

## The Role of Nutrition and Food Engineering in Promoting Sustainable Food Systems

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**Abstract :** The world is facing a major challenge of feeding a growing population while ensuring the sustainability of food systems. The United Nations estimates that the global population will reach 9.7 billion by 2050, which means that food production needs to increase by 70% to meet the demand. However, this increase in food production should not come at the cost of environmental degradation, loss of biodiversity, and climate change. Therefore, there is a need for sustainable food systems that can provide healthy and nutritious food while minimizing their impact on the environment. Nutrition and Food Engineering: Nutrition and food engineering play a crucial role in promoting sustainable food system. Nutrition is concerned with the study of nutrients in foods, their absorption, metabolism, and their effects on health. Food engineering involves the application of engineering principles to design, develop, and optimize food processing operations. Together, nutrition and food engineering can help to create sustainable food systems by: 1. Developing Nutritious Foods: Nutritionists and food engineers can work together to develop foods that are rich in nutrients such as vitamins, minerals, fiber, and protein. These foods can be designed to meet the nutritional needs of different populations while minimizing waste. 2. Reducing Food Waste: Food waste is a major problem globally as it contributes to greenhouse gas emissions and wastes resources such as water and land. Nutritionists and food engineers can work together to develop technologies that reduce waste during processing, storage, transportation, and consumption. 3. Improving Food Safety: Unsafe foods can cause illnesses such as diarrhea, cholera, typhoid fever among others which are major public health concerns globally. Nutritionists and food engineers can work together to develop technologies that improve the safety of foods from farm to fork. 4. Enhancing Sustainability: Sustainable agriculture practices such as conservation agriculture can help reduce soil erosion while improving soil fertility. Nutritionists and food engineers can work together to develop technologies that promote sustainable agriculture practices.

**Keywords :** sustainable food, developing food, reducing food waste, food safety

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