

Codex Alimentarius Commission: protecting food today and in the future

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Trade in food can be of great benefit to countries. Food import increases the choice of products, allowing improvements in the nutritional and health status of the population. Food export stimulates the development of local industry and helps to upgrade food production facilities, standards and practices, which can lead to improvements in the standard of living. Under these conditions, trade makes a positive contribution to food security.

It is assumed that substantial economic losses result from unsafe food entering the international market, although they have not been systematically quantified worldwide. Such losses involve the costs of food spoilage and damage from contamination; the direct and indirect costs of illnesses caused by unsafe food, including health care treatment and losses in productivity resulting from morbidity, disability and mortality; and the costs to the industry entailed in recall of products, court actions and recovery of product credibility.

Despite substantial progress in basic and applied science relating to food safety, contaminated food (including water) remains a major public health problem. Foodborne diseases are very common in every country. They constitute one of the most important types of health problem. Furthermore, they are an important cause of reduced economic productivity (WHO, 1984, 1995). In the United States alone, it has been reported that as many as 9 000 deaths and 6.5 million to 33 million illnesses occurring each year are food related (Foegeding *et al.*, 1994). For only seven specific pathogens, costs for lost productivity have been estimated to range between US\$6 000 million and \$9 000 million. The cost of salmonellosis alone in the United States was estimated to be about US\$1 000 million in 1987 (Roberts, 1988).

The observation of hygienic practices in food processing, transport and storage has gained more importance as the distance between producer and consumer has increased and consumers have become more dependent on processed and semi-prepared foods. A worldwide initiative on food safety is therefore becoming indispensable. While the public commonly shows concern about the safety of additives in food, the scientific evidence indicates that unhygienic

practices represent more significant risks to human health (WHO, 1992).

THE CODEX ALIMENTARIUS INITIATIVE

Food laws and regulations existed in some form in most ancient cultures, as in modern societies, to address consumers' concerns. Historically speaking, regulations dealing with food production, manufacture and trade were chiefly related to the criterion of honesty in commerce. During the first half of the twentieth century it was scientifically validated that some substances in food can damage consumers' health. Contaminated or adulterated food moving into the international market can impair health in remote countries.

Consumer safety became a subject of international concern in the late 1950s and early 1960s. FAO and the World Health Organization (WHO) were requested to address this emerging issue in food trade. The Codex Alimentarius Commission (CAC) was established in 1962 as an executive organ of the Joint FAO/WHO Food Standards Programme, with the chief objective of protecting the health of consumers and ensuring fair practices in food trade. CAC is the only international forum that is able to bring together scientists, technical experts, government regulators and international consumer and industry organizations.

With over 200 Codex standards, more than 2 500 maximum limits for pesticide residues, 41 codes of practice and 25 guideline levels for contaminants adopted to date, CAC has proved to be one of the most successful programmes of the specialized agencies of the United Nations, contributing to international harmonization in the important area of food quality and safety (Randell, 1995). The final Codex texts are used by governments as part of their national food safety requirements. They are also used by commercial partners in specifying the grade and quality of consignments moving in international trade.

During its more than 30 years of existence, CAC has never been indifferent to the changing demands of consumers and the needs of those who use international standards. After adoption, Codex standards and other texts have been

revisited when the necessity has arisen; in fact, many of them have been revised to take account of new scientific evidence or current food manufacturing techniques. CAC has adapted to emerging global challenges so that the international standards elaborated by the commission will remain pertinent and will always meet their purpose in the international trade of foods.

NEW DEMANDS FOR CODEX

Recent changes in the international environment arising from the conclusion of the Uruguay Round of multilateral trade negotiations have nearly redefined the role of Codex standards. These changes include the creation of the World Trade Organization (WTO) and the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) which all members of WTO are expected to observe. Under the SPS Agreement, which entered into force in January 1995, Codex standards, guidelines and recommendations have been granted the status of a reference point for international harmonization. They also serve as the basic texts to guide the resolution of trade disputes.

In 1991 the FAO/WHO Conference on Food Standards, Chemicals in Food and Food Trade adopted a number of recommendations which set new directions for CAC (FAO/WHO/GATT, 1991). These have helped prepare the commission for its new role. Among the recommendations were:

- the use of a horizontal approach regarding food additives and possibly other areas;
- the strengthening of the work of general subject committees;
- assurance of a sound scientific basis for standards;
- the use of explicit risk assessment methods by committees;
- review of Codex elaboration and acceptance procedures;
- the establishment of a Codex committee to deal with import and export control problems.

Among the actions taken by CAC following these recommendations was the establishment of the Codex Committee on Food Import and Export Inspection and Certification Systems.

