

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEx ALIMENTARIUS COMMISSION

43rd Session

FAO/WHO Scientific support to Codex: Report on activities, budgetary and financial matters

(Prepared by FAO and WHO)

Contents of paper

PART I: RECENT FAO/WHO EXPERT MEETINGS AND OTHER RELEVANT INFORMATION

PART II: FINANCIAL AND BUDGETARY MATTERS

PART III: STATUS OF REQUESTS FOR FAO/WHO SCIENTIFIC ADVICE

PART I: RECENT FAO/WHO EXPERT MEETINGS AND OTHER RELEVANT INFORMATION

1. **The delivery of scientific advice continues at an accelerated level;** for example, FAO and WHO have started considerable work to develop the requested scientific advice on AMR, JECFA continue to meet twice a year, JMPR and JEMRA continue to meet several times a year, and JEMNU implemented its first work and met in July 2019. This enhanced level of activity has been made possible through the contributions of Australia Canada, the European Union, Japan and the United States of America (USA). **These activities are the result of the high priority FAO and WHO assigns to the scientific advice programme,** realizing the importance of a strong scientific foundation for all Codex standards. The CAC remains the primary client of the joint scientific advice programme, as the results are used extensively in the development of Codex texts and standards. However, the results are also used by member countries of FAO and WHO, to strengthen the science-based decision making on food safety and nutrition issues at national and regional levels. The following summarises the scientific advice provided in the 2019-2020 period since FAO and WHO's previous report to the Commission ([CX/CAC 19/42/14](#)).

2. **Joint FAO/WHO Expert Committee on Food Additives (JECFA), 87th Meeting, Rome, Italy, 4–13 June 2019:** This meeting was held in the framework of the on-going programme on the risk assessment of food additives and contaminants in foods. The Committee undertook the toxicological evaluations and dietary exposure assessments and developed specifications for **six food additives and revised the specifications for five other food additives.** The Committee also provided clarification to the Codex Committee on Food Additives on two issues. First, the Committee clarified the application of group acceptable daily intakes for some food additives that were listed under the same food additive heading in the Codex General Standard for Food Additives, despite not being included in a group acceptable daily intake. Secondly, the Committee clarified its use of the term acceptable daily intake “not specified”. The results (will be) were made available to and discussed by the 52nd Session of the Codex Committee on Food Additives (CCFA).

3. **Joint FAO/WHO Expert Committee on Food Additives (JECFA), 88th Meeting, Rome, Italy, 21-31 October 2019.** This meeting was held to evaluate certain residues of veterinary drugs in food. The Committee elaborated principles governing the evaluation of residues of veterinary drugs in food and undertook toxicological evaluations and dietary exposure assessments for nine veterinary drugs. The Committee elaborated further guidance on chronic dietary exposure assessment of compounds used both as veterinary drug and as pesticide, the assessment of the relative bioavailability and/or pharmacological activity of incurred drug residues in animal tissues, the acute reference dose (ARfD) and other methodological approaches and types of data for assessment of veterinary drug residues in food. Expert Committee evaluated for seven veterinary drug residues: two antimicrobial agents, an acaricide, two antiparasitic agents, and two insecticides. The results were made available to and discussed by the 25th Session of the Codex Committee on Residues of Veterinary Drugs in Foods (CCRVDF).

4. **Joint FAO/WHO Expert Committee on Food Additives (JECFA), 89th Meeting, On-line 1-12 June 2020.** The Committee evaluated the safety of six food additives, conducted an exposure assessment for one group of food additives, and revised the specifications for three other food additives (including one group). The Committee also evaluated the safety of two groups of flavouring agents and revised the for 12 flavouring agents.
5. **4.5. Joint FAO/WHO ad-hoc Expert Meeting on Tropane Alkaloids, coordinated from FAO headquarters, Rome, and which took place virtually from 30 March to 3 April 2020:** This meeting was held on a request from the World Food Programme (WFP). WFP had requested assistance from FAO/WHO to provide scientific advice on tropane alkaloids in WFP products after consumption of these products have led to intoxication events. The scope for WFP request on Tropane Alkaloids was to: 1) provide a risk assessment of tropane alkaloids: 2) based on the risk assessment, provide guidance for the development of operational limits for the tropane alkaloids in relevant WFP products, taking into consideration both food safety for WFP's beneficiaries as well as food security, which is an essential component of the WFP mandate. A final report will be published in autumn 2020.
6. **Extraordinary Joint FAO/WHO Meeting on Pesticide Residues (JMPR), Ottawa, Canada from 7-17 May 2019:** The meeting evaluated 19 compounds and estimated new MRLs for additional uses.
7. **Joint FAO/WHO Meeting on Pesticide Residues (JMPR), Geneva, Switzerland, from 17 to 26 September 2019:** The Meeting evaluated 30 pesticides, of which eight were new compounds, and three were re-evaluations within the periodic review programme of the Codex Committee on Pesticide Residues (CCPR). The Meeting established acceptable daily intakes (ADIs) and acute reference doses (ARfDs). The Meeting estimated maximum residue levels, which it recommended for use as maximum residue limits (MRLs) by the CCPR. It also estimated supervised trials median residue (STMR) and highest residue (HR) levels as a basis for estimation of the dietary intake of residues of the pesticides reviewed. The Meeting also estimated the dietary exposures (both acute and long-term) to the pesticide reviewed and, on this basis, performed a dietary risk assessment in relation to the relevant ADI and where necessary the ARfD. Cases in which ADIs or ARfDs may be exceeded, if they occur, are clearly indicated in order to facilitate the decision-making process by CCPR. The recommendations are made available to and will be considered by the 51st session of the CCPR.
8. **FAO/WHO Joint Meeting on Pesticide Specifications (JMPS), 18th Meeting, Braunschweig, Germany, 11-15 June 2019:** This meeting was held in the framework of the on-going programme on the evaluation and development of pesticide specifications. The Joint Meeting reviewed 58 specifications/equivalences. and The meeting also discussed some general issues including a priority list for the JMPS programme for 2020. The pesticide specifications established at the meeting are published on the FAO (<http://www.fao.org/agriculture/crops/thematic-sitemap/theme/pests/jmps/en/>) and WHO (https://www.who.int/neglected_diseases/vector_ecology/pesticide-specifications/newspecif/en/) websites.
9. **Joint FAO/WHO Expert Meeting on Microbiological Risk Assessment (JEMRA) on *Vibrio parahaemolyticus* and *Vibrio vulnificus*, Weymouth, United Kingdom, 13-15 May 2019:** This meeting reviewed the outcomes of the expert meeting in 2010 and updated the existing risk assessment models/tools and methods of *Vibrio parahaemolyticus* and *Vibrio vulnificus* that have become available in the last decade and could be used to address a range of risk management questions in a number of different regions.
10. **Joint FAO/WHO Expert Meeting on Microbiological Risk Assessment (JEMRA) on the Safety and Quality of Water Used in Production of fresh fruits and vegetables, Geneva, Switzerland, 23-27 September 2019:** The meeting was to follow up two previous expert meetings and to discuss the application of microbiological criteria of water used in production of fresh fruits and vegetables to support decision making when applying the concept of fitness for purpose of water for use during pre- and post-harvest production of fresh produce. Practical interventions that could be applied pre- and post-harvest to mitigate food safety risk when water does not meet the requirement of fit-for-purpose was also considered.
11. **Joint FAO/WHO Expert Meeting on Microbiological Risk Assessment (JEMRA) on Shiga toxin-producing *Escherichia coli* (STEC) associated with Meat and Dairy Products, virtual meeting, 1-26 June 2020:** Having identified foods most frequently associated with illness, the Codex Alimentarius Commission (CAC) approved new work at the 42nd Session, July 2019, on the development of guidelines for the control of STEC in beef, raw milk and cheese produced from raw milk, leafy greens and sprouts. To support this work, JEMRA convened the meeting virtually from 1 to 26 June 2020. This meeting focused on microbiological hazards associated with meat and dairy products, and reviewed relevant measures for pre- and post-harvest controls of STEC in animals and foods of animal origins. The executive summary of this meeting was submitted to the EWG CCFH, and the meeting report is in development.

