

# CHAMPIONS 12.3

## SDG TARGET 12.3 ON FOOD LOSS AND WASTE: 2016 PROGRESS REPORT

An annual update on behalf of Champions 12.3

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



### THE CHALLENGE

According to the Food and Agriculture Organization of the United Nations (FAO), approximately one-third of all food produced in the world is lost or wasted.<sup>1</sup> This huge level of inefficiency has significant impacts.

Consider food security. In some areas, food losses near the farm are predominant (Figure 1) and can affect the ability of farmers to make a good living and, at times, feed their families. In other places—including Europe and North America—food wasted near the fork can affect the less fortunate. Regardless of where the food loss and waste occurs, in a world where one in nine people are undernourished,<sup>2</sup> the fact that more than one billion tons of food never gets consumed is a travesty.<sup>3</sup>

Consider the economic costs. Food loss and waste results in roughly \$940 billion in economic losses globally per year.<sup>4</sup> In Sub-Saharan Africa, post-harvest losses total up to \$4 billion per year.<sup>5</sup> Food waste in households and restaurants costs an average of \$1,500 per year<sup>6</sup> for a family of four in the United States and about \$1,060 per year for the average household with children in the United Kingdom.<sup>7</sup>

Consider the environment. Food that is harvested but ultimately lost or wasted consumes about one-quarter of all water used by agriculture each year.<sup>8</sup> It requires cropland area the size of China to be grown.<sup>9</sup> And it generates about eight percent of global greenhouse gas emissions annually.<sup>10</sup> To put this in perspective, if food loss and waste were a country, it would be the third-largest greenhouse gas emitter on the planet—surpassed only by China and the United States (Figure 2).

### ABOUT THIS PUBLICATION

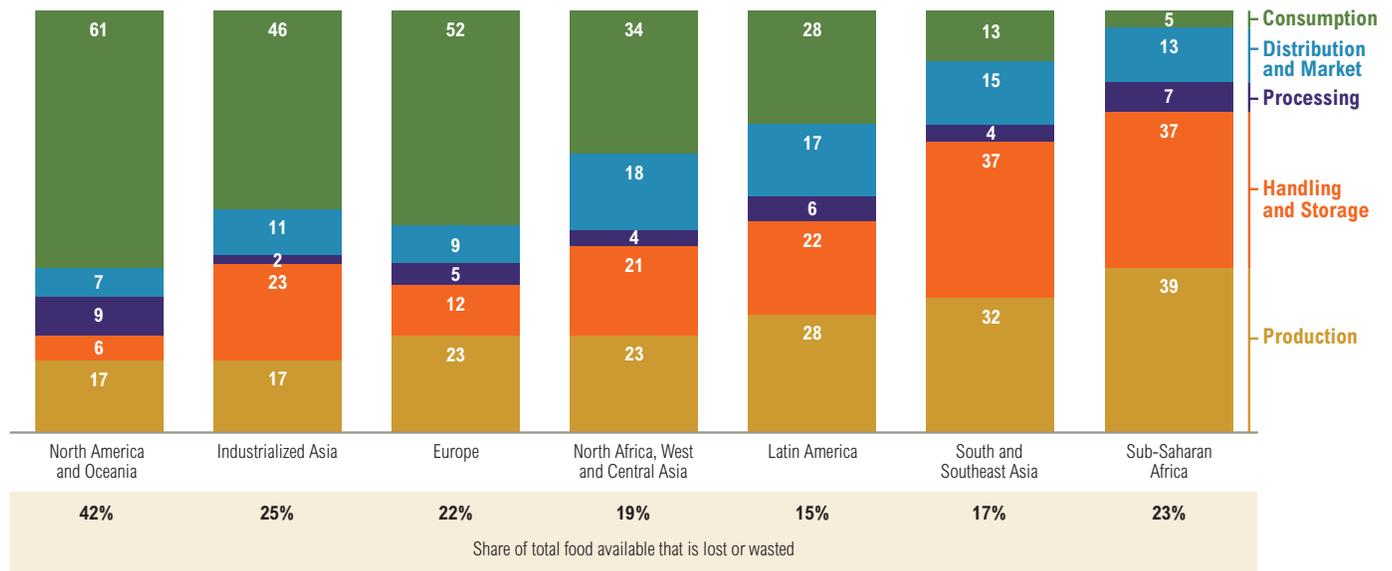
*SDG Target 12.3 on Food Loss and Waste: 2016 Progress Report* is the first in an annual series of publications providing an assessment of the world's progress toward achieving Sustainable Development Goal (SDG) Target 12.3. SDG Target 12.3 aims to “by 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.” Prepared on behalf of Champions 12.3, this publication seeks to inform decision makers in government, business, academia, and civil society about recent advances and what remaining steps need to be addressed if the world is to achieve the target.

