and international foods, and also locally sourced and authenticity-verified products. These trends advance the risk assessment of novel foods, the updating labelling requirements, and the improvement of animal welfare laws. Food safety authorities in the region aim to be a reliable source of information for the consumers on food safety and nutrition. The *EFSA Food Safety Barometer 2022* indicates older age groups rely on television for information, while younger groups turn to online and social media sources. For both groups, doctors, scientists working at public institutions, and consumer organizations are the most trusted actors.

28. **Novel foods including cultured meat or plant-based alternatives to meat** are a growing research area and hold market potential for the food industry and gain the attention of the civil society and policy makers. While public opinion varies, their potential to address food scarcity and to reduce environmental footprint are recognized. Relevant food safety concerns include controlling hazards at different stages of the process including infectious viral diseases, contamination by veterinary drugs and possible allergic reactions.³¹ The European Union legislation emphasizes precautionary measures and thorough risk assessment of novel foods to protect consumer's health. Clear regulation and transparency in production processes aim to build public trust and lead to market growth.

²⁴ <https://www.food.gov.uk/research/emerging-challenges-and-opportunities>

²⁵ <https://storage.ning.com/topology/rest/1.0/file/get/10603758100?profile=original>

²⁶ <https://www.who.int/europe/publications/i/item/9789289058759>

²⁷ <https://www.fao.org/documents/card/en/c/cb8667en>

²⁸ <https://www.fao.org/3/ca8185en/CA8185EN.pdf>

²⁹ <https://www.efsa.europa.eu/en/topics/topic/climate-change-and-food-safety>

³⁰ <https://www.fao.org/3/cb8667en/cb8667en.pdf>

³¹ <https://www.sciencedirect.com/science/article/pii/S2665927124000480#bib96>

VIII. RECOMMENDATIONS

29. Members are encouraged to:

- i. Discuss and exchange information on priority food safety issues in the region;
- ii. Share examples of ongoing work at country level to address these issues; and
- iii. Suggest any important work in the region that should be pursued by the Member Countries, CCEURO, FAO and WHO.