



DRAFT STATUS QUO OF FOOD WASTE AND LOSS ACROSS THE SOUTH AFRICAN VALUE CHAIN

FOR THE INDUSTRY WASTE MANAGEMENT FORUM (DFFE-IWMF)



forestry, fisheries
& the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA



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Overview

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Project Background

2

Inventory of Food Supply

3

Legal Background

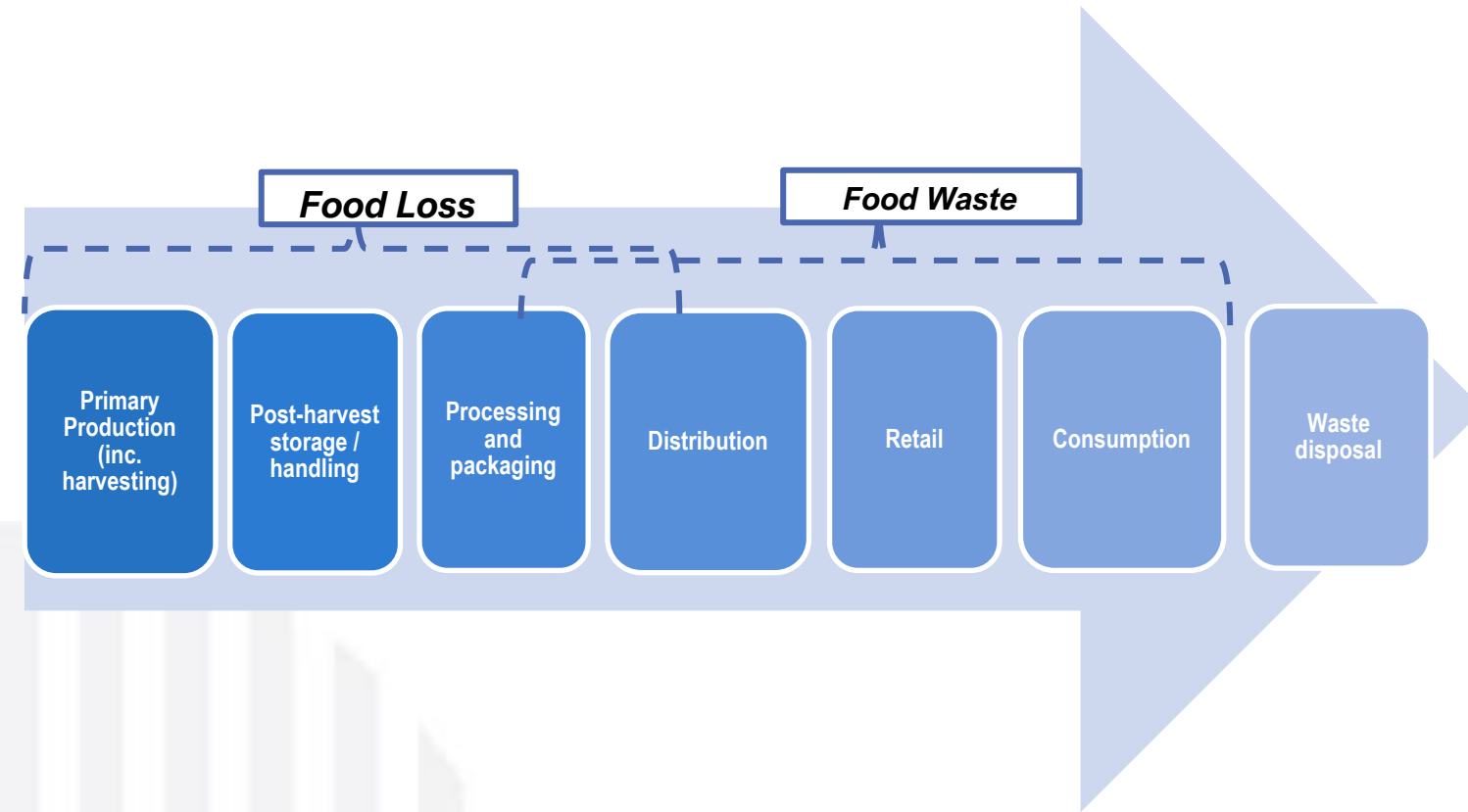
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Behavioural Issues (Industry and Household)

