Best Practice Examples on Reducing Household Food Waste

G7 Alliance for Resource Efficiency

March 2021

The G7 Alliance for Resource Efficiency Technical Working Group highlighted the importance of reducing household food waste to tackle negative environmental impacts.

The UK Presidency believes that exchanging our experiences and ideas will contribute to finding solutions and has therefore collated countries' examples of best practice to facilitate this.

With support from G7 members, this information has been compiled in a booklet as an input for Ministerial discussion and also reference material for all related stakeholders.

This booklet is published alongside the 2021 G7 Climate and Environment Ministers' Communique.

Canada

Ontario Food Collaborative

Responsible Agencies/Institutions: Municipal government

Background

Operating primarily in the Greater Toronto Area, the Ontario Food Collaborative, established in 2015, is a unique collaboration bringing municipal public health and waste management professionals together to share resources and align education and outreach initiatives on healthy eating and food waste prevention.

The Ontario Food Collaborative (the Collaborative), focuses on the link between post-consumer food waste and healthy eating attitudes and behaviours. The Collaborative combines health, economic, and environmental messaging to encourage activities such as meal planning, smart shopping, and proper food storage – all known practices that contribute to the prevention of household food waste.

The Collaborative also partners with academia and community-based organisations who share the common goal of promoting actions that support healthy eating and food waste prevention.

The Collaborative's vision is simple: all Ontarians eat well and no food is wasted. The Collaborative is working to realise this vision by providing a knowledge-sharing platform where member municipalities can pool resources and expertise for implementing behavioural change campaigns that encourage and support individuals and families to eat well and reduce their food waste.

Best Practice – Cross-sector Collaboration

The cross-sector model employed by the Collaborative facilitates knowledge and information sharing between experts from across local governments, academia, and other partners with food-related interests. Further, this approach enables public health and waste management officials to leverage each other's reach in the community when rolling out education and outreach initiatives on healthy eating and food waste prevention.

The Collaborative has established three working groups and a steering committee that focus on priority areas and enable Collaborative members to contribute in those areas that best align with their respective skills and area of expertise. The first of three working groups looks at Metrics and Indicators and is focused on performance measurement. The Strategic Approaches and Messaging working group works to develop collaborative and cross-promotional education and outreach initiatives on healthy eating strategies and food waste prevention. Finally, the Stakeholders working group engages various stakeholders in partnerships that are mutually beneficial and supportive of the vision of the Collaborative.

One of the primary and mutually beneficial resources prepared by the Collaborative's working groups is a guidance piece for conducting household food waste audits. The Collaborative found early on that a lack of common categories and collection methods made it challenging to compare food waste audit results across municipal members. The purpose of Food Waste Audit Guide is to establish high level categories for food waste audits to allow for comparison and aggregation of results. The selection of food waste categories was informed by the experiences of Collaborative members and a review of existing organics and food waste frameworks used in other countries (e.g. WRAP UK).

Food waste audits enable municipalities to collect baseline information and facilitates evidence gathering on food waste disposal habits and food waste generation at the household level.

Best Practice – Multi-disciplinary Messaging

Collaborative members note that much of the messaging used to promote healthy eating and nutrition crosses over to food waste reduction. Messaging and tools focusing on meal planning, managing leftovers, best before dates, and proper food storage tie into healthy eating, food safety, and food waste reduction. Collaborative members also incorporate a multi-step approach to engaging with individuals and families:

Education and awareness – broad public awareness raising of the environmental, social, and economic benefits of sustainable food systems and the value of food and healthy eating.

Skill building – increasing food literacy through the provision of training and tools, such as cooking classes, and resources on healthy eating, menu planning, food purchasing, and food preserving techniques.

Behavioural change – influencing positive behavioural change through the use of incentives, such as household challenges, and through recognition programs that normalise positive behaviours demonstrated around the community.

Impact

Collaborative members are benefiting from foundational research work completed by co-member York Region. In 2014, York Region conducted a survey to assess consumer awareness, behaviours, and perceptions around food and food waste. The consumer research, conducted via telephone surveys and focus groups, revealed that food waste is primarily a symptom of undervaluing

food and the lack of food literacy on the proper management and storage of food in the home.

Following the launch of their Good Food Program in 2015, York Region conducted a follow-up survey in 2016 using the same questions and format as the 2014 study, and found a small increase in positive behaviours to avoid waste. Specifically, respondents reported an increase for two key behaviours: planning meals ahead of time (+6%) and organising their fridge/cupboards to keep track of food (+7%).

The Good Food Program engages individuals and families using various tactics including a program presence at various events across the municipality, through print, online and other media channels. Messaging focuses on behaviours that improve health and reduce food waste, such meal planning, shopping with a list, proper food storage and refrigeration tips, and using leftovers.

York Region employs various tools to gauge awareness and behaviour changes. Biannual phone surveys are planned to track changes in awareness and reported behaviours over time. Further, public engagement in social media posts and website traffic patterns help to identify messaging and tactics that have most effectively engaged residents. For example, it was found that social media posts with holiday cooking tips and local food themes appeared to drive more website traffic. Radio advertising also consistently generated web traffic. The municipality hosted hands-on cooking workshops that were very well attended. Finally, practical and tangible tools that were developed to assist households with better planning, shopping, food portioning and storage skills have been well received by the public. These tools are designed to help prompt and promote the behaviour changes needed to reduce food waste and improve healthy eating habits over the long-term.

The Region notes there is still work to be done to raise broad awareness of the program's messaging in order to realise their goal of reducing food waste by 15% by 2031. When asked about the program, 23% of respondents indicated some level of awareness of the Good Food Program. This municipality will be funding research looking at food literacy more specifically over the next two years. Findings from this research will inform future program approaches and messaging.

Member municipalities participating in the Collaborative can now benefit and build on efforts by other members that may be further along the path of food waste reduction programming.

Other relevant information

Since the Collaborative launched, the Ontario provincial government, which oversees municipal waste management in the province, has established various food waste reduction and diversion targets that municipalities will have to meet in the coming years – increasing the importance of the Collaborative's efforts. Further, the Ontario government wants municipalities to develop and implement their own education and outreach programs aimed at preventing food waste, with the focus on reaching consumers directly through information that will assist them in preventing and reducing their food waste.

The Collaborative's knowledge-sharing platform will be well positioned to support more municipalities that will have to administer their own food waste reduction programming in the coming years.