### AUTHORS

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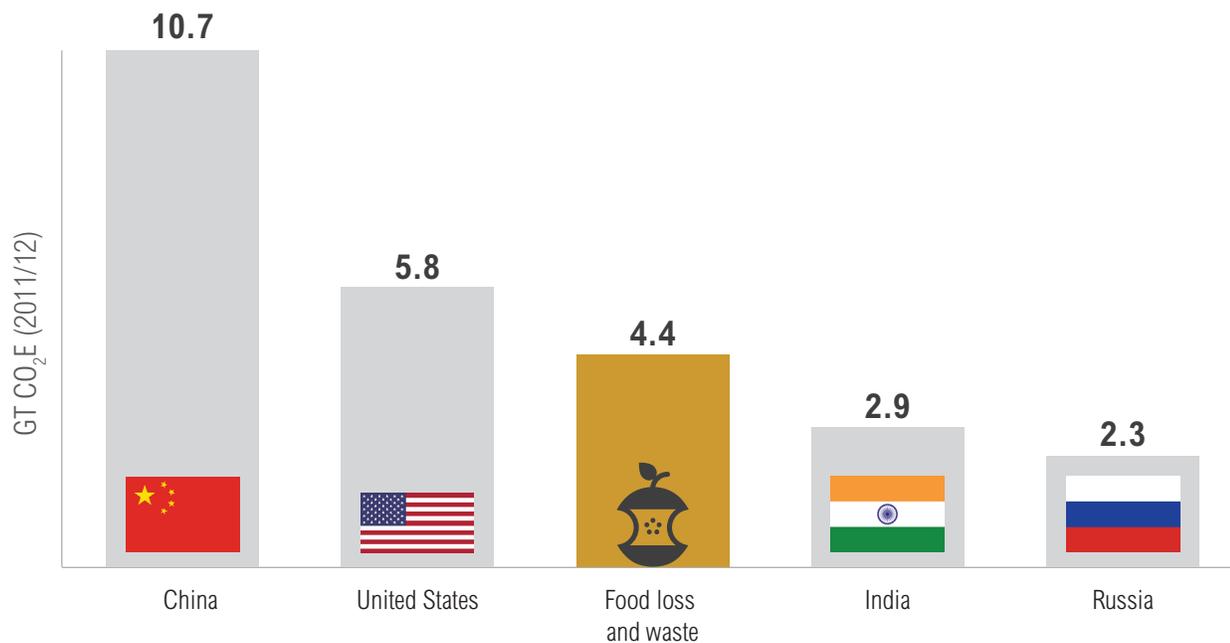
**FIGURE 1. Losses near production are more prevalent in developing regions while food waste near consumption is more prevalent in developed regions (Percent of kcal lost and wasted)**



Note: Number may not sum to 100 due to rounding.

Source: WRI analysis based on FAO. 2011. *Global Food Losses and Food Waste—Extent, Causes, and Prevention*. Rome: UN FAO.

**FIGURE 2. If food loss and waste were its own country, it would be the third-largest greenhouse gas emitter**



Note: Figures reflect all six anthropogenic greenhouse gas emissions, including those from land use, land-use change, and forestry (LULUCF). Country data is for 2012 while the food loss and waste data is for 2011 (the most recent data available). To avoid double counting, the food loss and waste emissions figure should not be added to the country figures.

Source: CAIT. 2015; FAO. 2015. *Food Waste Footprint & Climate Change*. Rome: FAO.

## A HISTORIC OPPORTUNITY

In light of these impacts, reducing food loss and waste can be a triple win. It can help feed more people. It can save money for farmers, companies, and households. And reductions can alleviate pressure on climate, water, and land resources.

In September 2015, a historic window of opportunity opened to elevate the issue of food loss and waste reduction on the global agenda. At the United Nations General Assembly, countries of the world formally adopted a set of 17 Sustainable Development Goals (SDGs) as part of the 2030 Agenda for Sustainable Development—global goals to end poverty and hunger, protect the planet, and ensure prosperity for all populations and generations.<sup>11</sup> These SDGs and their associated targets came into effect January 1, 2016.

*“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.”*

—SDG Target 12.3

SDG 12 seeks to “ensure sustainable consumption and production patterns.” The third target under this goal (Target 12.3) calls for halving per capita global food waste at the retail and consumer levels and reducing food losses along production and supply chains (including post-harvest losses) by 2030 (Box 1).

### BOX 1. About food loss and waste

Under the SAVE FOOD initiative, FAO, UNEP, and stakeholders have agreed to the following definition of food loss and waste. “Food loss” refers to a decrease in quantity or quality of food. Food loss in the production and distribution segments of the food supply chain is mainly caused by the functioning of the food production and supply system or its insti-

tutional and legal framework. An important part of food loss is called “food waste,” which refers to the removal of food from the food supply chain which is fit for consumption, or which has spoiled or expired, mainly caused by economic behavior, poor stock management, or neglect.<sup>12</sup> The SDGs do not give specific definitions for food loss and waste

relative to Target 12.3.

Figure 3 provides examples of food loss and waste during various stages of the food supply chain. SDG Target 12.3’s numerical target of a 50 percent reduction only applies to food waste, while no quantified reduction amount is given for food loss.

FIGURE 3. Examples of food loss and waste along the food supply chain

PRODUCTION	HANDLING & STORAGE	PROCESSING & PACKAGING	DISTRIBUTION & MARKET	CONSUMPTION
<i>During or immediately after harvesting on the farm</i>	<i>After leaving the farm for handling, storage, and transport</i>	<i>During industrial or domestic processing and/or packaging</i>	<i>During distribution to markets, including at wholesale and retail markets</i>	<i>In the home or business of the consumer, including restaurants and caterers</i>
<ul style="list-style-type: none"> <li>Fruits discarded due to bruising during picking</li> <li>Crops sorted out post-harvest for not meeting cosmetic standards</li> <li>Crops left behind in fields due to poor mechanical harvesting or drops in prices</li> <li>Fish discarded during fishing operations</li> </ul>	<ul style="list-style-type: none"> <li>Food eaten by pests</li> <li>Food degraded by fungus or disease</li> <li>Livestock death during transport to slaughter or not accepted for slaughter</li> <li>Fish that are spilled or degraded after landing</li> </ul>	<ul style="list-style-type: none"> <li>Milk spilled during pasteurization and processing</li> <li>Food sorted out as not suitable for processing</li> <li>Livestock trimming during slaughtering and industrial processing</li> <li>Fish spilled or damaged during canning or smoking</li> </ul>	<ul style="list-style-type: none"> <li>Food sorted out due to quality</li> <li>Safe food disposed because of going past sell-by date before being purchased</li> <li>Food spilled or damaged in market</li> </ul>	<ul style="list-style-type: none"> <li>Food sorted out due to quality</li> <li>Food purchased but not eaten</li> <li>Food cooked but not eaten</li> </ul>

Source: WRI analysis based on FAO. 2011. *Global Food Losses and Food Waste – Extent, Causes, and Prevention*. Rome: UN FAO.

