



منظمة الأغذية  
والزراعة  
للأمم المتحدة

联合国  
粮食及  
农业组织

Food  
and  
Agriculture  
Organization  
of  
the  
United  
Nations

Organisation  
des  
Nations  
Unies  
pour  
l'alimentation  
et  
l'agriculture

Organización  
de las  
Naciones  
Unidas  
para la  
Agricultura  
y la  
Alimentación

# CONFERENCE

## Thirty-fourth Session

Rome, 17-24 November 2007

### BRIDGING THE GAP BETWEEN FOOD SAFETY POLICIES AND IMPLEMENTATION

#### I. Introduction

1. Recent events have underlined the importance of food safety worldwide.<sup>1</sup> New and established food-borne risks, serious transboundary food scares, high-profile bans and rejections of food products, technological changes in food production, marketing and distribution, and increasing consumer awareness have highlighted the rise of food safety as a public and political issue as well as scientific and technical one. At the same time, growing membership of the World Trade Organization (WTO) and the need to comply with the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) and the Agreement on Technical Barriers to Trade (TBT Agreement) have transformed the global context for food trade, and focused unprecedented attention on the development and implementation of food standards.

2. Improving food safety is essential to increase food security, which exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food, which meets their dietary needs and cultural preferences to have an active and healthy life (World Food Summit Declaration, 1996). Increasing the supply of safe and wholesome food reduces the impact of food-borne diseases, which cause great human suffering and significant economic losses in developed and developing countries. Ensuring the safety of food exports promotes international trade, which helps to generate growth and reduce poverty.

3. This paper reviews and analyses the gaps faced by developing countries between the policy framework for food safety on the one hand and the implementation of food control systems and practices to improve food safety on the other. It discusses the factors and trends shaping

<sup>1</sup> Food safety is the assurance that food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use. Food quality refers to positive attributes (e.g. nutritional values, origin, colour, flavour, texture and production/processing method) that influence a product's value to the consumer and the absence of negative attributes (e.g. spoilage, contamination with filth, discolouration, off-odours).

current food control practices, analyses selected experiences where countries have succeeded in modernizing and strengthening their food safety systems, and examines the challenges and obstacles that hinder implementation at the country level. A set of recommendations to close implementation gaps and enhance food safety capacity is provided in conclusion.

4. This paper is mainly focused on food safety. It does not cover food quality which is also becoming increasingly important in both consumer acceptance and for trade.

### **A. FOOD SAFETY: OBJECTIVES AND CHALLENGES**

5. Food safety has become a key policy objective for governments in developed and developing countries. However, effectively translating this policy objective into practice represents a major challenge. This is particularly true in developing countries where competing development priorities, inadequate resources, obsolete infrastructure, poor sanitation, unsafe drinking water and other factors compound the difficulties.

6. All countries have established some sort of system for food safety controls. However, the nature and operation of these systems, and the results achieved, vary considerably. In general, the main objectives of these systems should be to: i) protect public health by reducing the risk of food-borne illnesses; ii) protect consumers from unsanitary, unwholesome, mislabelled or adulterated food; and iii) contribute to economic development by maintaining consumer confidence in the food supply and providing a sound regulatory system for domestic and international food trade. Certain key principles are accepted as providing the necessary foundations to achieve these objectives effectively and sustainably. These include an integrated farm to table approach, transparency, the application of risk analysis<sup>2</sup> and introduction of preventive measures throughout the food chain.

7. Developing countries have potentially much to gain through improvements to their food safety systems and practices. Food-borne diseases are a leading cause of illnesses and deaths and, for many countries, food exports make a significant economic contribution. Efficient food safety and quality programmes reduce food losses by approximately 30 percent, which is important for food security. The WTO trade agreements have opened up new opportunities to stimulate economic development through increased food and agricultural exports. Closing the gap between food safety policy and implementation is therefore critical.

