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**PANEL: INTERNATIONAL COOPERATION IN FOOD PROTECTION:  
“FROM THE FARM TO THE TABLE”**

**INTEGRATED FOOD PROTECTION PROGRAMS**

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## 1. Introduction

Outbreaks of foodborne disease in the countries of the Americas, the need to guarantee the quality and safety of the food consumed by the population, and the obligation to meet the commitments deriving from the international standards for the food trade have led the countries to review their policies and strategies and strengthen their food protection programs to prevent foodborne diseases, guarantee food safety, and maintain adequate levels of quality for national and international trade.

This paper analyzes the problem of foodborne diseases (FBD) in the countries of the Region and the action taken by the countries to strengthen their food protection programs with PAHO technical cooperation. It also discusses the concept of integrated food protection programs and its application in the organization of the official services; analyzes PAHO's role in meeting technical cooperation needs and in the strategy for intersectoral articulation; and at the same time recognizes food safety as an important and, hence, priority public function to promote integration and as a public health function as well.

## 2. Food Protection Situation in the Americas

### 2.1 *The Problem of Foodborne Diseases*

Between 1995 and 1998, the Latin American and Caribbean countries reported 3,198 outbreaks of foodborne disease to the Regional Information System for the Epidemiological Surveillance of Foodborne Diseases, coordinated by the Pan American Institute for Food Protection and Zoonoses of PAHO—outbreaks that resulted in 102,842 cases and 219 deaths. Although the surveillance systems for FBD in some of the countries are still in the process of reorganization, the figures indicate that FBD are a significant health problem in the Americas. (2)

The cholera epidemic that first appeared in Peru in 1991 spread to 21 countries, with the exception of Uruguay and in the island nations of the Caribbean, causing approximately 1.2 million cases.(3)

The countries have also experienced outbreaks of serious disease caused by emerging pathogens such as *Escherichia coli* O157: H7, *Listeria monocytogenes*, *Campylobacter jejuni*, *Cyclospora cayetanensis*, *Salmonella enteritidis*, and *Salmonella typhimurium* DT104 in which food has been implicated. (4)

## **2.2 *Economic Impact of Foodborne Diseases***

The available information indicates that in the United States some 6.5 to 33 million cases of foodborne disease with an estimated 9,000 deaths occur every year, at an economic cost of approximately US\$ 6.5–34.9 billion. (5)

This and other indicators lead to the conclusion that FBD have serious economic repercussions for the countries. For example, in a single country, Peru, the cholera epidemic represented more than US\$ 700 million in losses from the interruption of fish and shellfish exports, with an additional US\$ 70 million lost from the closing of food processing plants and the falloff in tourism. (6)

The recent figures on U.S. recall rejections of contaminated food shipments are noteworthy: 20 million pounds of ground meat withdrawn from the market due to suspected contamination with *E. coli* O157: H7, and 35 million pounds of sausage and frozen food also rejected because of suspected contamination with *Listeria monocytogenes*. (7)

## **3. *Situation of Food Protection Programs in the Americas***

In 1997, at the request of the Member States, our PAHO conducted a joint study with the countries on the situation of the national food protection programs. The results of this study have been published and distributed to the participants at the present meeting.

## **4. *Strategic and Programmatic Orientations (SPO) for the PASB***

In compliance with the mandates of the Member States, the SPO for the Pan American Sanitary Bureau, 1999-2002 outline the technical cooperation policies and activities that PAHO should implement during the quadrennium. These policies and activities are the result of the analysis of the health situation and needs in the countries of the Americas and are aimed at achieving the goal of Health for All through a joint effort. The SPO, moreover, are PAHO's contribution to the world health policy outlined in the Ninth General Program of Work 1996-2001 of the World Health Organization (WHO) and the new policy of "Health for All in the 21<sup>st</sup> Century."

The expected results of the regional goals in health emphasize the reduction of infant mortality rates in all the countries. This goal bears a direct relation to the activities

to control the bacterial contamination of food, which is one of the leading causes of diarrheal disease and infant mortality.

An important intersectoral activity targeting the factors that influence health and have a direct bearing on food safety is increasing the access of the population to safe drinking water and to adequate wastewater, waste disposal, and excreta disposal services.

The specific activities in food protection are included in the SPO under disease prevention and control and are summarized as follows: Veterinary public health is and will remain an extremely important area for progress with respect to food security and food safety. Technical cooperation will therefore be geared toward promoting food protection along the lines of action suggested by PAHO.

