

Chapter 6

Mitigating Food Waste and Loss in Malaysia's Food Service Industry: Strategies for Sustainable Solutions

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ABSTRACT

Malaysia is confronted with substantial obstacles regarding food waste, which amounts to 23,000 tonnes per day. Fresh food accounts for 44.5% of this total. This results in economic losses, environmental damage from methane emissions, resource

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depletion, and exacerbates food poverty. Alternative solutions are required because conventional waste management methods, such as landfilling and incineration, are unsustainable. This chapter investigates methods for decreasing food waste in Malaysia's food service sector, such as enhancing supply chain infrastructure, implementing technology, and influencing consumer behaviour. Community-based initiatives, including food banks and composting, public-private collaboration, incentives, and stronger regulations are among the key actions. Innovative packaging and transparent food labelling can also contribute to the reduction of waste, thereby assisting Malaysia in addressing environmental, economic, and social challenges.

INTRODUCTION

The Food and Agriculture Organization (FAO) reports that approximately 1.3 billion tons of food, amounting to one-third of total food production, are lost or wasted globally each year, resulting in an estimated financial loss of \$1 trillion annually (Steinbiß et al., 2022). This widespread food waste has significant environmental, social, and economic implications, making it a pressing global issue that requires attention and action. In the specific context of Malaysia, the problem of food waste is equally alarming. According to the FAO, Malaysia wastes an estimated 23,000 tonnes of food daily, highlighting the significant scale of this issue within the country (Arsat et al., 2023). This level of food waste not only represents a substantial economic loss but also has substantial environmental and social impacts, contributing to increased greenhouse gas emissions, water scarcity, and loss of valuable nutrients that could otherwise nourish those in need (Pham et al., 2021). This article aims to explore a range of strategies and approaches that can be implemented to effectively address the issue of food waste and loss within Malaysia's food service industry. By identifying sustainable solutions, the goal is to mitigate the significant environmental, economic, and social impacts associated with this widespread problem in the country.

While conventional methods such as landfill and incineration have historically been the most popular practices to address food waste, these approaches are often limited in their sustainability and effectiveness. Landfills contribute to greenhouse gas emissions and environmental pollution, while incineration can release harmful pollutants into the air. These conventional methods merely serve to discard the waste, rather than addressing the root causes and exploring more sustainable solutions to the food waste challenge (Mohamed Raimi et al., 2020).

To address this issue more effectively, a range of alternative strategies and approaches have been explored in the literature. These include food waste prevention, food donation and redistribution, composting and anaerobic digestion, and the implementation of circular economy principles within the food service industry. By

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