This ambitious yet achievable target has the potential to embed the reduction of food loss and waste firmly in public and private sector strategies around the world for the first time. It is truly a global target. Although solutions may differ between developed and developing nations, every country, company, and citizen has a role to play. This target contributes to achieving other international aspirations such as the Zero Hunger Challenge, the UN Framework Convention on Climate Change, and more. For instance, the Paris Agreement on climate change calls for nations to take action on climate mitigation and adaptation; reducing food loss and waste is a strategy that addresses both. Moreover, the second United Nations Environment Assembly adopted a resolution on “Prevention, Reduction, and Reuse of Food Waste,” which calls for increased awareness and action to reduce food waste by governments and the UN Environment Programme (UNEP).

## PROGRESS TO DATE

Since the announcement of the SDGs in September 2015, to what degree has the world made progress toward achieving Target 12.3? This publication addresses this question by evaluating progress relative to a three-step pathway for reducing food loss and waste: (1) target, (2) measure, and (3) act.

### 1. Target

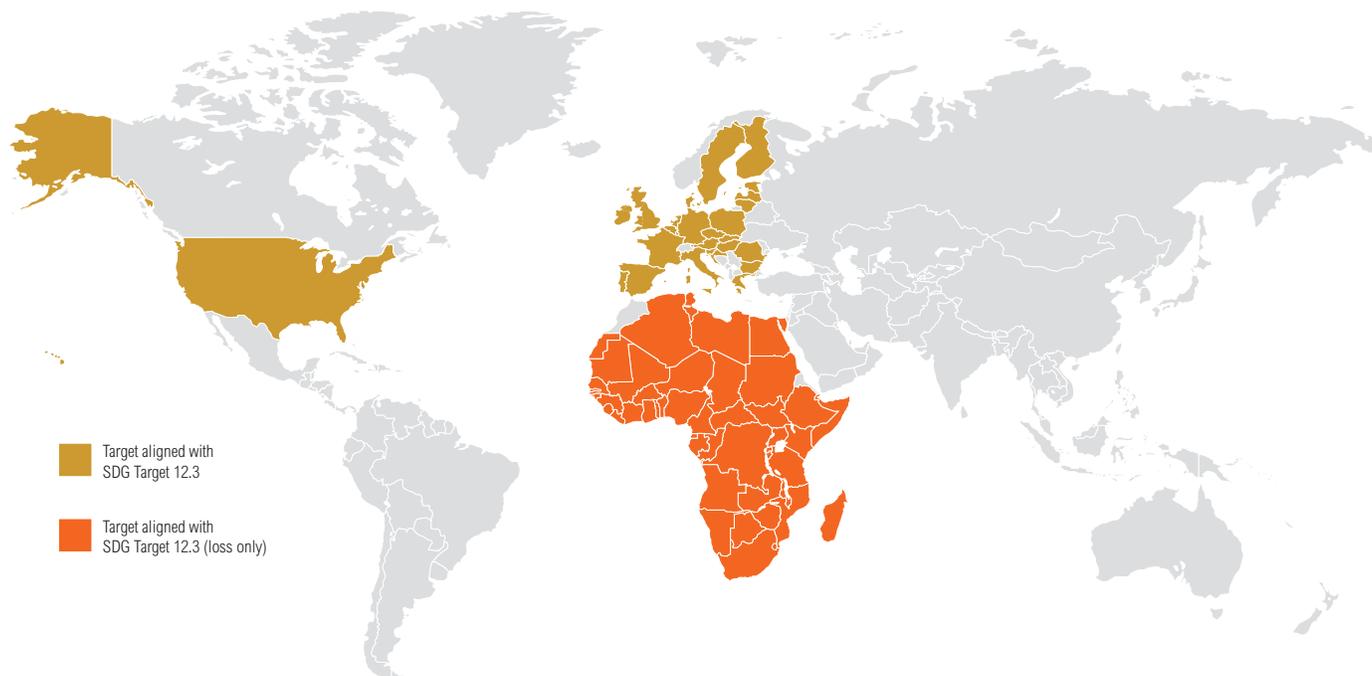
Targets set ambition and ambition motivates action. Therefore, as a first step toward reducing food loss and waste, governments and companies should set reduction targets consistent with SDG Target 12.3. Some governments and companies have already adopted such targets, with some being set even before the SDGs were approved.<sup>13</sup>

#### Governments

With the adoption of the SDGs in 2015, all nations implicitly agreed to SDG Target 12.3. But since the SDGs have a total of 169 targets, adoption of the SDGs *en masse* does not necessarily entail that food loss and waste reduction will garner sufficient government attention and focus. Explicit food loss and waste reduction targets made by governments, consistent with SDG Target 12.3, would indicate such attention and focus. Figure 4 shows countries or political blocs with such targets in place that the authors could identify. They include:

