

STRENGTHENING FOOD RESCUE EFFORTS IN INDONESIA:

A Pathway to Sustainable Food Security

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KEY MESSAGES

- High and growing levels of Food Loss and Waste (FLW) pose serious challenges for Indonesia which include greenhouse gas emissions, lost nutritional benefits, high economic costs, and large landfill requirements.
- A roadmap was created to describe the interventions required to reduce Indonesia's projected FLW levels in 2045 to a quarter of their otherwise projected levels – a reduction from 2023 levels of 19%.
- Crucial recommendations of the roadmap include: strengthening regulatory frameworks, creation of laws and penalties, giving tax incentives, enhancing coordination with a national forum, investing in technology and infrastructure such as advanced storage solutions, and increasing public awareness through campaigns and education.

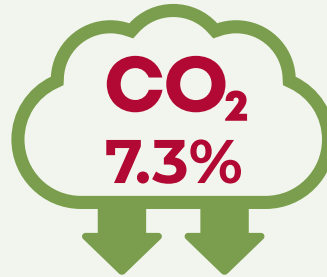


INTRODUCTION

Indonesia faces significant challenges with Food Loss and Waste (FLW).



The country generated an estimated **23-48 million** tonnes annually between 2000 and 2019, equivalent to **115-184 kg** per capita per year.



This waste significantly impacts greenhouse gas emissions, contributing up to **7.3%** of Indonesia's annual emissions.



Economically, FLW causes losses of approximately **4-5%** of the nation's GDP (estimated at **IDR 213-551 trillion** annually).



If the food that was lost annually in the country was consumed, these losses could provide nutritional benefits to **29-47%** of Indonesia's population¹.

Key drivers of FLW include inadequate harvesting techniques, limited technological advancements, and poor handling practices. Consumer behaviors and insufficient policies exacerbate the problem, with businesses often reluctant to donate unsold food due to liability concerns and high costs.

Addressing these challenges requires comprehensive policies and coordinated efforts among government bodies, businesses, and civil society to create a sustainable food system in Indonesia.

This brief explains some key findings and recommendations from a recent roadmap report on FLW reduction produced by the Ministry of National Development Planning (BAPPENAS), with key partnership from the Global Alliance for Improved Nutrition (GAIN). It highlights the crucial role of coordinated efforts in achieving the desired reduction in FLW and thereby mitigating its environmental and economic impacts.

¹ Bappenas 2021. Study Report Food Loss and Waste in Indonesia. <https://lcdi-indonesia.id/wp-content/uploads/2021/06/Report-Kajian-FLW-FINAL-4.pdf>

A FOOD LOSS AND WASTE REDUCTION ROADMAP

The cover of the roadmap report (Bappenas – GAIN, 2024) highlights the wide-ranging collaboration among various organisations, emphasising their unified commitment to reducing food loss and waste (Figure 1). This detailed report includes pivotal chapters that lay out the urgency of addressing this issue, elaborate on strategic directions and policies, and delve into scenario modelling that projects future challenges and opportunities. It further specifies strategies, milestones, and indicators crucial for tracking progress towards effectively managing and reducing food loss and waste, supported by a comprehensive list of references.

