1. Introduction

1.1 This document highlights evolving policies and related matters of FAO and WHO that could be of interest or relevance to the work of Codex and is structured as follows:

Matters arising jointly from FAO and WHO: 3.1 COVID-19, 3.2 Quadripartite (FAO/UNEP/WHO/FAO) work, 3.3 Radionuclides in foods, 3.4 World Food Safety Day, 3.5 UN Decade of Action on Nutrition 2016-2025, 3.6 The State of Food Security and Nutrition in the World 2022, 3.7 CFS, 3.8 Joint FAO/WHO’s work on seaweed safety, 3.9 Joint FAO/WHO’s work on risks and benefits of fish consumption, 3.10 Joint FAO/WHO Scientific Advice to Codex Alimentarius

Matters arising from FAO: 4.1 COVID-19, 4.2 Issues Arising from 170th Session of FAO Council, 4.3 FAO Strategic Priorities for Food Safety within the FAO Strategic Framework 2022-31, 4.4 AMR, 4.5 Development of the Vision and Strategy for FAO’s work in Nutrition, 4.6 Development of a Joint FAO-IAEA-IOC Technical Guidance for the Implementation of Early Warning Systems for Harmful Algal Blooms, 4.7 FAO’s work on microplastics and food safety, 4.8 Development of a FAO Technical guidance for the implementation of e-notification systems for food control, 4.9 FAO’s publication on Food Safety Foresight, 4.10 Literature review on the impact on the gut microbiome of substances of interest to food safety, 4.11 FAO’s work on “Food safety considerations to achieve best health outcomes under limited food availability situations 4.12 Laboratory methods supporting Codex standards, 4.13 Safety assessment of food derived from recombinant-DNA animals and microorganisms

Matters arising from WHO: 5.1 New One Health Unit and OHHLEP, 5.2 World Health Assembly Resolution and The Update of WHO Global Strategy for Food Safety, 5.3 World Health Assembly Resolution on Traditional Food Markets, 5.4 AMR, 5.5 WHO guideline on the dairy protein content in ready-to-use therapeutic foods for treatment of uncomplicated severe acute malnutrition, 5.6 Elimination of industrially produced trans-fatty acids, 5.7 Alcohol, 5.8 COVID-19, 5.9 Population sodium/salt intake reduction, 5.10 Burden of foodborne diseases, 5.11 UN FSS 2021, 5.12 WHO report on human health risks resulting from the exposure to microplastic from the environment, 5.13 Drinking water quality

2. Recommendations

2.1 CCEEXEC and CAC are invited to:

- note the information given in this document; and
- take necessary actions to best take into consideration the policies of the parent organizations.

3. Matters arising jointly from FAO and WHO:

3.1 COVID-19

3.1.1 As the global COVID-19 pandemic evolves, FAO and WHO continue their efforts to keep Member States informed about matters relating to COVID-19 and food safety.

3.1.2 FAO and WHO have jointly and individually put out numerous policy and guidance documents to aid their members in managing the current global crisis and minimizing the impact of the pandemic. All documents are available online as follows:


3.2 Quadrupartite (FAO/UNEP/WHO/WOAH) work

3.2.1 During the Executive Annual meeting in March 2022, the Tripartite partnership for One Health, bringing together the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO) and the World Organization for Animal Health (WOAH), formally became the Quadrupartite as it signed a Memorandum of Understanding1 with the UN Environment Programme (UNEP). Also, WHO took over the role of chair of the Quadrupartite from FAO for the year 2022 – 2023.

3.2.2 Responding to international requests to prevent future zoonotic pandemics and to promote health sustainably through the One Health approach, the Quadrupartite have developed the One Health Joint Plan of Action (2022-2026) (OH JPA). The OH JPA outlines the commitment of the four organizations to collectively advocate and support the implementation of One Health. It builds on, complements, and adds value to existing global and regional One Health and coordination initiatives aiming at strengthening capacity to address complex multidimensional health risks with more resilient health systems at global, regional and national levels. This plan covers six areas: (i) Strengthening health systems; (ii) Emerging and re-emerging zoonotic epidemics and pandemics; (iii) Neglected/endemic zoonotic diseases; (iv) Food safety hazards; (v) AMR; and (vi) Environment and Health. An implementation plan and a resource mobilisation plan will then be developed in 2022-2023 during WHO chairmanship of the Quadrupartite Secretariat.

3.2.3 The World Antimicrobial Awareness Week (WAAW) took place in November 2021, under the theme “Spread Awareness. Stop Resistance”. The FAO Action Plan on AMR 2021-2025 was launched during the WAAW 2021.

3.2.4 The Quadrupartite Joint Secretariat (QJS) has established a technical group to support and coordinate integrated surveillance activities across organizations. In June 2021, QJS opened a call for experts to establish the Quadrupartite Technical Group on Antimicrobial Resistance and Use Integrated Surveillance (QTG-AIS) for global guidance to Global Leaders Group on AMR and direct support to countries on this topic.

3.2.5 As a joint quadrupartite effort, FAO is contributing to develop the One Health priority research agenda on AMR. More specifically the project aims to identify research questions on AMR at the interface of the One Health sectors (human, animal, plant and the environment) to better prevent, control, and respond to AMR, and it focuses on five pillars: 1) transmission; 2) integrated surveillance; 3) interventions; 4) behavioural insights and change; and 5) policy and economics.

3.2.6 A tool to assess the implementation of Infection Prevention and Control (Agri-IPC), including water, hygiene, sanitation, and wastewater management (Agri-WASH), was developed.

3.3 Radionuclides in foods

3.3.1 The FAO, International Atomic Energy Agency (IAEA) through the Joint FAO/IAEA Centre, and WHO have worked together to develop guidance and technical information relating to radionuclides in food. Radionuclides of both natural and human-made origin can be found at various concentrations in food. These result in exposures to ionising radiation and internal radiation doses (chiefly from naturally occurring radioactivity). International radiation safety standards establish basic requirements for the protection of people and the environment against the harmful effects of ionising radiation. For example, one requirement relates to regulatory bodies and the establishment of specific reference levels for exposure to radiation from radionuclides in commodities such as food and drinking water. Guidance to advise on the implementation of this requirement was very limited, therefore FAO, IAEA and WHO worked together and produced technical information and methodologies with which to assess radionuclides in food in existing exposure situations (i.e., in normal circumstances, not in a nuclear or radiological emergency).

3.3.2 A pre-print Safety Report2 entitled ‘Exposure due to Radionuclides in Food Other Than During a Nuclear or Radiological Emergency. Part 1: Technical Material’ was published online in 2022. It includes information on the observed distributions of concentrations of key natural radionuclides in various foods, the

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use of dietary surveys to assess ingestion doses, and information on radionuclide concentrations in natural mineral waters, aquaculture and wild foods. A companion publication is in the final stages of being edited for publication and this will outline proposals for the management of exposures to radionuclides in food. These two new publications, in conjunction with the WHO Guidelines for Drinking-water Quality and the Codex Guideline Levels for Radionuclides in foods contained in the General Standard for Contaminants and Toxins in Food and Feed, will give a scientific and technical foundation for establishing specific reference levels for exposure to radiation arising from radionuclides in food. The FAO, IAEA and WHO are also producing a concise publication that will focus on natural radioactivity in food. The Codex Committee on Contaminants in Food (CCCf) welcomed the offer of the production of such an informative document for the food safety regulatory community.

3.4 World Food Safety Day

3.4.1 For the fourth time, WHO and FAO, the parent organizations of the Codex Alimentarius Commission, jointly facilitated the observance of the World Food Safety Day inviting governments, food businesses, non-profit organizations, academia, schools, universities and consumers around the world to come together on June 7 in order to draw attention and inspire action to help prevent, detect and manage foodborne risks. The campaign started on 7 March 2022 with the launch of the theme “Safer food, better health”. Over 450 initiatives took place in 109 countries including conferences, webinars, training sessions, workshops, sporting events and video campaigns. After two years of World Food Safety Day events taking place predominantly online, many organizers held hybrid or in-person events. WHO and FAO Directors-General opened the global webinar3 hosted at WHO HQ in Geneva by WHO, FAO and the Codex Secretariat on June 7. The news articles summarizing many of the activities are available on the WFSD website.4

3.5 UN Decade of Action on Nutrition 2016-2025

3.5.1 The UN Decade of Action on Nutrition, proclaimed by the UN General Assembly in 20165, aims to accelerate implementation of the ICN2 commitments, achieve the global nutrition and diet-related non-communicable disease (NCD) targets by 2025, and contribute to the realisation of the Sustainable Development Goals by 20306. The third progress report of the Secretary-General on the Implementation of the United Nations Decade of Action on Nutrition (2016-2025), compiled by the joint FAO/WHO Secretariat of the Nutrition Decade, was submitted to the General Assembly in April 2022, pursuant to General Assembly resolution 72/306. This report provides an overview on key developments for the period 2020-2021 towards achieving the global nutrition and related Sustainable Development Goals (SDG) targets. These include advances in nutrition-related activities within the six action areas of the Nutrition Decade’s Work Programme, advances in the science-base for improved nutrition, as well as other nutrition-related global processes. It also documents stakeholders’ engagement in nutrition, induced by the Nutrition Decade and relevant global dialogues, notably the UN Food Systems Summit (UNFSS) and the Tokyo Nutrition for Growth (N4G) Summit in 2021.

