



Food and Agriculture Organization
of the United Nations



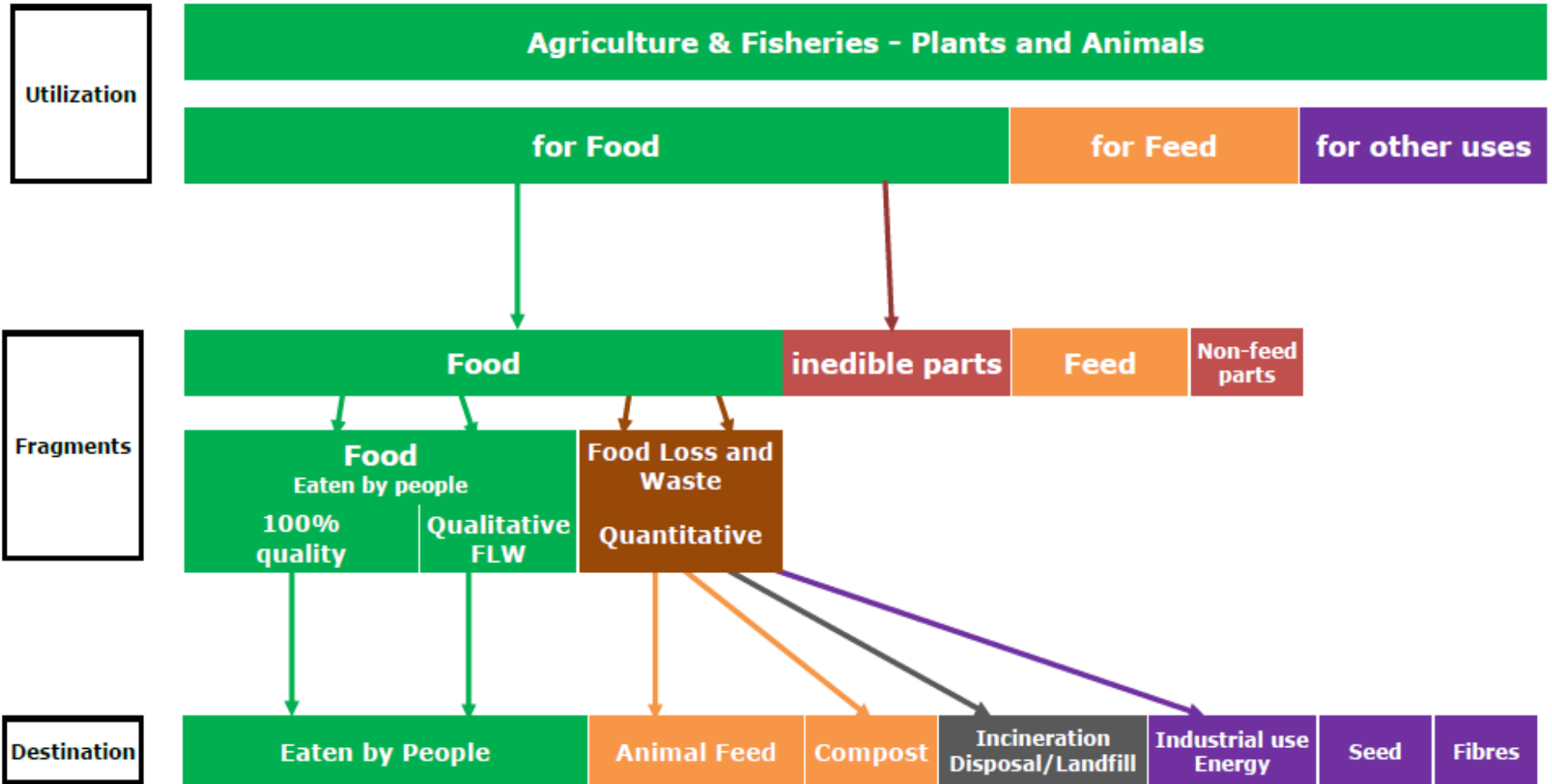
Global Initiative on Food Loss and Waste Reduction

