

# THE BURDEN OF FOODBORNE DISEASES AND THE BENEFITS OF INVESTING IN SAFE FOOD

## KEY MESSAGES

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Foodborne diseases (FBD) pose a threat to human health and economies - without food safety, the Sustainable Development Goals will not be met.

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To keep our food safe, there is a need for high-level commitment to food safety on a political, financial and scientific level.

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There is a need for greater and better investment in food safety that is forward looking and responds to the country's situation.

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Governments have a role in leveraging private sector investment in food safety.



# INTRODUCTION

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Access to sufficient amounts of safe and nutritious food is a basic requirement for human health. Foodborne hazards include a variety of pathogenic bacteria, viruses, parasites, harmful toxins and chemicals, causing a plethora of diseases from digestive tract infections to cancer. The World Health Organization (WHO) conservatively estimates that 600 million – almost 1 in 10 people in the world – fall ill after eating contaminated food. Apart from personal suffering, unsafe food impedes socioeconomic development, overloads healthcare systems and damages economies, trade and tourism in all

countries. Economic opportunities of the international food market are lost to countries not able to meet international food safety standards, further hampering sustainable development. Despite the impact unsafe food has on people and economies, and despite the commitments made by Member States at the Second International Conference on Nutrition (ICN2)<sup>1</sup>, food safety has received very little attention by policy makers. There is a need for global high-level commitment to food safety, ensuring the safety of food, food security and nutrition and achieving the Sustainable Development Goals.

## KEY ISSUES / STRATEGIC DIRECTION OF ADDRESSING UNSAFE FOOD AND FOODBORNE DISEASES

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### 1. THE PUBLIC HEALTH BURDEN OF UNSAFE FOODS: A NEED FOR GLOBAL COMMITMENT

Around the world unsafe food is known to cause more than 200 acute and chronic diseases. In 2015, the first estimates of the global burden of foodborne diseases (FBD) were reported by the WHO, indicating that the 31 hazards examined were responsible for 600-million cases of foodborne diseases in 2010, resulting in 33 million disability-adjusted life years (DALYs), including 420 000 deaths worldwide. These numbers, conservatively estimated based on modeling and expert attribution of the role of food in diseases, are likely to underestimate the actual scale of the problem as indicated by studies based on clinical data available from the EU and the USA. Factors such as global trade, changes in eating habits and farming practice as well as climate

change are expected to further increase the global FBD burden in the future.

However, foodborne diseases are preventable. Evidence-based interventions are available, and the ICN2 Framework for Action already outlines several recommended actions for reducing the burden of unsafe food which countries have committed to implement under the umbrella of the UN Decade of Action on Nutrition. Prevention requires global investment and coordinated action across multiple sectors in order to build strong and resilient national food safety systems. With food safety receiving relatively little political attention, especially in developing countries, reliable data on the actual national burden of FBD is currently scarce. This especially holds true for foodborne diseases associated with chronic exposure to chemicals, whose health impacts are more difficult to assess than hazards causing acute illness. The lack of data on FBD burden not only poses a problem to accurately

grasp the current situation, but also hinders efforts to assess the efficacy and benefits of counter measures and intervention strategies. Countries must be enabled to commit to carry out data-driven FBD burden assessments and total diet studies to assess the contamination of national diets and enable prioritization of interventions. Additionally, the possibility of globally harmonized reporting systems, as well as acceleration of data sharing at country level, needs to be explored.

### 2. EXPLORING THE BUSINESS CASE FOR FOOD SAFETY INVESTMENTS

Apart from the burden due to pain and suffering, unsafe food causes significant economic costs both at individual and national level. A new World Bank study finds that the impact of unsafe food costs low- and middle-income economies US\$ 95.2 billion in lost productivity and US\$ 15 billion

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<sup>1</sup> FAO/WHO Second International Conference on Nutrition (ICN2). [http://www.who.int/nutrition/topics/WHO\\_FAO\\_announce\\_ICN2/en](http://www.who.int/nutrition/topics/WHO_FAO_announce_ICN2/en)

in related medical expenses each year. Yet a large proportion of these costs could be avoided by adopting preventive measures that improve how food is handled from farm to fork. The economic cost of unsafe food varies across countries according to their level of economic development. This variation is linked to the complex interplay of a wide range of economic, demographic, dietary, and environmental health factors. At country-level it is important to recognize the need for effective investment, a better understanding of the cost of reducing the burden of unsafe food, and the achievable impact on the country's food security, public health, and economy. Any food safety standards that are developed and implemented (inter)nationally have associated costs for governments, industry and consumers. Nonetheless, the economic benefit and public health cost reduction resulting from reliable food safety systems outweigh the cost of food safety investment. Governments, in particular in low-and middle-income countries, not only need to invest more in food safety, but also invest more strategically. This means investing in foundational knowledge, human resources, and infrastructure; realizing synergies among investments in food safety, human health, and environmental protection; and using public investment to leverage private investment. A transparent and constructive dynamic between food safety authorities and the food industry is fundamental in enabling public confidence in the food supply. The assurance of reliable and effective enforcement of regulation is fundamental to building a credible system. However, it is important that countries consciously seek a productive balance between enforcement and facilitation and support to value chain actors to meet requirements.