12. **Joint FAO/WHO Expert Meetings on Nutrition (JEMNU), Geneva, Switzerland, 16 – 17 July 2019:** To provide guidance on the most appropriate nitrogen to protein conversion factor (or factors) to use in estimating protein content of soy-based ingredients and milk-based ingredients used in infant formulas and follow-up formulas which the Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU) is discussing, at the 39th Session of CCNFSDU in 2017, the Committee requested that JEMNU be convened to review the evidence and develop evidence-informed guidance regarding nitrogen to protein conversion factors. In response to the request, FAO and WHO convened the first meeting of JEMNU in Geneva, Switzerland from 16 to 17 July 2019. To facilitate the work of JEMNU, a systematic review was commissioned to compile and analyse the available data on nitrogen to protein conversion factors for foods containing soy-based and/or milk-based ingredients. The outcomes of the work were submitted to the 41st Session of CCNFSDU held in Düsseldorf, Germany, on 24 - 29 November 2019. The report and systematic review are published on the following FAO and WHO websites: Report: <http://www.fao.org/publications/card/en/c/CA8805EN>; <https://www.who.int/publications/i/item/9789240000216>; Systematic review: <http://www.fao.org/documents/card/en/c/ca8862en>; <https://www.who.int/publications/i/item/9789241516983>.

Risk Assessment Methodology Work

13. In addition to the scientific advice requested directly, the FAO/WHO secretariats have been working to update risk assessment methodologies, taking into account recommendations from expert meetings and the latest scientific developments. This is critical to assure that the scientific advice provided is based on up-to-date methodology and scientific knowledge.

14. The currently planned work required selected reviews and modernizations of the risk assessment methodologies included in chapter 3, 4, 5, 8 and 9 of the international guidance EHC240 "Principles and methods for the risk assessment of chemicals in food" and a review of the analytical methods defined in Volume 4 of JECFA Monograph 1. For the latter, dedicated resource persons were enlisted to prepare the necessary in-depth reviews and to provide suggestions that will be discussed in suitable international expert meetings with the aim to provide updates to the relevant sections of EHC240 and the chemical analytical methods used in JECFA specifications for food additives.

15. Several activities are under way to address the following areas of risk assessment methodology:

- **Update of guidance on evaluation of enzyme preparations (EHC 240):**

An expert working group established in 2018 have discussed available information on the safety of enzymes used in food and current practices of the food enzyme industry. The expert working group has proposed that the safety of enzyme preparations could be assessed with methodologies using fewer animals (e.g. metabolic profiling of microbial fermentation products, genomic DNA sequencing identifying mycotoxin synthesis genes). The expert working group focused on enzymes from genetically modified microorganisms and the information requirements for their safety evaluation. The expert working group have proposed changes to the relevant sections of EHC 240 and produced a checklist of information required in enzyme submissions for future JECFA evaluations. The draft update of the guidance has been sent out for public consultation and is to be finalized in 2020.

- **Update of guidance on evaluation of genotoxicity of chemical substances in food (section 4.5 of EHC 240):**

A joint FAO/WHO expert working group established in 2018 to have been established to update and extend the guidance on evaluation of genotoxicity of chemical substances in food. The aim of the expert working group is to provide guidance on interpretation of test results, in addition to general descriptions of genotoxicity tests, special considerations for data poor substances, and considerations for chemically related substances and mixtures. The expert working group has also addressed recent developments and future directions. The draft update of the guidance was sent for public consultation in December 2019. In response, the Secretariat received about 300 comments from 14 organizations or individuals, indicating a high level of interest. The comments have now been considered and addressed, and the work will be completed soon. After editing, the text will be published online as an updated chapter of EHC 240.