Robert van Otterdijk
Agro-Industry Officer
FAO - Regional Office for Europe and Central Asia



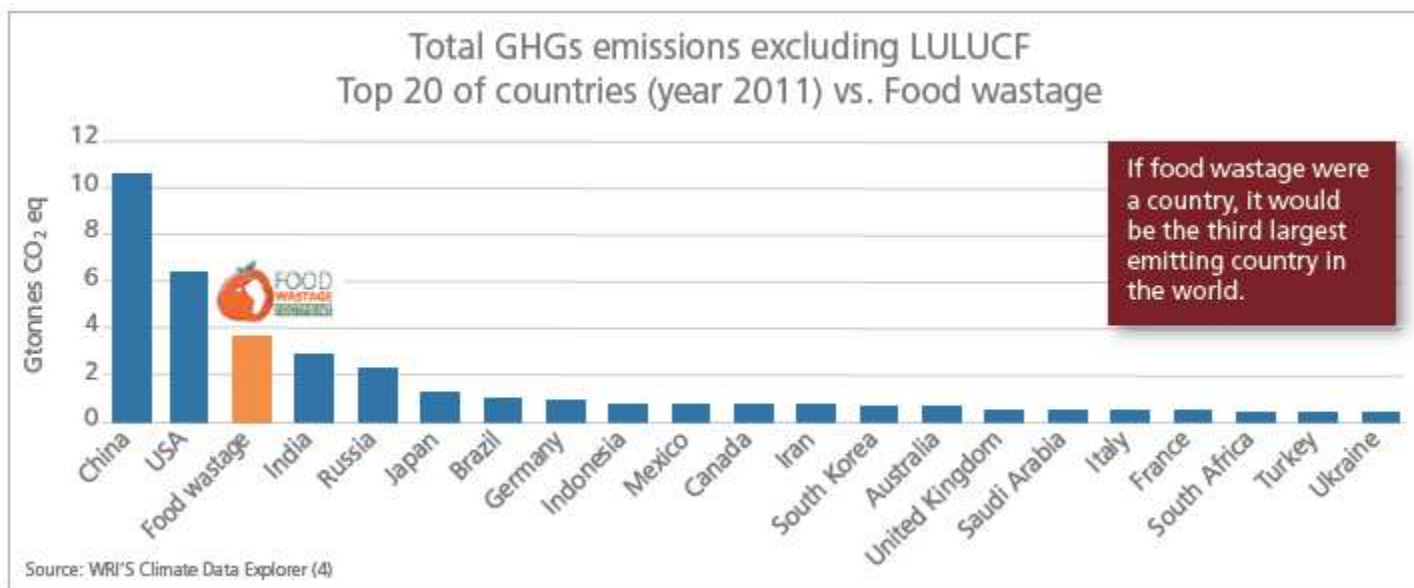
Global Initiative
on Food Loss and Waste Reduction

INTRODUCTION



INTRODUCTION

- FLW is a major contributor to climate change
- Accounts for around 8 % of total global GHG emissions
- GHG emissions arising from the land, livestock and energy inputs needed in food systems as well as from waste disposal



INTRODUCTION

Food Security Impact of FLW

Who are affected?

- Poor smallholder food producer – especially women, direct food access
- Poor food insecure consumer – higher prices
 - ✓ Increased supply and cost reductions of production be translated into price reductions