References

The Food Waste Audit Guide
The Good Food Program

Love Food Hate Waste Canada

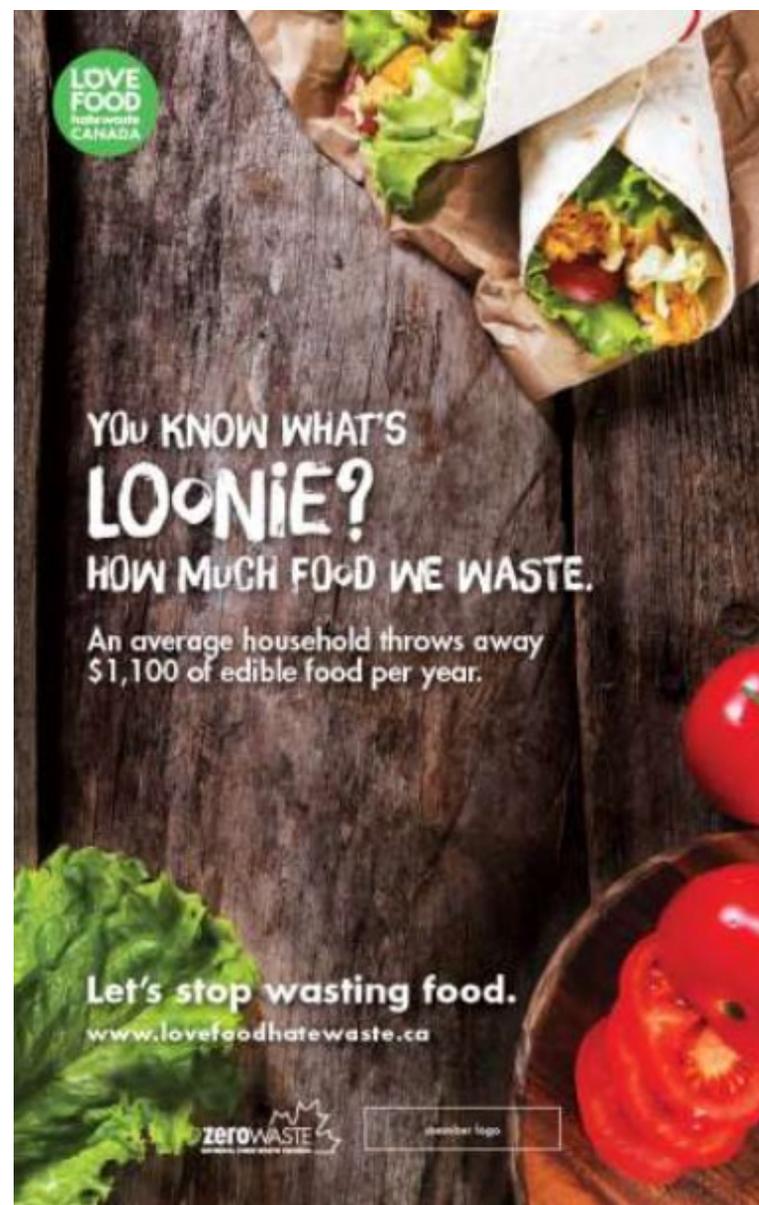Responsible Agencies/Institutions: Governments and Businesses

Background

In 2018, the National Zero Waste Council (NZWC) launched Love Food Hate Waste Canada, modelled after the proven consumer awareness and behavioural change campaign in the United Kingdom. LFHW Canada is delivered by the NZWC in collaboration with eleven campaign partners comprised of businesses and governments across Canada to inspire and empower Canadians to make their food go further and waste less. The NZWC is a leadership initiative of Metro Vancouver, bringing together organisations to advance waste prevention and Canada's transition to a circular economy.

LFHW Canada focuses on three key behaviours: proper food storage, using the food purchased, and purchasing only what is needed. The LFHW Canada website is home to various resources, tools and information tailored to support individuals and families reduce their household food waste.

Best Practice – Cross-sector Collaboration

A collaborative cross sector approach through government and private sector participation enables consumers to hear consistent messaging through a variety of outreach, communication and media channels, driving behaviour change over the long-term. By working together, Campaign Partners have greater impact, benefit from economies of scale (e.g. joint marketing buys), and are able to exchange ideas on best approaches and lessons learned.

LOVE FOOD hate waste CANADA

YOU KNOW WHAT'S LOONIE?
HOW MUCH FOOD WE WASTE.

An average household throws away $1,100 of edible food per year.

Let's stop wasting food.
www.lovefoodhatewaste.ca

zeroWASTE

Best Practice – Multi-platform Communications

The efforts of Campaign Partners are critical to the success of the LFHW Canada program. Campaign Partners deliver the program using a breadth of education and outreach tactics and approaches to reach consumers:

- **Traditional marketing**: LFHW Canada branded materials and messaging appear in communities across the country on local buses, at bus shelters, on garbage trucks and through conventional print, TV, and digital platforms. The messaging is also translated into multiple languages, where needed.
- **Corporate communications**: incorporating LFHW Canada messaging and content in corporate communications such as newsletters/flyers, blogs and publications that reach a wide and varied audience.
- **Social marketing**: amplifying the campaign's reach and influence by sharing LFHW Canada through their own social media channels and trialling new forms of engagement and developing unique web content with how-to-guides containing tips and tricks for reducing food waste.
- **Outreach and engagement**: direct engagement with citizens through presence at community events and market days, and through "lunch and learn" workshops for employees.
- **Influencers and ambassadors**: engaging Canadian influencers and ambassadors to broaden and diversify consumer reach.

Impact

Ahead of launching the LFHW Canada campaign, in 2017 the NZWC conducted foundational research on household food waste to better understand: 1) how much food Canadians were throwing away; 2) the cost associated with that waste; and 3) the composition of that waste (i.e. what they were throwing away).

The study revealed that close to 2/3 of the food Canadians throw away could, at one point, have been eaten. For Canadian households that amounts to an estimated 140 kgs of wasted food per year, at a cost of more than $1,100. The study also revealed that though all types of food are waste, in Canada, the most commonly waste foods are vegetables, fruit, and leftovers. Existing kitchen diary surveys and waste composition studies collected by several Canadian municipalities were used to estimate the amount of food waste generated by the average Canadian household. The 2017 baseline research will be repeated in the second term of LFHW Canada (2021–2024) to track any changes in the amount of food waste discarded by households.

In June of 2020, the NZWC conducted market research to better understand the impact of the COVID-19 global pandemic on consumer behaviours and attitudes related to food and food waste. The online survey was available in English and French and included 1,200 responses from participants who self-identified as being primarily or jointly responsible for making decisions in their household on food purchasing, preparation, storage and disposal.

Consumer Survey – Key Findings:

- **Canadians are motivated to reduce food waste**: 94% of Canadians are motivated to reduce their household's avoidable food waste and 84% agree that food waste is an important national issue.
- **Many Canadians are reporting that they are wasting less food**: notably, one in four Canadians (24%) report that their household has been throwing away or composting less

uneaten food, compared to 14% who say they are throwing away more.

- **Canadians are embracing food-saving strategies**: respondents reported adopting food-saving practices more often than they did before COVID-19, with 46% of respondents reporting they are checking what food is in the house before shopping, 42% are freezing food to extend its shelf life, and 41% are thinking creatively about how to use up leftovers.

The next campaign period of July 2021 – December 2024 will include an expanded focus on testing and trialling behaviour change interventions in close collaboration with WRAP UK, continuing to expand the campaign's national reach and influence by expanding strategic partnerships, and conducting a follow-up to the 2017 Benchmark Study on Household Food Waste to assess changes in the amount of food being thrown away at the household level.

References

Link to Love Food Hate Waste Canada website:
LFHW Canada

Link to National Zero Waste Council 2020 Consumer Survey Findings:
NZWC 2020 Consumer Survey Findings

European Union

## Taking action to reduce consumer food waste

Responsible Agencies/Institutions: European Commission, EU Member States and members of the EU Platform on Food Losses and Food Waste

Background

The EU has implemented a dedicated action plan to reduce food loss and waste since 2016, including both regulatory and non-regulatory actions, first as part of a Circular Economy Action Plan and, since 2020, as a key action strand under the EU's Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system.