Figure 1: Image from the title page of the roadmap document published July 2024



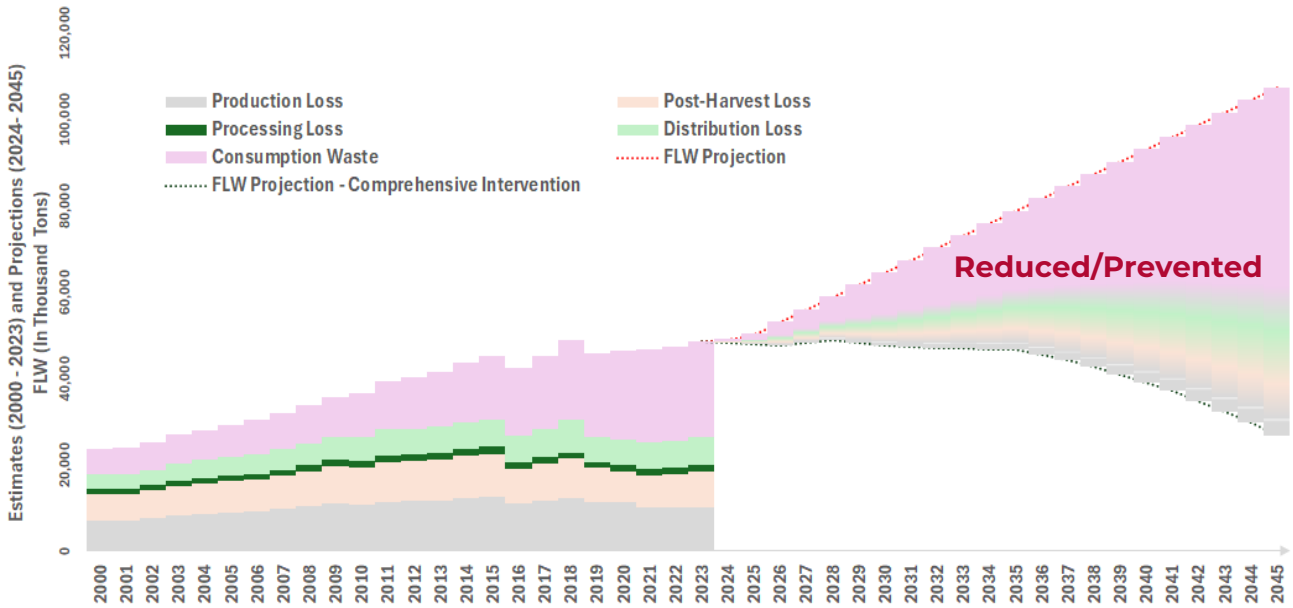
Note: Title translation: Roadmap for managing food loss and waste to support the achievement of food security towards a golden Indonesia 2045 (Bappenas - GAIN, 2024)

One of the interventions the roadmap proposes to reduce FLW in Indonesia is food rescue. **Food rescue** enhances food security by redirecting surplus edible food to those in need, reducing the amount of food that ends up as waste. This approach mitigates the environmental impact of waste decomposition, contributing to lower greenhouse gas emissions, and alleviates the economic burden of FLW. GAIN Indonesia has collaborated with the National Food Agency (NFA) to develop initiatives for food rescue. This includes a comprehensive policy study, urgency paper², and legal drafting of a presidential decree to create a robust framework for food rescue and reduce FLW.

GAIN in Indonesia has been actively involved in addressing FLW by supporting the National Development Planning Ministry in developing the **roadmap to reduce FLW by 75%**. GAIN has also supported the development of a goal model to achieve the target reduction of 75% FLW through comprehensive interventions, thereby enhancing food security in Indonesia (Figure 2).

² An "urgency paper" is a term defined in Indonesian law as a mandatory document that must be developed prior to the legal drafting of subordinate policies such as government regulations, presidential decrees, and provincial/district regulations. This document is prepared by a government institution – in this case, the National Food Agency – which proposes the new policy to the President and the Ministry of Law and Human Rights.

Figure 2: Food Loss and Waste historically (2000-2023) and projected (2024-2045) under two scenarios: baseline (business as usual) and comprehensive interventions



Source: Bappenas – GAIN, 2024⁴

Note: 75% reduction by 2045 is from projected baseline FLW levels in that year. This is a 19% reduction from 2023 estimates

This figure shows the significant contribution of food waste to total waste generation in Indonesia highlighting the urgency of addressing this issue to meet the national goal of reducing waste by 30% by 2025⁴.



3 Peta jalan pengelolaan susut dan sisa pangan dalam mendukung pencapaian ketahanan pangan menuju Indonesia emas 2045 <https://lci-indonesia.id/peta-jalan-ssp-2045/>

4 Presidential Regulation number 97/2017 on National Policy and Strategy on Household Waste and Similar Wastes Management.