These activities are complemented with others aimed at the eradication of scourges such as foot-and-mouth disease, tuberculosis, brucellosis, and echinococcosis/hydatidosis, which have a major impact on primary food production and are serious diseases that can be transmitted to humans.

Another technical cooperation activity spelled out in the SPO is strengthening the strategy for integrated management of childhood illness (IMCI), which targets acute respiratory infections, diarrheal diseases, malnutrition, and measles, *inter alia*.

The activities above are complemented with those of the other strategic and programmatic orientations, namely health in human development, health promotion and protection, environmental protection and development, and health systems and services development.(8)

## **5. The Regional Program for Technical Cooperation in Food Protection of PAHO**

Based on the mandates of the IV Inter-American Meeting, at the Ministerial Level, on Animal Health (IV RIMSA) and the XXXI Directing Council of PAHO, held in 1985, and backed by the recommendations of the Inter-American Conference on Food Protection, the Program on Veterinary Public Health launched the Regional Program for Technical Cooperation in Food Protection in 1986. (10). This program has been evaluated on two occasions (1995 and 1997) and, as a result, the necessary adjustments have been made with respect to the problem of food safety and the technical cooperation priorities established by the countries.

This program has paved the way for the development of the PAHO Strategic Plan of Action for Technical Cooperation in Food Protection, which is in full execution by INPPAZ and the staff of the PAHO/WHO Representative Offices in the countries, coordinated by the Program on Veterinary Public Health.

The objectives for this Program are:

- To achieve a supply of safe, wholesome, nourishing, tasty, and economical food;
- To reduce human morbidity and mortality from foodborne diseases;

The basic approach of the Program to prevent foodborne diseases in the population by targeting all the links in the food chain, from the farm to the consumer. (10)

The regional program for technical cooperation has five components, namely: Organization of integrated food protection programs;

- Strengthening of analytical capacity;
- Strengthening of inspection services;
- Epidemiological surveillance of foodborne diseases;
- Promotion of food protection through community participation;

The evaluations of the progress of the country programs and of the achievement of the objectives and goals of the Plan of Action of the Regional Program were conducted in 1990 and 1997. The last evaluation was used to make the necessary adjustments for the execution of subsequent phases of the program. (11)

The information from the evaluation and the results furnished by the countries indicate that PAHO technical cooperation in food protection has made a significant contribution to strengthening the programs in the countries and to bringing together the various protagonists involved in the food production chain and the control of food safety.

One of the main achievements has been its fostering of better institutional organization in the national programs by bringing together all the official services working in the food area and defining their responsibilities under an integrated program. At the same time an information system on food legislation has been developed in the countries that will enable them to consult, update, and compare their legislation and regulations. Furthermore, PAHO cooperation is of valuable assistance in the harmonization of legal mechanisms among the countries.

The contribution of PAHO technical cooperation has also been evident in the official inspection services' adoption of modern control methods such as the hazard analysis and critical control points methodology (HACCP), a process that PAHO has played a key role in disseminating, training personnel from the public and private sectors, while helping to forge links between the two sectors.

PAHO has also made a significant contribution to promoting change and adjustments in the epidemiological surveillance systems with the incorporation of foodborne diseases. As a result, the countries now have basic information on cases of FBD that will guide them in decision-making with regard to food protection programs and international technical cooperation.

The creation of an Inter-American Network of Food Analysis Laboratories is a demonstration that PAHO's cooperation is inspired by the principles of Pan Americanism and a recognition of the degree of development attained by the countries' laboratory services. This will make it possible for the countries to mobilize resources and cooperate with one another to achieve the harmonious development of these laboratories, an activity fundamental to food protection programs.

All of these efforts must be complemented with national strategies that encourage community participation in food protection activities. Without a doubt, the national food protection programs and, hence, the Regional Program for Technical Cooperation, will be successful to the extent that governments recognize the importance of preventing foodborne diseases at the household level by fostering responsible attitudes among the population with respect to safe food handling.

The strategy that deserves PAHO special attention is to convince the governments that promoting food protection should be a priority in their health services development policy and to make them understand the advantages of a preventive approach based on safe food handling. (12)

The Strategic Plan of Action for Technical Cooperation in Food Protection will make it possible for PAHO to direct its activities toward the real cooperation needs of the countries, making it easier for the Organization to channel its technical cooperation resources and increase their efficiency.

