

Understanding the Scientific Basis for Codex Food safety Standards (JECFA, JEMRA, JMPR)

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Origin of the Codex Alimentarius

*The Codex Alimentarius is the product of a long evolutionary process involving a wide cross-section of the global community. Many people representing many interests and disciplines have been involved in the process, and it is not unreasonable to suppose that, as long as the need perceived by those people remains, **SO** **the Codex Alimentarius will remain.***

What is the Codex Alimentarius?

Codex Alimentarius is a collection of standards, codes of practice, guidelines and other recommendations. Some of these texts are very general, and some are very specific. Some deal with detailed requirements related to a food or group of foods; others deal with the operation and management of production processes or the operation of government regulatory systems for food safety and consumer protection.

CODEX ALIMENTARIUS:

- ❑ Latin Word means **Food Law or Code**
- ❑ Joint FAO & WHO (Established in 1962)
- ❑ **184** Countries are Member
- ❑ Represents **> 95% of World Populations**
- ❑ Published Food Standards/Code of Practices & Guidelines
- ❑ Responsible for the execution of the joint FAO / WHO food standards program

Main Objectives

- ❑ Protecting the health of the consumers
- ❑ Facilitating international trade in food
- ❑ Formulation of standards
- ❑ Publication of standards

Science at Codex

Decisions:

- ❑ The Food Standards, Guidelines and other Recommendations shall be based on the **Principle of Sound Scientific Analysis.**
- ❑ Codex Standards must **withstand the most Rigorous Scientific Scrutiny**

Principles of Developing Scientific Advice at Codex Alimentarius

- 1. *Excellence:*** International Expertise, Global Scientific Discussion and Best Practices
- 2. *Independence :*** Experts works in Individual Capacity; Declare Conflict of Interest
- 3. *Transparency:*** Access to the Reports, Evaluation and basic information
- 4. *Universality:*** Broad Base of Scientific Data, Institutions and all interested through the world are invited to make data available.