As part of the Farm to Fork Strategy, the Commission will:

- establish legally binding targets to reduce food waste across the EU by end 2023. These targets will be set against a baseline established following the first EU-wide monitoring of food waste levels according to a common measurement methodology.
- revise EU rules on date marking ("use by" and "best before") by end 2022 in order to avoid unnecessary discarding of food linked to misunderstanding of the meaning of these dates, in particular the "best before" date.
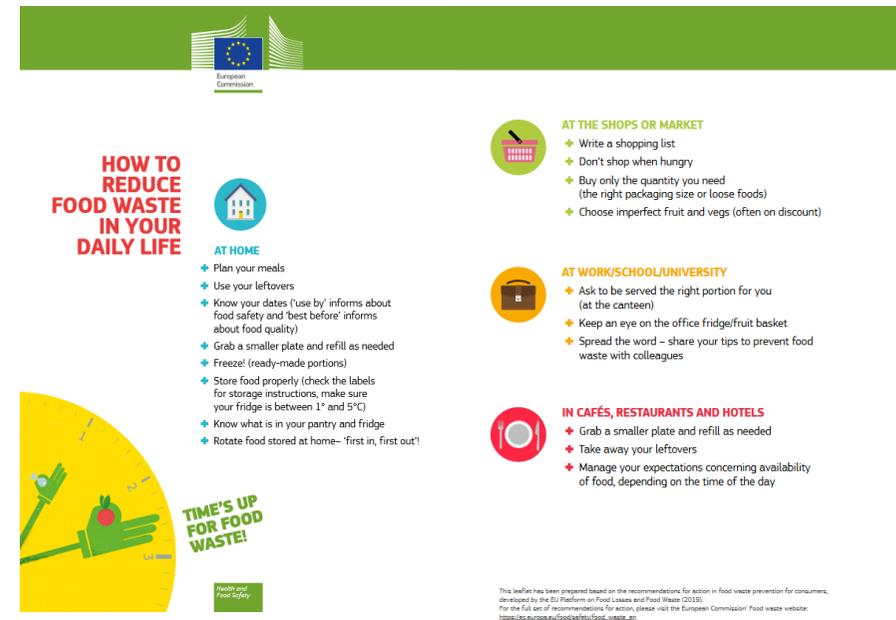
Consumer leaflet with tips on how to reduce food waste in daily life
(based on the EU Platform's ***key recommendations for action***)

In order to accelerate progress towards the Sustainable Development Goal Target 12.3 to reduce food loss and waste and maximise the contribution of all actors, the Communication on Circular Economy (2015) called on the Commission to establish a Platform dedicated to food waste prevention. Thus the EU Platform on Food Losses and Food Waste (FLW) was established in 2016, bringing together key actors representing both public and private interests in order to provide advice on EU-wide actions to

prevent and reduce food waste and facilitate sharing of best practice. In 2019, the EU Platform adopted key **recommendations for action** addressing action required by public and private players at each stage of the food supply chain (including consumption), as well as a consumer leaflet with tips for reducing food waste.

Impact

Through the work of the EU Platform on FLW, the Commission will continue to promote sharing of evidence-based best practice to support all actors in taking effective action to prevent food loss and waste, focussing in particular on prevention of consumer food waste, which accounts for over 50% of food waste generated in the EU. An evaluation framework to assess the effectiveness and efficiency of food waste prevention actions (including consumer behaviour change interventions), developed in cooperation with the EU Platform on FLW, will be further refined.

The Commission will seek to scale-up action across the EU, mobilising EU Member States, food businesses and civil society notably through the work of the EU Platform on Food Losses and Food Waste and encouraging implementation of its recommendations for action by all players. Calls for proposals under the EU Research and Innovation Framework Programme Horizon Europe will offer new opportunities for research and innovation to address food loss and waste.

References

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *Closing the loop – An EU action plan for the Circular Economy*, COM/2015/0614 final

International Day of Awareness of Food Loss and Waste 2020: EU *social media campaign* with advice for citizens on how to avoid food waste at home

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system*, COM/2020/381 final

JRC Technical Report (2019). Assessment of food waste prevention actions. Development of an evaluation framework to assess the performance of food waste prevention actions.

REFRESH Policy Brief: Reducing consumer food waste.

France

Zéro gâchis académie" – "Zero waste academy"

Responsible Agencies/Institutions: ADEME (Agency for ecological transition)

Background

The Zero Waste Academy is an operation monitored by ADEME, in partnership with three consumer associations. It was carried out in two stages from October 2018 to October 2019.

Households of very varied profiles (household composition, urban / rural, environmental convictions) reduced their food waste at home by implementing 3 simple anti-waste measures at home. The operation brought together 243 households.

First, the households weighed their food waste at home without changing their habits. Then, each household chose 3 anti-waste actions to implement (among 9 proposed) before proceeding again to weigh the discarded food products. The actions involved 4 distinct stages: the purchase of food products, their conservation, the preparation of meals and finally the meal.

Impact

Households involved in the project reduced food waste by 59%, from 25.5 kg/ person/year to 10.4 Kg/person/year. The amount of food waste avoided represents 10.7 tonnes at project level.

References

Link to Reducing Food Waste in 243 Households Report:

https://www.ademe.fr/reduction-gaspillage-alimentaire-aupres-243-foyers

Link to Zero Waste Academy:

https://zero-gachis-academie.fr/

Referencing initiatives to fight food waste for the food chain stakeholders

Responsible Agencies/Institutions: Study coordinated by the Ministry of Agriculture and Food

Background

The Ministry of Agriculture and Food launched in June 2017 the second National Pact against Food Waste for a three-year period, with the aim of mobilizing all actors in the food chain around common commitments. In this context, a working group, led by the Educational Resource Center of Nouvelle-Aquitaine and an environmental association (France Nature Environment) was set up in the field of "awareness, education and training". It worked at identifying and promoting existing actions and resources in this area, sharing best practices and successful initiatives to replicate elsewhere, targeting the different stakeholders throughout the food supply chain (from production to consumption).

Impact

The working group carried out an inventory of existing initiatives and resources in terms of awareness, education and training in the fight against food waste. This census began in 2017 and ended in 2019.

The inventory enables to pool documentary resources and to evaluate existing actions, in order to identify further support and training needs and to set out recommendations for improving practices.

References

Link to Reducing Food Waste in 243 Households Report:
https://www.ademe.fr/reduction-gaspillage-alimentaire-aupres-243-foyers

Link to Zero Waste Academy:
https://zero-gachis-academie.fr/

Germany

Too good for the bin!

Responsible Agencies/Institutions: Federal Ministry of Food and Agriculture of Germany (Bundesministerium für Ernährung und Landwirtschaft – BMEL)

Background

The BMEL launched Too good for the bin! in March 2012. The goal is to focus the public's awareness on the issue of food waste and enhance consumers' appreciation of food. Through diverse activities addressing a wide variety of target groups, the BMEL offers information anyone who is interested in sustainable, resource-conserving and appreciative handling of food:

A website provides easy-to follow recommendations how to reduce food waste, suggests recipes to make the most of leftovers, and numerous join-in activities. In addition, free learning material for forms 3–6 (8–11 year olds) and 7–9 (12–14 year olds) is available.

An app and Youtube videos show tasty dishes that can be made from left-over food.

Catering businesses are encouraged to actively offer guests the option of having their leftovers packed to take home. At the same time, guests are encouraged to ask for this option.

Moreover, a yearly awareness-raising week aims to draw attention to the subject of reducing food waste nationwide and to strengthen the movement for greater appreciation of our food through various activities of all stakeholders. Other events such as the Federal Government's Open Day promote the active appreciation of food as well.

Last, but not least, the BMEL honours initiators of outstanding projects who contribute to reducing food waste through specific ideas, pioneering spirit, and great commitment with the Too good for the bin! Federal Prize. The prize is awarded to projects from all over the food supply chain including digitalisation projects.

Impact

Too good for the bin! is being evaluated each year to grasp the change of consumers' knowledge on measures for reducing food loss and waste and to survey consumers' attitudes and knowledge regarding the topic in general.

The results are the base for the continuous amelioration of measures of *Too good for the bin!*

In 2019, the survey showed that the consumers' awareness regarding the goals of *Too good for the bin!* had raised. The recognition of *Too good for the bin!* stayed on a stable level, while media resonance and thus the spreading of its messages raised as well.

