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Food Loss and Waste: Building an Evidence-Based Business Case for SMEs

The private sector plays an important role in reducing food loss and waste (FLW) because private companies are involved in all stages of the supply chain that generate food loss and waste. While larger food companies may have significant resources dedicated to make their supply chain more efficient and reduce waste, small and medium enterprises (SMEs) have received relatively little attention despite the critical role they play in the food system. Therefore, it is important to understand the costs and benefits of addressing food loss among SMEs. Unfortunately, very little data exists on this topic. As a first step in developing cost-effective FLW reduction, the USAID Feed the Future Business Drivers for Food Safety (BD4FS) project helps growing food SMEs measure the amount and value of the lost food.

Defining Food Loss and Waste for Businesses

Food loss refers to food that does not reach the consumer but is lost during handling, transport, storage, and processing. Post-farm gate food loss is indicative of inefficiencies in the value chain and stems from a variety of causes that also portend food safety concerns, including inappropriate food handling and packing, inadequate temperature control, poor hygiene, and physical and chemical contamination. Different value chains have varying rates of food loss, with fresh fruits, vegetables, and dairy value chains experiencing high losses that are costly. Food loss represents not only a financial loss to the SMEs but also a nutrient loss to society, especially lower-income consumers who are in most need.

What doesn't get measured doesn't get acted upon: FLW in low- and middle-income countries

In the developing world, most SMEs do not measure food loss and awareness of the costs of FLW remains low. Food unfit for human consumption is often repurposed for animal feed compost in order to generate revenue, albeit at a reduced rate. Currently, few SMEs have the analytical capability to calculate the revenue reduction that results from partial food loss.

Studies calculate a potential return on investment of \$14 to \$1 on reducing food loss at the business level; however, awareness of the economic costs of food loss among SMEs may be weak, especially if it is not measured or tracked. To address this, BD4FS – with assistance from the Post-Harvest Education Foundation (PEF) — developed food loss measurement protocols for SMEs to track food loss. Senegal was the first test case for the measurement protocols in the dairy value chain. Apart from one company, SMEs were not tracking food loss. Any significant milk loss within the would put the company at a price disadvantage compared to imported dairy products. Most participating SMEs first reported that they had no food loss and were surprised when the protocols captured the amount of food loss and calculated its economic value.

The key to reducing food loss at the business level is seemingly straightforward: change food handling practices (transport, packaging, storage, temperature control, processing, etc.). However, changing food handling practices is not cost-free, either in labor requirements or equipment and packaging needs. If new equipment is required, it can be a significant barrier to a small business with limited access to capital.

So, what are the trade-offs between costs and benefits growing food business must consider when adopting practices to reduce food loss? To be motivated to change food handling processes, SMEs need to see that the increase in revenue significantly exceeds the adoption cost of new handling practices. That threshold level needs to be documented in different settings and most likely varies according to business type and value chain.



A small vegetable retailer in Nepal is a partnering GFB of BD4FS, focusing on strengthening the food safety throughout the supply chain. Photo Credit : Bhumika Kalakheti



Through partnering with BD4FS, Gourméa has built its capacity to produce food products of high quality and safety, in alignment with the company's business objectives. Photo Credit : Astou Diop

The first step to demonstrating the cost of not reducing food loss to the company's bottom line is through accurate measurement of the current rates of food loss and the impact on revenue. When presented with financial tradeoffs, SMEs will more likely be motivated to consider ways to reduce food loss. This is why promoted food handling practices will need to be affordable, relatively easy to implement, and sustainable; for example, access to cleaning supplies, consistent electricity, and safe water must be available.

Food SMEs often operate on thin margins and on average most fail within 5 years. Yet they represent a significant source of livelihood for many households and provide vital services to retail consumers, especially those with more limited purchasing power. Food loss represents both revenue loss to businesses and nutrient losses to consumers. Reducing food loss bolsters the bottom line for SMEs and increases their chances of business success.

What is the best way forward?

BD4FS continues to explore effective ways to raise awareness and incentivize growing food businesses to reduce food loss. Specific actions include:

- Refinement of affordable and convenient practices and measurement protocols to increase uptake. Identify and promote the principal food handling practices that are economically viable for SMEs and that effectively reduce food loss.
- Digitization is the future of food safety. Digital apps that track implementation impacts on the amount and value of food loss will improve efforts.
- Build the evidence base of the practices and measurement protocols that are most effective in a variety of operating environments.
- Create a business community dedicated to reducing food loss through information sharing and effective communication.

Ultimately, reducing food loss must make business sense. Measurement is the critical first step, followed by adopting cost-effective food handling practices. BD4FS welcomes other practitioners to join the effort to make the business case for reducing food in safer ways with clear evidence.



BD4FS senior food safety specialist, Dr. Babacar Séne, interacted with GFBs associated with Faral Djiguene to verify the good hygiene practices and handling processes. Photo Credit : Dr. Babacar Séne

Authors: Thoric Cederström and Misha Voronenko, Business Drivers for Food Safety, Food Enterprise Solutions

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