## **II. Recent issues and trends shaping food safety management and practices**

8. A number of factors and trends have influenced the development of food safety systems and practices during the last two decades. The scale and complexity of these trends have important implications for the structure and implementation of food systems. They have also increased the challenges facing policy makers and others involved in the food chain.

### **A. FOOD STANDARDS AND INTERNATIONAL TRADE**

#### *SPS and TBT Agreements*

9. The SPS Agreement and TBT Agreement, adopted in 1995, were designed to prevent barriers to trade when countries put into place regulatory measures to ensure food safety, consumer protection, and plant and animal health. The SPS Agreement permits countries to take legitimate measures to protect the life and health of consumers, animals and plants provided such measures can be justified scientifically and do not unnecessarily impede trade (see Figure 1). The TBT Agreement seeks to ensure that technical regulations and standards imposed by countries on

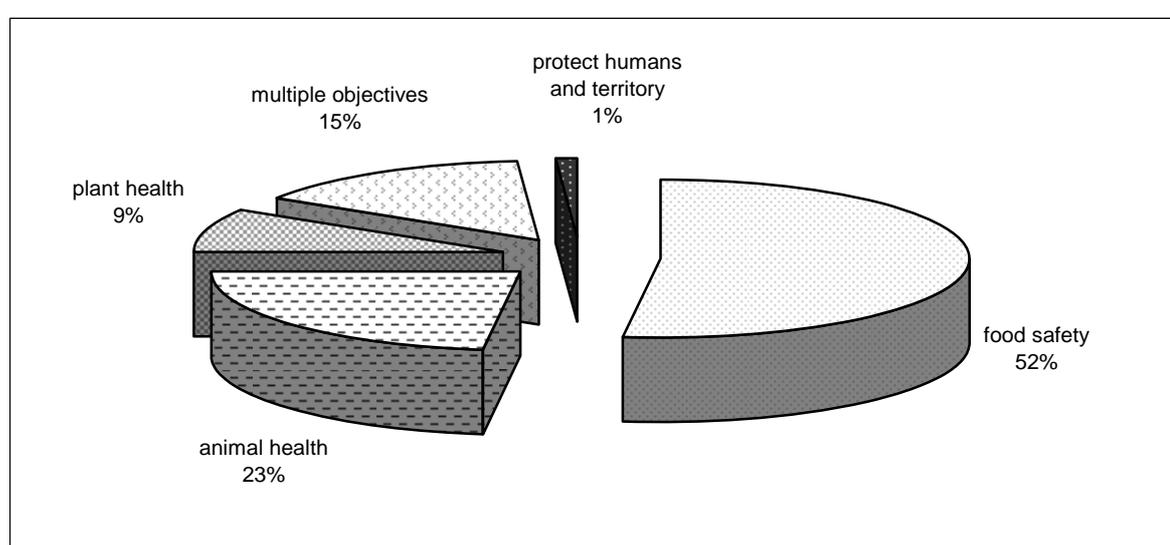
---

<sup>2</sup> The Codex Alimentarius Commission defines risk analysis as a process consisting of three separate but linked components: risk assessment, risk management and risk communication.

areas not covered by the SPS Agreement which include quality factors (other than standards covered by the SPS Agreement) have a legitimate purpose, do not discriminate against imported products and do not create unnecessary barriers to international trade.

10. The SPS Agreement encourages countries to base their sanitary and phytosanitary measures on existing international standards, guidelines and recommendations, including the Codex Alimentarius. Food safety measures based on Codex standards, guidelines and other recommendations are considered to be in conformity with the SPS Agreement. Where national measures are more stringent than Codex recommendations, they should be based on scientific evidence and an assessment of the risk to human life or health, taking into account risk assessment techniques developed by relevant international organizations. While the SPS Agreement advocates harmonization of national standards with international standards, some importing countries continue to set standards at levels that exceed Codex standards, limiting access of developing countries' food products to international export markets.

