CHAMPIONS 12.3

THE BUSINESS CASE FOR REDUCING FOOD LOSS AND WASTE

A report on behalf of Champions 12.3

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Part 1. The Business Case for Reducing Food Loss and Waste

By Craig Hanson

Food Loss + Waste PROTOCOL

Part 2. Introduction to the FLW Standard

By Kai Robertson

March 9, 2017

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Why does food loss and waste matter?

1/3 of all food is lost or wasted each year.

Food loss and waste costs the global economy **$940 BILLION** each year.

8% of annual global greenhouse emissions are due to food loss and waste.

Source: FAO (Food and Agriculture Organization of the United Nations). 2011. *Global food losses and food waste – extent, causes and prevention*. Rome: UN FAO; FAO. 2015. *Food wastage footprint & climate change.* Rome: UN FAO.

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SUSTAINABLE DEVELOPMENT GOALS

TARGET 12.3

By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

In January 2016, “Champions 12.3” formed to advance progress toward SDG Target 12.3

Champions 12.3 is a unique coalition of leaders from around the world dedicated to inspiring ambition, mobilizing action, and accelerating progress toward achieving SDG Target 12.3

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The question Champions 12.3 asked

If it can generate so many benefits, then why are countries, cities, and companies not already doing more to reduce food loss and waste?

"Unclear business case"

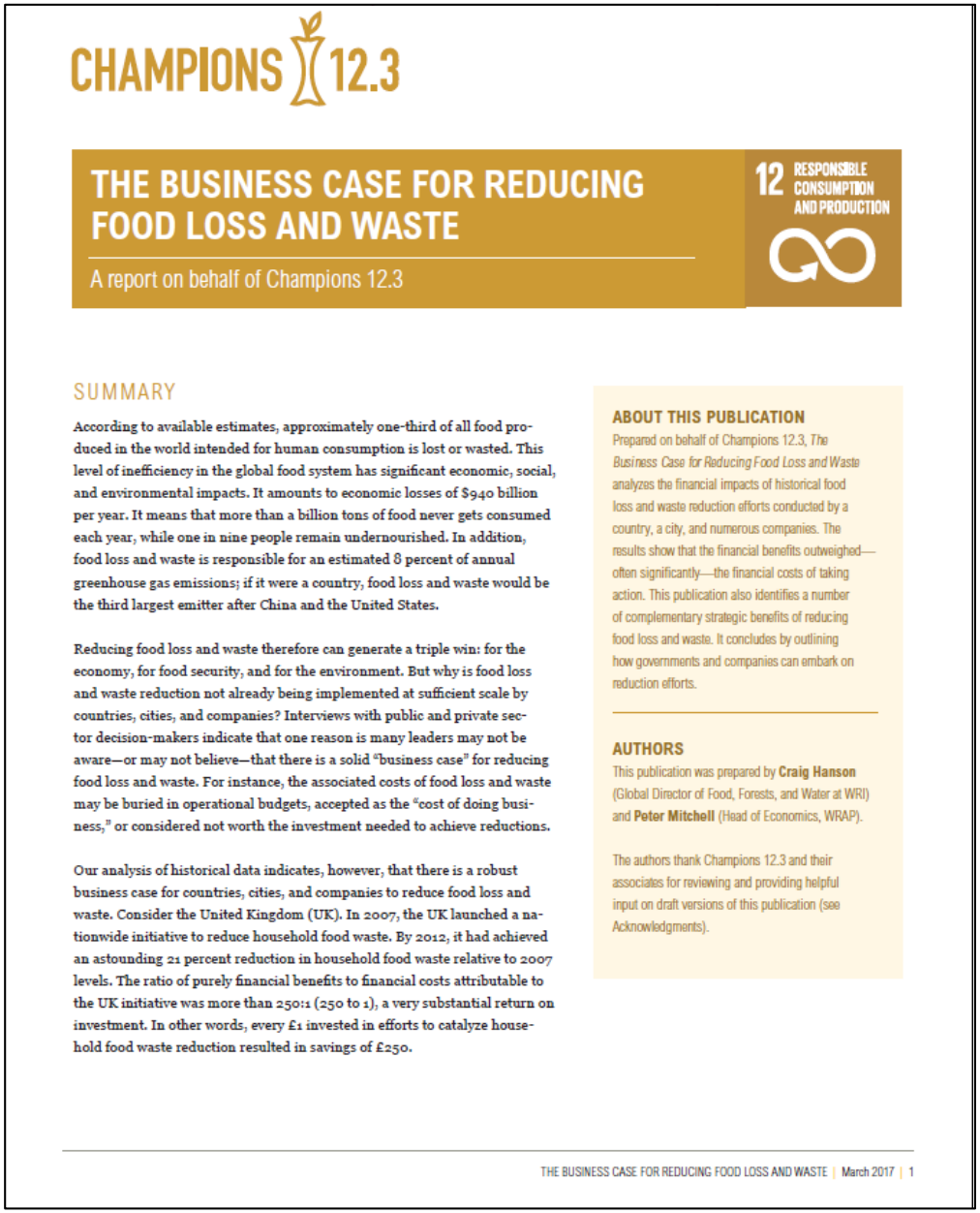
"Costs buried in operational budgets"

"Accepted as cost of doing business"

"Costs of taking action outweigh the benefits"

Photo: la-ja-femme.ru
Source: Interviews

Released March 7, 2017



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THE BUSINESS CASE FOR REDUCING FOOD LOSS AND WASTE

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12 RESPONSIBLE CONSUMPTION AND PRODUCTION

SUMMARY

According to available estimates, approximately one-third of all food produced in the world intended for human consumption is lost or wasted. This level of inefficiency in the global food system has significant economic, social, and environmental impacts. It amounts to economic losses of $940 billion per year. It means that more than a billion tons of food never gets consumed each year, while one in nine people remain undernourished. In addition, food loss and waste is responsible for an estimated 8 percent of annual greenhouse gas emissions; if it were a country, food loss and waste would be the third largest emitter after China and the United States.

Reducing food loss and waste therefore can generate a triple win: for the economy, for food security, and for the environment. But why is food loss and waste reduction not already being implemented at sufficient scale by countries, cities, and companies? Interviews with public and private sector decision-makers indicate that one reason is many leaders may not be aware—or may not believe—that there is a solid "business case" for reducing food loss and waste. For instance, the associated costs of food loss and waste may be buried in operational budgets, accepted as the "cost of doing business," or considered not worth the investment needed to achieve reductions.

Our analysis of historical data indicates, however, that there is a robust business case for countries, cities, and companies to reduce food loss and waste. Consider the United Kingdom (UK). In 2007, the UK launched a nationwide initiative to reduce household food waste. By 2012, it had achieved an astounding 21 percent reduction in household food waste relative to 2007 levels. The ratio of purely financial benefits to financial costs attributable to the UK initiative was more than 250:1 (250 to 1), a very substantial return on investment. In other words, every £1 invested in efforts to catalyze household food waste reduction resulted in savings of £250.

ABOUT THIS PUBLICATION

Prepared on behalf of Champions 12.3, *The Business Case for Reducing Food Loss and Waste* analyzes the financial impacts of historical food loss and waste reduction efforts conducted by a country, a city, and numerous companies. The results show that the financial benefits outweighed—often significantly—the financial costs of taking action. This publication also identifies a number of complementary strategic benefits of reducing food loss and waste. It concludes by outlining how governments and companies can embark on reduction efforts.

AUTHORS

This publication was prepared by **Craig Hanson** (Global Director of Food, Forests, and Water at WRI) and **Peter Mitchell** (Head of Economics, WRAP).

The authors thank Champions 12.3 and their associates for reviewing and providing helpful input on draft versions of this publication (see Acknowledgments).

Research conducted by:

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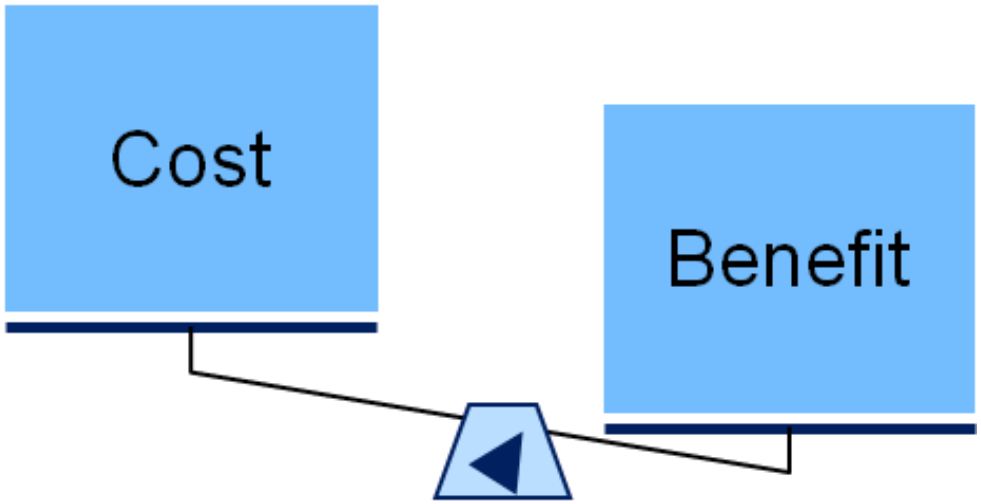
www.champions123.org