## **6. The Concept of Integrated Food Protection Programs**

In order to standardize the technical criteria for program integration and promote a transparent vision in this field, the Program on Veterinary Public Health disseminated the concept of integrated food protection programs in the countries of the Americas.

At the regulatory level this concept does not refer to the concentration of power but to the joining of forces to take coordinated action without duplicating functions and resources and to the consensual application of technical and administrative criteria by the agencies responsible for food protection in the countries.

An integrated national program that adheres to this concept would lead the official agency responsible for coordinating the integration to assume three basic functions required for food protection:

- A regulatory function, through recommendations on technical and legal norms and their continuous review, with the collaboration of the institutions represented in an ad hoc commission made up of public and private agencies;
- A coordination function, acting as the interlocutor for the intersectoral action required to address food problems, in which institutional and individual interests play an important role;
- An evaluation function, addressing the critical aspects that the country does not have capacity to solve and requiring an international effort through technical cooperation among countries or the assistance of international technical cooperation agencies.

At the operational level the integrated program concept involves preventing the biological and physical contamination of food through the serial application of sanitary measures, from production of the raw material to its processing as food and in its transport, marketing, and consumption.

The serial application of sanitary measures by the official services at the level of the line units is complemented with epidemiological surveillance of foodborne disease, health education, inspection systems, and laboratory testing.

### ***6.1 Food Protection as an Essential Public Health Function***

The concept of essential public health functions refers to the constellation of functions that ensure that health care continues to respond to rapidly emerging needs, optimally through the various public health services.



Food protection is considered an essential public health function and ranks eighth among the 37 essential functions that have been identified. This has been recognized in the results of the International Delphi Study coordinated by WHO. The concept of essential functions has arisen from the concerns the countries, which, in their different states of development, have been witnessing rapid changes in their health systems such as decentralization and reduced functions. Hence, the need to develop food protection policies together with food and nutrition policies, both of these latter essential functions as well. The cumulative experience in this regard indicates that a national food and nutrition policy cannot be developed efficiently without food protection policies as a prerequisite.

## 7. Promotion of Intersectoral Action

The subregional integration initiatives have gathered strength and have become a viable strategy for the economic development of the countries of the Region. In the twilight of this century the North American Free Trade Agreement (NAFTA), the Southern Common Market (MERCOSUR), the Andean Community, the Caribbean Community (CARICOM), the Latin American Integration Association (LAIA), the Central American Integration System, and the proposed Free Trade Area of the Americas (FTAA) are clear evidence of the trend toward globalization.

However, these initiatives, while offering the countries the prospect of growth, also pose a challenge for their authorities and, in the particular case of the food trade, for the national services responsible for food protection. These circumstances underscore the need for the countries to consider the desirability of food protection programs based on integrated activities, given the multiplicity of actors who intervene along the entire length of the food production chain. (17)

This requires, then, institutional organization of food protection that integrates the different responsible sectors in the chain of production, so that they participate in the decisions and the orientations of the national control programs. A priority of PAHO Program is to promote a multisectoral approach that recognizes that the responsibility for food protection lies not only with the public health sector, but agriculture, business and industry, economics and finance, education, the fishing industry, the universities, and consumer organizations.

The diverse legislation, decrees, and legal mechanisms governing the food production chain, together with the haphazard, fragmented, or imprecise nature of some of them, imply that State action cannot be efficient enough to advance harmoniously to improve food safety.

There is no doubt that the failure to coordinate the multiplicity of regulations, some of them issued by different agencies on the same matters, leads to the duplication of efforts, wasted resources, and in some cases, competition for primacy, resources, power, and prestige. All of this translates into the fragmentation of responsibility, with little benefit to the health of the population.

It must be acknowledged that food legislation in the majority of the countries of the Region is outdated. Its development has not kept up with the structural changes at the institutional level, nor it has been open to the new policies of globalization, where integration, the harmonization of regulations, and the standardization of technical processes are a priority for ensuring better use of resources and greater efficiency in the official food protection services. (17)

The contribution of Codex Alimentarius, as an instrument for collecting standards and codes of practice in the food industry and the World Trade Organization, with the Agreement on the Application of Sanitary and Phytosanitary Measures, have played a major role in their adoption by the countries and in facilitating the harmonization of regulations and fostering interinstitutional coordination.