Expert Committees & Consultations

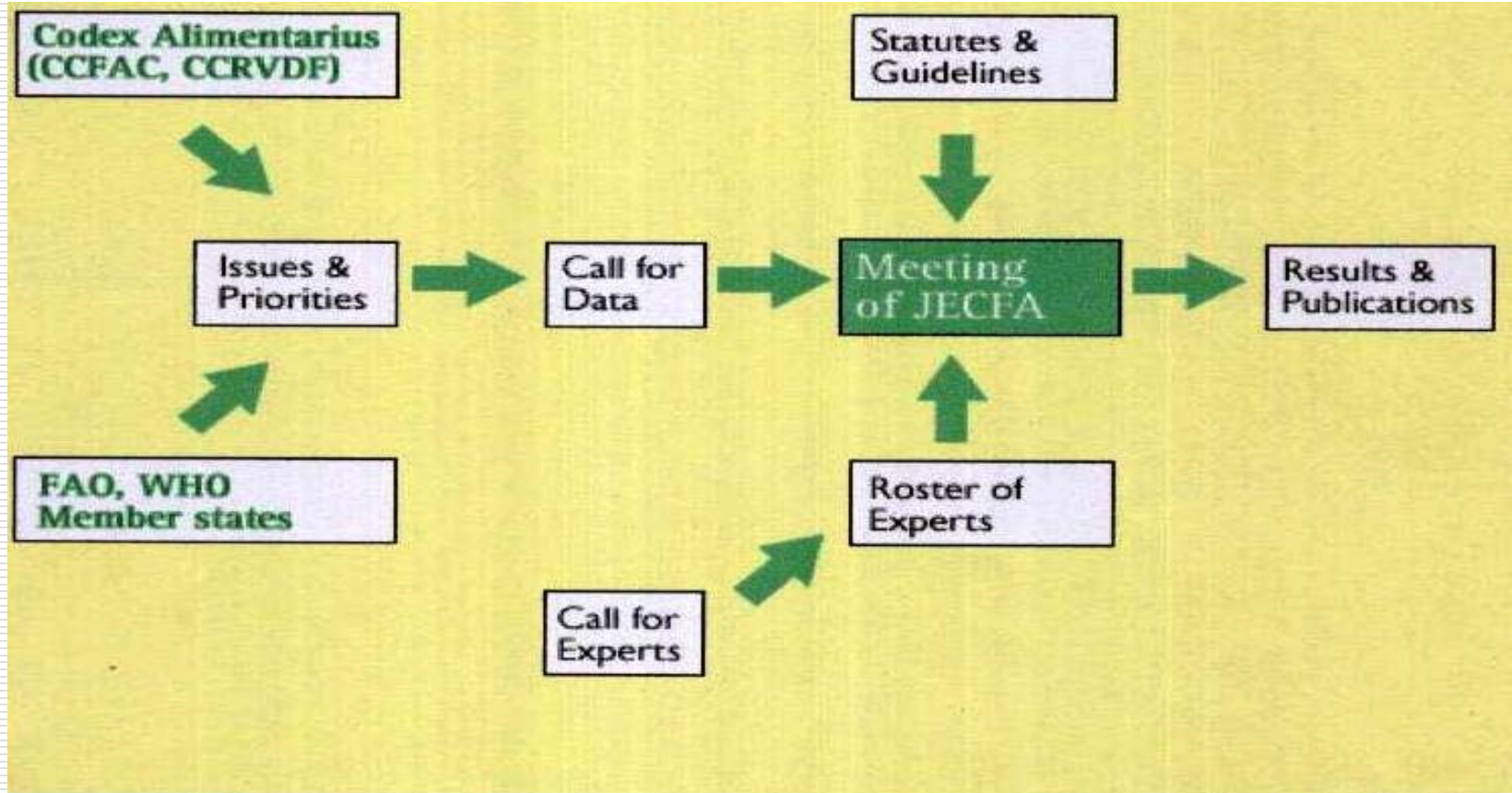
- JECFA**
- JMPR**
- JEMRA**
- Biotech Assessment
- Acrlamide
- Malamine
- Antimicrobial Substances

JECFA : History and Background

- ❑ Since 1956
- ❑ Evaluation of:
 - Food Additives
 - Contaminants
 - Natural Occurring Toxins
 - Residues of Veterinary Drugs
- ❑ >1500 Food Additives; >40 Contaminants and NOTs; Approximately 90 VDRs



Transparent Process



JMPR : History and Background

- ❑ Since 1963
- ❑ Evaluation of Pesticide:
 - Residues & Analytical Aspects
 - Metabolism
 - Fate in the Environment
 - Use Patterns
 - Estimating MRL
 - Estimating ADIs for Humans

- ❑ >230 Pesticides (many of them at several occasions)
- ❑ In Close Co-ordination with **CCPR**