### 3. LEVERAGING PRIVATE SECTOR INVESTMENT FOR SAFE VALUE CHAINS

Although the developments in food systems have yielded many positive results over the past three decades in developing countries, the associated structural transformations have also resulted in significant challenges, including increased incidence of food safety issues. In a context characterized by poor infrastructure, lack of packaging and other inputs, lack of technical expertise, inadequate policies and weak institutional support, a substantial infusion of fixed investment and working capital will be required if small and medium agro-industries are to fully exploit market opportunities. Private sector investment along the value chain is motivated by expected returns relative to perceived risk and uncertainty. One of the key determinants of private sector investment in agribusiness is therefore the availability of adequate and well-tailored financial services, which allow the private sector to manage and cope with risks and fund investments, including those required for ensuring food safety along the value chain. Public-private partnerships can also serve as a mechanism for risk sharing with the public sector to lower the barriers to entry for the private sector. However, the importance of transparency cannot be over-emphasized and the role of civil society in maintaining public confidence in the integrity and value of such partnerships is an important consideration.

Private actors – from small holders, small and medium agro-enterprises, large national and international agribusiness companies, and financial institutions - require an enabling

environment to achieve their full potential. The public sector needs to put in place a set of enabling policies and provide public goods that create the enabling environment to foster private sector investment. The public sector can also support clustering of agribusinesses within specific geographic areas (e.g. technology parks) with assured infrastructure and access to output and input markets. Investment flows into value chains in which small-holders producers and processors are involved (e.g. as raw material suppliers) can be stimulated by improving coordination in the chain through strengthening groups that bring these actors together, while also building their technical and managerial capacity to meet market requirements.

### 4. PEOPLE-FOCUSED INVESTMENTS IN LOW- AND MIDDLE-INCOME COUNTRIES

In previous decades, government and donor investments in food safety in low and middle-income countries often focused on exports and formal sector food production and retail. This was driven by the economic benefits of export and the belief that modernization of the food system would improve productivity and deliver safer food and more benefits to workers. While both export sectors and formal food businesses remain key to many countries' development strategies, recent years have seen increasing



evidence of the huge health and economic burdens falling on domestic consumers who primarily access food, especially perishable, higher-nutrient produce, from informal outlets and distribution channels. A broad-based food safety strategy is needed which gives balanced attention to trade and domestic matters, and, for the latter, covering food safety risks in formal and informal markets. Food safety has complex bidirectional linkages with nutrition, livelihoods and equity. For example, unsafe food is associated with stunting and malnutrition and predisposes people to gastro-intestinal illness and affects the most vulnerable people who have limited food choices and often rely on informal markets. Concerns about food safety may push people away from fresh produce and towards low-nutrient, highly processed foods, with adverse long-term health consequences. In low and middle-income countries, hundreds of millions of people, many of them women, depend on food production, processing, and retail for their livelihoods. Wherever possible, food safety interventions should act to secure rather than threaten these livelihoods.

## 5. THE NEED FOR INTEGRATED APPROACHES TO ADDRESS FOOD SAFETY RISK: THE CASE OF MYCOTOXINS IN AFRICA

Mycotoxins are fungal secondary metabolites that contaminate various feedstuffs and agricultural crops. The contamination of food by mycotoxins can occur at various stages pre-harvest

(on the field) and post-harvest during storage, processing, transportation or marketing of the food products as well as by consumers' hands. Mycotoxins, and in particular aflatoxin (a potent genotoxic- carcinogen), represent a major food safety challenge in many countries, whereby their contamination of staple food commodities such as grains and ground nuts, can lead to unacceptably high levels of dietary exposure. Aflatoxin-related hepatic diseases, including liver cancer, are reported in many African countries, and the evidence of the possible linkage between aflatoxins and stunting further underlines the urgency of improved control of mycotoxin contamination in order to achieve target food and nutrition security outcomes.

While not new, mycotoxin contamination largely remains an unresolved problem in many countries, mainly because of the attention given to it over the past decades has been insufficient. Addressing mycotoxin contamination in a sustainable manner requires holistic and integrated approaches that ensure adequate attention to the public health, social, market and technological dimensions of the problem. In recent years, there has been a surge of attention and investment in addressing the problem of aflatoxins, which creates new opportunities to find solutions. As there are no "silver bullets" and the concerted efforts of many are required to address various aspects of the problem, it is important to assure broad collaboration and information sharing in developing optimal solutions.

# THE FUTURE OF FOOD SAFETY

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