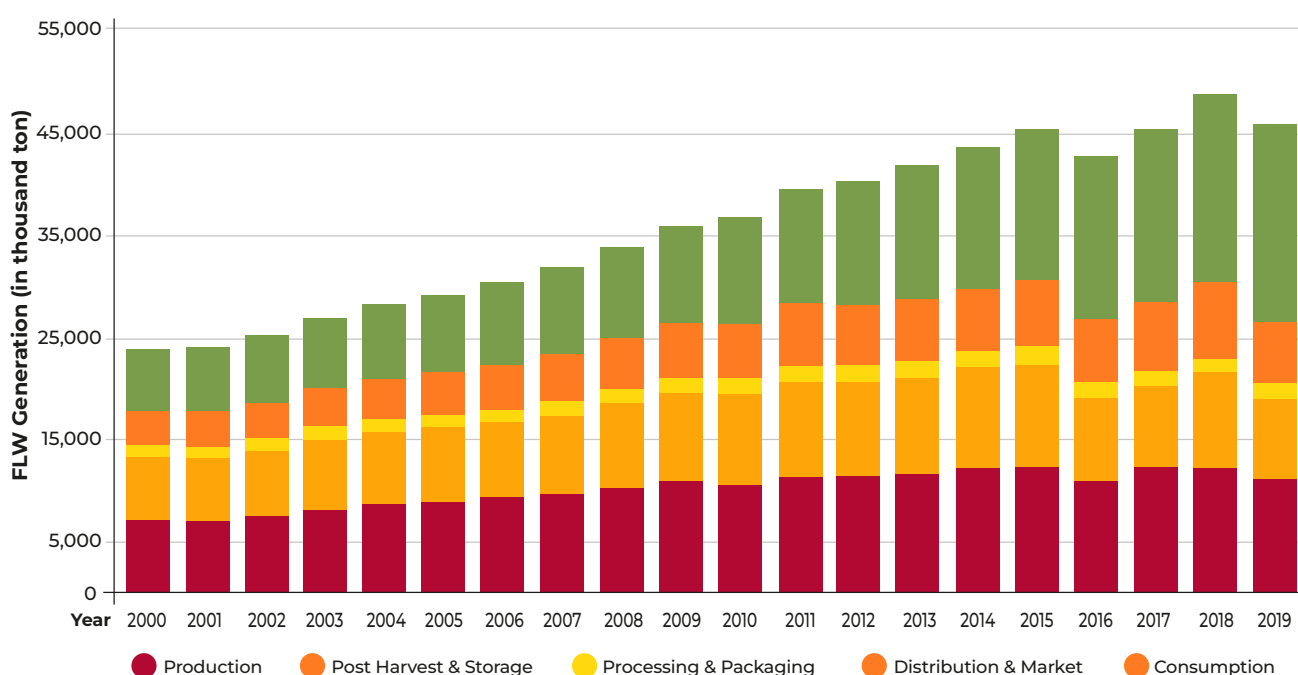
WHAT DOES A COMPREHENSIVE INTERVENTION ENTAIL?

Food loss and waste arise along the supply chain for many reasons – from weather and climate issues, natural disasters and pests and diseases, to issues like damage in transport, inaccurate ‘use-by’ dates, and even consumer lack of planning and awareness.

Figure 3 shows the trends in food loss and waste (FLW) generation from 2000 to 2019, across five distinct stages of the food supply chain: Production, Post-Harvest and Storage, Processing and Packaging, Distribution and Market, and Consumption. Over the last twenty years, FLW grew notably in the Distribution and Market, and Consumption stages. While the proportion of food loss has tended to decline, falling from 61% in 2000 to 45% in 2019, food waste has increased, growing from 39% in 2000 to 55% in 2019. This trend underscores the growing challenge of managing food waste effectively, especially in the later stages of the supply chain.

The roadmap document explains the necessary steps to avoid substantial fractions of preventable FLW, describing several types of policy interventions recommended to address it.

Figure 3: Food Loss and Waste generation in Indonesia across the Food Supply Chain (2000 – 2019)



Source: Bappenas, 2021

It is crucial to strengthen regulatory frameworks with policy entry points across the food system, including tax incentives and legal protections for food donations. Enhancing coordination through a national forum involving various stakeholders will ensure cohesive initiatives. Investing in technology and infrastructure, such as advanced storage solutions and real-time monitoring systems, will reduce spoilage. Increasing public awareness through campaigns and integrating food waste education into school curricula will promote sustainable practices. Implementing incentive systems with tax deductions for waste reduction and penalties for non-compliance will ensure adherence to regulations and promote responsible food management.

