Key factors surrounding food safety emergencies

Globalization of trade and changes in food consumption patterns

IN THE PAST FEW DECADES, the rising movement of people and food across national borders has changed food consumption and production patterns. Food products are increasingly produced and/or consumed in areas where they were not present before. Also, foods intended for a particular use are now consumed differently depending on the location. For instance, vegetables may be typically cooked before eating in the place where they are grown, but the same vegetables may be consumed raw after being transported across the globe. This expansion of food trade has facilitated better access to and increased the availability of food worldwide. But this free movement across borders has also given rise to new concerns about food safety. FAO is frequently requested by member states to assist in dealing with various food safety events, many of which are closely linked with the trans-boundary movement of food. This assumes particular importance in the context of securing the world's food supply.

Interaction with food security

FOOD SAFETY IS AN IMPORTANT COMPONENT of food security, which is also a growing world-wide concern. The Secretary General of the United Nations, Ban Ki-Moon, in his address to the World Summit for Food Security in November 2009[1], underscored the importance of food security when he said "*This day more than 17,000 children will die of hunger. One every five seconds. 6 million children a year. The world has more than enough food. Yet, today, more than one billion people are hungry.*" Food scarcity can coerce populations to consume whatever food is available even if it is unsafe or contaminated. Further, a food safety scare in a country already facing food scarcity can severely disrupt the food supply and cause wastage of the available food. Moreover, any marked increase in food production by application of additional inputs such as fertilizers, pesticides and veterinary medicines predisposes potential risks due to their misuse. Therefore, the development of systems to prevent food safety threats and a swift response to urgent food safety situations would also have an enormous positive impact on food security.

[1] http://www.fao.org/wsfs/world-summit/en/

Internationalisation of food safety emergencies

THE INCREASING GEOGRAPHICAL and temporal spread of the food production, processing and consumption chain opens up vulnerabilities at multiple points. The various ingredients of a food product are increasingly grown, processed and consumed in different locations around the globe.Therefore, food safety events at any point in the chain no longer have only a limited local impact, but may affect multiple markets worldwide, in patterns that could be haphazard or systematic. Similarly, misgivings about universal or specific practices employed in the food chain can lead to trade restrictions and market losses for all participants in the chain. For example, concern may be expressed over the use of certain pesticides in vegetable production. These vegetables may be sold to another country and used as an ingredient in another food product, also including a number of other ingredients produced in other countries. If the final food product causes illness in any consumers, the ingredient which was already suspect may face import restrictions, even though the cause of the illness may be from another food ingredient. Countries with robust food safety emergency early warning and response systems in place that face this situation would likely not be severely affected. However, in countries where food control systems are weak and strengthening is needed, the consequences of facing such a food safety emergency situation are felt strongly.

Socio-economic impact

FOOD SAFETY EVENTS can cause global concern regardless of the source, type, scientific relevance, and severity of the incident. The actual risk to public health and the economy varies depending on the magnitude of the events. However, consumers may perceive any such occurrence, irrespective of its magnitude and cause, as extremely serious. This may have significant socio-economic consequences, such as a loss of confidence in some food products, their sources or their producers. The resulting impact in terms of loss of livelihoods and productivity could have long-term consequences on the economy and the sustainability of the food supply in the affected countries, which in turn impacts human development.


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Policy and capacity issues

COUNTRIES AROUND THE WORLD have diverse food policy and food control systems, and the priorities relating to food safety differ in the various systems. The perception of the severity, as well as the capacity to handle and prevent food safety events varies in different countries. A serious food safety crisis for one country may be considered a routine situation in another with a more well-developed system. Harmonization of food safety policies in general, as well as defining common parameters for applying preventative or emergency measures, is a challenge. However, as global trade is built on supply chains, it is not in the economic interest of any country to be the weak link in the chain. Food safety threats must be anticipated and addressed before they become larger problems. Supporting countries to achieve internationally accepted food safety and quality standards from farm to the table is necessary to prevent and deal with global food safety emergencies.


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Innovative technologies

ADVANCES IN FOOD TECHNOLOGY have contributed to the development of novel food products and the use of improved methods in food processing. While this is a result of innovation in the food processing industry and growing consumer demand, this can be another area of challenge for food safety. To address the concerns that countries have raised in various fora, increased research and expert scientific advice may be required to analyse possible hazards arising from the use of new technologies in agriculture and food production. At the same time, new technologies are increasingly being utilized for the analysis of various components and contaminants such as pathogens and toxins in food. Use of these innovative analytical technologies will likely aid in early warning and emergency response systems.

Impact of emerging issues

CLIMATE CHANGE IS LIKELY to have a considerable effect on the occurrence of food safety hazards. Rapid industrialisation of many areas in the developing world could further accentuate the dynamics of climate change and its effects on crop yields, biofuel production, soil quality, water availability, food contaminants, animal diseases patterns including zoonoses and pesticide use. Changes in cropping patterns and a reduction in crop biodiversity may create shifts in food distribution and consumption. New unforeseen issues, as they arise, may have to be considered in developing the framework of a horizon scanning and early warning system.