

## The Role of Codex in Enhancing Food Safety

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## The Role of Codex in Enhancing Food Safety

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## Introduction

- New year wishes from the Joint FAO/WHO Codex Alimentarius Commission to:
  - The Government of the Hong Kong Special Administrative Region- through the Secretary of Health, Welfare and Food – Dr. York Chow;
  - Controller and staff of the Centre for Food Safety
  - Symposium speakers and participants
- Congratulate the Centre for Food Safety under the competent leadership of Dr. Mak for organizing this very important symposium on "Food safety in the New Era".
- Extend Commission's appreciation for being invited to - not only to participate in the symposium - but also to participate and to witness the official opening of the Centre. We have taken particular interest in the Centre in that FAO/WHO believe the building blocks for food safety control management include :
  - Food Safety Policy
  - Food Law and Regulations
  - Food Control Management
  - Inspection Services
  - Laboratory Services
  - Food Monitoring and Epidemiological Data
  - Information, Education, Communication and Training
  - We also wish to note here that only last year, The Peoples Republic of China offered to host two important Codex Committees – on Food additive and Pesticides Residues in food
- Purpose of the presentation is to introduce Codex and its role in enhancing food safety to participants to the International Symposium on Food Safety cum Centre for Food Safety Official Opening Ceremony
- To discuss freely and openly on future role of Codex on food safety issues and concerns nationally, regionally and globally

## Definitions

**Food** means any substance, whether processed, semi-processed or raw, which is intended for human consumption, and includes drink, chewing gum and any substance which has been used in the manufacture, preparation or treatment of "food" but does not include cosmetics or tobacco or substances used only as drugs.

## Definitions

### **Hazard**

- A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect.

### **Food safety**

- assurance that food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use.
- Freedom of food from microbiological, chemical and physical hazards

## Definitions

### *The Codex Alimentarius*

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

## Definitions

### *The Codex Alimentarius Commission*

- An Intergovernmental Commission established to implement the Joint FAO/WHO Food Standards Programme
- Established by resolutions reached during the Eleventh Session of the FAO Conference held in 1961 and the Sixteenth World Health Assembly held in 1963  
The two bodies also adopted the Statutes and Rules of Procedure for the Commission

### Definitions – The Codex Alimentarius Commission cont.

- The Statutes** provide the legal basis for the Commission's work
- **Article 1** of the Statutes provides the Commission with its purposes, terms of reference and
  - **Article 2** defines eligibility for membership of the Commission, which is open to all Member Nations and Associate Members of FAO and WHO. In 2005, membership comprised 171 members representing 98 percent of the world's population. The European Community is a Member Organization.
  - A number of international governmental organizations and international NGOs participate in Codex work as observer

## Definitions

### *Standards (Codex)*

These are texts/documents usually relating to product characteristics and may deal with all government-regulated characteristics appropriate to the commodity, or only one characteristic.

**Maximum residue limits (MRLs)** for residues of pesticides or veterinary drugs in foods are examples of standards dealing with only one characteristic.

**Codex General Standard for the Labelling of Prepackaged Foods** covers all foods in this category.

## Definitions -Standards (Codex) cont.

**Codex general standards** for food additives and contaminants and toxins in foods contain both general and commodity-specific provisions.

**Codex methods of analysis and sampling**, including those for contaminants and residues of pesticides and veterinary drugs in foods, are also considered Codex standards.

## Definitions

**Codex codes of practice** – including codes of hygienic practice – define the production, processing, manufacturing, transport and storage practices for individual foods or groups of foods that are considered essential to ensure the safety and suitability of food for consumption.

For food hygiene, the basic text is the **Codex General Principles of Food Hygiene**, which introduces the use of the Hazard Analysis and Critical Control Point (HACCP) food Safety Management System.

A code of practice on the control of the use of veterinary drugs provides general guidance in this area.

