



SAVE OUR SANDWICHES: RECOMMENDATIONS TO TACKLE FOOD WASTE AT THE UNIVERSITY OF GLASGOW

Report for the Solutions for Change 2024

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Introduction

This report sets out the activities and recommendations of a two-month project led by researchers at the University of Glasgow in collaboration with the Partick Annex. The activities detailed were part of the University of Glasgow's Solutions for Change programme in 2024.

Solutions for Change is a University of Glasgow programme that connects researchers with community groups to tackle societal challenges. It supports teams of researchers (PhD researchers with a post-doctoral research lead) to work with third-sector, non-profit and community organisations.

Our community partner, [Partick Annex](#), is a community-led health and wellbeing charity. Its aim is to support people to improve their health and wellbeing, and to build capacity of local community groups. Part of their work is a Cost-of-Living group which meet to support local residents, by providing food and social support.

Our research team were given the challenge of 'food waste' at the University's ARC and Clarice Pears. Specifically, surplus food leftover from catered events (rather than food from cafes or dining halls). Our task was to better understand how the University could address this problem, particularly given the dual-challenges of food-poverty facing local communities and a global climate emergency.

Therefore this report highlights a significant issue at the intersection of food waste, community welfare, and environmental sustainability, which our research team was tasked to address within the University of Glasgow's Solutions for Change programme.

Findings and activities summarises the work undertaken by the research team (Dr Jo Neary, Dr Asma Ahmed, Elkanah Nyabuto, Renhao Du, Asam Ahmed, and Maria Izzo).

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Defining the problem: Understanding food waste at the University of Glasgow

At time of writing, there are no quantifiable measurements of food waste at the University of Glasgow. This includes from catered events, plus from cafeterias and cafes across the campus. In response to this, the research team created a survey to begin to quantify the problem.

The survey was distributed to ARC and Clarice Pears staff who had an event management role. The survey asked the respondents to include their experience of food waste at workshops, conferences (free to attend and paid), and staff meetings. As the ARC and Clarice Pears buildings use multiple caterers (including internal UoG caterers, and external providers such as Regis and Indonesian Caterers), respondents were asked to identify which caterer was used.

The survey also asked respondents to comment on attendance rates (expected and actual), food type and consumption and suggestions for how to respond to food waste.

Survey results: attendance at events and food waste

18 respondents completed the survey, reflecting 18 separate events. These events are particularly concentrated in the months of May and June based on the survey results, indicating a seasonal peak in activity. Attendance at these events varies significantly, with expected numbers ranging from as few as 8 to as many as 200 delegates. For most of the events reported, there were fewer attendees on the day than had signed up. While in some cases, this was around 80% actual attendance versus expected, in others, actual attendance was as low as 30%.

This has a significant impact on catering orders. If an event organiser is expecting 20 people in a room, and orders catering with the expectation of 100% attendance- if they have on the day attendance of 8 people- the potential for leftover or surplus food is significant.

However, the survey results indicate that the attendance rate is not the only factor contributing to food wastage because even with a good attendance rate, there is still a significant amount of food left over. The pie charts below show the attendance rates and average food consumption rates at these events.

