Sustainable Food systems and Food security

About

The Sustainable Development Goals Policy Briefs highlight a hotspot of environmental concern. The evidence provided builds on scientific data and information hosted on the online platform Environment Live and is complemented by stories from around the world. Readers are invited to explore the numerous clickable links throughout the Brief.

Food loss and waste occurs along the entire food chain. Food loss is the decrease in quantity or quality of food, while food waste refers to discarding or non-food use of food set for human consumption. Unsustainable farming, storage and distribution processes, lack of consumer awareness coupled with environmental factors such as climate change and natural disasters continue to escalate the challenges on food security. Food loss and waste represents a significant inefficiency in the world’s current food system and taking action to reduce it can conserve the environment, decrease greenhouse gas emissions and promote efficient land and water use.

Enhancing food security through sustainable food systems

To feed the world’s population in 2050, agricultural production will likely need to increase by 50%, while the environmental impact of food production will need to decrease by two thirds.

Join the Think.Eat.Save. Reduce Your Foodprint campaign in support of the SAVE FOOD Initiative to reduce food loss and waste.

Reducing food loss and waste is embedded in the broader concept of promoting sustainable food systems and food security which is related to the following Sustainable Development Goals:

UN Environment is the Custodian Agency for several key indicators related to waste:

- Goal 12: “Ensure sustainable consumption and production patterns.”
- 2.1.2 Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale.
- 2.4.1 Proportion of agricultural area under productive and sustainable agriculture.
- 11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities.
- 12.3.1 Global food loss and waste index.
- 12.5.1 National recycling rate, tons of material recycled.
- 12.1.1 Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies.

Food loss and waste data collected by coherent methods can help to refine policies towards a more resource-efficient, profitable and sustainable food system.
**Facts and figures**

- **Increase in global food production between 1961 and 2014:** 298.18%
- **Increase in agricultural area in km² between 1993 and 2016:** 298.18%
- **Increase in GDP by activity in wholesale, retail trade including hotels and restaurants between 1970 and 2016:** 357.82%
- **Increase in agricultural value added per worker between 1993 and 2016:** 65.22%
- **Increase in Greenhouse Gases Emissions from agriculture between 1961 and 2016:** 121.54%
- **Increase in prevalence of severe Food insecurity in the total population:** 12.75%
- **Increase in per-capita food losses and waste at consumption and pre-consumption stages in different regions:** Latin America, South and Southeast Asia, North Africa, West and Central Asia, Sub-Saharan Africa, Industrialized Asia, North America and Oceania, Europe.

**Action**

**Towards solutions . . .**

- **100+ Members - public and private, big and small - from all regions of the world to the Save Food: Global Initiative on Food Loss and Waste Reduction**
  - Creating collaboration, sharing problems, solutions and resources on food loss and waste reduction.
  - Expert institutions that are part of the Steering Committee of The Food Loss & Waste Protocol, which has developed the global Food Loss and Waste Accounting and Reporting Standard, so that companies, governments, cities and others are better informed about food loss and waste and motivated to curb this inefficiency.

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- **Reducing the Food Wastage Footprint**
- **Policy actions to support enhanced consumer behaviour for high-quality diets**
- **Eat, Safe, Sustainable Agriculture**
- **Save food for a better climate**
- **Food loss and waste accounting and reporting**
- **Global Food Loss and Waste Reduction**
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Initiatives on the ground

**Denmark’s consumer awareness campaign**

‘Stop Wasting Food’ in Denmark gives guidance to consumers on how to avoid wasting food by shopping according to daily needs of households, and promotes better household planning and shopping patterns in order to encourage a movement away from impulsive to rational food shopping and consumption patterns.

**United States Environmental Protection Agency launch the U.S. EPA Excess Food Opportunities Map**

The U.S. EPA Excess Food Opportunities Map which displays the locations of more than 500,000 potential excess food generators supports nationwide diversion of excess food from landfills. The interactive map identifies and displays facility-specific information about potential generators and recipients of excess food in the industrial, commercial and institutional sectors and also provides estimates of excess food by generator type. The map also displays the locations of communities with source separated organics programs, as well as more than 4,000 potential recipients of excess food by generator type. The map will help you learn about potential sources of excess food in your region and potential non-landfill recipients, such as composting and anaerobic digestion facilities.

**United Kingdom’s Surplus food to people not waste.**

UK-based NGO WRAP is working with food businesses, redistribution organisations and governments to identify ways of increasing surplus food to people. This is through the provision of new evidence, guidance and tools and a dedicated Redistribution Working Group under the Courtauld Commitment 2025. This is developing strategies for long term, high impact solutions. Redistribution in the UK increased by 50% between 2015 and 2017, to the equivalent of 100 million meals, worth £130 million.

**The role of Women in reducing Food Loss and Waste, the case of Tanzania**

Women in both developing and developed countries have an important role to play in reducing food loss and waste, since women interact with food at each stage of the value chain from farm to fork. Close to the farm, women comprise 41% of the agricultural workforce worldwide and make up the majority of agricultural workers in South Asia and Sub-Saharan Africa. Close to the fork, surveys in a wide range of countries show that women are responsible for 85-90 percent of the time spent on household food preparation. Therefore, targeting women in food loss and food waste reduction campaigns could result in greater reductions than pursuing an unfocused campaign. One such gender-targeted initiative in Tanzania focused on providing female farmers with greater access to markets and supplied participants with access to solar drying technology that allowed for surplus fruits—that might other be lost—to be dried and preserved.

**The Food Recovery and Reuse Plan in Taiwan**

Taiwan has successfully implemented zero-waste policies, experiencing economic growth, while controlling waste generation. Its Environmental Protection Administration (EPA) began promoting source separation and recycling of food waste in 2001; by 2009, 319 municipalities were benefiting from food waste recycling systems. Through the Food Waste Recovery and Reuse Plan, which includes awareness-raising campaigns, promotion and incentives for composting facilities, the food waste recycled daily is tantamount to the volume of waste processed. This shows that sound commitment and cooperation among public and private authorities and citizens is an effective means to achieve food waste reduction and high recycling rates.

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