Figuring out if there is a business case

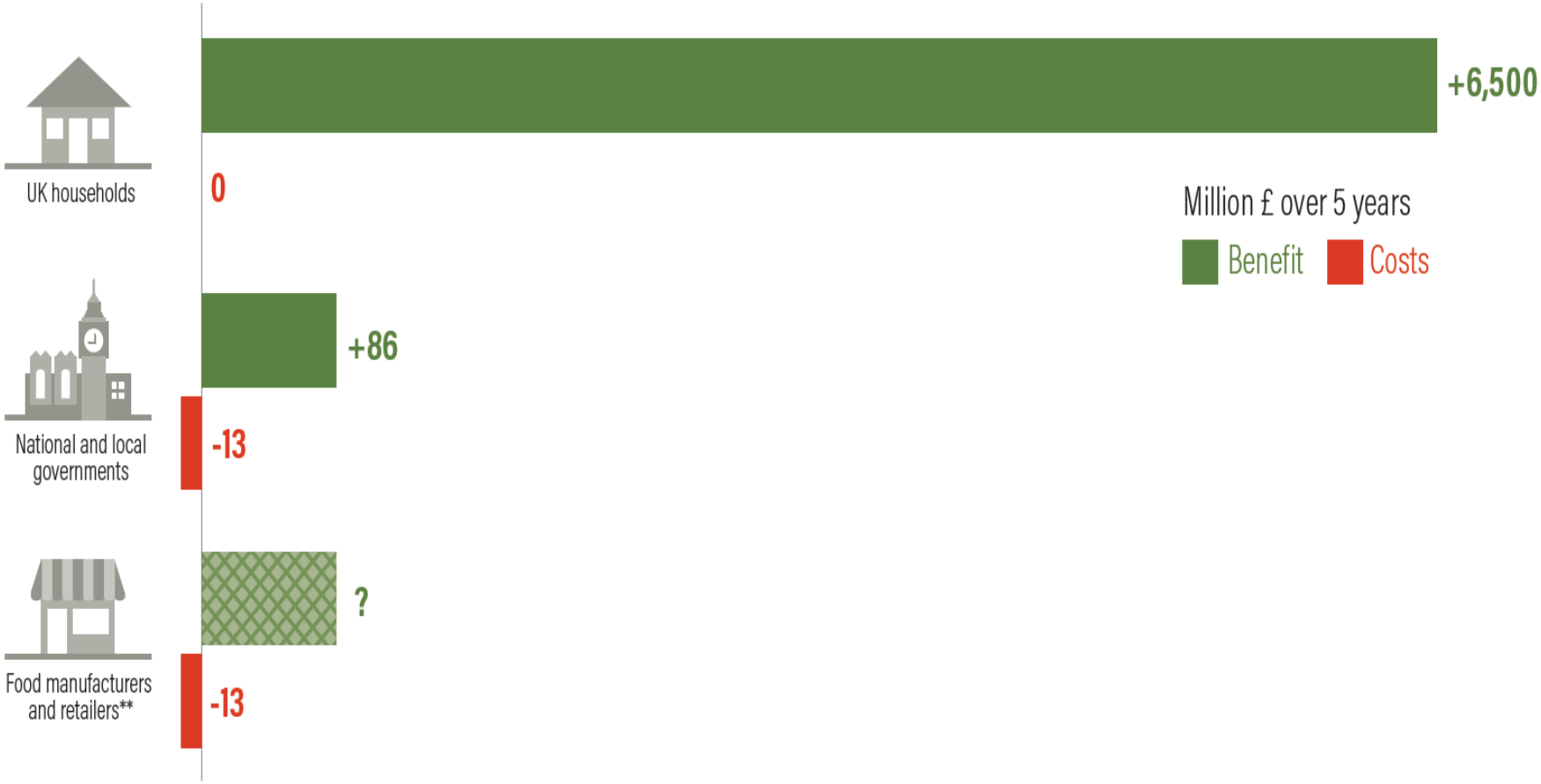
- Benefits vs. costs
- Financial focus
- Individual entities
- Who pays vs. who benefits
- Historical data
- Discount rate



Financial returns for a country: United Kingdom

Photo: background-pictures.picphotos.net

FIGURE 2. Distribution of benefits and costs: United Kingdom*



* Benefits and costs attributable to the UK household food waste reduction initiative implemented by WRAP and partners.

** Food manufacturers and retailers realized financial benefits from increased product shelf-life and reduced product losses both in stores and in their supply chains. But given available data, it is not possible to accurately quantify the financial magnitude of these benefits. Interviews with managers highlight that these companies realized a number of non-financial benefits, too, such as strengthened customer relationships.

Source: Hanson, C. and P. Mitchell. 2017. *The Business Case for Reducing Food Loss and Waste.* Washington, DC: Champions 12.3

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United Kingdom: By the numbers

For every **£1** invested in curbing household food waste,

more than **£250** was saved

Catalyzed a **21%** reduction in household food waste

(2007-2012)

Photo: thetimes.co.uk

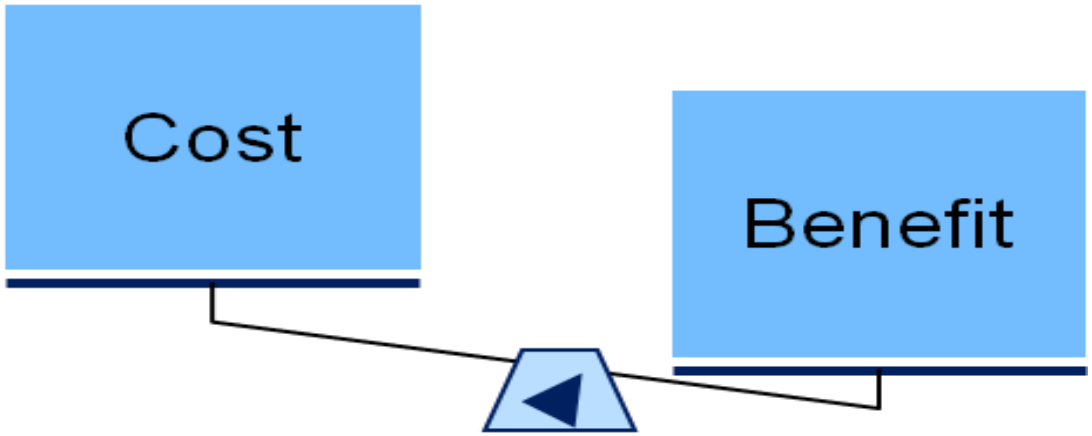
United Kingdom: What were the financial benefits and costs?

Costs

- Quantifying and monitoring
- Conducting the "Love Food Hate Waste" consumer education campaign (TV, print, digital, in-store messaging)
- Changing date labeling, adjusting pack sizes, creating re-sealable bags

Benefits

- Avoiding food waste disposal costs
- Avoiding expenditures on food that otherwise would be wasted



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Financial returns for a city: West London

Photo: latitudethirtyfour.com

FIGURE 3. Distribution of benefits and costs: West London*

* Benefits and costs attributable to the food waste reduction initiative for six West London boroughs.

Source: Hanson, C. and P. Mitchell. 2017. *The Business Case for Reducing Food Loss and Waste.* Washington, DC: Champions 12.3

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West London: By the numbers

For every **£1** invested in curbing household food waste:

- Local authorities saved **£8**
- Households saved **£84**

Catalyzed a **15%** reduction in household food waste within 6 months

Photo: thetimes.co.uk

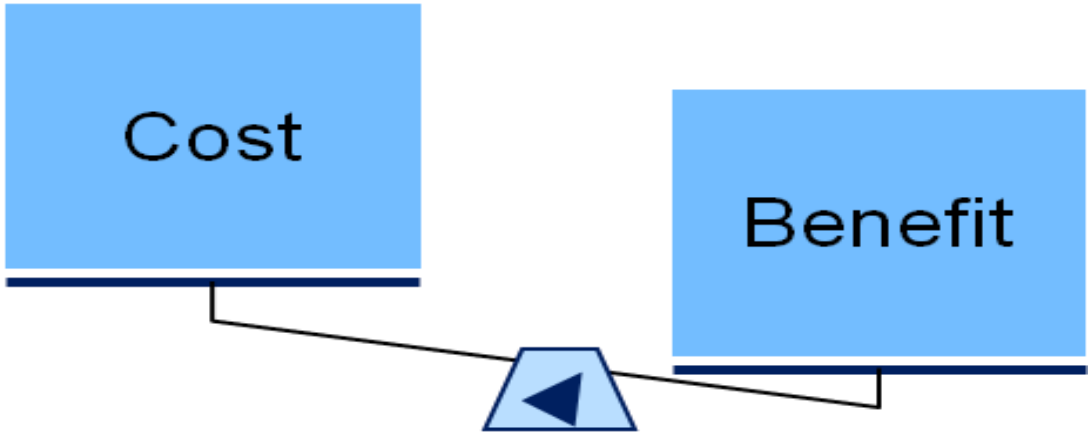
West London: What were the financial benefits and costs?

Costs

- Quantifying and monitoring
- Advertising via radio, print, and digital (providing planning, storage, recipe, etc. tips)
- Conducting 50 public relations activities, events, and community engagements

Benefits

- Avoiding food waste disposal costs
- Avoiding expenditures on food that otherwise would be wasted



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Financial returns for companies

Photo: gamesindustry.biz

Companies: What did we look at?

>700 companies

Nearly 1,200 business sites

Across 17 countries

Photo: gamesindustry.biz

Companies: What were the financial benefits and costs?

Costs

- Quantifying and monitoring
- Training staff
- Investing in new equipment (storage)
- Changing storage, handling, and manufacturing processes
- Changing packaging and date labeling

Benefits

- Reducing unsold food
- Launching new product lines
- Reducing food waste management costs

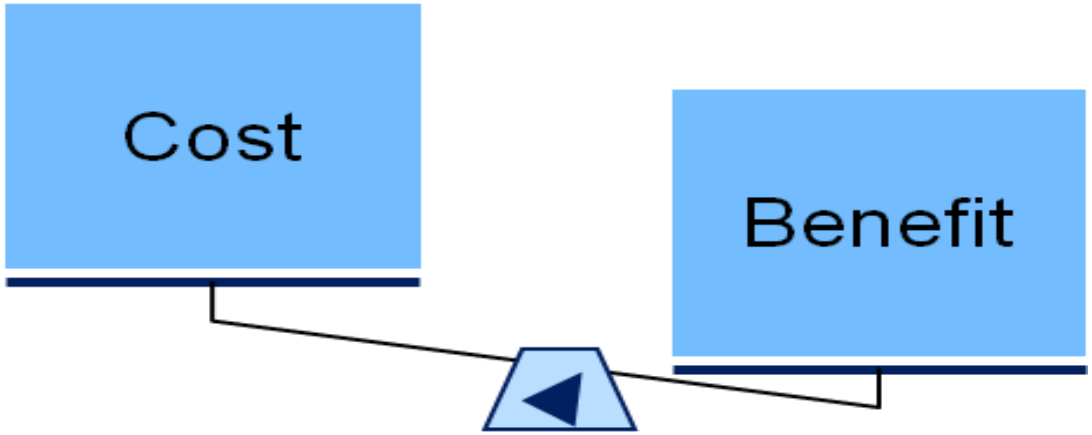
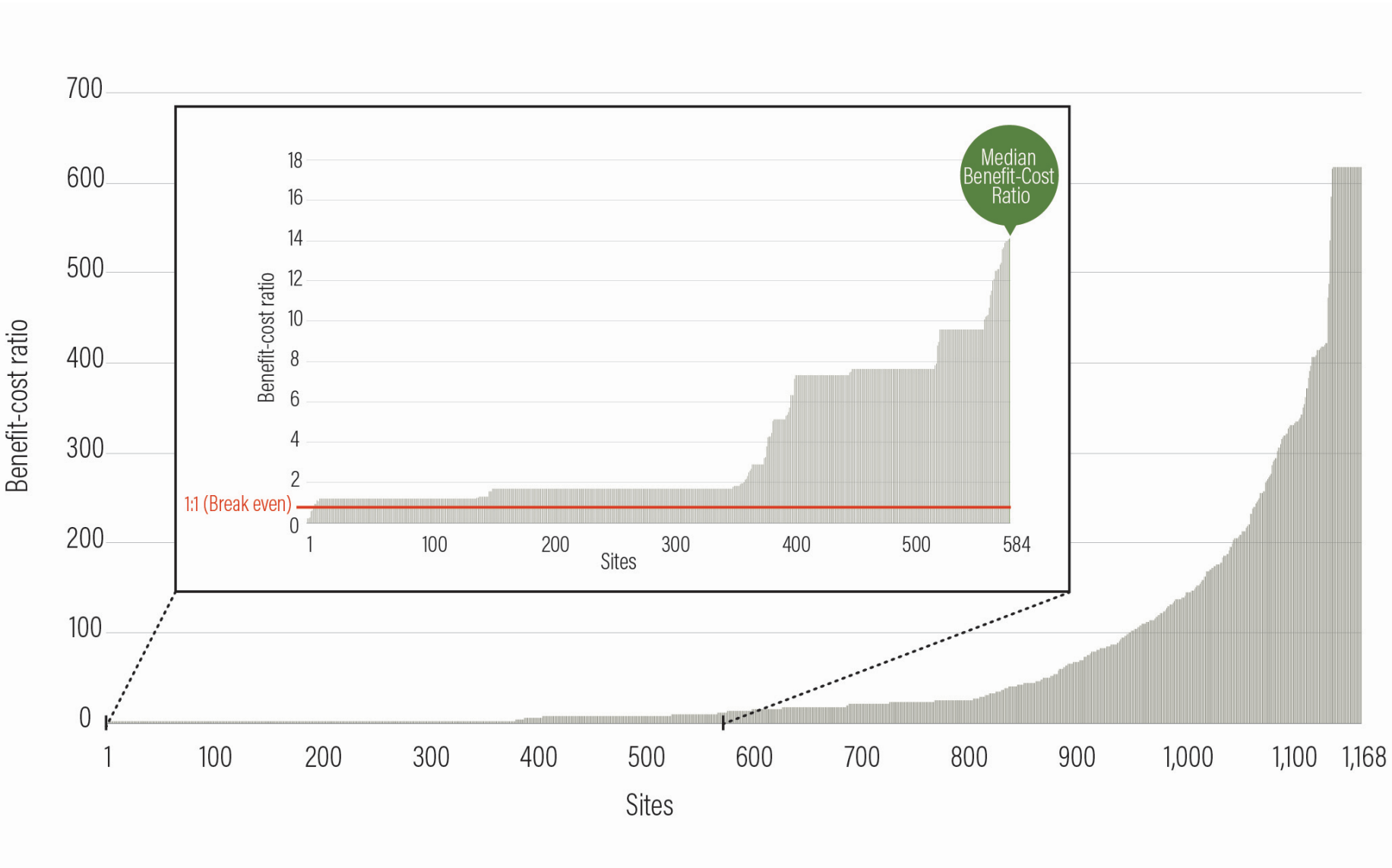