- **Update of guidance on dose–response assessment and derivation of health-based guidance values (Chapter 5 of EHC 240):**

An expert working group established in 2017 have been established with the aim to update and extend the guidance on dose–response assessment and derivation of health-based guidance values. The work was undertaken electronically and culminated in a meeting of the expert working group in March 2019 in Geneva to revise and update Chapter 5 of EHC 240, including the preparation of more detailed advice on the benchmark dose (BMD) approach. The draft guidance will encourage the use of the BMD approach wherever possible and appropriate, but will acknowledge that in some situations, use of the no observed-adverse-effect level (NOAEL)/lowest-observed-adverse-effect level (LOAEL) approach may still be appropriate. The draft update of the guidance was sent for public consultation in December 2019. In response, the Secretariat received about 300 comments from 14 organizations or individuals, indicating a high level of interest. The comments have now been considered and addressed, and the work will be completed by the end of 2020. After editing, the text will be published online as an updated chapter of EHC 240.

- **Update of the guidance on dietary exposure assessment of chemicals in food (Chapter 6 EHC 240):**

A joint FAO/WHO Expert Consultation was held in Geneva on 18-20 September 2019. The revised document is posted on FAO and WHO websites for public comments before its publication: [https://www.who.int/docs/default-source/chemical-safety/ehc240-chapter6-edited\(4-1\).pdf](https://www.who.int/docs/default-source/chemical-safety/ehc240-chapter6-edited(4-1).pdf)

- **Joint FAO/WHO Expert Meeting on Microbiological Risk Assessment:**

An expert meeting took place 11-15 March 2019, Rome, Italy to consolidate the existing technical guidance documents on the methodologies of microbiological risk assessment into one single document and updated document on risk assessment was needed, including additional guidance on hazard identification. The experts discussed practical guidance and a structured framework for carrying out each of the four components of a microbiological risk assessment. A report was peer-reviewed by the external reviewers, and public consultations on the updated guidance was conducted.

- **Joint FAO/WHO Expert Meeting on Dietary Risk Assessment of Chemical Mixtures:**

FAO and WHO convened an expert consultation to develop such guidance at an international level and make recommendations for implementation by FAO/WHO expert committees. An overview of the JECFA and JMPR processes and a summary of the EuroMix Handbook and Toolbox were presented. The consultation involved 15 experts from European Union (EU) and non-EU countries, reviewed specific case studies proposed by the Steering Committee. A practical approach to the risk assessment of combined exposures to multiple chemicals was developed to be piloted by JMPR and JECFA in 2019. A report on the consultation can be found at www.who.int/foodsafety/areas_work/chemical-risks/Euromix_Report.pdf

Other activities

WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Diet and Health:

16. The 13th meeting of the WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Diet and Health was held in Qingdao, China on 16 – 19 December 2019. The NUGAG Subgroup reviewed outstanding issues related to finalization of the recommendations and accompanying remarks for polyunsaturated fatty acids, non-sugar sweeteners and carbohydrates, taking into consideration of supplementary evidence from new and updated systematic reviews; further assessment of the certainty of the evidence, detailed criteria, such as the balance of evidence on benefits and harms, values and preferences, resource implications, priority of the problems, equity and human rights, acceptability and feasibility. Implications for future research, taking into account of existing controversies, and possible challenges for implementing the guidelines were also discussed. Furthermore, due to increasing need and requests for WHO's guidance as to whether it would be an effective public health approach for reducing sodium/salt intake in populations, the NUGAG Subgroup reviewed the outcomes of the scoping review on the use of low-sodium salt substitutes to reduce sodium/salt consumption and developed the framework (including PICO questions) for undertaking a systematic evidence review.

17. Due to the COVID-19 pandemic, the 14th meeting the WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Diet and Health was held virtually on 15 – 16 June 2020. The NUGAG Subgroup finalized the recommendations on total fat intake and the rationales and remarks of the recommendations, taking into consideration the outcomes of the updated systematic reviews and issues discussed at the previous NUGAG meetings, including other factors, such as the balance of evidence on benefits and harms, values and preferences, resource implications, priority of the problems, equity and human rights, acceptability and feasibility. The NUGAG Subgroup also reviewed the implications for future research and challenges for implementing the recommendations. The final draft guideline is currently being prepared to be issued for public consultation in the fall 2020.

WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Policy Actions

18. The 2nd meeting of the WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Policy Actions was held in Qingdao, China on 9 – 13 December 2019. The NUGAG Subgroup reviewed the outcomes of draft systematic reviews and initiated the drafting of the recommendations on nutrition labelling policies, policies to restrict marketing to children, fiscal and pricing policies to promote healthy diets, based on the certainty of evidence, but also with careful review of detailed criteria, such as the balance of evidence on benefits and harms, values and preferences, resource implications, priority of the problems, equity and human rights, acceptability and feasibility of the proposed recommendations. The NUGAG Subgroup also discussed the implications for future research, taking into account of various on-going studies and existing controversies, as well as possible challenges for implementing the proposed recommendations on these policy actions. In addition, the NUGAG Subgroup reviewed and finalized the scope of the guidelines on school food and nutrition policies and formulated the PICO questions to guide the undertaking of a systematic review on the effects on health and other issues related to implementing school food and nutrition policies.

