Food and Agriculture Organization of the United Nations

TECHNICAL BRIEF

INTEGRATING FOOD SAFETY AND NUTRITION IN AGRI-FOOD SYSTEMS

Near East and North Africa regional network on nutrition-sensitive agri-food systems

Female farmer harvesting quality strawberries.

FAO/E. Emuraneh Scoble
INTEGRATING FOOD SAFETY AND NUTRITION IN AGRI-FOOD SYSTEMS

Near East and North Africa regional network on nutrition-sensitive agri-food systems
BACKGROUND

According to the estimate conducted by the World Health Organization (WHO) in 2015, nearly one in ten (a total of 600 million) people fall ill every year from eating unsafe food contaminated with bacteria, viruses, parasites, and toxins, as well as some selected chemicals, with 420,000 dying as a result. The most affected are low- and middle-income countries with about 75 percent of deaths from foodborne diseases. The public health impact of unsafe food is unequal across ages and regions. Children under 5 years of age bore 40 percent of the total global burden, while representing only 9 percent of the world population, and people in developing regions and poorest areas of the world are most affected with highest incidence and mortality of foodborne illness across all ages. It is estimated that around 70 percent of the global burden in Africa and South-Eastern Asia. Along with social costs due to morbidity and lost lives, foodborne illnesses entail also economic costs related to lost productivity, expenses for medical treatment, and impacts on trade. The World Bank estimates the economic cost of unsafe food for low- and middle income countries alone is at about USD 110 billion per year.

Near East and North Africa (NENA) region is also greatly challenged by food safety and nutrition issues. Countries of the region are struggling with multiple forms of malnutrition. Despite some progress in reducing childhood stunting, the prevalence remains high to very high in most least developed countries (LDCs) and/or conflict-affected countries of the region. Similarly, prevalence of wasting among children under five years is ‘very high’ in the LDCs of the NENA region. Overweight and obesity are significant public health concerns in the region. Rapid urbanization, population growth, change in lifestyle, shifting diets and food import dependency, made many countries in the region vulnerable to nutrition transition. These changes have had profound effect on production, processing, storage, marketing and consumption of food.

Foodborne diseases are an important cause of morbidity and mortality in the region, particularly in low-income economy countries. Diarrhoeal disease agents are the most frequent causes of foodborne illnesses (WHO, 2015). In the NENA Region, mortality rate among under-five children due to diarrhoea is highest in LDCs such as Djibouti, Somalia, Sudan and Yemen. Somalia and Comoros, are among the worst in the world for diarrhoea mortality among adults older than 70 years.

There is need to ensure that safe and nutritious food is available, accessible and affordable. Many countries in the region face

Food safety and nutrition are inextricably linked, yet the importance of food safety in this relation is often overlooked. Food safety and nutrition are often addressed as separate issues. Improving food safety standards and regulations and enforcing their implementation is essential to safeguard the health and nutrition of the population. Improved food safety will contribute to improved nutritional status and will contribute to the reduction and prevention of many of non-communicable diseases. There cannot be healthy diets without food safety. The nutritious foods that contribute to healthy diets, such as fresh fruits and vegetables, nuts, legumes, animal-sourced foods such as meat, dairy and eggs, and seafood are the foods that can be one of the most susceptible commodities to food safety hazards.

Agri-food systems are multidimensional, including sociocultural, economic, environmental, and political aspects, and complex involving different actors (food producers, food-chain actors, and consumers) managing agri-food value chains within dynamic and interactive food environments. All actors and activities in the agri-food systems must consider safety and nutritional quality of foods for providing safe and healthy diets. Safety and nutritional quality of foods need to be tackled along the entire agri-food value chain, from on-farm practices, use of agricultural inputs (e.g. safe water, high quality fertilizers, plant protection products, etc), through production, harvesting, processing, storage, distribution, and preparation to consumption.

An enabling policy and regulatory environment should be provided and effective food safety systems needs to be further reinforced along agri-food value chain to ensure availability of safe and nutritious foods to consumers. It is crucial to ensure that adequate food safety regulations, knowledge and capacity for applying good practices along the agri-food value chain, competent authorities and institutions implementing official controls and extension services to ensure safe production, processing, storage, transportation and retailing of high nutritional quality food products are in place.

