

Enhancing developing country participation in FAO/WHO scientific advice activities



World Health
Organization



Food and Agriculture
Organization of
the United Nations

Enhancing developing country participation in FAO/WHO scientific advice activities

Report of a Joint FAO/WHO Meeting
Belgrade, Serbia and Montenegro
12–15 December 2005

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FAO/WHO Meeting on Enhancing Developing Country Participation in Scientific Advice Activities

Belgrade, Serbia and Montenegro, 12–15 December 2005

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LIST OF ACRONYMS USED IN THE REPORT

ABRII	Agriculture Biotechnology Research Institute of Iran
ADEPT	Accession Oriented Dutch European Proficiency Training
ADI	Acceptable Daily Intake
AGNS	Food Quality and Standards Service
ALCUE	Common Area in Higher Education, Latin American and Caribbean Countries and European Union Member States
AUGM	Asociación de Universidades del Grupo Montevideo
CCFAC	Codex Committee on Food Additives and Contaminants
CCPR	Codex Committee on Pesticide Residues
CCRVDF	Codex Committee on Residues of Veterinary Drugs in Foods
CIRAD	Agricultural Research Centre for International Development
CvLAC	Curriculum Vitae de Latinoamérica y el Caribe
DAFNE	Data Food Networking
EU	European Union
GEMS/Food	Global Environment Monitoring System/Food Contamination Monitoring and Assessment Programme
FAO	Food and Agriculture Organization of the United Nations
FAO/IAEA	Food and Agriculture Organization of the United Nations/International Atomic Energy Agency
FIAB	Food Safety and Food Industry and Agribusiness Development (ADEPT)
IAC	International Agricultural Centre
INFOODS	International Network of Food Data Systems
INFAL	Intramerican Network of Food Analysis Laboratories
INFOSAN	International Food Safety Authorities Network
INPPAZ	Pan American Institute for Food Protection and Zoonoses
ISF	International Science Foundation
JECFA	Joint FAO/WHO Expert Committee on Food Additives
JFCA	Journal of Food Composition and Analysis
JEMRA	Joint FAO/WHO Expert Meeting on Microbiological Risk Assessment
JMPR	Joint FAO/WHO Meeting on Pesticide Residues
LIMS	Laboratory Information Management System
LNV	Dutch Ministry of Agriculture, Nature and Food Quality
MRL	Maximum Residue Limit
PAHO	Pan American Health Organization
RIKILT	Institute of Food Safety (The Netherlands)
SEE	South-Eastern Europe
UNEP	United Nations Environment Programme
US FDA	United States Food and Drug Administration
UNU	United Nations University
WHO	World Health Organization
WHO SIGHT	World Health Organization Summary Information on Global Health Trends

EXECUTIVE SUMMARY

The *FAO/WHO Meeting on Enhancing Developing Country Participation in Scientific Advice Activities* was one activity in a series of efforts by FAO/WHO to respond to the request of the Codex Alimentarius Commission, to carry out "a review of the status and procedures of the expert bodies in order to improve the quality, quantity and timeliness of scientific advice"¹. In particular, experts at the meeting explored new approaches to enhance the availability of data and expertise from developing countries, to the FAO/WHO programme on scientific advice on food safety and nutrition.

The Meeting recognized the important contribution of experts from developing countries to the FAO/WHO scientific advice activities and the challenges that still exist which prevent or lead to some experts/data from developing countries, not being considered in the international scientific advice programme. This was a major focus for the Meeting to look for ways of optimizing the potential for experts and data from developing countries to be included in the FAO/WHO scientific advice activities. The Meeting considered that solutions to overcome these challenges may be achieved through multiple interventions, both at national and international levels. Therefore relevant recommendations were provided to the international scientific community, member countries, and FAO and WHO.

The Meeting proposed recommendations focusing on three main areas: 1. greater inclusion of data from developing countries; 2. enhancement of the potential for experts from developing countries to be selected as members of expert meetings and have an effective participation in these meetings; and, 3. means to enhance the enabling environment at national, regional and international levels. The Meeting experts defined mechanisms, plans, and processes to enable FAO/WHO and member countries to better communicate with experts and institutions.

In terms of increasing the generation and availability of data, the Meeting considered challenges posed by limited resources, current channels for information dissemination, language requirements, and cultural aspects as issues to be addressed. Proposals were offered on the needs for clearly describing specific data needs and criteria for consideration of data submitted, developing a standard format for data submission, increasing support for data generation, assuring data quality and comparability and enhancing knowledge among developing countries of the process for ensuring their priority scientific advice issues are considered at the international level.

To enhance the availability of potential experts to participate in expert meetings, the Meeting proposed specific mechanisms to enhance the current identification of experts, including a wider dissemination of calls for experts, and enhancing the communication with experts.

The Meeting experts considered the enabling environment to include national infrastructure where scientists work and generate data, as well as aspects related to the implementation of the FAO/WHO scientific advice programme at a more global level. The Meeting addressed a number of areas, and made recommendations in the interest of strengthening scientific advice at national and international levels. They considered enhanced information dissemination, development of training and general advocacy materials, and increased awareness of the importance of the FAO/WHO scientific advice activities as being important factors that can lead to a strengthened enabling environment. Furthermore, options to secure extra-budgetary funding, development of information sharing networks, development of a programme for mentoring and twinning, and strengthening targeted capacity building activities for experts and data collection should be examined.

The outputs of this meeting will apply to experts and data involved in all meetings convened by FAO/WHO to provide scientific advice on food safety and nutrition, including meetings/expert consultations under the umbrella of JECFA, JMPR, JEMRA and *ad hoc* consultations, as well as technical reviews as required.

The final conclusions and outputs of the meeting will be presented to FAO/WHO member countries at the 29th Session of the Codex Alimentarius Commission, 3–7 July 2006, Geneva, Switzerland.

¹ 24th Session of the Codex Alimentarius Commission, July 2001, (para. 61, ALINORM 01/41)

1. INTRODUCTION/OPENING REMARKS

The *FAO/WHO Meeting on Enhancing Developing Country Participation in Scientific Advice Activities* was held in Belgrade (Serbia and Montenegro) from 12 to 15 December 2005. The meeting, organized in collaboration with the Institute of Bromatology, Faculty of Pharmacy, Belgrade University, explored new approaches to enhance the availability of data and expertise from developing countries for the FAO/WHO programme on scientific advice. It was considered that this may be achieved through multiple interventions, both at national and international levels and therefore suggestions were provided to the international scientific community, member countries, and FAO and WHO.

The meeting was officially opened by Ms Jela Bacovic, Director of the Office for European Integration, Ministry of Internal Economic Relations. Ms Bacovic welcomed the participants on behalf of the Government of Serbia and Montenegro and highlighted the importance and timeliness of the meeting. She advised that a new food law is currently before Parliament, and Serbia and Montenegro is entering negotiations for EU accession. In view of this, the Government fully supports the technical discussions to be undertaken by the participants at the meeting. In conclusion, she stressed the need for a coordinated approach between government agencies, universities and other institutions to develop strong science based food safety programmes.

Prof Dr Darko Ivanovic, Dean of the Faculty of Pharmacy, extended a warm welcome to the meeting participants and hoped that the facilities would provide an environment for successful deliberations. On behalf of the Food and Agriculture Organization of the United Nations (FAO), Dr Maria de Lourdes Costarrica, Senior Officer, Food Quality and Standards Service, expressed her gratitude to the host institute and highlighted the importance for FAO of maintaining this type of collaboration with scientific institutions. She advised the meeting participants that FAO and WHO have carried out many efforts to improve the quality, quantity and timeliness of the scientific advice provided, and it was hoped that this group of experts could provide new insights and activities to continue enhancing the input of experts and data from developing countries to the scientific advice process.

On behalf of the World Health Organization, Dr Melita Vujinovic, WHO Liaison Officer (WHO Country Office of Serbia and Montenegro), welcomed the meeting. She commented on the importance of food as a commodity, with impact on trade, economy and culture, as well as on the need to provide safe food to assure consumer health and protection. To attain consumer protection for all, it will be important to work in an intersectoral manner, through an interdisciplinary forum. In addition to the introduction of the new food law, Serbia and Montenegro will also face challenges in the implementation of the food law provisions.

To conclude, Dr Ivan Stankovic, Professor at the Faculty of Pharmacy addressed the participants and wished them a very successful meeting.

Further hospitality, on behalf of the Government of Serbia and Montenegro, was extended to the Meeting participants at a reception hosted by Mr Amir Nurkovic, Minister for Internal Economic Relations of Serbia and Montenegro. This reception provided an opportunity for an interesting discussion between the Minister and both FAO and WHO and the Meeting participants.

2. BACKGROUND AND RATIONALE FOR THE MEETING

This meeting is one activity in a series of joint efforts by FAO and WHO to respond to the request of the Codex Alimentarius Commission, to carry out "a review of the status and procedures of the expert bodies in order to improve the quality, quantity and timeliness of scientific advice"². In 2003, in response to this request, FAO/WHO initiated a "consultative process", which has included to date, an electronic forum (1 October - 14 November 2003), and a joint FAO/WHO workshop, 27–29 January 2004³. Through these activities, a wide number of stakeholders were brought together to discuss several aspects of the process and existing FAO/WHO procedures and processes for the provision of scientific advice.

² 24th Session of the Codex Alimentarius Commission, July 2001, (para 61, ALINORM 01/41)

³ Complete information on the consultative process is available from http://www.fao.org/ag/agn/proscad/index_en.stm

A key recommendation of the *Joint FAO/WHO Workshop on the Provision of Scientific Advice to Codex and Member Countries, 27–29 January 2004* was that FAO and WHO were “to make every effort to achieve full participation of developing countries in the provision of scientific advice”. Readers are advised to consult the report for the rationale for this, and further recommendations (available at: http://www.fao.org/ag/agn/proscad/workshop_en.stm).

Some specific suggestions resulted from the January 2004 workshop, on mechanisms to enhance participation of developing countries. They included:

- FAO/WHO offices act as a resource centre – provide documentation, advertise calls for experts, provide training;
- Increase funding to support experts in meetings and the possibility of a Trust Fund;
- Opportunity for mentoring/twinning;
- FAO/WHO to consider regional programmes, partnerships;
- Increased communication between FAO/WHO offices.

Furthermore, additional issues to consider were to enhance and support involvement of experts including the provision of financial support, enhanced recognition for experts, release of experts by governments, provision of training/information and addressing the language barrier. For data issues, it was suggested that clear guidelines be established on data quality assurance criteria, inclusion/exclusion of data in expert panels, confidentiality, recognition of data and efforts be made to prevent language of data limiting its use.

To explore these suggestions in more depth and to propose new approaches and mechanisms to enhance the availability of data and expertise from all parts of the world, the present meeting was convened.

3. EXISTING FAO/WHO PROCEDURES

FAO and WHO follow established procedures⁴ for the selection of experts, to assure the scientific advice provided meets the criteria of excellence, independence and transparency. In appointing experts, FAO and WHO consider, the scientific and technical excellence, diversity and complementarity of scientific backgrounds and opinions, as well as geographical and gender balance. All experts are required to act in their personal capacity and do not represent their respective employer, government or organization. Experts are requested to complete a declaration of interest before every meeting for which they accept to serve, in order to assure the independence of the expert advice. FAO/WHO issue open “Calls for Experts” as the first step in the process of identifying experts for FAO/WHO scientific meetings. In addition, targeted searches for experts and review of scientific literature are important mechanisms to identify potential expertise. A selection criteria is established against which experts are assessed, in order to arrive at a final group of experts for a given meeting.

When providing scientific advice, FAO and WHO must make use of existing data. Data is available from three main sources: government agencies, published literature, and private industry. Efforts are made to ensure reliable sources of data with consideration given to obtain the necessary data from the geographical regions concerned. Irrespective of the data provider, the Joint FAO/WHO Secretariat works closely with data providers to ensure that the data is available and adequate for the purpose of the meeting agenda. This data will be reviewed by the expert committees and where additional or supplementary data is required, the FAO/WHO Secretariat contacts the submitters of the data to try and obtain this additional data. All data received is acknowledged in the final documentation.

To further enhance the level of understanding and promote transparency of FAO/WHO procedures for the provision of scientific advice, a publication entitled “*FAO/WHO Framework for the Provision of Scientific Advice on Food Safety and Nutrition*” is being finalized.

⁴ Please refer to webpages of the expert bodies and ad hoc committees - http://www.fao.org/ag/agn/jecfa/index_en.stm; http://www.fao.org/ag/agn/jemra/index_en.stm; http://www.fao.org/ag/agn/food/risk_biotech_en.stm; <http://www.fao.org/ag/agp/agpp/pesticid/>.

The Meeting experts were reminded of the FAO and WHO principles supporting the joint programme on scientific advice. These principles include *soundness, objectivity, fairness, inclusiveness, responsibility, and transparency*. In essence, they provide the framework for upholding the quality and soundness of the science. The inclusion of experts and data representing a range of views and expertise, reflecting regional differences in food production and technologies, different consumption patterns and taking into consideration the predominance of food safety hazards in different countries/regions contributes to achieving these core principles.

4. DIRECTION FOR THIS MEETING

The important contribution of experts from developing countries to the FAO/WHO scientific advice activities was recognized. However, despite the existing procedures and efforts of FAO/WHO, challenges may exist which prevent or lead to some experts and data from developing countries, not being considered in the international scientific advice programme. These include scientific isolation, language barriers, lack of knowledge of FAO/WHO meeting procedures, lack of data to support a risk assessment and poor communication at a national level between relevant partners. The meeting experts were asked to clearly address the limitations facing data collection and expert participation and to consider the enabling environment required to enhance the availability of data collection and experts from developing countries. Based on their practical experience, experts were encouraged to define mechanisms, plans, and processes to enable FAO/WHO to reach out to experts and institutions.