FIGURE 4. **Financial benefit-cost ratios for company sites**



Source: Hanson, C. and P. Mitchell. 2017. *The Business Case for Reducing Food Loss and Waste.* Washington, DC: Champions 12.3

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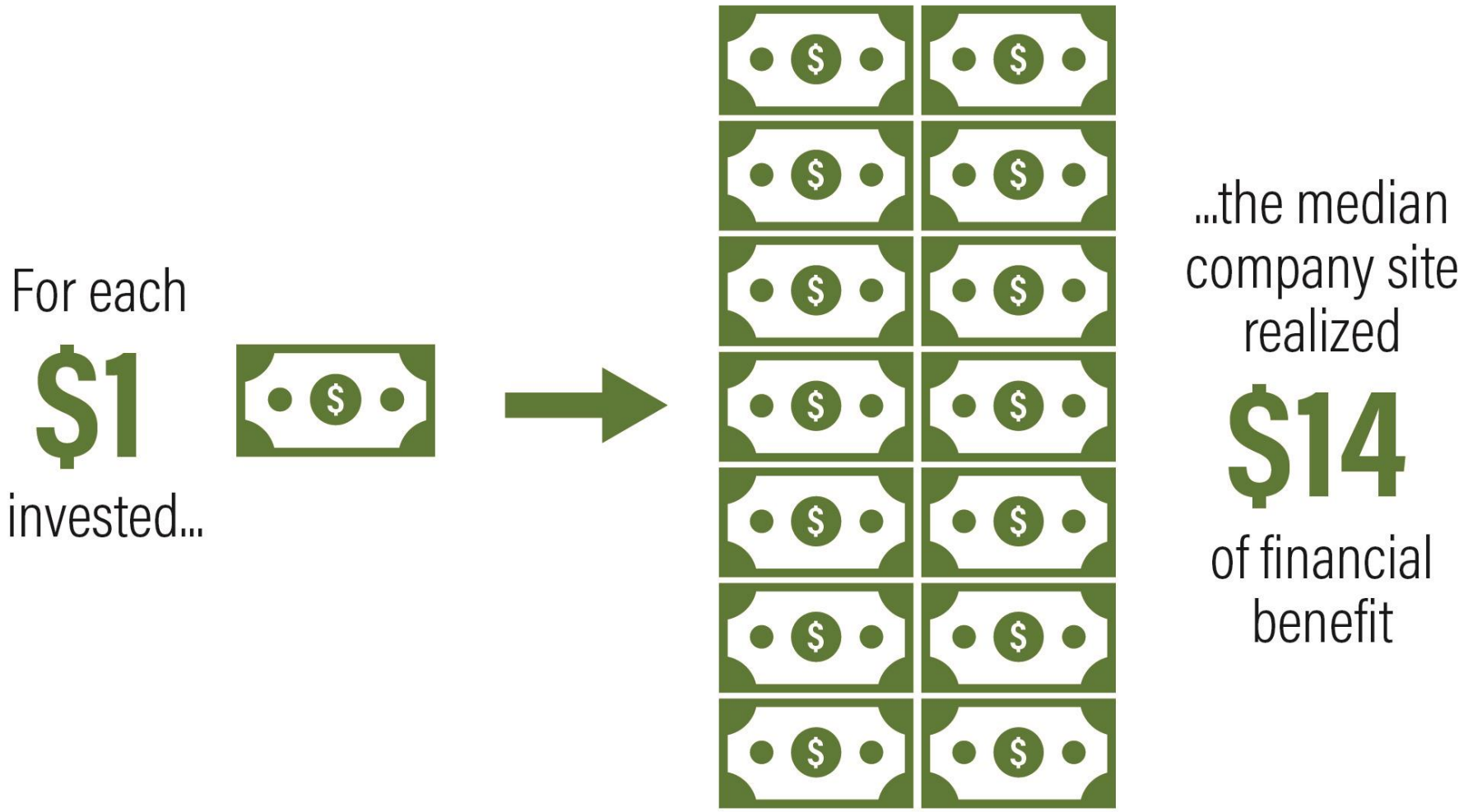
FIGURE 5. **The median financial benefit-cost ratio for company sites was 14:1**



Source: Hanson, C. and P. Mitchell. 2017. *The Business Case for Reducing Food Loss and Waste.* Washington, DC: Champions 12.3

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TABLE 3. Median benefit-cost ratios of company sites varied between sectors

		BENEFIT-COST RATIO			
Sector	**Example entities**	**Low**	**Median**	**High**	**Number of sites**
Food service (for public sector clients)	Education institutions, hospitals, government restaurants	1.2	1.2	169.0	166
Food production/manufacturing	Crop-producing companies, food and beverage processors	1.1	1.3	318.0	5
Food retail (and manufacturing)*	Grocery stores	5.1	5.1	5.1	10
Hotel	Hotels	6.3	7.6	38.2	74
Restaurant	Restaurants, cafés	0.2	8.3	617.7	88
Food service (for private sector clients)		7.3	9.6	17.4	137
Hospitality	Nonhotel leisure, casinos	10.7	22.7	327.1	15
Workplace canteen	Canteens and restaurants located on company premises	1.7	24.7	618.1	673

*Involves four food retailers working in collaboration with six of their food manufacturers. The benefit-cost ratio is the average across all. The source data did not enable separation of benefit-cost ratios between them.

Source: Hanson, C. and P. Mitchell. 2017. *The Business Case for Reducing Food Loss and Waste.* Washington, DC: Champions 12.3

The non-financial business case for reducing food loss and waste

- Food security
- Waste regulations
- Environmental sustainability
- Stakeholder relationships
- Ethical responsibility

Photo: thinkeatsave.org

The strategy for reducing food loss and waste consists of 3 elements

Target

Measure

Act

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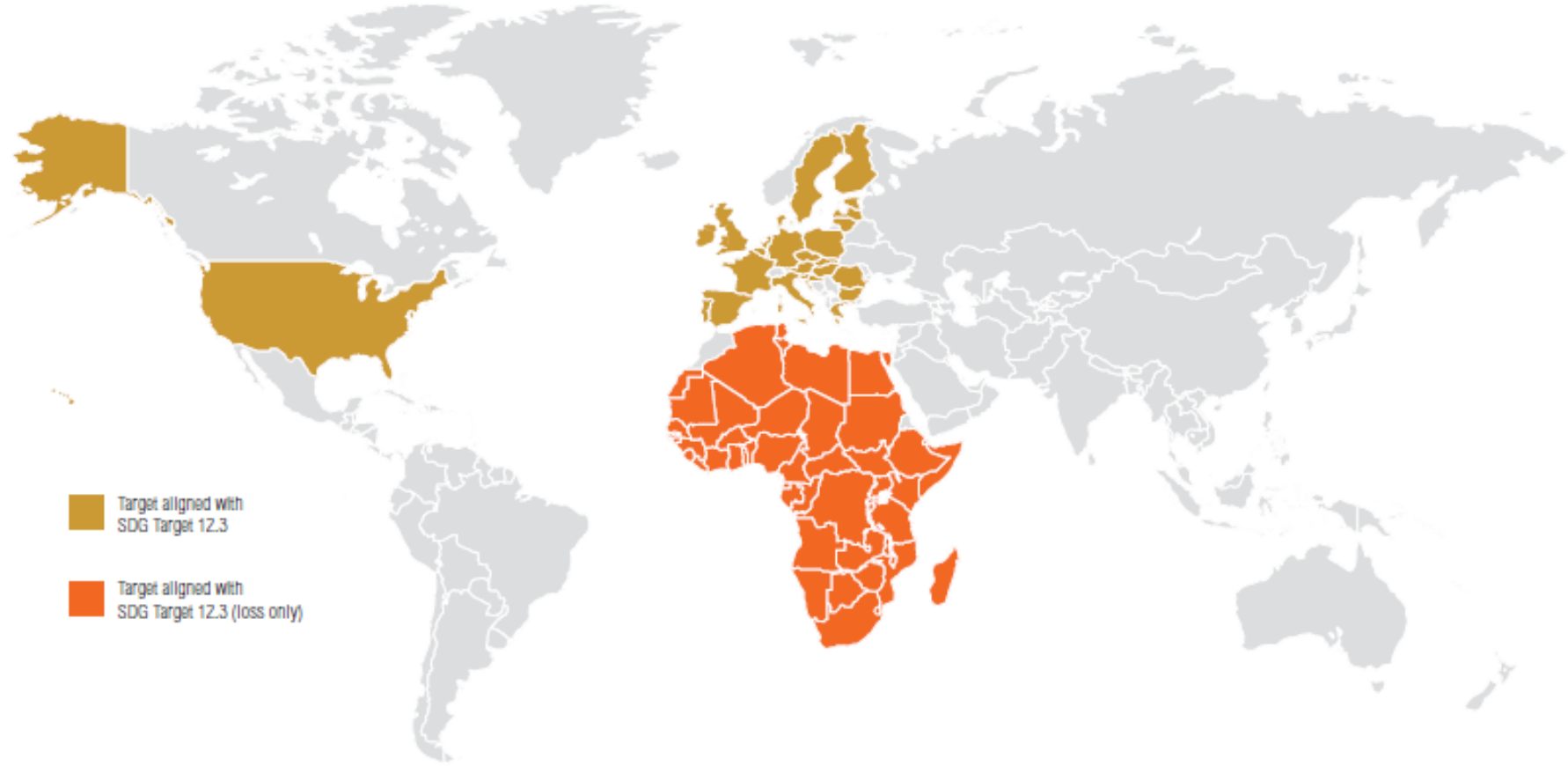
TARGET: Targets set ambition, ambition motivates action

