

Food Loss and Waste: A Global Challenge with Critical Implications for Africa and Cameroon

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Introduction

Food loss and waste (FLW) represents one of the most pressing global challenges of our time, undermining food security, economic stability, and environmental sustainability. According to the Food and Agriculture Organization (FAO, 2011, as cited in UNEP, 2021), approximately one-third of all food produced for human consumption, amounting to 1.3 billion metric tons annually is lost or wasted. This staggering inefficiency persists alongside rising global hunger, with 690 million people undernourished in 2019 (FAO, 2020, as cited in UNEP, 2021) and 3 billion unable to afford a healthy diet. The environmental consequences are equally severe: if FLW were a country, it would rank as the third-largest emitter of greenhouse gases, contributing 8–10% of global emissions (UNFCCC, 2024; FAO, 2024b; UNEP, 2021), with methane from decomposition having a far greater heat-trapping potential than carbon dioxide. These losses occur at different stages across supply chains, with over 13% lost globally in the supply chain after harvest but before retail, and another 19% wasted at retail, food service, and household levels (FAO, 2024b; UNEP, 2021).

While FLW is a universal problem, its patterns vary significantly between high-income and low-income regions. In developed economies, waste predominates at the consumption stage, whereas in Africa and Cameroon specifically losses concentrate in post-harvest handling, storage, and transportation (WWF, 2024; UNDP Climate Promise, 2025). This discrepancy underscores the need for region-specific solutions tailored to infrastructural, economic, and cultural contexts.

The Global and Regional Scale of Food Loss and Waste

Globally, the UNEP Food Waste Index Report (2021) estimated that 931 million tonnes of food waste were generated in 2019, with households responsible for 61%, food service for 26%, and retail for 13%. Remarkably, the report highlighted that per capita household food waste generation is broadly similar across country income groups, suggesting that action on food waste is equally relevant in lower-middle income to high-income countries (UNEP, 2021).

Africa's FLW profile diverges sharply from this pattern. The continent loses 22% of its annual food production (FAO, 2023), costing approximately \$92 billion yearly and exacerbating food insecurity for 320 million undernourished people in Sub-Saharan Africa (FAO, 2024). Post-harvest losses for grains range between 20–30%, while perishables such as fruits and vegetables suffer even higher losses up to 40% before reaching markets (Deliverect, 2023). A critical factor is the lack of cold storage, which results in up to 40% spoilage of perishable goods in Africa (GCCA, 2025) and reduces smallholder

incomes by 15% (SEforALL, 2022), with an estimated 526 million tons of food lost globally each year due to inadequate cold chains (SEforALL, 2022).

Cameroon exemplifies these challenges. The Ministry of Agriculture and Rural Development (MINADER, 2024) reports that 30% of maize production is lost post-harvest due to inadequate storage, pests, and poor transportation. Some estimates suggest that up to 40% of maize produced in Cameroon is lost post-harvest or during processing (Ayessaki, as cited in Global Press Journal, 2013). For tomatoes and leafy greens, losses reach 40% in some regions (FAO, 2023), while cassava, a staple crop experiences storage losses as high as 72% for processed products like gari and cassava chips (ResearchGate, n.d.-a). Urban centers such as Yaoundé and Douala see significant fruit waste (40–50%) due to transport damage and lack of refrigeration (Kamda Silapeux et al., 2021). Unlike high-income nations, where consumer waste dominates, Cameroon's FLW occurs primarily "from farm to market," with 78.5% of grain losses attributed to drying and storage inefficiencies (ResearchGate, 2020).

Drivers of Food Loss and Waste in Cameroon

The root causes of FLW in Cameroon reflect broader African trends but are intensified by local constraints. Infrastructural deficits rank among the most severe challenges. Rural farmers often rely on traditional granaries susceptible to pests and mold, while only 20% of Cameroon's rural roads are paved, delaying produce delivery (MINADER, 2024; UNDP Climate Promise, 2025). The absence of cold chains exacerbated by erratic electricity further compounds losses (Concox, 2025). Cameroon is recognized among the high-impact countries with significant per-person food losses due to a lack of cold chain infrastructure (SEforALL, 2022). Furthermore, the lack of appropriate dustbins and kitchen space hinders effective organic waste segregation at the household level (SNIS, 2022).

Fragmented market systems also play a role. Smallholders typically sell produce individually, leading to delays and spoilage. Urbanization has lengthened supply chains, increasing the risk of waste in city markets (Greenly, 2025). Knowledge gaps further aggravate the problem: improper handling techniques, such as rough packaging of tomatoes, accelerate decay (FAO, 2023), while limited awareness of preservation methods results in aflatoxin contamination in maize when not dried properly, posing health risks (Global Press Journal, 2013).

Environmental, Economic, and Social Impacts The ramifications of FLW extend across multiple dimensions. Environmentally, wasted food squanders scarce water and land resources while generating methane, a greenhouse gas with a far greater potential to trap heat than carbon dioxide

(FAO, 2024b). Economically, post-harvest losses slash farmer incomes by up to 15% (SEforALL, 2022) and inflate food prices, worsening poverty for Cameroon's agrarian majority. Socially, FLW deepens malnutrition and food insecurity, particularly among women and children reliant on subsistence farming (World Food Programme, 2024).

Strategies for Mitigation and Policy Recommendations

Addressing FLW demands integrated, context-specific interventions. Infrastructure improvements, such as expanding access to hermetic storage bags, community silos, and solar-powered cold rooms could cut post-harvest losses by up to half for some crops (FAO, 2023). Modern cribs, dry houses, and silos are demonstrably more effective preservation methods for maize than traditional alternatives (Global Press Journal, 2013). Cameroon's National Development Strategy 2020–2030 prioritizes such measures, including road upgrades and incentives for private-sector cold-chain investments (Eurostat, 2024).

Training programs for farmers, particularly women, have proven effective; initiatives teaching appropriate maize storage techniques, like using gas-tight containers and mini silos, have successfully reduced losses in pilot areas (Australia Awards Africa, n.d.). Emphasizing proper harvesting and packaging techniques, as well as nutritional education, is also crucial for reducing fresh fruit waste (Kamda Silapeux et al., 2021).

Policy reforms must align with SDG Target 12.3 (halving FLW by 2030). The World Food Programme's 2022–2026 Country Strategic Plan for Cameroon emphasizes strengthening food systems through improved food market and supply chain efficiency, capacity strengthening for government and partners in food and nutrition, and addressing post-harvest losses (WFP, 2022). Complementary efforts should scale up agro-processing (e.g., community milling for cereals, drying for fruits and vegetables) to convert perishables into products with longer shelf lives, providing new markets and reducing seasonal losses (Deliverect, 2023). Additionally, upgrading municipal markets with better waste management infrastructure and launching public campaigns in urban centers like Douala and Yaoundé can curb emerging consumer-level waste (Greenly, 2025). A significant opportunity lies in scaling investment for organic waste management, especially targeting methane emissions from landfills, which offers immediate health and environmental benefits (CCAC, 2025). This can be supported by promoting the proper segregation of organic waste at the source (SNIS, 2022). Furthermore, integrating e-commerce to connect farmers with markets more efficiently has shown potential in reducing post-harvest losses in rural Cameroon (Walden University, 2025).

Conclusion

Food loss and waste present a paradox of scarcity amid plenty, with disproportionate impacts on Africa and Cameroon. Tackling this challenge requires coordinated action across technology, education, and policy. By prioritizing post-harvest infrastructure, expanding cold chains, empowering smallholders through training, and implementing supportive policies, Cameroon can transform its food systems while contributing to global climate and hunger goals. The time for decisive action is now.

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