In making recommendations and proposals, experts were reminded of the scope and context of the FAO/WHO scientific advice programme on food safety and nutrition. The scope of scientific advice includes health risks from microbiological hazards in foods (fungi, bacteria, viruses and prions), chemicals (food additives, veterinary drugs residues, pesticide residues, contaminants and natural toxins), foods derived from biotechnology, food irradiation, and nutrition issues (probiotics, nutrient requirements and the nutrient composition of food).

Furthermore, the outputs of this meeting will apply to experts and data involved in all meetings convened by FAO/WHO to provide scientific advice on food safety and nutrition. This includes meetings/expert consultations under the umbrella of JECFA, JMPR, JEMRA and *ad hoc* consultations, as well as technical reviews as required. The experts were requested to be mindful of the need to achieve a balance between what is desirable and essential, and what is feasible, taking into consideration the existing FAO/WHO procedures and adopted principles; resource limitations of the Joint FAO/WHO Secretariat; and resource limitations of capacity building programmes. Deliberations should focus on ways to maximize effectiveness of all global efforts, rather than establishing new and parallel initiatives.

The final conclusions and recommendations of the meeting will be presented to FAO/WHO member countries at the 29th Session of the Codex Alimentarius Commission, 3–7 July 2006, Geneva, Switzerland.

5. OBJECTIVES OF THE MEETING

The objectives of the Meeting were to identify:

- limiting factors and the most promising approaches;
- potential mechanisms to better reach out to qualified experts and institutions in developing countries, including mechanisms to search for information/experts which may not be easily accessible through normal channels, such as peer reviewed journals;
- suggested plans to strengthen the capacity of developing country experts to participate effectively in expert meetings, including training efforts at international and national level, involving governmental, non-governmental and scientific institutions;
- processes at regional level to generate and collate scientific data from developing countries and facilitate its input to international FAO/WHO scientific advice.

6. ADOPTION OF THE AGENDA AND APPOINTMENT OF CHAIRPERSONS AND RAPPORTEURS

The Meeting appointed Dr Ivan Stankovic as Chairperson and Dr Hettie Schönfeldt as Rapporteur. FAO and WHO identified no conflicts of interest for the experts of the Meeting. A list of the Meeting participants is given in Annex 1.

The Meeting adopted the agenda outlined in Annex II.

It was agreed to form three working groups described in Annex III, with the following coordinators and rapporteurs. A list of participants in each group is also provided.

Working Group I: Proposals for enhancing quality, collection and use of data
Dr Yukiko Yamada (Coordinator); Dr Daniel Duris (Rapporteur)

Working Group II: Proposals for enhancing identification and availability of experts
Dr Sinhaseni Palarp (Coordinator); Dr Camiel Aalberts (Rapporteur)

Working Group III: Proposals for enhancing enabling environment (partnerships, capacity building, networks)
Dr Behzad Ghareyazie (Coordinator); Dr Richard Ellis (Rapporteur)

7. ORGANIZATION AND FORMAT OF THE MEETING

The Meeting began with an introductory session by the FAO/WHO Secretariat outlining the context and reasons for convening the meeting, and the expected outputs. All participants made a short presentation on a relevant topic for the meeting⁵. Please refer to Annex XI for the abstract of each presentation.

Experts' discussions and deliberations occurred in the three working groups described above and in plenary sessions. As initial guidance, each group was presented with a set of challenges (see Annex III) relevant to their group topic, for which they were requested to develop practical solutions. The plenary sessions facilitated the sharing of information and ideas between the working groups, and ensured a consensus opinion on all the outputs and recommendations of the Meeting.

In order to ensure the Meeting addressed priority issues, experts were requested to note on index cards topics considered important in order to meet the overall objectives of the meeting. These topics are included in Annex IV, and were discussed by the relevant working group.

8. FINDINGS AND RECOMMENDATIONS

The following issues and recommendations were agreed upon by the Meeting.

8.1 General issues – related to data

8.1.1 Lack of resources for data generation and data collection

The ability of national governments in developing countries to access existing databases, and implement research projects are often restricted due to the lack of resources, but are important activities for data generation and collection. Some barriers identified included existing databases are often operated on a fee paying basis. It was also observed that permanent funds are not always made available or dedicated to these goals of data generation and collection.

⁵ Copies of the experts' presentations and other background documents for this meeting are available at http://www.fao.org/ag/agn/proscad/meeting_en.stm.

Rationale

While adequate national resources may not be available, opportunities for external sources of funding, if properly pursued may provide much needed funds for priority initiatives at national and/or regional level. An important constraint for developing countries is that projects must satisfy a certain criteria to be eligible for funding agencies (e.g. they must meet donor's priorities or have a minimum budget). Furthermore, cooperation at regional level and networking projects are encouraged by funding agencies and donors. Donors are interested in twinning projects between developed and developing countries in order to mobilize funds (e.g. ALCUE - Food project an INCO project funded by EU and executed by Argentina, Belgium, Brazil, Chile, France, Portugal, Spain, and Uruguay).

Recommendations

- Governments and scientists should bring the attention of funding organizations and donors to small scale projects for developing countries in specific problem areas, particularly those related to food safety during normal planning sessions. Researchers should more diligently identify funding agencies that fund small scale projects.
- Encourage scientists and their respective organizations to organize and participate in regional conferences and meetings and to include food safety as part of the programme (thereby providing a forum for research teams to exchange experiences, permit the identification of problems and priority needs for research and facilitate setting up of projects).
- Encourage scientists to set-up regional projects for data generation on identified priorities, through partnerships among developing countries, and between developed and developing countries.
- Contact possible sources of funding including bilateral and regional support programmes.
- Resources should be mobilized through submission of project proposals to interested donors. (For example to achieve the objectives of the prevention of mould formation on coffee, it was necessary to generate data. Funds have been mobilized from CFC, ECF, FAO, CIRAD).
- Promotional information on established funding programmes needs to be widely distributed. For example, the WTO/FAO/WHO/OIE/WorldBank programme on Standards and Trade Development Facility (STDF) may provide guidelines on preparation of projects and the selection criteria.

8.1.2 Information dissemination

The Meeting noted the need to increase and improve dissemination of the results of the expert meetings to different types of audiences in order to facilitate their use in advancing science.

Rationale

FAO and WHO have well established channels for publishing and communicating the outputs of all expert meetings, e.g. WHO Food Additives Series (FAS), Compendium of food additive specification (FAO Food and Nutrition Paper (FNP), FAO/WHO Microbiological Risk Assessment Series. However, it was suggested that publishing relevant information in peer reviewed journals may give greater recognition to individual experts, and may also reach a more diverse group of readers. This may also provide the possibility to publish summaries of the outputs of meetings.

Recommendations

FAO/WHO Secretariat of expert bodies and consultations/meetings should:

- Explore possibilities to publish abstracts, reviews and/or information notes on the results of expert meetings in scientific journals, including their importance for decision making in food safety.
- Explore the feasibility of publishing outputs from the meetings, such as technical chemical assessments, summary of monographs or technical documents, with the names of the original

authors in scientific journals. Special attention, however, will need to be given to aspects relating to confidentiality, ownership of data and intellectual property.

- Improve the electronic lists currently in use to disseminate information on availability of the reports, e.g. Food Quality and Safety Update (AGNS Newsletter), International Food Safety Authorities Network (INFOSAN), Intra-American Network of Food Analysis Laboratories (INFAL) to ensure inclusion in those lists of contacts of national and regional networks dealing with food safety matters.
- Make provisions to participate in, and distribute publications, booklets etc. on provision of scientific advice, in different type of fora, for example Worldwide Congress on Food Ingredients, World Congress of Food Science and Technology and International Conferences on relevant food industry/animal health/food science and technology and public health/nutrition and risk assessment matters.
- Continue the distribution of reports of expert meetings through the Codex system but expand distribution of information about the availability of the reports through university networks, food industry and consumers associations.
- Prepare short technical reports on the outputs of expert meetings, and their importance, for publication in specialized journals.

8.1.3 Language of publication/data

FAO and WHO, and the panels themselves, should make every effort to ensure that language does not limit the provision and publication of data.

Rationale

In general, data submitted to FAO/WHO expert bodies must be provided in English. This can lead to valid data not being considered where it is not provided in English.

Recommendations

- To enhance and facilitate collection of data, translation of the request for data at a national level is encouraged.
- Participating organizations and sponsors should extract relevant data from reliable non-English sources, including unpublished data and national publications and assist in translation into English if so required.

8.2 *Proposals for enhanced quality, collection and use of data*

8.2.1 Fitness for purpose of data

Data submitted to scientific advisory bodies should be fit for the purpose of scientific evaluation and scientific advice.

Rationale

Some of the data submitted to scientific advisory bodies did not meet data requirements or was not suitable for the purpose of scientific evaluation and provision of scientific advice. In order for data providers including those in developing countries to generate, collect and provide data which are fit for the purpose of scientific evaluation and provision of scientific advice, the meeting noted the need for the FAO/WHO Secretariat to increase current efforts to clearly indicate the data requirements together with scope, purpose and rationale for collecting data and any other pertinent instructions at the time of issuing the call for data.

Recommendation

- FAO and WHO should clearly describe in more detail the following when calling for data:
 - scope and purpose for collecting data
 - rationale: significance of data at national and international level
 - type of data
 - reporting format

8.2.2 Facilitating developing country priorities being considered in scientific advice activities

FAO/WHO have established criteria for establishing priority topics for the implementation of expert meetings, based on the range of requests received from Codex and directly from member countries.

Rationale

Developing countries are not always successful in forwarding their priorities in international meetings. This may be due to a lack of awareness of the process, inadequate technical capabilities in specified areas, lack of data collection and timely submission of data.

Recommendations

- FAO/WHO should assist national governments to establish criteria for setting national priorities on scientific advice and to facilitate their consideration in international meetings.
- National governments should identify food safety priorities and improve data collection to facilitate consumer confidence and trade. Support to the initiatives of industry associations, consumer organizations and NGO are recommended.

8.2.3 Encouraging data generation and collection

Data to be evaluated by scientific advisory bodies should also include data from developing countries in various regions of the world to ensure the international relevance of the scientific advice.

Rationale

Relevant and reliable data from all sources, including from developing countries is considered by the FAO/WHO Secretariat in response to the “Calls for Data”. More data from developing countries in various regions is necessary as recognized by the opinion of the *Joint FAO/WHO Workshop on the Provision of Scientific Advice to Codex and Member Countries, 27–29 January 2004* which recommended that means should be developed to overcome the following:

- *Lack of understanding in developing countries of both the need to provide data and the types of data required;*
- *Deficiencies in the infrastructure and mechanisms in developing countries to generate and collate the data necessary; and*
- *Limited facilities, personnel and operating funds.*

The Meeting considered that it is necessary to explain not only the need for data, but also the advantages resulting from data submission and the disadvantages from not submitting data. For example, when there are insufficient data, scientific advisory bodies may decide that recommendations are temporary. If the missing data are not generated and submitted, these temporary recommendations will be withdrawn.

Increasing awareness of governments, industry and research institutions (and researchers) (see page 12), dissemination of scientific advice to wider audience (see page 13), and seeking funds and other resources for generating and collecting data (see page 13) are also critical to increase data generation and collection activities (report available at www.fao.org/ag/agn/proscad/workshop_en.stm). The importance of

developing new networks and channels and extending contacts with Codex Contact Points, universities, industry associations and other relevant parties was recognized.

Recommendations

- FAO/WHO and governments should clearly describe for potential data providers the advantages of providing data and the disadvantages of not providing data, to increase incentives for data submission to FAO/WHO.
- FAO/WHO and Codex Secretariats may prepare upon request by Codex committees, in relation to Codex priority lists, an inventory of substances proposed for evaluation but not yet scheduled due to the lack of data. This may increase the focus on existing data gaps and lead to data generation/collection in order to improve participation of developing countries.
- In addition to submitted data, experts selected for FAO/WHO meetings are encouraged to collect additional data through available sources, such as literature and scientific experts as appropriate. If suitable, the FAO/WHO Secretariat could supplement this on occasion.
- FAO/WHO should support and encourage scientific institutes and experts in developing countries involved in data generation and collection, (e.g. strengthening literature review capacity).
- Governments and experts should try to develop networks and information exchange at national, regional and international levels for generation and collection of data.
- FAO/WHO and governments should expand contacts with Codex Contact Points, university networks and concerned food industries as ways of obtaining data.
- FAO Centres of Excellence and WHO Collaborative Centres should assist in extracting and formatting relevant data from unpublished data in English upon request from FAO and WHO respectively.

8.2.4 Promoting and enhancing data submission

The Meeting recognized the importance of the recommendation of the *Joint FAO/WHO Workshop on the Provision of Scientific Advice to Codex and Member Countries, 27–29 January 2004*, with respect to data collection.

“FAO and WHO should enhance the participation of developing countries from all regions in all aspects of the scientific advice process, including identifying priority needs, outreach to scientific experts, training for the purpose of knowledge transfer, as well as access to and use of the outputs of expert bodies. This includes the recognition of regional efforts to generate, collect and coordinate data for risk assessments.”

Rationale

Scientific advice from the expert bodies/committees (JECFA, JMPR, JEMRA and *ad hoc* expert meetings), is based on available data. Where there is a lack of data from developing countries, the decisions taken are mostly based on the data provided by developed countries. Therefore there is a need to emphasize the problem, and explore means of possible support to developing countries in this regard.

Recommendations

- Collection of data on chemical contaminants in foods from developing countries, implementation of food consumption surveys and total diet studies can be used to provide data to assessment bodies and establish priorities. To develop such studies, it is recommended that FAO/WHO explore the possibilities to provide technical assistance to developing countries, including training.
- A guideline should be developed (GEMS/Food format and reporting manual already are available at <http://www.who.int/foodsafety/publications/chem/en/gemsmanual.pdf>) by FAO/WHO, for collection

of data to facilitate standardized format for data submission. Refer to Annex VI for a proposed guide that should accompany the data for the evaluation of food contaminants.