5

Existing Initiatives and Interventions

Develop a Draft Strategy for Reducing Food Losses and Waste Prior to Retail



- Minimize FLW
- Improve Food Security
- Mitigate negative environmental, socio-economic impacts
- Promote awareness FLW

Project background: Main Components FLWS

01

Status Quo of FLW across the value chain

- Legal Background
- Assessment of Behavioural issues
- Assessment of existing initiatives or interventions

02

Evaluation of FLW in the South African Context

- Effects and impact on socio-economic issues
- Description economic potential that can be unlocked
- Details on environmental issues

03

Identified opportunities in food processes

- Identify potential to contribute to the country's economic growth
- Develop network for food systems in alignment to waste minimization and waste beneficiation

04

Stakeholders Engagement

- Plan for stakeholder engagement
- Stakeholder consultation and database development

05

Assessment of existing barriers and enablers

- Highlight need for policy review or policy options for managing food waste in the country

06

FLW Strategy

- Strategy development based on all deliverables
- Short and long-term goals/pillars of FLWS

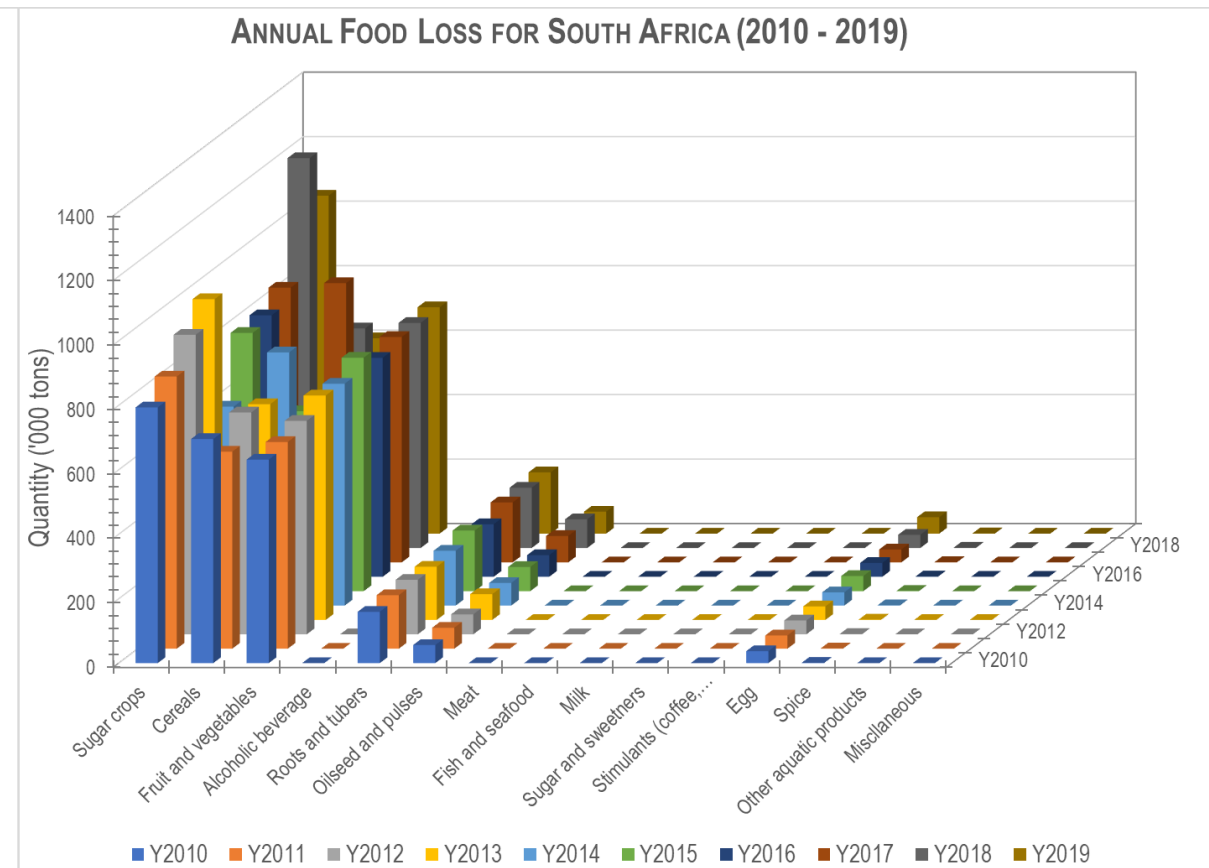
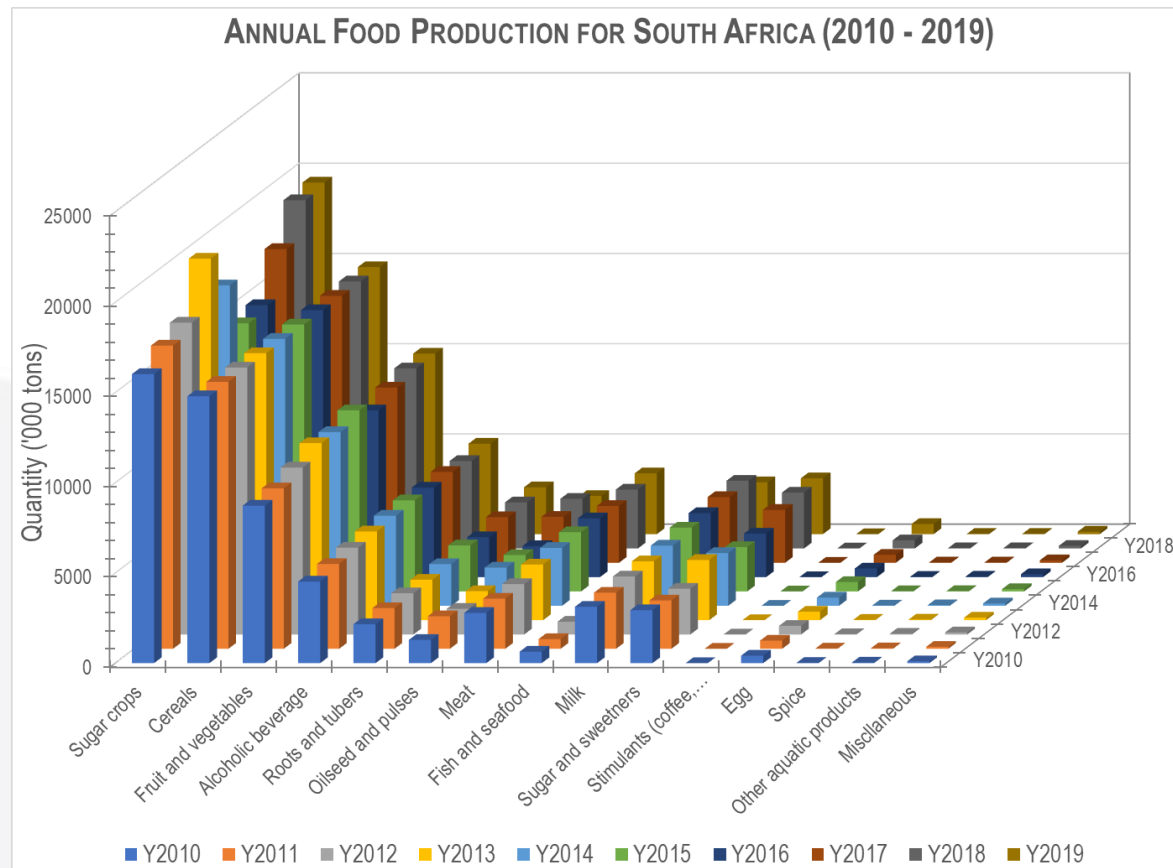
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Implementation Plan