Impact on nutrition, food quality and safety

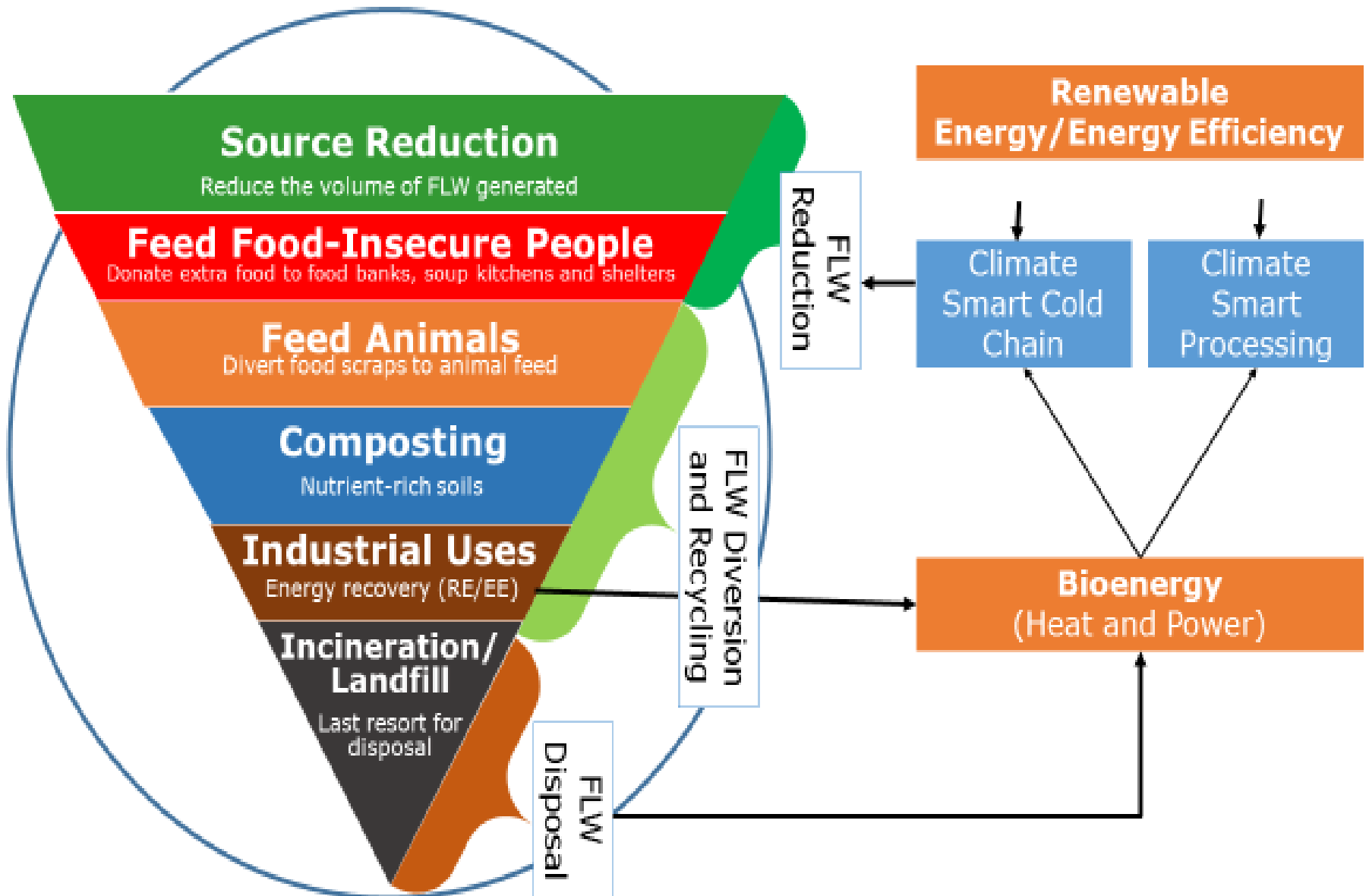
- Qualitative food losses - reduced nutritional value
- Unsafe products

Economic impact and income-distribution in the value chain

- Market circumstances
- Where in the supply chain are losses reduced
- Improvement in the efficiency of supply chains benefits both producers and consumers



INTRODUCTION



INTRODUCTION

FLW reduction not a goal in itself:

Essential part of the creation of *efficient value chains*, which are the core of *sustainable food systems* which provide *food and nutrition security*, *economic growth* and *climate change mitigation*.

Integrated multi-disciplinary programme –

technology, economics, sociology, ecology, nutrition.

FLW problem extremely complicated – Research must be thorough, practical and innovative.



INTRODUCTION

FLW problem extremely vast – Implementation world-wide by partners.

Only the Private Sector can reduce food losses at a significant scale.

