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Editorial

Food Security, safety and quality: Three key elements of a food supply chain

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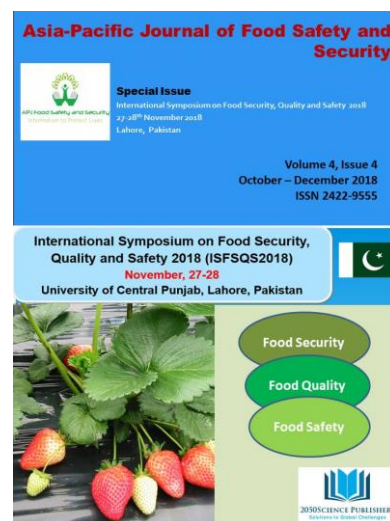
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Highlights

- Shortage of food supply or availability, unsafe foods or poor quality of foods affect quality of life and productivity.
- Strengthening the food supply and regulatory control systems through risk-based strategies are essential for developing countries.

About Authors

Malik A. Hussain (PhD) is an Adjunct Senior Lecturer at Lincoln University, New Zealand. He is a food technologist and microbiologist. His research interests are in food safety, food security, microbiological risk assessments and microbial biotechnology.

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Food supply and regulatory control systems are essential to protect the public health and ensure that safe food products are available to consumers. The Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) are keen to promote global food control systems, particularly for developing countries (FAO/WHO). Ideally, these systems should address all sectors of the food supply chain using science-based principles and guidelines. The effective implementation of food control systems will be useful in achieving improved food security, safety, quality and nutrition; however, a high level of political and policy commitment is an essential element for success. Confidence in the safety and integrity of the food supply is an important requirement for consumers. Food security, food safety and food quality may at times be confusing terminologies. Therefore, it is important to clearly understand their definitions and scope.

According to a definition by the World Food Summit (1996), food security refers to a situation "when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life". It is all about reducing hunger.

Food safety refers to all those hazards, whether chronic or acute, that may make food injurious to the health of a consumer. It is not negotiable.

In simple words, food quality refers to being fit for a purpose. Food quality includes all specifications and attributes that influence a consumer's choice of a product. These specifications and attributes could be negative, such as spoilage, contamination with filth, discoloration and off-odours, or they can be positive, like origin, colour, flavour, texture and processing methods used to produce the food.

When there is a shortage of food or only unsafe food is available or poor-quality food becomes prevalent in society, this ultimately begins to affect the quality of life and productivity. In plain language, the global food security challenge is straightforward, in that there will be a requirement to feed ~9 billion people on this planet by 2050 (World Economic Forum, 2016). However, the challenge to feed a growing population is connected with all aspects of the world economy and society, such as population growth, food consumption patterns, climate change, water scarcity, and farming practices, and this is a complex matter.

Food can become unsafe for human consumption if it contains harmful bacteria, viruses, parasites or chemical substances. The consumption of unsafe food causes more than 200 foodborne diseases, ranging from diarrhoea to cancer (WHO, 2017). Technically, breaches of food quality assurance are also on the rise, and this can be seen through increasing numbers of food fraud incidents in many categories of products, including honey, seafood, oils, wine, dairy products, and fruit juices. The perpetrators of food fraud know how to defeat quality assurance testing methodologies to gain increased financial profit while not intending to cause health harm to the consumer as their primary objective. At the same time, globalisation of the food trade is putting pressure on developing countries to assure the safety and quality of their foods as they enter into

international trade. This emerging global food trade environment requires both importing and exporting countries to strengthen their food supply and regulatory control systems through risk-based strategies.

This special issue of the Asia-Pacific Journal of Food Security and Safety publishes selected articles based on presentations at International Symposium on Food Security, Quality and Safety 2018 (ISFSQS2018) held at University of Central Punjab, Lahore, Pakistan on 27 November. The symposium had three main themes; food security, food safety and food quality.

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