## Definitions

**Codex guidelines** fall into two categories:

- **principles** that set out policy in certain key areas; and
- **guidelines for the interpretation** of these principles or for the interpretation of the provisions of the Codex general standards

## Definitions – Codex guidelines cont.

**Codex principles** these are free-standing texts covering:

- addition of essential nutrients to foods;
- food import and export inspection and certification;
- establishment and application of microbiological criteria for foods;
- conduct of microbiological risk assessment;
- risk analysis of foods derived from modern biotechnology.

## Definitions – Codex guidelines cont.

**Interpretative Codex guidelines** include those for food labelling, especially the regulation of claims made on the label.

This group includes guidelines for nutrition and health claims; conditions for production, marketing and labelling of organic foods; and foods claimed to be “halal”. There are several guidelines that interpret the provisions of the Codex Principles for Food Import and Export Inspection and Certification, and guidelines on the conduct of safety assessments of foods from DNA-modified plants and micro-organisms.

## Food safety commitments

### **Basic Human Right:**

The right to food is a human right that is protected by international law. It is the right to have regular, permanent and unobstructed access, either directly or by means of financial purchases, to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of the people to which the consumer belongs, and ensuring a physical and mental, individual and collective, fulfilling and dignified life free from anxiety. Governments have a legal obligation to respect, protect and fulfill the right to food (UN Secretary-General 2002)

## Food safety commitments

### **Governments Commitment**

We, the Heads of State and Government, or our representatives, gathered at the World Food Summit at the invitation of the Food and Agriculture Organization of the United Nations, reaffirm the *right of everyone to have access to safe and nutritious food*, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger (World Food Summit, Rome 1996, 2002)

## Food safety commitments

### **Food Security**

Food security exists when all people, at all times, have access to *sufficient, safe and nutritious food* to meet their dietary needs and food preferences for an active and healthy life (FAO).

The FAO Strategic framework for 2000-2015 accords high priority to promoting policy and regulatory frameworks for *food* at the international and national levels.

## Food safety commitments

The Fifty-third World Health Assembly (May, 2000) adopted a resolution calling upon the World Health Organization (WHO) and its Member States to *recognize food safety as an essential public health function* (resolution WHA53.15).

## Food safety commitments

Marrakech (January 2002) and Bangkok (October 2004) Global Forums of Food Safety Regulators noted the need to adopt an integrated approach to **food safety issues** from farm to fork and on a risk-based approach in developing **food safety policies**

## Food safety concerns

### **Microbiological hazards**

There is noted increase in incidence of diseases caused by microorganisms transmitted mainly by food(water), such as *Salmonella* spp. and *Campylobacter* spp. including recent hazards like enterohaemorrhagic *Escherichia coli* and bovine spongiform encephalopathy which emerged in the food chain.

## Food safety concerns

### **Chemical hazards**

Chemical contaminants in food including natural toxicants, such as mycotoxins and marine toxins, environmental contaminants, such as mercury and lead, and naturally occurring substances in plants pose great risk to health.

Products usually used at some stages along the food chain like food additives, micronutrients, pesticides and veterinary drugs pose a health hazard if not used properly.

## Food safety concerns

### **Consumers**

- Are more aware than ever about food safety issues and are seeking ever-greater assurances about the safety and quality of foods they eat.
- Demand for variety in food products and for year-round supply of e.g: fresh fruit and vegetables, fresh fish and fish products and fresh meat
- increasing mobility and advances in modern communication

## Food safety concerns

### **Food trade**

- Globalization has seen growing levels of international trade in agricultural and food products and new food-borne hazards rapidly spread internationally
- Differing national and regional food legislation including food safety standards
- Innovation and the development of new processes (including modern biotechnology) are leading to the development of new products with specific medical, nutritional and functional attributes.

## Food safety concerns

### **Recognition under WTO-SPS Agreement**

Formal recognition under the The Agreement on the Application of Sanitary and Phytosanitary Measures and Agreement on Technical Barriers to Trade of International standards, guidelines and recommendations, including the Codex Alimentarius, as reference points for Facilitating international trade and resolving trade disputes in international law.