CODEX COMMITTEE ON FOOD HYGIENE

The principal work of developing standards is undertaken by the CAC's subsidiary bodies. The Codex Committee on Food Hygiene is one of the most long-standing and active of the general subject committees. The recent work of the committee provides a good example of how CAC keeps its food standards and other texts relevant to current needs through the establishment of appropriate working principles. Hosted

by the Government of the United States, the Codex Committee on Food Hygiene had convened 30 sessions by 1997.

Food hygiene means all conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain. The main task of the Codex Committee on Food Hygiene is to draft provisions on food hygiene that are relevant to all foods as well as provisions that are applied to specific food items or food groups. The basic texts on food hygiene developed by the committee are meant for use in preventing the spread of foodborne pathogens and diseases. Considering both the health and economic consequences of unsafe food, governments should give greater attention to the prevention and control of food contamination at the national level.

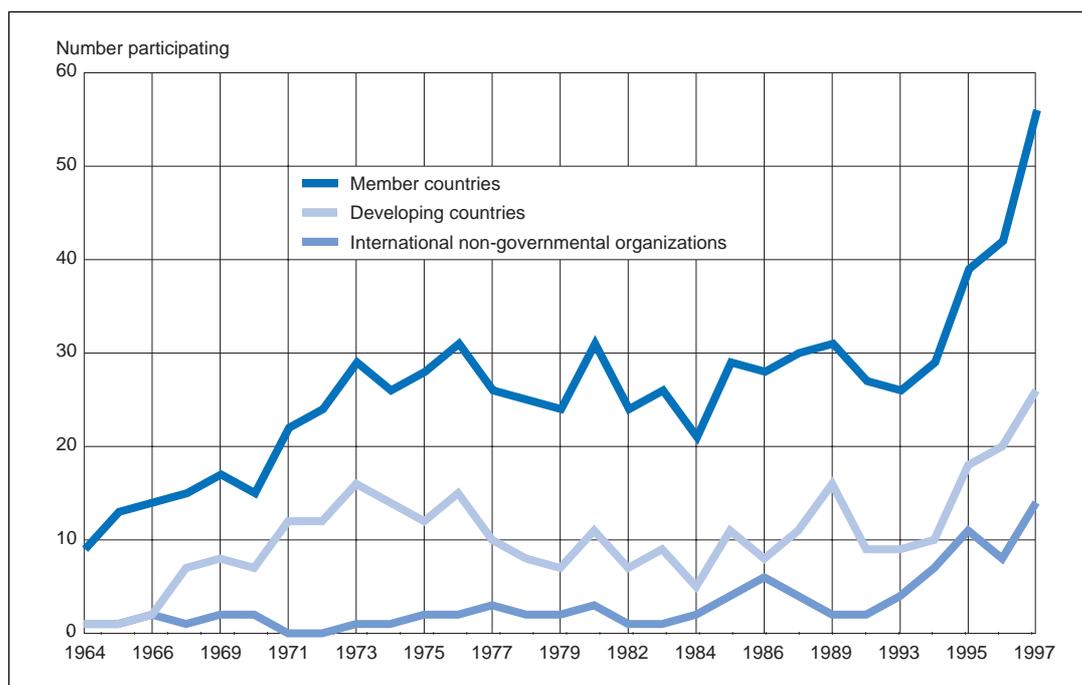
A look at the more than 30-year history of the Codex Committee on Food Hygiene indicates that countries are paying increased attention to its work. Participation in its sessions has increased (see Figure). The thirtieth session, held in October 1997, saw a record attendance of 266 delegates representing 56 countries and 14 international scientific, technical, industry and consumer organizations.

Recent work of the committee

The Recommended International Code of Practice – General Principles of Food Hygiene is one of the most widely used Codex texts. It has been revised three times since its first adoption. The 1997 revised version (FAO/WHO, 1997a) has a new format and provisions based on the concept of risk assessment. The revised text sets out the objectives to be met throughout the food chain, from primary production to the final consumer, in order to ensure safety and suitability of food by applying a risk-based approach.

One of the methods referred to in the text is the Hazard Analysis and Critical Control Point (HACCP) system. Guidelines for the application of HACCP (FAO/WHO, 1997a) were initially adopted by CAC in 1993. The widest possible use of the basic text in all areas of food manufacturing implies the furthering of a horizontal approach and is expected to facilitate the efficient use of resources in key food safety and food control activities.