At the same time, PAHO has participated in the development of an information system on food regulations (a joint effort by two of PAHO Centers, INPPAZ and BIREME), offering cooperation to the countries to include their regulations, modernize them, and harmonize the regulations of the various country institutions and subregional integration initiatives. (18)

This work has complemented the efforts of the past decade to convince the countries of the need to review their legislation and enact a basic food law that covers all institutions with responsibility in the food production chain. (19-21)

### ***7.1 Articulation of Sectoral Food Policies Related to Health***

The most important thing is probably not the sector in which the official authority for food protection is concentrated. However, whatever the pertinent agency, it must be fully aware of how fundamental food safety is in protecting public health, and that awareness must be reflected in its policies and actions. At the same time, that agency must exercise leadership to develop the necessary coordination with the many entities that play some part in the control coordination that must begin by reaching a consensus on food protection standards.

In many of the official food protection services there is a clear dichotomy between the health and agriculture sectors. In the majority of cases, each has its own regulations

regarding food protection, even on the same matters. Moreover, the two sectors have parallel functions, and their limited coordination results in an overlapping of activities and unnecessary spending. Those who benefit the least from this dichotomy are the countries' populations. (15)

This dualism reveals the complexity of food protection activities and seems to suggest problems in defining the areas of authority that can be resolved with a firm institutional commitment in the political spheres of the various sectors. The greater the sectoral coordination of health policies—basically in health and agriculture, where the greatest weight of the official authorities is felt—the greater the efficiency in resource use, and the authorities' responsibility for regulation, inspection, record-keeping, information, and epidemiological surveillance will permit food protection and thus prevent foodborne diseases. (15). It is necessary to underscore in this chapter the important role of the Inter-American Meeting, at the Ministerial Level, on Animal Health (RIMSA) as a forum for the promotion of intersectoral action, especially among the health and agriculture sectors, and the integration of producers in the Americas.

## **7.2 *Other Sectors***

The intersectoral action must also include other sectors, such as the fishing sector, which in some countries is important to the economy and may be a fundamental piece of the food protection apparatus. In other cases, business and industry play an important role in quality control and in determining the basic requirements for the entire chain of food production, distribution, and sale. In some countries hotels and tourism are just as or more important than the other sectors cited above. (20)

The economic, financial, and foreign trade sectors have specific functions, and it is important that they be linked with the concept of integrated food protection programs. These sectors administer international trade relations, which sometimes have a serious impact on the local economy.

## **7.3 *The Private Sector***

Coordination with the productive sector must be considered fundamental in any national food protection policy. It is evident that however strong the official apparatus, it can never influence more than a small fraction of something as complex as the production, processing, and marketing of food in a country.

The new approaches to food protection assign increasing responsibility to producers, with the object of assuring the sanitary quality of their products. This is true for the inspection and control system known as the hazard analysis critical control point

methodology (HACCP). Under this system the producer has special responsibility, because the aim is to prevent the hazards of contamination during production and processing through the application of control measures. (22)

Therefore, official functions will concentrate on inspection and verification of the quality control exercised by the productive sector. Relations between the authorities and the sector will assume a more collaborative dimension than traditionally observed.

#### 7.4 The Community

In the current FBD situation in the Region, some 40% of outbreaks originate in the home, indicating the essential role of the consumer in the prevention of FBD. Furthermore, it is possible that the majority of cases of FBD do not originate in large-scale industrial operations; it appears that large volumes of food are processed daily by small, mid-sized, and family enterprises that lack the capital, equipment, facilities, technologies, or knowledge to guarantee safety in all their food production and transformation processes.

Another problem in some of the countries is the large volume of food prepared and sold on the streets. Food protection in these circumstances is impossible without the active participation of the community.

This heightens the importance of coordination with the community as another key component of integrated food protection programs. There is a clear need for the countries to develop prevention strategies that promote safe food handling by the population.

## 8. Conclusions

The countries of the Americas must develop energetic institutional structures for food protection that articulate the various sectors with responsibility in the food production chain. Strategic planning to orient the food protection programs and improve their effectiveness should be a priority in official policies.

The data generated by the national epidemiological surveillance systems for FBD are the best tool for adequately planning control measures, facilitating decision-making, and adapting technologies to the national situation.

The role of Codex Alimentarius in the Americas must be strengthened to support the harmonization of standards among the countries and facilitate international trade relations among the national food protection authorities.

The current trend toward tackling food problems through the unification of government agencies can be a viable strategy for obtaining integrated and efficient control programs. However, it is far more important to harmonize the criteria employed by the different sectors in the development of a national policy on food safety.