The Public Sector does research and provides guidance. It creates the enabling environment for the Private Sector to **invest** and act.

Promote and support the actors and stakeholders in the FSCs to take action in their own area, **collaborating with each other.**



BACKGROUND ON THE ECONOMICS OF FOOD LOSS AND WASTE (FAO 2013)

by
Segrè A., Falasconi L., Politano A., Vittuari M.
Università di Bologna, Italy

Food loss is mainly caused by inefficiencies in the use and allocation of resources along the food supply chain, like poor infrastructure and logistics, lack of technology, insufficient skills, and knowledge and management capacity of supply chain actors, as well as poor access to markets. In addition, natural disasters, weather and climatic conditions, negative economic trends might play a role too.

Food waste relates mainly to the behaviour of retailers and consumers and it is a major problem at the global level, since throwing away food is often cheaper than using or re-using, and in many situations - mainly, but not only, in industrialized nations - consumers can afford to waste food.



BACKGROUND ON THE ECONOMICS OF FOOD LOSS AND WASTE (FAO 2013)

Micro-economic conditions for food waste.

- Farm production planning and profit maximization.
- Consumer theory: globalization, diversity of demand and supply, excessive choice, high purchase power \leftrightarrow low purchase planning capacity.
- Food safety risks and information.
- Consumer demand influenced by cultural, psychological and social factors \leftrightarrow economic rationality.
- Correlation with age and income.



BACKGROUND ON THE ECONOMICS OF FOOD LOSS AND WASTE (FAO 2013)

Macro-economic conditions for food waste.

- Policies and infrastructure to facilitate access to markets, and to grow the food processing sector.
- Food loss reduction upstream the value chain nullified by food waste increase downstream.
- Urbanization and lengthening of value chains.
- Large-scale trade and retail.
- Global food quality and safety standards.



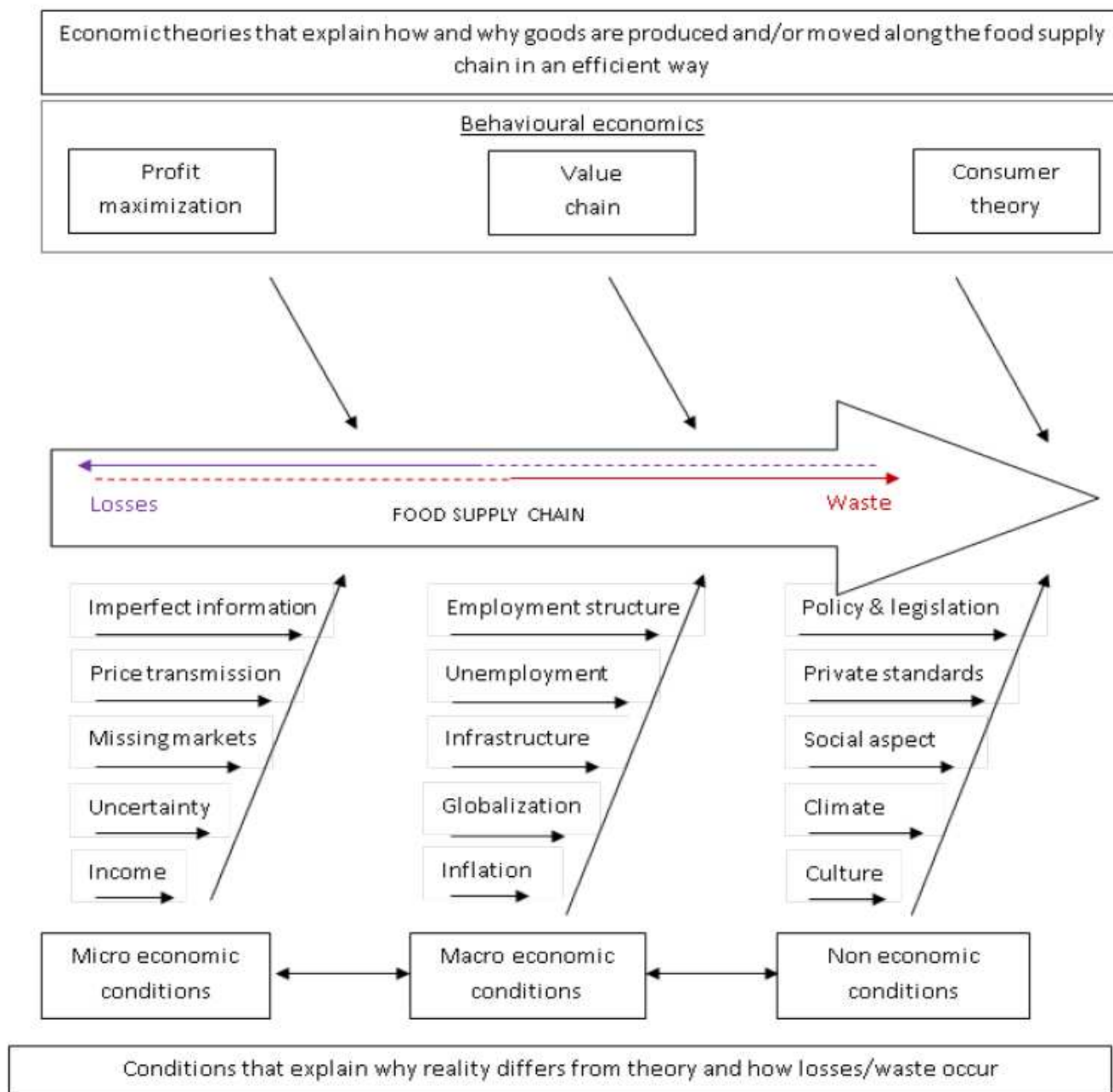
BACKGROUND ON THE ECONOMICS OF FOOD LOSS AND WASTE (FAO 2013)