References

Link to BMEL activities to combat food waste:
https://www.bmel.de/EN/topics/food-and-nutrition/food-waste/initative-too-good-for-the-bin-food-waste-zgfdt.html

Link to Too Good for the Bin! website:
www.zugutfuerdietonne.de

Italy

Comprehensive Measurement of Italian Domestic Food Waste in a European Framework

Responsible Agencies/Institutions: CREA - Council for Agricultural Research and Economics, Research Center for Food and Nutrition

Background

Food management is a complex issue which is articulated in many components. Ten years remain to halve household food waste, as recommended by the 2030 Agenda for Sustainable Development. Up to now, Italian investigations into household food waste have been research activities with limitations in measurement and sampling. The need to establish a monitoring system led the Italian Observatory on Food Surplus, Recovery and Waste to apply a methodology that permits comparison with other European countries.

In 2018, a survey involving a representative sample of 1142 Italian households was carried out. The majority of respondents (77%) reported that they had wasted food during the last week. Italian families wasted 370 g of food per week, a quantity in line with Netherlands (365 g/week), and progressively different from Germany (425 g/week), Hungary (464 g/week), and Spain (534 g/week). Average amount of food wasted per category is reported, showing that fresh produce was the most wasted compared to other products. Fresh fruit, bread, fresh vegetables, and non-alcoholic drinks (including milk) were the categories with the greatest amount of waste. In terms of the state of food waste, the largest proportion of all disposed food was food not used at all (43.2%), such as, for example, unopened packages, followed by food that was disposed of after it had been partly used (30.3%), such as, for example, a piece of bread, part of an apple, or an open package of milk. Meal leftovers, which include food left uneaten or still in the cooking pot, accounted for 14.6%, and stored leftovers 11.9%. Sociodemographic characteristics and their association with total food waste showed that household size was strongly associated with food waste: the larger the size of the family, the greater the food waste. However, considering the per capita average amount, the greatest amount of waste was found in one-person households (303 g/week) compared to families having five or more members (105 g/week). Larger waste was reported from families with children under 10 years old (524 g/week) as against families without children under 10 years old (329 g/week). Older respondents reported less household food waste than younger respondents. High income was significantly associated with high food waste as well. Education, geographic area, and city size did not have a significant influence on the amount or category of food waste reported. As for possible causes, household food waste was significantly associated with preventive practices and ability. This study endeavoured to segment household food waste based on possible drivers and barriers to preventive action, setting the stage for future monitoring, supporting policy action, and educational intervention.

Impact

The present study responds to the need to start monitoring domestic food waste in Italy, dictated above all by the urgency of the domestic waste reduction objective recommended by target 12.3 of the Sustainable Development Goals framework. With this aim, multiple key research requirements coming from the literature for improving the underlying data sources have been considered, and harmonized methods and definitions were used for the

collection and analysis of data on food waste generation. Account has been taken of the diversity of factors potentially involved in an integrated view. In this perspective, a cross-country comparison, as carried out in this study, advanced the knowledge and understanding of Italian situations versus other European contexts, leading to a number of relevant findings. First, this Italian study made it possible to extend the harmonized HFW to about half of the EU27 population. Similarity of food waste patterns related to the percentage of households who wasted food, weekly average amount of HFW, and most often wasted perishable food groups were shown. On the other hand, Italian households present peculiar features associated with HFW, mostly for economic and cultural aspects (income and wasting fewer meat and leftovers).

In addition to that, this study found evidence that is in line with the Recommendations for Action in Food Waste Prevention, developed by the EU Platform on Food Losses and Food Waste, which suggested promoting the value of food and working to shift social norms so that wasting food is no longer socially acceptable, especially targeting younger and larger households. In this sense, it would be important to use the experience gained in other sectors, such as public health, to design effective interventions to curb consumer food waste. Linking food waste to sustainable diet considerations could provide new reasons for citizens to engage in a positive response, at least in younger generations. Cooperation among institutions, producers, and retailers could further support preventive actions to raise awareness of the food management issues considered in this study. To this aim, behavioural indicators could provide the basis for specific preventive actions that need to be included in general nutrition education campaigns. If replicated periodically, this comprehensive measurement system will provide data, evidence, and trends, as well as comparisons across European countries.

As a final consideration, food waste needs to be considered in relation to the country's cultural context. In fact, food consumption patterns, food behaviour, consumer knowledge, practices, and attitudes are all interrelated, could impact at different levels on food waste, and should be taken into account when establishing preventive actions.

References

Scalvedi, M.L.; Rossi, L. Comprehensive Measurement of Italian Domestic FoodWaste in a European Framework. Sustainability 2021, 13, 1492. https://doi.org/10.3390/su13031492

Link to Food Waste Observatory: https://www.crea.gov.it/web/alimenti-e-nutrizione/-/osservatorio-sugli-sprechi-alimentari

Japan

The effectiveness of using a FLW diary App on the reduction of FLW

Responsible Agencies/Institutions: Research and Investigation - Kyoto College of Economics; Graduate School of Economics, Kobe University; Japan Statics Research Institute, Hosei University; Graduate School of Humanities and Social Sciences, Okayama University; Mitsubishi UFJ Research and Consulting; Web Application (Development and Operation): Gomi-Jp (Specified Non-Profit Organization)

Background

As an initiative in the 4th term policy research consignment on environmental economy by the Ministry of the Environment, titled "Research and Investigation for Economic Benefit of Food Loss and Waste Reduction", Web tool was developed which can record dairy household food loss and waste (hereinafter referred to as "FLW") with the flag of disposal of food untouched or disposal due to leftover, category of food edible but disposed and weight of food edible but disposed, and also can visualize it. And then it was evaluated how visualization of FLW occurred at each household and its financial impact can influence on the reduction of household FLW, by tracking the actual utilizing this web application in two groups of consumers, a group to the member of which both weight and price information of household FLW is to be fed back, and the rest group to the member of which only weight information is to be fed back.

RCT Experiment utilizing "Food Waste Diary" Application for the Effect of Financial Impact Feedback on Household Food Loss and Waste
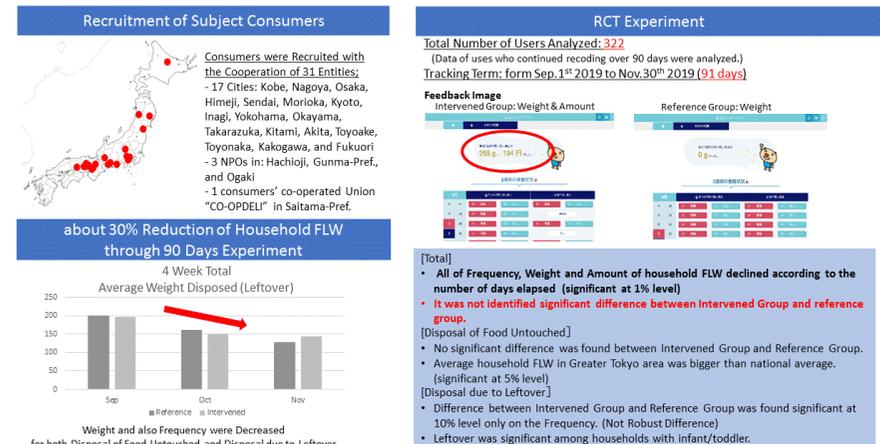
Overview of the Research is as following;

- **Period:** 3 straight months
- **Target:** Surveys were invited from local governments etc. to residents, people who have registered the application and whose record start date and last record date are 90 days or more.
- **Survey method:** Randomized controlled trials (RCTs) were conducted on the collaborators and panel data was analyzed.
  The intervention group was presented with their own FLW weight and FLW amount of money, while the reference group was presented with only their own FLW weight. The changes in the amount of FLW generated by each were analyzed.
- **Items Recorded:** Date of Disposal, Type of Disposal (Disposal of Food Untouched, or Disposal due to Leftover), Category and Weight of Food Edible but Disposed.