- Guidelines for the collection of data for risk assessment of microbiological hazards in foods should be developed using recent information on data gaps generated by JEMRA and draft guidelines available for the collection of data (e.g. Framework for Identification and Collection of Data Useful for Risk Assessments of Microbial Food or Waterborne Hazards - A report from the ILSI RSI Advisory Group, in press).

8.2.5 Data quality

Data to be used in scientific evaluation should be of acceptable quality (e.g. following GLP and quality assurance procedures) and representative of populations and subpopulations in question.

Rationale

Data submitted to scientific advisory bodies are of different quality. The Meeting noted different requirements concerning accreditation and quality assurance in different countries and in different disciplines and highlighted the problems facing laboratories due to the cost for quality assurance systems.

Guidance is available at an international level. For example, the GEMS/Food format for data submission requires information on sampling, validation of methods used, accreditation and participation in proficiency testing. Furthermore, the Codex General Guidelines on Sampling⁶, Codex Guidelines on Food Control Laboratory Management: Recommendations⁷, and Codex Guidelines for the Assessment of the Competence of Testing Laboratories Involved in the Import and Export Control of Food⁸. ISO standards⁹ are available for the purpose of quality assurance and method validation and these recommendations may be utilized to ensure and improve the quality of data. It was pointed out that for some region - or country - specific food matrices, no standard materials or proficiency testing were available. A coordinated effort may be necessary among countries in a given region to prepare standard materials if feasible.

Recommendations

- Codex recommendations or other relevant internationally agreed recommendations should be followed in relation to sampling, quality assurance and method validation.
- Accreditation, participation in proficiency testing and preparation of standard materials should be encouraged.
- Samples should preferably be analyzed in laboratories which have quality assurance procedures in place.

8.2.6 Use of data by scientific advisory bodies

Data submitted to FAO/WHO scientific advisory bodies are of different quality and from different sources. Harmonized criteria should be established as the basis for assessing use of submitted data, i.e. inclusion/exclusion of data based on quality issues. Where data of insufficient quality only are available, they may be used in scientific evaluation with clear indication of uncertainty and limitations of such data.

Rationale

Expert committees receive data of different quality from different sources, including industry, governments and scientific literature. Currently, each expert committee decides whether to accept data for use in scientific evaluation independently. For example the Manual on the Submission and Evaluation of

⁶ CAC/GL [50-2004] General Guidelines on Sampling

⁷ CAC/GL [28-1995, Rev.1 - 1997] Guidelines on Food Control Laboratory Management: Recommendations

⁸ CAC/GL [27-1997] Guidelines on the Assessment of the Competence of Testing Laboratories Involved in Import and Export Control of Food

⁹ e.g. ISO/IEC 17025:1999

Pesticide Residues Data for the Estimation of Maximum Residue Levels in Food and Feed (FAO Plant Production and Protection Paper 170) explicitly describes the data requirements for JMPR. For pesticide specifications the Manual for the Development and Use of FAO and WHO specifications for Pesticides (FAO Plant Production and Protection Paper 173) provide such details on data requirements for the Joint FAO/WHO Panel on Pesticide Specifications (JMPS).

Noting that JECFA have also determined criteria at various meetings, the meeting felt it necessary that these criteria be documented with necessary modifications to provide guidance to these scientific advisory bodies. Due to the differences in data requirements between expert committees, it may be necessary to develop specific guidance documents for each committee. This will increase transparency and fitness-for-purpose of data and be of help in data generation and collection as well.

Recommendation

- FAO/WHO should compile criteria for the inclusion/exclusion of data used by expert bodies taking into account the criteria already determined by multiple expert meetings with necessary modification. Due to the difference in data requirements between the expert committees, development of specific guidance documents for expert committees should be considered, where not already done so.

8.2.7 Confidentiality, intellectual property rights and ethical considerations of data used by expert committees

The Meeting analyzed the recommendations of the *Joint FAO/WHO Workshop on the provision of scientific advice to Codex and member countries, 27–29 January 2004* on these matters, in particular

“FAO and WHO should develop general guidelines related to confidentiality, intellectual property rights, and ethical considerations related to data.”

Rationale

The Meeting took note of the advances made by FAO/WHO to ensure confidentiality of data used by expert meetings and encouraged both organizations to communicate those advances to data providers. Experts also recognized the increasing impact that problems related to the use of data generated, and the influence of grant providers on the willingness of institutions to provide original data before their publication.

Recommendation

- The participants of the Meeting reiterated the recommendation from the January Workshop, 2004 to FAO/WHO to develop guidelines on handling intellectual property rights and ethical considerations for data submitted.

8.3 *Enhancing identification and availability of experts*

The current FAO/WHO system for identifying and inviting experts by issuing open calls and the development of rosters for ongoing expert committees was noted. The Meeting considered that these procedures have not always proven successful in including sufficient experts from developing countries and proposed that the system may be strengthened. Taking into account the principles recommended in the January 2004 workshop, the meeting addressed the challenges outlined in Annex III, in order to identify efforts to better reach a geographical and socioeconomic balance of representation in the meetings. This was considered an important objective as part of the efforts to apply the FAO/WHO core principles in a comprehensive manner.

8.3.1 Improved identification of potential experts

The current FAO/WHO procedures for identification of experts through open calls for experts and the compilation of expert rosters are important mechanisms. However, their effectiveness in continuing to identify new experts may be improved.

Rationale

The established mechanisms of open call for experts, and the expert rosters, may be strengthened by making better use of national and regional sources of information on available experts, including databases.

Recommendations

- FAO/WHO should expand existing FAO/WHO rosters with experts from the public sector, academia and other relevant organizations. Identification of experts at a national level could enable an appropriate and efficient selection of candidates. Assurance should be given regarding the transparency and independence of the process for identifying national experts
- In the search for experts, national and regional databases should be used. Where those databases do not exist, national or regional databases should be developed with assistance from national Codex Committees or similar national structures, FAO regional offices, or University associations, professional societies, and existing experts as most appropriate for specific countries.
- In an effort to harmonize information, these national databases may contain virtually the same information as stated in the standardized FAO or WHO personal history form (http://www.fao.org/va/vac_en.htm, http://www.who.int/hac/about/personal_history_form.pdf) and in addition it should include the following information for each expert:
 - participation in national and international expert committees;
 - involvement in international and national capacity building, relevant policy development activities, development of food safety policy and regulation, food industry, monitoring and surveillance, implementation of regulatory systems;
 - skills in knowledge transfer and relevant personal skills.
- Where national databases are developed, it should be in English and the appropriate national language, to enhance its usefulness for both national and FAO/WHO purposes.

8.3.2 Wider dissemination of open calls

The calls for experts are disseminated through established channels by FAO/WHO Secretariats.

Rationale

The current communication channels used to disseminate the calls for experts could be reviewed, with the aim of increasing the audience reached. Making a closer link to national and regional networks, may facilitate access to a broader group of experts. The calls for experts should clearly identify the type of expertise required.

Recommendations

- In addition to the present means of disseminating the “Call for Experts” such as in the website of FAO/WHO, international journals, and available mailing list etc., FAO/WHO could assign one of the experts who have experience of collaborating with FAO/WHO in scientific advice as “correspondent” in each of the developing countries. Their role could include the dissemination of the call for experts to known experts in their country, and equally to encourage experts to respond to the call for experts, and eventually provide advice to FAO/WHO about potential experts.
- Profiles of the required experts should be clearly described in FAO/WHO calls for experts.

- Open calls for experts should be sent through all relevant channels, such as professional societies, national databases etc. to ensure as wide coverage as possible. An initial list has been developed and is attached as Annex VII.

8.3.3 Enhancing the relationship/communication with experts

Experts selected to participate in an FAO/WHO expert meeting may do so one time only or may be invited to contribute more than once where their expertise meets the specific requirements.

Rationale

Opportunities for, and input by experts may be improved where a more sustained relationship is developed between individual experts and the FAO/WHO Secretariats. In broader terms, experts involved in FAO/WHO scientific advice meetings over time will gain a very specific expertise, which may contribute to enhancing national activities related to food safety and scientific advice and should be recognised.

Recommendations

- To overcome cultural constraints in responding to open calls for experts, the Meeting recommends that FAO/WHO consider alternative means to approach experts by preparing more personalized invitations to encourage new experts to apply, and at the same time inform national government authorities about the importance of participation of experts in the FAO/WHO scientific advice activities.
- A mechanism to develop a sustained relationship between FAO/WHO and experts with experience of participating in FAO/WHO scientific advice activities, could be achieved by involvement of experts in complementary FAO/WHO capacity building activities or through provision of support from FAO/WHO to an expert's activities at a national level, such as:
 - Involvement of the expert in FAO/WHO capacity building activities;
 - Support for experts' networking activities (e.g. sending FAO/WHO staff to participate in conferences);
 - Support for experts' institutes through the centre of scientific excellence programmes (e.g. assisting in developing a capacity building framework: policy coordination, research collaboration and training);
 - Provision of a certificate or letter of recognition with a copy to the expert's employer addressing the importance of the expert's participation, and advising that the meeting reports will be published after being duly reviewed (in case where it applies that these reports have been peer reviewed in the process);
 - Express expert's involvement as equivalent to economic contribution (e.g. hosting meetings, providing experts without honorarium);
 - Facilitate free access to FAO/WHO publications.
- The Meeting brings to the attention of member countries the value of participation of experts from developing countries in FAO/WHO scientific advice activities. There have been some reports that some governments of developing countries have prevented their own experts from participating in meetings even though all expenses related to the participation of experts in these activities are provided by FAO/WHO. It is therefore recommended that member countries facilitate participation of their experts in their personal capacity in providing scientific advice.

8.4 *Enhancing an enabling environment (partnerships, capacity building, networks)*

8.4.1 Raising Awareness

Rationale

There are no readily available materials that provide a clear understanding on matters such as principles, procedures and processes that expert bodies (JECFA, JMPR, JEMRA) and other expert consultation meetings apply in their decision-making process, or what are the data requirements to ensure

their consideration in the process. Other principal responsibilities of FAO/WHO such as providing advice and guidance to Codex, are equally not well understood. The situation may be more complicated for the expert bodies where the subject matter is new and no internationally agreed standards are in place, such as safety assessment of foods derived from modern biotechnology. Enhancing transparency of the expert committee and consultation work would make potential experts more aware of the scientific work undertaken, and consequently, encourage them to consider participating in expert committees and consultations.

Recommendation

- FAO/WHO should publish practical booklets, as a matter of priority, on understanding expert committee work in providing scientific advice, including guidance, procedures, expectations etc., comparable to the booklet prepared by the Codex Secretariat (i.e., *Understanding Codex*), particularly for scientists in developing countries. A suggested outline is included in Annex VIII.

8.4.2 JECFA and JMPR websites

Rationale

At the present time, the information including procedures for, and media for announcing the call for experts for JECFA, JMPR, etc. are not always readily accessible to potential users. This makes it difficult for scientists and others that are interested in participating in the work of the expert bodies, in general, and in learning of the outcomes and conclusions of such work, in particular, to access relevant information. Consequently, it is a matter of priority to update the available information on the FAO and WHO websites addressed to expert committees and to make the websites more informative and easy to use, in order to improve awareness by interested parties regarding the inputs and outputs of the expert committees. Specific issues are described in Annex X.

Recommendation

- FAO and WHO Secretariats should update the relevant websites and accompanying information to make them more accessible and easy to use:
- All interested parties, but not limited to Codex Contact Points, public, academia and private sectors and NGOs, should be made aware of the revised websites and all existing mailing lists or information flyers should be used to raise awareness of the revised websites.

8.4.3 Extrabudgetary Funding

Rationale

FAO and WHO have procedures in place for receiving extrabudgetary resources to supplement their existing programmes on food safety. However, there is potential to increase the targeting of these extrabudgetary resources to scientific advice activities. There is a need to put increased emphasis on the significance of FAO/WHO expert body activities, and its work on food safety in an attempt to support new efforts and initiatives for soliciting additional extrabudgetary funds. The UNEP/Global Environment Facility has experience in making funds available for capacity building and the implementation of the Cartagena Protocol on Biosafety can be used as examples.

Recommendation

- New proposals and initiatives, for example, partnership agreements with member states, donor agencies and financial institutions should be prepared for soliciting additional funds in a structured manner, consistent with approved rules and procedures of FAO and WHO. Non-profit organizations, NGOs and any other possible sources should be explored by FAO and WHO for additional funding for scientific advice activities.

8.4.4 Training Materials for Orientation of New Experts

Rationale

At the present time, describing the procedures and practices to prepare new experts for their effective participation and involvement with expert committee work prior to a specific meeting is not always done. However, when this has been done, it has been shown to be well received and valuable by new experts. Orientation materials regarding familiarization of processes and procedures for new experts, specific to the expert committee, would enable the relevant expert body FAO/WHO Secretariat, or an individual designated by the Secretariat, to facilitate the new expert in the transition to a high level of confidence and understanding of the work of expert body meetings. The Meeting is also aware that FAO and WHO convene either workshops or consultations on an *ad hoc* basis. Due to the varying nature of these *ad hoc* meetings, generalized briefings for participants should be revised and/or prepared.

Recommendation

- Adequate educational training material that is already available in varying formats should be assembled and new material (see Annex IX) prepared for orienting new experts. New experts should be invited in advance of the expert meetings for a briefing and a familiarization session conducted by one of the experienced experts assigned by the meeting Secretariat.

8.4.5 Remote Learning

Rationale

Remote learning programmes have become common-place training and education tools, particularly in those situations where individuals may wish to improve their existing skills or develop new ones. FAO and WHO have several virtual learning programmes, but presently there are none devoted specifically to relevant subject materials for FAO/WHO expert committees. There are archival documents that have been prepared by FAO and WHO related to the work of expert committees that could serve as a foundation/platform for developing a set of modules for remote learning programmes. In some instances, scientists in developing countries should have more opportunities to increase their knowledge of the relevant technical disciplines required for full participation in expert body meetings. In addition, for experts to enter into a comprehensive roster of experts they may require some advanced training that will further improve their expertise.