3.5.2 The Nutrition Decade’s Mid-term review (MTR) identified as thematic focus for priority action from 2021 to 2025: (i) access to and affordability of healthy diets; (ii) healthy food environments including regulating the reformulation and marketing of highly-processed energy-dense foods high in fats, sugars and/or salt; and (iii) the interconnection of nutrition with environment and climate change.7 Based on the MTR and other global processes, the areas identified requiring intensified action include among others: - addressing nutrition challenges within the context of food systems and climate change at the upcoming COP27; - strengthening accountability mechanisms to ensure the commitments made at the UNFSS and the N4G Summit in 2021 bring about real and sustained change; - aligning the UNFSS commitments and Coalitions and N4G commitments with the Decade’s modalities of engagement (i.e. SMART commitments and Action Networks) to advance the global nutrition agenda in a coherent way across multiple sectors and maintain political momentum to scale up nutrition action in the context of UNFSS follow-up and the UNFSS Coordination Hub; - strengthening UN interagency coordination mechanisms to support delivery of nutrition goals including in the context of the implementation of national food systems pathways.

5 https://undocs.org/A/RES/70/259
6 https://www.un.org/nutrition
7 www.fao.org/fsnforum/activities/consultations/decade-nutrition-priority-actions
3.6 The State of Food Security and Nutrition in the World 2022: Repurposing food and agricultural policies to make healthy diets more affordable (SOFI 2022)¹⁰

3.6.1 FAO, IFAD, UNICEF, WFP and WHO partnered to produce the joint report on The State of Food Security and Nutrition in the World 2022. The present report provides latest trends and analysis on the global food security and nutrition situation, including updated estimates on the cost and affordability of healthy diets. Furthermore, a stocktaking of the most predominant food and agricultural policy support currently in place around the world is presented to better understand the amount of support, the activities and actors mostly supported (or, on the contrary, penalized), and the pathways through which this support is pushing up the relative cost of nutritious foods and promoting unhealthy diets. A key recommendation of the report is that governments must start rethinking how they can reallocate their existing public budgets to make them more cost-effective and efficient in reducing the cost of nutritious foods and increasing the availability and affordability of healthy diets, sustainably and leaving no one behind.

3.7 CFS: CFS Voluntary Guidelines on Food Systems and Nutrition

3.7.1 The Committee on World Food Security (CFS) is the most inclusive international and intergovernmental platform for all stakeholders to work together to ensure food security and good nutrition for all. The Committee reports to the UN General Assembly through the Economic and Social Council (ECOSOC) and to FAO Conference. During its 47th plenary session in February 2021, CFS endorsed the CFS Voluntary Guidelines on Food Systems and Nutrition (VGFSyN).¹¹ The CFS, in October 2021, reiterated the role of all CFS stakeholders to translate the VGFSyN into specific actions at regional, national and local levels.¹²

3.7.2 Furthermore, FAO developed an evidence platform¹³ provides evidence and tools to support governments and stakeholders in the uptake of the VGFSyN. It gives easy access to specialized science and evidence-based standards, normative guidelines and recommendations from FAO, WHO¹⁴ and other UN Nutrition member agencies including those developed by Codex, for each of the 105 recommendations of the VGFSyN. WHO actively supported the dissemination and use of the CFS VGFSyN with a focus on a package of seven actions¹⁵ for improving the nutritional quality of food along the food supply chain and food environments, and collaborated with CFS during the WHO Food Systems Health talks week¹⁶ in a partner event on the ’CFS Voluntary Guidelines on Food Systems and Nutrition (VGFSyN) – Promoting healthy diets through sustainable food systems’.¹⁷

3.7.3 As member of the CFS Advisory Group, WHO contributed a nutrition and health lens to the work of CFS through thought leadership and technical expertise and guidance. At CFS49, WHO and FAO jointly presented the 3rd Progress report on the Follow-up to the Second International Conference on Nutrition (ICN2), including implementation of the United Nations Decade of Action on Nutrition¹⁸, that comprised the achievements of CFS AG and constituencies in advancing nutrition, and informed about the status of country level implementation of selected recommendations of the CFS VGFSyN. Furthermore, WHO in collaboration with the Civil Society and Indigenous Peoples’ Mechanism to CFS (CSM) and other Advisory Group members, supported CFS work on COVID-19 and co-organized the intersessional event ’Adopting Globally Coordinated Policy Guidance regarding Impacts of COVID-19 on Food Security and Nutrition’.¹⁹

3.8 Joint FAO/WHO’s work on seaweed safety

3.8.1 The world production of seaweed has more than tripled, up from 10.6 million tonnes in 2000 to 32.4 million tonnes in 2018. Increased cultivation and utilization of seaweed are expected to be important pillars of sustainable food security and a robust aquatic economy in the near future. Many factors can affect the presence of hazards in seaweed. However, legislation and guidance documents on seaweed production and utilization are generally still lacking. In this regard, FAO and WHO developed a background document that identifies food safety hazards linked to the consumption of seaweed and aquatic plants. This provides the basis for undertaking further work in this area. FAO and WHO considered that there was value in developing relevant Codex guidance on this subject presented this topic to the 35th Session of the Codex Committee on

¹⁵ https://www.who.int/publications/i/item/9789240035263
Fish and Fishery Products\textsuperscript{20} that agreed on considering further work in the area based on the background document. The document was consolidated during an expert meeting on held in October 2021 and will be published during 2022.

3.9 Joint FAO/WHO’s work on risks and benefits of fish consumption

3.9.1 New evidence has become available regarding the risks and benefits of fish consumption. For this reason, FAO and WHO are currently working with the Norwegian Institute of Marine Research, carrying out a systematic literature review that provide the necessary information to update the Report of the Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption\textsuperscript{21} published in 2010. This will be done through an expert consultation that will draw a number of conclusions regarding the health benefits and health risks associated with fish consumption and recommend a series of steps that Member States should take to better evaluate and manage the risks and benefits of fish consumption and more effectively communicate these risks and benefits to their citizens. The output of the Expert Consultation will set a framework for assessing the net health benefits or risks of fish consumption and that will also provide guidance to the Codex Alimentarius Commission in their work on managing risks, taking into account the existing data on the benefits of eating fish.

3.10 Joint FAO/WHO Scientific Advice to Codex Alimentarius

3.10.1 For more details regarding the work of the joint FAO/WHO scientific advice work to Codex Alimentarius, including the work of JECFA (Joint FAO/WHO Expert Committee on Food Additives), JEMRA (Joint FAO/WHO Expert Meeting on Microbiological Risk Assessment), JMPR (Joint FAO/WHO Expert Meeting on Pesticide Residues), JEMNU (Joint FAO/WHO Expert Meeting on Nutrition) as well as the work of ad-hoc expert committee, the Committee is invited to consider the information provided separately in CAC/45 INF/2.

4. Matters arising from FAO

4.1 COVID-19

4.1.1 FAO continues to work on COVID-19 response and recovery and delegates are invited to review all resources from FAO’s central platform: \url{http://www.fao.org/2019-ncov/en/}

4.2 Issues Arising from 170\textsuperscript{th} Session of FAO Council\textsuperscript{22}

4.2.1 The Council welcomed the Programme Implementation Report 2020-21 and in particular:

a) commended the Organization for the results achieved in implementing the Programme of Work 2020-21 within the exceptionally challenging context of the COVID-19 pandemic;

b) stressed the pivotal importance of assessed contributions in the implementation of the agreed programme of work;

c) highlighted the value to the Organization of unearmarked and lightly earmarked voluntary funding and requested an analysis of the role and effects of earmarked contributions in delivering the Strategic Framework 2022-31;

d) welcomed FAO’s enhanced attention to multilingualism and looked forward to continuing its efforts in the current biennium and to receiving further information on the implementation of the strategic policy framework for multilingualism at a future session;

e) encouraged FAO to continue strengthening its policies to promote a gender-sensitive approach to boost equal opportunities and participation, including at senior management level, given that women are the most vulnerable staff assets according to FAO relevant statistics and are underrepresented at senior levels;

f) welcomed the information provided on the FAO flagship publications and other initiatives and highlighted the importance of timely information and communication with Members on all FAO flagship and other initiatives, such as One Country One Priority Product;

g) commended the remarkable level of USD 2.7 billion in resources mobilized in the biennium and encouraged FAO to continue exploring different funding modalities to attract more flexible voluntary contributions; and

\textsuperscript{20} \url{https://www.fao.org/foa-who-codexalimentarius/meetings/detail/en/?meeting=CCFFP&session=35}

\textsuperscript{21} \url{https://www.fao.org/publications/card/es/c/e38f7e8d-a28f-5e91-93ee-389b006e4248/}

h) welcomed the Report and encouraged Management to continue working on the ongoing reform process, providing enhanced transparency, further information and enhanced accountability with all Members.

The Council endorsed the Programme Implementation Report 2020-21 and recommended that it be submitted to the 43rd Session of the Conference for its approval.