Status to date: 3 regional blocks with specific targets

FIGURE 4. **National and regional governments with food loss and/or waste reduction targets aligned with SDG Target 12.3** (As of September 2016)



Source: Lipinski, L., C. O'Connor, C. Hanson (2016). *SDG Target 12.3 on Food Loss and Waste: 2016 Progress Report.* Champions 12.3

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MEASURE: "What gets measured gets managed"

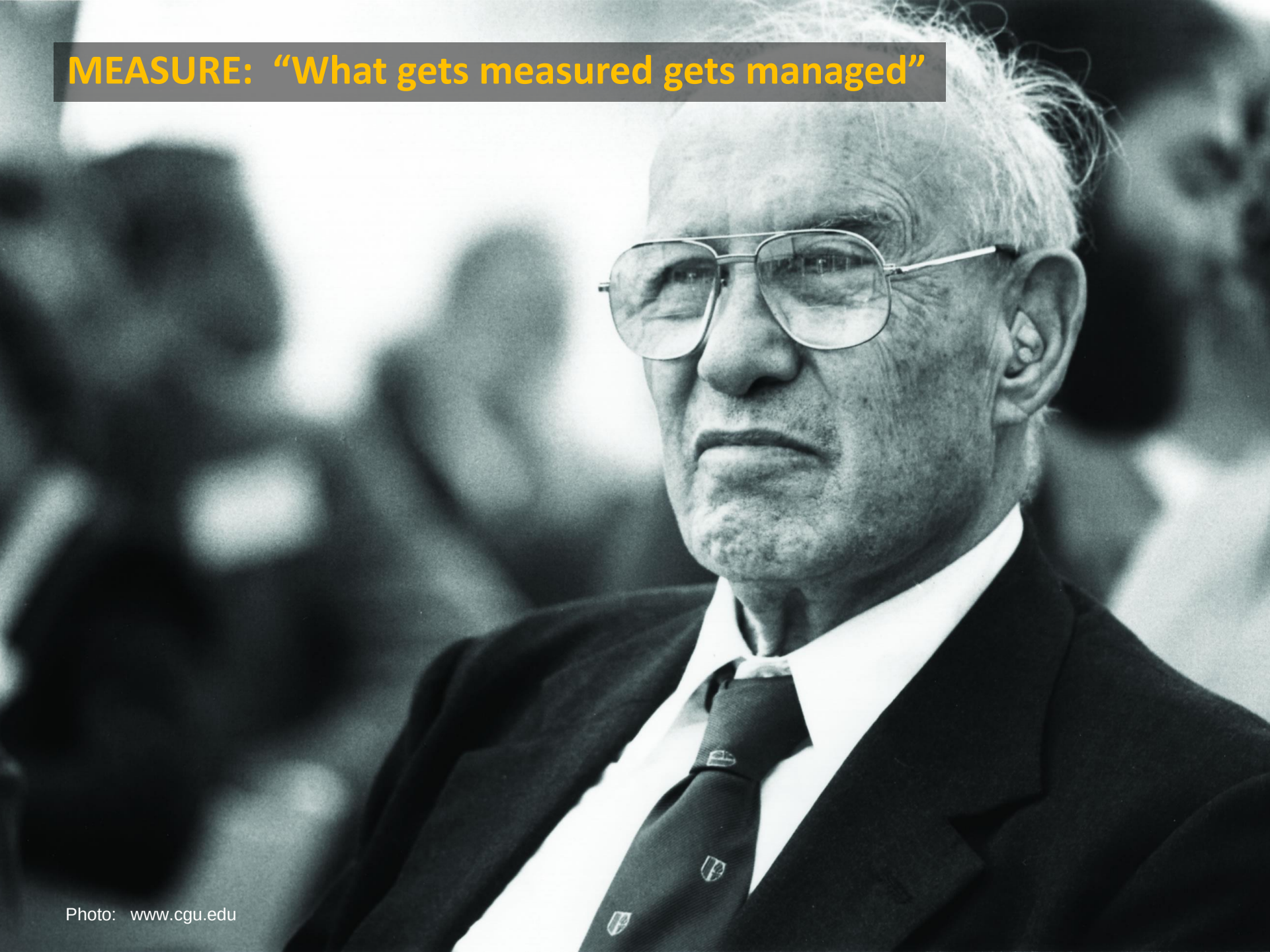
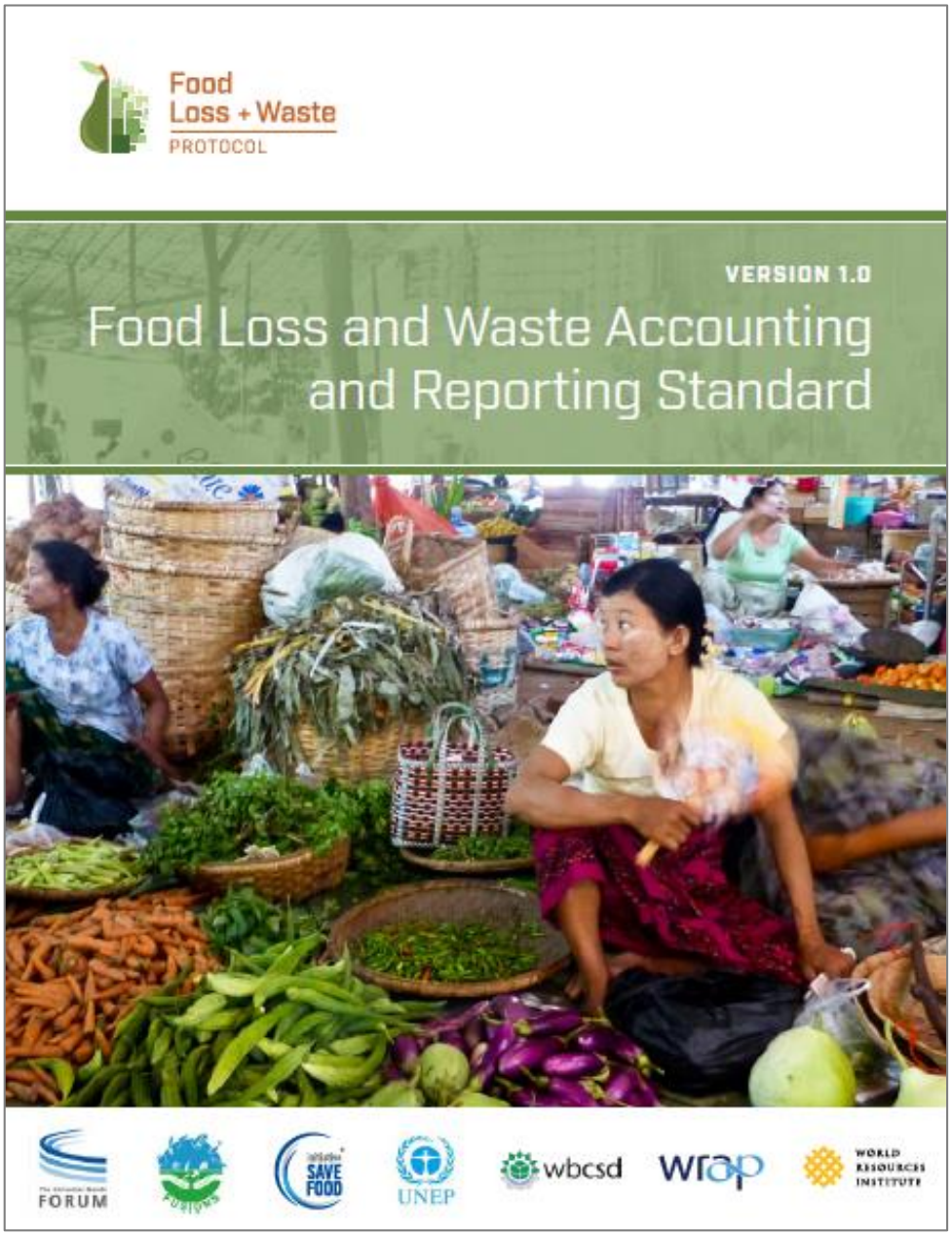


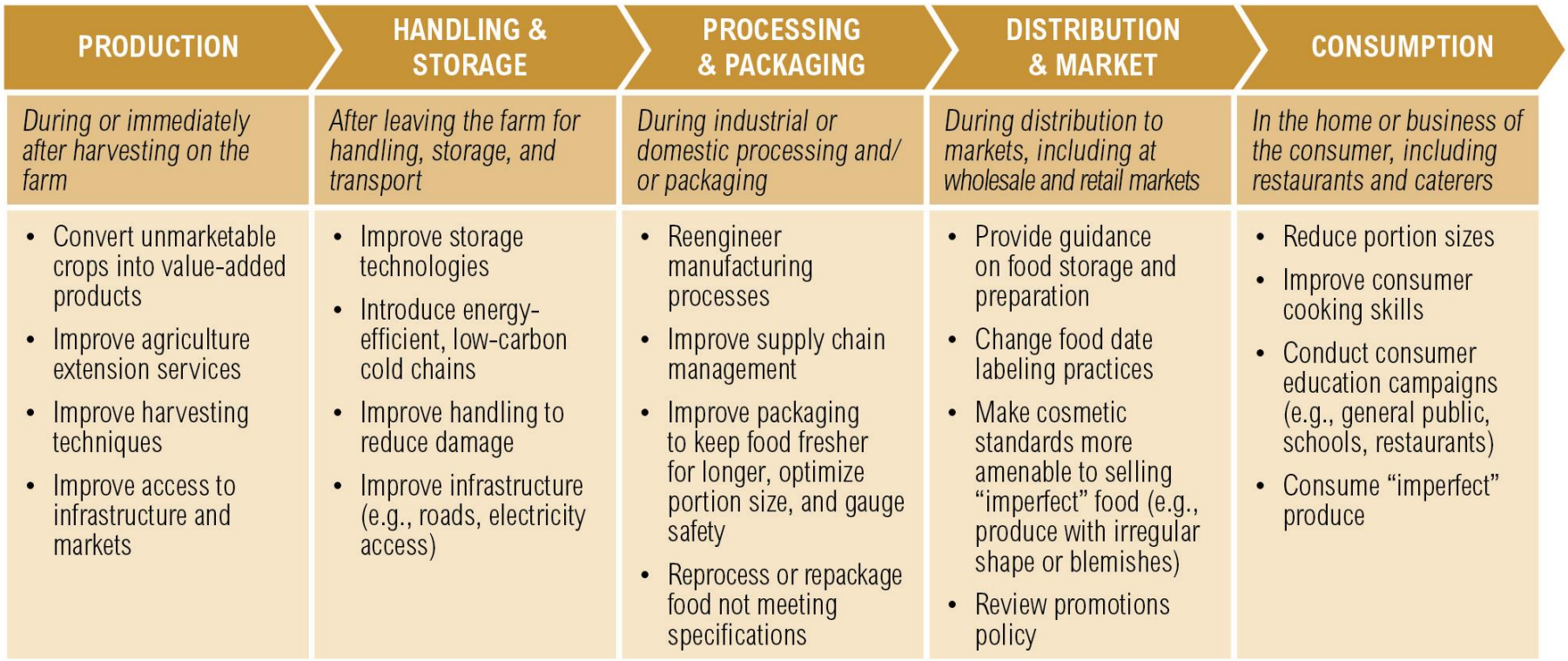
Photo: www.cgu.edu

Guidance is now available to help countries and companies quantify their food loss and waste