World Health
Organization



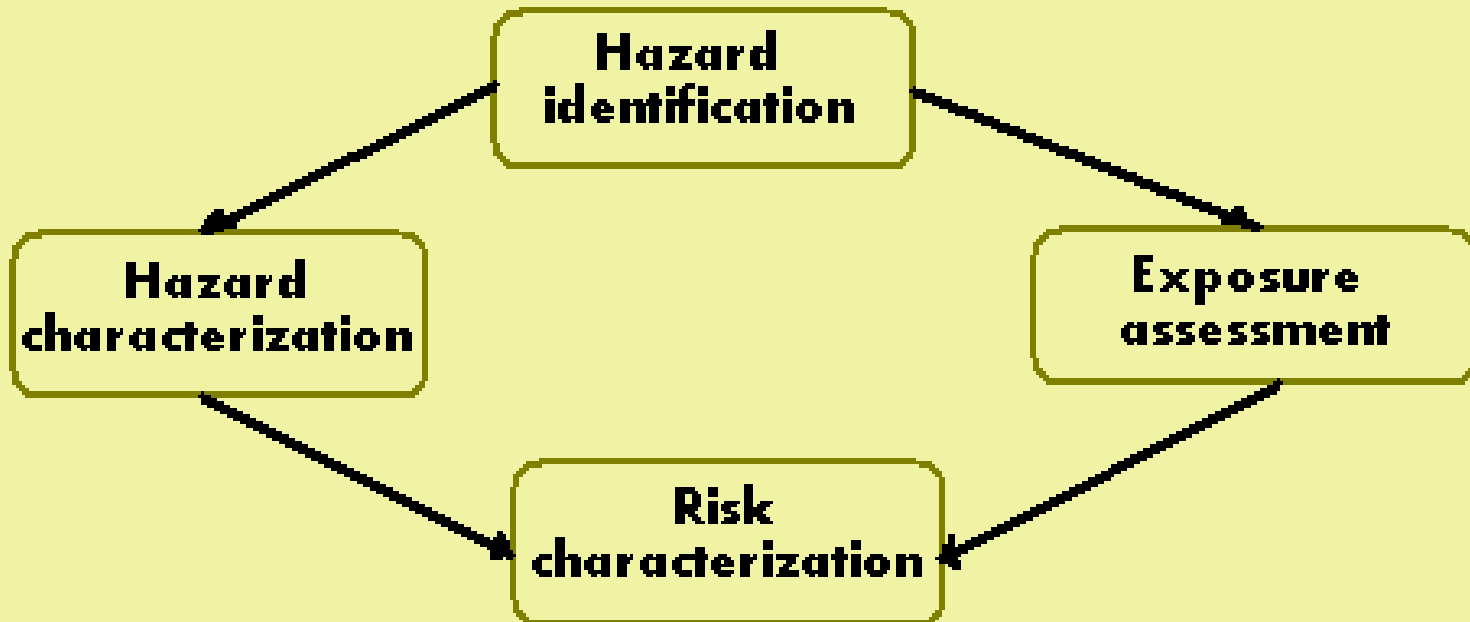
Food and Agriculture
Organization of
the United Nations