4.2.2 FAO Strategy on Climate Change 2022-2031

The FAO Council:

welcomed the FAO Strategy on Climate Change 2022-2031 with the integration of guidance from relevant Governing Body sessions, such as the 168th Session of the Council, the 2022 Regional Conferences and the 133rd Session of the Programme Committee, and appreciated the open, extensive, inclusive and transparent consultative process for its development;

underlined the importance of considering FAO's mandate and comparative advantage and the specific contexts, priorities and capacities globally and across regions, countries and the local level in implementing the Strategy;

stressed the need for mechanisms at the international, regional, national and sub-national levels to share information and experiences on the implementation of the Strategy and its action plan;

acknowledged sustainable agrifood systems have become widely recognized and adopted as an integral part of the solution to climate change and highlighted the importance of complementing and supporting countries' efforts in tackling climate change in agrifood systems;

highlighted the complementary, coherent and synergic nature of the FAO Strategy on Climate Change and the FAO Science and Innovation Strategy, as well as the FAO Strategy on Mainstreaming Biodiversity across Agricultural Sectors, which, in close articulation and mutually reinforcing, can act as a key driver for boosting sustainability and resilience within agrifood systems; and

[...] endorsed the FAO Strategy on Climate Change 2022-2031 [...] and highlighted the importance of mobilizing additional resources and developing an action plan for its effective implementation.

4.2.3 FAO thematic Science and Innovation Strategy


- welcomed the initiative to develop FAO's first ever Science and Innovation Strategy with the overall aim of strengthening FAO's capacities to deliver the Strategic Framework 2022-31 and the Sustainable Development Goals (SDGs) through science and innovation;
- appreciated the open, inclusive and transparent consultative process that led to its development;
- highlighted the complementary and synergistic links between the FAO Science and Innovation Strategy, the FAO Strategy on Climate Change, the FAO Strategy for Private Sector Engagement and with the FAO Strategy on Mainstreaming Biodiversity across Agricultural Sectors and stressed the importance of science and innovation in bringing about effective action;
- stressed the importance of strengthening the linkage with science-policy interface mechanisms;
- noted the importance of increasing investments and strengthening financial resource mobilization, including via public-private partnerships;
- concurred with the recommendations of the 133rd Session of the Programme Committee and endorsed the FAO Science and Innovation Strategy, [...] and highlighted the importance of developing an action plan for its effective implementation.

4.3 FAO Strategic Priorities for Food Safety within the FAO Strategic Framework 2022-31

4.3.1 The FAO Committee on Agriculture (COAG) emphasized at its 27th Session the connection between food safety and food security, as well as the role food safety plays in FAO's support in achieving MORE efficient, inclusive, resilient and sustainable agrifood systems. COAG 27 requested that FAO develop a new Food Safety Strategy to contribute to the 2030 Agenda.

4.3.2 In developing the FAO Strategic Framework 2022-31, the Organization outlined Programme Priority Areas (PPAs), a number of which are centered around or include important food safety activities [in particular, but not limited to, PPA better nutrition “Safe food for everyone” (BN3), PPA better nutrition “Transparent markets and trade” (BN5), and PPA better production “One Health” (BP3)]. Further to the World Health Assembly (WHA) resolution 73.5 to strengthen efforts on food safety, COAG 27 requested that FAO collaborate with the World Health Organization (WHO) to ensure that their respective food safety strategies are aligned and mutually supportive. Following the Committee’s request, and taking into account the global
strategic context, FAO developed a set of Strategic Priorities for its work on food safety, while maintaining its vision to provide “Safe food for all people at all times” and the mission “To support Members in continuing to improve food safety at all levels by providing scientific advice and strengthening their food safety capacities for efficient, inclusive, resilient and sustainable agrifood systems.” These Strategic Priorities are articulated around four Strategic Outcomes that result from an iterative consultative process led by FAO with its Members and international partner organizations, including, notably WHO. FAO and WHO have been working for many decades through a longstanding partnership to implement the Food Standards Programme (Codex Alimentarius), provide scientific advice, strengthen the capacities of FAO Members for a better participation in standard-setting processes of Codex Alimentarius, and reinforce their national food control systems. During the development of the FAO Strategic Priorities for Food Safety within the FAO Strategic Framework 2022-31 (hereinafter Strategic Priorities for Food Safety) and the WHO Global Food Safety Strategy, FAO and WHO maintained a standing and rigorous information sharing and discussion mechanism. Both organizations have committed to plan the development of a joint framework for implementation, following the endorsement of the respective strategic directions.

4.3.3 FAO expects the Strategic Priorities for Food Safety to act as an instrument that will spur investments and secure adequate human and financial resources for FAO to successfully implement its food safety programme and to provide international guidance, policy and advocacy for policymakers. These Strategic Priorities encourage a more consistent integration of food safety in the development of sustainable and inclusive agrifood systems, food security and nutrition policies, and agriculture development strategies.

4.3.4 The Committee for Agriculture has endorsed the FAO Food Safety Priorities in its 28th Session, the final report will become available on COAG’s website,23 where also all supporting documents can be found. Additional topics of interest to the committee that had been discussed at COAG28 include: Report of the First Session of the Committee on Agriculture’s Sub-Committee on Livestock (16–18 March 2022), One Health and related policy and technical guidance, The Future of Food and Agriculture – Drivers and triggers for transformation, Guidance on use of agricultural plastics and more.

4.4 **Antimicrobial resistance (AMR)**

FAO is implementing its Action plan on AMR 2021-2025 that consists of five objectives, through various AMR projects that deliver different AMR activities at global, regional and country level, as follows:

4.4.1 *Increasing stakeholders’ awareness and engagement.*

In July 2021, the FAO communications division organized a knowledge-sharing session on the impact of storytelling. These stories are being used to demonstrate FAO’s expertise on its different channels such as the website, social media, publications, and podcasts. A mission took place in Ghana in early November 2021, entitled "Proof of concept: Refining and Implementing Evidence-based Solutions Developed by the AMR Behaviour Change Community of Practice.”

The World Antimicrobial Awareness Week (WAAW) took place in November 2021, under the theme “Spread Awareness. Stop Resistance”. The FAO Action Plan on AMR 2021-2025 was launched during the WAAW 2021.

FAO also organized a virtual “Expert consultation on the sustainable management of parasites in livestock challenged by the global emergence of resistance”. The Consultation advised FAO to develop guidelines for the strategic control and management of acaricide and trypanocidal drug resistance and called for strengthened advocacy, awareness and resources mobilization to curb the problem.

FAO has signed a letter of agreement with University of Johns Hopkins/ ReACT for Seeding and Scaling One Health Awareness and Action on AMR, to support communication activities that are currently ongoing to foster policy dialogue and youth engagement in Africa, Asia and Latin America.

FAO started a webinar series entitled “Knowledge Dissemination Dialogues on AMR”. This is a series of data-rich monthly webinars that takes place on the 2nd Thursday of each month, 12:30-13:30 CET, to bring participants up to date on specific scientific and technical topics related to antimicrobial resistance (AMR) and how to contain it. This may include, among others, microbiology, epidemiology, environmental or behavioural science, plant and animal production and health, striving to cover a variety of topics/disciplines related to AMR in food and agriculture presented by professionals from diverse geographic areas and backgrounds.

FAO signed a letter of agreement with The College of Wooster, to conduct one experimental valuation auction to elicit Willingness To Pay (WTP) premia for products that carry a microbial food safety certification label.

4.4.2 *Strengthening surveillance, laboratory and research capacities.*

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FAO contributed to the development of the Codex Alimentarius Guidelines on integrated monitoring and surveillance of foodborne AMR. As a follow-up, FAO is now leading a project (named ACT, Antimicrobial Codex Texts, project), funded by the Republic of Korea, that focuses on the practical implementation of these guidelines (together with the revised Code of Practice to Minimize and Contain Foodborne AMR), at a global level and focusing on in six countries as a proof of concept (Bolivia, Cambodia, Colombia, Mongolia, Nepal and Pakistan). Following the FAO Action Plan on AMR 2021-2025, the compliance with and application of Codex general principles and recommendations for integrated surveillance is also being mainstreamed through the implementation of all currently active AMR projects developing practical guidelines and national strategies for monitoring and surveillance of AMR and AMU in food and agriculture. For instance, FAO Regional Office in Asia and the Pacific has developed guidelines that follow WOAH and Codex Standards for AMR monitoring and surveillance in healthy animals and food (published), in bacterial pathogens from terrestrial and aquatic animals, and guidelines for the monitoring of AMU at the farm level together with WOAH (the later ones in the publication pipeline). In Eastern Africa, the AMR/AMU Technical Advisory Group was established, and the AMR monitoring and surveillance guideline for bacteria from healthy food-producing animals is under finalization.