**Figure 1: Objectives of SPS measures (2000-01)<sup>3</sup>**



*Growing trade in high-value food products and increasing number and stringency of standards*

11. Trade in non-traditional food and agricultural exports (especially fresh and minimally processed products) from developing to developed countries has expanded rapidly during the last decade, driven by changing consumer tastes and advances in production, transport and supply chain technologies. Developing countries are increasingly participating in this trade (see Figure 2). Fresh fruit and vegetables, fish, meat, nuts and spices now account for more than 50 percent of the total agro-food exports of developing countries.<sup>4</sup>

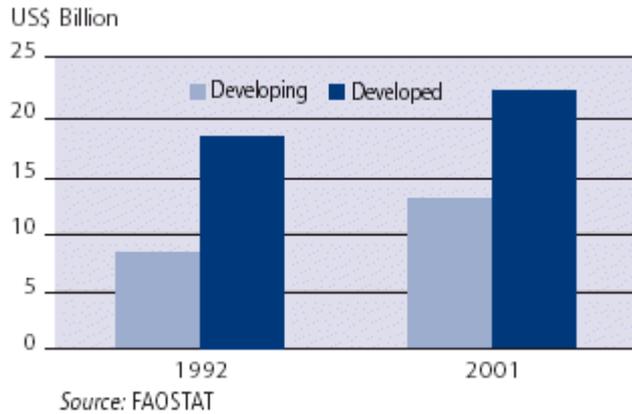
12. At the same time, food authorities in many developed countries have introduced new mandatory standards (regulations) for previously unknown or unregulated hazards (such as Bovine Spongiform Encephalopathy in cattle) and/or increased the stringency of existing standards (e.g. for pesticide and veterinary drug residues and mycotoxins) in response to better

<sup>3</sup> FAO. 2005. *FAO Support to the WTO negotiations. Non tariff measures in international trade*. Fact Sheet for the Sixth Ministerial Conference, Hong Kong.

<sup>4</sup> Jaffee, S. 2005. *Food Safety and Agricultural Health Standards and Developing Country Exports: Rethinking the Impacts and Policy Agenda*. Trade Note 25. The World Bank.

knowledge about the sources and consequences of food-borne diseases and increased consumer concerns. The number and scope of private food standards, that are voluntary but also result in significant barriers to trade, has also risen.

**Figure 2: Exports of fruits and vegetables by developing and developed countries**



13. Increasingly comprehensive and stringent food standards in developed country markets have amplified the challenges for developing country food producers, processors, distributors and exporters seeking to access these markets. For those that have modernized their food safety systems in accordance with internationally-accepted principles and practices, implementing international standards represents a strategic opportunity not only to expand trade but also to enhance the safety of domestic products. However, for countries that have been unable to implement the required improvements, more comprehensive and stringent standards represent a significant cost in terms of gaining and/or maintaining market access.

## **B. ADOPTION OF RISK ANALYSIS AS A BASIS FOR FOOD SAFETY DECISION-MAKING**

14. Modern approaches to food safety are based on the principle that food safety is not an absolute concept but is expressed in terms of risk to consumers' health. Food safety policy decisions, strategies and regulatory measures should therefore be based on risk analysis, a structured decision-making process with three distinct but closely connected components: risk management, risk assessment and risk communication. In general terms, risk analysis is used to estimate the risks to human health and safety, identify and implement appropriate measures to control the risks, and communicate with stakeholders about the risks and measures applied.

15. The successful use of the risk analysis framework requires countries to have the essential foundations of a food safety system in place. This includes enabling food laws, policies, regulations and standards, efficient food safety and public health institutions and mechanisms for coordination between them, operational food inspection and laboratory services, information, education, communication and training, infrastructure and equipment, and human resource capacity. Countries also need to have government officials at policy and operational levels who understand risk analysis and the value it adds to the public health perspective, scientific knowledge and skills, and the support and participation of key stakeholders including consumers, industry and academia.

