



JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

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FAO AND WHO CAPACITY DEVELOPMENT ACTIVITIES

(Prepared by FAO and WHO)

1. Executive summary

This paper has been prepared by FAO and WHO to provide information on key areas of work to support countries to build food safety and nutrition related capacities.

FAO and WHO capacity development work supports the work of Codex by: i) working with countries to strengthen their national food control systems; ii) developing capacities and technical skills to more effectively participate in Codex work; iii) developing a range of guidance tools based on Codex, enabling countries to better understand and use Codex texts in their context; iv) facilitating policy and technical dialogue between governmental authorities and private sector (farmers and agri-business); and v) supporting data generation and information-sharing activities which facilitate a greater pool of data from an increased number of countries as a basis for decision-making.

FAO and WHO participate in the World Trade Organization Standards and Trade Facility platform to coordinate their assistance with major donors and other agencies¹.

2. Work implemented jointly by FAO and WHO

2.1. FAO/WHO Food Control System Assessment Tool

The FAO/WHO food control system assessment tool allows Member Countries to assess, in a structured and transparent way, the performance of their national food control systems (NFCS), identify priority areas for capacity development, and monitor progress over time. The tool is available online on the FAO and WHO websites in five official languages². Recent videos showcasing its use in Africa can be viewed on the FAO website³.

Upon request, FAO and WHO provide technical support to assist Member countries in utilizing the tool to assess their NFCS.

FAO provided support to the following countries which concluded their assessments in:

- Malawi, Sudan and Tunisia (2019);
- Emirate of Abu Dhabi (United Arab Emirates, UAE) (2021);
- the Bahamas and Guyana (2022);
- Comoros, Djibouti, Egypt, Eswatini, Kenya, Mauritius, Rwanda, the Seychelles, Uganda and Zimbabwe (2023-2024), (regional project funded by the European Union). These assessments fed into the "African Union (AU) SPS for Africa" programme, also funded by the EU, in support of the implementation of the African Continental Free Trade Area (AfCFTA) and of the AU Commission SPS policy framework. They also supported the preparation by FAO of a regional trends analysis on

¹ for more information: <https://standardsfacility.org/stdf-annual-reports/>

² <https://www.fao.org/food-safety/food-control-systems/assessment-tool/en/>

³ <https://youtu.be/u8up68n30zo>

capacity development needs proposing specific training curricula to ensure alignment of countries food control systems to achieve the objective of the Annex 7 (SPS matters) of the AfCFTA⁴.

- Azerbaijan, Barbados, Belize, Belarus, Chile, Georgia, Pakistan and the UAE in 2025; and
- Step 1 of the assessment (country profile) were implemented in Burkina Faso, Niger and Senegal under a project funded by the African Development Bank.

Assessments are ongoing with FAO facilitation in Uzbekistan. Regular updates are also posted on <https://www.fao.org/food-safety/news/en/>.

WHO also supported assessments conducted in Cabo Verde, Cameroon, Panama and Timor-Leste, and facilitated assessment activities in Tajikistan.

All reports result in strategic plans ready for joint use by the respective Governments and financial and technical partners to support food safety capacity development programmes that converge towards consistent goals, aligned with Government's broader political agenda (for example, food security). In the recently concluded Pakistan and Uzbekistan assessments, a new training course on food control systems was introduced as a complementary item to better understand what is at stake during the assessment.

2.2. Early warning/alert, preparedness and response to food safety incidents (INFOSAN)

The Secretariat of the FAO/WHO International Food Safety Authorities Network (INFOSAN) continued to strengthen the network and develop capacity for preparedness and response to food safety incidents, (250 incidents in 2025, including large-scale and complex cases). Notably, an infant botulism outbreak in the United States of America in 2025 associated with infant formula highlighted the additional complexity created by cross-border e-commerce. In 2026, contamination of infant formula with cereulide toxin⁵ illustrated how a single contaminated ingredient distributed to multiple companies in different countries can result in the production of hundreds of contaminated products distributed across multiple markets, in this case affecting over 100 countries. During such incidents, the INFOSAN Secretariat maintained close engagement with national Emergency Contact Points, encouraging rapid information exchange to enable timely risk management actions.

To further support capacity building for food safety emergencies, the Ministry of Food and Drug Safety, Republic of Korea, was formally designated as a WHO Collaborating Centre for FAO/WHO INFOSAN in November 2025.