After the approval of the FAO Action Plan on AMR 2021-2025 by the 166th session of the FAO Council, the Organization committed to developing the building blocks that will catalyze national efforts to regularly generate, share and analyze reliable and comparable AMR data in food and agriculture and AMU data in plants and crops. Substantial progress has been made in this regard. During the second half of 2021, FAO completed a requirements analysis to inform the development of an IT solution for the International FAO AMR Monitoring (InFARM) data platform. Since early 2022, FAO is developing a prototype of the InFARM data platform and countries are being invited to participate in the pilot testing using their own data until the end of the year. The initial scope of InFARM will be to host AMR data in priority bacterial species of interest for public health, animal health and indicator bacteria from animals and food, according to international standards and recommendations of the Codex Alimentarius and the WOAH. This data platform will support national, regional and global surveillance efforts, providing countries with a mechanism to host and analyze AMR data from terrestrial and aquatic animals and food, and will complement the integration of data from other sectors under a global platform, initially called the Tripartite Integrated System for Surveillance of AMR and AMU - TISSA) that will be launched before the end of 2022.

The Quadripartite Joint Secretariat (QJS) has established a technical group to support and coordinate integrated surveillance activities across organizations. In June 2021, QJS opened a call for experts to establish the Quadripartite Technical Group on Antimicrobial Resistance and Use Integrated Surveillance (QTG-AIS) for global guidance to Global Leaders Group on AMR and direct support to countries on this topic.

Missions using the FAO Assessment Tool for Laboratories and AMR Surveillance Systems (FAO-ATLASS) both as external or self-assessment tool for the overall national AMR surveillance system for food and agriculture and/or only for laboratories have been conducted in 26 countries during 2021-2022 with the support from different projects (ACT project, EU-funded project in Latin America and the Caribbean, Fleming Fund, Russian Federation funded project, and USAID funded project). In May 2021, within the tripartite collaborative regional project “Working Together to Fight Antimicrobial Resistance”, six virtual training sessions on the FAO-ATLASS laboratory module were conducted in Latin America. In June 2022, under the umbrella of the same project, a follow up meeting to the virtual trainings on the FAO-ATLASS laboratory module was conducted to discuss lessons from the implementation of the tool, results, and way forward in identifying gaps to address through capacity building. The UISDC-SENASICA, Mexico (FAO Reference Centre for AMR) presented initiatives to support the region in this task.

In September 2021 and March 2022, within the Europe and Central Asia region, FAO has supported Armenia and Tajikistan by conducting in-person laboratory trainings on international standards for antimicrobial susceptibility testing for national experts. In addition, laboratory reagents and equipment have been procured, and samples are being collected from the field and analyzed to produce baseline AMR surveillance data in food-producing animals and food.

Support has been provided and it is ongoing to facilitate the participation of laboratories to external quality assurance/proficiency testing for improving laboratory capacities to isolate and identify bacterial species relevant for AMR surveillance along the value chain of food products of animal origin and for antimicrobial susceptibility testing in Asia and in Africa through the FAO Reference Centres for AMR in Denmark, Thailand, and United Kingdom of Great Britain and Northern Ireland.

As a joint Quadripartite effort, FAO is contributing to develop the One Health priority research agenda on AMR. More specifically the project aims to identify research questions on AMR at the interface of the One Health sectors (human, animal, plant and the environment) to better prevent, control, and respond to AMR, and it focuses on five pillars: 1) transmission; 2) integrated surveillance; 3) interventions; 4) behavioural insights and change; and 5) policy and economics.
4.4.3 Enabling good practices.

In collaboration with FAO Reference Centre in the United Kingdom, FAO has developed an introductory module of AMR e-learning courses with five lessons. In August 2021, FAO deployed a six-week course titled “Poultry farmer field school refresher course for facilitators and master trainers with a focus on antimicrobial resistance”. It was the first online course delivered through the Farmer Field School, and two countries from Southern Africa (Zambia and Zimbabwe) participated.

A tool to assess the implementation of Infection Prevention and Control (Agri-IPC), including water, hygiene, sanitation, and wastewater management (Agri-WASH), was developed.

Through the 2020 poultry housing design competition, the FAO-FAVA (Federation of Asian Veterinary Association) collaboration also generated several small-scale poultry housing designs that highlighted the importance of farm biosecurity and reinforced good animal husbandry practices. In 2021, on the second round of this collaboration, a pig housing design contest with consideration for biosecurity was carried out. FAO is working closely with feed sector stakeholders (e.g., feed industry and regulators) to promote the animal nutrition practices that reduce AMU identified in the FAO publication *Animal nutrition strategies and options to reduce the use of antimicrobials in animal productions*

4.4.4 Promoting responsible use of antimicrobials.

FAO has developed several initiatives for AMU at global and regional levels, including the following activities:

a. A set of surveys on the Knowledge, Attitude, and Practices (KAP) associated with AMU patterns was conducted in Africa, Asia and the Pacific, and Europe and Central Asia regions. The outputs of a KAP survey in the Lao People's Democratic Republic was published, resulting in a better understanding of drivers and motivations of using antibiotics in the country's livestock industry. Results also contributed to shaping the country’s AMR communication and advocacy campaign.

b. A guideline on AMU monitoring at farm level in collaboration with WOAH is under development.

c. Surveys assessing the state of adherence of pig farms to recommended practices on prudent use of antimicrobials were conducted in Cambodia, Indonesia, and Viet Nam.

d. FAO, is working towards strengthened engagement from the animal feed industry in the fight against AMR in Latin America and the Caribbean through an AMR project funded by the European Union (EU). In July 2022, FAO is convening a roundtable discussion entitled “Policy guidelines for the containment of AMR in the production and use of medicated feed - Moving towards decision-making”; between public and private sectors at the Regional Feed Latina Meeting, in Mexico City, Mexico.

e. Support is being provided to India, Indonesia, and Viet Nam in the mitigation of AMR risk associated with aquaculture, through improved understanding of related AMR/AMU problems.

f. FAO will launch a global movement for reducing the need for antimicrobials in agrifood systems is under preparation, which aims to reduce the use of antimicrobials in agriculture by 30-50% in 10 years. Regional stakeholder consultations have been organized in Asia and Africa separately.

g. FAO is collaborating with Healthy Livestock (network funded by EU) to promote good practices at the farm production level to reduce the need for antimicrobials and prudent use.

4.4.5 Strengthening governance and allocating resources sustainably.

FAO has continued working on the implementation of its methodology to revise and update the relevant legislation for AMR/AMU in food and agriculture sectors in more than 25 countries of Africa, Asia, Europe and Latin America. Furthermore, with the financial support of the AMR Multi-Partner Trust Fund (AMR MPTF), 5 in collaboration with WHO and WOAH and with inputs from UNEP, FAO is leading the work to upgrade its methodology and develop a “One Health Legislative Assessment Tool for Antimicrobial Resistance” that will cover all sectors, including human health.

In Peru, under the AMR MPTF project, FAO, PAHO and WOAH, will develop a mechanism to identify Budget lines for Results (Presupuesto por resultados) to assist the Ministries involved (Health, Agriculture and Production) in obtaining funds for AMR (through target allocations by the Peruvian Treasury).

With the financial support of Norway, the Organization prepared a legal report that analysed the national legal frameworks of Bolivia, Ecuador, Peru and Uruguay, as well as the Andean Community. Reports on AMR institutional coordination, including aspects of policy and legislation, were developed for Argentina, Chile, Colombia, Paraguay, Peru and Uruguay.

The countries in the Southern African Development Community (SADC) were supported in reviewing their regional model regulation on veterinary medicines and in assessing its implementation at national levels.
Other countries such as Armenia, Azerbaijan, Mozambique, Tanzania, and Zimbabwe, initiated or completed national analysis of AMR-relevant legislation.

A virtual regional workshop on legislation to address AMR and AMU in Africa for 300 participants, including AMR/AMU experts and legal experts from different sectors to identify the legal areas and instruments relevant for AMR/AMU, as well as to discuss potential options for addressing AMR through national and regional regulatory frameworks.

FAO has also been working to strengthen laws and regulations governing AMU in aquaculture in Asia. The Organization has also provided capacity building on good management practices for farmers to implement in animal health management and biosecurity control for prudent and effective AMU associated with aquaculture in India, Indonesia, and Viet Nam.

Hybrid workshops of the FAO Progressive Management Pathway for AMR (FAO-PMP-AMR) to support countries in implementing their AMR National Action Plans (NAPs) in food and agriculture activities were conducted in Lao PDR, Morocco, Nigeria, Senegal, Mongolia and Sierra Leone.

The One Health Multi-Lateral Funding programme (MUL) was developed to support FAO’s One Health activities, with four major outcomes built on the seven thematic components of the “One Health” Programme Priority Area (One Health PPA), in which AMR risk management is one of them. The One Health MUL will be implemented at global, regional and national levels.

4.5 Development of the Vision and Strategy for FAO’s work in Nutrition

4.5.1 After a thorough two-year consultative process, the Vision and Strategy for FAO’s Work in Nutrition (Nutrition Strategy) was adopted at the 166th Session of the FAO Council. This corporate document aims to guide and support the Organization in its mission to raise levels of nutrition.

4.5.2 FAO has embarked on action planning to move from strategy to concrete, context-specific action. At global level, the action focuses on the Organization’s normative function. The regional action planning, developed collaboratively by headquarters and decentralized offices, focuses on operationalizing its work in nutrition to the context, conditions, and priorities of each region. To this end, FAO has convened the Organization’s Technical Network on Nutrition, consisting of experts from all technical areas of FAO at headquarters and decentralized offices, to guide its work in nutrition and improve access to expertise, knowledge, and resources across the Organization.

