



Surplus Food Recovery and Redistribution

Strengthening competitiveness through circularity



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Purpose

A circular economy keeps products, components, and materials at their highest use / value at all times. This includes biological nutrients. This case study is written to demonstrate how circularity is a useful lens in which to navigate building resilience in the food supply chain, a sector synonymous with loss and wastage. Food rescue is one of many circularity tools that the food and beverage sector can use to alleviate pressures on the overall system. Not only is food rescue a societal obligation and an environmental imperative, it also makes business sense. Food rescue can reduce liabilities and strengthen competitiveness, which in turn contributes to building corporate and city resilience.

However, a trusted intermediary is needed to coordinate food rescue, safely, reliably and at scale. Food Forward SA has fulfilled this role with proven impact in South Africa's food supply chain. Through its array of food recovery initiatives, FoodForward SA connects a world of surplus to a world of need in a safe and cost-effective manner. The Public Benefit Organisation (PBO) has leveraged its Section 18A status to provide food producers, brand owners and retailers an avenue to strengthen corporate social responsibility (CSR), reduce financial liability, reduce disposal overheads, and avoiding future disposal liabilities, most notably in the Western Cape.

What is resilience?

In human terms, resilience refers to "the ability of an individual to recover from setbacks, adapt well to change and to keep going even when facing difficult circumstances". A resilient Cape Town is a compassionate, connected, and capable city, where Capetonians collaborate across households, communities and institutions, to build collective responses to the current and future social, environmental and economic challenges.

For more information or to sign up as partner, contact FoodForward SA via email info@foodforwardsa.org or telephone 021 531 5670. Special thanks to Andy Du Plessis and Anthony Fisher of FoodForward SA for the information provided.

The case study discusses:

- Diverting surplus food from landfills
- Strengthening brand competitiveness
- Reducing financial liabilities
- Reducing disposal liabilities
- Strengthening Corporate Social Responsibility

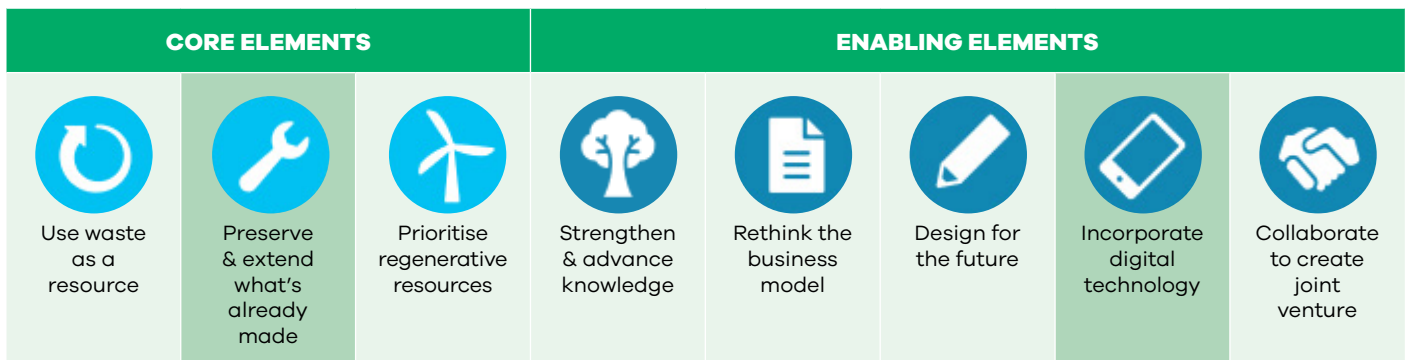
It is written for:

- Cities / regions looking at how a circular economy model can strengthen food security and supply chain resilience.
- Businesses along the food supply chain that dispose of food fit for human consumption but is never consumed for whatever reason.