PAHO will continue to promote intersectoral action among the national authorities and strengthen coordination among the international organizations to provide better technical cooperation in food protection.

## References

1. Pan American Health Organization. Health in the Americas. Scientific Publication No. 569, Washington, D.C. Pan American Health Organization. 1998
2. INPPAZ PAHO/WHO. Regional Information System for the Epidemiological Surveillance of Foodborne Diseases in the Countries of Latin America and the Caribbean. Proceedings of the World Congress of Food Hygiene. The Hague, Netherlands. 1997
3. Division of Disease Prevention and Control. Cholera Situation in the Americas. Washington, D.C. Pan American Health Organization. 1998
4. S.F. Altekruuse, et al. Emerging Foodborne Diseases. Emerging Infectious Diseases 3 (39:285-293, 1997. Centers for Disease Control and Prevention.
5. Sean C. Buzby and Tanya Roberts. Economic Costs and Trade Impacts of Microbial Foodborne Diseases. World Health Statistics Quarterly. Vol. 50, Nos. 1-2, 1997.
6. Ewen D. Todd. Epidemiology of Foodborne Diseases: A Worldwide Review. . World Health Statistics Quarterly. Vol. 50, Nos. 1-2, 1997.
7. Food Safety and Inspection Service. Meat and Poultry Products Recalls: OPHS Database and Recall Notification Reports. 2 March 1999.  
(<http://www.fsis.usda.gov/OA/news/recalls9.htm#RNR>)
8. Pan American Health Organization. Strategic and Programmatic Orientations for the Pan American Sanitary Bureau, 1999-2002. Washington, D.C. PAHO, 1999.
9. PAHO/WHO. Subcommittee on Planning and Programming of the Executive Committee. Washington, D.C. PAHO. 1999.
10. Pan American Health Organization. Regional Plan of Action in Food Protection in the Americas. 1991-1995. HPV/FOS/001/92. Washington, D.C. PAHO/WHO; 1991.
11. Pan American Health Organization. Evaluation of the Plan of Action of the Regional Program on Technical Cooperation in Food Protection. 1991-1997. Washington, D. C. PAHO/WHO; 1998

12. INPPAZ OPS/OMS. Informe de Actividades 1997-1998. Martínez. Buenos Aires, Argentina. INPPAZ-PAHO/WHO, 1999
13. KF Kaferstein, Y.Motarjemi, and DW Bettcher. Foodborne Disease Control. A Transnational Challenge. *Emerging infectious diseases.*, Vol. 3, No.4, 1997.
14. Morris E Potter. *Epidemiology of Food Borne Diseases: Tools and Applications World Health Statistics Quarterly.* Vol. 50, Nos. 1-2, 1997.
15. Organización Panamericana de la Salud. *Integration de Los Programs de Protection de Aliments en la Región de las Américas. Informe Final y Documentos Seleccionados. X RIMSA.* Washington, D. C. PAHO/WHO, 1998.
16. Douglas Bettcher et al. *Essential Public Health Functions. Results of the International Delphi Study. World Health Statistics Quarterly.* Vol. 51, No. 3, 1998.
17. Organización Panamericana de la Salud. *La OPS y la Constitución del Area Libre de Comercio de las Americas.* Washington, D.C. PAHO/WHO;1998.
18. Organización de las Naciones Unidas para la Agricultura y la Alimentación. *FAO. Proyecto de Ley Básica de Alimentos FAO/OMS para los países de América Latina. Nut. 29. Oficina Regional para América Latina y El Caribe, Santiago de Chile.* FAO;1988.
19. Organización Panamericana de la Salud. *Legislación Alimentaria en Latinoamérica.* México, D. F. PAHO/WHO; 1988.
20. Cuba. *Ministerio de Salud, 1984. I Taller sobre Normalización de Alimentos y Salud para América Latina y El Caribe. La Habana, Cuba, 24-26 de marzo de 1984.*
21. Organización Panamericana de la Salud. *Armonización de la legislación alimentaria en el marco del MERCOSUR y Chile. Programa de Políticas de Salud. División de Salud y Desarrollo. Washington, D. C., PAHO/WHO;1994. (Serie de Informes Técnicos 35).*
22. *United States Department of Agriculture. Proceedings of the World Congress on Meat and Poultry Inspection. Food Safety and Inspection Service. Washington, D.C. USDA; 1993.*