### **C. INTEGRATED FOOD CHAIN APPROACH AND THE SPREAD OF FOOD SAFETY MANAGEMENT SYSTEMS**

16. The development of food safety management systems that supplement and/or replace traditional end-product inspection and testing procedures, and their extension to all steps of the food chain, has been one of the major technological changes of the last 15 years. The systematic adoption and use of these systems – including Good Agricultural Practices (GAPs), Good Manufacturing Practices (GMPs), Good Hygienic Practices (GHPs) and the Hazard Analysis and Critical Control Point (HACCP) system – have accompanied the development of the farm to table approach. This approach is now recognized as the most effective way to achieve maximum consumer protection by ensuring that regulatory and non-regulatory measures are applied at the most outcome-effective points in the food chain, from pre-production practices to the point of sale or distribution to consumers.

17. Comprising various preventive, performance-based measures that allow greater flexibility to achieve the desired level of protection most efficiently, food safety management systems are now frequently required for domestic and/or international trade. Indeed, the widespread adoption of these systems by the food retail and commercial sectors has led to a proliferation of such systems, each with its own standards, accreditation, auditing and certification processes. Food businesses have the primary responsibility in these systems for ensuring compliance with official standards. They must be able to demonstrate to government inspectors that conformity with official standards has been achieved and maintained for all products handled or processed by it. Official inspection systems, in addition to spot-checks, are now also required to inspect and audit food safety management systems operated by food businesses.

18. Another related change has been the increased reliance on certification and traceability (or product tracing). For instance, several countries now require food businesses to keep records that would permit authorities to identify and withdraw food from the market if required. Sometimes, this also applies to imported foods and throughout the food chain.

### **D. REORIENTATION OF ROLES AND RESPONSIBILITIES**

19. A general shift in thinking about the roles of stakeholders from farm to table has accompanied the above changes. Direct responsibility for food control is passing from governments to producers, processors and other entities in the food chain. In the contemporary context, the desired role of governments is to become guarantors of the system through: i) establishment and management of food safety policy; ii) creation of appropriate legal and administrative frameworks; iii) designation of an agency empowered to establish official requirements for food safety; and iv) determination of the appropriate level of protection to be attained by these requirements. Food producers and enterprises are recognized as best placed to devise and manage systems for ensuring that the food they supply is safe and as such have legal responsibility for meeting the food safety requirements established by governments. Consumers, as the last link in the supply chain, have the responsibility to ensure food hygiene at that stage and to serve as advocates and watchdogs for the regulatory process.

### **E. ADOPTION OF AN INTEGRATED APPROACH TO FOOD SAFETY, ANIMAL AND PLANT LIFE AND HEALTH, AND ASSOCIATED RISKS TO THE ENVIRONMENT**

20. Biosecurity is a strategic and integrated approach to analysing and managing relevant risks to food safety, animal and plant life and health, and associated risks to the environment. It is based on recognition of the critical linkages between sectors, the high potential for hazards to move across sectors, and the far-reaching consequences that inadequate controls in one sector may have for other sectors (e.g. pesticide residues in plant foods and veterinary residues in animal foods can negatively impact human health).

21. During the last few years, regulatory authorities in some countries (e.g. Belize, Canada, Finland, New Zealand, Norway) have taken various steps to harmonize and integrate their approaches to biosecurity to take advantage of synergies and complementarities in sector roles, increase the effectiveness of available resources, and avoid overlaps and gaps. The benefits of an integrated biosecurity approach are likely to become more apparent, with implications for the organization and delivery of risk-based food safety systems that ensure effective synergies and operational linkages with animal and plant health and biosafety.

### **III. Experiences in applying modern food safety concepts and practices**

22. Some developing countries have succeeded or are well on the way to effectively applying modern food safety concepts and practices based on an integrated, risk-based approach from farm to table. They are implementing international (Codex) food standards and safety and quality assurance schemes for exports and domestic trade. In these countries, governments and the private sector are working together effectively. Often, this has entailed a rethinking of traditional roles and responsibilities.