2.3. FAO/WHO workshop on risk assessment of food allergens

FAO and WHO organized a workshop on precautionary labelling (PAL) and risk assessment of food allergens in China, in September 2025, prior to the FAO/WHO Coordinating Committee for Asia (CCASIA23), gathering over 60 participants from 11 nations across Asia, Africa, and Latin America. The purpose was to enhance the capacity of Member Countries in conducting risk assessments for food allergens, ensuring alignment with the latest international standards. By fostering collaboration and knowledge-sharing, the event strengthened national food safety frameworks to better address food allergen risks, improve compliance with global allergen labelling and control requirements and support harmonization of regulatory approaches.

3. FAO-led capacity development

FAO's capacity development work focuses on strengthening food safety and control governance by supporting competent authorities in creating environments aligned with international standards and providing technical support for effective national food control systems. Examples illustrating this work, organized around FAO's Strategic Priorities for Food Safety, include:

Strategic Outcome 1: Intergovernmental and intersectoral coordination of food safety governance is reinforced at all levels

Activities related to One Health and Antimicrobial Resistance (AMR)⁶.

Strategic Outcome 2: Sound scientific advice and evidence are provided as the foundation for food safety decision-making

Whole genome sequencing (WGS) and next generation sequencing for food safety

In June 2025, FAO convened an international technical workshop for regulators and scientists and published

⁴ <https://openknowledge.fao.org/handle/20.500.14283/cd7797en>

⁵ <https://www.who.int/emergencies/disease-outbreak-news/item/2026-DON596>

⁶ see section 5 on Thematic highlights

the report *Next generation sequencing for food safety innovation*⁷. FAO also supported the establishment of the Next Generation Informal Group (NGIG) to sustain global peer exchange, contributed to the non-profit scientific consortium, Global Microbial Identifier, and provided technical support to its 15th meeting in Melbourne, Australia in 2025.

Strategic Outcome 3: National food control systems are further strengthened and continuously improved

As a follow up to national food control system assessments, examples include:

- In Barbados, the assessment concluded in May 2025 helped creating a common understanding among competent authorities, clarifying institutional roles and strengthening cross-government dialogue. This consensus on an integrated food safety coordination mechanism allowed FAO to provide technical and legal assistance to modernize the legal and institutional framework, including a revision of the Food Safety and Quality Bill. The draft strengthens risk-based regulatory decision-making, aligns terminology with Codex standards, clarifies mandates and enforcement powers, enhances stakeholder participation, and reinforces coordination and emergency response functions. A government-validated version is now available for governmental submission and enactment, and an agreed institutional reorganization framework was developed to guide implementation of the integrated food control system.
- In Chile, the Chilean Agency for Food Safety and Quality (ACHIPIA) recently approved the new National Food Safety and Quality Policy 2026–2036. As anticipated by national authorities, the strategic action plan developed as the final step of the FAO-facilitated food control system assessment (which was completed in 2025) will play a key role in guiding the strategic plan for the policy's implementation.
- In Comoros, national authorities identified food safety work adapted to a context highly dependent on food imports as a priority. FAO provided targeted support to strengthen the development of a risk-based approach to food controls and supported the review of the existing legal framework governing food controls, leading to the drafting of a revised food safety law aligned with national priorities and international standards. Policy guidance based on national data enables competent authorities to better evaluate risks and inform regulatory decision-making. Inter-institutional coordination was improved with structured dialogue and joint technical work. This allows prioritization of national needs and efficient use of limited resources to enhance system performance.

Other examples include, in Chad, strengthening institutional coordination and promotion of stronger engagement in Codex work, through the National Codex Committee, with the development of a procedural manual and training on Codex operations, scientific data generation and the adaptation of Codex standards into national regulations for priority food sectors. A high-level awareness-raising meeting on Codex Alimentarius for policymakers was convened to ensure stronger political leadership, improved inter-sectoral coordination and firm institutional commitment toward an effective participation in Codex processes.

Strategic Outcome 4: Public and private stakeholder collaboration is promoted to ensure food safety management and controls throughout agrifood systems

FAO supported the capacity development of small and medium enterprises (SMEs) processing priority commodities in three west African countries (Burkina Faso, Niger, Senegal) to comply with good hygiene practice (GHP) / hazard analysis critical control points (HACCP) principles, to improve food safety and contribute positively to the AfCFTA: at least 349 SMEs benefited from the support through several training sessions and field visits.