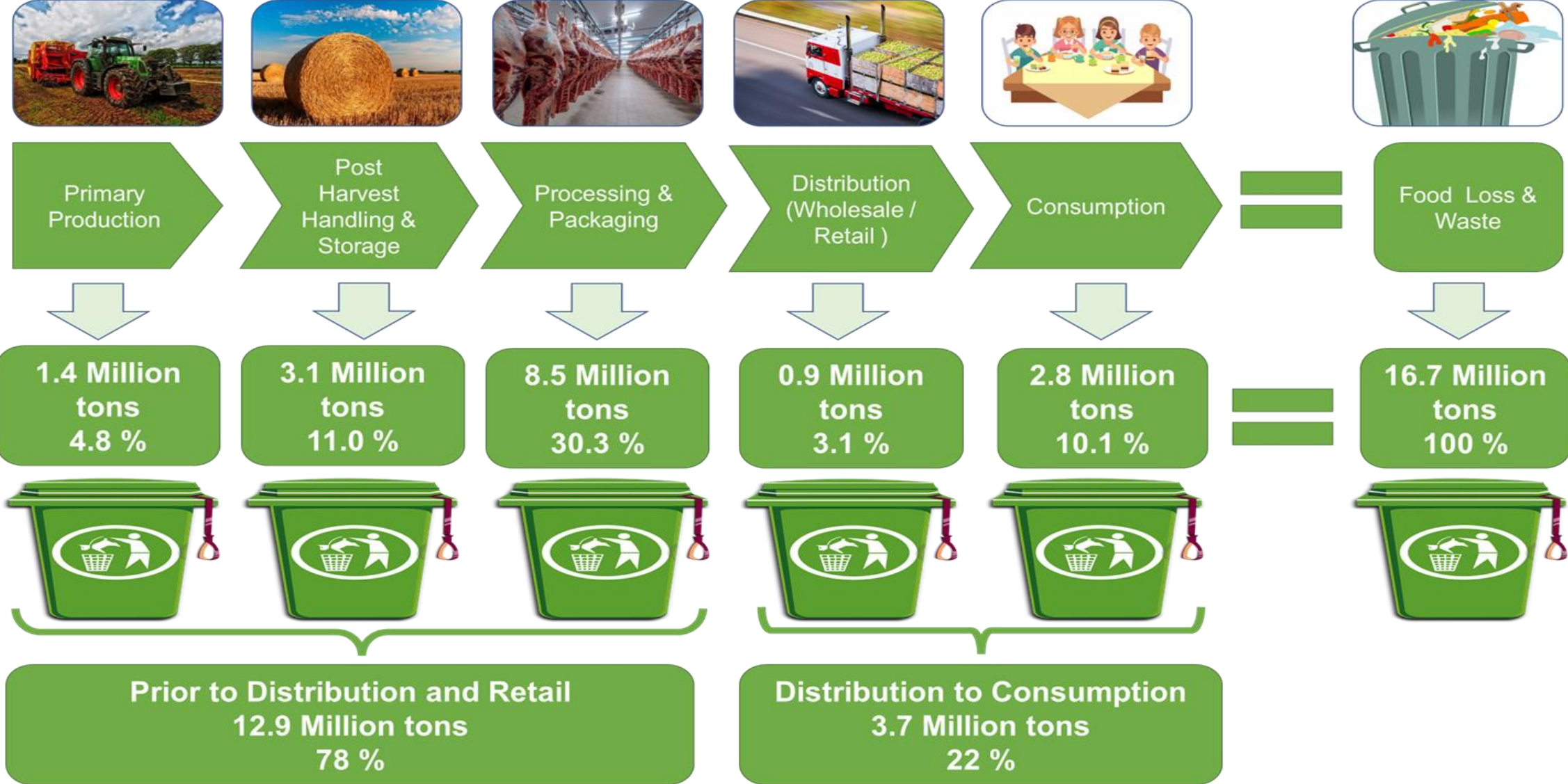
- Develop detailed plan for implementation
- Propose clear and achievable milestones
- Indicate policy and financial requirements



- Data for the period 2010 – 2019 sourced from the Food Balance Sheets (FAOSTAT, 2022)
- Used in estimating the quantities (in tons) of food production, supply and loss for each commodity entering the supply chain in South Africa
- Based on the methodology adopted by Oelofse, Polasi, Haywood, & Musvoto, (2021). Aligning with the approach presented by Oelofse, Polasi, Haywood, & Musvoto, (2021), each commodity was grouped into the same commodity groups as used in earlier studies (Gustavsson, Cederberg, Sonesson, van Otterdijk, & Meybeck, 2011).
- The analysis included all the stages of the value chain, including retail and consumption stages.



Percentage of food waste entering each stage of the value chain



Legal Background

South Africa's legal framework governing waste management underpins food waste and loss in the country. However, there are other legislation which pertains to the management and control of food material in South Africa.