## Efforts to ensure food safety

### Historical

Evidence from the earliest historical writings indicates that governing authorities were already taking measures to protect consumers from dishonest practices in the sale of food:

- Egyptian scrolls prescribed the labelling to be applied to certain foods.
- In ancient Athens, beer and wines were inspected for purity and soundness, and
- Romans had a well-organized state food control system to protect consumers from fraud and bad produce

## Efforts to ensure food safety

In Europe during the Middle Ages, individual countries passed laws concerning the quality and safety of eggs, sausages, cheese, beer, wine and bread.

## Efforts to ensure food safety

- In the mid-nineteenth century first general food laws were adopted
- basic food control systems were established to monitor compliance
- Science started to provide tools for distinguishing between safe and unsafe edible products
- food chemistry as discipline started to be used in the determination of the "purity" of a food and to detect adulteration say by industrial chemicals to disguise true colour of a food product.

## Efforts to ensure food safety

In the Austro-Hungarian Empire between 1897 and 1911, a collection of standards and product descriptions for a wide variety of foods was developed as the *Codex Alimentarius Austriacus* and was used as a reference by the courts to determine standards of identity for specific foods.

The present-day Codex Alimentarius draws its name from the Austrian code.

## Efforts to ensuring food safety

Many other countries developed food laws and standards and sooner, it was realized that the different sets of standards gave rise to trade barriers that were of increasing concern to food traders especially in the early twentieth century.

As a reaction to the trade barriers, trade associations were formed and pressured governments to harmonize their various food standards so as to facilitate trade

## Efforts to ensure food safety

**FAO** was founded in 1945, with responsibilities covering nutrition and associated international food standards

**WHO** was founded in 1948, with responsibilities covering human health and, in particular, a mandate to establish food standards

**Argentina, in 1949**, proposed a regional Latin American food code, *Código Latinoamericano de Alimentos*

**Austria, 1954 – 1958**, actively pursued the creation of a regional food code, the *Codex Alimentarius Europaeus*, or European Codex Alimentarius

## Efforts to ensure food safety

In 1960, the first [FAO Regional Conference for Europe](#) endorsed the desirability of [International](#) as distinct from [Regional agreement on minimum food standards](#) and invited the Organization's Director-General to Submit proposals for a Joint FAO/WHO programme on food standards to the FAO Conference

In 1961, the Council of the Codex Alimentarius Europaeus adopted a resolution proposing that its work on food standards be taken over by FAO and WHO

## Efforts to ensure food safety

With the support of WHO, the United Nations Economic Commission for Europe (UNECE), the Organization for Economic Co-operation and Development (OECD) and the Council of the Codex Alimentarius Europaeus, the FAO Conference, 1961 establishes the [Codex Alimentarius](#) and resolved to create an international food standards programme

The 1961 FAO Conference also decided to establish a [Codex Alimentarius Commission](#) and requested for an early endorsement by WHO of a joint FAO/WHO food standards programme

## Efforts to ensure food safety

The Joint FAO/WHO Food Standards Conference held in 1962 requested that the Codex Alimentarius Commission implement a joint FAO/WHO food standards programme and create the Codex Alimentarius

Recognizing the importance of WHO's role in all health aspects of food and considering its mandate to establish food standards, the World Health Assembly approved, in 1963, establishment of the Joint FAO/WHO Food Standards Programme and adopted the Statutes of the Codex Alimentarius Commission

## Codex Alimentarius- enhancing food safety

[Codex Alimentarius – or international food code](#) - Is a collection of standards, codes of practice, guidelines and other recommendations developed by Codex Committees and Task Forces and adopted by the [Codex Alimentarius Commission](#) .

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- enhancing food safety

The [Codex Alimentarius](#), is a global reference point for consumers, food producers and processors, national food control agencies and the international food trade.

