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FOOD SAFETY IN FOOD SECURITY AND FOOD TRADE

Overview

LURIAN J. UNNEVEHR



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Food safety is receiving heightened attention worldwide as the important links between food and health are increasingly recognized. Improving food safety is an essential element of improving food security, which exists when populations have access to sufficient and healthy food. At the same time, as food trade expands throughout the world, food safety has become a shared concern among both developed and developing countries. Governments in many countries have established new institutions, standards, and methods for regulating food safety and have increased investments in hazard control. This set of policy briefs describes how developing countries are addressing food safety issues in order to improve both food security and food trade, and discusses the risks, benefits, and costs when such policies are implemented.

WHAT IS FOOD SAFETY?

Unsafe food contains hazardous agents, or contaminants, that can make people sick—either immediately or by increasing their risk of chronic disease. Such contaminants can enter food at many different points in the food production process, and can occur naturally or as the result of poor or inadequate production practices. Hazardous agents that are receiving attention from policymakers include microbial pathogens, zoonotic diseases, parasites, mycotoxins, antibiotic drug residues, and pesticide residues. Genetically modified foods and their potential to contain allergens or toxins not found in conventional foods have begun to receive attention as well.

All countries share similar concerns about food safety, but the relative importance of different risks varies with climate, diets, income levels, and public infrastructure. Some food safety risks are greater in developing countries, where poor sanitation and inadequate drinking water pose greater risks to human health than in developed countries. The World Health Organization estimates that about 70 percent of the approximately 1.5 billion episodes of diarrhea occurring globally each year have been caused by biologically contaminated food (see Brief 2). Other risks, such as mycotoxins and food-borne parasites, are also more common in developing countries than in developed ones (see Brief 3).

Certain food safety hazards are closely linked with sanitation, water supply, food preparation, and marketing of food. Because food safety is the result of many different actions in the food supply chain, it may be difficult to address food safety issues separately from health, nutrition, and food production and marketing issues.

WHY IS FOOD SAFETY RECEIVING GREATER ATTENTION?

Food safety is receiving increased attention due to several worldwide trends affecting food systems. The growing move-

ment of people, live animals, and food products across borders; rapid urbanization in developing countries; increasing numbers of immune-compromised people; changes in food handling and consumption; and the emergence of new or antibiotic-resistant pathogens all contribute to increasing food safety risks. Changes in food handling and consumption, for instance, include more frequent preparation of food outside the home, increased consumption of fresh and minimally processed foods, and greater consumption of fish, seafood, meat, and poultry around the world. These trends have altered both the nature and incidence of food safety risks in the world's interdependent food production and marketing system. Concerns about intentional adulteration of food from bio-terrorism have also increased attention to food safety.

As the sources and consequences of food-borne illness are better understood, developed countries are strengthening their food safety control efforts (see Brief 4). New regulatory standards have been introduced for previously unknown or unregulated hazards, such as Bovine Spongiform Encephalopathy (BSE, or "mad cow disease") in cattle. Existing food safety standards in developed countries, such as those for aflatoxins in the E.U. and pesticide residues in the U.S., have been made more stringent during the past decade. Many new regulations involve requirements for process controls such as the Hazard Analysis Critical Control Point (HACCP) system—an approach for the prevention, monitoring, and control of hazards that can be applied to any production process. New regulatory measures are based on a scientific assessment of risks, and because hazards can enter the food supply at any one of several points, such assessments are now undertaken from farm to table.

New regulations in developed countries certainly have implications for developing-country food producers and processors, and can increase the costs of exporting. During the last decade or so, developing countries' exports of fresh and minimally processed products—many of which are entering developed-country markets—have increased markedly, and include seafood, fish, fruits, and vegetables. As the case study briefs in this series clearly document, developing-country exporters frequently face difficulties in meeting the increasingly stringent food safety regulations imposed by developed countries. Technical assistance, investments by producers, and new policies in developing countries, however, have all played a role in helping developing-country exporters maintain market access.

The food system is also changing in developing countries themselves, not least because new food safety standards required by the developed world shape expectations among urbanizing consumers. Moreover, food processing and preparation has tended to move outside the household as economies develop. Supermarket chains increasingly dominate urban food retailing in middle income countries, creating new supply chains

that coexist with traditional food processing and retailing. Many kinds of hazard-mitigation activities are shifting from the household to the food industry as the food system changes, and it is not always clear who bears responsibility for food safety or its cost. Briefs in this series discuss some of the difficulties faced in the rapidly modernizing food sectors of developing countries where consumers are demanding improvements in food safety.