4.5.3 Leading by example, FAO announced ambitious and measurable pledges\(^{24}\) at the Tokyo Nutrition for Growth Summit that reflect the Organization’s commitment to better policy and to global- and country-level action.

4.5.4 The next steps will include communications, normative work, and global engagement, by which FAO is maintaining attention on the critical role of MORE efficient, inclusive, resilient, and sustainable agrifood systems for healthy diets and improved nutrition, while leveraging opportunities offered by the four betters under its Strategic Framework 2022-31 to enhance this work. FAO will hold itself accountable to its efforts to fulfill its mission in nutrition by monitoring the indicators of the Accountability Framework and the Implementation Plan of FAO’s work in nutrition.

4.6 Development of a Joint FAO-IAEA-IOC Technical Guidance for the Implementation of Early Warning Systems for Harmful Algal Blooms

4.6.1 Harmful algal blooms (HABs) have significant impacts on food safety and security through contamination or mass mortalities of aquatic organisms. Improving HABs forecasting could be an opportunity to develop early warning systems for HAB events. Surveillance systems have been developed to monitor HABs in many countries; however, the lead time or the type of data may not be sufficient to take effective action for food safety management measures or for other reasons, such as transfer of aquaculture products to other areas. Having forecast or early warning systems could help mitigate the impact of HABs and reduce the occurrence of HAB events. In this regard, FAO took the lead in the development of a Joint FAO-IAEA-IOC Technical Guidance for the Implementation of Early Warning Systems for HABs through a number of expert meetings during 2021 and 2022. The document, that is expected to be published in 2022, will guide competent authorities and relevant institutions involved in consumer protection or environmental monitoring to implement early warning systems for HABs present in their areas, specifically for those affecting food safety or food security.

4.7 FAO’s work on microplastics and food safety

4.7.1 FAO worked closely with key partners and academia resulting in a report on “Microplastics in fisheries and aquaculture” published in 2017. The document describes the status of knowledge on the occurrence of microplastics in the aquatic environment and the implications for aquatic organisms and food safety for aquatic products. However, fisheries and aquaculture products are not the only contributor to the dietary exposure of microplastics and COFI-FT, in its seventeenth session, requested FAO to carry out an exposure assessment that included other relevant food commodities. In this regard, FAO developed a background document that compiles information on the occurrence of microplastics in all commodities, microplastics contamination along food value chains, and plastic migration from food contact materials and packaging, as well as a review of the existing literature on the toxicity of the most common plastic monomers, polymers, and additives. This process set up the basis for future risk assessment exercise and provides information that can be used for the provision of risk management options. The report was consolidated during an expert meeting held in January 2022 and to be published during 2022.

4.8 Development of a FAO Technical guidance for the implementation of e-notification systems for food control

4.8.1 Over a third of global agrifood exports now happen through global value chains. The complexity of food supply chains and the growing importance of global agrifood trade creates challenges for the management of food safety. Tracing the origins of food is also more complex and time-consuming. For this reason, many nations have implemented more rigorous systems of food control for agrifood imports, while many others need assistance to develop them. To this end, FAO developed a Technical guidance for the implementation of e-notification systems for food control[25] as part of a project entitled “Digital solutions in support of improved official food control services”. The aim is to provide guidance for the design and implementation of a food control e-notification system, one tailored to national needs and resources. This guidance includes the system’s legal basis, its structure and operational parameters, as well as its infrastructure and human resource requirements.

4.9 FAO’s publication on Food Safety Foresight

4.9.1 The FAO publication, “Thinking about the future of food safety – A foresight report”[26] outlines how major global drivers and trends will shape food safety in tomorrow’s world.

4.9.2 All food needs to be safe for human consumption; thus, appropriate food safety measures must form the core of food production in our agrifood systems. As agrifood systems are transformed to meet the 2030 Agenda for Sustainable Development, there is need to develop and maintain a deep understanding of the future opportunities, threats, and challenges ahead of us.

4.9.3 The publication discusses some of the most important emerging issues in food and agriculture with a focus on food safety implications, including climate change, changing consumer behaviour and food consumption patterns, new food sources and food production systems (namely edible insects, jellyfish, seaweed, plant-based alternatives, and cell-based food production), technological innovations and scientific advances, microbiome science, circular economy, and food fraud.

4.9.4 More information on the FAO Foresight programme can be found on the FAO Food Safety Webpage[27].

4.10 Literature review on the impact on the gut microbiome of substances of interest to food safety

4.10.1 As part of an organization-wide review of the impact of food systems on diet-related non communicable diseases, a literature review is conducted on the impact on the gut microbiome of substances of interest to food safety. Evidence of impact on human health, if any, will also be documented. As a first step, a methodology for systematic literature research and review has been established as well as a priority list of substances by categories (e.g. food additives, veterinary drugs residues, pesticides residues, micro plastics). Literature reviews focusing on the impact of pesticides residues, microplastics and veterinary drug on the gut microbiome have been submitted to peer review and are in publication process. The literature review on food additives is ongoing and will be submitted to peer review as soon as ready. While references and findings are compiled, a list of research and knowledge gaps is also being built to inform future potential discussions on challenges in research and how these can be addressed. A literature review on the interaction of the human gut microbiome on nutrition and health is also being prepared.

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[25] https://doi.org/10.4060/cc0850en
4.11 **FAO’s work on “Food safety considerations to achieve best health outcomes under limited food availability situations”**

4.11.1 Food security means that all people, at all times, have physical, social, and economic access to sufficient, safe and nutritious food that meets their food preferences and dietary needs for an active and healthy life. Food safety is interlinked with and essential to achieving food security.

4.11.2 In times of food insecurity, humanitarian relief in the form of food aid is often distributed by specialized organizations, such as the United Nations World Food Programme (WFP). Under conditions of food assistance, there are food safety considerations that must be taken into account so as to helpfully evaluate the impact on food availability while minimizing the risk of exposure to foodborne contaminants among the receiving population, who may already be vulnerable to malnutrition.

4.11.3 The FAO report on “Food safety considerations to achieve best health outcomes under limited food availability situations” lays out case studies for food safety consideration that might be helpful in situations where the impact of limited food availability is mitigated through food aid, which is meant to ensure acceptable health using two scenarios—lead in maize and fumonisins in cereal grains. Risk management and recommendations are also provided on how to address these food safety issues.

4.12 **Laboratory methods supporting Codex standards**

4.12.1 The Joint FAO/IAEA Centre provides support to FAO/WHO’s work in the areas of food authenticity and the control of residues and contaminants in food through applied research and development at its Agriculture and Biotechnology Laboratories in Seibersdorf and coordinated research involving institutes from Member Countries.

4.12.2 A coordinated research project focusing on food authenticity; “Field Deployable Analytical Methods to Assess the Authenticity, Safety and Quality of Food” was completed in June 2022 (D52040, 2017-2022). The project had 15 participating research institutes in 15 countries. Results from the project included 17 peer-reviewed scientific papers covering the quality assessment of argan, coconut and mustard oil; soybean meal; melamine in milk; and an international collaborative study with over 30 institutes in 23 countries, assessing the authenticity of oregano herb. Another coordinated research project, “The Implementation of Nuclear Techniques for Authentication of Foods with High Value Labelling Claims (INTACT Food, D52042, 2019-2024)” has 21 participating institutes in 19 countries and is mainly focused on protecting foods with strong regional or national identities that are vulnerable to counterfeiting or economically motivated adulteration due to their premium value. The outputs of these projects, including analytical methods, procedures and databases, will be of relevance mainly to the Codex Committees on Methods of Analysis and Sampling (CCMAS) and on Food Import and Export Inspection and Certification Systems (CCFICS).

4.12.3 Under the research project, “Integrated Radiometric and Complementary Techniques for Mixed Contaminants and Residues in Food” (D52041, 2017-2023), which involves 17 countries, 13 multi-class analytical methods for at least 300 residues/contaminants in 17 different food commodities have been developed/validated. A recent publication addressed the determination of veterinary drug residues, mycotoxins and pesticide residues in bovine milk by liquid chromatography electrospray ionization—tandem mass spectrometry. Work related to AMR has included, among others, “Evaluation of Antibiotic Dissemination into the Environment and Untreated Animals, by Analysis of Oxytetracycline in Poultry Droppings and Litter”, as well as “Determination of five antimicrobial families in droppings of therapeutically treated broiler chicken by high-performance liquid chromatography-tandem mass spectrometry”.

4.12.4 The coordinated research project “Depletion of Veterinary Pharmaceuticals and Radiometric Analysis of their Residues in Animal Matrices” (D52043) commenced in 2020 and will run until 2026. Stemming from deliberations of the 23rd and 24th CCRVDF sessions, particularly on the database on countries’ needs for MRLs, this project aims to generate data and knowledge to support the establishment of MRLs for certain veterinary drugs in food and to enable developing countries to play a greater role in the process. The project involves 17 research/regulatory institutions from Bangladesh, Brazil, Burkina Faso, Canada, China, Chile, Iran (Islamic Republic of), Korea (Republic of), Morocco, North Macedonia, Pakistan, Sudan, Uganda, Uruguay and USA. The project’s 2nd research coordination meeting took place as a virtual meeting from 28 February-4 March 2022. Eight analytical methods have already been developed or validated and are in use, and methodology for the identification of diaveridine metabolites in pigs has been published. Further collaborations and partnerships are sought, especially for the synthesis or provision of radiolabelled veterinary compounds, access to animal facilities and good laboratory practice (GLP)-certified laboratories, as well as provision of specialized training and/or benchmarking opportunities for the participants.