JEMRA : History and Background

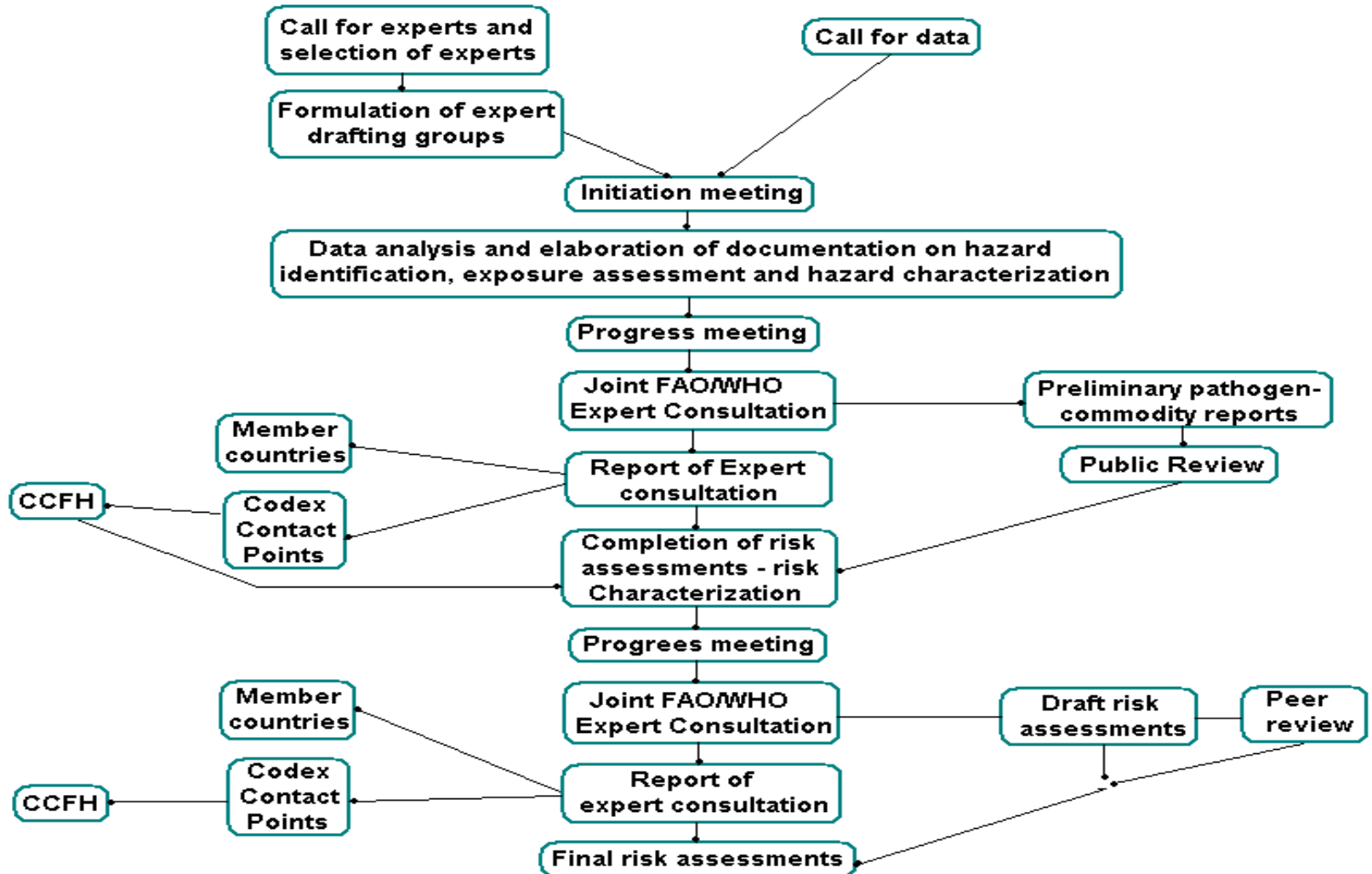
- Since 1997
- Microbiological Risk Assessment:
Food-Borne Pathogens
 - Assessing the Risk Associated
 - Guidance on Data Generation
 - Guidance to Access Relevant Data
 - How to Assess Risk
 - Application of Risk Assessment
 - Developing Risk Assessment tools
 - In close Coordination with CCFH**



Four Steps of MRA



FAO/WHO MRA Process



How JECFA, JEMRA, JMPR Works

- ❑ Public Calls for Experts
- ❑ Transparent Procedure for Selection of Experts and Maintaining Roster
- ❑ Issuing Public Calls for Data (Globally)
- ❑ Establishing Multi-disciplinary Expert Groups
(**Chemists, Microbiologist, Epidemiologist, Veterinarians, Food Scientist, Toxicologists, & Statistician etc.**)
- ❑ Organizing Expert meetings
- ❑ Documenting Working Procedure
- ❑ Conducting Peer Review of All Technical Data/Papers
- ❑ Publishing Reports

Membership of Expert Consultation

Critical Importance

The Credibility & Acceptability of any conclusion and Recommendations depends on:

- Objectivity
- Scientific Skill
- Overall Competence

(of Members who Formulate them)

Selection of Experts

□ FAO/WHO Calls for Experts

Coordinated Selection of Experts

1. Careful Consideration of Scientific Credentials of Candidates
2. Balance Scientific Expertise
3. Regional Representation and Gender Balance
4. FAO/WHO meets the Cost of Experts
5. Selection of Experts by Mutual Consultation by Joint Secretariats (FAO/WHO)
6. Maintain Rosters for the period of Five Years

Categories

Categories:

- 1. Members:** Makes Decisions and Decides the Content of Report. Chairperson, Vice-Chairperson and Rapporteurs are elected from members.
- 2. Experts:** Prepare draft Documents and Contribute to the decisions. Temporary Advisers and Part of Secretariat

Area of Expertise

WHO: Toxicological Experts on Food Additives, Contaminants, Natural Toxins and Residues of Veterinary Drugs

FAO: Expert on Manufacturer and Quality of Food Additives, Determination of Contaminants and Toxins including Residues of Veterinary Drugs

FAO/WHO: Expert on Exposure Assessment for Estimating the dietary intake of Chemicals in Food

Call for Data

- ❑ **List of Substances Scheduled For Evaluation**
- ❑ **Submission of Data**
 1. **Toxicological Data:** Metabolism and Pharmacokinetic Studies; Short & Long Term Toxicity Studies etc.
 2. **Technological Data:** Specification for identity and Purity; Level of Contaminants; Analytical Techniques; Sampling Protocol etc.
 3. **Intake Assessment Data:** Estimation of Additive Intakes; Food Consumption Patterns etc.
- ❑ **Presentation of Data :** According to **GEMS/Food Format**. All Relevant Data, **Both Positive and Negative**, Should be Submitted

Outcome of Scientific Process



Post WTO Situation

- ❑ Importance of Codex Standards increased many Folds
- ❑ Recognized Scientific and Transparent Process of setting Standards
- ❑ Acceptance by most of the WTO Member Countries

Agreement Technical Barriers to Trade (TBT)

- To minimize or eliminate technical barriers to trade brought about by imposition of various product requirements (standards and technical regulation) and procedure for assessment of conformity to standards.

The agreement visualizes that:

- **Harmonization of national standards with international standards (Codex) could minimize barriers to trade.**
- Harmonized procedures for conformity assessment could minimize unnecessary barriers to trade.

SPS Agreement: Agreement on the Application of SPS Measures

Article 2.2 of the SPS Agreement states:

“Members shall ensure that any sanitary and phytosanitary measure is applied only to the extent necessary to protect human, animal or plant life or health, **is based on scientific principles** and is not maintained without sufficient scientific evidence ”

Article 3.1 of the SPS Agreement states:

“To harmonize sanitary and phytosanitary measures on as wide a basis as possible, Members shall base their sanitary and phytosanitary measures on **international standards, guidelines or recommendations**, where they exist, except as otherwise provided for in this Agreement.”

TBT Agreement

Agreement on Technical Barriers to Trade

Article 2.6 of the TBT Agreement states:

“With a view to harmonizing technical regulations on as wide a basis as possible, Members shall play a full part, within the limits of their resources, in the preparation by appropriate international standardizing bodies of international standards for products for which they have either adopted, or expect to adopt, technical regulations.”

SPS and TBT Agreement

The SPS and TBT Agreement has chosen the International Standards, guidelines and recommendations for there organization as the preferred measures for adoption by the WTO members

❖ **Codex Alimentarius (CAC)** **Food Safety**

❖ Office international des epizooties (OIE) Animal health and zoonoses

❖ International plant protection Convention.(IPPC) plant health

Recent joint FAO/WHO expert meetings and consultations

- ❑ 2000: Safety aspects of Genetically Modified Foods of plant origin
- ❑ 2001: Evaluation of the Allergenicity of genetically modified foods
- ❑ 2002: Acrylamide
- ❑ 2003: Safety aspects of Genetically Modified Foods from animals, and fish
- ❑ 2004 : Biotoxins in molluscan bivalves
- ❑ 2008: ~~Expert Consultation on Melamine~~

Conclusion

- ❑ Keep Watch on Call for Data & Experts
- ❑ Analyze the Issue
- ❑ Develop Technical Competence
- ❑ Submit Desired Data
- ❑ Pool Scientific Resources (**Universities/Scientific Institutions/ Industry**)
- ❑ Motivate them to be the Part of Global Scientific Process.

(Least Developing Countries)

Thank You & Jai Hind