Non-economic conditions for food waste.

- Consumer demand influenced by cultural, psychological and social factors.
- Traditional and religious events.
- Food declines on the scale of social and ethical values.
- Household size and children.
- Policy and legislation.



Figure. 2. Basic conditions that explain the formation of food losses and waste



BACKGROUND ON THE ECONOMICS OF FOOD LOSS AND WASTE (FAO 2013)

MAIN SOLUTIONS:

- Vertical integration and information in the value chains.
- Corporate social responsibility combined with innovation.
- Incentives, taxation and legislation.
- Consumer awareness and education.



POTENTIAL IMPACTS OF REDUCING FOOD WASTE IN THE EU ON FOOD PRICES IN AFRICA (FAO 2015)

by

Rutten M., Verma M., Mhlanga N., Bucatariu C.
Wageningen University & Research, The Netherlands

Hypothesis

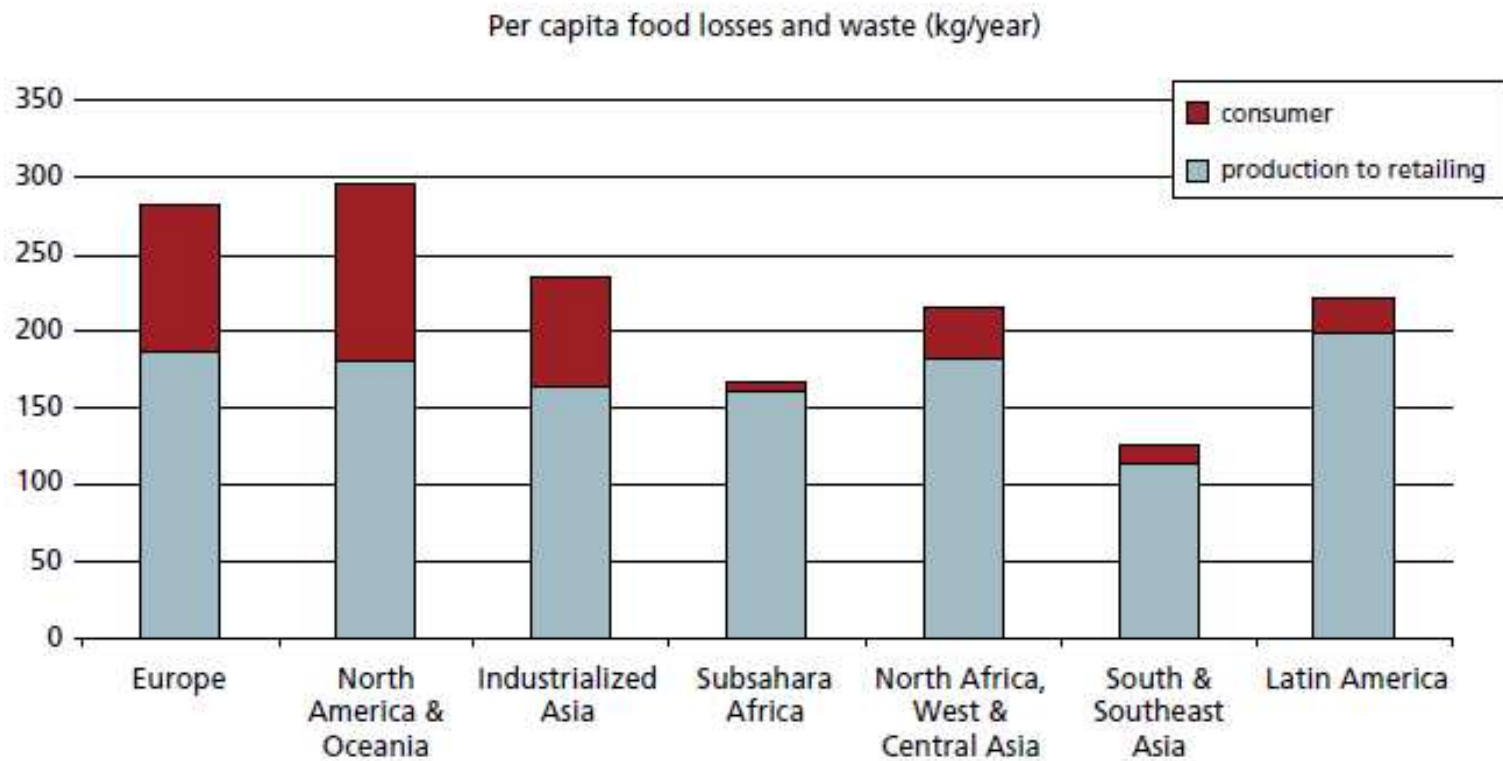
If internationally traded commodities are squandered at large scale, this has an effect on the price of these commodities globally.



POTENTIAL IMPACTS OF REDUCING FOOD WASTE IN THE EU ON FOOD PRICES IN AFRICA

(FAO 2015)

Figure 2. Per capita food losses and waste, at consumption and pre-consumptions stages, in different regions



POTENTIAL IMPACTS OF REDUCING FOOD WASTE IN THE EU ON FOOD PRICES IN AFRICA (FAO 2015)

Europe is Africa's largest trading partner for agricultural commodities.