FAO/WHO nutrient requirements for children aged 0 – 36 months

19. FAO and WHO last updated vitamin and mineral requirements for all age groups in 2004. Since then, new data have emerged suggesting that requirements for some micronutrients may need to be updated, particularly for children. Therefore, and in part to inform the planned updating of WHO guidance on complementary feeding and also to contribute to the on-going work of CCNFSDU in establishing NRV-R for persons aged 6 – 36 months, FAO and WHO established an expert group on nutrient requirements which will update nutrient requirements for children aged 0 – 36 months. The first meeting of the expert group was convened virtually during mid-April – May 2020 to review the results of scoping reviews and other

background documents and developed key questions and prioritized health outcomes that will guide systematic reviews, which will in turn serve as the evidence base on which requirements and ULs will be derived. A public consultation on the scope of this work was completed in July 2020 and several systematic reviews have been commissioned to serve either as the direct evidence base on which the requirements will be derived or as background reviews. The expert group will review the results of the systematic reviews and derive requirements and upper limits of intake for calcium, vitamin D and zinc at a virtual meeting to be held 20-22 January and 26-29 January 2021.

FAO/WHO GIFT (FAO/WHO Global Individual Food consumption data Tool).

20. The FAO/WHO Global Individual Food consumption data Tool (FAO/WHO GIFT) is an open-access online platform, hosted by FAO and supported by WHO, providing access to harmonised individual quantitative food consumption data, especially in low- and middle-income countries. The platform is a growing data repository; in 2018, FAO/WHO GIFT received a four-year grant from the Bill & Melinda Gates Foundation to transform the platform into a robust global tool that will contain at least 50 datasets by 2022. FAO/WHO GIFT provides sex and age-disaggregated microdata, which are needed in the field of nutrition and dietary exposure. To facilitate the use of these data by policy makers, ready-to-use food-based indicators are provided under the form of infographics for a user-friendly overview of key information by population segments and by food groups. The synergy between the FAO/WHO GIFT platform and the dashboards of FAO/WHO FOSCOLLAB (Global platform for food safety data and information) hosted by WHO has a huge potential. In fact, in order to enhance the consistency and reliability of nutrient intake and dietary exposure assessments, all datasets available as microdata in FAO/WHO GIFT are harmonised with the food classification and description system FoodEx2. FoodEx2 is also the system used to map all food chemical occurrence microdata available on FAO/WHO FOSCOLLAB. The combination of the two platforms will make it much easier to perform refined dietary exposure assessment for a large variety of food chemicals in all regions of the world. Moreover, all datasets available as microdata in FAO/WHO GIFT are also being made available as summary statistics on FAO/WHO FOSCOLLAB.

21. For datasets that are not yet available as microdata in FAO/WHO GIFT, the platform provides an up-to-date inventory of individual quantitative food consumption surveys conducted and ongoing in low- and middle-income countries, with detailed survey information on identified studies. The FAO/WHO GIFT platform is available at <http://www.fao.org/gift-individual-food-consumption/en/>. The dashboards of FAO/WHO FOSCOLLAB are available at <http://apps.who.int/foscollab>.

Toxicological profiling of compounds and less-than-lifetime dietary exposure assessment.

22. Following the recommendations of the electronic working group for the toxicological profiling of chemicals, the JMPR agreed in 2019 to report estimated dietary exposures based on national dietary survey data in addition to the IEDI results at future JMPR meetings because these data give a more realistic estimate of actual exposure for different populations around the world. Where there is an identified concern about shorter-than-lifetime exposures for the mean or high consumer, additional information on subpopulation groups are provided that is of use to risk assessors and risk managers. This level of information is not available using the IEDI.

Acute probabilistic dietary exposure assessment for pesticide.

23. FAO/WHO Scientific Advice collected pesticide monitoring plans and individual food consumption data in order to perform a probabilistic assessment of the acute exposure for 47 pesticides having an acute reference dose. Data were submitted by Brazil, Canada, European Union (EU) and the United States of America (USA). A scientific Committee was established to ensure the quality and the transparency of the assessment to be done by an independent consultant. Results should support the ongoing review of the international estimated short-term intake (IESTI) equation.

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

24. WHO has reviewed the state of evidence on microplastic in drinking-water and published a report assessing the risks to human health in August 2019¹. To continue WHO's effort to assess the potential health risks associated with exposure to microplastic, an additional report is currently being developed, which widens the scope of the assessment from a drinking-water focus to the environment, including exposure via food, water and air. The report aims to assess human health risks arising from exposure to microplastic

¹ World Health Organization. (2019). Microplastics in drinking-water. World Health Organization. <https://apps.who.int/iris/handle/10665/326499>.

particles from the environment and identify research needs. An expert consultation was held at WHO HQ in Geneva on 2-3 March 2020. The final report is expected in late Summer 2020.

25. The Commission **is invited to note** the information above provided by FAO and WHO. To facilitate the transfer and uptake of the relevant scientific advice by Codex, the FAO and WHO Secretariats of these scientific advice activities make every effort to participate in concerned Codex working groups and Codex committee meetings. FAO and WHO would like to thank all those who supported the programme of work to provide the above-mentioned scientific advice and in particular, various experts from around the world and the donors who contributed financially and in-kind to the implementation of these activities.

