

# INTRODUCTION

Food banks play a significant role in implementing circular economy principles to reduce waste and decrease food vulnerability (Syalianda & Kusumastuti, 2023). According to research conducted by (Syalianda & Kusumastuti, 2023) the government plays an important role in addressing hunger-reduction issues and enhancing food security within the implementation of circular economy goals within food banks. The association between the supply chain and the standards of the circular economy is vital and must be adjusted, as highlighted by (Montag, 2022). An exceedingly viable and effective supply chain can minimize nourishment emergency dangers, as demonstrated by (Tan, et al., 2022).

Currently, society has adopted supply chain systems in everyday life, businesses, and organizations, both consciously and unconsciously. According to

(Frederico, 2021), the supply chain involves all parties, from suppliers, manufacturers, transporters, warehouses, and retailers to customers. As a real example, food banks, as explained by (Syalianda & Kusumastuti, 2023), are organizations that apply the concept of the supply chain. Food banks collect food waste from donors, process it, and distribute it to various institutions that provide food to the community in need. The processing of food waste reduces waste and maximizes resource utilization (Dewilda, et al., 2021); Studnička, 2021). This is closely related to the circular economy system.

Circular economy (CE) involves the circulation of materials and energy, with the primary goal of reducing waste (Arruda, et al., 2021). CE supports an economic system that prioritizes the reduction of resource use and mitigates environmental impact (Montag, 2022). The implementation of the circular economy is particularly beneficial in countries with high levels of waste production, as noted by (Waluyo & Kharisma, 2023).

According to the report from the United Nations Environment Programme (UNEP) titled "Food Waste Index 2021" (Forbes, et al., 2021), Indonesia has the highest waste production in Southeast Asia, reaching 20,938,252 tons per year. Moreover, the waste composition graph published by SIPSN (National Waste Management Information System) in 2023 indicates that 41.6% of Indonesia's total waste is food waste, followed by wood at 12.5%, paper at 11.5%, plastic at 17.3%, and others 17.1%, emphasizing that the majority of waste in Indonesia is food waste (SIPSN, 2023).

Given the prevailing waste conditions in Indonesia, this research aims to confirm that the Food Bank Bandung has implemented a circular economy to address the issue of food waste in Indonesia. Moreover, food banks in other cities can adopt a similar system to what has been implemented in Bandung to assist in addressing food waste in Indonesia.

In the introduction, we delineate the pivotal role of food banks in addressing food waste and hunger-reduction. Additionally, we expound on the significance of implementing an effective and efficient supply chain to adhere to the principles of circular economy. The material and methods section provides a detailed explanation of supply chains, food banks, and circular economy. Furthermore, we articulate various insights derived from interviews with Food Bank expert in Bandung and process this information to formulate a supply chain design. The results and discussion section scrutinizes the supply chain of the Food Bank Bandung concerning circular economy principles. In the conclusion, we draw conclusions based on the preceding discussions.