- **United States.** In September 2015, the U.S. Department of Agriculture (USDA) and U.S. Environmental Protection Agency (EPA) jointly announced the “U.S. 2030 Food Loss and Waste Reduction Goal.” Consistent with Target 12.3, it calls for a reduction of food loss and waste by half by the year 2030. With 2010 set as the base year, two indicators were selected for this target: per capita food sent to landfill, and the amount of uneaten food at the retail and consumer levels.<sup>14</sup> In response, the U.S. Conference of Mayors passed a resolution in July 2016 articulating its support for the national goal and calling on cities to take actions that reduce food waste.<sup>15</sup>
- **European Union.** The new European Circular Economy Package underlines the commitment of the European Union (EU) and its Member States to meet SDG Target 12.3. The 28 EU Member States have collectively reaffirmed their commitment in the Council of the European Union’s conclusions on food losses and food waste, adopted in June 2016. To support all actors in meeting this non-binding target, food waste prevention measures are being discussed, including obligations for Member States to reduce food waste all along the food supply chain, monitor food waste levels, and report back on progress made.<sup>16</sup>
- **African Union.** In 2014, the 54 Member States of the African Union issued the Malabo Declaration, a set of agriculture goals aimed at achieving shared prosperity and improved livelihoods.<sup>17</sup> The declaration includes a commitment “to halve the current levels of post-harvest losses by the year 2025.” This target does not match SDG Target 12.3 directly since the numeric target applies to food loss and not to food waste. Nevertheless, it is in the spirit of SDG Target 12.3 in that it calls for a 50 percent reduction—and even five years earlier than the SDG deadline. Moreover, focusing on food loss is arguably justified since, as Figure 1 shows, food losses during production and storage are currently a larger issue in Africa than food waste at the market or consumption stage.

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: WRI Analysis

## Companies

The private sector, as well, is starting to adopt targets consistent with SDG Target 12.3. The most far-reaching example is the “Food Waste Resolution” of The Consumer Goods Forum (CGF) (Box 2). In 2015, CGF’s board announced a commitment to halving food waste within their individual retail and manufacturing operations by 2025—five years ahead of Target 12.3—against a 2016 baseline.<sup>18</sup> CGF is a network of over 400 retailers, manufacturers, service providers, and other stakeholders—representing combined annual sales of \$2.8 trillion. Given the size of the group, this target is an important step toward SDG Target 12.3.

Other initiatives are setting targets that support progress toward SDG Target 12.3. A notable example is Courtauld 2025, a voluntary commitment among more than 100 businesses and government agencies to reduce food and drink waste in the United Kingdom by a further 20 percent per capita between 2015 and 2025. The commitment covers production, manufacture, distribution, retail, hospitality, food service, and household sectors and has been designed to put the United Kingdom on the trajectory to deliver Target 12.3.<sup>19</sup>

## What’s needed next?

Momentum is building to set targets consistent with SDG Target 12.3, but more needs to be done. Target setting so far is concentrated in a few regional blocks and among some of the largest multinational companies. Yet if focus and ambition to achieve Target 12.3 are to be realized, every country—as well as all companies involved in food supply chains—should set targets. Notable gaps in government target setting include:

- Targets by developing countries outside of Africa
- Targets by major emerging economies
- Targets on food waste in Africa (which is increasingly becoming an issue)<sup>20</sup>
- Targets at the subnational level, including cities.

In terms of the private sector, a notable gap is among agribusiness companies and agribusiness associations involved with food production, as well as the food service and hospitality sectors.

## BOX 2. Business in profile: The Consumer Goods Forum's "Food Waste Resolution"

CGF's Food Waste Resolution articulates the following:

"As the Board of The Consumer Goods Forum, we recognise that food waste is a major social, environmental, and economic challenge. It undermines food security, contributes to climate change, consumes scarce natural resources such as water unnecessarily, and costs money. We are committed to doing our part to help reduce food waste. Our aim is to:

1. First prevent food waste, then maximise its recovery towards the goal of halving food waste\* within our own retail and manufacturing operations by 2025, versus a 2016 baseline.
2. Contribute to the UN goals by 2030 to halve per capita global food waste at the consumer level, and to reduce food losses along production and supply chains including post-harvest losses and maximise the value of the remaining waste.

We will achieve both by individual company initiatives, by engaging with our supply chains and end consumers (where material), and by working collectively in partnership with governments and NGOs."

The resolution also states that this target will be tracked in conformance with the Food Loss & Waste Protocol (see the "Measure" section).

\* Food waste will be assessed by individual member companies as food and/or associated inedible parts removed from the food supply chain and sent to disposal (landfill, draining, or incineration without energy recovery) per unit of food sales (in constant currency).

Source: Consumer Goods Forum (2015). Accessible at: <http://www.theconsumergoodsforum.com/sustainability-strategic-focus/sustainability-resolutions/food-waste-resolution>.

## 2. Measure

An old adage is that "what gets measured gets managed." This also holds true for food loss and waste. Quantifying food loss and waste within borders, operations, or supply chains can help decision makers better understand how much, where, and why food is being lost or wasted. This information is a foundation for developing and prioritizing reduction strategies. In addition, measurement is necessary for entities to know whether or not they are on track to meeting SDG Target 12.3. One needs to quantify the base-year amount of food loss and waste and periodically monitor change over time.

Spurred by Target 12.3, governments and companies are increasing efforts with regard to measurement.