ACT: What ultimately matters is action

FIGURE 6. **Possible approaches for reducing food loss and waste (not exhaustive)**



Source: Hanson, C. and P. Mitchell. 2017. *The Business Case for Reducing Food Loss and Waste.* Washington, DC: Champions 12.3

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We thank those providing financial support for making "The Business Case" publication a reality

Ministry of Economic Affairs

Walmart Foundation

The Netherlands Ministry of Economic Affairs


QUESTIONS
ANSWERS

Food
Loss + Waste
PROTOCOL

Introduction to the *FLW Standard*

About the FLW Protocol

A multi-stakeholder effort to develop a global
Food Loss and Waste Accounting and Reporting Standard
(FLW Standard)

The Consumer Goods FORUM
The Global Network Serving Shopper & Consumer Needs

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World Business Council for Sustainable Development

Secretariat

FAO FIAT PANIS

Food Loss + Waste PROTOCOL

UNEP

FUSIONS

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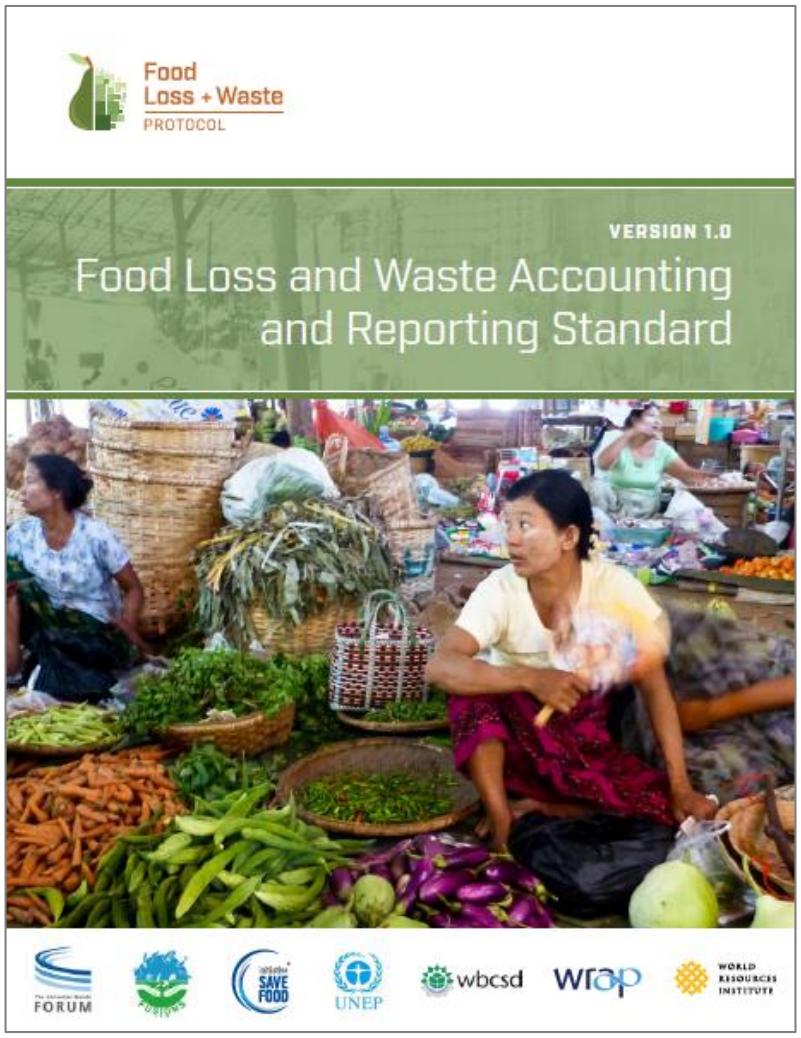
Working together for a world without waste

Over 200 Stakeholders Consulted (Sample Below)

Across every continent

Academia, private sector, government, NGOs

Launched June 2016



- Global voluntary standard
- Common language, requirements, and guidance for quantifying and reporting on the weight of FLW
- Benefits of using the *FLW Standard*:
  1. Consistency and transparency
  2. Set and track progress using a clear framework
  3. Understand where FLW is generated to guide action

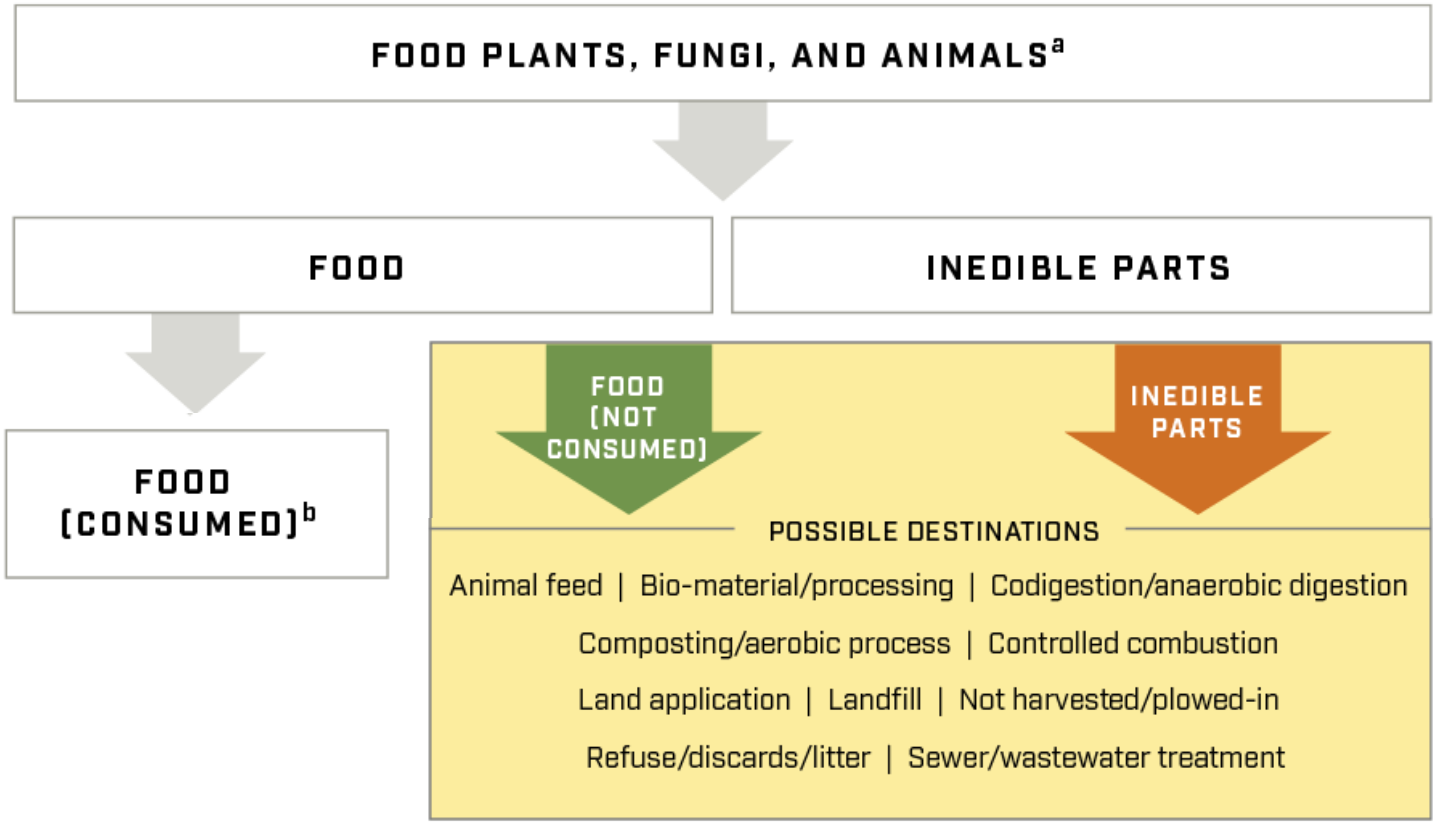
Questions to Ask When Measuring

Why quantify?

What to quantify?

How to quantify?

What to Quantify?



The *FLW Standard's* accounting and reporting requirements and guidance apply to that which is in this shaded box (i.e., removed from the food supply chain)