WHAT ARE THE POLICY ISSUES FOR THE GLOBAL FOOD SYSTEM?

Food Safety and Food Security

Different perspectives exist on how food safety issues relate to global concerns about food security. These varying perspectives arise from different perceptions and values concerning food safety risks as well as a lack of consensus on who should pay for the costs of risk mitigation. One perspective is that food safety is receiving too much attention relative to its importance for food security. In this view, global attention to the issue emanates from the concerns of high-income consumers and producers in the developed world, and does not truly reflect the most compelling food safety issues in developing countries. Food security still depends on increased food access and, from that perspective, one can argue that investments in food safety divert resources from rural development and agricultural production.

An alternative perspective is that enhanced food safety is key to improvements in health and nutrition, which, after all, is the ultimate goal of enhanced food security. Improvements in food availability will not benefit many of those at nutritional risk without corresponding improvements in the nutritional quality and safety of food as well as a reduction in food- and water-borne illness. But in order to address food safety in this context, developing countries must evaluate such investments within the overall scope of public health, nutrition, and food system policies.

One dilemma facing policymakers in developing countries is how to regulate food safety in the growing modern food sector without driving out the traditional activities that still serve an important economic function (see Brief 13). Many low-income consumers will continue to have access to food primarily from the traditional food processing and retailing sector, while those who operate in the modern sector may decide to adopt food safety standards and models from developed countries (see Briefs 12 and 14) that may or may not be useful for the food system as a whole.

Food Safety and Food Trade

How food safety relates to food security is also at issue both for developing countries seeking to export food and for World Trade Organization (WTO) members negotiating to expand

food trade. On the one hand, developing countries want to increase agricultural exports for rural income generation and poverty alleviation. Although rigorous food safety regulations can hamper expansion of food trade, highly restrictive trade policies do far more damage to market access.

On the other hand, meeting food safety standards is part of successfully developing export markets. The increasingly stringent regulations in developed countries have raised the bar for food safety and quality—a bar that some developing countries have not been able to reach, leading to their exclusion from major export markets (see Brief 6). Developing countries see these issues as important to their ability to participate in and benefit from trade, and have requested assistance regarding food safety within the current WTO talks (see Briefs 5 and 11).

But even when developing countries have market access, a comparative advantage in production, and, with technical assistance and domestic investment, improved food safety, export markets may not materialize or may fail to expand. Case studies in this series document four different instances where access to export markets was denied due to sanitary or phytosanitary issues, resulting in substantial costs in terms of lost sales, market share, and investments required to reenter export trade (see Briefs 7, 8, 9, and 10). These case studies also show that, within each country, some producers may not be able to meet safety standards and thus cannot participate in export markets. These cases raise questions about whether food safety standards have adverse consequences for the structure of the exporting industry and the distribution of benefits from trade.

CONCLUDING COMMENTS

Efforts to meet food safety standards in export markets must be judged by whether such efforts generate economic gains for the domestic industry or create positive spillovers for food safety in the domestic food system. More generally, efforts to improve food safety in developing countries must be evaluated in terms of their impact on food security and poverty alleviation. Food safety issues will require policymakers in developing countries to develop better capacity for evaluating policy tradeoffs as they seek to enhance food security or to expand income generation from food trade. The global nature of the food supply will also require developed countries to consider how they might better assist developing countries to address food safety. ■

For further reading see L. Unnevehr and T. Roberts, "Food Safety Incentives in a Changing World Food System," *Journal of Food Control* 13 (March 2002): 73-76, and L. J. Unnevehr, "Food Safety Issues for Fresh Food Product Exports from LDCs," *Agricultural Economics* 23 (2000): 231-240.

Laurian J. Unnevehr (laurian@uiuc.edu) is a professor of agricultural and consumer economics at the University of Illinois, U.S.A.



International Food Policy Research Institute

2033 K Street, N.W. • Washington, D.C. 20006-1002 • U.S.A.

Phone: +1-202-862-5600 • Fax: +1-202-467-4439 • Email: ifpri@cgiar.org

www.ifpri.org