- **Items Fed back to Users:**
  - **To All Users:** Weight of Food Disposed, Weekly Summary Weight of FLW, Trend of Weekly Summery Weight, Categories of Food Edible but Disposed and their Ratio, and Average Weight per Household of Food Edible but Disposed among All Users
  - **Only to the Group of Users for whom Financial Impact Information is Available:** (Items shown above plus), Amount of Food Edible but Disposed, Weekly Summary Amount of Food Edible but Disposed, and Average Amount per Household of Food Edible but Disposed among All Users
- **User Attributes:** Group Type (Availability of Financial Impact Information), Gender, Age, Residential Area (ZIP Code), Number of Family Members, Have or Have-Not Infants, Have or Have-Not Aged Family, Day of the Week when Garbage is Collected
- **Number of Users of whom Data was Analysed**: 322 (who recorded food waste for 90 days)

Impact

Following result is reported in "2019 Report for Policy Research Consignment on Environmental Economy, titled 'Research and Investigation for Economic Benefit of Food Loss and Waste Reduction'".

- It brings positive influences on the reduction of household FLW to record daily FLW continuously.
- FLW reducing effect against number of days recording continues for 3 months around.
- Marginal effect of recording diary on reducing FLW is 0.07 - 0.08g per day. (3 months' recording of "Food Waste Diary" brings around 30 – 40 percent reduction of FLW at average household).
- It could not be identified whether financial impact information enhances reduction effect on FLW or not. It was not significant possibly due to smallness of the lost amount fed back as FLW.

References

Link to Policy Research Report (summary part is available both in English and in Japanese, and the rest is only in Japanese):
http://www.env.go.jp/policy/keizai_portal/F_research/report30_2.pdf
http://www.env.go.jp/policy/keizai_portal/F_research/report31_2.pdf

"Food Waste Diary" Web Application (available only in Japanese)
https://gomi-jp-foodloss.com/

Initiative for Food Loss and Waste Reduction by "3R Action at School Lunch"

(note: 3R means "Reduce", "Reuse" and "Recycle")

Responsible Agencies/Institutions: Technical Lead: Takasaki Municipal Office, Gunma and Ichikawa Municipal Office, Chiba; Technical Support: Mitsubishi UFJ Research and Consulting

Background

The Ministry of the Environment is supporting initiatives that local governments implement to reduce food loss and waste at school. Even though this kind of initiative is not the one to enhance household food waste reduction directly, it is expected to enlighten and promote household food loss and waste (hereinafter referred to as "FLW") reduction at home through understanding of the importance of FLW reduction, learning cocking techniques to avoid excessive removal of foodstuff and so on among school students.

Overview of 2 concrete initiatives referred here is as follows;

1. **Initiative at 3 model elementary schools in Takasaki City, Gunma**
   - Class to Learn How to Eat Fish Well (without Leftover)
   - Cooking Training to Reduce FLW in class
   - Exchange Education with Farmers
   - Transmission of Information about FLW (Flyer, Desk-Pad)

   Effect verification method: Investigate changes in children's consciousness by questionnaire

◆ Case Study on School Lunch at Takasaki City, Gunma

- Class about Nutrition of Fish and How to Eat Fish Well
- Cooking Training how to Avoid Excessive Removal or Home Economics Class
- Exchange Education with Vegetable Farmers and Daily Farmers
- To Develop and Distribute Flyer for Improving Food-Waste-Reduction Consciousness among Students and their Parents
- To Collect Posters drawn by Students to Raise Awareness of Food Waste Reduction, and to Distribute Desk-Pap which carries the Excellent Work to All Students
- Analysis on Mindset and Behavior Change of Students by follow-up questionnaires

◆ Case Study on School Lunch at Ichikawa City, Chiba

- Class about Food Waste at School Lunch, and People involved in Preparing School Lunch
- Target Setting by each Student for 5 days' Challenge to Avoid or Minimize Leftover at School Lunch; "Eat-Up Target"
- Challenge to "Eat-up Target" by each Student (for 5 days)
- To Broadcast "the Song of Eating-UP" Originally Developed during Lunch Time in the School
- Review and Follow-up of Challenge to "Eat-Up Target" by each Student
- Analysis on Mindset and Behavior Change of Students by follow-up questionnaires

2. **Initiative at 2 model elementary schools in Ichikawa City, Chiba "5 days Challenge to Eat-Up School Lunch Enjoyably and Cleverly"**
   - Class to Learn FLW
   - Target Setting by each Student for 5-days Challenge to Avoid or Minimize Leftover at School Lunch
   - Enlightening during School Lunch Time by Broadcast "the Song of Eating-Up" originally developed.
   - Evaluation of the goal achievement which were set at first

   Effect verification method: Investigate changes in children's consciousness by questionnaire

Impact

Following results are reported:

1. **Initiative at 3 model elementary schools in Takasaki City, Gunma**

   - In the follow-up questionnaires, ratio of students who answered to eat-up all even with dislike food increased by 10.6 points from 44.1% to 54.7%.
   - As qualitative feedback, following answers were found;
     "It became easier to eat fish (which is usually not easy for child to eat well without leftover)",
     "I could learn the importance not to waste food through exchange education with food producers"

2. **Initiative at 2 model elementary schools in Ichikawa City, Chiba**

   - It was found through follow-up questionnaires that the ratios who answered that leftover was decreased were 48.3% of all lower grade students and 39.0% of all higher grade students respectively.

References

Link to initiative report:

https://www.env.go.jp/recycle/R1kyuusyoku.pdf

(available only in Japanese)

United Kingdom

Delivering an effective national food waste campaign

Responsible Agencies/Institutions: WRAP (in partnership with UK Governments and a wide range of food businesses and other organisations)

Background

The UK governments, WRAP, food businesses and other partners have delivered large-scale interventions to reduce food waste across supply chains, and households for more than ten years, enabled by a series of collaborative voluntary agreements.

Love Food Hate Waste (LFHW) was launched in late 2007 and has constantly evolved based on new insights. These insights derive from more than 40 pieces of research on household food waste in the UK, including detailed studies on the amounts and types of food wasted and the drivers of food waste (compositional studies, diaries, surveys). There are also regular surveys to track attitudes, awareness, motivations, behaviours, knowledge etc. Specific research has investigated key areas (such as the use of the fridge and freezer) or food types (such as milk, bread, potatoes).

The Courtauld Commitment 2025 is at the centre of an extensive network of partners, across businesses, local authorities, community groups, NGOs etc., and a dedicated partner website hosts a wide range of resources. Major retailers and brands amplify the campaign to their customers, local government does the same to their residents and all types of organisations can influence their staff.

After an initial reduction in household food waste of around a million tonnes, progress stalled between 2012 and 2015. We developed and implemented a new strategy for citizen food waste prevention,

which launched in 2017 and involved a more targeted approach (in terms of audience, influencers, channels, etc.) to reaching those that waste the most food, the most wasted food items and key behaviours. Examples of campaign 'moments' include 'Save Our Spuds', 'Give a Cluck', 'Make Toast Not Waste' and 'Chill the Fridge Out'. Such campaign activities have reached millions of people through digital channels, and tens of millions through mainstream media.