Recommendation

The Meeting recommends that FAO/WHO:

- Explore the possibility of developing virtual learning programmes to prepare on-line training modules with relevant science disciplines as a core component for potential experts from developing countries to enhance their technical skills for future involvement and participation in expert bodies. These new programmes could be made available on FAO and WHO websites. In addition, the availability of the training modules should be widely announced and promoted by FAO and WHO;
- Explore opportunities for experts to visit experienced laboratories or organizations as well as FAO Centres of Excellence and WHO Collaborating Centres.

8.4.6 Improved Awareness of the Relevance of scientific advice for the establishment of Codex Standards

Rationale

The establishment of international food safety standards consistent with the risk analysis guidelines developed by the Codex Alimentarius Commission, based on the work of individual Codex Committees

supported by expert bodies, has a high degree of relevance and value to member governments. With the establishment of the World Trade Organization (WTO), these science-based standards have additional relevance related to matters considered within the Sanitary and Phytosanitary (SPS) Agreement (Codex standards are considered to comply with the SPS requirements of the WTO in matters of trade dispute regarding food safety measures). The workshop was aware that educational materials on the relevance of science-based food safety standards related to WTO/SPS for experts and institutes/developing country governments are or may be available in existing texts.

Recommendation

- FAO and WHO should summarize existing documents (e.g., FAO Training Manual “Multilateral Trade Negotiations on Agriculture – A Resource Manual, Part III SPS and TBT Agreements”) into a useable format to supplement other educational materials to be made available for all experts. Furthermore, these educational materials would be valuable information to institutes, universities, member governments or other relevant organizations where FAO/WHO requests the availability of individuals to participate in expert committees.
- FAO/WHO should make available all the training, educational and awareness materials in all official languages, and
- Member Governments should translate them into other languages according to their needs.

8.4.7 Information Sharing/Expert Meeting Networks

Rationale

Holding meetings in developing countries may increase the input from those countries and, more importantly, help advocate the work on FAO/WHO scientific advice among high ranking competent authorities that may subsequently lead to increased attention to food safety issues and facilitating scientific advice activities from that country.

Recommendation

- FAO/WHO should rotate expert consultation meetings among developing countries in the different geographical regions.
- FAO/WHO should consider the feasibility of using alternative modern technologies such as video conferencing for the conduct of appropriate expert consultations in order to facilitate a broader participation of experts from developing countries. This approach is expected to save some financial resources from the existing system of funds for meetings so that these funds may be made available for subsequent expert committees by using new cost-effective technologies.

8.4.8 Codex Contact Points

Rationale

In some countries weaknesses exist in Codex Contact Points (CCPs) regarding the dissemination of information. The duties and responsibilities of CCPs are described in the Codex Procedural Manual. As part of national Codex programmes, the Codex Contact Points need to be encouraged to disseminate information received related to scientific advice activities within the Codex framework.

Recommendation

- National Codex programmes should be strengthened by assisting them to create an updated mailing list (e-mails, addresses, telephone numbers, contact person names, etc.) of experts, institutions and existing national networks where the information should be distributed. In addition, the Codex Secretariat is encouraged to remind Codex Contact Points of the vital link they provide to national Codex activities by providing relevant policy and technical advice upon which to base decisions.

8.4.9 Criteria for selection of experts

Rationale

There was insufficient awareness of the significance of the expert body activities and outcomes for food safety and standards development, to the senior managers, and other competent authorities in some countries. This is of paramount importance for all Codex member governments. There is a need for FAO and WHO to engage in advocacy in order to bring to the attention of national government competent authorities (e.g., policy makers), the importance of data collection and expert participation and how it may make a positive contribution to the overall national food safety strategy, policies and subsequent budgetary allocation.

This could be achieved by, for example, 1) including items in the agenda of regional food safety regulator fora, that highlight the contribution of scientists in providing advice or guidance to activities of FAO/WHO as well as a means to raise additional funds at the national/regional level; 2) preparing a separate agenda item in the regional Codex Committee meetings to advocate and reach for consensus regarding the importance of supporting experts from the region and concurrence with their participation as appropriate experts; 3) making food safety and food security a national priority; and 4) utilizing FAO and WHO regional ministerial meetings to encourage/facilitate joint meetings among national government(s), international organizations and potential/interested donors.

Recommendation

- A practical booklet should be prepared by FAO/WHO and distributed that describes the importance of scientific advice as a tool towards increasing awareness of various member government agencies, organizations and institutes. The availability of relevant informative materials should be broadly advertised and distributed to Codex Contact Points and other competent authorities in national governments. The participants (often senior food safety managers) of the international fora held by FAO and WHO could be included in the distribution lists.

8.4.10 Mentoring/Twinning

Rationale

“Twinning” agreements between an experienced country and a less experienced country on an official level can accelerate sharing of knowledge and experience, while requiring minimal resources and leading to faster timeframes of implementation in areas such as data collection, proper sampling, methods of analysis validation and quality assurance. “Twinning” and less formal “mentoring” programmes provide excellent means to familiarize scientists new to international expert committee meetings, to increase awareness of expert committee work and helps build trust and confidence in new experts. It also serves as a means to encourage and strengthen knowledge transfer through bilateral communication networking.

Recommendation

- Member countries consider “mentoring” fellowships between experienced experts and new experts, from developing countries. FAO and WHO should assist in identifying appropriate experienced experts for mentoring experts and facilitate contacts with them.
- “Twinning” agreements between countries should be encouraged.

8.4.11 Capacity Building Programmes

Programmes for capacity building on national food safety programmes, as well as targeted initiatives to strengthen the capabilities of national experts participating in international meetings and expert bodies on matters relevant to food safety, are both important for developing countries. The former would broaden and strengthen the technical skills of individuals/organizations in developing countries that are responsible for food control activities. The latter would enhance the critical skills and knowledge of individual national experts and improve their opportunities for participating in expert body meetings. This was also important in order to contribute to a strong national enabling environment to facilitate the work of national experts on scientific advice at national and international levels.

Recommendation

- Appropriate information and training modules be developed in coordination with the FAO/WHO Secretariats of expert bodies to support member country scientific experts and enhance their technical and scientific capabilities. Specific examples could include, but may not be limited to, risk assessment modules in toxicology, exposure assessment or residue metabolism. Modules outlining procedures and processes employed by existing expert committees and consultations, should be considered which would assist in familiarizing new expert committee scientists.
- Specific training and education requests as prioritized by individual Member governments or geographic regions should be developed to strengthen national regulatory competencies for food safety risk assessment and risk management. Member governments should prioritize their specific needs within the context of their overarching food safety capacity building initiative. Specific examples may include, food safety assessment modules sufficient to provide individuals in national regulatory offices with sufficient capability to confidently conduct regulatory reviews of submissions for agricultural chemicals or veterinary medicines.
- In planning capacity building activities, due regard should be given to experts included on the FAO/WHO rosters who could potentially benefit from training.

9. MAIN MEETING CONCLUSIONS

1. The Meeting recognised the current important contribution of experts from developing countries to provide scientific advice. The present meeting concurs with the recommendations of previous meetings that efforts should be made to enhance the input of experts and data from developing countries into the scientific advice process.
2. The Meeting recognised the need to improve procedures for reaching out to experts in developing countries as the existing mechanisms are insufficient.
3. Present systems to identify and sustain experts from developing countries need to be expanded following specific recommendations made at this meeting.
4. When identified, the experts need to be supported and their participation and contribution recognised by FAO/WHO and governments.
5. Quantity and quality of data submissions from developing countries for use in FAO/WHO scientific meetings need to be improved. In order to achieve this, support to experts is needed.
6. There is a need to prepare scientific materials for use as part of capacity building activities, to enhance the participation of experts from developing countries in FAO/WHO expert meetings and to provide scientific expertise to their national governments.
7. The present level of awareness of the significance of enabling experts from developing countries to provide scientific advice and data for food safety, quality and nutrition was recognised, thereby ensuring the interests of developing countries at both national and international levels.
8. The Meeting reiterated the importance of the current criteria that takes into account gender and geographical balance and reinforced its importance for future scientific meetings.

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**FAO/WHO MEETING ON ENHANCING DEVELOPING COUNTRY PARTICIPATION IN
SCIENTIFIC ADVICE ACTIVITIES**

Belgrade, Serbia and Montenegro, 12-15 December 2005

Meeting Agenda

Day 1, 12 December 2005		
8:30 – 9:00	Registration	
09.00 – 09.15	Official Opening - Opening Remarks	
09.15 – 09.45	Introduction of experts - adoption of agenda - appointment of Chairperson and Rapporteur - general house-keeping	FAO/WHO Institute of Pharmacy
09.45 – 10.15	Overview of consultative process Objectives of the meeting	Maria de Lourdes Costarrica, FAO
10.15 – 10.45	<i>Coffee</i>	
10.45 – 11.15	Presentation of main background paper	Mary Kenny, FAO
11.15 – 12.00	<u>Plenary discussion</u> – initial reaction, important topics to consider during the meeting	
12.00 – 13.00	<u>Expert presentations (general topic):</u> Experiences from Serbia and Montenegro Concerning Experts and Data Collection Network for Mycotoxin Data Collection in Latin America and the Caribbean Data Collection Networks (GEMS/Foods)	Ivan Stankovic, Faculty of Pharmacy, Serbia and Montenegro Silvia Resnik, Argentina Gerry Moy, WHO
13.00 – 14.30	<i>Lunch</i>	
14.30 – 16.00	<u>Expert presentations (general topic):</u>	
	Difficulties Concerning Experts and Data Collection in Toxicology Field	Palarp Sinhaseni, Chulalongkorn University, Thailand
	Contributing to the International FAO/WHO Programme on Microbiological Risk Assessment (JEMRA)	George Nasinyama, Makerere University, Uganda
	Capacity Building, on food safety issues: developing networks and identifying partners	Camiel Aalberts, International Agricultural Centre, The Netherlands
	Strengthening Developing Countries' Ability to Provide Scientific Advice – Brazilian Experience	Delia Rodríguez-Amaya, State University of Campinas, Brazil
	CIRAD Experience on Capacity Building and Identification of Experts.	Daniel Duris, French Agricultural Research Centre for International Development (CIRAD)
16:00 – 16:15	<i>Coffee</i>	

16.15 – 17.15	<u>Working groups Sessions</u>	All participants
17.15 – 17.30	Conclusions of day 1	
Day 2, 13 December 2005		
09:00 – 09:30	Plenary – feedback from working groups	
09.30 – 10.30	Working group session	
10.30 – 10.45	<i>Coffee</i>	
10.45 – 12.15	<u>Working group session</u> (contd.)	
12.15 – 13.00	<u>Expert presentations (general topic):</u>	
	Highlights and Initiatives on Scientific Advice and Experts' Contribution – Jordan	Rima Zu'mot, Aqaba Special Economic Zone Authority, Jordan
	Data Collection – Case Study on Data Submission to JECFA	Yukiko Yamada, Food Safety and Consumer Affairs Bureau, Japan
13.00 – 14.00	<i>Lunch</i>	
14:00 – 15:00	<u>Expert presentations (general topic):</u>	
	Capacity Building and Networks – Experiences from the United States	Richard Ellis, Consultant (former FDA employee)
	Difficulties in Data Collection for Biotechnology – Possible Strategies	Behzad Ghareyazie, Agriculture Biotechnology Research Institute of Iran (ABRII)
	Food Safety Issues versus Scientific Advice in India	Dr Saxena, Centre for Analysis Research and Training, India
15.00 – 16.00	<u>Working group session</u>	All participants
16:00 – 16:15	<i>Coffee</i>	
16:15 – 17:30	<u>Plenary discussion</u> – feedback from working groups	
Day 3, 14 December 2005		
09:00 – 10:00	<u>Expert presentations (general topic):</u>	
	Capacity Building Initiatives – Networking	Josef Brodesser, Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture
	Participation of Experts and Data from Developing Countries in Food Composition	Hettie Schonfeldt University of Pretoria, South Africa
	Intramerican Network of Food Analysis Laboratories – INFAL	Miguel Genovese, Pan-American Foot-and-Mouth Disease Center
10.00 – 11.00	<u>Working group session</u>	All participants
11.00 – 11.15	<i>Coffee</i>	
11.15 – 13.00	<u>Working group session</u>	All participants
13.00 – 14.00	<i>Lunch</i>	
14.00 – 16.00	<u>Plenary</u> - consolidation and agreement on proposals from working groups	All participants
16.00 – 16.15	<i>Coffee</i>	
16.15 – 17:30	<u>Plenary</u> - Analysis, review, recommendations and conclusions	All participants
17:30 – 18:30	Consolidation of draft report	Rapporteur assisted by FAO/WHO Secretariat

Day 4, 15 December 2005		
09.30 – 11.00	<u>Plenary</u> - review of report	All participants
11.00 – 11.15	<i>Coffee</i>	
11.15 - 13.00	<u>Plenary</u> - review of report	All participants
13.00 – 14.00	<i>Lunch</i>	
14.00 – 15.30	<u>Plenary</u> review of report	All participants
15.30 - 17.00	<u>Plenary</u> - conclusions of meeting	

WORKING GROUP ORGANIZATION AND MEMBERS - INSTRUCTIONS

To develop means to enhance the pool of expertise and data available to the FAO/WHO international scientific programme, challenges need to be overcome. They exist in three broad themes, namely challenges facing experts, the collection of data and the enabling environment, a range of challenges communicated to FAO/WHO were shared with each of the working group as a starting point for their work.

Three groups were formed: 1. Data; 2. Experts; 3. Enabling Environment.