In addition, nine food testing laboratories (three per country) from Burkina Faso, Niger and Senegal, benefited of the FAO-AOAC West Africa laboratory capacity building programme to strengthen the capacity of analytical test laboratory to comply with ISO/IEC 17025.

4. WHO-led capacity development

WHO's activities include supporting countries' actions by programme design, policy adaptation and implementation support, such as described in the WHO's Global Strategy for Food Safety (2022-2030)⁸ and Global Nutrition Targets⁹. The following activities are shown as examples.

4.1. Strengthening regulatory and fiscal capacities to address unhealthy diets and physical inactivity

⁷ <https://openknowledge.fao.org/handle/20.500.14283/cd7969en>

⁸ <https://www.who.int/publications/i/item/9789240057685>

⁹ https://apps.who.int/gb/ebwha/pdf_files/WHA78/A78_R24-en.pdf

Since 2019, WHO has been building national capacity to develop and implement regulatory and fiscal measures to promote healthy diets and physical activity under the Global RECAP Project jointly implemented by WHO, the International Development Law Organization and the International Development Research Centre, with support from the Swiss Agency for Development and Cooperation (SDC) and the European Union.

Global RECAP has been implemented in the African and Southeast Asian regions, initially in Bangladesh, Kenya, Sri Lanka, Uganda and United Republic of Tanzania and expanding in 2024 to Ghana, Indonesia, Mauritius, Nepal and Thailand.

WHO leads capacity building under the program and in each country has undertaken an assessment of relevant policy and regulatory frameworks and delivered regulatory capacity-building training to a network of key stakeholders across government, civil society, and academia, including on the establishment of nutrient and/or food profiling models for regulatory purposes. National capacity building workshops (both comprehensive and policy-specific) have been delivered in all initial and most new RECAP countries, including those held in Ghana and Mauritius in 2025. WHO has also developed new technical products and delivered substantial technical support to assist policy progress, contributing to policy reforms, development of nutrient profile models, legislative reviews, technical working groups for policy processes and drafting of new and amended regulations, standards and legislation.

All RECAP countries have made progress toward regulatory or fiscal reforms, including in 2025 the adoption by Kenya of a national Nutrient Profile Model and in Mauritius a doubling of the sugar-sweetened beverage (SSB) tax rate, and expansion of the tax to certain unhealthy foods. Support will continue under the program to all participating countries from the European Union until December 2026. Further support from SDC has been granted from November 2025 to October 2029, allowing the project to expand to additional countries over the next four years and to more strongly integrate data collection, use and analysis at country and global levels.

4.2. Regulatory capacity building work for eliminating industrially produced *trans*-fatty acids (iTFA) and reducing sodium intake

WHO has been conducting a series of capacity-building workshops to strengthen countries' regulatory capacity to implement and enforce policy measures related to *trans*-fat elimination and sodium reduction. These included capacity-building workshops held in Barbados in March 2024 for countries in the Caribbean, and in Indonesia for national capacity-building on regulatory action in November 2024. Technical support is provided to Bangladesh, Indonesia, Nigeria and Viet Nam to set up national sodium targets for packaged foods.

Assessing and monitoring TFA content in the food supply is one of the key action areas for countries working towards TFA elimination and remains a challenge in several countries. WHO continues to provide technical advice to support countries' efforts in strengthening their regulatory monitoring including laboratory capacity. In 2025, several capacity-building activities and policy advocacy dialogues were conducted across the regions. In EURO, country and capacity-building support was provided to Georgia, Tajikistan, Türkiye, and Ukraine, alongside an ongoing series of webinars on iTFA elimination, covering regulatory and laboratory capacity building. In EMRO, a regional webinar on iTFA, including laboratory capacity building, was held in November 2025. In SEARO, a regional noncommunicable diseases (NCD) workshop included a session on TFA in October 2025.

4.3. WHO foodborne disease burden estimates 2026 edition

WHO led a series of key initiatives to advance global efforts in estimating the burden of foodborne diseases. From June to July 2025, the WHO conducted a formal country consultation and shared confidential draft national estimates of incidence, mortality, and disability-adjusted life years (DALYs) for 42 food hazards. Member States were invited to provide feedback and contribute additional data to refine the results. Final estimates were completed by the end of 2025.