23. For instance, the seafood industry in Thailand has made a full-fledged conversion to HACCP-based methods for its export market, making Thailand one of the world's major exporters of fisheries products. Similarly in Costa Rica, HACCP has been adopted and applied in the fresh fruit and vegetable sub-sector to maintain market access, and the Costa Rican food control authority has achieved regulatory equivalence with authorities in the United States. In both cases, governments have assumed the role of auditor with industry playing the leading role in implementation of quality control programmes.

24. In India, international standards, guidelines and recommendations are increasingly used to guide domestic and international trade. National standards for domestic and export trade lay down provisions for pesticide and veterinary drugs residues, contaminants and pathogens. Codex HACCP and food hygiene standards have been adopted by the national standards body and food processing units are being encouraged to adopt them on a voluntary basis. Export certification is based on a HACCP approach. These changes have led to increased food exports and fewer inspections and rejections.<sup>5</sup>

25. Recent FAO case studies in Latin America have shown that to meet food safety and quality requirements in export markets, interventions that increase small-scale producers' access to resources to invest in infrastructure and procure diagnostic and certification services are essential.<sup>6</sup>

26. In spite of more stringent standards applied by certain importing countries, some industries and supply chains in low-income countries have maintained or enhanced their competitiveness and market share. The horticulture sector in Kenya illustrates how standards can be used for competitive advantage in a low-income country. Through investments in high-care processing facilities, private laboratories, full supply chain traceability, improved sanitation, storage systems and HACCP, among others, the leading firms in Kenya's fresh produce industry have focused their attention and resources on the premium-quality market segment and reaped

---

<sup>5</sup> Sareen, S. 2003. *Food Safety in Food Security and Food Trade. Case Study. India Responds to International Food safety requirements*. Brief 11 of 17. September 2003. International Food Policy Research Institute (IFPRI). Brief 11 of 17 September 2003.

<sup>6</sup> FAO. 2007. *Implementing programmes to improve safety and quality in fruit and vegetable supply chains: benefits and drawbacks. Latin American case studies*. FAO, Rome, January 2007.

significant benefits. From 1991 to 2003, the value and volume of Kenya's exports of fresh vegetables increased five fold.<sup>7</sup>

27. However, while some countries and sub-sectors have achieved significant progress in implementing strategies and practices necessary to improve food safety and quality, many others struggle to adapt their traditional food control systems to meet current challenges. In some countries, governments are unable or reluctant to engage effectively with stakeholders or ensure transparency in decision-making and the provision of information related to food safety. In other cases, there has been a failure to move food inspection from end-product testing towards a preventive, risk-based approach. Sometimes, countries have been unable to update their food legislation or address overlaps in, and gaps between, sectoral laws and regulations. At other times, where there has been political commitment and willingness, inadequate financial resources or limited scientific and technical knowledge and skills have acted as bottlenecks.

28. Caused by a variety of factors, these implementation shortcomings have had a negative effect on the capacity of these countries to ensure a supply of safe food for both domestic and foreign consumers, and/or to fully participate in and benefit from international bodies and agreements that set food safety standards and govern the food trade. The increasing number of notifications issued by the European Union, the United States of America and other important markets for food and feed products from Asia, Latin America and the Caribbean and Africa illustrates the difficulties developing countries face in meeting the standards of importing countries.

#### **IV. From theory to practice: Policy-implementation gaps**

29. Policy implementation in the context of food safety is complex. Food safety systems are often subject to competing and conflicting goals and information asymmetry between stakeholders, resulting in resistance to change. Ministries concerned with food and agriculture, health, trade, environment and development each have their own perceptions of and interests in food safety, which may differ significantly. Governments need to balance the interests of each of these sectors and stakeholders in formulating national food safety policies and, consequently, implementing policies and practices is often difficult.