The [Code](#) has become the global reference point for consumers, food producers, processors and traders and national food control agencies. Its influence extends to Every continent, and its contribution to the protection of Public health and fair practices in the food trade is immeasurable.

## Codex Alimentarius- enhancing food safety

The [Codex Alimentarius system](#) presents a unique opportunity for all countries to join the international community in formulating and harmonizing food standards and ensuring their Global implementation. It also allows them a role in the development of codes governing hygienic processing practices and recommendations relating to compliance with those standards

## Codex Alimentarius- enhancing food safety

The significance of the food code for consumer health protection was underscored:

- in 1985 by the United Nations Resolution 39/248;
- by the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement); and
- the Agreement on Technical Barriers to Trade (TBT Agreement)

## Codex Alimentarius- enhancing food safety

Codex standards and related texts cover a wide range of foods and food safety and quality issues.

There are Codex standards on, for example:

- **Commodities** - fruits, vegetables, cereals, pulses, legumes, meat, fish, milk, fats, oils, sugars, cocoa and products of all these;
- **Food labeling** (including nutrition labelling) and claims;
- **Food additives, contaminants and toxins**;
- **Maximum residue limits (MRLs) for pesticides and veterinary drugs**

## Codex Alimentarius- enhancing food safety

Codex guidelines on, for example:

- Application of Hazard Analysis and Critical Control Point (HACCP) system;
- Food import and certification systems
- Exchange of information in food control emergency situations and on rejections of imported food
- Organically-produced foods
- Methods of analysis and sampling

## Codex Alimentarius- enhancing food safety

Codex Codes of Practice on, for example:

- Good animal feeding;
- Prevention and reduction of contamination with aflatoxin and other mycotoxins;
- General principles of food hygiene;
- Hygienic practice for milk and milk products;
- Transport of food in bulk.

## Codex Alimentarius- enhancing food safety

**The Codex scorecard as by 1 July 2005**

- Commodity standards – 202
- Commodity-related guidelines and codes of practice – 38
- General standards and guidelines on food labeling – 7
- General codes and guidelines on food hygiene – 5
- Guidelines on food safety risk assessment – 5
- Standards, codes and guidelines on contaminants in foods – 14
- Standards, guidelines and other recommendations on sampling, analysis, inspection and certification procedures – 22
- Maximum limits for pesticide residues – 2579, covering 213 pesticides
- Food additives provisions – 683, covering 222 food additives
- Maximum limits for veterinary drugs in foods – 377, covering 44 veterinary drugs

## Codex Alimentarius Commission- enhancing food safety

**Codex Alimentarius Commission (CAC)** was established to implement the Joint FAO/WHO Food Standards Programme

**The Statutes** provide the legal basis for the Commission's work

- **Article 1** of the Statutes provides the Commission with its purposes, terms of reference and

- **Article 2** defines eligibility for membership of the Commission, which is open to all Member Nations and Associate Members of FAO and WHO. The CAC is an intergovernmental negotiating platform and in 2005, membership comprised 171 countries, representing 98 percent of the world's population. The European Community is a Member Organization. 170 members worldwide

- A number of international governmental organizations and international NGOs participate in Codex work as observer

## Codex Alimentarius Commission- enhancing food safety

### ARTICLE 1

The Codex Alimentarius Commission shall ... Be responsible for Making proposals to, and shall be consulted by, the Directors General of the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) on all matters pertaining to the implementation of the Joint FAO/WHO Food Standards Programme, the purpose of which is:

- (a) protecting the health of consumers and ensuring fair practices in the food trade;
- (b) promoting coordination of all food standards work undertaken by international governmental and non-governmental organizations;
- (c) determining priorities and initiating and guiding the preparation of draft standards;
- (d) finalizing standards from (c) ; and
- (e) Amending published standards

## Codex Alimentarius Commission- enhancing food safety

**Membership**-Full participation by all Codex Members and other interested parties in the work of the CAC is now more important than ever. The participation of all members and relevant intergovernmental and international non-governmental organizations is critical to sound decision-making and ensuring that Codex standards and related texts take account of the full range of interests and viewpoints.