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4.12.5 Research commenced in 2022 on a new 5-year project, “Nuclear Techniques to Support Risk Assessment of Biotoxins and Pathogen Detection in Food and Related Matrices”. The project focuses on the development, validation, establishment and implementation of nuclear/isotopic analytical techniques and approaches to support rapid and cost-effective testing, investigation and control of biotoxins and pathogens of food safety, public health, zoonotic and antimicrobial resistance relevance. This research is necessary to facilitate global risk assessment as well as preparedness and ability to respond to current and future food safety and related emergencies associated with biotoxins and foodborne pathogens. The project involves 13 institutes in 11 countries, limited by available funding, but has attracted research proposals from several others. The project’s 1st research coordination meeting took place from 22-26 August 2022 in Vienna, Austria.

4.12.6 A compilation of analytical methods was published by FAO and IAEA in 2021, “Manual of Standard Operating procedures for Selected Chemical Residue and Contaminant Analysis”.

4.13 Safety assessment of food derived from recombinant-DNA animals and microorganisms

4.13.1 FAO closely collaborates with the Organisation for Economic Co-operation and Development (OECD) and the Convention of Biological Diversity (CBD) to ensure the synergy of three different databases namely: FAO GM Foods Platform; OECD BioTrack Product Database; and the Biosafety Clearing-House (BCH) of the Cartagena Protocol on Biosafety. The three organizations regularly meet to discuss collaborative activities. In relation to application of the OECD UI systems to FAO activities, the FAO GM Foods Platform (http://www.fao.org/gm-platform) employs the OECD UI systems as the key identifier system. However, the current focus of the FAO GM Foods Platform is safety assessment of foods derived from recombinant-DNA (r-DNA) plants authorized in accordance with the Codex “Guideline for the conduct of food safety assessment of foods derived from recombinant-DNA plants (CAC/GL 45-2003, annex III adopted in 2008).” Also currently the Platform does not address any other GM events (animals and microorganisms) as well as food derived from other types of biotechnologies such as gene editing. Since the Codex ad hoc inter-governmental task force on food derived from biotechnology (TFFBT) has been dissolved in 2007, FAO wishes to receive Codex Members’ inputs on whether or not the Platform can host safety assessment information of such products in the future.

4.14 The FAO Development Law Service (LEGN), in partnership with the FAO Food Systems and Food Safety Division (ESP) and the Resnick Center for Food Law and Policy of the University of California, has published a new FAO Background Paper: “International and national regulatory strategies to counter food fraud”. Following the most recent thinking on the topic, this publication follows the concept of food fraud described to occur when a fraudster intentionally deceives a customer about the quality and/or contents of the foods they wish to purchase, and such act is done to obtain an undue advantage, most often economic, for the fraudster. The vastness and complexity of food fraud, and the versatility in regulatory approaches can challenge national governments in their attempts to develop a coherent, focused approach to food fraud. To respond to this challenge, this publication introduces the available international regulatory guidance and the potential legal strategies at the national and regional level. It identifies and analyses some of the regulatory approaches to food fraud that countries have chosen and pays attention to the role of the private sector in food fraud regulation. Doing so, it aims to put more tools into the governments’ toolboxes to help them reduce food fraud and increase their consumers’ trust in their food systems.

4.15 Also in the area of food fraud, FAOLEGN and the FAO Regional Office for Asia and the Pacific have published Food fraud – Intention, detection and management - Food safety technical toolkit for Asia and the Pacific. This publication is written as a technical guide to support regulators understanding potential regulatory strategies to tackle food fraud.

5. Matters arising from WHO

5.1 New One Health Initiative and the One Health High Level Expert Panel (OHHLEP)

5.1.1 WHO established the One Health Initiative in the Division of Healthier Populations (UHC/HEP) to implement and scale up WHO’s One Health activities.

5.1.2 The One Health High-Level Expert Panel (OHHLEP) was instigated in May 2021 following the selection of 26 international multidisciplinary One Health experts. The OHHLEP has the primary role of scientific advisory board to the Quadripartite Partners (FAO, UNEP, WHO and WOAH), in supporting their provision of evidence-based scientific and policy advice on One Health relevant issues. Their initial focus is, 1) providing policy relevant scientific assessment of the emergence of health crises arising from the human-animal-environmental interface; and 2) providing guidance on the development of a long-term strategic approach to reducing the risk of zoonotic pandemics, with an associated monitoring and early warning framework, and synergies needed to institutionalize and implement the One Health approach, including in

30 https://www.who.int/groups/one-health-high-level-expert-panel
areas that drive pandemic risk. The OHHLEP’s advice contributes to enhancing strategic orientations and coordination, and in providing high political visibility for One Health.

5.1.3 For its initial two-year term, OHHLEP established four thematic groups (TG) that regularly meet for working sessions. The first TG, focused on One Health (OH) implementation, delivered a OH definition in late 2021, which has been broadly adopted in academia and amongst the Partners and other organizations. TG1 have also developed the OH Theory of Change to support OH implementation. This TOC complements that of the Partners found in the OH Joint Plan of Action, but has a broader scope. TG2 is focused on OH research and initiative inventory. They have compiled an inventory of OH programs among the Partners and will soon begin an assessment and gap analysis for evaluation tools of OH implementation. TG3 is finalizing a model One Health aligned surveillance system based on optimizing existing OH surveillance systems. TG4 has identified 11 upstream drivers of zoonotic spillover, currently under evidence review to facilitate the development of a risk assessment and mitigation strategy for these factors driving zoonotic spillover. In addition to regular Thematic Group discussions, OHHLEP meet regularly in fortnightly bureau meetings and full panel meetings, seven of which have taken place to date, including one physical meeting in Geneva. Further details about panel composition, Terms of Reference, Meetings and Thematic Groups as well as the annual report are available on WHO website.

5.2 World Health Assembly Resolution and The Update of WHO Global Strategy for Food Safety

5.2.1 The WHO Global Strategy for Food Safety 2022-2030 was adopted by the WHO World Health Assembly 75 in May 2022 (WHA 75(22)). It updates the last strategy in order to address current and emerging challenges, incorporate new technologies, and include innovative approaches for strengthening national food safety systems. This request was made by Member States in recognition that food safety remains a public health priority with a critical role in the achievement of the 2030 agenda for sustainable development.

5.2.2 In developing this strategy WHO has had the support from the Technical Advisory Group on Food Safety: Safer Food for Better Health, consulted widely with scientific experts, with WHO Regional Advisors for food safety, international partners such as FAO and WAHO, Member States and public consultation. Existing regional food safety frameworks and food safety strategies were also considered, as well as the recommendations and guidelines of the Codex Alimentarius and the FAO food safety priorities.

5.2.3 The WHO Global Strategy for Food Safety has been developed to guide and support Member States in their efforts to prioritize, plan, implement, monitor and regularly evaluate actions towards the reduction of the burden of foodborne diseases by continuously strengthening food safety systems and promoting global cooperation.

5.3 World Health Assembly Resolution on Traditional Food Markets

5.3.1 The WHO World Health Assembly 75 requested the WHO Director-General to update the interim guidance on reducing public health risks associated with the sale of live wild animals of mammalian species in traditional food markets in order to answer questions on the scope of the guidance, including the species that the guidance covers (mammalian species or mammalian species plus other species) and farmed or wild live animals.

5.3.2 The approved resolution requests WHO to develop plans to support country implementation of the updated guideline and to report on progress made in updating the interim guidance on reducing public health risks associated with the sale of live wild animals of mammalian species in traditional food markets – infection prevention and control and the country support plans to the Seventy-seventh World Health Assembly in 2024 and thereafter every two years until 2030.

32 https://www.who.int/groups/one-health-high-level-expert-panel/members
33 https://www.who.int/groups/one-health-high-level-expert-panel/members
34 https://www.who.int/groups/one-health-high-level-expert-panel
35 https://www.who.int/publications/m/item/one-health-high-level-expert-panel-annual-report-2021
36 https://apps.who.int/gb/ebwha/pdf_files/WHA75/A75(22)-en.pdf
37 https://apps.who.int/gb/ebwha/pdf_files/WHA75/A75(23)-en.pdf
5.4 Antimicrobial resistance

5.4.1 WHO developed and published in March 2021 the Extended-spectrum beta-lactamase (ESBL) Escherichia coli (Ec) Tricycle protocol as an initiative to support countries with the implementation of an Integrated Multisectoral Surveillance System on AMR with a One Health approach. The ESBL Ec Tricycle protocol is based in one indicator the ESBL producing E. coli in three main sectors, human, food animals and environment. The protocol is being implemented in in four WHO Regions, the African (Burkina Faso, Ghana and Madagascar, Nigeria, Senegal and Zimbabwe), Eastern Mediterranean (Pakistan and Jordan), South East Asian (Indonesia, Nepal and India) and Western Pacific Regions (Malaysia). In 2022, the protocol will be implemented in Zambia, Cameroon, Morocco, Iran (Islamic Republic of), Sudan and Bhutan.