30. A strategic approach to food safety that can take advantage of the opportunities offered by the current international framework requires certain national and industry capabilities. These include the ability to carry out risk analysis, undertake hazard surveillance and monitoring, interpret international regulatory and commercial trends, and apply food safety management and quality assurance systems. Where regulatory effectiveness of government is limited, by inadequate resources and/or highly fragmented supply chains, the challenges of implementing food safety measures are even greater. Some common gaps in implementation are discussed below.

##### **A. INADEQUATE AWARENESS ABOUT THE IMPORTANCE OF FOOD SAFETY**

31. A general lack of awareness among different types of stakeholders about the need for improved food safety and the linkages between food safety and public health and food safety and trade is often one of the most significant challenges to the effective implementation of food safety measures. This often includes biased perceptions among food chain actors about the high costs of compliance in return for limited benefits.

---

<sup>7</sup> World Bank. 2005. *Food Safety and Agricultural Health Standards. Challenges and Opportunities for Developing Country Exports*. Summary of the Report Number 31302.

32. At the highest level, limited political support keeps food safety off the agenda in several countries. In low income countries, food safety must compete for national attention and resources with other important development concerns. Where politicians and high-level policy makers fail to understand the importance of food safety, the institutions and actors involved are generally deprived of the leadership, commitment and resources necessary to bring about improvements.

33. In some countries, industry, academic/scientific institutions, and consumers have limited awareness about food safety, and/or are unable or poorly organized to campaign for change. Within industry, individuals and enterprises involved in food production, processing and distribution are frequently uninformed about or have insufficient knowledge to comply with food quality and safety assurance requirements (including GMPs, GHPs, HACCP, etc.). In many cases, food producers, processors and traders lack knowledge of even rudimentary food hygiene practices. For instance, over half of the rejections of food imports from developing countries by the United States Food and Drug Administration are due to basic hygiene problems (including contamination with insects or rodent filth) and failure to meet labelling requirements.

## **B. ABSENCE OF AN ENABLING POLICY FRAMEWORK FOR FOOD SAFETY**

34. An enabling policy framework is the basis for implementation of food safety practices and programmes. Policy is required to set out the goals and objectives for food safety, and provide a broad framework for the effective and collaborative implementation of food safety systems and practices by diverse stakeholders. It should define, either in quantitative or (more commonly) qualitative terms, the appropriate level of protection to be attained by the application of food safety requirements and related measures.

35. Food safety policy affects other government policies such as public health, food security, trade and economic development, agricultural and industrial development, and consumer protection. It should be consistent with national food security and development goals, as well as with international treaty obligations. Coordination and synergy in the development of policies is therefore critical.

36. In several developing countries, failure to develop an enabling and coherent policy framework with clear goals and objectives for food safety means that opportunities to facilitate discussion and create consensus among different parts of government and other stakeholders about the goals of food safety are missed. Often the concerned stakeholders are neither consulted nor involved in setting food safety policy goals, needs and priorities. This contributes to poor coordination between ministries, sector policies and line departments, and lets pass opportunities to achieve an interdisciplinary approach to food safety and enhance ownership and sustainability in implementation.

## **C. OUTDATED AND/OR INEFFECTIVE LEGAL AND REGULATORY FRAMEWORK**

37. Difficulties in implementation of food safety practices can also stem from deficiencies in the legal and regulatory framework for food safety. Relevant, up-to-date and enforceable laws and regulations are essential to create an enabling and predictable environment in which to develop and enforce food safety measures based on risk analysis. The capacity of stakeholders involved in different aspects of food safety and quality from farm to table is dependent, in part, on the effectiveness of this national legal and regulatory framework.

38. In many national settings, however, laws, regulations and standards governing food are outdated, incomplete or contradictory. In some countries, food legislation was formulated decades ago and never revised to take into account contemporary principles of food safety (such as transparency, a food chain approach, risk analysis) that are being taken up in international recommendations (particularly Codex) and/or obligations of global and regional trade agreements.