Between 1990 and 2007, Africa's agricultural imports from Europe ranged between 35 and 38 %, making Europe the largest source of imports for Africa.

Agricultural exports from Africa to Europe averaged 64 %.



POTENTIAL IMPACTS OF REDUCING FOOD WASTE IN THE EU ON FOOD PRICES IN AFRICA (FAO 2015)

Hypothesis

Reducing food waste contributes to increasing net food supply and reduced cost of food production, and thus reduces food prices, locally and globally.

Complication:

Low food prices are an important factor for food waste.



POTENTIAL IMPACTS OF REDUCING FOOD WASTE IN THE EU ON FOOD PRICES IN AFRICA (FAO 2015)

Methodology

MAGNET (Modular Applied GeNeral Equilibrium Tool) -
a computable general equilibrium (CGE) model to
simulate the impact of agricultural and trade on global
economic development



POTENTIAL IMPACTS OF REDUCING FOOD WASTE IN THE EU ON FOOD PRICES IN AFRICA (FAO 2015)

Results

- If the EU reduces food losses in **agricultural supply**:
- Producers demand fewer inputs to produce more output.
- Increased supply in the EU brings the price of food in the EU down.
- Some of this reduction is transmitted to the African markets.
- Consumers in Africa clearly benefit from cheaper imports of food.
- Producers in Africa lose out from cheaper food imports that compete with domestically produced food.
- Africa's exports have to compete with lower priced domestic food in the EU
- As a result, producers in Africa produce less than before.