Members of the Working Groups

Working Group 1: Proposals for enhancing quality, collection and use of data	Working Group 2: Proposals for enhancing identification and availability of experts	Working Group 3: Proposals for enhancing enabling environment (partnerships, capacity building, networks)
Yukiko Yamada (<i>Coordinator</i>)	Sinhaseni Palarp (<i>Coordinator</i>)	Behzad Ghareyazie (<i>Coordinator</i>)
Daniel Duris (<i>Rapporteur</i>)	Camiel Aalberts (<i>Rapporteur</i>)	Richard Ellis (<i>Rapporteur</i>)
Silvia Resnik	Djodjevic Brizita	Josef Brodesser
Dr. Saxena	George Nasinyama	Miguel Genovese
Hettie Schonfeld	Delia Rogriguez-Amaya	Sladjana Sobajic
Ivan Stankovic		Rima Zu'mot
Gerald Moy		
Maria de Lourdes Costarrica	Mary Kenny	Annamaria Bruno

Task of Each Working Group

Each group was asked to review the challenges below, add any further challenges and develop practical solutions and implementation activities which can be proposed to overcome these challenges.

NOTE:

Each group was requested to decide on the most appropriate solutions to overcome the challenges for their group thematic. They may identify one or a range of activities appropriate to practically implement the solutions, for example a project outline, networking activity, lists of institutions, advocacy materials for governments, etc.

Challenges to be considered by each working group

Experts

1. Scientific isolation
2. Language barriers (meeting conducted in English, no translation)
3. Time/workload
4. Competition among experts
5. Lack of access to information that a FAO/WHO meeting is planned
6. Experts often work independently – no forum at home to feed back information from the meeting
7. Departure of experts from country
8. Lack of experience of international meetings

9. Lack of training/expertise
10. Lack knowledge of FAO/WHO meeting procedures
11. Lack of confidence to be an expert in international meeting
12. Lack of understanding of the selection process
13. Experts in developing countries may not all be reached due to the fact that they may not be in contact with other experts in the same field (scientific isolation)
14. Culture constraints may influence/discourage experts to respond to open calls.
15. Limited recognition and active support or encouragement from employer or government in order to make the expert available to participate
16. Difficulties to recognize candidates' expertise in the profile
17. Because of the multidisciplinary nature of food safety and standards, experts requirements may differ and be difficult to determine, for instance toxicologists may require certification
18. Limited availability and opportunities to develop and maintain expertise/skills in some fields and some countries (brain drain, lack of educational and research infrastructure)
19. Lack of skills to effectively participate in scientific advice system due to multi-disciplinary character of food safety and quality issues
20. Barriers in the selection process:
 - to effectively participate in FAO/WHO scientific advice
 - to enhance their skills in the scientific areas of expertise

Data

21. Lack of budget for research
22. Unpublished "grey" data
23. Format for data collection, or data sampling unclear
24. Language of data
25. Confidentiality of data
26. Ownership of data

Enabling Environment

27. Lack of communication with Codex Contact Point in country
28. Lack of prioritization, lack political support for scientific activities
29. Inadequate networking/partnerships
30. No link between capacity building and scientific advice activities
31. FAO/WHO scientific advice needs, not always the priorities of developing countries
32. Greater recognition/understanding of the role of risk assessment/science in national food control programmes
33. National socio-economic environment

PRIORITY ISSUES RAISED BY EXPERTS
(Subsequently addressed by the relevant working group)

DATA (Working group 1)

Data collection - standard protocols
Data sampling important – traceability of sample
Development of generic models
Outputs from JECFA/JEMRA etc as published data
Publish outputs of meetings – review papers
Guidelines on data quality, management format as harmonization means/awareness tool

EXPERTS (Working group 2)

Platforms – link to other organizations
Network for information exchange
Maintain electronic network for roster members
Knowledge transfer from JECFA/JMPR/JEMRA etc to new generations of potential experts (availability of experts)
Certificate of participation (each meeting)
Scientific isolation
Regional regulatory forum
Use mass media means to publicize calls for experts/data on national level
Comprehensive roster experts
3-6 months on the job training in research environment (knowledge transfer exercise)
Measures of impact: How research/science solved a food safety issue
Increase communication networks in countries
Evaluation of performance criteria of experts
Relationships with scientists

ENVIRONMENT (Working group 3)

Cluster training on regional level
Train countries e.g. Codex Contact Points on communication strategies
Link capacity to experts on roster or potential
Follow-up on training/increase capacity building
Increase awareness to experts working on scientific committee activities
FAO/WHO mobilize resources e.g. Cartagena
Copy and tailor capacity building module into various countries
Twinning projects
Show policy makers how important ProScAd is
Increase South-South cooperation
No coordination among capacity building activities in countries
Awareness courses for scientists and governments

Miscellaneous/cross cutting

Clear lines of communication
Continuity and accountability
Mandate to national Codex Contact Point
Public private relationships
Develop trust relationships
Quarterly report from CCP on quality and efficiency of work in communication/network (auditing visits)

SUGGESTION FOR JECFA SECRETARIAT FOR IMPROVEMENT OF THE PARTICIPATION OF EXPERTS FROM DEVELOPING COUNTRIES:

Challenges:

1. Currently the JECFA meeting for food additives and contaminants includes the evaluation of food additives (organic and inorganic), chemical contaminants, flavouring agents and enzyme preparations. It may be difficult for an individual expert from developing country to have the required range of scientific expertise where the meeting covers a wide variety of food additives and contaminants.
2. According to the experience of the JECFA experts, better outcome is expected if the meeting is conducted on specific subject (e.g. 56th JECFA on Mycotoxins only).

Recommendation:

To improve the Participation of Experts from Developing Countries and for better outcome of such meetings, it is recommended that JECFA meetings may be conducted on specific subjects such as:

- Food additives (organic)
- Food additives (inorganic)
- Flavouring Agents
- Enzyme preparations
- Chemical contaminants

PROPOSED GUIDELINE ON DATA COLLECTION

Food Contaminants

1. **Sampling**
 - ❖ Sampling Method
 - ❖ Sampling Size
 - ❖ Sampling Location
 - ❖ Sampling date and time
2. **Sampling Procedure**
 - ❖ Size of Sub sampling
 - ❖ Sample Preparation Procedure
 - ❖ Extraction Method
3. **Test Method**
 - ❖ Reference of Standard Method/Validated Method with reference and description
 - ❖ % Recovery
 - ❖ Coefficient of Variation and equivalent data e.g. RSD
 - ❖ Lower Limit of Detection (LOD)
 - ❖ Lower Limit of Quantification (LOQ)
4. **Test Results**
 - ❖ Concise and Correct Test Results (Appropriately Rounding of Figures)
5. **Quality Assurance**
 - ❖ Authenticated Description of Quality Assurance Programme followed
6. **Reporting of Data**
 - ❖ Latest GEMS/Food format to be followed for the purpose (see http://www.who.int/foodsafety/publications/chem/gems_instructions/en/)

**PRELIMINARY LIST OF NAMES OF INSTITUTIONS/NETWORKS FOR DISSEMINATION OF INFORMATION
ON FAO/WHO SCIENTIFIC ADVICE ACTIVITIES**

Name of institute or network	Country or region	Specialization	Contact details
ARGENTINA			
Secretaria de Ciencia y Técnica (SECyT)	Argentina	Science/technology	Ing. Agueda Menville/Directora de Relaciones Internacionales sdsoria@correo.secyt.gov.ar
Sistema de Información de Ciencia y Tecnología Argentino (SICyTAR)	Argentina		www.sicytar.secyt.gov.ar
Universidad de Buenos Aires	Argentina	Food Science/technology	alimentos@rec.uba.ar
Universidad Nacional de Córdoba	Argentina	Food Science/technology	Alicia Cavallo acavallo@agro.uncor.edu.ar
Universidad Nacional de la Plata	Argentina	Food Science/technology	Cristina Añon mca@biol.unlp.edu.ar
Universidad Nacional del Litoral	Argentina	Food Science/technology	Amelia Rubiolo arubiolo@intec.unl.edu.ar
BRAZIL			
Instituto Adolfo Lutz, Av. Dr. Arnaldo, 355, Cerqueira César 01246-902 São Paulo, SP, Brasil	Brazil	Mycotoxins	Contact person: Dr Myrna Sabino
Sociedade Brasileira de Ciência e Tecnologia de Alimentos, Av. Brasil, 2880, Caixa Postal 271, 13001-970 Campinas, SP, Brasil	Brazil	Food science/technology	Contact person: Dr Glaucia Maria Pastore (president)
Faculdade de Engenharia de Alimentos, Universidade Estadual de Campinas, C.P. 6121, 13082-862 Campinas, SP, Brasil	Brazil	Food Toxicology Food Toxicology Food quality, nutrition Food composition, chemistry	Contact persons: Dr Felix Guillermo Reyes Reyes Dr Maria Cecília F. de Toledo Dr Jaime Amaya Farfan Dr Delia Rodriguez-Amaya

Name of institute or network	Country or region	Specialization	Contact details
Departamento de Alimentos, Faculdade de Farmácia, Universidade Federal de Minas Gerais, Av. Olegário Maciel 2360, 30180-112 Belo Horizonte, MG, Brasil	Brazil	Food quality	Contact person: Dr Maria Beatriz A. Glória
Departamento de Alimentos e Nutrição, Faculdade de Ciências Médicas, Av. Prof. Lineu Prestes, 580, Bloco 14, 05508-900 São Paulo, SP, Brasil	Brazil	Microbiology	Contact person: Bernardette D.G. Melo Franco
Departamento de Microbiologia, Instituto de Ciências Biomédicas, Universidade de São Paulo, Av. Prof. Lineu Prestes 1374, Ed. Biomedicas II, 05508-900 São Paulo, SP, Brasil	Brazil	Mycotoxins, Microbiology	Contact person: Dr Benedito Correa
Fundação Oswaldo Cruz – Fiocruz, Departamento de Química, Laboratório de Alimentos e Contaminantes, Av. Brasil, 4365 Manguinhos 21040-900 Rio de Janeiro, RJ, Brasil	Brazil	Food safety (metals)	Contact person: Dr Shirley de Mello Pereira Abrantes
Laboratório de Bioquímica Nutricional, Instituto de Química CT Bloco A, Universidade Federal de Rio de Janeiro, 21949-900 Rio de Janeiro, RJ, Brasil	Brazil	Nutrition	Contact person: Dr Carmen Donangelo
Instituto de Tecnologia de Alimentos, Av. Brasil, 2880, Campinas, SP, Brasil	Brazil	Food packaging	Contact person: Dr Marisa Padula
EMBRAPA Agroindústria de Alimentos, Av. das Américas 29501, 23020-470 Rio de Janeiro, RJ, Brasil	Brazil	Transgenic foods	Contact person: Marilia R. Nutti
INDIA			
Central Food Technological Research Institute, Mysore	India	(Food additives)	Dr V. Prakasit, Director
Indian Vet. Research Institute, Bareilly	India	(Veterinary drugs)	Director
National Institute of Nutrition, Hyderabad	India	(Nutrition)	Director
National Dairy Research Institute (NDRI), Karnal	India	(Microbiology)	Director
Institute of Microbial Technology, Chandigarh	India	(Microbiology)	Director
Indian Council of Medical Research (New Delhi)	India	Nutrition)	Director General
Indian Toxicology Research Centre (Lucknow)	India	(Toxicology)	Director

Name of institute or network	Country or region	Specialization	Contact details
JORDAN			
University of Jordan, Faculty of Agriculture, Department of Nutrition and Food Technology	Jordan		
University of Science and Technology, Department/Faculty of Nutrition	Jordan		
Yarmouk University	Jordan		
Royal Scientific Society	Jordan		
University of Jordan- Faculty of Agriculture Department of Nutrition and Food Technology	Jordan	(Toxicology and Instrumentation) (Food chemistry)	- Dr Malik Haddadin (hadadin_malik@hotmail.com) - Dr Khaled Ismail (khalis@ju.edu.jo)
University of Science and Technology Department of Food science & Nutrition	Jordan	(Food microbiology)	- Dr Saeb Sukon (sukhon@just.edu.jo)
Yarmouk University, Faculty of Nutrition	Jordan		Faculty Dean
Ministry of Health/Central Laboratories	Jordan	(Bacteriology)	Director; Dr.Aktham Haddadin (centrlab@ moh.gov.jo)
Royal Scientific Society	Jordan		- Nageh Yousef Akeel (nageh@rss.gov.jo)
ILSI Regional Office	Egypt		
American University of Beirut	Lebanon		
SERBIA AND MONTENEGRO			
Institute of Microbiology, Faculty of Agriculture	Serbia		eniksic@eunet.yu (Professor Niksic)
Institute of Pharmaceutical Chemistry and Drug Analysis, Faculty of Pharmacy	Serbia		info@pharmacy.bg.ac.yu Fax: +381 11 397 2840
Institute of Meat hygiene and Technology, 11000 Belgrade, Kacanskog, 13			Lazar Turubatovic
Institute of Bromatology, Faculty of Pharmacy Belgrade	Serbia	Food additives, contaminants, nutrients	Contact person: Prof.Ivan Stankovic istank@eunet.yu
Institute of Pharmaceutical Chemistry and Drug analysis, Faculty of Pharmacy	Serbia	Veterinary drugs	Contact person: Prof Darko Ivanovic info@pharmacy.bg.ac.yu
Institute of Microbiology, Faculty of Veterinary Medicine, Belgrade	Serbia	Microbiology	Contact person: Prof. Vera Katic vera@vet.bg.ac.yu
Institute of Microbiology, Faculty of Agriculture Belgrade	Serbia	Microbiology	Contact person: Professor Niksic eniksic@eunet.yu