KEY INSIGHTS

- ✓ Circularity is a useful lens in which to navigate building resilience in the food supply chain, a sector synonymous with loss and wastage.
- ✓ Participation in food surplus donation programs provide benefits for players across the value chain. In addition to increasing competitiveness and efficiency, stakeholders can decrease liability.
- ✓ Not only is food rescue a societal obligation and an environmental imperative, it also makes business sense. Food rescue can reduce liabilities and strengthen competitiveness, which in turn contributes to building resilience.
- ✓ A trusted intermediary is needed to coordinate food rescue, safely, reliably and at scale.

Circular Economy Elements



Source: www.circle-economy.com/circular-economy/key-elements



Background

From farm to fork, food generation is a resource intensive process. According to WWF, 62% of South Africa's water is used for irrigation. Energy is required at all stages of the value chain, for example: to transport food and water, on manufacturing and processing facilities and for food storage. Food waste is not only inefficient but detrimental to sustainable development. Taking into account the resource intensity of food production, it is vital that food be utilised for its intended purpose rather than wasted.

International perspective

According to the United Nations Environment Programme (2021)¹, one-third of the food produced in the world for human consumption every year – approximately 1.3 billion tonnes – gets lost or wasted. Food losses and wastage equate to a monetary value of about US \$680 billion in developed countries and US \$310 billion in developing countries. The loss of food produced for human consumption

occurs worldwide, however there are stark differences in the stage of the value chain that majority of the loss occurs in developed and developing countries. In developing economies, food waste occurs at the early stages of the food value chain. This can be attributed to technical and financial constraints during harvesting; as well as, a lack of storage and weak cold chains. In contrast, in more developed economies, food is wasted at later stages of the value chain with much of the wastage taking place at the consumer level.

National perspective

South Africa produced and imported ~37.5 million tonnes of food for human consumption in 2012, of which ~10.2 million tonnes (27.2%) was not consumed but wasted and landfilled².

The estimated cost of this wastage, both financial and the externalities, was estimated at R75 billion per annum which equated to 2.2% of South Africa's GDP at the time³.

This is in a country where in the period, September to December 2020, 9.34 million people in South Africa (16% of the population) faced high levels of acute food insecurity. Currently, the key drivers for food insecurity are COVID-19, economic decline, unemployment, rising food prices and drought⁵.

This extent of wasted food along the value chain aligns well with international concerns. However, South Africa's distribution of this wastage differs to other countries. Figure 1 illustrates how evenly distributed food wastage takes place prior to the consumer.

This implies that growers, handlers and manufacturers of food have a clear role to play in diverting food from landfills and redirecting it to humans. This role is not only an economic imperative, but a socially responsible one too.