POTENTIAL IMPACTS OF REDUCING FOOD WASTE IN THE EU ON FOOD PRICES IN AFRICA (FAO 2015)

Results

- As **food processing** in the EU becomes more efficient:
- It is able to produce more processed food commodities while using fewer primary food commodities.
- This reduces demand for primary commodities and increases the supply of processed food, thus reducing the price of both commodities in the EU.
- EU exports become cheaper and Africa responds by importing more from and exporting less to the EU.
- Producers in Africa gain from a reduced price for their imported inputs but also face lower prices and sales.



POTENTIAL IMPACTS OF REDUCING FOOD WASTE IN THE EU ON FOOD PRICES IN AFRICA (FAO 2015)

Results

- With reduced food waste in the **retail sector** in the EU:
- Demand, production and price of processed food in the EU fall.
- Therefore demand, output and price of primary food in the EU also fall and export of primary and processed food at lower prices.
- African consumers benefit from lower prices.
- African producers gain from cheaper imports but lose out from domestic lower prices and production.



POTENTIAL IMPACTS OF REDUCING FOOD WASTE IN THE EU ON FOOD PRICES IN AFRICA (FAO 2015)

Results

- When **consumers** in the EU waste less food:
- they demand and buy less food.
- Both demand and production of food in the EU fall.
- EU food prices and the price of food in Africa - as an importer of food from the EU - fall as well.
- In Africa consumers gain from lower food prices but producers lose as they also obtain a lower price for their food products.
- With increased competition from EU producers, sales of African food producers fall.



POTENTIAL IMPACTS OF REDUCING FOOD WASTE IN THE EU ON FOOD PRICES IN AFRICA (FAO 2015)

Results

- A reduction in food waste in **all stages** of the EU causes food prices in the EU to fall.
- Exports of food from the EU to Africa become cheaper.
- Africa imports more food from the EU at lower prices and exports much less.
- African consumers are better off with lower food prices.
- African producers are hurt from a reduction in the production of food and also from lower domestic and export prices.



POTENTIAL IMPACTS OF REDUCING FOOD WASTE IN THE EU ON FOOD PRICES IN AFRICA (FAO 2015)

Results

Scenario: 50% reduction of food waste in the EU.
The price changes in the EU and Africa are:

Category	Market Price EU	Consumer Price Africa
1. Primary food	- 8.1 %	- 0.9 %
2. Processed food	- 1.4 %	- 0.3 %
3. Consumer food	- 2.3 %	- 0.6 %
4. Food (1+2)	- 2.7 %	- 0.7 %

Extremely marginal !

