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Wasting Opportunity: Addressing Food Loss and Waste to Strengthen Food Security in Mauritius Introduction: An Island of Paradoxes

Mauritius, a small island nation in the Indian Ocean, is known for its stunning beaches, biodiversity, and multicultural identity. Yet beneath this postcard image lies a hidden crisis: the coexistence of food waste and food insecurity. Over 168,000 tonnes of food are wasted annually, enough to feed every Mauritian twice over, while 34% of families report skipping meals due to rising food prices (Foodwise MU, Survey 2022 4; CSO 2023). The country's colonial legacy, uneven development, and tourism-driven economy have produced systemic inefficiencies that result in both environmental degradation and widespread nutritional gaps.

This paper explores the causes and consequences of food loss and waste in Mauritius, particularly for vulnerable families like the Ramphuls. It examines how post-harvest loss, cosmetic rejection, and tourism excesses affect food security, and proposes a culturally grounded, systems-level policy solution to redistribute surplus food and reduce structural waste. Drawing on global case studies and local insights, I argue that Mauritius must adopt a National Food Recovery Act that integrates legal, technological, and educational reforms to ensure equitable access to food and build long-term resilience.

A Family's Fight Against Waste

To grasp the human toll of this crisis, consider the Ramphul family of Quatre Bornes, a suburb of Port Louis. Father Ravi, a taxi driver earning 25,000 Mauritian rupees (\$550) monthly, spends 35% of his income on food (Central Statistics Office 11). Priya, his wife, navigates daily grocery trips with limited resources. She shops at Flacq Market, where overripe bananas and wilted greens are sold at a discount because they are rejected by supermarkets. "I once found a crate of slightly bruised eggplants discarded by a supermarket truck," Priya recalls. "The driver let me take them for free, but most days, I'm bargaining for wilted spinach at half-price" (Foodwise MU, Survey 2022 6).

In the limited space of their home, a small rooftop garden of spinach, basil, and chili peppers supplements their diet, while shelves of canned goods, dried legumes, and spices represent their nutritional lifeline. Priya grows these greens in repurposed containers, a practice she learned from her grandmother during the 1943 famine. Her children, Aarav (12) and Diya (9), rely on subsidized school lunches for balanced meals, though these often exclude fresh produce due to budget constraints. "The lunches are just rice,

lentils, and canned tuna,” Aarav says. “My friends at private schools get fruit and yogurt, but we’re told there’s no money” (UNICEF 17).

However, just two kilometers from their home, the luxury resort La Palmar discards 50 kg of untouched food nightly. Chef Laurent, a hotel employee interviewed by *L’Express* Mauritius in 2023, admits, “We prepare five-star meals for 500 guests but only 400 show up. The rest goes to the dumpster. We’d donate it, but management fears liability lawsuits” (qtd. in García-Herrera et al. 7). This excess food, which could nourish hundreds of families, instead goes straight to waste. Priya practices *gaspillage évité* (avoided waste), a term she learned from her grandmother: leftover rice becomes *farata* (flatbread) for breakfast, tea leaves are dried into cleaning scrubs, and pumpkin peels are pickled with vinegar salvaged from discarded hotel mini-bottles. “My grandmother survived the 1943 famine by eating cassava peels,” Priya explains. “She taught me that every scrap has value.” Her ingenuity highlights a grassroots resilience that, if scaled, could transform Mauritius’ food system. But systemic barriers persist. A 2022 survey by Foodwise MU found that 78% of Mauritian households want to reduce waste but lack access to composting facilities or preservation tools.

Farm to Trash

The island’s agricultural sector remains deeply affected by the colonial legacy. Poor infrastructure means that smallholder farmers, who produce 30% of the island’s vegetables (AMB 14), lose up to 40% of their harvests due to inadequate cold storage facilities and potholed rural roads. Jean-Luc Bhojoo, a tomato farmer in Plaine Sophie, transports his crops in open trucks under the blistering sun. “Last harvest season, I lost 500 kg of tomatoes to a truck breakdown,” he said, highlighting the \$12 million in annual post-harvest losses (AMB 14).