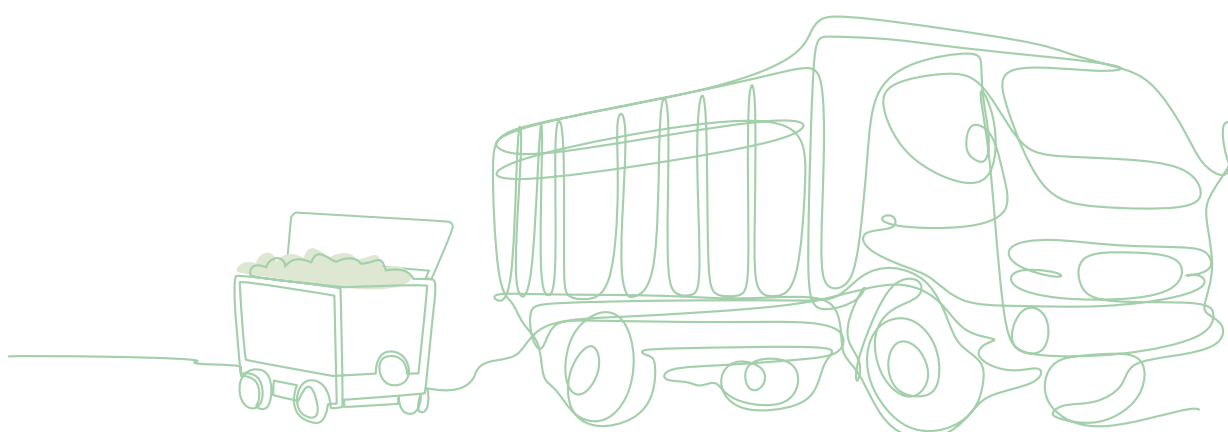
These types of approaches, clustered by degree of intrusion on individual's choices, appear in **Table 1**. Using this full range of approaches is expected to create a sustainable and efficient system for managing FLW, enhancing food security, economic stability, and environmental conservation.

Table 1: Strategic policy recommendations clustered by approach

Type of approach*	Policy recommendations
A Eliminate or restrict choice through laws and regulations	<ul style="list-style-type: none"> • Standards and regulations: Establishment of guidelines for safe food redistribution.
	<ul style="list-style-type: none"> • Regulation forms: Potential legal frameworks, including laws, government regulations, and presidential decrees with regards to food loss or waste.
	<ul style="list-style-type: none"> • Implementation Strategy: Steps to enact and enforce new regulations as set out in Roadmap, involving coordination across multiple sectors and stakeholders.
B Guide choice through incentives, disincentives, and other policy	<ul style="list-style-type: none"> • Incentives and disincentives: Fiscal policies to reward food rescue and penalise waste.
	<ul style="list-style-type: none"> • Technology development: Support for FLW-reducing technologies in food production and distribution.
	<ul style="list-style-type: none"> • Infrastructure support: Provision of facilities for food rescue activities.
	<ul style="list-style-type: none"> • Information systems: Development of a comprehensive platform for tracking food rescue efforts. (Partially C)**
C Enable choice and provide information	<ul style="list-style-type: none"> • Behavior change campaigns: National movements to promote food rescue and minimise waste.
	<ul style="list-style-type: none"> • Reuse and recycling: Encouragement of recycling food waste into productive inputs.
	<ul style="list-style-type: none"> • Capacity building: Training for government officials, industry players, and volunteers, for example on how to support behavior changing activities.

Notes: * The type of approaches follow the broad distinctions set out in the Nuffield intervention ladder; a policy framework commonly used in discussing public health interventions. ** This approach also falls in part under category 'C'