A behaviour change programme has been designed to test, learn and adapt interventions, ready for roll-out or co-creation with partners with a particular interest. Specialist agencies and a range of partners have devised a range of food waste prevention projects together. Many of the partners to date have been Courtauld 2025 signatories, and several ideas and pilots have been developed in collaboration with Courtauld 2025 working groups such as meat and dairy. A Household Food Waste Simulation Model helps identify areas where interventions may have the greatest impact.

For those citizens that are engaged, LFHW provides practical tools and advice to make it as easy as possible to reduce food waste at home. However, whilst awareness of food waste as an issue, concern about this and intentions to take action have all increased amongst citizens, many do not yet acknowledge that this is an issue relevant to them or are not yet concerned enough to act. To address this we developed a new 'Food Conversation' campaign (Wasting Food: It's Out of Date) launched in October 2020 and a Food Waste Action Week. Both highlight the link between wasted food and climate change, as the latter was found be to a key motivator for the majority of citizens, but only a minority were aware of a link between the two.

The UKs first Food Waste Action Week was held in March 2021, bringing together citizens and organisations from retail, manufacturing, local government, hospitality and across industry to demonstrate the impact of wasted food on people, on business, and on the planet. This was supported by more than 130 organisations.

It is vital that these campaigns are supported by food businesses, other organisations and high-profile individuals to ensure they reach the maximum number of people, and capture the imagination and hearts of those not yet inclined to engage and make changes.

Impact

WRAP carries out regular citizen surveys (4 in 2020) to track attitudes, awareness, motivations, behaviours, knowledge etc., and regular (every 2-3 years) syntheses of local authority waste compositional studies to update UK-level estimates of household food waste.

Household food waste reduced in the UK by over 1.4 Mt between 2007 and 2018, a fall of almost 18%. Excluding 'inedible parts' the reduction was almost 26%. This means food worth almost £4.8 billion a year was prevented from being wasted from homes in 2018 compared to 2007. On a per person basis household food waste reduced by over 24% including inedible parts, and over 30% (31.5%) excluding them (2007 to 2018).

There are many factors that can influence household food waste, including a range of behavioural and technical interventions and shifts in demographic profiles and economic conditions. Between 2007 and 2012 the evidence suggests that around half of the reduction in food waste resulted from interventions, and half from rising food prices and the economic crash. Between 2015 and 2018 food prices declined and there was also a rebound in incomes, both of which would be expected to drive an increase in household food waste rather than contribute to the observed reduction.

The majority of the reduction seen in household food waste between 2015 – 2018 is likely to have arisen as a result of WRAP and partner citizen engagement activity (between 75% and 85%). Changes to the way food products are sold, packaged, labelled and priced (see Case Study 2) also made a significant difference to waste levels in the home, as did the increase in the provision of separate food waste collections.

Impacts have also been seen through more regional behaviour change interventions, such as those carried out in London under the EU-funded TRiFOCAL project. Food waste overall decreased by 14% over the three years of the project.

Research undertaken in November 2020 that showed that over half (57%) of UK households had seen or heard information about food waste in the preceding year.

There has also been a significant increase in LFHW brand recognition – over 30% recalled seeing the logo in the past year, significantly higher than previous years when recall was consistently in the range of 13%-16%. Almost one in five UK citizens (19%) had seen at least one LFHW campaign and among this cohort, three quarters (75%) say they did something differently as a result. This equates to 7.9 million UK citizens aged 18+.

The biggest barrier remaining is reaching enough people with sufficient frequency.

From a citizen perspective it is important not only to focus on food wasted at home, but also food waste from eating out (at work, or as part of leisure / social activities). This helps to reinforce the message that food is too valuable (financially and environmentally) to waste. More broadly any strategy needs to focus on reducing food waste from farm to fork.

References

Love Food Hate Waste website
Love Food Hate Waste partner resource library
Food Waste Action Week homepage
The Courtauld Commitment 2025
Life under Covid-19: Food waste attitudes and behaviours in 2020
Food surplus and waste in the UK – key facts
UK progress against Courtauld 2025 targets and UN Sustainable Development Goal 12.3
TRiFOCAL Summary Report (reducing food waste in London)

Changing the retail environment to help change behaviours

Responsible Agencies/Institutions: WRAP (delivered in partnership with UK Governments, the Food Standards Agency and a wide range of food businesses and trade bodies)

Background

There is understandably a lot of focus on engaging with citizens to raise awareness, to motivate, educate and ultimately to influence their choices and behaviours. However, we can make it easier for people to make the right choices, and to make better use of what they buy, through collaboration with the food sector on product design and labelling.

Having the most appropriate pack sizes available, and where relevant a good selection of unpackaged food, means that people can buy exactly what they need for their household. It is also important that the prices of smaller packs or promotional mechanisms do not act as a disincentive to purchasing the most appropriate amount of food. Having food stay fresher for longer in the home also increases the probability that it will be eaten. Food businesses can innovate to increase shelf-life and develop 'portion packs' but citizens can significantly extend in-home life through storing food in the best place and making more use of the freezer. Clear on-pack guidance and prominent graphics (such as the 'Little Blue Fridge' icon to signify packs should be kept in the fridge, and the 'snowflake' icon to signify suitability for home freezing) have an important role to play here.

WRAP's research shows that people value having information that helps them make better use of their food - particularly on-pack – and that the clarity and consistency of this information is key.

In late 2017, WRAP, the Food Standards Agency (FSA) and Defra published new best practice guidance on how to apply and use food date labels and other on-pack advice in order to ensure that food is properly described, stored, used and safely provided to citizens and that it helps to reduce food waste. This guidance summarises both regulatory requirements (e.g. relating to date labels), and points of best practice that go beyond regulation, but are important ways to help reduce food waste at home. There are also a range of detailed sector-specific guides (e.g. for fresh produce, dairy, fresh meat & fish), which were developed in conjunction with representatives from food businesses and trade bodies.

Close collaboration with the food industry, and also food safety and labelling authorities is critical for the success of this work. All of the guidance to industry is based on a solid evidence base and citizen research, which provides the justification for action. PR and case studies help to accelerate adoption.

Changing on-pack labels can be relatively straightforward if done in parallel with planned product refreshes, but other innovations can require the investment of significant time and money. In addition to having a good understanding of the citizens needs and barriers, we have developed a 'household food waste simulation model' which helps to identify the areas where the biggest impacts can be made, and to quantify these. This helps build a business case for action.
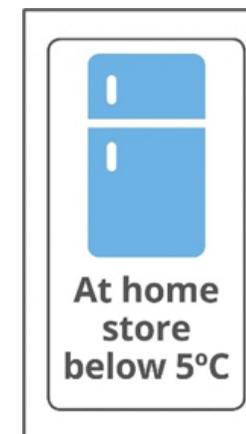
Implementing this best practice will help to significantly reduce the two million tonnes/year of food thrown away each year from UK homes due to it not being used in time – as well as helping to reduce the 1.2 million tonnes/year thrown away because of too much being cooked or served.

It should be stressed that maximum impact can only be achieved by combining work on products and labelling with citizen engagement – be that through educating people on things like date labels and storage advice, or providing the motivation to make different purchase decisions.

Impact

WRAP carry out periodic 'Retail Surveys' to assess implementation of the guidance on products and labelling, which are published and also form the basis of 1:1 discussions with retailers and brands. This helps identify remaining barriers and the agreement of plans to make any necessary changes.