Between late-2025 and April 2026, WHO incorporated additional feedback and input from the formal country consultation held in June-July 2025 and finalized the foodborne disease estimates within 2025. WHO organized the final stage of the country consultation in April 2026.

5. Thematic highlights: work on One Health and antimicrobial resistance (AMR)

The Action to Support Implementation of Codex AMR Texts (ACT) project, funded by the Republic of Korea, continued delivering significant results in 2025 across Bolivia, Cambodia, Colombia, Mongolia, Nepal, and Pakistan. Its overarching goal is to reduce foodborne antimicrobial resistance (AMR) using a One Health approach. The project strengthens countries' ability to recognize, adopt, and apply Codex AMR standards, while building integrated AMR surveillance systems and improving good practices and regulatory frameworks in food and agriculture sectors.

Throughout 2025, ACT broadened awareness-raising and capacity-building activities, including multimedia

products, global and regional training, success stories, and campaigns linked to World Food Safety Day and World Antimicrobial Awareness Week. These efforts reached diverse stakeholders—policymakers, regulators, producers, veterinarians, youth, academia, and the private sector—with increasing use of translated and adapted Codex materials. FAO also reinforced evidence generation through annual surveys and case studies, confirming the growing importance of Codex texts, particularly in low- and middle-income countries.

Major progress was made in expanding AMR surveillance. The International FAO Antimicrobial Resistance Monitoring system (InFARM) was further consolidated as the central platform integrating national, regional, and global AMR data. Countries advanced through key stages—capacity assessment, pilot surveillance, and data submission. All six ACT countries contributed AMR data to InFARM, establishing a global baseline for foodborne AMR. Preparatory work also advanced to include monitoring antimicrobial use in plant production.

ACT further strengthened national regulatory capacities by supporting adoption of Codex standards, promoting responsible antimicrobial use, reducing antimicrobial reliance, and encouraging alternatives. Legal and regulatory improvements were supported through the ACT Tool, new guidance materials, and targeted technical assistance, resulting in concrete reforms, enhanced governance, and better intersectoral coordination.

Overall, progress demonstrates a strong One Health approach linking capacity development, surveillance, regulation, and good practices. As the project approaches conclusion in July 2026, remaining work focuses on closing gaps, ensuring sustainability, and linking countries to long-term support mechanisms so that strengthened systems and policies remain effective beyond the project's lifespan.

Antimicrobial residues and the Residues of Veterinary Drugs in Foods (RVDF) tool

FAO is strengthening countries' monitoring of veterinary drug residues in food through the RVDF tool. Aligned with Codex maximum residue limits, it helps authorities build targeted, risk-based monitoring systems. Pilot work in Ghana, Lao PDR and Pakistan improved surveillance, laboratory coordination and capacity. Publication is planned for 2027.

Targeted risk communication on foodborne zoonotic hazards

FAO developed risk communication materials on zoonotic hazards linked to food exposure. A Nipah virus flyer ¹⁰ offers practical hygiene and risk-reduction advice, promotes proportionate Codex-aligned communication, and supports effective public health messaging and risk management without disrupting food systems or trade.

One Health for food safety programme

With support from the Republic of Korea, four countries (Lao PDR, Mongolia, Vietnam and the United Republic of Tanzania) are strengthening their capacity to systematically address food safety hazards through risk analysis using a One Health approach.

Quadripartite (FAO/UNEP/WHO/WOAH) work on Antimicrobial Resistance

The Quadripartite is working and supporting Member States in the implementation of the 44 commitments included in the UNGA Political Declaration 2024 that establishes targets and actions for countries to combat the AMR threat through a One Health approach. Commitments on governance, financing, access to antimicrobials and diagnostics, coordinated multisectoral response, sector specific commitment on Human Health, Agriculture and Animal Health, and Environment, research and development, training, innovation and manufacturing, and surveillance and monitoring¹¹.

The Quadripartite Joint Secretariat (QJS) on AMR, continues to implement its Strategic Framework for Collaboration on AMR¹² that reflects the joint work of the four organizations to advance a One Health response to AMR at the global, regional and country level.

One priority of the QJS includes developing and updating standards and technical advice on global practices. The second Global Joint Summit was held in January 2026 with the theme "Strengthening Regulatory practices on labeling for Antimicrobials - A One Health perspective (for human, veterinary and environmental regulators)"¹³.