### - Member countries (mc):

Africa – 44, Asia – 21, Europe – 43, Latin America and Caribbean – 33, Near East – 18, North America – 2 and South West Pacific – 11

### - Member organization(mo) - 1

## Codex Alimentarius Commission- enhancing food safety

**Decision-making** in the Codex process is based on sound scientific principles. However, the Commission being a **risk management body**, does not undertake scientific evaluations *per se* but relies on the opinions of scientific expert bodies convened by FAO and WHO on specific issues.

**Expert bodies** include the Joint FAO/WHO Expert Committee on Food Additives (JECFA), the Joint FAO/WHO Meetings on Pesticide Residues (JMPR) and the Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA) and other *ad hoc* expert consultations are functionally separate from the Codex Alimentarius Commission and its subsidiary bodies.

## Codex Alimentarius Commission- enhancing food safety

Under its Rules of Procedure, the Commission is empowered to establish two kinds of subsidiary bodies (Committees):

- **Codex Committees**, which prepare draft standards for submission to the Commission;
  - General subject (horizontal) Committees
  - Commodity (vertical) Committees
- **Coordinating Committees**, through which regions or groups of countries coordinate food standards activities in the region, including the development of regional standards.
  - Committees are hosted by member countries, which are chiefly responsible for the cost of the committee's maintenance and administration and for providing its chairperson

## Codex Alimentarius Commission- enhancing food safety

### General Subject Committees (10)

These Committees are so called because their work has relevance for all Commodity Committees

Develop all-embracing concepts and principles applying to foods in general, specific foods or groups of foods; endorse or review relevant provisions in Codex Commodity standards; and, based on the advice of expert Scientific bodies, develop major recommendations pertaining to consumers' health and safety.

## Codex Alimentarius Commission- enhancing food safety

### General Subject Committees cont.

1. Committee on General Principles
2. Committee on Food Additives
3. Committee on Contaminants
4. Committee on Food Hygiene
5. Committee on Food Labelling
6. Committee on Methods of Analysis and Sampling
7. Committee on Nutrition and Foods for Special Dietary Uses
8. Committee on Pesticides Residues
9. Committee on Residues of Veterinary Drugs in Foods
10. Committee on Food Import and Certification Systems

### **Codex Alimentarius Commission- enhancing food safety**

#### **Commodity Committees**

Develop standards for specific foods or Classes of food

Convene as necessary and go into recess or are abolished when the Commission decides their work has been completed.

New Committees may be established on an ad hoc basis to cover specific needs for the development of new standards.

### **Codex Alimentarius Commission- enhancing food safety**

#### **Commodity Committees cont.**

Five Commodity Committees that meet regularly:

Committee on Fats and Oils

Committee on Fish and Fishery Products

Committee on Fresh Fruits and Vegetables

Committee on Milk and Milk Products

Committee on Processed Fruits and Vegetables

### **Codex Alimentarius Commission- enhancing food safety**

#### **Commodity Committees cont.**

The following Commodity Committees work through correspondence or are in recess:

Committee on Cereals, Pulses and Legumes

Committee on Cocoa Products and Chocolate

Committee on Meat Hygiene

Committee on Natural Mineral Waters

Committee on Sugars

Committee on Vegetable Proteins

### **Codex Alimentarius Commission- enhancing food safety**

#### **Ad Hoc Intergovernmental Task forces**

Codex Committee with very limited terms of reference established for a fixed period of time (Commission decision as of 1999).