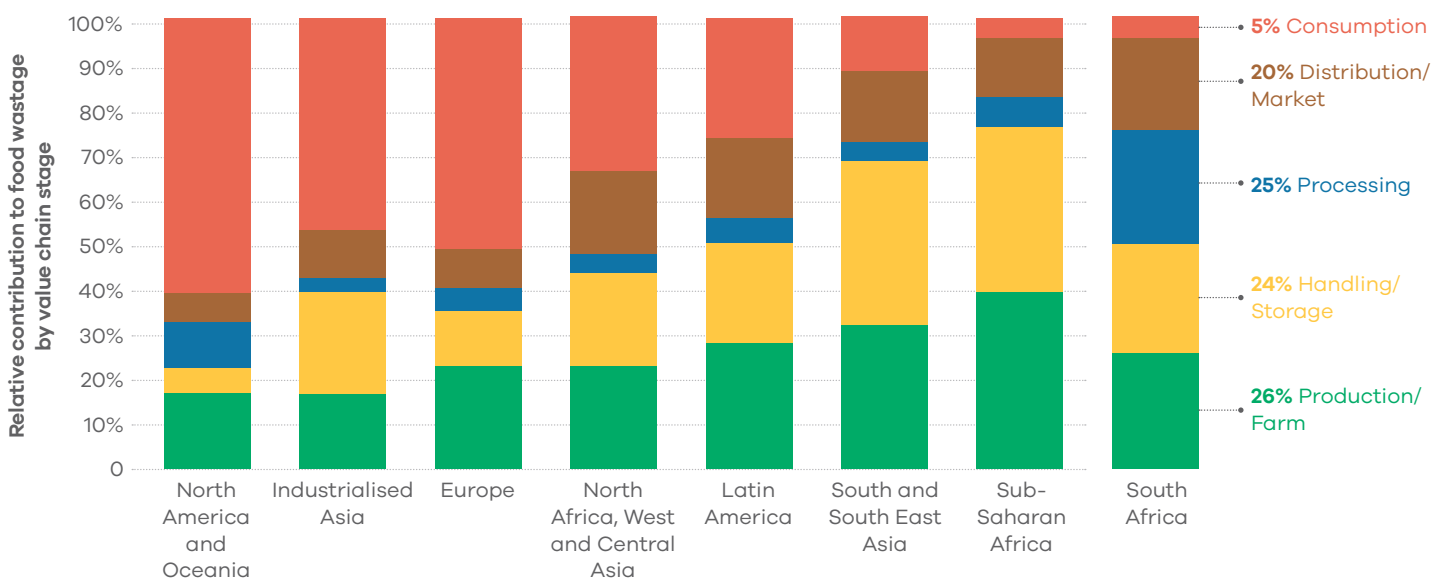


Figure 1: Worlds food loss / waste by value chain⁴

¹ United Nations Environment Programme (2021). Food Waste Index Report 2021. Nairobi.

² Nahman & de Lange (2013)

³ de Lange & Nahman (2015)

⁴ Reproduced from Lipinski et al. (2013) and Nahman and De Lange (2013)

⁵ https://reliefweb.int/sites/reliefweb.int/files/resources/IPC_South_Africa_AcuteFoodInsec_2020Nov2021Mar_Report.pdf

Drivers for change

With the introduction of food loss and waste commitments by brands, rising cost of service delivery, and regulations being imposed across municipalities and its constituents, food loss and waste are becoming greater liabilities to supply chains. As such, landfill diversion and food redistribution is key to achieving a competitive and sustainable food supply chain. There are several factors driving change in Cape Town, including:

Landfill Costs: Cape Town's municipal landfill gate fees are the highest in the country at R533 (excl. 15% VAT) for general waste 2020/21. The above is expected to increase and as a result the mismanagement and disposal of food would lead to high waste management overheads and weaken business competitiveness.

Organic Waste Landfill Restrictions: The Western Cape's provincial waste authorities and the Department of Environmental Affairs and Development Planning, have implemented an organic waste landfill diversion plan. This aims to divert 50% of organic waste from landfill by 2022, and 100% by 2027.

Simply, businesses and municipalities will not be able to landfill organic waste, including surplus food, food waste and food related residues.

Consumer Awareness: Consumers are eager to know where their products come from, and where they are going and where they are lost. Poor waste management practices and stock control can lead to a tainted corporate image and thus alienate brands from its consumers.

Corporate Social Responsibility: Corporate Social Responsibility is a broad term that maintains that businesses are members of the society to which they operate in and are thus accountable to society for their actions. Companies that recognise this seek ways to ensure they conduct themselves ethically and responsibly. This includes considering and mitigating the negative impacts of their operations on society, the environment, and the economy. Brands have recognised food loss and waste as a liability to corporate social responsibility.

Voluntary Commitments: A number of South Africa's food manufacturers, brand owners, and retailers have committed to reducing food loss and waste. This has been through internal commitments to shareholders; as well as external voluntary agreements. The South African Food Loss and Waste Voluntary Agreement (SAFLWVA) commits signatories to the United Nation's SDG 12.3. This being to reduce food loss and waste by 50% by 2030.