Name of institute or network	Country or region	Specialization	Contact details
Institute of Meat Hygiene and Technology, Belgrade, Kacanskog, 13	Serbia	Veterinary drugs	Contact person: Dr. Lazar Turubatovic meatinst@beotel.yu
South East Europe health network	SEE Countries	Food Safety	Regional Coordinator: Dr Aleksandra Makaj, Ministry of Health, Serbia sanjamak@yubc.net
THAILAND			
Pesticide Safe Use Unit (Faculty of Pharmaceutical Sciences, Bangkok, Thailand)	Thailand	Expertise - pesticides	spalarp@chula.ac.th
UGANDA			
Faculty of Veterinary Medicine, Makerere University	Uganda	Microbiology, Chemical contaminants (including antibiotics) and Toxicology	Assoc Prof. George Nasinyama, e-mail: nasinyama@vetmed.mak.ac.ug, gnasinyama@yahoo.com
Department of Food Science & Technology, Makerere University	Uganda	Nutrition, Food Composition	Dr C.K. Muyanja, e-mail: ckmuyanja@yahoo.co.uk, ckmuyanja@agric.mak.ac.ug
Food Science Research Institute (FOSRI), National Agricultural Research System (NARS)	Uganda	Nutrition, Food Composition	Dr William Ssali, e-mail: "Dr. William M. Ssali " fosri@imul.com
Uganda National Bureau of Standards	Uganda	Microbiology, Chemical contaminants	Dr Abdul Ndifuna, e-mail: abdul.ndifuna@unbs.go.ug
National Codex Contact Point	Uganda	Coordination point for food safety	Mr Samuel Balagadde, e-mail: samuel.balagadde@unbs.go.ug
REGIONAL			
<u>Latin America</u>			
Interamerican Network of Food Analysis Laboratories INFAL/RILAA http://www.panalimentos.org/Rilaa/Ingles/index.asp	Americas and the Caribbean	(Microbiology and Chemical)	rilaa@panalimentos.org torrobaj@panalimentos.org Genovese@panaftosa.ops-oms.org
OIRSA Organismo Internacional Regional de Sanidad Agropecuaria (OIRSA); [part of IPPC]	Central America		
AUGM – Association of Universities Grupo Montevideo (specific group works on food science and technology – would be the interface with Southern Cone Universities		Food science and technology	grmont@seciu.edu.uy Secretaria ejecutiva.Comité Académico Agroalimentario www.grupomontevideo.edu.uy

Name of institute or network	Country or region	Specialization	Contact details
ALCUE FOOD project – networking platform in South Cone countries			Ing. Agueda Menville/Directora de Relaciones Internacionales sdsoria@correo.secyt.gov.ar
<u>Asia</u>			
Council of Scientific and Industrial Research (CSIR) Anusandhan Bhawan, 2 Rafi Marg, New Delhi – 100 001, India	India		
<u>Africa</u>			
AFROFOODS	Africa	(Expertise: Food Composition and nutrition)	Contact person: Dr Hettie Schönfeldt Hettie.schonfeldt@up.ac.za
Council of Scientific and Industrial Research (CSIR) Meiring Naudé Road, Brummeria, Pretoria, South Africa	Africa		
<u>Global</u>			
GEMS/FOOD Network - WHO Collaborating Centres/participating institutions	Global		
INFOSAN Network	Global		
International Commission on Microbiological Specifications in Food (ICMSF)		(Microbiology)	Dr M. Cole, Email: cole@iit.edu National Centre for Food Safety and Technology, 6502 S. Archer Road, Illinois, USA
Risk ASSESSMENT Consortium		(Microbiology)	
International Life Science Institute		(Microbiology)	
International Association for Food protection (IAFP)		(Microbiology)	Dr Jeff Farber jeff_farber@hc-sc.gc.ca
INFOODS regional data centres		(Nutrition, food composition)	
Institute of Food Technologists		(Microbiology)	

Name of institute or network	Country or region	Specialization	Contact details
International Association of Food Technology		Information on JECFA	Bruce Fowler. Bxf9@cdc.gov
International Potato Center (CIP), Integrated Crop Management Division, Apartado 1558, Lima 12, Peru		Food contamination with pesticides	Dr Jurgen Kroshel, Email: j.kroshel@cgiar.org
International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru 502-324, Andhra Pradesh, India		Aflatoxin contamination in groundnuts	Dr Farid Waliyar, email: f.waliyar@cgiar.org Tel: + 91 40 23296161 Fax: + 91 40 23241239
International Institute of Tropical Agriculture (IITA), Oyo Road, PMB 5320, Ibadan, Nigeria		Mycotoxin and pesticide issues	Dr Kerstin Hell, k.hell@cgiar.org ; Tel + 234 2 2412626
<u>Other options to explore</u>			
EU Network, eg. EFSA?			
European Food Safety Network (EFSN)			
International Agricultural Centre (IAC), Wageningen			
Through CIRAD networks, CORAF, ASARECA, MYCO-Globe, IICA, AUF.			
Through IAEA/AGE networks/communications channels?			
International Union of Food Science and Technology			Judith Meech, Secretary, jmeech@iufost.org

**SUGGESTED CONTENT OF BROCHURE ON
“UNDERSTANDING THE FAO/WHO PROVISION OF SCIENTIFIC ADVICE”**

- Preface
- History/Background
- Types of Provision of Scientific Advice (Permanent Bodies, *ad hoc* Expert Consultation, Experts meetings, etc.)
- How it works (request for scientific advice, basis for application, format, etc.)
- Two means/ways/arms:
 - The Experts (selection criteria & procedures, declaration of conflict, open/targeted calls, tasks, etc.)
 - The Data (type, format, quality, etc.)
- Importance of Provisions of Scientific Advice
 - in/with Codex
 - in International Trade of Food (WTO SPS Agreements, etc.)
- Provisions of Scientific Advice and Future (challenges for wider participation, etc.)
- Amplify the role and involvement of developing countries
- Abbreviations

SUGGESTED CONTENT OF PACKAGE MATERIAL FOR NEW EXPERTS

Existing Materials (initial list)

- Procedural Manual for JMPR
- Procedures for Recommendations Maximum Residue Limits – Residues of Veterinary Drugs in Foods, FAO, Rome (2000)
- FAO/ICD/WHO Basic Awareness Course on Microbiological Risk Assessment
- FAO/WHO Framework Document on the Procedures for the Provision of Scientific Advice (in preparation)
- Enhancing participation in Codex activities – an FAO/WHO training package

Materials to be developed - suggested training module for experts in scientific and consultative committees/main pillars

- History of the respective committee/issue -scope and expectations
- How to - application and response
- Understanding procedures/forms in place
- What is expected from an expert before, during and after the meeting (obligations/commitments, tasks and expectations)
- Handy tips for experts during the meeting
- Meeting protocol and proceedings mechanisms
- Continuous participation - sustaining communication and collaboration
- Relations between Provision of Scientific Advice, Codex and WTO

Orientation Briefing session (tentative programme)

- Opening session
- Outlining syllabus
- Run through training module highlights
- Practical exercises per chapter/combine theory with practice
- Demonstration

PRELIMINARY DESCRIPTION OF ISSUES IN FAO/WHO ONLINE INFORMATION ON PROVISIONS OF SCIENTIFIC ADVICE AND RELATED SITES

- Information provided is not available in all three languages
- Search tool should be strengthened (difficult to find information)
- Lack of visibility in the FAO and WHO websites (difficult to find the URL address)

ABSTRACTS OF EXPERT PRESENTATIONS

Experiences from Serbia and Montenegro – Concerning Experts and Data Collection

(Ivan Stankovic, Faculty of Pharmacy, Serbia and Montenegro)

The South-Eastern Europe (SEE) health network was established in 2001 at the signing of the Dubrovnik Pledge by eight SEE member countries. Seven top priority health topics were agreed including food safety. The project “Strengthening Food Safety and Nutrition Services in SEE countries” (partners FAO, WHO, Greece and Italy) was launched in 2002, with Serbia and Montenegro as the lead country with the regional office in Belgrade and 8 national offices.

The main outputs of the project are: network established communications, data collecting and sharing, national policies (food safety strategies, food safety laws and national food safety authorities), joining DAFNE (Data Food Networking) a database on nutrition and mobilizing of experts.

The Federal Commission for Food Additives is an important source of experts from various fields of expertise dealing with food additives, flavourings, processing aids and enzyme preparations.

Other sources of experts and data include: universities (Belgrade, Novi Sad, Nis, Podgorica), institutes and a laboratories’ network led by the Institute of Bromatology.

The main recognized problems are: scientific isolation (lack of information), resources (equipment, training, travel support etc), lack of training for international activities and procedures, departure of experts from the country and lack of understanding and support by home institutions.

Network for Mycotoxin Data Collection in Latin America and the Caribbean (Silvia Resnik, Argentina)

The 56th JECFA session had a unique item in the agenda: mycotoxins¹⁰. This approach permitted a wider number of experts from all over the world to attend the meeting and data collection from several regions of the world was enhanced. A successful example on regional data collection supported by an efficient network and management of resources available is described below.

In the Latin America and the Caribbean Region, data for the 56th JECFA meeting were collected from six countries which at that time were members of a Mycotoxin network, originally developed due to FAO support. Experts from those countries were requested to provide their data and indicate other sources of information on this topic in the region, including articles published locally by universities and in peer reviewed journals.

Collection of data was, however, problematic as some of the institutions faced problems to provide the required information due to the refusal by control agencies, fearing that some importing countries would use the data as a trade restriction. In some countries there is a high turnover of policy makers who support the provision of data as there was a frequent rotation of government authorities. Other problem was to obtain data from industry because some parts of this sector, ignored the importance of submitting data to JECFA.

Based on this experience, recommendations were made to establish a self-sustained network that could facilitate the collection of data on this topic for future JECFA sessions; and to enhance the skill set of experts through training on JECFA, including increasing their knowledge [of procedures] and official language of the meetings.

In relation with the work of JECFA in food additives collection of data has some constraints when data is requested from worldwide industries (i.e. flavour industry). The expert should also collect bibliography on different topics, yet no funds have been allocated for this purpose.

¹⁰ See Annex 5 for a proposal to the JECFA Secretariat on the merit of more specific agendas to facilitate involvement of experts from developing countries.

Specific challenges facing experts from developing countries participation in international scientific meetings, include the availability of limited funds which limits expert's participation. This may be enhanced through improving the communication network. One additional possibility is to take a closer look at some contributions coming from regional integration activities: i.e. ALCUE funds are mostly provided through the EU to implement a permanent platform on food quality and safety between both regions, in addition to regional initiatives carried out through AUGM and CvLAC.

In regards of selection of experts it is important to note that Codex Contact Points cannot be the only way to find experts or data. Expert participation should be promoted through other ways, such as research institutions and Universities.

Data Collection Networks (GEMS/FOOD) (Gerald Moy, World Health Organization)

One of the activities of GEMS/Food¹¹ is the collection, collation and maintenance of databases of information provided by the participating institutions on contaminants levels in foods and the diet, based on total diet studies. In particular, developing countries that are just beginning to monitor chemicals in foods are encouraged to undertake total diet studies to identify priority chemicals. Ideally, the data are generated based on internationally recommended procedures¹², but in general, these data are a reflection of the needs and available resources of each country. GEMS/Foods has developed core, intermediate and comprehensive lists of priority contaminants/commodity combinations that should be considered for monitoring for public health reasons¹³. Data submitted to GEMS/Food should follow the GEMS/Food format to facilitate the handling and evaluation of data¹⁴. Data submitted on these priority contaminant/commodities have been used to assess the potential risk to human health from such exposures¹⁵. GEMS/Food also collects relevant information on selected chemicals on behalf of JMPR, JECFA and Codex Alimentarius Commission and its subsidiary bodies as appropriate. GEMS/Food databases are accessible through the internet at the WHO SIGHT (Summary Information on Global Health Trends) website¹⁶. GEMS/Food also develops and maintains international food consumption databases for long- and short-term exposure assessments. The five GEMS/Food Regional Diets will shortly be replaced by 13 Consumption Cluster Diets, which are per capita food availability estimates based upon FAO Food Balance Sheets. The short-term consumption database is based on the highest reported 97.5 percentile consumption for a single day for a commodity reported by a country.

Discussion points: Unfortunately only 10 to 15% of the GEMS/Food database information is from developing countries. Only a few have completed total diet studies although many aspire to carry out such studies. Policymakers and risk managers need to be made aware of the essential nature of such data to complete the risk assessment paradigm and to identify priority programmes.

Difficulties Concerning Experts and Data Collection in Toxicology Field

(Palarp Sinhaseni, Chulalongkorn University, Thailand)

Adequacy of experts in toxicology can be assessed through various means mentioned in the report of the *FAO/WHO Workshop on the Provision of Scientific Advice to Codex and Member Countries, 27-29 January 2004*. In addition, the certification schemes of relevant professional societies are available at regional and

¹¹ Global Environment Monitoring System/Food Contamination Monitoring and Assessment Programme.

¹² Guidelines for Establishing or Strengthening National Food Contamination Monitoring Programme UNEP, FAO and WHO, Document WHO/HCS/FCM/78.1, WHO, Geneva (1979).

¹³ http://www.who.int/fsf/Documents/Report_2nd_International_Workshop_TotalDiet.pdf

¹⁴ See <http://who.int/foodsafety/chem/gems>

¹⁵ The Contamination of Food, UNEP/GEMS Environmentally Library No. 5, UNEP (1992). Assessment of Chemical Contamination in Food. Report on the results of the UNEP/FAO/WHO programme on health-related environmental monitoring (prepared in cooperation with the UNEP Monitoring and Research Centre, London), WHO, Geneva (1988). Jelinek, C., Assessment of Dietary Intake of Chemical Contaminants, Joint UNEP/FAO/WHO Food Contamination Monitoring and Assessment Programme, WHO, Geneva (1992). Schutz, D., Moy G.G. and Kaferstein F.K., GEMS/Food International Dietary Survey: Infant Exposure to Certain Organochlorine Contaminants from Breast Milk – A Risk Assessment, Document WHO/FSF/FOS/98.4, WHO, Geneva (1998).

¹⁶ <http://who.int/foodsafety>

international levels. Multidisciplinary nature of toxicology required for professional services are reflected in many university curricula at undergraduate and postgraduate levels. Harmonization of minimum requirements for membership of various professional societies are some of approaches being considered.