This technical brief builds on the organized and facilitated by FAO NENA Regional network virtual dialogue “Ensuring Food Safety and Nutritional Quality of Foods”, held on 20 May 2021.4

1 https://fao.zoom.us/rec/share/Buzm4wK1bbVVeVo6bfj8Gaqh/wP92y/56X_83LcJdL3j3Y4b6oxXKtM60Xaxi8NjJvNXsZnGZw1Eanq8r9 (Passcode: dwv1^Tde0)
ISSUES AND CHALLENGES

Given that food safety and nutrition are cross-cutting issues of concern, it has long been recognized that holistic, integrated actions are required to address the multifactorial nature of malnutrition and ensure that food safety is addressed throughout the entire agri-food system to ensure safe and nutritious foods are available, accessible and affordable. Improvements in nutrition cannot be achieved without addressing food safety along the entire agri-food value chains. Foodborne pathogens are one of the leading causes of diseases and death in developing economies. Foodborne diseases resulting in chronic diarrhoea can negatively impact on nutritional status by reducing nutrient absorption and exacerbating nutrient deficiencies. Exposure to chemical hazards continues to be a widespread concern, especially to the smallholder farmers and consumers in the developing countries. There is increasing international focus on addressing aflatoxin contamination of agri-food commodities (e.g., aflatoxin in maize) given the mounting evidence of the linkages between dietary exposure to aflatoxin and child stunting.

National nutrition policies, strategies and programmes do not adequately capture food safety. Similarly, food safety policies, regulations, standards and practices do not explicitly include nutritional criteria or highlight the negative implications of unsafe food for nutrition. Food safety and nutrition outcomes need to be jointly and coherently pursued and relevant policies, strategies and interventions need to be aligned. It is important that agri-food systems-related initiatives address both nutrition and food safety in an integrated manner.

Many countries in the region have inadequate or ineffective inter-sectoral coordination mechanisms to address the multi-factorial nature of nutrition and food safety challenges. Governments often find it difficult to undertake the needed alignment and coordination of policies, programmes and investments to deal with nutrition and food safety effectively. Coordination between the agriculture, health, environment, education, finance, trade, food safety authorities and others, including the alignment of objectives and resources, is important for addressing the multidimensional causes of malnutrition. Broad barriers to inter-sectoral collaboration for nutrition and food safety such as low political commitment, sector-based organizational structures and low credibility to facilitate, mobilize and generate resources should also be addressed. With increased
awareness of the link between food safety and nutrition goals, it is expected that policy coherence between the related sectors will also improve.

Food safety and nutrition are closely linked also through consumer behaviour. There are different trade-off concerns by consumers like safety of food, affordability, convenience, desirability and traditional beliefs. Consumers often have fear for certain food being potentially unsafe (e.g. fresh vegetables and fruits and animal-sourced foods), especially for pregnant and lactating mothers and young children. This perception may lead to increasing the risk of malnutrition (both undernutrition and over nutrition), as consumers may favour cheapest and convenient foods, which are often main staples and or highly processed and packaged foods.

Fact-based advertisements, adequate labelling and good promotion of science-based knowledge on foods, nutrition and food safety can influence and support an improved food choice, proper handling, preparation and consumption of foods. The consumer behaviour change and communication initiatives need to include information on safety and nutritional quality of foods for influencing the choice and ensuring handling, cooking and consumption maintaining good hygiene, safety and retaining nutrient content. This area of action would make possible an increase in supply chain investments (e.g. improved food safety measures accompanied with incentives to produce, process, store and distribute safe and nutritious food for consumers). Investing in safe and better quality nutritious food products may lead to greater availability, accessibility and affordability of food choices for more healthy diets.
KEY RECOMMENDATIONS

- Enhance awareness of food safety hazards and risks, and understanding of food safety and nutrition interlinkages, promote food labelling and healthy diets with food safety integration and complementarity.

- Integrate food safety and nutrition throughout the agri-food systems-related initiatives and promote a joined-up approach that explicitly connects and addresses food safety and nutrition in a consistent manner.

- Strengthen food safety across the agri-food value chains for better nutrition outcomes through targeted policies, legislation, standards, enforcement and monitoring their implementation and surveillance, test institutional and human resource capabilities and capacities.

- Apply a holistic and risk-based agri-food value chain approach to ensure food safety and nutritional quality.

- Reinforce national food control systems, including reviewing and updating food safety legislation and regulations to ensure all players throughout the agri-food value chain apply appropriate practices for food safety and nutritional quality.

- Enhance food safety and nutritional quality measurements along the agri-food value chain continuum from production, through harvest, processing, storage, distribution, marketing and consumption.

- Apply and contribute to the work of Codex Alimentarius on food safety and nutrition at international, regional and national levels and adopt international standards at national level as appropriate, which may include development of Codex-aligned regional and national standards where no international one exists nor is applicable.

- Ensure effective collaboration between different sectors (agriculture, environment, natural resources, health, education, finance and trade) and multiple stakeholders (state and non-state actors) for facilitating food safety and nutritional quality of food in a holistic, integrated and joined-up manner.
Food and Agriculture Organization of the United Nations
Regional Office for the Near East and North Africa

Address: 11 Al-Eslah Al-Zerai street, Dokki
P.O. Box: 2223 Cairo, Egypt
Telephone: (+202) 33316000
Fax: (+202) 37495981
Website: www.fao.org/neareast
Twitter: FAOinNENA - FAOinNENA_EN

© FAO, 2021
CB6769EN/09.21