### Governments

FAO conducted the first global food loss and waste quantification effort, and in 2011 published the results in the report *Global Food Losses and Food Waste*. Although the results were entirely based on existing data and literature and no new measurements were conducted, this landmark study was a catalyst for the current movement to tackle food loss and waste. It estimated food loss and waste throughout the food supply chain, dividing the world into seven near-continental regions.<sup>21</sup>

Much government action to achieve SDG Target 12.3, however, will likely occur at the country or even subnational level. This requires quantification at that geographic scale. Which countries, then, have started to measure their food loss and waste? The following are among the early movers:

- The United Kingdom is a leader, having one of the most extensive estimates of country-level food waste in the world. In particular, the British nonprofit research institution WRAP (The Waste and Resources Action Programme) published countrywide food waste estimates in 2007, 2010, 2012, and 2016.<sup>22</sup>
- The European Union has issued a number of estimates for food loss and waste levels across its 28 Member States. Its first baseline report in 2010 used available national-level data in combination with EUROSTAT statistics (where national data was missing) to arrive at estimates of food loss and waste from manufacturing through to consumption for each member state.<sup>23</sup> A follow-up study by the EU FUSIONS initiative in 2016 provided more comprehensive

estimates based on a number of underlying studies, and included primary food production.<sup>24</sup> In addition, to support the EU action plan for the circular economy, the European Commission committed to elaborate a common EU methodology to measure food waste consistently in cooperation with Member States and stakeholders.<sup>25</sup>

- The United States has developed estimates for food loss and waste, both per capita and in absolute amounts, based on EPA and USDA data.<sup>26</sup>
- Japan has been collecting post-farm gate food loss and waste data since 2001. South Korea and the People's Republic of China have gathered food loss and waste data in some sectors.<sup>27</sup> As part of its 2017–2021 National Pollution Control Plan, Thailand is initiating food waste measurement along the food supply chain, focusing on food waste in urban areas and around tourist destinations.<sup>28</sup>
- At the city level, UNEP and WRAP are supporting the quantification of household food waste in Jeddah, Saudi Arabia. The Natural Resources Defense Council—together with The Rockefeller Foundation—is quantifying food waste baselines in three U.S. cities: New York, Denver, and Nashville.<sup>29</sup>

## Companies

Although many companies measure and report on overall material waste levels, few specifically report on food loss and waste. But some have now started to make this distinction. A pioneer is Tesco, a leading food retailer with stores in 11 countries. Since 2013, Tesco has been conducting an annual food loss and waste inventory for its operations and publicly reporting the results.<sup>30</sup> Other companies that measure their food loss and waste in various ways include Unilever and Nestlé.

Trade organizations are helping to stimulate measurement, as well. For instance, in the United States, the Food Waste Reduction Alliance—an initiative established by food and beverage companies, food retailers, and the food service industry—has conducted a number of surveys of its member companies to estimate the amount of food loss and waste being generated across member industry sectors.<sup>31</sup>

## Cross-sectoral developments

Two developments this past year have the potential to help measurement of food loss and waste, providing a foundation for progress toward achieving SDG Target 12.3. One was the launch of the *Food Loss and Waste Accounting and Reporting Standard* (or *FLW Standard*), which provides global requirements and guidance for quantifying and reporting on the weight of food and/or associated inedible parts removed from the food supply chain.<sup>32</sup> The *FLW Standard* was developed by the Food Loss & Waste Protocol, a multistakeholder effort convened by WRI and involving the CGF,<sup>33</sup> FAO, the EU FUSIONS initiative, UNEP, the World Business Council for Sustainable Development (WBCSD), and WRAP. The *FLW Standard* empowers countries and companies to quantify base-year food loss and waste inventories and track progress over time toward Target 12.3, or any other targets they may have.

A second development was the launch by EU FUSIONS of the *Food Waste Quantification Manual*, which supports EU Member States in establishing reliable monitoring and reporting of national food waste data at each stage in the food supply chain. The manual can be used as a reference by researchers and Member-State authorities to develop coherent methods of collecting food waste data in order to fill in data gaps more effectively. The European manual aligns with the global *FLW Standard*.

## What's needed next?

Although there is some progress, much more is needed when it comes to measurement. These needs include the following:

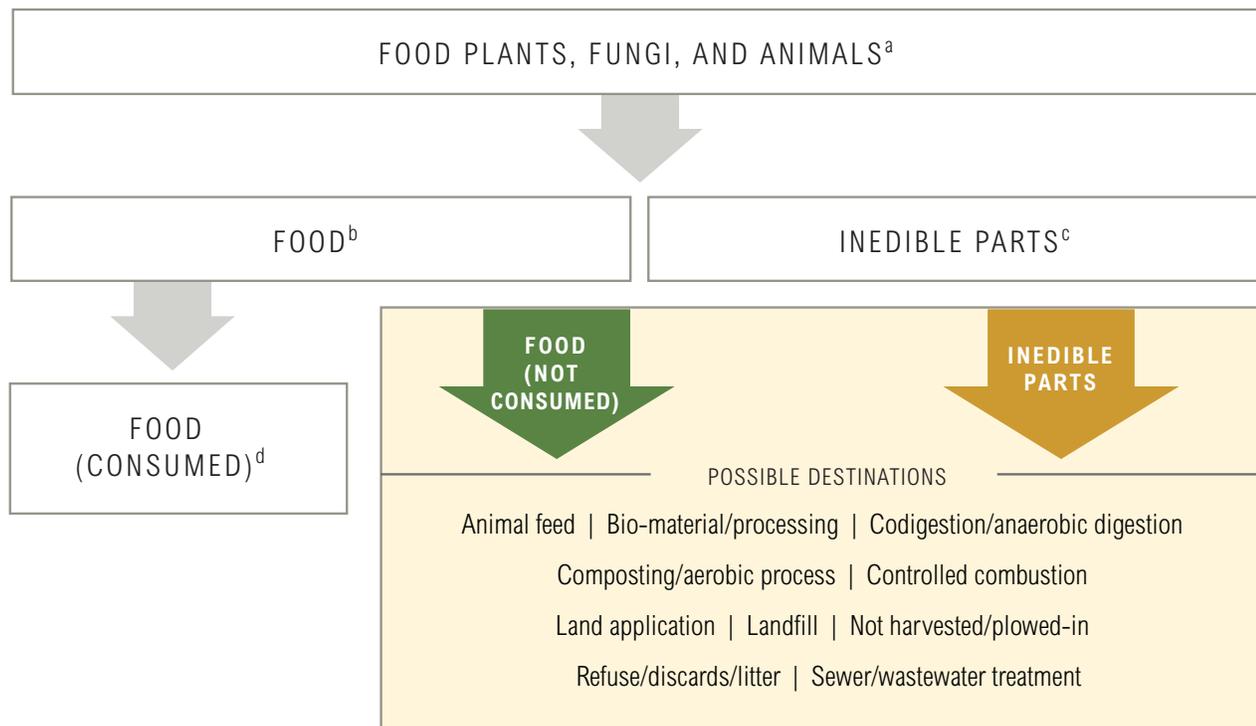
- First, many more governments (including country and city governments) and companies (individual companies as well as entire sectors) need to start quantifying their food loss and waste—estimating a base-year amount and conducting periodic measurements through 2030 to monitor change. The vast majority of countries and companies do not yet do this, but they need to if the world is to be able to assess progress toward Target 12.3 and take corrective action along the way. The United Nations can call for this, nations and industry associations can urge and help their peers to do so, and civil society can sustain pressure on countries and companies to measure.
- Second, now that the generally accepted accounting rules have been set globally, more publicly available data on food loss and waste by geography, food category, and stage in the value chain is needed to lower the cost of conducting food loss and waste inventories. Completing inventories in accordance with the *FLW Standard* often involves food

loss and waste analyses. The more that already completed analyses can be shared between entities on a pre-competitive or “open-source” basis, the lower the transaction costs will be for all actors. For example, if an entity that conducted a study to determine storage losses of cassava in Nigeria made that information publicly available, then the costs for all other entities needing that data would be lower. Likewise, important data gaps need to be filled. For example, data on consumer food waste is virtually nonexistent in Africa and still limited in Asia. More investment in such foundational studies is needed, with results freely available for others.

- Third, greater clarity about the scope of SDG Target 12.3 would help guide measurement. The target states that the world will “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.” But in light of the *FLW Standard’s* global accounting

guidance, the wording of the target leaves a few ambiguities concerning material type and destinations (Figure 5). In particular, does the target cover just “food not consumed” or does it cover “food not consumed and the associated inedible parts” (e.g., rinds, peels, bones, pits, stones)? Or is it acceptable for a country or company to measure either as long as it clearly reports the material type(s) selected? And which destinations for material that leaves the food supply chain are to be considered “loss and waste”—all 10 possible destinations or a subset of them? Nonetheless, governments and companies need not wait until the scope is clarified before beginning measurement. One fail-safe approach is to quantify all material types and destinations, and record the results separately so that they can be combined to fit any scope. In addition, governments and companies that have already measured can showcase the scope decisions they have made, providing good practice examples to inform the decisions of others.

FIGURE 5. **Material types and possible destinations under the FLW Standard**



<sup>a</sup> Intended for human consumption (i.e., excludes crops intentionally grown for bioenergy, animal feed, seed, or industrial use).

<sup>b</sup> 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.”

<sup>c</sup> Inedible parts: Components associated with a food that, in a particular food supply chain, are not intended to be consumed by humans.

<sup>d</sup> At some point in the food supply chain (including surplus food redistributed to people and consumed).

Source: Food Loss & Waste Protocol. 2016. *Food Loss and Waste Accounting and Reporting Standard*. Washington, DC: World Resources Institute.

### 3. Act

Setting targets and measuring food loss and waste are important. But ultimately governments, companies, farmers, and citizens need to act.

