Chapter 3
Pro-Environmental Behaviour to Minimize Food Waste in Agricultural Supply Chain

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ABSTRACT

With the increasing global concern over food waste and its environmental impacts, there is a growing need to understand and promote sustainable practices throughout the food production and distribution process. This study explores the pro-environmental behaviours of the supply chain actors and their employees that can help minimise food waste within the agricultural supply chain. This study used a thematic literature review method to draw empirical evidence on, to explore the components, factors and impacts of pro-environmental behaviour towards reducing food waste across the agricultural supply chain. The study found that consumer education campaigns, the adoption of innovative technologies for waste management and development of food rescue organisations can help develop pro-environmental behaviours among the supply chain actors to reduce food waste. These findings are useful for policymakers, industry professionals, and researchers to develop effective strategies for minimizing food in the agricultural supply chain.

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1. INTRODUCTION

Food waste is a pervasive issue across the agri-food supply chain (Hodgins & Parizeau, 2020; Kiran et al., 2023; Nicastro & Carillo, 2021). It refers to the loss of food that is still suitable for consumption n (Kowalska, 2017). It poses significant environmental, social, and economic challenges (Chrobog, 2014; Roy et al., 2023). It contributes to greenhouse gas (GHG) emissions when unused food breaks down in landfills and releasing a greenhouse gas (Sanciolo et al., 2022; Williams et al., 2019). Moreover, food production requires valuable natural resources such as land, water, and energy, so food waste further impacts on those resources (Mirosa et al., 2016; Munesue et al., 2015). Economically, food waste represents a loss of investment along the supply chain, impacting both producers and consumers (Aschemann-Witzel et al., 2015; Parfitt et al., 2010); and then it increases production costs and reduces profitability (Dunning et al., 2019; Friman & Hyytiä, 2022). This affects the competitiveness of agricultural produce in the international markets (Mourad, 2016). Additionally, socially, food waste exacerbates issues of food insecurity and inequality by diverting resources away from those in need (Karki et al., 2021; Pollard et al., 2019).

Among many causes of food waste generation in the agri-food sector, employees' pro-environmental behaviour is one of them (Chapman et al., 2013; Grilli & Curtis, 2021; Chawla et al., 2022). An individual's pro-environmental behaviour encompasses his or her actions towards reducing waste and make positive contribution to the society and environment (Grilli & Curtis, 2021). Pro-environmental behaviour includes adopting sustainable farming practices, optimizing harvesting and storage techniques, implementing efficient supply chain management, and minimizing overproduction and losses due to market demand and cosmetic standards (Chapman et al., 2013; Papargyropoulou et al., 2019; Sarkar, 2022). In workplace settings, pro-environmental behaviour involves adopting practices that minimize resource use, waste generation, and environmental harm (Badsar et al., 2023; Li et al., 2023). The green supply chain plays a vital role in waste management, contributing significantly to pro-environmental behavior and supporting the principles of the circular economy (Roy & Medhekar, 2024). Given the noteworthy environmental footprint of the agricultural sector and its contribution to food waste, fostering pro-environmental behaviour among agricultural workers is essential for addressing this issue effectively. This study explores components and impacts of pro-environmental behaviour among the employees across the agricultural supply chain along with some examples and illustrations from the agricultural section in Australia.

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