- Task Force on Animal Feeding, 1999–2004
- Task Force on Foods Derived from Biotechnology, 1999–2003 and 2005–2009
- Task Force on Fruit and Vegetable Juices, 1999–2005
  
- Task Forces on Antimicrobial Resistance and on the Handling and Processing of Quick Frozen were established during the 29<sup>th</sup> Commission session in July 2006

### **Codex Alimentarius Commission- enhancing food safety**

#### **Regional Coordinating Committees**

Ensure that the Commission is responsive to regional interests and to the concerns of developing countries

Meet once in two years and meetings are well attended by Members from the region

There are six Coordinating Committees, one each for the following regions:

1. Africa
2. Asia
3. Europe
4. Latin America and the Caribbean
5. Near East
6. North America and the Southwest Pacific

### **Codex Alimentarius Commission- enhancing food safety**

#### **Other Food Safety enhancing Codex activities**

Although Codex is focused mainly on normative work of developing standards, guidelines, codes of practice and other texts, it also promotes mutual exchange of information on problems arising from food control and stimulates the strengthening of food control infrastructures, especially through its regional Coordinating Committees.

Many Codex texts, e.g. guidelines on the application of HACCP systems and on information exchange in food safety emergencies, are of direct relevance on enhancement of food safety.

### **Codex Alimentarius Commission- enhancing food safety**

#### **Risk analysis and food safety**

Codex has developed working principles for risk analysis in a form of a structured approach to food safety problems, comprising three distinct, but closely linked, components - risk assessment, risk management and risk communication. Codex is focused mainly on the risk management and risk communication components

### **Codex Alimentarius Commission- enhancing food safety**

#### **Adoption and reference to Codex standards at national level**

During the Evaluation of the Codex Alimentarius and other FAO and WHO food standards work in 2002, majority of countries at all stages of development claimed to have adopted into their national legislations more than 60% of all types of Codex standards with the exception of those relating to methods of analysis, although for domestic legislation Codex was probably most important to developing countries and the smaller developed countries that do not have the resources to develop all their own standards. The use of Codex standards in both developed and developing countries was confirmed in the country visits.

### **Codex Alimentarius Commission- enhancing food safety**

#### **Adoption and reference to Codex standards at national level**

Codex standards and related texts are used as a guide to countries in developing their own legislation:

- savings in time and money
- national measures based on Codex standards are deemed necessary and thus in compliance with the SPS Agreement

Codex standards are important for worldwide harmonization of food safety and quality standards:

- for international trade in food facilitation
- meet SPS and TBT (Technical Barriers to Trade) Agreements obligations

### **Codex Alimentarius Commission- enhancing food safety**

#### **Whole food chain approach**

Codex places emphasis on the preventive approach to food safety, including the need for Good Agricultural, Veterinary, Manufacturing and Hygienic Practices to be applied all along the food chain. Codex advocates the HACCP based control of food production, processing and distribution and systems auditing with a clear shift from the traditional end product testing regimes.

### **Codex Alimentarius Commission- enhancing food safety**

#### **Codex Coordination role**

Codex has a mandate to promote coordination of all food standards work undertaken by international governmental and non-governmental organizations and has established contacts with many such organizations, for example OIE, IPPC, ISO and IAEA. This is important in order to avoid duplication of effort and gaps in dealing with food safety issues.

### **Codex Alimentarius Commission- enhancing food safety**

#### **Future of Codex will depend on:**

- Being able to meet expectations of members by being more efficient and faster as per the recommendations from the 2002 Evaluation.
- Being able to respond timely to newly emerging food safety issues
- Being able to adhere to the principles of transparency and inclusiveness in the Codex process. The a Codex Trust Fund, has enabled greater participation from developing countries in Codex activities including the development and utilization of a Training Package for enhancing participation in Codex activities

**Codex Alimentarius Commission- enhancing food safety**

**Future of Codex** will depend on:

Determination and honesty by Codex members to continue valuing even more - the work and existence of Codex – than as seen by the founding fathers and mothers back in the early sixties by thinking and acting globally – as citizens of the world - as boundaries and borders for food safety issues and concerns are less defined or non existence at our times than then.

MORE INFORMATION ON CODEX  
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