These losses are not due to farmer negligence, but a structural lack of incentives. The Ministry of Agro-Industry’s 2021 report notes that 62% of smallholder farms operate without access to refrigerated storage, and the private sector hesitates to invest in these regions due to low projected returns. Building solar-powered ColdHubs in these regions, funded by EU Circular Economy grants, could reduce spoilage while improving rural incomes. Pairing this with mobile produce-pickup cooperatives, similar to Brazil’s CEASA model, would reduce the burden on farmers like Jean-Luc and integrate them into a more efficient food distribution pipeline.

This is not an isolated incident but a symptom of broader systemic inefficiencies. The Mauritian government’s 2020 Infrastructure Report Card gave rural roads a ‘D’ grade, noting that 45% are unpaved and prone to flooding during cyclones (Circular Economy Roadmap 28). Colonialism’s impact extends beyond Mauritius’s devastating sugar cane-dominant agriculture, seeping into modern-day practices that waste food.

Supermarkets, adhering to rigid European cosmetic standards, further exacerbate this problem by rejecting local produce that does not meet specific size or appearance criteria. A 2023 audit by Foodwise MU revealed that 18% of locally grown produce, about 12 tonnes weekly, is rejected for minor blemishes (Audit 2023 5). This rejection rate alone could provide enough food for 28,000 meals. “We once had a supermarket refuse a shipment of carrots because they were ‘too curved,’” says farmer Anika Rughoonundun. “They ended up rotting in my field.” The consequences of these practices are

far-reaching: while smallholder farmers lose income, the environment bears the weight of these inefficiencies, and the community suffers from hunger and undernutrition. Middle-class households, influenced by French hypermarket culture, waste 8.5 kg of food monthly, discarding leftovers or overripe fruits in a society where “freshness” is conflated with perfection. A 2023 study in the *Journal of Mauritian Consumer Behavior* found that 65% of respondents equate “ugly” produce with poor quality, even when nutritionally identical.

Environmental and Health Impacts

All this takes a staggering environmental toll as well. Rotting food generates 9% of Mauritius’ methane emissions, equivalent to 50,000 cars on the road yearly (Climate Watch, 2023). Even with these troubling statistics, the lack of a centralized waste management or food recovery system means that much of the discarded food ends up in landfills, further contributing to the island’s environmental degradation. The Mare-Chicose landfill, the island’s only waste disposal site, is projected to reach capacity by 2025, yet no alternatives have been proposed. Meanwhile, economic disparities deepen the crisis. Food inflation hit 19% in 2023, forcing 34% of families to skip meals, according to the Central Statistics Office. The gap between the rich and poor widens as processed, nutrient-deficient foods, cheap imports like Maggi noodles, become more accessible, while fresh, healthy foods remain out of reach for many.

A paradox emerges: while one in five Mauritian children suffer from obesity due to cheap processed foods, one in eight experience stunting due to nutrient-deficient diets, as shown in UNICEF’s 2023 report. Dr. Leela Patel, a pediatrician at Port Louis General Hospital, notes, “I treat obese children with vitamin deficiencies daily, a tragic irony of our food system.” This dual burden of malnutrition reflects the failure of the food system to provide equitable access to nutritious food.

What’s Working Abroad and at Home

Addressing this crisis demands a blend of policy innovation, technological adaptation, and cultural shifts. France’s 2016 *Loi Garot*, which mandates supermarkets larger than 400m² to donate unsold food, offers a proven blueprint. Since its enactment, retail waste in France fell by 46% (OECD 22), and over 10 million meals are redistributed annually. In 2022, the French government expanded the law to include penalties for non-compliance, fining retailers €3,750 per violation. Mauritius could adopt similar legislation, pairing tax incentives (200% deductions for donations) with fines for non-compliance (OECD 25). A National Food Redistribution Network, managed by NGOs like Foodwise MU, could partner with resorts, hotels, and retailers to redirect surplus food to schools and low-income communities.