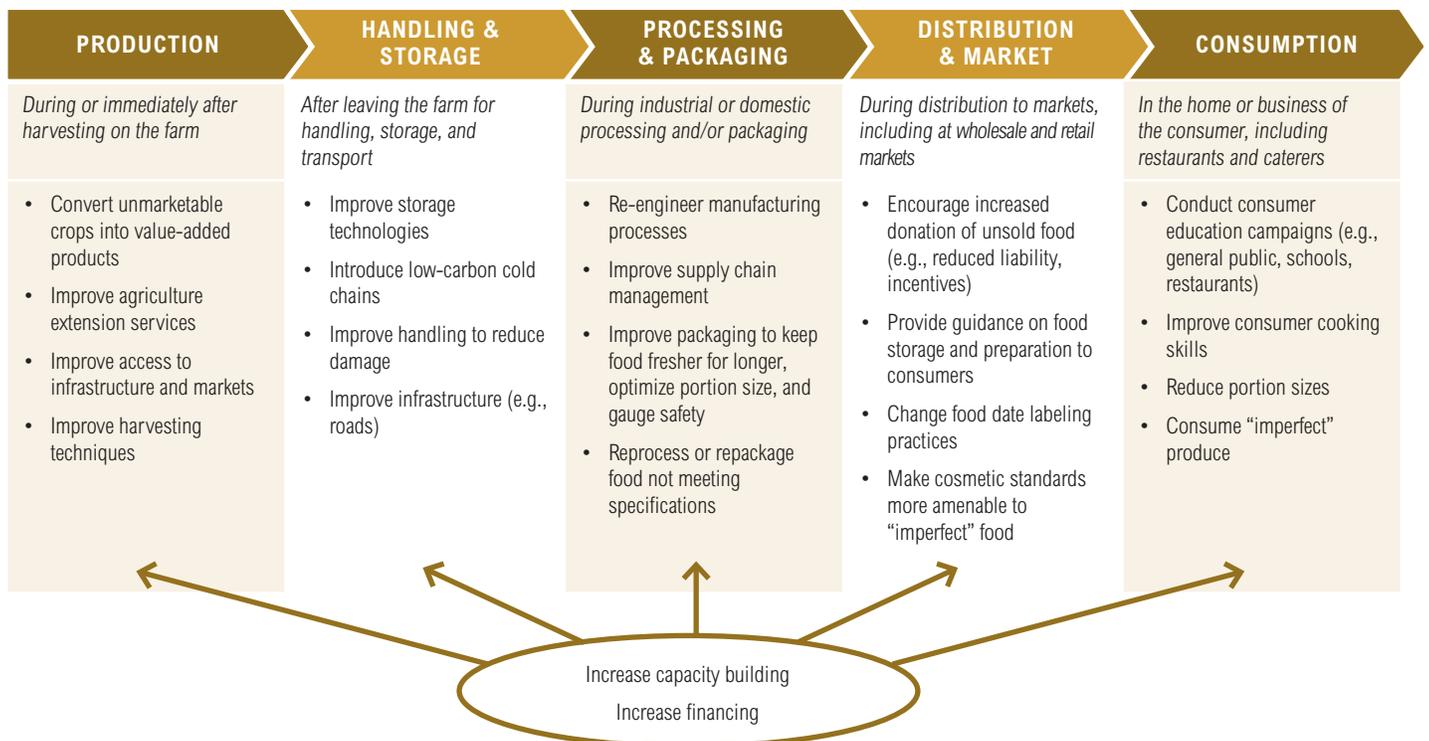
Knowing where and how much food is being lost and wasted, entities can prioritize actions to tackle the hotspots. Exactly what needs to be done varies among countries—often related to their level of economic development—and by stage in the food supply chain. In developing regions, most food loss occurs during production and storage (Figure 1). Thus investing in better infrastructure to improve storage, processing, and transportation will be critical. In developed regions, as well as in rapidly growing urban areas just about everywhere, most food waste occurs at the consumption stage of the food supply chain. Thus steps to facilitate the rescue of surplus food or food donations, improve food date labeling, and better educate food retailers and consumers will be vital. Figure 6 provides examples of actions per stage in the food supply chain that would reduce food loss and waste.

Efforts to address food loss and waste are not new, and activity in many places has been ongoing for some time. Since the launch of the SDGs in 2015, there have been a number of new notable actions by countries, companies, and others to tackle this issue. The following is a sample list of actions—by no means exhaustive—indicating various types of traction after one year since the announcement of the SDGs.<sup>34</sup> These actions are listed according to where food loss and waste otherwise would have occurred.

#### Production

- Instead of being discarded by farmers due to retailer cosmetic standards, some fruits and vegetables (“produce”) with blemishes or nonstandard shapes are starting to be rebranded and sold in supermarkets. For instance, French supermarkets now sell “Gueules Cassées” (ugly face) produce<sup>35</sup> and, in early 2016, Tesco launched its “Perfectly Imperfect” produce label in the United Kingdom.<sup>36</sup>

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



- A fresh produce trading website, Fruitspot, pairs farmers with supermarkets to respond to real-time imbalances in supply and demand. Launched in September 2016 with plans for operation in 100 countries, the site promises to enable buyers with emergency shortages of specific fruits or vegetables to quickly and easily purchase stocks from farmers who find themselves with unexpected surplus.<sup>37</sup>

### Handling and storage

- In 2016, a new storage technology was introduced in Kithithina, Kenya, that can increase the shelf life of potatoes from one to eight months. Known as the Ambient Ware Potato Store, these facilities protect crops from light, heat, humidity, pests, and rodents—enabling potatoes to stay dormant until farmers are ready to sell them. The technology helps farmers to wait for higher off-season market prices while stabilizing market supply.<sup>38</sup>

### Processing and packaging

- In 2016, the German Ministry of Agriculture launched a €10 million program to develop “smart packaging” that uses electronic chip sensors to determine how food has aged and communicate to consumers the food’s freshness and safety.<sup>39</sup>
- Launched in 2016, “Toast Ale” is a beer made using reprocessed, un-used bread recovered from bakeries, sandwich makers, and delis in the United Kingdom. Demand currently outstrips supply and the concept is being franchised to breweries in the United States.<sup>40</sup>

### Distribution and market

- In February 2016, France adopted legislation that requires French supermarkets to donate unsold yet still edible food to charities.<sup>41</sup> The new law includes requirements that companies disclose food waste in their corporate social responsibility reporting and that food waste education is included in school curricula. In August 2016, Italy passed related legislation making food donations easier, including provisions that businesses will not face sanctions for giving away food past its sell-by date and that businesses will pay less waste tax the more they give away.<sup>42</sup>
- In 2016, Tesco rolled out “Community Food Connection,” which utilizes an online app with FareShare Food Cloud to link unsold yet still safe food with local food charities in real time, reducing the amount of food that goes uneaten.<sup>43</sup> Similarly, restaurants are using apps to sell leftovers at discounted prices at the end of meal service. For instance, the “Too Good to Go” app was launched in Denmark in December 2015, and is rapidly spreading across countries in Europe.<sup>44</sup>