Publications

JECFA publications

26. Peer-reviewed external publications:

- Armaroli E, Bechaux C, Delagrave R, Ingenbleek L, Leblanc JCh, Verger P. A method to prioritize the surveillance of chemicals in food commodities to access international market and its application to four countries in Sub-Saharan Africa. *Environment International* 135 (2020). <https://doi.org/10.1016/j.envint.2019.105386>
- Ingenbleek L, Sulyok M, Adegboye A, Hossou SE, Koné AZ, Oyedele AD, Kisito CSKJ, Dembélé YK, Eyangoh S, Verger P, Leblanc JCh, Le Bizec B, Krska, R. Regional Sub-Saharan Africa Total Diet Study in Benin, Cameroon, Mali and Nigeria Reveals the Presence of 164 Mycotoxins and Other Secondary Metabolites in Foods. *Toxins*. 11, 54 (2019). <https://doi.org/10.3390/toxins11010054>
- Ingenbleek L, Veyrand B, Adegboye A, Hossou SE, Koné AZ, Oyedele AD, Kisito CSKJ, Dembélé YK, Eyangoh S, Verger P, Leblanc JC, Durand S, Venisseau A, Marchand P, Le Bizec B. Polycyclic Aromatic Hydrocarbons (PAHs) in foods from the first Regional Sub-Saharan Africa Total Diet Study: contamination profile and occurrence data. *Food Control*. 103: 133-144 (2019). <https://doi.org/10.1016/j.foodcont.2019.04.006>
- Jitaru P, Ingenbleek L, Laurent C, Marchond N, Adegboye A, Hossou SE, Koné AZ, Oyedele AD, Kisito CSKJ, Dembélé YK, Eyangoh S, Verger P, Leblanc JCh, Le Bizec B, Guerin T. Occurrence of 30 trace elements in foods from a multi-centre Sub-Saharan Africa Total Diet Study: Focus on Al, As, Cd, Hg and Pb. *Environment International* 133 (2019) <https://doi.org/10.1016/j.envint.2019.105197>
- Vaccher V, Ingenbleek L, Veyrand B, Adegboye A, Hossou SE, Koné AZ, Oyedele AD, Kisito CSKJ, Dembélé YK, Eyangoh S, Verger P, Durand S, Venisseau A, Dervilly-Pinel G, Marchand P, Leblanc JCh, Le Bizec B. Levels of persistent Organic Pollutants (POPs) in foods from the first Regional Sub-Saharan Africa Total Diet Study *Environment International* 135 (2020) <https://doi.org/10.1016/j.envint.2019.105413>
- C. Leclercq, P. Allemand, A. Balcerzak, F. Branca, R. F. Sousa, A. Lartey, M. Lipp, V. P. Quadros and P. Verger. FAO/WHO GIFT (Global Individual Food consumption data Tool): a global repository for harmonised individual quantitative food consumption studies. *Proceedings of The Nutrition Society* 78(4):1-12 (2019). <https://doi.org/10.1017/S0029665119000491>

27. JECFA publications are available on the following websites:

FAO <http://www.fao.org/food-safety/resources/publications/en/>

WHO <http://www.who.int/foodsafety/publications/jecfa/en/>

28. Recent publications include:

- **Evaluation of certain food additives** (Eighty-seventh report of the Joint FAO/WHO Expert Committee on Food Additives) WHO Technical Report Series, No.1029, 2020. <https://apps.who.int/iris/bitstream/handle/10665/330612/9789241210294-eng.pdf?ua=1>
- **Compendium of Food Additive Specifications, 87th Meeting**. FAO JECFA Monograph 23, 2019, <http://www.fao.org/documents/card/en/c/ca7513en>
- **Evaluation of veterinary drug residues in food** (Eighty-eighth report of the Joint FAO/WHO Expert Committee on Food Additives) WHO Technical Report Series, No. 1023, 2020 <https://apps.who.int/iris/bitstream/handle/10665/330821/9789241210324-eng.pdf?ua=1>

JMPR publications

29. Peer-reviewed external publications:

- Arcella D., Boobis A., Cressey P., Erdely H., Fattori V., Leblanc J.C., Lipp M., Reuss R., Scheid S., Tritscher A., Van der Velde-Koerts T. & Verger P.: *Harmonized methodology to assess chronic dietary exposure to residues from compounds used as pesticide and veterinary drug*, *Critical Reviews in Toxicology* (2019). <https://doi.org/10.1080/10408444.2019.1578729>
- Ingenbleek L, Lopes-Pereira L, Paineau A, Colet I, Hossou SE, Koné AZ, Adegboye A, Dembélé YK, Oyedele AD, Kisito CSKJ, Eyangoh S, Verger P, Leblanc JCh, Le Bizec B, Hu R. *Sub-Saharan Africa Total Diet Study in Benin, Cameroon, Mali and Nigeria: pesticides occurrence in foods*. *Food Chemistry: X* 2 (2019). <https://doi.org/10.1016/j.fochx.2019.100034>

30. JMPR publications are available on the following websites:

FAO: <http://www.fao.org/agriculture/crops/core-themes/theme/pests/jmpr/en>

WHO: <http://www.who.int/foodsafety/publications/jmpr/en/>

31. Recent publications include:

- **The 2019 JMPR Report.** Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and WHO the Core Assessment Group.
https://www.who.int/foodsafety/areas_work/chemical-risks/JMPR_2019_Sep_Report.pdf?ua=1
Pesticide residues in food 2019 - Evaluations part I – Residues,
<http://www.fao.org/documents/card/en/c/ca7953en>

JEMRA Publications

32. JEMRA publications are available on the following websites:

FAO <http://www.fao.org/food-safety/resources/publications/en/>

WHO <https://www.who.int/activities/assessing-microbiological-risks-in-food>

33. Recent publications include:

- Risk assessment tools for *Vibrio parahaemolyticus* and *Vibrio vulnificus* associated with seafood. Microbiological Risk Assessment Series 20. FAO/WHO 2020.
<http://www.fao.org/3/ca7240en/ca7240en.pdf>
- Attributing illness caused by Shiga toxin-producing *Escherichia coli* (STEC) to specific foods. Microbiological Risk Assessment Series 32. FAO/WHO 2019.
<https://apps.who.int/iris/bitstream/handle/10665/326923/9789241516396-eng.pdf?sequence=1&isAllowed=y>
- Safety and Quality of Water Used in Food Production and Processing; Meeting Report. Microbiological Risk Assessment Series 33. FAO/WHO 2019.
<https://apps.who.int/iris/bitstream/handle/10665/327724/9789241516402-eng.pdf?sequence=1&isAllowed=y>

JEMNU Publications

34. Recent publications include:

- The report of the meeting of JEMNU on nitrogen to protein conversion factors for soy-based and milk-based ingredients used in infant formula and follow-up formula:
FAO: <http://www.fao.org/publications/card/en/c/CA8805EN>;
WHO: <https://www.who.int/publications/i/item/9789240000216>
- Nitrogen and protein content measurement and nitrogen to protein conversion factors for dairy and soy protein-based foods: a systematic review and modelling analysis
FAO: <http://www.fao.org/documents/card/en/c/ca8862en>;
WHO: <https://www.who.int/publications/i/item/9789241516983>.

