

Understanding Farmers' Perception of Food Loss Drivers: Agricultural Sector stakeholders' perspective

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Abstract:

Food waste (FW) and food loss (FL) is becoming an increasing problem in today's society, with a focus on unfolding the ethical dimensions and effective management strategies for discarded food (Wang et al., 2021; Muriana, 2017). As global awareness of sustainability and food security intensifies, the detrimental environmental and social impacts of FW/FL are being widely acknowledged. Authors across various disciplines are exploring the ethical implications of food waste, highlighting issues of equity, resource allocation, and social justice (Goh & Jie, 2019; Devin & Richards, 2016). FL production in primary sector has multifaceted nature in which is heavily influenced by external factors such as climate and market situation. Extreme weather phenomena (i.e. hailstone, flood, frost), the presence of pest and diseases and wrong handling practices, can significantly reduce quantity and quality of the product (Delgado et al., 2021; Spang et al., 2019). The implementation of new EU agricultural policies and adoption of GlobalGAP standards have forced producers to adopt new agriculture method greatly reducing their inputs and enhancing the food safety of products.

Most of the research conducted thus far has primarily focused on exploring the factors contributing to food waste at the consumption level, failing to explicitly describe the drivers within the primary sector and the possible interventions for reducing food loss (Chauhan et al., 2021; Spang et al., 2019). Therefore, this study examines the farmers' perceptions regarding the factors contributing to accumulation of food loss in the primary sector. The findings hold valuable insights for developing prevention measures and informing the formulation of new policies.

A questionnaire was designed to gain qualitative information based on the experiences and knowledge of farmers concerning agricultural practices and external factors, including environmental factors, the presence of technological support, challenges faced in accessing markets and strategies incorporated for minimizing environmental impact. This tool is well-known for the accuracy and relevancy of the information and the cost-effective means of gathering it (Lumpur, 2016). Farmers rated various factors contributing to food loss on a scale from 1 to 5, with 1 indicating "not significant" and 5 indicating "major."

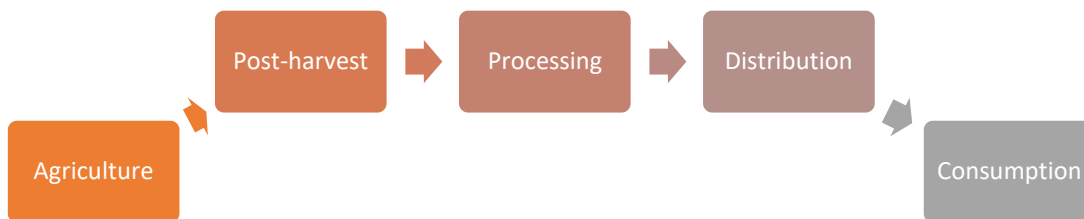


Figure 1: Food Supply Chain and Interconnection between agriculture and consumption

Key findings revealed that farmers have significant concerns related to inadequate storage facilities, insufficient pest and disease control measures, extreme weather conditions and climate change, in the accumulation of food loss in primary sector. Additionally, high specification for accessing market negatively affects the quantity of marketable agricultural products. Agricultural products that exhibit minor deformations, cracks, or other

imperfections, typically never make it to the market and are often left unharvested even though they are considered edible.

In conclusion, the study underscores the complex interplay of factors contributing to food loss in the primary sector and highlights the crucial role of proactive measures in mitigating this issue. Farmers are increasingly concerned about the current market situation, emphasizing the challenges they face in accessing markets and the stringent specifications imposed on marketable products. This situation requires a call for innovative solutions and policies to bridge the gap between production and consumption level and facilitate improved communication to effectively utilize edible defective products (Figure 1). Similarly, there is a growing need for increased consumer awareness on the environmental and economic benefits associated with purchasing agricultural products that may have minor defects. Despite all the challenges, farmers expressed the importance of adopting targeted measures to minimize food loss, emphasizing the importance of governmental and community support, technological advancements, and improved storage practices. By addressing these issues with technological advancements and the fostering of supportive policies, stakeholders can work towards ensuring greater food security and sustainability in agricultural production.

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