Failure to clearly set out the responsibilities of stakeholders along the entire food chain, grant food safety authorities a clear mandate and authority to prevent food safety problems before they occur or provide for appropriate enforcement and control measures (including effective, proportionate and dissuasive sanctions and penalties) are other typical short-comings. In some countries, the existence of several different laws and regulations, each addressing various aspects of food, animals, milk, dairy products, meat, eggs, plants, fresh fruit and vegetables, public health, trade and/or consumer protection, complicate execution.

39. In countries where food legislation has been updated, implementation gaps sometimes stem from inadequate knowledge on the part of those who are regulated. Where concerned stakeholders, such as inspectors, food enterprises and consumers, that are responsible for compliance and enforcement, are unaware of the scope and requirements of laws and regulations, its relevance to their particular roles and responsibilities, and how to implement and make use of legislative provisions, implementation will be undermined. The internal capacity of regulatory agencies in terms of mandate, operations, number and skills of staff, financial resources, etc. is another critical part of the overall success of legislation. For instance, the existence of institutional overlaps and gaps, corruption or limited financial resources can also obstruct implementation.

#### **D. INEFFECTIVE INSTITUTIONAL FRAMEWORK FOR FOOD SAFETY AND WEAK COORDINATION**

40. Overlapping responsibilities and limited coherence between regulatory agencies and departments, combined with weak coordination among the stakeholders involved, is another significant source of implementation gaps. In many cases, this is linked to an ineffective policy and legislative framework. Reflecting the interdisciplinary nature of food safety, responsibility for food control is shared across different parts of government (e.g. agriculture, health, commerce, environment, trade and industry, tourism, etc.), often with poorly defined and/or overlapping mandates. Possible conflicts of interest between public health objectives and the facilitation of trade and industry development can further complicate and obstruct implementation.

41. Failure to recognize the impact of a food chain approach on public and private sector roles and mandates can also contribute to implementation gaps. In some countries, government agencies with limited resources have not acknowledged the role of other stakeholders (e.g. food industry, industry associations, scientific and research institutes, universities, consumers and their organizations, etc.) in food safety and quality, and/or taken positive steps to facilitate their participation. Implementation would be significantly enhanced by a proactive and collaborative approach whereby government agencies work with concerned stakeholders to identify emerging challenges and opportunities, make appropriate regulatory changes and identify strategies and necessary investments to improve food safety and quality.

42. Where policy and legal documents neglect to clarify the respective responsibilities of the main stakeholders involved at national, sub-national and municipal levels, as well as the mechanisms through which they should work together, duplication of regulatory activity, fragmented surveillance and inadequate coordination between those responsible for policy, implementation and monitoring and surveillance frequently ensues. This often results in a less than optimal use of available resources, multiple and conflicting interactions with the private sector, and problems with trading partners.

#### **E. SIGNIFICANT HUMAN, INFRASTRUCTURE AND FINANCIAL RESOURCE CONSTRAINTS**

43. Inadequate scientific and technical knowledge and expertise, insufficient or obsolete infrastructure and equipment, and limited financial resources are another important source of implementation gaps.

44. While the integration of risk analysis principles in the operating procedures of international standard setting organizations and the SPS Agreement has fostered greater discipline in the application of food safety measures, it has also highlighted practical difficulties to apply risk analysis at the national level. To utilize risk analysis, governments must be able to determine the level of risk that they deem to be acceptable<sup>8</sup> for the protection of consumers' health in the formulation of risk management measures, and have the scientific capacity to carry out risk assessments (or to access and use internationally available risk assessments). However, scientific and technical knowledge and skills required to establish science and risk-based priorities for food control are often in short supply, as are the specialized skills to carry out the components of risk analysis.