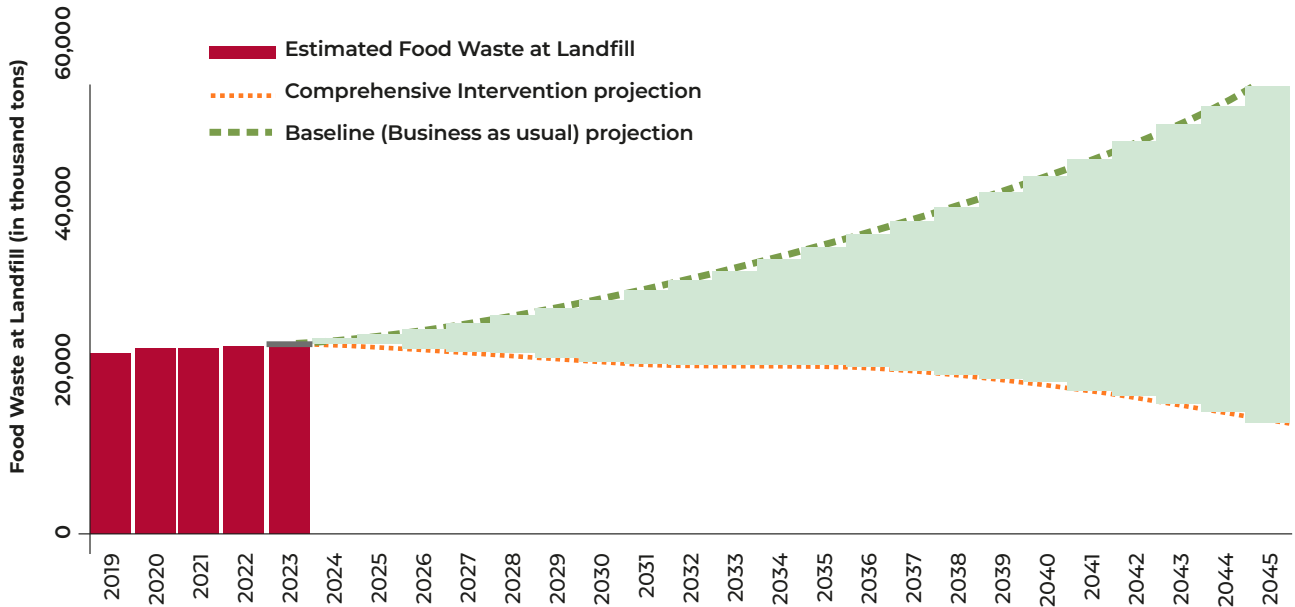
Implementing the clustered recommendations will ensure a multifaceted approach to FLW reduction. This will enhance food security and promote sustainable practices.



PROJECTED IMPACTS ON LANDFILL

Following the roadmap to dramatically reduce FLW by 75% over the next two decades in Indonesia is expected to drive benefits in many areas such as nutrition, food prices, greenhouse gas emissions, and landfill. Figure 4 demonstrates one of these: the accumulated landfill savings expected.

Figure 4: Food Waste at Landfill historically (2019-2023) and projected (2024-2045) under two scenarios: baseline and comprehensive interventions



Source: Bappenas GAIN 2024³

Note: the orange triangle on the right is a projection of landfill savings expected, rising over the period.



It is crucial to strengthen regulatory frameworks with policy entry points across the food system, including tax incentives and legal protections for food donations. Enhancing coordination through a national forum involving various stakeholders will ensure cohesive initiatives. Investing in technology and infrastructure, such as advanced storage solutions and real-time monitoring systems, will reduce spoilage. Increasing public awareness through campaigns and integrating food waste education into school curricula will promote sustainable practices. Implementing incentive systems with tax deductions for waste reduction and penalties for non-compliance will ensure adherence to regulations and promote responsible food management.

CONCLUSION

There are economic, social, health, and environmental benefits of serious reductions in FLW including potential landfill savings. Indonesia has an opportunity to transition from one of the world's largest contributors of global food loss and waste, to a world leader in rapid reduction and prevention. The roadmap to 2045 charts a path. GAIN stands ready to contribute to reduce FLW over the coming crucial decades: to support partners on this important journey, and to be part of the change that helps bring about a more prosperous, low-FLW Indonesia.

The roadmap for managing food loss and waste document is available in the Indonesian language [Link](#). For more information contact Aang Sutrisna info@gainhealth.org

KEY REFERENCES

1. Bappenas 2021. Study Report Food Loss and Waste in Indonesia
2. Bappenas – GAIN 2024. Peta Jalan Pengelolaan Susut Dan Sisa Pangan Dalam Mendukung Pencapaian Ketahanan Pangan Menuju Indonesia Emas 2045
3. NFA -GAIN 2024. Kajian Masalah Susut Dan Sisa Pangan (SSP): Implikasinya Untuk Penyusunan Regulasi Penyelamatan SSP



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