Pick n Pay has taken one step further by not only committing its own operations to SDG 12.3 but has also committed to supporting its supply chain to do the same. Through the 10x20x30 initiative, Pick n Pay has committed to support its 20 priority suppliers to reduce food loss and waste by 50% by 2030.

Climate Change: Many brands are recognising the impact of their food supply chains on climate change. The diversion of food from landfills is a key tool to reducing impact of supply chains on climate change. [Project Drawdown](#) is a non-profit organisation that seeks to facilitate "drawdown", a point in time when greenhouse gases (GHG) emissions in the atmosphere stop climbing and start to decline. As such, the reduction of food waste is ranked as having the greatest impact on meeting draw down.

A large proportion of wasted food is edible and fit for human consumption. The above drivers are making it more difficult to dispose of surplus food, food waste and food related residues to landfill. This means alternative solutions are required. One of these solutions is through surplus food rescue and redistribution.



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Solution

Food recovery is one of many solutions available to the food value chain that ensures food does not end up in landfills⁶ whilst at the same time facilitating a public good. However, there are risks and barriers to food rescue.

FoodForward SA has been able to overcome many of these risks and barriers through its highly effective foodbanking model. The registered Public Benefit Organisation (PBO)⁷ is South Africa's largest surplus food redistribution organisation. Since its establishment in 2009, FoodForward SA has cemented itself as a trusted intermediary to legally and responsibly redistribute surplus food to those in need of a safe, reliable and cost effective way that does not harm donor reputation or human health.

FoodForward SA has been able to connect a world of surplus to a world of scarcity. In 2020/2021 alone, FoodForward SA directed ~7215 tonnes of surplus food to 1 005 beneficiary organisations throughout South Africa. This has resulted in the distribution of 29 million meals throughout the year and supporting ~475 000 beneficiaries each day.

Food rescue and redistribution is done in two broad ways: The first is via a traditional model that relies on physical assets such as warehousing, labour, and vehicles to source, collect, sort, store and distribute surplus food. The second way embraces the digital revolution and employs foodbanking via its own digital platform called FoodShare. This virtual platform connects beneficiary organisations directly to retail stores and food outlets.

Of the beneficiary organisations supported, ~75% focus on education, vulnerable children, youth skills development and women's empowerment. Thus, the food does not only tackle hunger, but enhances its impact through direct grocery savings to education, infrastructure, operations.

Secondly, much of the food donated is of a high quality, and consists of a wide variety including cereals, grains, fresh fruit and vegetables. Of the ~7,215 tonnes of food donated in 2020, ~80% of the food distributed is nutritious food.



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FoodForward SA helps build resilience in Cape Town, in the following ways:

Broaden Access and Participation through Shared Resources:

Collaborations between private entities and organisations such as FoodForward SA enable the redistribution of unused resources. This can build long-term resilience through the sharing and management of a common resource that enables collaboration on different scales with stakeholders to build a culture of stewardship and co-responsibility. There are benefits for both partners and this data should be shared to encourage other businesses to acknowledge and contribute to their societal responsibility.

Encouraged Learning and Skills Transfer:

The establishment of closed loop systems requires continuous and adaptive learning. Through the creation of jobs and youth internships, FoodForward SA contributes to the skills development of the community. The utilisation of supply chain and data tracking models allows for the development of essential and transferable skills in employees.

Addressing Prioritised Shocks and Stresses:

In a period of financial and economic crises, food redistribution networks are essential to alleviate pertinent stresses such as food insecurity and poverty and inequality. FoodForward SA also address the climate change stress through the diversion of surplus organic matter from landfill.

⁶ www.green-cape.co.za/assets/URBAN_FOOD_WASTE_INDUSTRY_BRIEF_WEB.pdf

⁷ www.sars.gov.za/ClientSegments/Businesses/TEO/Pages/default.aspx

Enablers

FoodForward SA has been able to overcome many of the risks and barriers associated with food banking through a number of targeted and deliberate initiatives, including but not limited to:

Global FoodBanking Network:

FoodForward SA is Africa's only certified member of the Global FoodBanking Network. This certification assures financial donors and food donors that FoodForward SA adheres to a number of rigorous legal, financial, and operational protocols.