WHO activities on AMR

¹⁰ <https://openknowledge.fao.org/handle/20.500.14283/cd8390en>

¹¹ <https://www.un.org/pga/wp-content/uploads/sites/108/2024/09/FINAL-Text-AMR-to-PGA.pdf>

¹² <https://www.who.int/publications/i/item/9789240045408>

¹³ <https://www.qjsamr.org/news-and-events/news/qjs-news-item/19-12-2025-second-global-regulatory-authorities-summit>

In addition to the quadripartite work, WHO recently published the Medically Important Antimicrobial List (WHO MIA)¹⁴ and the WHO Access. Watch. Reserve. (AWaRe) antibiotic book¹⁵. WHO will continue to proceed with the WHO's strategic and operational priorities (2025-2035) for addressing drug-resistant bacterial infections in the human health sector¹⁶.

6. Resources and Tools from FAO and WHO

New Codex E-Learning Courses¹⁷

e-Learning courses are available on the FAO e-Learning academy, in English, French and Spanish, aimed at developing sustainable national capacities to engage in and benefit from Codex work. A new course offering a deep dive into Risk Assessment in the framework of Codex was developed in 2025. It explains how Codex Members can request, contribute to and use the outcomes of FAO/WHO risk assessment activities through lessons on food additives, contaminants and toxins, residues of veterinary drugs, pesticide residues, and microbiological hazards.

FAO/WHO Global Individual Food Consumption Data Tool

The FAO/WHO Global Individual Food Consumption Data Tool (GIFT) is an open-access platform compiling standardized individual dietary data, mainly from low- and middle-income countries, currently covering 67 surveys. It provides harmonized datasets with a unified structure and codebook for free download. GIFT data feed into the FAO/WHO Chronic Individual Food Consumption Database (CIFOCoss), supporting food safety professionals and risk assessment bodies such as the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and the Joint FAO/WHO Expert Meetings on Pesticide Residues (JMPR). To improve comparability in dietary analysis, FAO and WHO created standardized food groupings for nutrition, food safety, environmental and dietary diversity uses. Following a 2025 Total Diet Studies workshop, a publication is being prepared to showcase training on using dietary data for risk assessment. In Azerbaijan, FAO is supporting capacity building via a technical cooperation programme (TCP) project.

FAO Risk-based inspection resource kit

The risk-based inspection resource kit¹⁸ is now available and supports competent authorities in developing and implementing risk-based inspection programmes directing limited inspection resources towards food businesses posing the greatest risk to consumer health. It is intended primarily for authorities responsible for inspections across the food chain, from primary production to consumption. Food safety managers involved in policy development will find practical guidance on designing, implementing, reviewing, and strengthening risk-based inspection systems that help identify and prioritize high-risk food businesses. The resource kit includes 14 learning modules and six supplementary guidance documents, complemented by an online application that enables users to assign scores to domestic food businesses based on the level of food safety risk they pose.

Codex Trust Fund (CTF2) repository

CTF2 has its project output repository which provides access to resource material and products developed with CTF2 support. Documents included in the repository have been officially shared by beneficiary countries of the CTF2 to serve as examples and inspiration to countries aiming to develop similar products to strengthen the components of their national Codex systems. Despite the closure of the CTF2, the repository can be accessed through the CTF website¹⁹.

FAO's GHP and HACCP Toolbox for Food Safety²⁰

This practical guidance on the application of the Codex *General principles of food hygiene* (CXC 1-1969) is a critical tool in supporting a wide range of stakeholders in implementing GHPs and HACCP. Collaborative activities with the FAO's Fisheries and Aquaculture Division, and FAO country offices in East Africa led to the development of drafts of guidance and training materials on fisheries and aquaculture and for SMEs in the dairy and meat value chains. This is used in training activities for SMEs in projects strengthening value chains and for online webinars, which have been conducted annually with high participation. The full translation of all

¹⁴ https://cdn.who.int/media/docs/default-source/gcp/who-mia-list-2024-lv.pdf?sfvrsn=3320dd3d_2

¹⁵ <https://www.who.int/publications/i/item/WHO-MHP-HPS-EML-2022.02>

¹⁶ https://apps.who.int/gb/ebwha/pdf_files/WHA77/A77_5-en.pdf

17 <https://elearning.fao.org/local/search/?src=eyJ0ZXN0bWVhbmNvZGV4Iiwic2VyaWVzIjoiliwicmVsZWZfZWVhdGUlOiLiLCJsaW5ndWEiOiJlbjlsImJmZmV3IjoiliwiY2VvdCI6IjlsIm1vYmIsZSI6IjI9>

¹⁸ <https://www.fao.org/risk-based-inspection-kit/en>

¹⁹ <https://www.who.int/initiatives/codex-trust-fund/repository-of-project-outputs>

²⁰ <https://www.fao.org/good-hygiene-practices-haccp-toolbox/en>

toolbox materials into French – as requested by the Codex Committee on Food Hygiene (CCFH) French speaking members - was completed in December 2025.