Other publication

- Joint FAO/WHO Expert Meeting in collaboration with OIE on Foodborne Antimicrobial Resistance: Role of the Environment, Crops and Biocides. Meeting Report. Microbiological Risk Assessment Series 34. FAO/WHO 2019. <https://www.who.int/foodsafety/publications/Environment-Crops-and-Biocides/en/>

Upcoming meetings

35. **15th meeting of the WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Diet and Health (virtual), 21 – 23 September 2020:** The NUGAG Subgroup will review the updated systematic review (cohort studies) on saturated fatty acids and trans-fatty acids and finalize the recommendations and rationale/remarks texts in the light of this updated cohort review. The final guidelines will then be submitted to the Guideline Review Committee for final clearance before their publication.

36. **Joint FAO/WHO Expert Meeting on Microbiological Risk Assessment on *Listeria monocytogenes* in Ready-to-Eat (RTE) Food: Attribution, Characterization and Monitoring, virtual meeting, 20 October to 6 November 2020:** The meeting will review and discuss the available data and background documents, to assess the need to modify and update (or develop new) risk assessment models/tools for *Listeria monocytogenes*. Updated information will inform a range of risk management options in a number of different regions and a variety of products.

37. **Joint FAO/WHO Expert Committee on Food Additives (JECFA), 90th Meeting, Geneva, Switzerland, 27 October - 4 November 2020:** The meeting will be dedicated to the evaluation of a number of food contaminants. The call for data is accessible at <https://www.who.int/foodsafety/JECFA90-call-for-data-rev.pdf?ua=1>

38. **Ad hoc Joint FAO/WHO Expert Consultation on Risk Assessment of Food Allergens, virtual meeting, 30 November – 11 December 2020, 15 March-2 April 2021, 4-15 October 2021:** The meeting will focus on validation and update the list of foods and ingredients in section 4.2.1.4 of the General Standard for the Labelling of Packaged Foods (GSLPF) based on risk assessment, establishing threshold levels in foods of the priority allergens, and evaluating the evidence in support of precautionary labelling.

39. **Extraordinary Joint FAO/WHO Meeting on Pesticide Residues (JMPR), Rome, Italy, 12--21 May 2021:** The meeting will evaluate compounds for additional MRLs. The call for data is accessible at http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/2021_JMPR_Call_for_Data.pdf

40. Joint FAO/WHO Meeting on Pesticide Residues (JMPR), Rome, Italy, 7-16 September, 2021. The meeting will conduct new evaluations, periodic evaluations and residue data for additional MRLs.

41. **Joint FAO/WHO Meeting on Pesticide Residues (JMPR), 2021:** The physical session of this meeting originally planned from 15 to 24 September 2020 at FAO Headquarters, Rome, Italy, has been postponed to 2021. Evaluation of scheduled pesticide residues will proceed through the means of written online peer reviews and virtual meetings to the extent possible.

PART II: FINANCIAL AND BUDGETARY MATTERS

42. The budget requirements presented here are based on the requests for scientific advice from a number of Codex subsidiary bodies. This section provides a summary of cost for the provision of scientific advice to Codex in 2019-20 by FAO and WHO based on budgeted expenditures. The final information on 2019-20 expenditure will become available in early 2021.

WHO budget

43. In WHO, the majority of the funds for the activity and staff costs related to the provision of scientific advice in food safety and nutrition is provided through specified voluntary contributions from Member States and

other donors while part of the staff costs is provided through unspecified voluntary and assessed contributions. The scientific advice programme is implemented by the Department of Nutrition and Food Safety.

44. For the biennium 2018-19, activity and staff costs for scientific advice to Codex amounted to USD 8.5 million including USD 4,027,984 in food safety (staff costs: USD 2,384,491 and activity costs: USD 1,643,493) and USD 4,488,490 in nutrition (staff costs: USD 2,429,719 and activity costs: USD 2,058,771) (including relevant and related scientific advice and guideline development work in nutrition).

45. For the biennium 2020-21, USD 8.3 million is budgeted for activity and staff costs related to scientific advice to Codex, including USD 3,965,616 in food safety (staff costs: USD 2,616,616 and activity costs: USD 1,349,000) and USD 4,371,250 in nutrition (staff costs: USD 2,295,250 and activity costs: USD: 2,076,000).

46. By August 2020, Australia, Canada, the European Union, Japan, USA, Irish Aid, Bill & Melinda Gates Foundation, Eleanor Crook Foundation and Vital Strategies have made voluntary contributions to food safety and nutrition. The EU has now also committed funds for the food safety programme and other Members are strongly encouraged to follow this example.

47. The scientific advice activity of WHO heavily depends on specified contributions received from a small number of Members which is gratefully acknowledged, in particular the long-standing support from the United States of America to food safety and Japan to nutrition.