Another notable output of the Codex Committee on Food Hygiene is the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21 – 1997), adopted by the twenty-second session of the Codex Alimentarius Commission (FAO/WHO, 1997a). While adherence to good hygienic practices in conjunction with the use of the HACCP system is considered to be the best preventive system to ensure food safety, microbiological criteria may be used to examine foods of uncertain origin or



Participation in sessions of the Codex Committee on Food Hygiene

when other means of verifying the efficiency of the HACCP system or good hygienic practices are not available. They can also be useful for determining whether processes are consistent with the General Principles of Food Hygiene. To avoid the possibility of microbiological criteria being applied in an arbitrary and non-scientific manner, this new text fully incorporates the idea of risk assessment and describes the principles to be applied in establishing microbiological criteria.

Ongoing work

Now that the text of the revised General Principles of Food Hygiene has been adopted by CAC, the Codex Committee on Food Hygiene will begin the work of revising the existing commodity-specific codes of practice to reflect the new philosophy in these texts: a preventive and risk-based approach.

In parallel, the HACCP system is being promoted in many areas. The Codex Committee on Food Hygiene, in cooperation with other Codex committees such as the Codex Committee on Food Inspection and Certification Systems, is also looking into the modality whereby countries should promote the use of HACCP or related systems nationally. The future work should take account of:

- the limited resources available in small businesses and the opportunity of recommending alternative approaches to the HACCP system;
- the status of the HACCP system as a possible component of more comprehensive quality control systems operated by companies.

Both issues are closely related to how government agencies should apply regulatory requirements to ensure compliance with food hygiene standards.

Another field of food hygiene of increasing importance regards fresh produce such as fruits and vegetables. As consumers' interest in foods perceived as healthy grows, so does the need to ensure the safety of fresh produce, which is often consumed raw or with minimal cooking.

The Codex Committee on Food Hygiene is also continuing its work on the general methodology of risk assessment for microbiological hazards. It has started elaborating the Principles and Guidelines for the Conduct of Microbiological Risk Assessment, which would provide guidance to CAC itself as well as to governments conducting microbiological risk assessment on their own. The principles are significant in that they attempt to identify the basic concepts of risk analysis, such as transparency, and to describe components and steps of microbiological risk assessment (FAO/WHO, 1997b).

As shown above, the Codex Committee on Food Hygiene will incorporate further risk-based principles in the Codex texts addressing microbiological hazards for foods by building on the available scientific knowledge and data. This process will be pursued in close liaison with other bodies of CAC. To consolidate the scientific basis for its recommendations, the Codex Committee on Food Hygiene has requested that FAO and WHO consider the establishment of an expert group to conduct risk assessments on microbiological hazards. This recommendation has been endorsed by CAC. If approved by

FAO and WHO, such a body will play a crucial part in the future work of the Codex Committee on Food Hygiene. With the increasing input from scientific risk assessment, the committee is expected to offer further contributions to achieving CAC's objectives of protecting human health and facilitating food trade. ♦

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Codex Alimentarius Commission – protecting food today and in the future

Despite scientific progress, contaminated food (including water) remains a major public health problem and foodborne diseases are common in every country. When unsafe food enters the international market, there are substantial losses from food spoilage and damage; illnesses; and court actions, recall of products and recovery of product credibility. Hygienic practices in food handling, processing, transport and storage have gained importance as consumers depend more on processed and semi-prepared foods. A worldwide initiative on food safety is becoming indispensable.

The Codex Alimentarius Commission, established in 1962, aims to protect the health of consumers and ensure fair practices in the food trade. This international forum brings together scientists, technical experts, government regulators and international consumer and industry organizations. It contributes to international harmonization in the area of food quality and safety. Codex texts are used by governments as part of their national food safety requirements and by commercial partners in specifying the grade and quality of consignments. The creation of the World Trade Organization and the Agreement on the Application of Sanitary and Phytosanitary Measures which arose from the Uruguay Round of multilateral trade negotiations have nearly redefined the role of Codex standards. Codex standards, guidelines and recommendations have become a reference point for international harmonization and serve as the basic texts to guide the resolution of trade disputes.

The work of the Codex Committee on Food Hygiene illustrates how the Codex Alimentarius Commission keeps its food standards and other texts relevant to current needs through the establishment of appropriate working principles. This committee drafts provisions on food hygiene which are relevant to all foods. It is working on risk assessment methodologies for microbiological hazards. The committee has started elaborating principles and guidelines for the conduct of microbiological risk assessment. The Codex Alimentarius Commission publishes texts on food hygiene to assist in preventing the spread of foodborne pathogens and diseases.

Commission du Codex Alimentarius – protéger les aliments aujourd’hui et demain

Malgré les progrès scientifiques, la contamination des aliments (y compris de l'eau) demeure un important problème de santé publique et les maladies transmises par les aliments sont courantes dans tous les pays. L'entrée d'aliments malsains sur le marché international est lourde de conséquences: aliments qui se gâtent ou sont endommagés; maladies; poursuites judiciaires suivies du retrait des produits et nécessité de restaurer la crédibilité du produit. Les usages en matière d'hygiène lors du traitement, de la transformation, du transport et de l'entreposage des aliments ont pris de l'importance car les consommateurs dépendent davantage de produits alimentaires importés ou préconditionnés. Une initiative mondiale sur l'innocuité des aliments est désormais indispensable.