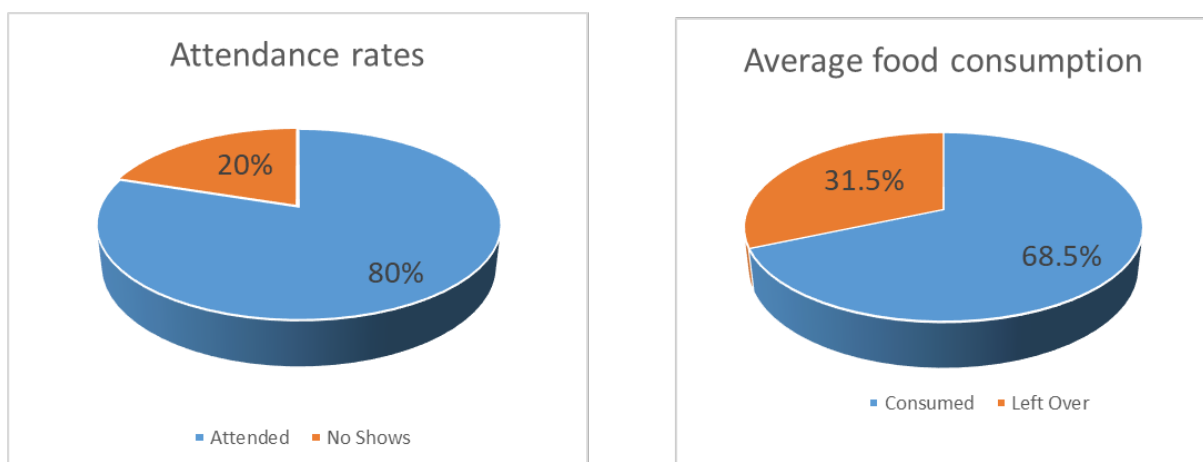


Figure 1: Pie charts showing percentage of food consumed and attendance rates

On average, approximately 68% of the food ordered is consumed at these events as shown in figure 1, though there are instances where consumption drops as low as 50%. This discrepancy

highlights the challenges in accurately predicting food needs for attendees and thus managing food waste.

Surplus food and food waste is a recurring issue at catered events, with commonly leftover items including sandwiches, cakes, fruits, and wrapped biscuits. About 50% of the events had more than 40% of food left over after the event.

A free text box in the survey asked respondents to explain what policies their departments have in place for surplus food. Common answers included consumed by staff and students post-event, taken home by attendees, or, in some cases, discarded. Some attempts have been made to offer leftovers or store them for future use but despite these efforts, a significant amount of food still ends up being wasted, indicating a need for more effective waste management strategies.

Survey results: suggestions for food waste strategies

Respondents via free text boxes suggested several barriers to effective donation of leftover food from the catered events. Hygiene concerns and food safety are key, particularly regarding the freshness and safety of unwrapped food. Logistics also pose a challenge, with difficulty finding recipients and transporting food promptly. Additionally, there are concerns about the quality of food post-event, as it may not be of acceptable standard for donation. These issues collectively contribute to the reluctance to donate leftover food by most event organisers.

To address the issue of surplus food and food waste, respondents suggested several strategies can be implemented. Firstly, it should be recommended to order less food based on actual attendance data rather than registrations, which can be inflated due to no-shows. Collecting attendee food preferences can help match the type and quantity of food ordered more accurately. Adjusting portion sizes and offering boxed meals can further help in managing consumption.

The respondents also suggested the establishment of clear protocols and local contacts for redistributing surplus food to ensure that leftovers are put to effective use. Additionally, developing policies on catering, sustainability, surplus food and food waste, along with guiding event organizers on best practices, can foster a more systematic approach to surplus food and food waste reduction. Lack of awareness of surplus food and food waste management emerged as an issue where some respondents suggested fining no-shows. From the survey respondents, more than 67% event organisers have expressed a willingness to participate in initiatives aimed at reducing surplus food and food waste in the future.



They are open to engaging in interviews, focus groups, and pilot initiatives, and are interested in contributing ideas and discussing strategies to minimize waste. This collaborative approach can be instrumental in developing effective solutions and fostering a culture of sustainability not only at the ARC and Clarice Pears Buildings, but also within the university. By implementing some of the suggested strategies and fostering a culture of sustainability, we can reduce food waste, save costs, and contribute positively to the community.

Looking at solutions: food waste policies

The research team were interested in gaining a better understanding of what best practices were in terms of food redistribution and how we could learn from these actions in terms of our own recommendations, both in terms of what is currently happening at the University of Glasgow and elsewhere in the UK. This involved a series of interviews and desk-based research.

University of Glasgow

Over the period of Solutions for Change, the research team sought to speak to key stakeholders across the University regarding their understanding of the challenges of surplus food and food waste, reflections on sustainable solutions, and what is currently occurring at the University.

Speaking to Business Operations Managers and Catering, the issue of logistics was paramount. The health and safety legislation regarding food preparation and containment often meant that redistribution after catered events was not feasible. This was specifically due to the rule regarding how long food could be left outside of refrigerated conditions, and the risk of someone consuming redistributed food falling ill as a result of poorly stored leftovers. For them, the main challenge was regarding behaviour change at the point of ordering catering: not over-ordering, and maintaining a reduced amount of leftovers through this.