Significant progress has been made since this work began in 2009, including:

- The number of products found to have two date labels reduced from almost 40% in 2009 to less than 3% in 2015, and very few products in 2018. Multiple labels confuse shoppers and WRAP found an almost complete removal of 'Display Until' dates used in combination with either a 'Use By' or 'Best Before' date.
- Two high-volume products (hard cheese and pasteurised fruit juice) have moved away from predominantly carrying 'Use By' labels to specifying a 'Best Before' date instead. This move gives citizens more time to eat the product and shows that industry can re-assess what date mark products should carry – and make significant changes One of the

largest dairy producers in the UK has now committed to moving their milk and yogurts to a 'Best Before' date.
- Almost 25% of pre-packed fresh produce carries no date label (for potatoes this increased from 6% to 14%).
- For milk and hard cheese there have been positive increases in the average available product life (c.1.5 days extra for milk and 15 days extra for cheese).
- Following a reduction in use from 2009 to 2015, there has been a significant increase in the use of the snowflake logo, rising from 15% to nearly 50% on relevant products.
- Use of 'Freeze on day of purchase' (FODOP) was almost universal before WRAP issued new guidance, and whilst there are areas for improvement this is now used on the minority of products (20%). Bread has reduced from 57% in 2015 to 30%, and bacon from 50% to 33%. This gives people the flexibility to freeze food perhaps three or four days after they bought it, if their plans change.

WRAP's research has shown that many foods that would benefit from being stored in the fridge are currently being kept in cupboards or on worktops, notably things like apples which last up to two weeks longer in the fridge. WRAP launched the 'Little Blue Fridge' (LBF) icon in November 2017, and by the middle of 2019 this was found on 15% of applicable products, with most adoption on fresh produce (more than one third of carrots; nearly one-fifth of apples & bagged salad), meat items (one third of burgers, one-fifth of chicken and ham) and ready meals (nearly one quarter). The LBF icon is designed to be used front of pack, and to act as a visual cue to encourage people to store the food in the fridge, and to set their fridges at the correct temperature.

WRAP research has identified that c.50% of people do not know what temperature their fridge should be – and that fridges at home

range from 3-14°C (average 6.6°C). Good practice is <5°C. Recognition of the LBF icon increased from 9% in November 2019 to 22% a year later. Those who recognised the icon were found to be more likely to know what temperature their fridge should be at, and to have checked it.

Based on a range of data and modelling WRAP estimates that changes to products and labelling resulted in around 10% - 15% of the reduction in household food waste from 2007 to 2018 (i.e. 140,000 to 240,000 tonnes). There remains the potential to prevent a further 350,000 tonnes via this approach.

References

Guidance to industry on changes to products and labelling to reduce household food waste
Household Food Waste Simulation Model
Retail Survey 2019
Food waste and Covid-19 survey 3: Life in flux

United States of America

Food waste measurement and consumer education in households: Save the Food, San Diego! EcoChallenge

Responsible Agencies/Institutions: San Diego Food System Alliance; Commission for Environmental Cooperation (CEC)

Background

The San Diego Food System Alliance ("The Alliance") is a non-profit organization working to cultivate a healthy, sustainable, and just food system in San Diego County, California.
The Alliance manages the Save the Food, San Diego! campaign, a regional food waste awareness consumer education campaign for residents. The Save the Food, San Diego! EcoChallenge is an innovative social competition engaging individuals and households in food waste tracking. The Alliance was interested in piloting food waste measurement at the household level, and assessing the impact of consumer education on household level food waste behavior. The EcoChallenge program sought to engage and measure household level food waste among participants over 15 months using an interactive online platform and digital kitchen scales.

To correspond with the 5 food waste tracking periods in the EcoChallenge, there were 5 distinct consumer education campaigns, each with a specific thematic focus covering the spectrum of food waste reduction education. Campaign strategies primarily focused on food waste prevention to align with the highest priority strategy of the EPA Food Recovery Hierarchy, and topics of focus for the campaign included meal planning; smart grocery shopping; proper food storage; zero waste cooking; social, environmental, and economic impacts of wasted food; sustainable

food systems; and climate change. Between each food waste tracking period during the

EcoChallenge program, targeted consumer education campaigns were implemented to provide participants with tips, tricks, and strategies for reducing food waste at home. This was not only to provide an educational component to the EcoChallenge program, but also to keep participants engaged in the program between food waste tracking periods. The consumer education campaign was primarily distributed through emails, newsletters, and social media posts.

The Alliance partnered with 6 institutions in San Diego County - 2 corporate campuses, 2 university campuses, and 2 jurisdictions - to engage their students, staff, faculty, and employees in the EcoChallenge program.

Food waste was measured using high quality kitchen scales, provided to each EcoChallenge participant upon enrollment. Participants were instructed to weigh and record their food waste for 7 days during designated food waste tracking periods. These tracking periods spanned a 2-week window, and were held quarterly during the 15-month program for a total of 5 food waste tracking periods.

The first tracking period held in October 2019 served as the baseline measurement for household level food waste, and data from each subsequent food waste tracking period were compared to baseline to determine reduction. A subset of participants joined a pilot test for a 6-week EcoChallenge program. This condensed pilot was created to compare the differences between household level food waste reduction, and participant retention rates, between two programmatic timelines.

Food waste was defined as food in any of the following 3 categories: Meal Leftovers, Food Scraps, and Spoiled Food. Pet foods and liquids were excluded from the definition, and no distinction was made between edible and inedible food scraps. The Alliance wanted to make tracking food waste as easy as possible for program participants.

Participants recorded their daily food waste on the EcoChallenge website. Using an online platform added increased accuracy in data reporting and allowed program managers to easily access data. The website prompted participants to record both the total weight of their food waste for the day, in ounces, and the number of people that generated this waste.

After completion of the program, participants were provided with a qualitive survey seeking to identify the types and causes of food waste recorded during the EcoChallenge, as well as the most common disposal methods of that food waste.

Impact

In total, 887 participants across 6 institutional partners enrolled in the EcoChallenge program. 492 participants were enrolled in the 15-month program, and the remaining 395 participants joined the 6-week pilot. However, the length of the program and the challenges brought on by COVID-19 that limited in-person contact and events led to a significant attrition rate among program participants. Of the 887 participants enrolled in the program, 391 participated in at least one food waste tracking period during either the 15-month or 6-week program timeline. By the end of the 15-month program, 15 participants had successfully recorded 7 or more days of food waste in every food waste tracking period, and 196 participants recorded food waste at least once during the program timeline. For the 6-week model, 112 participants successfully completed the 6-week food waste tracking requirements.

As compared to baseline measurements, EcoChallenge participants in the 15-month program achieved a 38% reduction in household level food waste. The longitudinal data captured from the EcoChallenge program highlights an interesting trend between Tracking Period 2 and 3. Although recorded food waste remained below baseline levels, there was an increase in reported food waste between Tracking Periods 2 and 3. This coincides directly with the onset of the COVID-19 pandemic and shelter-in-place orders in San Diego County, California.

Results from the pilot 6-week EcoChallenge also demonstrated an average 34% reduction in household level food waste among program participants. Not only was this result comparable to the reduction achieved by the 15-month program, but retention rates among participants in the 6-week EcoChallenge were higher than the 15-month program.

Additionally, results from the self-reported qualitative survey data indicated that the food waste most often produced by EcoChallenge participants during the EcoChallenge program was food scraps, over meal leftovers and spoiled food. Frequently wasted items included scraps, peels, cores, and skins from fruits and vegetables, whole fruits, eggshells, and coffee grounds. Additionally, participant feedback throughout the EcoChallenge program highlighted the positive learning and impacts brought on by both the food waste tracking exercises, as well as the engagement with the education and resources.

The EcoChallenge program initially set out to achieve a 10% reduction in household level food waste by the end of the 15-month program. Although the program implementation was challenged by numerous external factors, the actual outcomes of the program far exceeded this initial expectation, with a 38% reduction in household level food waste among program participants that consistently tracked their food waste.