### Consumption

- In April 2016, The Ad Council and Natural Resources Defense Council launched a nationwide public service advertising campaign in the United States that highlights the scale of the food waste problem and encourages consumers to waste less.<sup>45</sup>
- In October 2015, The International Food Waste Coalition<sup>46</sup> launched a program to reduce food waste in schools, with pilots in France, Italy, and the United Kingdom.<sup>47</sup>

### Capacity building

- In 2015, UNEP launched a program of Regional Capacity-Building workshops on food waste, focused on data gathering, policy formulation, and concrete best practices for public and private sector managers. These workshops have already reached governments, companies, and non-profits in 22 countries in Asia and Latin America.<sup>48</sup>
- In April 2016, the FAO-led Global Community of Practice on Food Loss Reduction launched a stakeholder forum focused on policy development for post-harvest loss reduction. The forum seeks to understand policy processes, identify existing policy and regulatory frameworks, and share approaches to establish or improve such frameworks at national and regional levels.<sup>49</sup>
- In August 2016, the European Commission established the “EU Platform on Food Losses and Food Waste,” a collaboration to identify food loss and waste prevention measures, share best practice, and evaluate progress over time. Designed to support the delivery of Target 12.3, the platform includes national experts from Member States, intergovernmental organizations, research institutions, and non-governmental organizations.<sup>50</sup>
- The United States government has convened public and private actors in collaborative efforts to develop a “Call to Action” that identifies current opportunities and challenges to reduce food loss and waste in the United States. This living resource includes insights gathered from participants in a “Food Recovery Summit” in 2015 and establishes a cohesive list of actions available to businesses, organizations, governments, and the general public to reduce food loss and waste.
- In 2016, ReFED (Rethink Food Waste) released *A Roadmap to Reduce U.S. Food Waste*. This analysis informed possible U.S. action by identifying and prioritizing 27 solutions that, if implemented, could generate an estimated \$100 billion in economic value, create 15,000 new jobs, and put the United States on track to meet its 2030 goal.<sup>51</sup>

## Finance

- In January 2016, The Rockefeller Foundation launched YieldWise, a \$130 million investment to demonstrate practical approaches to halving food loss and waste by 2030.<sup>52</sup> The initiative is tackling hotspots in food loss and waste generation, including fruits, vegetables, and staple crops in Kenya, Nigeria, and Tanzania, as well as food waste in North America and Europe. Its approach spans market development, loss prevention technologies, financing models, innovation, and business tools to measure and track food loss and waste across supply chains.
- In June 2016, the Danish government launched a subsidy program to support domestic projects for combating food waste arising anywhere in the food supply chain—from production to consumption.<sup>53</sup> In addition, Denmark has taken a number of legislative measures to decrease food waste, including changing taxation and rules on donations of non-animal food to charities to facilitate donations from food retailers.

## What's needed next?

Since the adoption of the SDGs one year ago, the amount and diversity of action taken on food loss and waste reduction is very encouraging. Nonetheless, much more needs to be done. Most notably, more action by more entities across more regions on each of the strategies in Figure 6 needs to occur. Interviews with a number of stakeholders highlight three cross-cutting needs that would help accelerate and scale up such action:

- First, articulating both quantitatively and qualitatively the political and business “case for action” would help motivate more governments and companies to take immediate action on food loss and waste.
- Second, financing for food loss and waste reduction technologies, processes, research, and awareness-raising needs to increase and, just as important, projects need to become more investment-ready.
- Third, capacity building needs to accelerate so that best practices, innovation, and know-how disseminate even more quickly. Among other areas, capacity building is needed on how actors can collaborate across the food supply chain to implement systemic, long-term solutions and is needed in emerging economies, where waste levels are high but engagement on the issue thus far is low.

## CONCLUSIONS

Momentum is growing toward achieving SDG Target 12.3. Some foundational developments in terms of target setting and measurement have occurred this past year. There also have been numerous instances of on-the-ground progress in terms of new policies, new funding, new business practices, and other actions. But much more needs to be done over the coming 14 years if Target 12.3 is to be achieved.

Summary recommendations include:

### Target

- Every country, every major city, and every company involved in food supply chains should set food loss and waste reduction targets consistent with Target 12.3 in order to ensure sufficient attention and focus.

### Measure

- Governments (at national and subnational levels) and companies should quantify and report on their food loss and waste in order to develop a base-year inventory and then monitor progress over time through 2030.
- Governments, companies, research institutions, and international agencies should publicly share empirical and modeled data on food loss and waste by geography, food category, and stage in the value chain in order to lower the costs for everyone when conducting inventories.
- In the meantime, the United Nations should work to clarify the scope of SDG Target 12.3, in particular the material type(s) and destinations that the target encompasses and against which entities should report.
- Governments, companies, research institutions, and international agencies should refine methods for quantifying the economic, environmental, and social benefits of food loss and waste reduction. In addition, they should build impact indicators into reduction initiatives and policies in order to facilitate initiative evaluation and adaptive management.

## Act

- Governments and companies should accelerate and scale up adoption of policies, incentives, and practices that reduce food loss and waste.
- Governments, companies, research institutions, and civil society need to articulate both quantitatively and qualitatively the political and business case for action.
- Governments, development banks, other financial institutions, businesses, and philanthropic organizations should increase financing for food loss and waste reduction technologies, processes, and research and help make projects more investment-ready.
- Governments, companies, and research institutions should accelerate programs to exchange information, share know-how and good practice, and build technical capacity in food loss and waste prevention and reduction across the food supply chain.

Set targets, measure the problem, and take action. If the world does this, it will take a big step toward realizing a future that achieves food security, protects the planet, and contributes to prosperity for all.

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

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