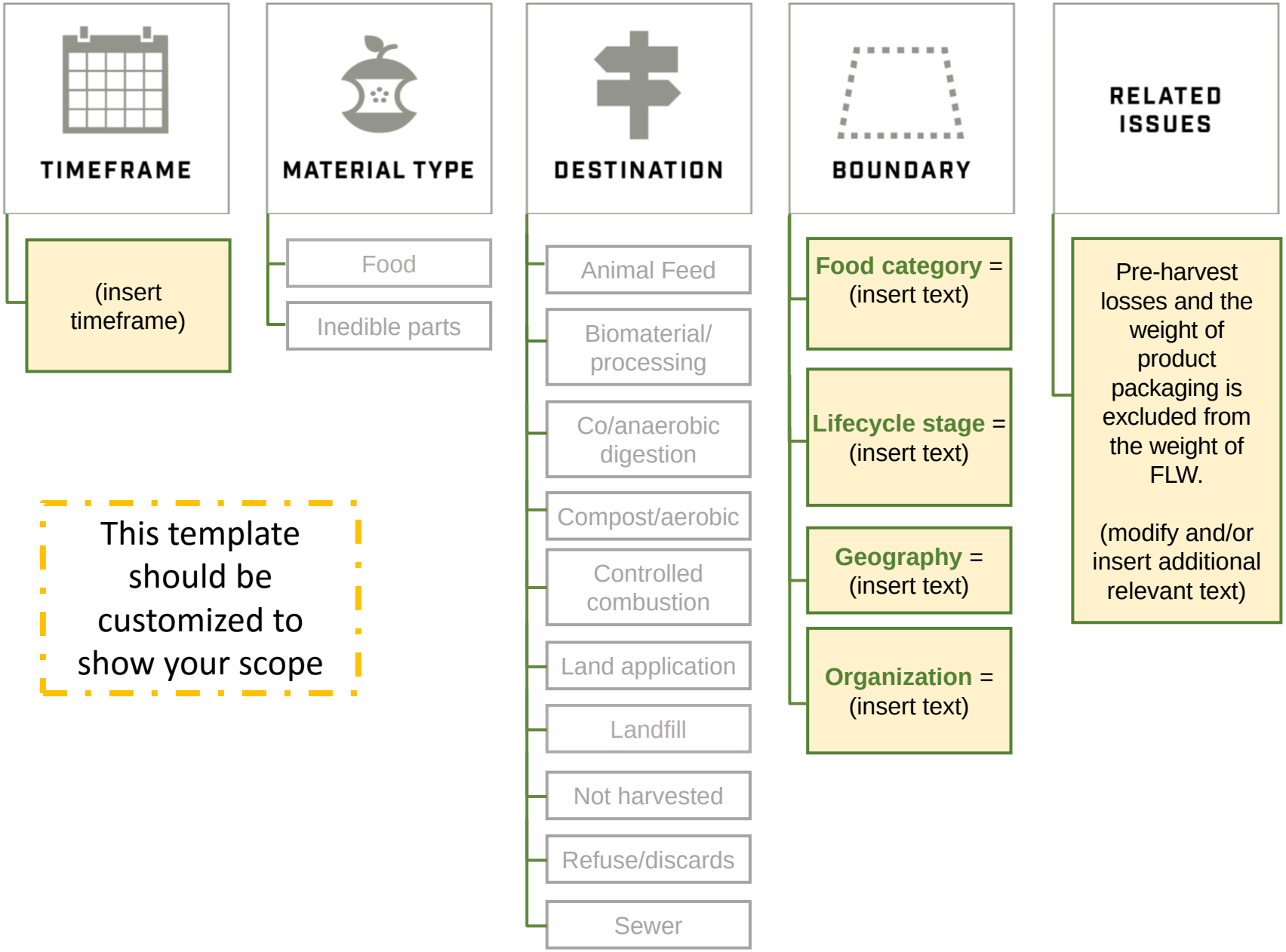
FLW Standard **allows an entity to select which combination of (1) Material Types (i.e., food and/or inedible parts) and (2) Destinations (i.e., which of the ten listed) it considers to be "food loss and waste"**

[a] Intended for human consumption (i.e.., excludes crops intentionally grown for bioenergy, animal feed, seed, or industrial use)

[b] At some point in the food supply chain (including surplus food redistributed to people and consumed)

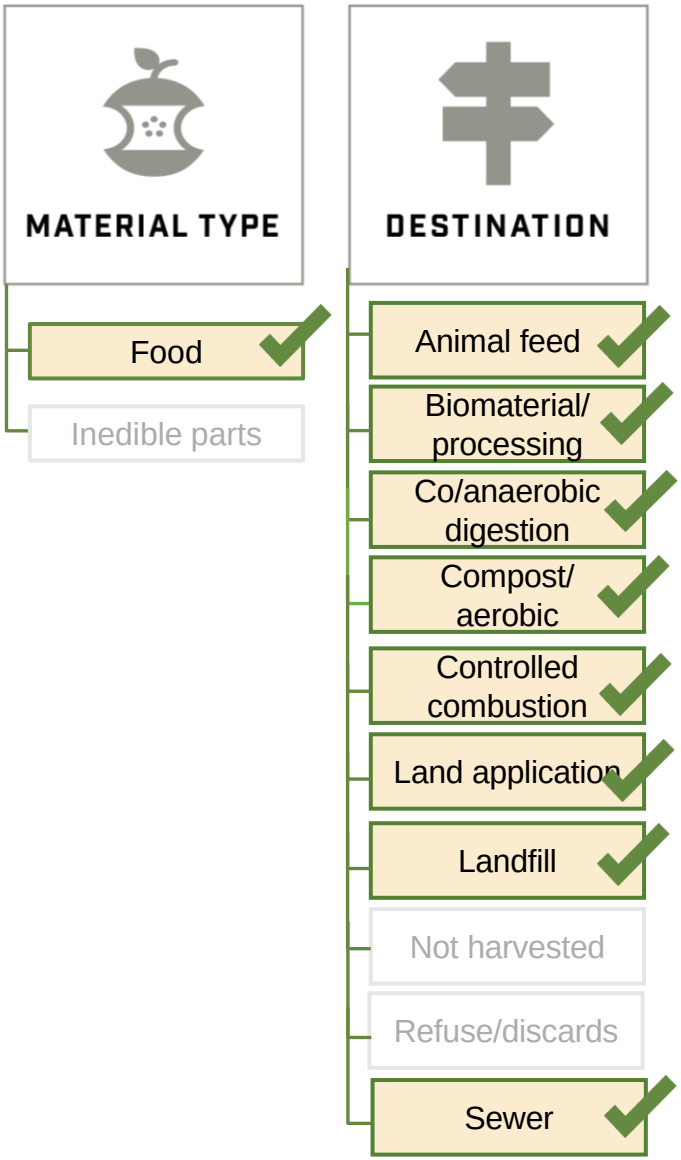
Source: Adapted from FAO. 2014. Definitional Framework of Food Loss. Working paper of the Global Initiative on Food Loss and Waste Reduction. Rome, Italy: FAO.

Template to Visually Represent Scope Using the *FLW Standard*



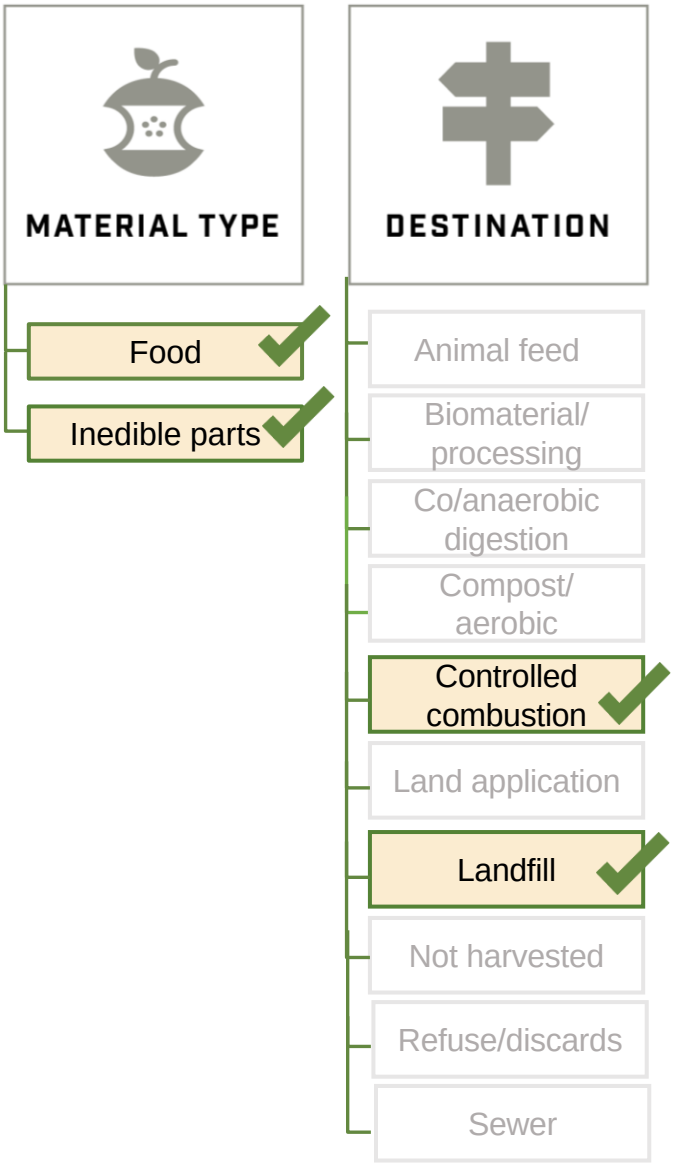
Comparing Scope of US Food Loss and Waste Data

USDA: 66.5 million tons



VERSUS

US EPA: 36.46 million tons *disposed*



How to Quantify?

1. Direct weighing
2. Counting
3. Assessing volume
4. Waste composition analysis
5. Records
6. Diaries
7. Surveys
8. Mass balance
9. Modeling
10. Proxy data

A suite of FLW quantification methods are available to you. The following contains guidance on ten of the most common methods, as well as guidance on how to select which are most appropriate given your circumstances.

Downloads

GUIDANCE ON FLW QUANTIFICATION METHODS (PDF)

FLW QUANTIFICATION METHOD RANKING TOOL (XLS)

Individual Chapters from the Guidance on FLW Quantification Methods

@ www.FLWProtocol.org, under the “Tools & Resources” tab

The *FLW Standard* provides a firm framework – that allows for flexibility in application

WHAT is quantified?

FLW Standard requires reporting the scope of an FLW inventory.

It requires using clear terms and definitions for describing what is meant by food loss/waste.

- It does not prescribe a particular definition of food loss/waste.

HOW is it quantified?

FLW Standard requires reporting on quantification method used and other details.

- It does not prescribe a particular method for quantifying FLW.

The Eight *FLW Standard* Accounting and Reporting Requirements

1. **Base FLW accounting and reporting on the principles of relevance, completeness, consistency, transparency, and accuracy**

2. **Account for and report the physical amount of FLW expressed as weight** (e.g., pounds, kilograms, tons, metric tons)

3. **Define and report on the scope of the FLW inventory**
   a. Timeframe
   b. Material type
   c. Destination
   d. Boundary
   (See *FLW Standard* for details, including related issues)

4. **Describe the quantification method(s) used.** If existing studies or data are used, identify the source and scope

5. **If sampling and scaling of data are undertaken,** describe the approach and calculation used, as well as the period of time over which sample data are collected (including starting and ending dates)

6. **Provide a qualitative description and/or quantitative assessment of the uncertainty around FLW inventory results**