45. Similarly, personnel with up-to-date knowledge and skills to carry out core functions of food control (such as the provision of scientific research and advice, risk profiling and priority setting, standard setting and implementation, inspection and enforcement, diagnostic analysis, certification and accreditation, monitoring and surveillance, emergency preparedness and response) are often in short supply. For instance, although some officials in developing countries may have attended introductory training on risk analysis, they frequently lack the expertise to carry out risk assessment at the national level. Food inspectors often lack skills in modern, risk-based inspection techniques. Many laboratory analysts do not have up-to-date knowledge and practical skills in modern analytical techniques and quality assurance. In addition, inadequate expertise and resources for risk assessment prevents developing countries from identifying, collecting and submitting relevant data to the international committees responsible for the safety evaluation of chemical and microbiological hazards in food, such as the Joint FAO/WHO Expert Committee on Food Additives (JECFA), the ad hoc FAO/WHO Expert meetings on risk assessment of microbiological hazards in food (JEMRA) and the Joint FAO/WHO Meetings on Pesticide Residues (JMPR).

46. Besides the lack of scientific and technical resources for food inspection and compliance activities at all levels, administrative structures, management and financing are frequently insufficient. Equipment and infrastructure that are obsolete or no longer in working condition is another key challenge. In some countries, for example, laboratories do not have in place the equipment necessary to perform tests needed to demonstrate the safety of food exports. For small and medium-sized food producers and processors, the costs (e.g. building infrastructure and storage facilities, payment for technical advisory services and soil and water analysis) of improvements in safety are also considerable. For instance, recent FAO research has indicated that for small-scale pineapple growers in Costa Rica, the cost of improvements required to meet the safety requirements of food safety standards account for between 36 and 55 percent of the costs of implementing good practices programmes.<sup>9</sup>

47. In some cases, the inefficient use of available resources compounds the problems faced, resulting in lower than optimal results. For instance, official food control laboratories under different ministries sometimes work in isolation from each other, and/or each seek to obtain and/or maintain facilities to perform similar types of analyses. High rates of staff transfer sometimes mean that people with specialized qualifications are moved out of the jobs for which they received specific training.

48. Limited knowledge, skills and resources also restrict the capacity of developing countries to participate fully in the international bodies and processes (e.g. Codex Alimentarius Commission and its technical committees, FAO/WHO scientific expert bodies, WTO/SPS Committee) that assist, develop, administer and oversee the standards and guidelines governing

---

<sup>8</sup> In the SPS Agreement, the acceptable level of risk is referred to as the appropriate level of protection.

<sup>9</sup> FAO. 2007.

trade in food and agricultural products and their application. As a result, many are unable to: i) adequately participate in these bodies; ii) ensure that national scientific data are produced and taken into account and that their concerns are considered in the design and implementation of standards; and iii) to defend their trade-related rights.

## **V. Conclusions and recommendations**

49. Based on the preceding discussion, the following recommendations are proposed to help close implementation gaps and enhance food safety capacity in developing countries:
- Raise awareness and knowledge among policy and decision-makers about the importance of food safety for public health, food trade and economic development to ensure that it receives high-level priority and the provision of adequate resources at the national level.
  - Provide an enabling environment for food safety that encompasses sound and up-to-date food laws and regulations and a credible food safety policy and strategy that extends from farm to table and involves all relevant stakeholders. This should involve a review and clarification of the roles and responsibilities of government bodies and other stakeholders involved in food safety based on an integrated food chain approach to reflect the public sector's role as the general manager of food safety and the private sector's essential role in implementation.
  - Develop operational mechanisms to promote and facilitate effective coordination and information exchange (including inter-governmental and public-private) between different types of stakeholders involved in food safety. This should also cover emerging food safety related crises.
  - Enhance scientific and technical expertise in and devote necessary resources to risk management, risk assessment and risk communication, risk-based food inspection and auditing, laboratory analysis, data collection and management, etc. in accordance with international recommendations and requirements.
  - Strengthen the capacity of the food industry to implement quality assurance schemes in food production and processing (including GAPs, GMPs, GHPs, HACCP, etc.) and provide incentives to small-scale producers to help them cope with the up-front costs involved in the adoption of these systems.
  - Utilize relevant experiences, best practices and lessons from inside and outside the country and make better use of regional and international initiatives to foster and support the development of national food safety programmes covering the entire food chain.