FAO budget

48. In FAO, funds to support the activities and staff costs related to the provision of scientific advice to Codex are budgeted in FAO's regular Programme of Work and Budget and through extra-budgetary resources. Food Safety Scientific Advice to Codex is supported by a number of units and divisions within FAO including the Divisions of Food Systems and Food Safety, Plant Production and Protection, Fisheries, and Animal Production and Health. Scientific advice on nutrition, when requested, is provided by the Division of Food and Nutrition.

49. For the biennium 2018-19, activity and staff costs for scientific advice to Codex amounted to USD 4,616,209 in food safety and USD 590,000 in nutrition,

50. In the 2018-2019 biennium, 92% of staff costs and 77% of the costs of activities actually implemented, amounting to USD 4.4 million were supported by FAO's Regular Programme budget, including the additional USD 500,000 allocation endorsed by the council (CL 161/REP paragraph 19 d), used to toward addressing the backlog of requests in Scientific Advice.

51. For the biennium 2020-21, USD 5.2 million is budgeted for activity and staff costs related to scientific advice to Codex, including USD 4,664,345 in food safety (staff costs: USD 2,084,345 and activity costs: USD 2,737,000) and USD 540,000 in nutrition (staff costs: USD 533,000 and activity costs: USD: 7,000). We note that the amounts budgeted for the 2020-21 Regular Programme reported here, includes the USD 1 million increase in PWB for 2020-21 (CL 163/3 para 30 and CL 164/3 para 59) for scientific advice and standard setting. This sum represents a two percent increase compared to funds allocate in 2018-2019 (CX/CAC 19/42/14 paragraphs 2.7 and 2.8).

52. In the 2020-21 biennium, approximately 95 percent of the budget, amounting to USD 4.95 million, represent allocations from FAO's Regular Programme budget. The remaining 5 percent is funded from extra-budgetary contributions from Canada and USA. The extra-budgetary resources committed at the time of this report for the 2020-21 biennium are equivalent to approximately 50% of the extra-budgetary resources spent on Scientific Advice in the 2018-2019 biennium. Additional extra-budgetary resources are anticipated in the current biennium.

53. The recognition of key scientific advice meetings and consultations to Codex (such as JECFA, JEMRA and JMPR) as Corporate Technical Activities in FAO's Programme of Work and Budget has ensured budgetary security for non-staff activities in the current biennium and is gratefully acknowledged.

Conclusion

54. As indicated above, the way the provision of scientific advice is currently funded is different between WHO (heavily dependent on specified voluntary contributions) and FAO (mainly covered by assessed contributions).

55. Overall the contribution of FAO and WHO to the provision of scientific advice equals to approximately USD 13.5 million per biennium. To ensure the ability of the joint scientific advice programme to be able to deliver even at the current rate, it will be of paramount importance ensure this level of stable and predictable funding from both organizations.

PART III: STATUS OF REQUESTS FOR FAO/WHO SCIENTIFIC ADVICE

56. Both organizations continue to jointly prioritize the requests for scientific advice taking into consideration the criteria proposed by Codex as well as the requests for advice from Member Countries and the availability of resources. A table of the current requests for scientific advice posed to FAO and WHO directly by the Codex Alimentarius Commission and its subsidiary bodies as well as meetings being planned by FAO and WHO in response to requests from member countries is attached as Annex I. It presents the overall status of pending requests for scientific advice received by FAO/WHO as of August 2020.

ANNEX I

JOINT FAO/WHO ACTIVITIES ON PROVISION OF SCIENTIFIC ADVICE ON FOOD SAFETY AND NUTRITION

STATUS OF REQUESTS FOR FAO/WHO SCIENTIFIC ADVICE²

In prioritizing the requests for scientific advice to be addressed, FAO and WHO continue to consider the set of criteria for the prioritization proposed by Codex (ALINORM 05/28/3, para. 75) as well as the requests of advice from Member Countries and the availability of resources. The table below presents the overall status of requests for scientific advice as of August 2020.

#	Request for Advice	Originator	Reference	Required Action by FAO/WHO	Status of Planning/ Implementation	Estimated Cost (US\$) ³	Expected Output by Codex
1	Safety evaluation of contaminants in food (CCCF 6 contaminants or groups of related contaminants)	CCCF	13 th Session of CCCF	Joint FAO/WHO Expert Committee on Food Additives (JECFA)	Evaluation of certain food contaminants for the 90 th JECFA meeting (Geneva, 27 October - 4 November 2020, evaluation of 2 groups of contaminants in food and upon request from CCFO evaluation of 5 groups of previous cargos	350,000	Maximum levels for key food commodities, or other advice as appropriate; Code of practices
2.	Development and validation of risk assessment tools on <i>Vibrio</i> spp. in seafood and advice on methodology for <i>Vibrio</i> spp. in seafood.	CCFH	41 st and 42 nd Sessions of CCFH	Expert meeting to review methodology and develop and validate web-based risk assessment tools.	Following up on the previous activities, a recent review of new data and the possible impacts on risk assessment models and risk management tool is under review and expert meeting was held in 2019 for further input. Report in finalization	250,000 (Fully funded)	Web-based tools and consensus methodology to support the implementation of Codex Guidelines.

²FAO and WHO express appreciation to those governments who have contributed to support FAO/WHO scientific advice activities, either through direct financial support, facilitation of meetings at national institutes, and technical input by national experts. Figures indicate cost of pending actions related to each activity. Figures do not consider staff costs.

³ Total activity costs for FAO/WHO, including publication of reports, but excluding staff costs.