La Commission du Codex Alimentarius, établie en 1962, vise à protéger la santé des consommateurs et à assurer des pratiques commerciales équitables dans le domaine alimentaire. Cette instance internationale rassemble des scientifiques, des experts techniques, des responsables gouvernementaux de la réglementation et des organisations internationales de consommateurs et d'industriels. Elle contribue à une harmonisation internationale des normes de qualité et de sécurité des aliments. Les gouvernements se réfèrent aux textes du Codex pour établir certaines de leurs dispositions nationales en matière de sécurité des aliments, de même que les partenaires commerciaux pour spécifier la catégorie et la qualité de leurs expéditions. La création de l'Organisation mondiale du commerce et l'Accord sur l'application des mesures sanitaires et phytosanitaires issu des négociations commerciales multilatérales du Cycle d'Uruguay ont déjà redéfini le rôle des normes Codex. Les normes, les directives et les recommandations du Codex sont devenues un point de référence pour l'harmonisation internationale et servent de guide pour la résolution des différends commerciaux.

Le travail du Comité du Codex sur l'hygiène alimentaire montre comment, grâce à l'établissement de principes de travail appropriés, les normes alimentaires et les autres textes de la Commission du Codex Alimentarius restent adaptés aux besoins actuels. Ce Comité prépare des dispositions concernant l'hygiène alimentaire pour tous les types de produits. Actuellement, ses travaux portent sur les méthodologies d'évaluation des risques microbiologiques. Le Comité a commencé à élaborer des principes

et des directives régissant la conduite de l'évaluation des risques microbiologiques. La Commission du Codex Alimentarius publie des textes sur l'hygiène alimentaire afin d'aider à prévenir la propagation d'agents pathogènes et de maladies transmises par les aliments.

Comisión del Codex Alimentarius: La protección de los alimentos hoy y en el futuro

A pesar de los progresos científicos, la contaminación de los alimentos (incluida el agua) sigue siendo un importante problema de salud pública y las enfermedades de origen alimentario son frecuentes en todos los países. Cuando un alimento insalubre llega al mercado internacional, se producen cuantiosos daños y pérdidas como consecuencia del deterioro de los alimentos, enfermedades, acciones judiciales, retirada de productos y merma de la credibilidad de éstos. Las prácticas de higiene en la elaboración, el transporte y el almacenamiento de alimentos han adquirido importancia al hacer un mayor uso los consumidores de alimentos importados y precocinados. Se está haciendo indispensable una iniciativa a nivel mundial en relación con la inocuidad de los alimentos.

La Comisión del Codex Alimentarius, creada en 1962, tiene como finalidad proteger la salud de los consumidores y asegurar prácticas leales en el comercio de alimentos. Este foro internacional reúne a científicos, expertos técnicos, funcionarios gubernamentales encargados de la reglamentación y organizaciones internacionales de consumidores y de la industria y contribuye a la armonización internacional en el ámbito de la calidad e inocuidad de los alimentos. Los textos del Codex son utilizados por los gobiernos, que los incorporan a sus requisitos nacionales en materia de inocuidad de los alimentos, y por los interlocutores comerciales para especificar la categoría y la calidad de los envíos. La Ronda Uruguay de Negociaciones Comerciales Multilaterales y el Acuerdo de la Organización Mundial del Comercio sobre la Aplicación de Medidas Sanitarias y Fitosanitarias han realzado la función de las normas del Codex. Las normas, directrices y recomendaciones del Codex han pasado a ser un punto de referencia para la armonización internacional y son los textos fundamentales por los que se rige la solución de las diferencias comerciales.

El Comité del Codex sobre Higiene de los Alimentos es un ejemplo de cómo la Comisión del Codex Alimentarius adapta sus normas alimentarias y otros textos a las necesidades existentes mediante el establecimiento de principios adecuados. Este Comité prepara proyectos de disposiciones en materia de higiene que son aplicables a todos los alimentos. En la actualidad está elaborando métodos de evaluación de riesgos para determinar los peligros microbiológicos y ha iniciado la preparación de principios y directrices para llevar a cabo evaluaciones de riesgos microbiológicos. La Comisión del Codex Alimentarius publica textos sobre higiene de los alimentos con la finalidad de ayudar a prevenir la propagación de patógenos y enfermedades transmitidos por los alimentos. ♦