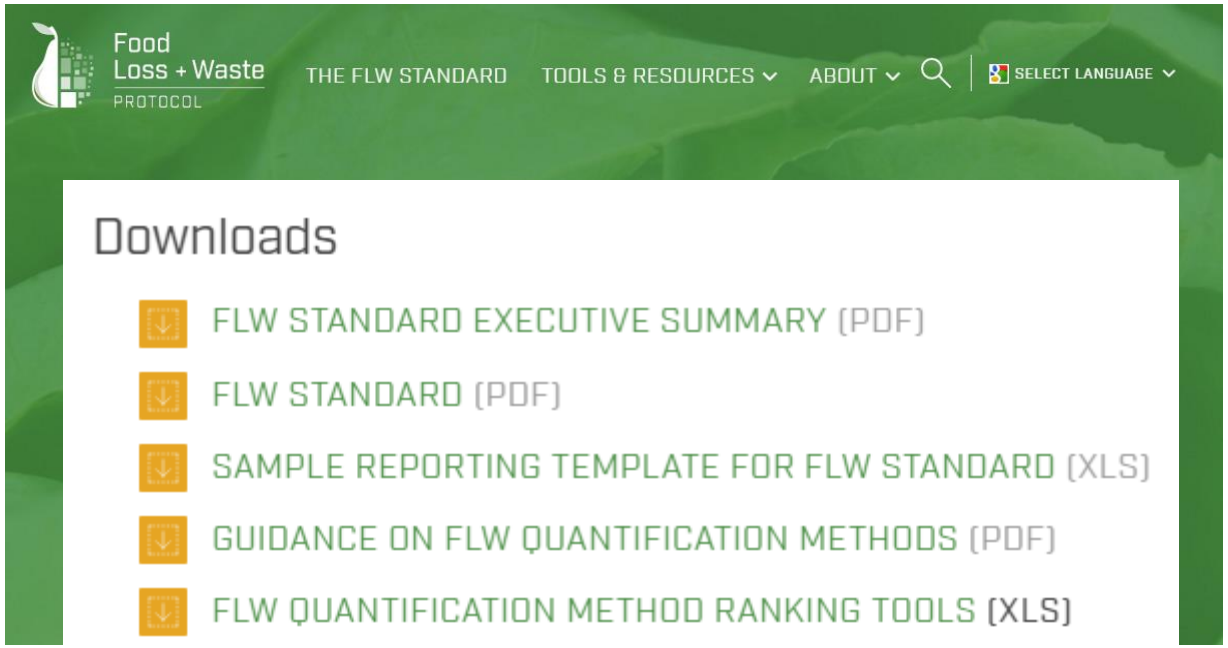
7. **If assurance of the FLW inventory is undertaken** (which may include peer review, verification, validation, quality assurance, quality control, and audit), create an assurance statement

8. **If tracking the amount of FLW and/or setting an FLW reduction target,** select a base year, identify the scope of the target, and recalculate the base year FLW inventory when necessary

Ways in Which to Use the *FLW Standard* and Tools (FLWProtocol.org)

Use the…

- Standard's language to define FLW (the scope)
- 8 requirements for consistent / transparent accounting and reporting of the amount
- Guidance to make decisions



TIP: Start with the Executive Summary (12-pages)

It includes the key features:

- Definitions related to scope
- Requirements to be met for FLW inventory to be in conformance with the Standard

Focus for 2017

Promote adoption and use of the *FLW Standard*

- News update to interested stakeholders (sign up @ www.FLWProtocol.org)
- Case studies to highlight "users" of *FLW Standard*
- Translating Executive Summary (Chinese, Japanese, Spanish)
- Trainings and presentations (email suggestions to flwprotocol@wri.org)
- FLW database / inventory reporting platform

Acknowledgements | Funders of WRI's FLW initiative

Ministry of Economic Affairs

The Netherlands Ministry of Economic Affairs

Walmart Foundation

Ministry of Foreign Affairs of the Netherlands

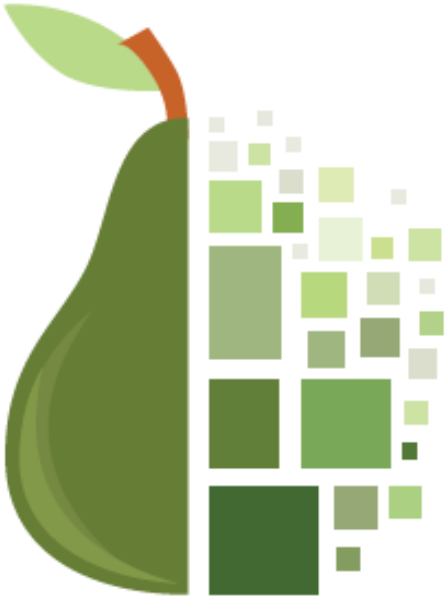
Ministry of Foreign Affairs of Denmark
DANIDA | International Development Cooperation

Sida
SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY

Irish Aid
Government of Ireland
Rialtas na hÉireann

Note: The Ministry of Foreign Affairs of the Netherlands, the Royal Danish Ministry of Foreign Affairs, the Swedish International Development Cooperation Agency (SIDA) and the Department of Foreign Affairs and Trade of Ireland (Irish Aid) provided core funding of the World Resources Institute, which made possible the development of the Food Loss and Waste Protocol.

DISCUSSION



Food Loss + Waste PROTOCOL

www.flwprotocol.org

For questions and suggestions, contact:
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Brian Lipinski (blipinski@wri.org)
Craig Hanson (chanson@wri.org)

APPENDIX

STRUCTURE OF THE *FLW STANDARD* (PARTS I, II, III)

PART I. Overview

1. Introduction
2. Definition of terms and applications
3. Goals of quantifying FLW
4. Summary of steps and requirements
5. Principles of FLW accounting and reporting

PART II. Main requirements

6. Establishing the scope of an FLW inventory
7. Deciding how to quantify FLW

PART III. Other requirements and recommendations

8. Collecting, calculating, and analyzing data
9. Assessing uncertainty
10. Coordinating the analysis of multiple FLW inventories
11. Recording causes of FLW
12. Review and assurance
13. Reporting
14. Setting targets and tracking changes over time

STRUCTURE OF THE *FLW STANDARD* (APPENDIX) & *GUIDANCE ON FLW QUANTIFICATION METHODS*

Appendix to the *FLW Standard*

A. Approaches to sampling and scaling up data

B. Separating material types: data sources for conversion factors applied to individual items

C. Normalizing data

D. Expressing weight of FLW in other terms or units of measurement

E. Quantifying and reporting the weight of food rescued

Guidance on FLW Quantification Methods (stand-alone document)

Introduction

Quantification Methods

1. Direct weighing
2. Counting
3. Assessing volume
4. Waste composition analysis
5. Records
6. Diaries
7. Surveys
8. Mass balance
9. Modeling
10. Proxy data

Appendix: Quantifying FLW if water is added

FLW STANDARD ACCOUNTING AND REPORTING REQUIREMENTS

1. Base FLW accounting and reporting on the principles of relevance, completeness, consistency, transparency, and accuracy

2. Account for and report the physical amount of FLW expressed as weight (e.g., pounds, kilograms, tons, metric tons)

3. Define and report on the scope of the FLW inventory

a. *Timeframe*. Report the timeframe for which the inventory results are being reported (including starting and ending date)

b. *Material type*. Account for and report the material type(s) included in the FLW inventory (i.e., food only, inedible parts only, or food and associated inedible parts).

If food or associated inedible parts removed from the food supply chain are accounted for separately in the inventory:

- Describe the sources or frameworks used to categorize a material as food or as inedible parts. This includes stating any assumptions that were used to define whether or not material was "intended" for human consumption
- Describe the approach used to calculate the separate amounts. If applicable, describe all conversion factors used and their sources

c. *Destination*. Account for and report the destinations included in the FLW inventory (i.e., where material removed from the food supply chain is directed). If the destination is unknown, then report the initial path(s) at a minimum.

d. *Boundary*. Report the boundary of the FLW inventory in terms of the food category, lifecycle stage, geography, and organization (including the sources used to classify them).

e. *Related issues*.

Packaging and other non-FLW material. Exclude from an FLW inventory any material (and its weight) that is not food or associated inedible parts removed from the food supply chain (i.e., FLW). If a calculation is needed to separate the weight of FLW from non-FLW materials (e.g., subtracting the weight of packaging), describe the approach and calculation used

Water added/removed from FLW. Account for and report the weight of FLW that reflects the state in which it was generated before water was added, or before the intrinsic water weight of FLW was reduced. If a calculation is made to estimate the original weight of FLW, describe the approach and calculation used

Pre-harvest losses. Exclude pre-harvest losses from the scope of an FLW inventory. Users may quantify such losses but shall keep data separate from the FLW inventory results

4. Describe the quantification method(s) used. If existing studies or data are used, identify the source and scope

5. If sampling and scaling of data are undertaken, describe the approach and calculation used, as well as the period of time over which sample data are collected (including starting and ending dates)

6. Provide a qualitative description and/or quantitative assessment of the uncertainty around FLW inventory results

7. If assurance of the FLW inventory is undertaken (which may include peer review, verification, validation, quality assurance, quality control, and audit), create an assurance statement

8. If tracking the amount of FLW and/or setting an FLW reduction target, select a base year, identify the scope of the target, and recalculate the base year FLW inventory when necessary

DEFINITION: *MATERIAL TYPES*

Defining Food and Inedible Parts

Food:[a] Any substance—whether processed, semi-processed, or raw—that is intended for human consumption. "Food" includes drink, and any substance that has been used in the manufacture, preparation, or treatment of food. "Food" also includes material that has spoiled and is therefore no longer fit for human consumption. It does not include cosmetics, tobacco, or substances used only as drugs. It does not include processing agents used along the food supply chain, for example, water to clean or cook raw materials in factories or at home.

Inedible parts: Components associated with a food that, in a particular food supply chain, are not intended to be consumed by humans. Examples of inedible parts associated with food could include bones, rinds, and pits/stones. "Inedible parts" do not include packaging. What is considered inedible varies among users (e.g., chicken feet are consumed in some food supply chains but not others), changes over time, and is influenced by a range of variables including culture, socio-economic factors, availability, price, technological advances, international trade, and geography.

[a]Adapted from Codex Alimentarius Commission (2013)

DEFINITION: *DESTINATIONS*

Destination	Definition
Animal feed	Diverting material from the food supply chain[a] (directly or after processing) to animals
Bio-based materials/biochemical processing	Converting material into industrial products. Examples include creating fibers for packaging material, creating bioplastics (e.g., polylactic acid), making "traditional" materials such as leather or feathers (e.g., for pillows), and rendering fat, oil, or grease into a raw material to make products such as soaps, biodiesel, or cosmetics. "Biochemical processing" does not refer to anaerobic digestion or production of bioethanol through fermentation
Codigestion/anaerobic digestion	Breaking down material via bacteria in the absence of oxygen. This process generates biogas and nutrient-rich matter. Codigestion refers to the simultaneous anaerobic digestion of FLW and other organic material in one digester. This destination includes fermentation (converting carbohydrates—such as glucose, fructose, and sucrose—via microbes into alcohols in the absence of oxygen to create products such as biofuels)
Composting/aerobic processes	Breaking down material via bacteria in oxygen-rich environments. Composting refers to the production of organic material (via aerobic processes) that can be used as a soil amendment
Controlled combustion	Sending material to a facility that is specifically designed for combustion in a controlled manner, which may include some form of energy recovery (this may also be referred to as incineration)
Land application	Spreading, spraying, injecting, or incorporating organic material onto or below the surface of the land to enhance soil quality
Landfill	Sending material to an area of land or an excavated site that is specifically designed and built to receive wastes
Not harvested/plowed-in	Leaving crops that were ready for harvest in the field or tilling them into the soil
Refuse/discards/litter	Abandoning material on land or disposing of it in the sea. This includes open dumps (i.e., uncovered, unlined), open burn (i.e., not in a controlled facility), the portion of harvested crops eaten by pests, and fish discards (the portion of total catch that is thrown away or slipped)
Sewer/wastewater treatment	Sending material down the sewer (with or without prior treatment), including that which may go to a facility designed to treat wastewater
Other	Sending material to a destination that is different from the 10 listed above. This destination should be described