National Footprint: FoodForward SA's footprint reach extends to six of South Africa's nine provinces: Gauteng, Kwa-Zulu Natal, Eastern Cape, North West, the Free State and the Western Cape. This is convenient for large food donors who are looking for one reliable, convenient and proven model to leverage.

Strong Governance Structure:

FoodForward SA governing structures are made up of an experienced board of directors⁸. These members and directors are trusted individuals who are respected by industry. A strong governance structure ensures success and growth while retaining funder/donor confidence.

Effective Reporting: FoodForward SA has an established transparent reporting system and protocol. This allows FoodForward SA to provide specific figures demonstrating measurable impact to its food and financial donors who subsequently use these to report CSR impact to their shareholders.

Donor Tax Incentives: As a registered PBO, FoodForward SA is able to issue Section 18A tax certificates to donors. This includes not just monetary donation but also surplus food donations. As a result, these donations are tax deductible, thus making rescue more attractive.

Vetted Beneficiary Organisations: To ensure that beneficiary organisations distribute surplus food to those that actually need it rather than being sold back into the market, FoodForward SA relies on a strong vetting and auditing protocol. There is a meticulous on-boarding process, and all their Beneficiary Organisations (BOs) receive 3 unannounced visits each year.

Safety Assurance: FoodForward SA has a rigorous food donation policy that stipulates the type of foods that are accepted as donations. In general, food donations must be good for human consumption, and not passed the "Use by" date. Foods past their 'Best Before' or 'Sell By' dates may be accepted.

Inventory Control and Product

Traceability: FoodForward SA has a strong supply chain and inventory control system. Through its physical and virtual operations, FoodForward SA is able to provide real-time inventory tracking.

Cold Chain: FoodForward SA has an effective cold chain that includes refrigerated trucks, cold rooms, and fridges/freezers at its warehouses. This ensures food, especially perishable food, stays cold and does not spoil before reaching beneficiary organisations.

Value-Added Processing: FoodForward SA extends the usable life of donations. Through its partnerships with manufacturers, shelf-stable products such as jams and sauces are produced from excess organic produce. This adds variety to the food basket and allows for the product to be preserved prior to expiry.

Virtual Platform: Through its FoodShare virtual platform FoodForward SA is able to connect beneficiary organisations directly to retail stores and food outlets. This scales FoodForward SA's distribution capacity without investing in costly infrastructure such as warehousing or vehicles.

Impact – Cape Town 2020/21

Participation in food surplus donation programs provide benefits for players across the value chain. In addition to increasing competitiveness and efficiency, stakeholders can decrease liability. FoodForward SA's impact on Cape Town's economy has been immense and plays a vital role in ensuring an efficient, caring and resilient city. Below is this impact of FoodForward SA in 2020/21.

Food Security: FoodForward SA recovered and redistributed ~2 148 tonnes of surplus food to 203 Cape Town based beneficiary organisations. Of this, ~80% was nutritious food and 75% of recipient beneficiary organisations focus on education, skills development, youth and woman. This resulted in 91 350 beneficiaries served through FoodForward SA's daily network. For every kg of food donated, R117 worth of food value was created, as the beneficiary organisations were able to serve more meals.

Job Creation: FoodForward SA's Cape Town operation directly employ 30 people. Further to this, FoodForward SA also runs a supply chain internship programme that upskills youth in supply chain management through a SETA-accredited program.

Reduced GHG Emissions: For every tonne of surplus food rescued from degradation at landfills, an estimated four tonnes of greenhouse gasses (GHG) emissions are saved. With ~2 148 tonnes rescued from Cape Town donors, this equates to ~8 592 tonnes of GHG's saved for Cape Town.