POLICY, LEGISLATION AND REGULATIONS	
The Constitution	<ul style="list-style-type: none"> provides for an unprecedented right-to-food (RTF); a fundamental right of every citizen.
The National Environmental Management Act (NEMA; 107 of 1998)	<ul style="list-style-type: none"> provides the foundation for the treatment of the environment outlines the core principles relating to waste (hence, indirectly food waste as a waste stream).
Foodstuffs, Cosmetics and Disinfectants Act (Act No 54 of 1972)	<ul style="list-style-type: none"> addresses the sale, manufacture, and importation of foodstuffs. offers regulations regarding the labelling and advertising of foodstuffs. offers regulations on perishable goods with definition
The Health Act (Act No 63 of 1977)	<ul style="list-style-type: none"> guides regulations related to the hygienic handling of food and the inspection of, inter alia, food premises are also enforced by local authorities
The International Health Regulations Act (Act No 28 of 1974)	<ul style="list-style-type: none"> provides for the approval of the source of food for consumption at ports, airports, on vessels and on aircraft, as well as for the inspection of such premises
Post-Harvest Loss Management Strategy (PHLMS; 2018)	<ul style="list-style-type: none"> aims to achieve the target of the Malabo Declaration <i>i.e.</i>, a commitment to ending hunger by 2025 through interventions such as halving the current levels of post-harvest loss. <ul style="list-style-type: none"> in alignment with the Sustainable Development Goal 12.3.



Legal Background

WASTE MANAGEMENT HIERARCHY

Reduce

Re-use

Recycle & Compost

Create energy

Disposed

Most preferred

Least preferred

FOOD RECOVERY HIERARCHY (EPA)

Source Reduction

Reduce the volume of surplus food generated

Feed Hungry People

Donate extra food to food banks, soup kitchens and shelters

Feed Animals

Divert food scraps to animals food

Industrial Uses

Provide waste oils for rendering and fuel conversion and food scraps for digestion to recover energy

Composting

Create a nutrient-rich soil amendment

Landfill / Incineration

Last report to disposal

Most preferred

Least preferred



Waste Minimisation



Effective and sustainable waste services



Compliance, Enforcement and Awareness

STRATEGIC PILLARS OF NWMS

POLICY, LEGISLATION AND REGULATIONS

NEM:WA

- Controls waste classification and management
- Implements core principals of the Waste Management Hierarchy
- Fundamental to the Food Recovery Hierarchy

NWMS, 2020

- Strategic Pillars
- Move toward a “Circular economy”
- Aligned with
 - Sustainable Development Goals (SDGs) of Agenda 2030
 - NDP Vision 2030

Operation Phakisa Chemicals and Waste Economy

- Several initiatives relevant FLW.
- Food waste has already been identified as a waste stream that can contribute to circular economy and waste reduction

Behavioural Issues – Industry and Household

The food wastage problem is influenced by several behavioural issues.

Behavioural issues at both industry and household level may have a negative influence on market participation, savings behaviour, nutrient intake, food security, income levels and profitability.

Commonly identified issues in South Africa include:

- scenarios where food is perceived as “ugly” or “unmarketable” and thus removed from the FSC whilst in fact perfectly edible
- lack of proper planning prior to purchase of food products or production
- or lack of awareness regarding food labelling and its interpretation

Behaviours at the household level may have an influence downstream of the FSC, influencing the retail stage and thus the stages prior to retail.

1. Unmarketable” characteristics include:

- ❖ unsuitable size, length, weight etc
- ❖ Marked, cracked, bruised. sunburnt
- ❖ malformed
- ❖ insect damage etc

3. Best management practices

- ❖ Cost
 - ❖ Handling
 - ❖ Storage
 - ❖ Packaging
- ❖ Education
- ❖ Resources

4. Food loss and waste management

- ❖ Animal feed
- ❖ Alternative products
- ❖ Consumption of surplus

2. Awareness

- ❖ Technology and Tools
- ❖ Incentives
- ❖ Support

Poor Purchase
Planning

Monthly
purchasing and
over purchasing

Cooking in
Excess

Poor
implementation of
food waste
management
solutions

Waste Management: Circular Economy

- Maintains products, components and materials at their optimal efficiency and value.
- Restorative and regenerative by design (DEFF, 2020).
- Promotes viewing waste as a resource, where its value is always recognised and maintained thus being kept in the cycle.
- Circular economy could play important role in food loss and waste