Difficulties in data collection were experienced during the elaboration process of MRLs for oxytetracycline in prawns. Lack of financial support, inadequate arrangements for confidentiality of quality data are apparent constraints. However, the deliberation was successfully carried out after the validation of the regulatory analytical methods by the Thai government.

To increase the participation of experts from developing countries, it is recommended to enhance research related to the reduction of risk and improvement of quality of life at local or community level. FAO/WHO may assist in creating environment and expertise needed for national responsibilities and quality data sharing.

Contributing to the International FAO/WHO Programme on Microbiological Risk Assessment (JEMRA) (George Nasinyama, Makerere University, Uganda)

Most data used in international risk assessments have come from developed countries. Data available in developing countries have largely been qualitative in nature, and most of these data are not in the public domain. Although these types of data could be useful in developing qualitative risk assessments, quantitative risk assessments that provide a measure of variability and uncertainty distributions are recommended by FAO/WHO and Codex. The FAO/WHO Joint Expert Consultations on Microbiological Risk Assessment (JMRA) from the beginning highlighted the need for provision of good data especially from developing countries.

The paper highlights how involvement in the FAO/WHO Joint Expert Consultations on Microbiological Risk Assessment (JEMRA) meetings brought about the awareness of the need for good data that culminated in a project on exposure assessment of *Campylobacter* spp. in broiler chickens in food establishments in Kampala, Uganda performed under real world situations. The outputs included data on the prevalence and concentrations/levels of *Campylobacter* spp. in ready-to-eat serving portions of broiler chicken, information on the handling practices within food establishments, data on the distribution and variability of cross-contamination events within these kitchens (raw chicken, hands of handlers and kitchen cutting surfaces) and survival of these organisms on cutting surfaces within the food establishments. The paper further highlights how the outputs of this project were disseminated at both national and international level and the key lessons learnt in the process.

Capacity Building, on food safety issues: developing networks and identifying partners (Camiel Aalberts, International Agricultural Centre, The Netherlands)

As part of Wageningen University and Research Centre, the International Agricultural Centre (IAC) focus its activities on development of knowledge and expertise to people and institutions in developing countries in the areas of sustainable agricultural production systems, food industry and agribusiness development, food safety, food security and nutrition, natural resources management and processes for rural change.

In the field of food safety IAC provides advisory services, training (of trainers), action learning, seminars and workshops, information and knowledge management and on-line learning platforms, mobilizing both local and international experts from food research, risk assessment and risk management, policy development and legal enforcement. Activities take place in co-operation with governmental and non governmental organizations in countries in Africa, Asia and Latin America as well as in The Netherlands. As an example of institutional development, in a bilateral cooperation programme with Indonesia on development of food safety control on horticultural and poultry products, the Indonesian Centre for Standardization and Accreditation, (Ministry of Agriculture), the National Agency for Drugs and Food Control, (Office of the President) and the Dutch Ministry of Agriculture, Nature and Food Quality (LNV), IAC and partner institutes, such as the Institute of Food Safety (RIKILT) work together on formulation of a national food safety plan, development of required institutional capacities and conditions, and project monitoring and evaluation (including research and data collection).

Examples of our regular trainings with a focus on food safety are *Accession Oriented Dutch European Proficiency Training (ADEPT) on Food Safety* and *Food Industry and Agribusiness Development (FIAB)* targeting mid-career professionals in food safety policy development, planning enforcement, research and training in response to pre- and post EU accession countries and developing countries. These courses assist participants in improving their capabilities in contributing to better food safety programmes in their countries, and advocating their needs in complying with EU and other international standards and requirements.

For these activities, partners and participants are identified through our individual and alumni networks, Regional Agricultural Counsellors of our Ministry of Agriculture, Nature and Food Quality, applications through the Netherlands Fellowship Programme, research projects within the Wageningen University and Research Centre, and promotion through e-mail newsletters, policy briefs and magazines and dedicated internet portals. It is through these activities that we are able to maintain an extensive personal network of experts and policy makers in the food safety arena in many developing countries. Follow-up activities like regional refresher courses, dedicated internet portals and discussion fora enable us to keep this network up-to-date.

This network is of great value to strengthen cooperation with and exchange between developing countries to improve their ability to respond to national and international challenges in the supply of safe food to the community.

Strengthening Developing Countries' Ability to Provide Scientific Advice – Brazilian Experience (Delia Rodriguez-Amaya, State University of Campinas, Brazil)

Several factors limit the ability of developing countries to provide scientific advice such as: lack of data or integration of available data that are dispersed in the literature or are unpublished; activities based on individual initiative rather than organized, concerted efforts; lack of support and recognition by official agencies and universities; lack of information on possible experts. At the State University of Campinas, we undertake activities that deal with most of these constraints. These are: active research that gives us the scientific background; giving short, intensive, hands-on training courses on such topics as Food Analysis, Chromatographic Methods, Mycotoxin Analysis, Carotenoid Analysis for Brazilian researchers as well as for researchers from other countries; conducting interlaboratory evaluation of laboratories' analytical proficiency; writing of handbooks published by international projects or institutes (e.g., a handbook on the retention of provitamin A carotenoids during preparation and processing of foods published by the Opportunities for Micronutrient Intervention and a guide to carotenoid analysis in foods published by the International Life Sciences Institute, both of which are widely used in developed and developing countries). Other activities include generation of data and organizing these data into databases (e.g., the Brazilian Food Composition Tables based on representative national sampling and analyses carried out by laboratories approved in interlaboratory evaluation, financed by the Brazilian Ministry of Health, and the extensive database on the carotenoid composition of Brazilian foods); publication of review articles that put together Brazilian research in a certain area (e.g. a review on mycotoxin research for a decade); participation as collaborator/scientific adviser in international projects or institutions (such as HarvestPlus, VITAAfrica, ISF); organization of symposia, congresses and workshops (e.g. the Latin American Symposium on Food Science held every two years at our university, the 6th Symposium being held on 7-10 November 2005 gathering 2,000 participants from 20 countries with more than 2,000 papers presented and state-of-the-art lectures given by international, Latin American and Brazilian leading scientists). With this range of activities, covering capacity building, data collection, database elaboration, national, regional and international networking, etc., we are in a good position to participate in the provision of scientific advice. Indeed, several professors from our university have been serving as FAO and WHO experts.

CIRAD Experience on Capacity Building and Identification of Experts (Daniel Duris, French Agricultural Research Centre for International Development - CIRAD)

CIRAD is a state-owned agricultural research organization with a remit to contribute towards development in tropical and sub-tropical regions. CIRAD considers that constructing scientific teams in developing countries that are integrated into the regional and international community is an essential factor of development, as well as carrying out research projects in partnership.

CIRAD representatives play a key role in identifying national, regional and international agricultural research structures. International conferences are also occasions for identifying possible partners. However, identifying valid partners does not always guarantee that projects can be implemented without difficulty.

Although the financial difficulties that research organizations have to cope with lie behind the problems, there is also the issue of human resources management inside those organizations:

- a) departure of scientists
- b) scientific isolation

What is CIRAD's training policy for improving researcher capabilities in developing countries?

Several approaches are taken: a) research training, b) training through instruction, c) training through research, d) distance learning and e) professional training.

Highlights and Initiatives on Scientific Advice and Experts' Contribution - Jordan

(Rima Zu'mot, Aqaba Special Economic Zone Authority, Jordan)

Jordan, as many other developing countries, has only been involved in scientific advice activities and respective expertise to a limited extent. This is mainly due to various obstacles ranging from fragmented research work with no formalized national "needs assessment" priority study on food safety issues, very little awareness of FAO/WHO expert bodies committees working procedures and expectations, to weak communication channels in a multi agency regulatory structure, and minimal budgetary allocation to scientific research and experts effective participation;

To overcome obstacles, pragmatic and practical proposed solutions play a key role in attaining experts and reliable data, i.e. twinning partnerships between experienced and developing countries to accelerate knowledge transfer; capacity building activities on the type, quality and management of data; more active role of FAO/WHO national offices to pool experts profiles from various disciplines in a common roster to share and communicate, exchange and allocate expertise in scientific expert committees.

Initiatives, in Jordan, currently in the pipeline aimed at strengthening science culture and creating a baseline road map towards a concrete and effective contribution in risk assessment activities include:

- Developing a comprehensive electronic LIMS (Laboratory Information Management System) module in the new food and environment laboratories as a nucleus for data acquisition, analysis and research;
- Launching "Food Microbiology and major food-borne illnesses", a handy manual for the medical sector to increase awareness to establish link between food and its safety indicators and creating an electronic network to link medical sector diagnostic data with food safety authorities and research and development institutes;
- Sentinel points for WHO projects (i.e." GEMS" and "Salm-Surveillance") – ongoing.

Data Collection – Case Study on Data Submission to JECFA

(Yukiko Yamada, Food Safety and Consumer Affairs Bureau, Japan)

Recently, Japan started providing survey data to JECFA. Two significant factors increased government awareness concerning need for scientific data: (1) recognition in late 1990's that opposing proposals without scientific justification did not work in Codex, which made the Japanese Government generate toxicological data and subsequently epidemiological data; and (2) recognition in 2001 of the need for survey data for setting maximum levels for contaminants in Codex and for exposure assessment within the framework of risk analysis.

There were difficulties to be overcome for generating survey data: language problems, budget, insufficient expertise in the Government, lack of quality assurance system in most analytical laboratories, difference in method/policies of Codex and Japan for setting maximum levels, law-based decision making (not risk- or

science-based), some resistance to analyzing domestic produce, etc. On the other hand, there were some advantages as well: a large number of rice samples were analyzed for quality control of rice; and imported feedingstuffs are regularly analyzed.

A number of actions were taken to generate scientifically defensible data that meet the requirements of JECFA. At the time of planning, taking into consideration balance between cost/feasibility and scientific need, sampling methods were reconsidered to collect statistically representative samples as much as possible and instead of a small number of samples for each of many food commodities, sufficient number of samples were collected to draw distribution curves for selected food commodities which are significant food intake sources. In addition, samples from contaminated areas and those non-contaminated areas were distinguished. For analysis, documented proof of quality assurance and method validation was requested. Analytical results were evaluated for quality and data were submitted to JECFA in the GEMS/Food format. These activities were coupled with research on risk reduction.

There are still many outstanding problems in data generation and identification of experts in Japan. The language barrier is still very high, the level of scientific expertise needs to be raised by training, and the concept of regulatory science is not yet known or understood in the area of food safety. In order to involve more researchers, there is a need for review criteria for evaluating researchers' achievements, as still in many institutions contribution to policy-making or international scientific advice is not regarded as valuable as publishing scientific papers and for overcoming cultural differences, such as lack of tradition in debate.

Capacity Building and Networks – Experiences from the United States

(Richard Ellis, Consultant former FDA employee)

A U.S. Codex initiative addressed the priority for strengthening national capability regarding awareness and participation in Codex Committees for Latin America and the Caribbean countries. The recent evaluation of the Codex Alimentarius and the Codex Secretariat resulted in a number of important conclusions and accompanying recommendations. One set of recommendations addressed the need for making the needs of developing countries a priority. A group of technical experts at the U.S. Food and Drug Administration, conducted a workshop for Central and South American countries on strengthening the awareness and technical capability regarding Codex in general, and specifically, the Codex Committee on Residues of Veterinary Drugs in Food (CCRVDF) and the associated activities of expert committees (e.g., JECFA) in providing scientific advice to CCRVDF. A pragmatic, comprehensive agenda was prepared encompassing all the related activities regarding general procedures and processes of Codex and CCRVDF for developing Codex standards as well as how JECFA conducts food safety assessment of selected veterinary drugs. A significant effort was made to coordinate workshop planning with the Codex and JECFA Secretariats, including provision of relevant Codex documents in Spanish. The workshop presentations and visual materials were prepared in Spanish. The workshop included hands-on exercises on developing priority requests as agenda items for CCRVDF and a list of veterinary drugs for recommended MRLs by JECFA. Participants initiated the development of a network to continue interaction among participants. A subsequent workshop was requested on how the USFDA conducts food safety evaluations of new animal drugs. The workshop activity focused on participants evaluating real sets of food safety data to propose acceptable daily intakes (ADI) and recommended MRLs for four veterinary drugs. Results were discussed explaining how it is possible that resulting ADIs and MRLs may occur as a result of differing principles in food safety assessments. This provided participants a clearer understanding for evaluating JECFA reports and MRLs considered by CCRVDF and how the principles learned could be applied for their national purposes. Observations and conclusions regarding technical training and capacity building were presented.

Difficulties in Data Collection for Biotechnology – Possible Strategies

(Behzad Ghareyazie, Agriculture Biotechnology Research Institute of Iran (ABRII))

The first food derived from modern biotechnology (delayed-ripening tomato) was introduced to the market in the mid 1990s in the US. Modern biotechnology offers the potential for increased agricultural productivity and improved nutritional value that can contribute directly to enhancing human health and development. The global land area under the production of transgenic plants is estimated to exceed 100 million hectares by the end of the year 2005.

In spite of the benefits that modern biotechnology offers, there are concerns regarding the proper and safe application of this powerful tool for food production. One of the major concerns is for consumers' safety and animal health. Genetic modification may change the toxicity, allergenicity and nutritional value of food and alter antibiotic resistance of different microorganisms that could be harmful for human health. These concerns are addressed as different international instruments.

Safety of foods derived from modern biotechnology at WHO and FAO

Several international organizations have already addressed issues associated with the safety assessment of novel foods including genetically modified plants and microorganisms (FAO/WHO, 1991; OECD, 1993; WHO, 1995; FAO/WHO, 1996; ILSI, 1995; Commission of the European Communities, 1997). It is generally agreed that such an assessment requires an integrated and stepwise, case-by-case approach using the concept of substantial equivalence that is directed by the results of a comparison between the genetically modified plants or microorganism and its conventional counterpart.