This model has already shown promise. The Maritim Resort in Balaclava has begun repurposing dhol puri scraps into animal feed, showing how a circular economy model can be applied to reduce food waste while benefiting local communities. By collaborating with local pig farmers, the resort now diverts 1.2 tonnes of food waste monthly, reducing landfill contributions by 15%.

Technology also plays a role. Nigeria’s ColdHubs, solar-powered storage units that cost 3,000 ₦ each, extend the shelf life of vegetables by 21 days. Piloting these units in Mauritian villages like Plaine Sophie—at a cost of \$3,000 per Cold Hub, funded by the EU’s pledge of €10 million for circular

economy projects—could reduce post-harvest losses by up to \$303.6 million annually. Japan’s Shokuiku (food education) program, which reduced student food waste by 60%, could be integrated into Mauritius’ Nine-Year Schooling curriculum. Students could be taught to plan meals, preserve seasonal produce, and compost scraps, creating a culture of sustainability from a young age. In South Korea, mandatory food waste separation in schools cut cafeteria waste by 30% in one academic year.

While Mauritius differs in scale and infrastructure from countries like South Korea or France, it shares key similarities with other small island states like Fiji and Barbados, which have piloted successful community composting programs through public-private partnerships. Language and literacy barriers could be addressed through visual-based training tools and community workshops led in Creole. Partnering with Foodwise MU and the Mauritius Institute of Education could make food literacy scalable, culturally rooted, and aligned with national curriculum reform.

A National Food Recovery Act

To turn these ideas into reality, Mauritius should enact a National Food Recovery Act (NFRA) by 2025, a comprehensive policy that makes food recovery a legal, technological, and cultural priority. The NFRA would require all businesses with more than 50 employees to conduct bi-annual food waste audits, ensuring accountability through data. Supermarkets, hotels, and restaurants would be legally obligated to donate surplus edible food to registered NGOs like Foodwise MU, with clear liability protections modeled after the U.S. Good Samaritan Act to ease fears of lawsuits. A tax incentive program offering 200% deductions on food donations would offset the costs for businesses, while penalties for non-compliance would reinforce participation.

To ensure successful implementation, the NFRA must include training programs for smallholder farmers and hotel kitchen staff on food safety, donation standards, and cold chain management. The act would fund the development of a national food redistribution app, adapted from Uruguay’s Yo No Desperdicio, customized in Creole and integrated with Mauritius’ 200+ food banks. It would also establish “Zero-Waste Corridors” across rural regions, combining solar ColdHubs, shared kitchens for repurposing surplus into shelf-stable goods, and training centers to teach farmers post-harvest handling. An oversight board, composed of NGO leaders, government officials, and community reps, would evaluate progress bi-annually and recommend adjustments. Hotels could be awarded Green Stars for cutting waste by 50%, with rankings linked to TripAdvisor to incentivize tourism sector compliance. This multi-pronged strategy ties together infrastructure, legislation, and public culture to systematically reduce waste, redistribute food, and build a more equitable and resilient food system across Mauritius.

A Future Built on Sharing

The Ramphuls’ story need not define Mauritius’ future. By valuing what it already has, the island can turn waste into wealth. Imagine Aarav plucking a sun-ripened mango from a community garden nourished by compost from hotel kitchens, or Diya’s school serving lunches made from “imperfect” vegetables rescued from supermarket bins.

In Brazil, the city of Belo Horizonte reduced food insecurity by 60% through similar community gardens and school partnerships. If even 50% of Mauritius' food waste were redirected, it could provide over 84 million meals annually, enough to feed every schoolchild lunch for three years. Environmentally, halving food loss could reduce national methane emissions by 4.5%, extend the life of Mare-Chicose landfill by a decade, and shrink dependency on costly food imports.

As Nobel laureate Amartya Sen reminds us, "Food security is not a question of producing more, but of sharing better."

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