5.4.2 WHO established in October 2021, the Advisory Group on Critically Important Antimicrobial for Human Medicine. This advisory group is working and developing the 7th Revision of the WHO CIA List at the end of 2022.

5.4.3 WHO is in the final stages of developing the WHO Essential Medicines List Antibiotic Book, which provides guidance on the choice of antibiotic, dose, route of administration and duration of treatment for common infectious syndromes in alignment with the recommendations for antibiotics included in the WHO Model List of Essential Medicines and the WHO AWARe (Access-Watch-Reserve) classification of antibiotics.

5.5 WHO guideline on the dairy protein content in ready-to-use therapeutic foods for treatment of uncomplicated severe acute malnutrition

5.5.1 WHO completed the process to review the efficacy, effectiveness, and safety of the new RUTF formulations (containing alternative sources of protein (non-dairy) or less than 50% of proteins coming from milk or other dairy products) for treating infants and children aged 6 months or older with severe acute malnutrition who have appetite and no medical complications. The WHO normative process also includes retrieval, assessment and summary of evidence on values and preferences (i.e. cultural, religious), inter/intra-household sharing, acceptability, adherence, equity, feasibility, accessibility, sustainability and cost-effectiveness in different settings. For this purpose, WHO convened the first meeting of the WHO guideline development group – RUTF on 7 November 2019. The main objectives of this meeting were to: i) introduce members of the guideline development group to the WHO guideline development process, including Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology; ii) discuss PICO questions and prioritization of the outcomes; iii) agree on the timeframe for the guideline process. The second meeting of the WHO guideline development group was held virtually on 21 – 24 July 2020, with the objective to review and discuss the results of the systematic reviews and formulate recommendations for the efficacy, safety, and effectiveness of ready-to-use therapeutic foods (RUTF) with reduced or no milk-protein content. The following recommendation was agreed upon based on the available evidence to date: Standard RUTF (with at least 50% of protein coming from dairy products) is recommended for outpatient treatment of children with severe acute malnutrition. Use of RUTF formulations with less than 50% of protein from dairy products for outpatient treatment of children with severe acute malnutrition is encouraged within research and evaluation settings.

5.6 Elimination of industrially produced trans-fatty acids

5.6.1 In May 2018, WHO called for the global elimination of industrially produced of trans-fatty acids (TFA) by 2023, highlighting as a priority target of the WHO’s 13th General Programme of Work (GPW13) which guides the work of WHO during 2019 – 2025. The REPLACE action framework was launched in May 2018 and the six REPLACE modules were released in May 2019 to provide technical guidance and practical steps to help governments take relevant actions to achieve elimination of industrially produced TFA from their national food supply. To track and document progress achieved by countries in eliminating industrially produced TFA, the first annual progress report was published in 2019 followed by the second annual progress report in 2020 and the third in 2021. The fourth progress report is currently under preparation to encourage countries and stakeholders accelerate their actions towards achieving the 2023 TFA elimination target.

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38 https://www.who.int/publications/i/item/who-integrated-global-surveillance-on-esbl-producing-e._coli-using-a-one-health-approach
39 https://www.who.int/publications/i/item/9789240022270
40 The 74th World Health Assembly held in May 2021 agreed to extend the end date of the 13th General Programme of Work, which was originally for 2019–2023, to 2025. (https://apps.who.int/gb/ebwha/pdf_files/WHA74/A74_R3_en.pdf)
41 https://www.who.int/nutrition/topics/replace-trans-fat
42 https://apps.who.int/iris/rest/bitstreams/1300149/retrieve
43 https://apps.who.int/iris/rest/bitstreams/1389769/retrieve
5.6.2 WHO has been undertaking a series of capacity-building workshops to strengthen countries’ regulatory capacities for developing implementing and enforcing policy measures to eliminate industrially produced TFA in the food supply. In addition, to further support the monitoring of best-practice TFA policies, WHO has also provided laboratory capacity-building workshops and individual technical support to support countries’ efforts in strengthening their laboratory capacities.

5.6.3 WHO will soon be launching a Validation Programme for Trans Fat Elimination. It aims to accelerate progress towards the 2023 global goal by providing recognition to countries that have a normative framework in place to eliminate industrially produced TFA from their national food supplies. To qualify for validation, countries must demonstrate that a best practice TFA policy has been implemented, and that effective monitoring and enforcement systems are in place.

5.7 Alcohol

5.7.1 The 75th World Health Assembly adopted the action plan (2022-2030) to effectively implement the Global strategy to reduce the harmful use of alcohol as a public health priority that was requested by the WHO Executive Board (decision EB146(14)) and developed in consultation with Member States and relevant stakeholders. The action plan, \textit{inter alia}, propose actions for Member States and the WHO Secretariat as well as measures for economic operators in alcohol production and trade. The action plan propose for Member States to ensure “appropriate consumer protection measures through the development and implementation of labelling requirements for alcoholic beverages that display essential information for health protection on alcohol content in a way that is understood by consumers and also provides information on other ingredients with potential impact on the health of consumers, caloric value and health warnings”. The proposed actions for WHO Secretariat include development of “technical guidance on the labelling of alcoholic beverages to inform consumers about the content of products and health risks associated with their consumption. The technical report on the harmful use of alcohol related to cross-border alcohol marketing, advertising and promotional activities, including targeting youth and adolescents, was published in May 2022.

5.7.2 Following the publication of the Global Status Report on Alcohol and Health in 2018, the WHO Secretariat implemented the Global survey on progress attained with SDG 2030 health target 3.5 with a substantial alcohol policy section that included the questions about the labelling of alcoholic beverages with a focus on practices of displaying consumer information and health warnings and legal requirements for that. The next round of data collection from Member States is planned for the end of 2022-2023 and the collected data will provide a baseline for monitoring progress with implementation of the above-mentioned global alcohol action plan 2022-2030. In addition, WHO EURO undertook in-depth analysis of the situation with alcohol beverage labelling in the European region that highlights the need for specific labelling policies to be developed as a part of a larger policy package. The issue of alcohol beverage labelling and provision of health-related consumer information is on the agenda of annual dialogues of WHO Secretariat with producers, distributors and marketers of alcoholic beverages.

5.8 COVID-19

5.8.1 A Healthy@Home Healthy Diet webpage has been published including food safety tips and a video on the “5 keys to safer food”. A Healthy Diet information brief “Healthy diets to maintain nutritional well-being during the COVID-19 pandemic” is soon to be published bringing together main content and messages on healthy diets based on existing WHO guidelines and other WHO documents.

5.8.2 WHO is assessing health service disruption due to COVID-19 including immunization, NCDs, mental health and essential health services (EHS) and these pulse surveys are happening on a quarterly basis. It contains information on the management of moderate and severe malnutrition as well as nutrition linked health services like antenatal care, postnatal care for women and newborns, WHO has published a country and regional dashboard for tracking continuity of essential health services during the COVID-19 pandemic.

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45 Two best-practice TFA policy alternatives are: 1) Mandatory limit of 2 grams of TFA per 100 grams of total fats and oils in all foods; and 2) Mandatory ban on the production or use of partially hydrogenated oils (PHO) as an ingredient in all foods.

46 https://www.who.int/publications/i/item/WHO-MSD-UCN-ADA-22-01


49 https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/healthyathome/healthyathome---healthy-diet

5.8.3 Q&As for pregnancy and childbirth, breastfeeding, food safety for consumers, and food safety authorities have been developed. WHO, in partnership with IFE Core Group, UNICEF and USAID developed a frequently asked questions on COVID-19 vaccines and breastfeeding based on WHO SAGE interim recommendations.

WHO has published the following documents on Nutrition and Food Safety related to COVID-19:

- Reducing public health risks associated with the sale of live wild animals of mammalian species in traditional food markets
- COVID-19 and Food Safety: Guidance for competent authorities responsible for national food safety control systems
- COVID-19 and Food Safety: Guidance for Food Businesses
- Breastfeeding and COVID-19
- Maintaining essential health services: operational guidance for the COVID-19 context interim guidance
- Community-based health care, including outreach and campaigns, in the context of the COVID-19 pandemic
- Frequently asked questions: COVID-19 vaccines and breastfeeding based on WHO interim recommendations, 12 August 2021
- Multi-sectoral impacts of the COVID-19 pandemic on nutrition outcomes: an analytical framework
- Global pulse survey on continuity of essential health services during the COVID-19 pandemic

5.9 Population sodium/salt intake reduction

5.9.1 Following the adoption of the UN Political Declaration on non-communicable diseases in 2011, in 2013, the World Health Assembly endorsed the Global action plan for the prevention and control of non-communicable diseases 2013-2020, together with nine global NCD targets which include a 30% relative reduction in mean population intake of sodium by 2025 with a goal of <2000mg/day. In 2017, four sodium reduction interventions were included in the updated Appendix 3 of The Global action plan which was published as the “best buys” and other recommended interventions for the prevention and control of NCDs. These four best buy interventions included: 1) Reduce salt intake through the reformulation of food products to contain less salt and the setting of target levels for the amount of salt in foods and meals, 2) Reduce salt intake through the establishment of a supportive environment in public institutions such as hospitals, schools, workplaces and nursing homes, to enable lower sodium options to be provided, 3) Reduce salt intake through a behaviour change communication and mass media campaign, 4) Reduce salt intake through the implementation of front-of-pack labelling.