New FAO food safety website

FAO's Food Safety Unit launched its new website²¹ in December 2025. Clearer and more informative pages aim to better communicate FAO's work on food safety focusing on the four strategic outcomes described in the FAO Strategic Priorities for Food Safety within the FAO Strategic Framework 2022-2031²².

Explanatory note on the *Guidelines for developing harmonized food safety legislation for the CCAFRICA region (CXG 98-2022)*

The explanatory note, available in English²³ and French²⁴, facilitates the implementation of the Codex Alimentarius *Guidelines for developing harmonized food safety legislation for the CCAFRICA region (CXG 98-2022)* by discussing considerations pertaining to the various legal contexts when developing or updating food safety legislation. These should guide lawmakers and regulators when integrating the Codex Alimentarius principles into national legislation; it encourages a science- and risk-based approach, supports integrated food chain regulation, and fosters stakeholder consultation.

Regulatory options to address food ecommerce in national legislation – Policy and legal challenges

In 2025, FAO produced a legislative study on regulating food e-commerce²⁵. It notes that rapid growth in digital food trade has outpaced laws, creating gaps in food safety, consumer information and enforcement. Comparing Codex guidance with national approaches in six jurisdictions, it recommends clearer definitions and responsibilities for online actors, stronger monitoring and enforcement tools suited to digital markets, and requirements to ensure essential food information—helping countries, especially low- and middle-income ones, improve safety and transparency without limiting innovation.

Food fraud for fisheries and aquaculture products

FAO produced a publication detailing tools to combat food fraud in the aquatic sector while convening experts from multiple countries to create case studies illustrating prevalent instances of food fraud in the fisheries and aquaculture sector, their frequency, and the implications for public health. The report, *Food fraud in the fisheries and aquaculture sector*²⁶ was published in February 2026.

International regulatory dialogue for evolving food production systems

FAO and the Singapore Food Agency (SFA) are preparing a publication on international regulatory dialogue among food safety authorities. It highlights non-binding exchanges that build shared understanding of risk assessment for emerging food production systems, drawing on 2022–2024 roundtables and SFA's Regulators' Forum.

WHO Food Systems Community of Practice (COP)²⁷

The WHO Food Systems Community of Practice (COP) is a peer-to-peer online forum for global stakeholders dedicated to improving food safety and healthier food environments, open to anyone. The COP offers thematic groups on food safety, trans fat elimination, food fortification, sodium reduction, nutrition labelling, harmful marketing, and fiscal policies. Its goal is to expand learning potential, share diverse experiences and knowledge, broaden perspectives, and stimulate individual and collective learning.

Global Environment Monitoring System (GEMS) / Food²⁸

GEMS/Food offers a database of food contamination data from national agencies. The database offers about 9 million data points on the occurrence of chemicals in foods. Either through regular *ad hoc* provision of data, or through the response to Codex calls for data, Member States and International Organizations may provide data which may serve two main purposes: the assessment of the distribution of contamination data to provide Codex with insights as to the international food standard-setting process, and dietary exposure assessment, which contributes to risk assessment. The programme is also active in a network of Collaborating Centres and national institutions that promote sound data collection worldwide.

²¹ <https://www.fao.org/food-safety/en>

²² <https://doi.org/10.4060/cc4040en>

²³ <https://doi.org/10.4060/cd7608en>

²⁴ <https://doi.org/10.4060/cd7608fr>

²⁵ <https://openknowledge.fao.org/handle/20.500.14283/cd3730en>

²⁶ <https://openknowledge.fao.org/handle/20.500.14283/cd8244en>

²⁷ <https://www.whofoodsystms.org/>

²⁸ <https://www.who.int/teams/nutrition-and-food-safety/databases/global-environment-monitoring-system-food-contamination>