1. Key Principles of Circular Economy:

- Design out waste and pollution
- Keep products and materials in use
- Regenerate natural systems

2. Promotion of Circular economy:

- Extended Producer Responsibility (EPR)
- Re-using, recycling
- Converting food waste to energy
- Converting food waste to compost

Initiatives and Interventions - Source reduction

- Several initiatives and interventions exist in the prevention of FLW-SA.
- Have been developed through research efforts and the use of tools and technology to reduce food losses.
- As per the food hierarchy, the most preferred option in food recovery is the reduction of food loss at the source. This includes prevention of surplus food.

1. Research and Technological Innovation:

- Citrus Research International
- The South African Institute of Agricultural Engineers (SAIAE)
- The South African Sugarcane Research Institute (SASRI)
- CSIR

2. Production, Processing and Packaging:

- Agro-Processing Support Scheme (APSS)
- Comprehensive Agricultural Support Programme (CASP)
- John Bean Technologies (Pty) Ltd South Africa
- Kompost-It

3. Tools and Apps:

- PurEst@:
- STALKGRO
- Susfarms@ Progress Tracker
- Mechanisation Reports

Initiatives and Interventions

- Feed Hungry People, or Feed Animals

Surplus *edible* food for human consumption
e.g., via food donation; or market excess; or

Surplus *inedible* food (scraps) for animal feed

1. Food Donation:

- FoodForward SA
- NOSH Food Rescue
- The Household Food and Nutrition Security Programme (HFNSP)
- Food on the Table

2. Market for “Ugly” Food:

- Food Masters South Africa
- Foodeez
- Memcon

3. Animal Feed:

- NAMBU
- Oricol Environmental Services
- Maltento

- Industrial use, or Composting

Food recovery through industrial use

e.g., anaerobic – biogas (biodegradable waste used for fuel).

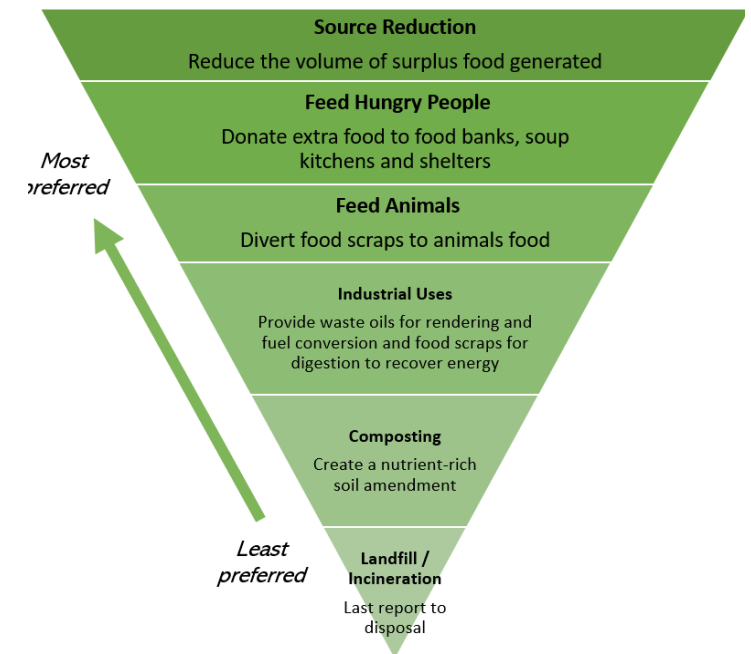
Composting is an effective management solution for diverting biodegradable waste from landfill sites.

1. Anaerobic digestion:

- Bronkhorstspuit Biogas Plant
- Cape Dairy Project (Pty) Ltd
- New Horizons Waste-to-Energy Facility
- iBert

2. Composting:

- Bokashi Bran
- Earth Bokashi
- Compost Kitchen
- Green Events
- Home Composting Programme



A few initiatives have been introduced to facilitate FLW dialogue.
e.g., Southern African Food Lab, SA Food Sovereignty Campaign, the Community of Practice.



Thank you

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