Qualitative survey data collected from participants also supports positive learning outcomes from the EcoChallenge program. 90% of survey respondents reported an increased awareness of food waste and that they are implementing strategies they learned from the EcoChallenge to reduce their food waste. Additionally, the EcoChallenge website featured a variety of Actions and Challenges representing food waste reduction strategies that participants actively completed during the EcoChallenge. By the end of the 15-month program, participants completed 22,894 actions on the EcoChallenge website.

References

Link to Save The Food San Diego Ecochallenge website:

https://savethefoodsd.ecochallenge.org/

Food First: A Replicable Model in Washington, DC for Engaging Residents in Taking Action on Sustainability

Responsible Agencies/Institutions: Recycle Leaders, Loop Closing, and Soilful; Commission for Environmental Cooperation (CEC)

Background

Recycle Leaders, Loop Closing, and Soilful are three small businesses in Washington, DC that teamed up to implement a Community Action Grant funded by Sustainability DC 2.0, a city-funded initiative. The grant supported piloting the "Team Up on Food Waste @ DC Wards 7 and 8" action research project with residents living in a food desert.

In April 2020, Recycle Leaders launched the Team Up on Food Waste @ Home challenge in response to the need of several schools in the DC Metro area for a remote action project for Earth Day 2020, due to COVID-19. The challenge was a 6-week voluntary competition that provided a structured way for students and families to participate in reducing food waste at home together. During the 6 weeks, each participating team collected seven days of baseline data in the initial 2-week period on "preventable food waste," took action to reduce it, and reported the results. The procedures were designed for easy participation without any special supplies.

Recycle Leaders was concerned that messaging focused on climate change could come off as "tone deaf" to households struggling with food access, especially in the face of COVID-19. Conversations with teachers and principals demonstrated they shared this concern. Based on these concerns, there was a need to tailor the messaging to make it appeal to households who are also grappling with food access and food security.
A team of DC residents (no experience necessary) were paid to participate in the challenge as action researchers and to give in

Guide to Your Supplies
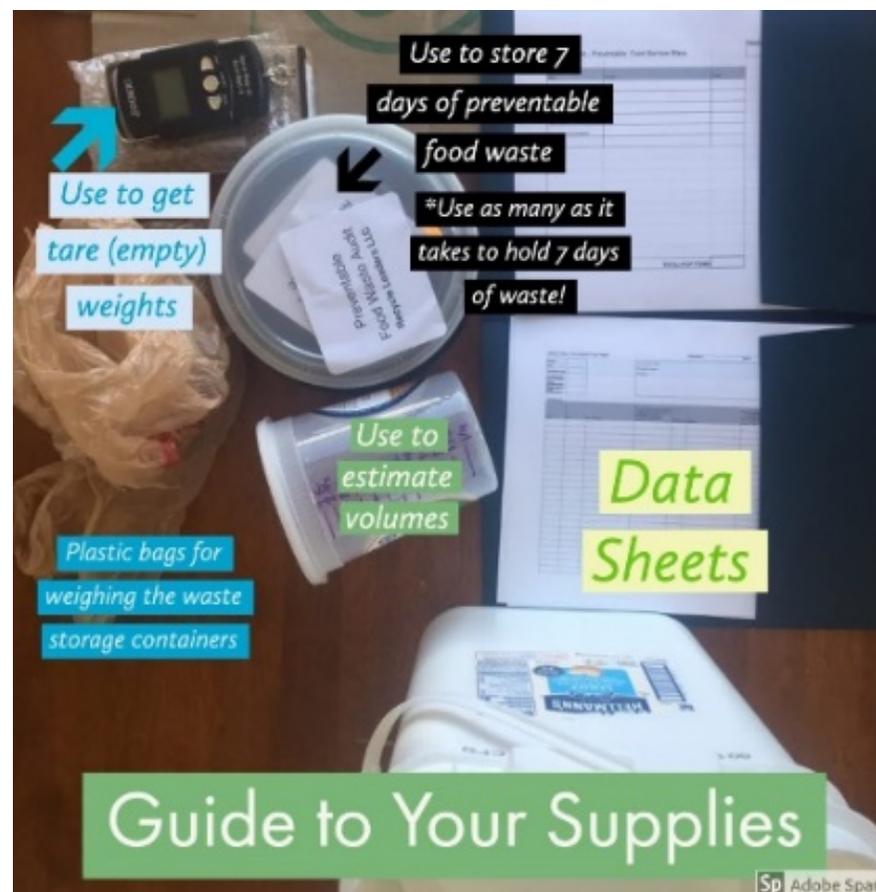
depth feedback. Eight residents were "action researchers" on behalf of their households, which contained 30 people in total. Action researchers were paid $100/week to attend a weekly Zoom class, collect data daily, and submit weekly reports.

The material type measured was food only, not including inedible parts like shells/rinds/pits, and not including liquids. Each action researcher was provided with a standard "waste audit supply kit" which included reused containers for holding the food waste and for

measuring volume, printed data sheets (in case anyone didn't have easy access to a printer), and hanging scales. The teammates collected data on preventable food waste for 6 weeks, broken up into an initial 2 weeks (to learn the procedure and track seven days of baseline data) and then 4 weeks of taking action. Teammates were instructed to keep track of each discarded food waste item using the data sheet provided and notes on the type of item and reasons for discarding. They were also asked to keep the items in a container, and at the end of the week to measure and report both the volume and weight on a weekly report provided by Google Forms (which also included questions about their feedback and observations). Finally, they were asked to submit photos of their weekly waste and their completed raw datasheets.

Impact

Together, teammates reported data that showed a reduction in household "preventable food waste" of about 60%, and most action researchers reported zero preventable food waste at least one week toward the end of the challenge. Teammates reported testing various reduction strategies. Favorite strategies included cleaning out and organizing the refrigerator, shopping with meals in mind, and planning meals with portion sizes in mind. For the families with children, a favorite strategy was actively managing access to snacks, since previously children would open snacks and not properly store uneaten portions, leading to waste.

Organizing food storage stood out as a one-off strategy that can be recommended to any household that can help make it easier to implement other strategies that take effort to maintain over time, regardless of differences in challenges to obtaining food. A very simple and effective single action is to designate a specific space in the refrigerator for leftovers, which can also be labelled with an "Eat First" sign.

Together the whole set of 30 participants (including the 8 researchers and all their household members) reduced preventable food waste, on average, from about 0.3 lbs/person/day to about 0.1 lbs/person/day over the 4-week action period. This means 168 pounds of food waste was prevented over the course of the project, and if this level is maintained over the next year it would result in a total reduction of about 1 ton per year.

The challenge achieved a retention rate of 80%. The researchers who completed the challenge reported high levels of satisfaction with the results of the participation, and everyone enjoyed being recognized in the "Virtual Awards Ceremony" at the conclusion of the challenge. This ceremony highlighted each person's unique contribution to the team as well as identified who "won" awards for "Highest Performance" (lowest average food waste during action period); Most Improved (largest % decrease between baseline and action periods); and Most Replicable Solution (subjectively awarded for a good idea that can easily be shared and replicated).

The project achieved the expected outcome of reducing food waste in participating households. In addition, several teammates reported substantial cost savings, with one anecdotally sharing that she cut her family grocery bills by more than half. Teammates also reported saving time from fewer grocery store trips, which is even more substantial for families who live in food deserts and have to travel significant distances to the grocery store.

The teammates also reported positive social outcomes. They enjoyed the experience of meeting weekly and sharing ideas, especially during the COVID-19 pandemic when opportunities for community-building were restricted.

References

Link to Recycle Leaders website: www.recycleleaders.com