[a] Excludes crops intentionally grown for bioenergy, animal feed, seed, or industrial use

DEFINITION: *BOUNDARY*

Boundary dimension	Definition	Examples
Food category	The type(s) of food included in reported FLW	• All food • Dairy products • Fresh fruits and vegetables • Chicken
Lifecycle stage	The stage(s) in the food supply chain or food lifecycle within which reported FLW occurs	• Entire food supply chain • Two stages: manufacture of dairy products, and retail of food and beverage • At home
Geography	Geographic borders within which reported FLW occurs	• World (all countries) • Eastern Asia • Ghana • Nova Scotia, Canada • Lima, Peru
Organization	Organizational unit(s) within which reported FLW occurs	• All sectors in country • Entire company • Two business units • All 1,000 stores • 100 households

BOUNDARY (Classification sources to use)

Boundary dimension	Classification source to use (select the most current version)	Selected examples with relevant codes

Food category	• Select one or more categories from either the Codex General Standard for Food Additives (GSFA) system or United Nations Central Production Classification (CPC) system
	• If more detailed information is used, include appropriate codes from more granular sources including:
	  • Global Product Category (GPC) codes (online, or download an Excel, Word or XML copy)
	  • United Nations Standard Products and Services Code (UNSPSC)
		• All food (GSFA 01.0 –16.0) or (CPC2.1 Divisions 21–24)
		• Dairy products (GSFA 01.0) or (CPC2.1 Group 221 & 222)
		• Fresh fruits and vegetables (GSFA 04.1 & 04.2.1) or (CPC2.1 Group 012 & 013)
		• Chicken (GSFA 08.1.1 [Fresh meat, poultry, and game, whole pieces or cuts]; GPC Brick 10005769) or (CPC2.1 Subclass 21121)

Lifecycle stage	• Select one or more United Nations International Standard Industrial Classifications of All Economic Activities (ISIC) codes (At the time of publication, the latest version is "Rev.4") • Regional and national classification systems may be used as well, most of which are derived from the ISIC (e.g., NACE for Europe). The UN Statistics Division lists national classification systems • If no code exists, write in the lifecycle stage	• Entire food supply chain (select relevant group of ISIC codes) • Two stages: manufacture of dairy products (ISIC Group: 105) and retail of food and beverage (ISIC Class: 4721) • At home (ISIC Class: 9820)
Geography	• Select one or more UN regions or country codes • Write in description for narrower geographic scope. Where available, use a national classification system (e.g., U.S. Census)	• World/all countries (UN Code 001) • Eastern Asia (UN Code 030) • Ghana (UN Code 288) • Nova Scotia, Canada • Lima, Peru
Organization	• Write in number and type of unit(s) and any additional descriptive detail	• All sectors in country • Entire company • Two business units • All 1,000 stores • 100 households

SAMPLE FLW INVENTORY REPORTING TEMPLATE

USING THE FLW STANDARD

The purpose of the *FLW Standard* is to facilitate the quantification of FLW (what to measure and how to measure it) and encourage consistency and transparency of the reported data.

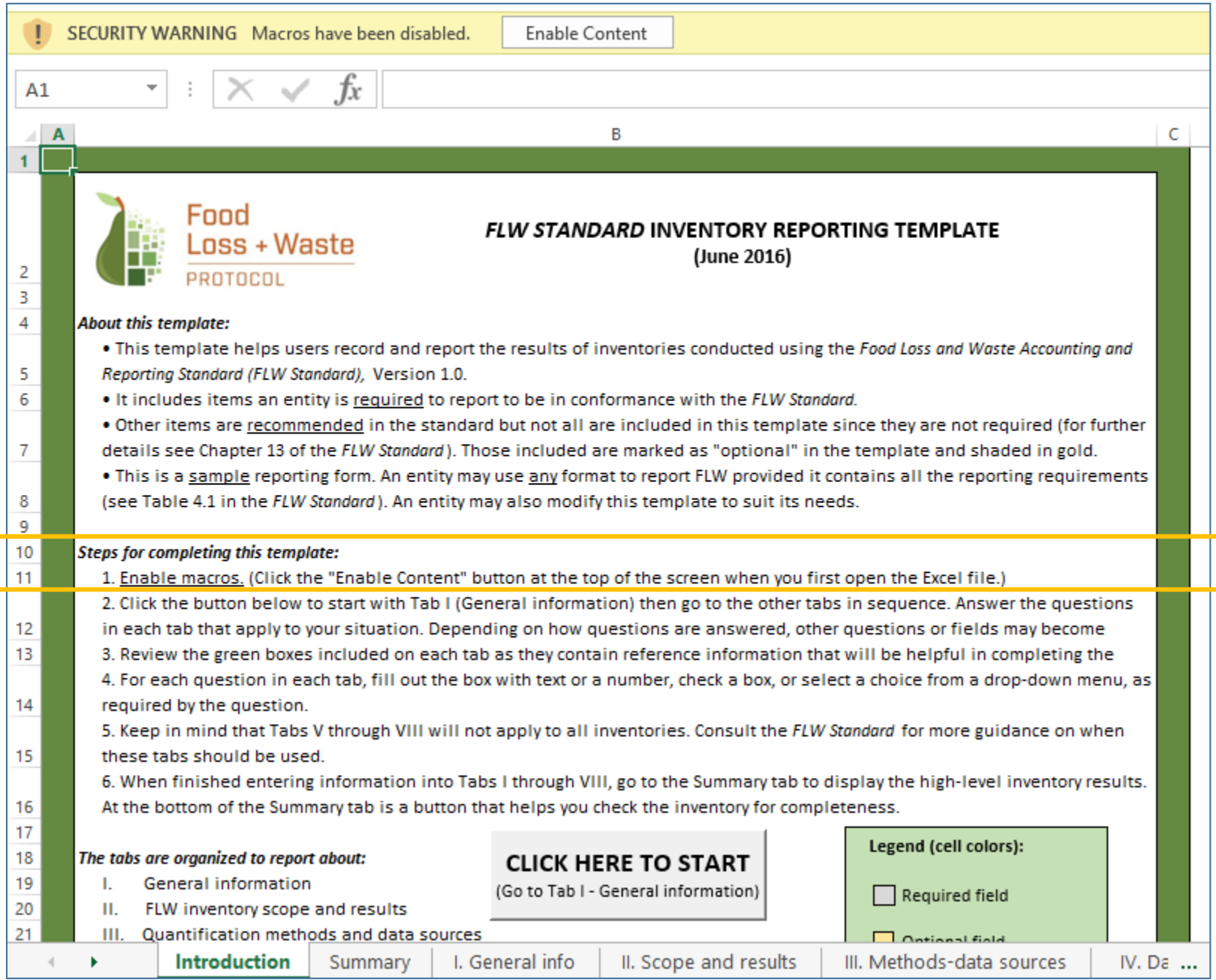
For a summary of the most important features of the *FLW Standard* (key definitions and requirements), download the stand-alone Executive Summary. Reading this 12-page document first will help you get started. The *FLW Standard* is a comprehensive document, which provides detail and guidance on implementing the requirements. It may be read in its entirety or used as a reference document.

Downloads

- FLW STANDARD EXECUTIVE SUMMARY (PDF)
- FLW STANDARD (PDF)
- SAMPLE REPORTING TEMPLATE FOR FLW STANDARD (XLS)

At www.FLWProtocol.org, under "The FLW Standard" tab

SAMPLE FLW INVENTORY REPORTING TEMPLATE



SECURITY WARNING Macros have been disabled. Enable Content

A1

Food Loss + Waste PROTOCOL

***FLW STANDARD* INVENTORY REPORTING TEMPLATE**
(June 2016)

About this template:

- This template helps users record and report the results of inventories conducted using the *Food Loss and Waste Accounting and Reporting Standard (FLW Standard),* Version 1.0.
- It includes items an entity is required to report to be in conformance with the *FLW Standard.*
- Other items are recommended in the standard but not all are included in this template since they are not required (for further details see Chapter 13 of the *FLW Standard*). Those included are marked as "optional" in the template and shaded in gold.
- This is a sample reporting form. An entity may use any format to report FLW provided it contains all the reporting requirements (see Table 4.1 in the *FLW Standard*). An entity may also modify this template to suit its needs.

Steps for completing this template:

1. Enable macros. (Click the "Enable Content" button at the top of the screen when you first open the Excel file.)
2. Click the button below to start with Tab I (General information) then go to the other tabs in sequence. Answer the questions in each tab that apply to your situation. Depending on how questions are answered, other questions or fields may become
3. Review the green boxes included on each tab as they contain reference information that will be helpful in completing the
4. For each question in each tab, fill out the box with text or a number, check a box, or select a choice from a drop-down menu, as required by the question.
5. Keep in mind that Tabs V through VIII will not apply to all inventories. Consult the *FLW Standard* for more guidance on when these tabs should be used.
6. When finished entering information into Tabs I through VIII, go to the Summary tab to display the high-level inventory results. At the bottom of the Summary tab is a button that helps you check the inventory for completeness.

The tabs are organized to report about:

I. General information
II. FLW inventory scope and results
III. Quantification methods and data sources

CLICK HERE TO START
(Go to Tab I - General information)

Legend (cell colors):
Required field
Optional field

Introduction | Summary | I. General info | II. Scope and results | III. Methods-data sources | IV. Da ...

FLW QUANTIFICATION METHOD RANKING TOOL

Food Loss + Waste PROTOCOL

FLW Quantification Method Ranking Tool

(June 2016)

Introduction

Purpose: This tool is designed to accompany the *Food Loss and Waste Accounting and Reporting Standard (FLW Standard).* It provides suggested methods for quantifying food loss and waste (FLW).

Instructions: Answer all the questions below to the best of your ability by using the drop-down menus, then press the "Get results" button. This will take you to the Results Tab which ranks all the methods included in the *FLW Standard* (see Chapter 7). You may need to click "Enable macros" when prompted by Excel in order to use this sheet.

Note:
- The "Methodology Tab" explains how this ranking of methods was developed.
- The recommendations provided do not take into account the availability of resources (e.g., budget, staff time). The tool does not consider which methods would work well in combination (see "Methodology Tab" for additional details).
- We welcome your questions and suggestions. Please contact Brian Lipinski at BLipinski@wri.org.

Questions		Please select answers from drop-down menus
1	How important is it to have a low level of uncertainty (high degree of accuracy in the FLW results)? *Note: A higher degree of accuracy is recommended when monitoring targets.*	
2	Is it necessary to determine the reasons why FLW is generated?	
3	Can you get direct access to the FLW being quantified?	
4	Is the FLW (whether packaged or not) mixed with other items or materials (e.g. soil, garden / yard waste, non-organic solid waste, etc.)?	
5	Is the FLW mainly liquid or solid?	
6	Does all, some, or no FLW go down the drain/sewer?	
7	Are inputs and outputs recorded that could be used for inferring the amount of FLW? (e.g. in a factory, the amount of ingredients entering the site and the amount of product leaving the site)	
8	Is there existing information that describes how FLW varies in response to other factors (e.g. with climate, soil conditions, crop / food type)?	

Questionnaire | Results | Methodology