#	Request for Advice	Originator	Reference	Required Action by FAO/WHO	Status of Planning/ Implementation	Estimated Cost (US\$) ³	Expected Output by Codex
3.	Shiga toxin-producing <i>Escherichia coli</i> (STEC)	CCFH	47 th and 51 st Session of CCFH	Data collection and analysis Review papers on the 3 key issues identified Advise on interventions for control of STEC in raw beef, raw milk and raw milk cheeses, fresh leafy vegetables, and sprouts	Two reports of expert consultation were published (MRA31 and 32). Another expert consultation on microbiological hazards associated with pre- and post- harvest controls of STEC in foods of animal origin was held in June 2020.	300,000 (partially funded)	Basis for development of Codex Guidelines on the Control of STEC in beef, raw milk and cheese produced from raw milk, leafy greens and sprout
4.	Scientific advice to help clarify the use of clean, potable and other types of water in the General Principles Food Hygiene and other hygiene text	CCFH	47 th and 48 th session of CCFH	Collation and review of existing water quality related guidance Gap analysis Development of scenario-based advice/guidance on indicator/criteria of water quality appropriate for use	Meeting report of 2 nd expert meetings was published (MRA33) 3 rd expert meeting was held in September 2019, and the report is in finalization.	200,000 (fully funded)	Review of the existing FAO and WHO guidelines and related data as the basis for the development of sector specific examples and guidance documents and Guidelines for the safe use and reuse of water in food production Illustrate the implementation of the approach to define and achieve 'fit-for-purpose' water

#	Request for Advice	Originator	Reference	Required Action by FAO/WHO	Status of Planning/ Implementation	Estimated Cost (US\$) ³	Expected Output by Codex
5.	Scientific advice on Food Allergen	CCFH	50 th session of CCFH and 45 th session of CCFL	<p>Validate and update the list of foods and ingredients in section 4.2.1.4 of GSLPF based on risk assessment</p> <p>Establish threshold levels in foods of the priority allergens</p> <p>Evaluate the evidence in support of precautionary labelling.</p>	Expert meetings will be held in 30 November – 11 December 2020, 15 March-2 April 2021, and 4-15 October 2021	200,000 (partially funded)	Basis for Code of Practice on Food Allergen Management for Food Business Operator
6.	Review of the list of acceptable previous cargoes on fats and oils	CCFO	24 th Session of CCFO (request reiterated by the 25 th and 26 th sessions of the CCFO)	<p>Evaluate whether the 23 substances were suitable as previous cargoes and to provide an assessment against the four criteria as mentioned in the <i>Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk</i> (CAC/RCP 36-1987).</p> <p>Cluster the 23 substances based on chemical properties and rank according to priorities (i.e. low, medium or high).</p>	JECFA 90 will be considering these items	120,000 (funded)	Technical report with the conclusion on suitability as well as the assessment results of the four criteria stated in the CoP. This should include a priority ranking.

#	Request for Advice	Originator	Reference	Required Action by FAO/WHO	Status of Planning/ Implementation	Estimated Cost (US\$) ³	Expected Output by Codex
7.	Pesticide Residues	CCPR	52 nd Session of CCPR	Meeting of the Joint FAO/WHO Meeting on Pesticide Residues (JMPR)	2020 JMPR to be held from 15-24 September in Geneva, Switzerland 2019 extraordinary JMPR (7-17 May, Canada)	400,000 (fully funded) 235,000 (fully funded)	Maximum Residue Limits or other advice as appropriate.
8.	Review and modernization of analytical methods used in monographs	FAO JECFA secretariat		Comprehensive review and to establish modernization needs for all analytical methods used in Volume 4 of Monograph 1	Review paper in progress and one expert meeting On-going	100,000 (partial funding)	Replacing obsolete analytical detection methods and ensure consistency of analytical approaches
9.	Review and update of Chapter 3: Chemical Characterization, Analytical Methods and the Development of Specifications in EHC240: Principles and methods for the risk assessment of chemicals in food	FAO JECFA secretariat		Review, update and modernizations of current guidelines regarding the chemical characterization and the use of analytical methods	Review paper and expert meeting On-going	100,000 (no funding)	Critical modernization need to facilitate the work for CCFA, CCCF, CCRVDF

#	Request for Advice	Originator	Reference	Required Action by FAO/WHO	Status of Planning/ Implementation	Estimated Cost (US\$) ³	Expected Output by Codex
10.	Update guidance on genotoxicity evaluation, update of chapter 4.5 of EHC240	WHO JECFA & JMPR Secretariat		Update guidance on the evaluation and interpretation of genotoxicity data and overall conclusions of genotoxic potential, including minimum data requirements	On-going	80,000 (partial funding)	
11.	Update of Chapter 5 of EHC240 on dose-response assessment and derivation of health-based guidance values	WHO JECFA & JMPR Secretariat		Develop more detailed guidance in particular on the application of benchmark dose modelling and overall update on chapter taking latest developments and recommendations by JECFA and JMPR into account	On-going	80,000 (partial funding)	
12.	Update of Chapter 6 of EHC240 on Exposure Assessment	JECFA&JMPR Secretariat		Update chapter taking recent developments and recommendations from workshops and by JECFA and JMPR into account.	A draft update of the chapter is published for comments until 31 May 2020 https://www.who.int/docs/default-source/chemical-safety/ehc240-chapter6-edited(4-1).pdf?sfvrsn=96810319_0	80,000 (partial funding)	
13.	Update of microbiological risk assessment methodology	JEMRA secretariat		Review and update the principles, criteria and processes underpinning the microbiological risk assessment	On-going	80,000 (fully funding)	

#	Request for Advice	Originator	Reference	Required Action by FAO/WHO	Status of Planning/ Implementation	Estimated Cost (US\$) ³	Expected Output by Codex
14.	Update of risk assessment on <i>Listeria monocytogenes</i> in RTE food	JEMRA secretariat		Data collection and analysis. Review and update existing risk assessment on <i>Listeria monocytogenes</i> in RTE food	Expert meeting will be held in 20 October to 6 November 2020.	80,000 (partially funded)	Review existing Codex guideline