⁸ www.FoodForward SA.org/governance/

Landfill Airspace: A total of ~2 148 tonnes of surplus food were rescued from landfill. At a density of between 130 – 500 kg/m³, FoodForward SA has secured 4296 – 16 523m³ airspace for problematic waste streams.

Value Retention: The estimated retail value of the ~2 148 tonnes of surplus food rescued for redistributed in Cape Town was ~R45.0 million.

Waste Disposal Savings: Donors would normally have to pay waste management companies to dispose of surplus food. It is likely that this would have been landfilled. Based on available Cape Town's landfill gate fees, FoodForward SA saves Cape Town based donors between R973 151 and R1 187 844 (excl. 15% VAT) in landfill gate fees alone. This excludes the skip rental and replacement, transport, and admin fees associated with traditional waste management.

Reduced tax liability: FoodForward SA's PBO status allow donors to apply for tax deductions. Through this, FoodForward SA has not only saved its donors waste disposal costs but has also resulted in Cape Town donors recovering a total of R3.2 million in tax rebates and its South African donors R20.9 million.

Future disposal liability: The Western Cape's government has implemented an organic waste diversion plan to divert 50% of organic waste from landfill by 2022, and 100% by 2027. This requires Western Cape based landfills to reject organic waste from entering.

Strengthen CSR: The impact of donations are quantifiable and contribute to corporate social responsibility initiatives of businesses. In Cape Town, more than 80% of the food distributed was nutritious and more than 75% of the beneficiary organisations focus on education, skills development, youth and women.

This enables businesses to directly contribute to the growth of young children and adults while enabling learning and developmental activities.

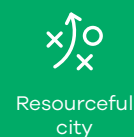
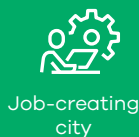
Catalyst for Social Change: Through the redistribution of nutritious food, FoodForward SA's foodbanking model enables cognitive performance and learning opportunities for children, motivates patients with HIV/AIDS and TB to take their medication more regularly, which results in enhanced efficacy of their medication, encourages high school learners to attend after-school programmes and incentivise youth to attend skills development programmes, resulting in improved employability for the youth.

IN THE CONTEXT OF CAPE TOWN'S RESILIENCE STRATEGY, THIS ENTERPRISE & INVESTMENT CASE STUDY ADDRESSES

Stresses / Shocks



Qualities of a resilient city



RESILIENT CAPE TOWN PILLARS

PILLAR 1:
People
Compassionate,
holistically healthy city

PILLAR 2:
Place & Space
Connected, climate
adaptive city

PILLAR 3:
Economy
Capable, job
creating city

PILLAR 4:
Disaster readiness
Collectively,
shock-ready city

PILLAR 5:
Governance
Collaborative,
forward-looking city

PILLAR 3

Cape Town is a capable, job-creating City

VISION

Capetonians turn the challenges of resource constraints and rapid technological change into new opportunities.

GOAL 3.1
Foster green
economic growth

GOAL 3.2
Enable enterprise
development in the
informal economy

GOAL 3.3
Connect the
workforce with a
changing economy

GOAL 3.4
Collaborate with
businesses to achieve a
resilient local economy

PILLAR 4

Cape Town is a collectively, shock-ready city

VISION

Capetonians prepare for, respond to, and recover from disasters while building back stronger and more resilient.

GOAL 4.1
Future-proof
urban systems

GOAL 4.2
Strengthen individual,
household and
community resilience

GOAL 4.3
Encourage responsible
investment in household
and business resilience

GOAL 4.4
Explore funding
mechanisms for
shock events

WHAT IS THE GREEN ECONOMY?

The working definition for the green economy as it relates to Cape Town is: "expanded economic opportunities created through the provision of goods and services and the use of production processes that are more resource-efficient, enhance environmental resilience, optimise the use of natural assets and promote social inclusivity."

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