FAO and WHO have jointly organized a series of scientific expert consultations to provide scientific and technical advice to the members. The scientific advice derived from the Joint FAO/WHO Expert Consultations can be used by the Member States of FAO and WHO directly. It also served as the scientific foundation for the work of the Codex Alimentarius Commission in their deliberations on safety assessment guidelines for foods derived from biotechnology presently developed by the Codex *Ad Hoc* Intergovernmental Task Force on Foods Derived from Biotechnology.

The Codex Ad Hoc Intergovernmental Task Force on Foods Derived from Biotechnology was established in June 1999. The work of this Task Force was extended for an additional 5 years starting in 2005. In 2003, the Codex Alimentarius Commission adopted the following drafts guidelines and principles based on the recommendations of this Task force. Full texts can be accessed from www.codexalimentarius.net.

1. Codex Principles for the Risk Analysis of Foods Derived from Modern Biotechnology;
2. Codex Guidelines for the Conduct of Food Safety Assessment of Foods Derived from Recombinant-DNA Plants;
3. Codex Annex on Possible Allergenicity Assessment;
4. Codex Guidelines for the conduct of food safety assessment of foods produced using recombinant-DNA Microorganisms.

Difficulties in collecting data for biotechnology

In addition to general difficulties and challenges (such as brain drain, instability of research managers, lack of sufficient fund for research and development, serious limitation in international travel etc.), facing data collection for any risk assessment activity developing countries face serious problems in accessing/generating data for risk assessment of foods derived from modern biotechnology. Some of these difficulties are: the difference in nature of risk associated with modern biotechnology, data monopoly by industry in advanced countries and lack of awareness of existence of such data in some of the developing countries, undue political influence, involvement of too much politics, absence of any international standard in this field, disagreement in definition of safety of foods derived from GMO including the concept of substantial equivalence, case by case risk assessment, precautionary principle, etc.

Possible strategies

Establishment and maintenance of a "comprehensive" roster of experts from developing countries based on: the recommendation from FAO/WHO designated "local correspondents", modified personal history form to include in addition to candidate's published papers in scientific journals, qualifications such as past experiences in participating in international negotiations, expert consultation meetings, positions held and activities in scientific societies etc. capacity building and enabling activities of various types are of paramount important for the data collection in this field. Proper financial and scientific recognition of services provided by experts will increase the participation of experts from developing countries. Other strategies will be discussed in this presentation.

Food Safety Issues versus Scientific Advice in India

(Dr Saxena, Centre for Analysis Research and Training, India)

It is a fact that the management of food safety issues is a complex system in India. Nine ministries govern food safety issues and different governmental agencies under these ministries have multiplicity of roles and lacks proper coordination. India has great wealth of scientific community in different disciplines but have very little contribution at international fora and participation in the provision of scientific advice. The probable reasons are stated below:

- Multiplicity of roles and lack of coordination of different governmental agencies dealing with food safety related issues;
- Improper functioning of national Codex Contact Point
- Communication gap (right information to the right place at the right time)
- Interference of bureaucracy
- Lack of required data generation and its integration
- Lack of networking of related institutions and laboratories
- Continuity and accountability
- Lack of financial resources for data generation
- Lack of awareness

Serious efforts are being made to overcome such hurdles. Recently the Parliament passed a new Food Safety Bill containing a provision for establishing a single agency in the name of the food safety authority to deal with all food safety related issues. The country has realized the importance of effective participation and contribution at international fora and the impact of the decisions taken at such fora. There is an urgent need for networking of scientific institutions and food testing laboratories in the country. Emphasis may be given to identify the experts at national level to contribute to the provision of scientific advice.

Capacity Building Initiatives – Networking

(Josef Brodesser, Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture)

Priorities of the Food & Environmental Protection (FEP) sub-programme

The current FEP programme refers to the availability, security and safety of food, technology transfer and accelerated capacity building to assist Member States in meeting Codex standards/guidelines. The aim is to facilitate crop protection and to increase food availability through appropriate use of nuclear techniques and Good Agricultural Practices (GAPs) to help overcome trade barriers caused by insufficient control of biological and chemical agents. The safe, efficient and environmentally sound use of pesticides both for pre- and post-harvest treatment is an important component thereof. Adapting/validating analytical methods for monitoring of food contaminants, promoting risk assessment approaches, practical training and capacity building improving nuclear emergency preparedness represent the related activities. Furthermore, wider use of irradiation as a “Cold Pasteurization Process” for reducing post harvest food losses is promoted. Coordinated Research Projects (CRP) and Technical Cooperation (TC) Projects support this approach. Furthermore, training/workshops, fellowships and scientific visits are organized, websites and databases developed (INFOCRIS, eLearning).

Practical aspects of utilizing scientific expertise

Recruitment of experts is facilitated by existing contacts between IAEA and national institutions, internal database for expert roster, contacts with experts utilized during workshops, training, conferences, as well as demands and proposals raised by counterparts. Drawbacks in transferring knowledge and technology assisted by external experts are mainly due to limited funding. Qualified experts from industry or private sector can hardly be paid a competitive honorarium. Moreover, the readiness of experts and institutes to become engaged is decreasing due to a general tendency towards privatization of governmental sectors and budget pressure.

Trained scientific/technical personnel at home are often promoted to higher positions or leave the governmental sector towards private business/industry after some time. A weak national technological and educational infrastructure makes an appropriate replacement of skilled personnel extremely difficult.

Upgrading of a single institute embedded in a weak national infrastructure makes it difficult to operate in a sustainable manner under international quality requirements. For example, weak technical support on-site may prevent laboratories continuing their work in case of technical faults in the equipment. Also access to contemporary information sources (web-based) and state-of-the-art communication tools is often insufficient to keep pace with ongoing developments.

Furthermore, there seems to be a lack of awareness and a weak coordination between aid and development organizations. For example, high technological equipment is delivered but may only be utilized in a sub-optimal manner due to inadequate technical training.

Way out and looking ahead

Strengthening of the local infrastructure is of utmost importance and the national responsibilities should be strengthened towards sound strategies and policies, sustainable budgeting and funding of institutes. Trained scientists should be motivated to stay at their institutes to prevent erosion of knowledge. Centres of Excellence could serve on a regional basis. Supranational metrology and traceability to the international SI system should be established, supported by accreditation/certification systems and regional recruitment of auditors/assessors.

Coordinated capacity building should embrace a system as a whole, and not just isolated elements. For example, laboratory technique and QM system and national accreditation/certification and national metrology and international acceptance should be strengthened at the same time. Country Framework Programmes should be in place and concerted activities of aid and donor organizations considered, as well as regional approaches and networks.

Participation of Experts and Data from Developing Countries in Food Composition

(Hettie Schonfeldt University of Pretoria, South Africa)

An infrastructure for food composition-related activities, namely the International Network of Food Data Systems (INFOODS) was established in 1983 by United Nations University (UNU). It has an organizational framework and international management structure that includes a global secretariat and regional data centres. Its mandate is “to promote international cooperation in the acquisition and interchange of quality data on the composition of foods, in forms appropriate to meet the needs of government agencies, nutrition scientists, health and agriculture professionals, policy makers and planners, food producers, processors and retailers, and consumers”. In the mid-1990s, the Food and Agriculture Organization (FAO) joined UNU in partnership for INFOODS. Action plans are proposed at national, sub-regional and international level, with cross-cutting working groups. However, funding to support the infrastructure and activities are restricted.

With relevance to Africa, inadequate food composition data in most African countries necessitates the collection of new data and revision of existing data in accordance with the currently consumed foods. In 1997, only a few countries had produced food composition tables, therefore FAO and UNU collaborated to support various activities such as providing much needed fellowships for training to participants in the region. The objectives of the courses are: a) to strengthen food composition activities, b) to establish a network of food composition programmes, and c) to improve the quality of food composition data. Constraints to progress include the following: governments do not see food composition as a priority and therefore do not make funds available to build capacities, implying both analytical instruments and human resources. To analyse food is expensive for developing countries and therefore cannot be performed on an *ad hoc* basis complementary to existing research programmes. Analytical techniques are complicated and equipment expensive which is in itself limiting. Even if some resources are made available for analysis the quality of the data is sometimes suspect as only by participation in proficiency schemes can quality be compared. Nutritionists themselves do not often appreciate the importance of good quality food composition data and therefore do not insist upon analysed data of locally consumed foods. Food analysis should be

taught formally at tertiary level in countries as part of graduate work to sensitize students to the many facets involved. Food composition data generated, compiled and disseminated contributes to the national and international assessments of, among other things, hunger and food insecurity, upon which policies, aid and interventions are determined.

We call for integrated solutions, national and international partnerships, the involvement of the private sector, research and development to find solutions to the problems, with continued monitoring and advocacy. Not only is the strengthening of laboratory capabilities important, but we need a combining of food composition and food control resources. We should develop INFOODS standards and need continued FAO support for peer-reviewed scientific journals such as the Journal of Food Composition and Analysis (JFCA). Continued support for capacity building by FAO and UNU is also important.

Intra American Network of Food Analysis Laboratories - INFAL (Miguel Genovese, Pan-American Foot-and-Mouth Disease Center)

The existence of national food control systems is a key condition to protect the health and safety of national consumers. It is also essential in enabling countries to assure the safety and quality of exported food and to guarantee that imported food conforms to national requirements.

INFAL is a forum for the support of national programmes for food safety control and surveillance. Its creation was promoted by the Pan American Health Organization (PAHO) – through its food safety specialized centre, the Pan American Institute for Food Protection and Zoonoses (INPPAZ) and the Food and Agriculture Organization of the United Nations (FAO).

INFAL's mission is "to promote the assurance of food safety and food quality in the region of Americas for the prevention of food-borne diseases, protect consumers' health and facilitate trade, encouraging and strengthening the development and interaction of food analysis laboratories within the framework of national integrated programmes for food protection". Its general objectives are: a) promoting harmonization and methodological equivalence of food analyses laboratories; b) promoting the implementation of equivalent quality management systems in INFAL laboratories and c) strengthening the technical-scientific cooperation between the countries involved in this cooperation.

The specific objectives are: developing an information system between INFAL laboratories; facilitating the availability of reference materials and the participation in inter-laboratory testing; organizing and promoting training programmes and continuous education, fostering the interchange of experiences and available resources in the region; promoting and encouraging intersectoral participation for the establishment and operation of national networks of food laboratories; promoting and encouraging the integration of INFAL laboratories to food protection and epidemiological surveillance programmes.

INFAL is composed of officially appointed national laboratories involved in food quality control in the countries of the region of the Americas. INFAL structure is the following: (1) Assembly, (2) Executive Committee, (3) Technical Groups (Microbiology, Chemical Analysis and Quality Management), the ex-officio Secretarial, the Advisor Group and the National Networks.

INFAL has projects and several tools that facilitate the interaction and the harmonization of the work between the 59 laboratories of the 29 countries (with different languages) which make up the Network.

Among the achievements fulfilled with PAHO cooperation, the following are worth mentioning: (1) a bilingual web page; (2) an information system; (3) the communication groups by e-mail; (4) the virtual courses; (5) inter-laboratory test programmes and (6) on-line bibliography.

It is worth mentioning that FAO is implementing 2 subregional projects for the "Development of an integral system of Quality Assurance for food analysis laboratories", which covers 10 South American countries and 9 countries from Central America, Mexico, Cuba, Panama and Dominican Republic, respectively.

In conclusion, INFAL represents an interaction mechanism established among food analysis laboratories in the countries of the Region for strengthening the analytical capacities necessary to guarantee food safety which contributes to protect consumers' health and to facilitate international trade.

FAO TECHNICAL PAPERS

FAO FOOD AND NUTRITION PAPERS

- 1/1 Review of food consumption surveys 1977 – Vol. 1. Europe, North America, Oceania, 1977 (E)
- 1/2 Review of food consumption surveys 1977 – Vol. 2. Africa, Latin America, Near East, Far East, 1979 (E)
- 2 Report of the joint FAO/WHO/UNEP conference on mycotoxins, 1977 (E F S)
- 3 Report of a joint FAO/WHO expert consultation on dietary fats and oils in human nutrition, 1977 (E F S)
- 4 JECFA specifications for identity and purity of thickening agents, anticaking agents, antimicrobials, antioxidants and emulsifiers, 1978 (E)
- 5 JECFA – guide to specifications, 1978 (E F)
- 5 Rev. 1 JECFA – guide to specifications, 1983 (E F)
- 5 Rev. 2 JECFA – guide to specifications, 1991 (E)
- 6 The feeding of workers in developing countries, 1976 (E S)
- 7 JECFA specifications for identity and purity of food colours, enzyme preparations and other food additives, 1978 (E F)
- 8 Women in food production, food handling and nutrition, 1979 (E F S)
- 9 Arsenic and tin in foods: reviews of commonly used methods of analysis, 1979 (E)
- 10 Prevention of mycotoxins, 1979 (E F S)
- 11 The economic value of breast-feeding, 1979 (E F)
- 12 JECFA specifications for identity and purity of food colours, flavouring agents and other food additives, 1979 (E F)
- 13 Perspective on mycotoxins, 1979 (E F S)
- 14 *Manuals of food quality control:*
- 14/1 Food control laboratory, 1979 (Ar E)
- 14/1 Rev.1 The food control laboratory, 1986 (E)
- 14/2 Additives, contaminants, techniques, 1980 (E)
- 14/3 Commodities, 1979 (E)
- 14/4 Microbiological analysis, 1979 (E F S)
- 14/5 Food inspection, 1981 (Ar E) (Rev. 1984, E S)
- 14/6 Food for export, 1979 (E S)
- 14/6 Rev.1 Food for export, 1990 (E S)
- 14/7 Food analysis: general techniques, additives, contaminants and composition, 1986 (C E)
- 14/8 Food analysis: quality, adulteration and tests of identity, 1986 (E)
- 14/9 Introduction to food sampling, 1988 (Ar C E F S)
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