Effects are more significant in region where food waste is being reduced



PUBLICATIONS

GUIDING PRINCIPLES FOR
RECOVERY AND REDISTRIBUTION OF
SAFE AND NUTRITIOUS FOOD FOR
DIRECT HUMAN CONSUMPTION



PUBLICATIONS

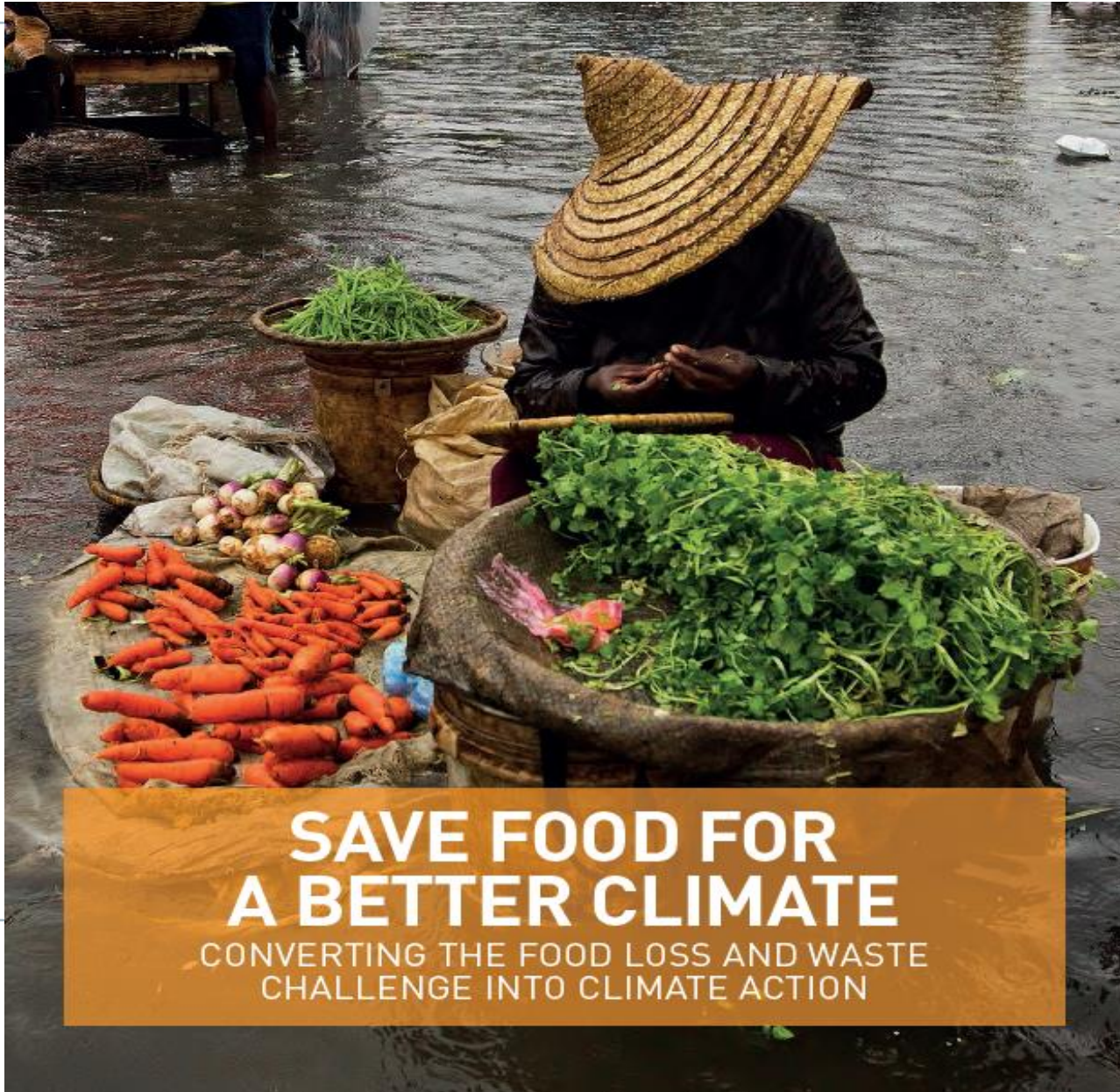


**Gender and food
loss** in sustainable
food value chains

A guiding note



PUBLICATIONS



SAVE FOOD FOR A BETTER CLIMATE

CONVERTING THE FOOD LOSS AND WASTE
CHALLENGE INTO CLIMATE ACTION



PUBLICATIONS

AWARENESS RAISING ON FOOD LOSS AND WASTE
IN THE EDUCATION SECTOR

EDUCATION MATERIAL PACKAGE ON FOOD WASTE REDUCTION
IN PRIMARY AND SECONDARY SCHOOLS

DO GOOD: SAVE FOOD!

Teaching Guide

for Age Group 1 (five to seven years old)



FEED YOURSELF, DON'T FEED THE BIN :

9 EASY TIPS

TO REDUCE FOOD WASTE.





Food and Agriculture Organization
of the United Nations

Thank you

www.fao.org/save-food

Become a member



Global Initiative
on Food Loss and Waste Reduction