5.9.2 In 2016, WHO published the SHAKE Technical Package for Salt Reduction, which was designed to assist Member States with the development, implementation and monitoring of salt reduction strategies to enable them to achieve a reduction in population salt intake. In 2021, WHO published the Action Framework for developing and implementing public food procurement and service policies to promote healthy diets which includes the reduction of salt/sodium intakes. The Action Framework provides an overview of how to develop (or strengthen), implement, assess compliance with, and evaluate, the effectiveness of a public food procurement and service policy.

5.9.3 In May 2021, WHO launched the Global Sodium Benchmarks for different food categories as part of WHO’s efforts in reducing the sodium intakes and achieving the global sodium reduction target. The global benchmarks were developed to call for accelerated action from Member States in scaling up their efforts to reduce their populations’ sodium intake. They serve as guide for countries in setting up their own national sodium targets, and as a basis for dialogue with the food and beverage industry to improve the food

64 https://apps.who.int/iris/bitstream/handle/10665/250135/9789241511346-eng.pdf
65 https://www.who.int/publications/item/9789240018341
66 https://www.who.int/publications/item/9789240025097
environment at the global level. WHO is currently updating the Global Sodium Benchmarks that take into account newly established and identified national sodium targets. The updated version aims to include Global Sodium Benchmarks for the six pending sub-food categories, for which the benchmarks were not set initially.

5.9.4 In December 2021, as part of the Nutrition for Growth (N4G) Tokyo Summit events, WHO and the Ministry of Health, Labor and Welfare (MHLW) of the Government of Japan organized a side event to highlight various ways in which countries are transforming food environment to facilitate the reduction of sodium intake among their populations. These included how they developed and implemented policies for sodium reduction, outcomes/impact of those policy actions they have implemented, challenges faced and how these were addressed and how sodium reduction policies were relate to other policy actions to improve food environment which they were implementing or were planning to implement (e.g. nutrition labelling policies, fiscal policies, policies to restricting marketing foods to children, school food and nutrition policies etc.) in their respective countries. A follow-up meeting is being planned at the occasion of the 22nd International Congress on Nutrition (IUNS-ICN) to be held in Japan in December 2022.

5.9.5 On June 4th, during the Geneva Health Week Food Systems Dialogues, WHO launched the Sodium Country Scorecard, which depicts standardized information on sodium reduction policies and actions on an interactive platform in GINA (https://extranet.who.int/nutrition/gina/en/scorecard/sodium). This single platform for sharing standardized information on sodium reduction policies and action will enable monitoring of global progress in implementing legislative and other measures to reduce sodium intake and increased accountability towards political commitments. Building on the scorecard, WHO plans to release a Global Sodium Report in 2022 that will describe the current global, regional and national situations and progress in countries; and discuss challenges and opportunities for future action.

5.9.6 To formulate recommendations on the use of low-sodium salt substitutes, WHO held a four-day meeting of the WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Diet and Health in November and December 2021. Based on the discussion held, a contextual review is finalized, and a systematic review is now being finalized for publication. Once the draft guideline is ready, the public consultation process will start.

5.10 **Burden of foodborne diseases**

5.10.1 Given a new WHO mandate to update its global burden estimates of foodborne diseases by 2025, WHO re-established in May 2021 its technical advisory group, “Foodborne Disease Burden Epidemiology Reference Group (FERG)” with 26 new members under specific terms of reference. Three expert meetings were organized in July, October 2021, and April 2022 respectively. FERG finalized its three-year strategic framework on three primary activities, including (1) estimating the global burden of foodborne diseases, (2) providing country supports on the national estimation of foodborne disease burden, and (3) developing a methodology to monitor progress against the new global food safety strategy with appropriate indicators and targets. FERG is advancing a discussion to consider expanding a list of hazards for the next estimates, including estimation of chemicals and toxins that were not included in the previous estimation efforts. New systematic reviews and other studies will be commissioned, and a call for expressions of interests will be publicized to collect candidates for conducting these reviews and studies on WHO website. The fourth expert meeting is planned on 15-18 November 2022 in Geneva, Switzerland.

5.10.2 WHO published in June 2021 a new guidance entitled, “Estimating the burden of foodborne diseases: A practical handbook for countries”, aiming to help Member States assess causes, magnitude and distribution of foodborne diseases through the estimation of the public health burden of foodborne diseases at the national level. The handbook also aims to promote national studies in order to better allocate resources efficiently for prevention, intervention and control measures. English, French, Spanish and Russian versions are already available, and executive summary is available in all six UN languages. Presentation modules are available in all UN languages.

5.11 **UN Food Systems Summit 2021 (UNFSS)**

5.11.1 In 2021 the United Nations Food Systems Summit (UNFSS), convened by the UN Secretary General, set the stage for global food systems transformation to accelerate achievement of the Sustainable Development Goals by 2030. As a UN anchor agency, the World Health Organization (WHO) advocated for health to be central to all food systems discussions and UNFSS processes. Recognizing that food lies at the heart of human, ecosystem, and animal health and wellbeing and that current food systems are making us ill,

67 https://www.who.int/groups/foodborne-disease-burden-epidemiology-reference-group-(ferg)
68 https://cdn.who.int/media/docs/default-source/food-safety/call-for-experts/tor-for-reference-ferg-31aug2020.pdf?sfvrsn=b0a3d1f_8
69 https://www.who.int/groups/foodborne-disease-burden-epidemiology-reference-group-(ferg)
70 https://www.who.int/publications/i/item/9789240012264
driving climate change and undermining the health of ecosystems, WHO advocated for transformation to the way we grow, harvest, process, transport, market, consume and dispose of food. Such transformation is essential to deliver healthy diets from sustainable food systems for all, to uphold the right to food, and advance multiple SDG targets.

This call was articulated in the new narrative on food systems delivering better health and reflected in the UNFSS outcomes, with the call for healthy diets from sustainable food systems the number one priority echoed by youth representatives, Member States food system transformation pathways and through the establishment of the Coalition of Action for Healthy Diets from Sustainable Food Systems for Children and All (HDSFS).

As a result of the UNFSS processes, WHO has a range of follow-up actions to drive forward food systems transformation for health. These efforts focus on supporting the implementation of Member States food system pathways and effective policy packages to transform food environments, as well as aligning, mobilizing and supporting action towards healthy diets from sustainable food systems under the umbrella of the School Meals and HDSFS Coalition. They also complement and support initiatives such as efforts to improve food environments, promote a One Health approach to food systems transformation, the WHO Global Strategy for Food Safety, and the WHO Acceleration Plan to STOP Obesity.

Specifically, WHO offers its guidance and guidelines, implementation tools and databases and technical assistance to support the implementation of Member States transformation pathways. This includes specific focus on the WHO package of priority food systems for health policy actions which are long standing, proven, cost-effective, implemented, scalable, endorsed and monitored by WHO to create healthy food environments and address the double burden of malnutrition. Priority actions include fiscal policies, healthy public food procurement, improved food safety, product reformulation, fortification, nutrition labelling and protecting children from harmful marketing practices.

5.12 WHO report on human health risks resulting from the exposure to microplastic from the environment

5.12.1 WHO has been working on a project to evaluate the human health risks associated with exposure to microplastics from the environment. A report has been published. Generally, it was concluded, the characterization and quantification of exposure to nano- and microplastics and the associated human health effects are incomplete and insufficient for an assessment of risk, although the potential effects of nano- and microplastics on human health should continue to be monitored. As more data becomes available for better understanding of mechanisms of action and subsequent effects, it may be possible to characterize and quantify human health risk in the future.

5.13 Drinking water quality

5.13.1 On 21 March 2022, WHO published the updated Guidelines for drinking-water quality (4th edition incorporating the 1st and 2nd addenda). Of relevance to the Codex standard on natural mineral water, WHO re-established a guideline value for manganese. In this updated guideline, a provisional guideline value of 0.08 mg/L was established. The guideline value is designated as provisional due to the high level of uncertainty in the database, as reflected in the composite uncertainty factor of 1000 applied to derive the guideline value. See the manganese fact sheet in chapter 12 of the Guidelines for summary information on the basis of the guideline value and considerations for management. Further information on the history of guideline value development and the background document that provides the scientific basis for the guideline value update can be accessed on WHO homepage.

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[71] https://www.who.int/publications/i/item/9789240031814
[74] https://www.who.int/publications/i/item/9789240035263
[75] https://www.who.int/publications/i/item/9789240049543
[76] https://www.who.int/publications/i/item/9789240039919
[77] https://www.who.int/publications/i/item/9789240051324
[78] https://www.who.int/publications/i/item/9789240051348
[79] https://www.who.int/publications/i/item/9789240045084