

# Food security, nutrition and well-being: A South African perspective

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## Abstract

Food insecurity, sustainable agriculture and food system to reduce hunger and malnutrition is one of the goal of the FAO. It is crucial to make sure that the food we eat is not contaminated with potentially dangerous bacteria, parasites, viruses, toxins and chemicals. The focus of the key note is to give an overview of the South African landscape in term of food safety and security with an inside on the current challenges. The importance of the traditional crops and food products is also highlighted. Finally, the key role of applying science to solving issues related to sustainable food production and safety, while exploiting the health-promoting properties of foods to improve nutrition. Food safety refers to routines in the preparation, handling and storage of food meant to prevent foodborne illness and injury. From farm to factory to fork, food products may encounter any number of health hazards during their journey through the supply chain. Safe food handling practices and procedures are thus implemented at every stage of the food production life cycle in order to curb these risks and prevent harm to consumers.

As a scientific discipline, food safety draws from a wide range of academic fields, including chemistry, microbiology and engineering. These diverse schools of thought converge to ensure that food processing safety is carried out wherever food products are sourced, manufactured, prepared, stored, or sold. In this sense, food safety is a systemic approach to hygiene and accountability that concerns every aspect of the global food industry. The following article defines food safety in manufacturing and explains the importance of food safety for the global food chain. Following a brief overview of the different regulatory bodies tasked with evaluating food safety around the world, the article outlines the key principles of effective food safety regulation, the history of food safety and the consequences of unsafe food handling practices and procedures for companies and consumers. Food products are among the most-traded commodities in the world. As markets become increasingly globalised with each passing year, and as the world's population continues to grow, the global food supply chain will only continue to increase in scale and complexity. Precisely because of these megatrends influencing the mass

Production and distribution of food, food safety compliance has never been more important. Every country has different regulatory bodies that preside over the definition and enforcement of domestic food safety standards. In order to sell or manufacture food products in any given country, domestic and international businesses alike are subject to the food safety legislation and enforcement measures of that nation. In the European Union, for example, food safety legislation is detailed in. In the United States, the Systemic, risk-based approach to preventing the biological, chemical and in production, packaging and distribution environments. The HACCP concept is designed to counter health hazards by identifying potential food safety problems before they happen, rather than inspect food products for hazards after the fact. The HACCP concept entails controlling for contaminants at a number of key junctures in the food production process and strict adherence to hygiene practices throughout. There are also several privately-owned international organisations that provide comprehensive guidelines for auditing food manufacturers on the basis of food safety and hygiene. These international standards facilitate the global food trade by helping food industry players from different countries to ensure that food quality and safety standards are met in a way that transcends borders. In addition to complying with the food safety laws of the countries in which they are active, global market leaders in the food industry often pursue certification with a number of private food regulators. They may furthermore demand that the upstream and downstream suppliers they work with provide proof of the same certifications. Is part of the *Global Food Safety Initiative* and is an international standard for performing audits of food manufacturing processes. Their compliance audits concern both the factory floor and administrative duties, with regulations on topics ranging from the installation of food defence and inspection equipment to thorough bookkeeping. (Formerly BRC) are a set of international consumer protection certifications that provide safety criteria for global food retailers, food manufacturers, packaging manufacturers and food service organisations. Their certification for food manufacturers includes an assessment of the equipment used to detect and remove physical contaminants. Provides detailed safety programs tailored to the specific concerns of different food industry players. The various

SQF codes are segmented to address the unique conditions of each stage of the food production life cycle, from agriculture to packaging, from manufacturing to retail. Each SQF program is internationally recognised. Each of these private food safety organisations have built their certification programs around an international norm for food safety management systems: While the international regulatory bodies listed above provide guidance, certification and auditing services for global food manufacturers, they are not responsible for the active enforcement of food safety laws. Every nation defines and establishes its own laws and enforcement practices for food safety regulation and these regulations may vary from country to country, and domestically from region to region. Bringing a food product to a foreign market requires compliance with the food safety and consumer protection laws of that nation and its regional governmental authorities. Generally speaking, international food safety standards are designed to facilitate compliance with food safety laws in major markets, simplifying the process of receiving approval from foreign governmental regulators. Foodborne illness has threatened human health since the dawn of time. In fact, many food preparation methods we still use today, such as cooking, canning, smoking and fermentation, can be understood as primitive food safety measures, developed as a means of keeping people from getting sick. Today, we benefit from centuries of scientific and technological progress that have made an abundance of safe food and drink products something that many of us take for granted. But the concept of food safety as we know it today, and the rigor with which it is enforced, is a relatively new development in human history that is intimately tied to changes in the way we live and eat. In 1905, American author Upton Sinclair published his novel *The Jungle*, which featured horrific depictions of Chicago's meatpacking industry. The ensuing public outrage led the U.S. government to pass the Meat Inspection Act the following year, establishing the first sanitary standards for slaughtering and butchering. This law marked the first time that food processing facilities were subject to regular audits and inspections by governmental authorities and some of the very first laws for food safety in manufacturing. Across Europe and North America, the industrial revolution ushered in the establishment of many regulatory bodies and foundational laws concerning food safety and inspection. As food production became increasingly mechanised and profit incentives climbed, laws were passed to prevent the intentional sale of food products that were misbranded, contaminated, or otherwise tampered with. It was during this era that ingredients and additives became subject to regulation.

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