However, despite this, there are examples at the University of Glasgow of food redistribution. The EcoHub (Boyd Orr Building, main campus), provides a community fridge service. The EcoHub has an agreement with a food distribution organisation (FareShare) whereby large supermarkets can provide food that is almost past their sell-by-date to local charities and organisations. Utilising groups of student volunteers via SRC, the food is collected from Tesco and brought to the community fridge. The community fridge is currently able to provide pre-packaged food (such as sandwiches, loaves of bread) and fresh fruit and vegetables to students and staff.

The Eco-Hub are currently in discussion with Glasgow Catering to be able to stock pre-packaged foods and fruit from their canteens and cafes in the fridge. However, before this goes ahead, they are required to pass food hygiene and safety training, and have to be responsible for the maintenance of the fridge (including cleaning, replenishing and removing items, monitoring usage).

Food waste policies at other Universities

The research team conducted a desk-based review of surplus food and food waste policies at other Universities (as detailed on their University websites). We were interested in whether the Universities had a redistribution policy, and whether they had other creative strategies to combat surplus food and food waste. The table below details UK universities that have a policy regarding surplus food and food waste, and a summary of their key policies.

University	Redistribution policy	Other policies
University of Nottingham	Pre-packaged food from cafes redistributed via TooGoodToGo app.	food waste bins distributed across campus. The collected food waste is then sent to anaerobic digestion plants, where it is converted into energy and biofertilizer. This initiative is part of their broader "Sustainable Nottingham" program aimed at achieving net-zero carbon emissions.
University of Cambridge	Charities informed of unsold food produce (only in event that supplier cannot accept returns).	Main supplier to canteen operates on sale or return basis.
University of Edinburgh	Pre-packaged food from cafes redistributed via TooGoodToGo app.	Food waste within cafes is sent to anaerobic digestion (e.g. to produce biogas). Communication of surplus food and food waste risk at point of event planning.
University of Reading	No details online.	Actively track waste data across their venues (cafeterias, cafes etc), focusing on reducing both pre-consumer and post-consumer waste by analyzing patterns and adjusting operations accordingly.
Swansea University	Surplus food is redistributed to local charities and food banks, reducing waste and supporting the community.	Food waste sent to an anaerobic digestion plant. This plant converts the waste into renewable energy and produces a nutrient-rich fertilizer
University of Strathclyde	Pre-packaged food from cafes redistributed via TooGoodToGo app.	Residual food waste is collected and processed at Keenan Recycling's facility, where it is converted into biofuel and biogas. The end product, digestate, is used as a fertilizer for agricultural purposes.
University of Bristol	Pre-packaged food from cafes redistributed via TooGoodToGo and Olio apps.	University food waste is processed to create renewable energy and fertilizers
De Montford University	Pre-packaged food from cafes redistributed via TooGoodToGo and Olio apps.	The university employs strategies to reduce food waste at source and educates the campus community about the importance of sustainability.

Where the University had a surplus food and food waste policy, we see two common policies: redistribution (either free to charities, or selling on at a discount via apps such as TooGoodToGo), or environmental recycling (biofuel or compost). However, we observed that the redistribution policies often focused on food produced in student cafeterias or cafes rather than food leftover from events.

Similar to the findings from the discussions with University catering, there was seen as a risk to redistribute “leftover” food from catered events, particularly if the food was hot.

From this, we understand that while some Universities are further on in their journey of sustainability and tackling surplus food and food waste, the problem of leftover food at catered events remains a real issue across the UK.

Community collaboration: Save Our Sandwiches

At the beginning of Solutions for Change, our community partner (Partick Annex) was introduced as one potential destination for surplus food after catered events. However, as our understanding of the barriers to redistribution of surplus food grew, and we began to understand the policies of other Universities who were further on in their sustainable journey, this became more of a challenging proposal.

Food redistribution was a viable solution if: food packages were unopened, not handled by others, and ideally, could be sent to another destination within three hours. The research team reflected on some of these barriers and suggested there was a need within the University for better awareness about this issue- our behaviours at catered events (both in terms of over-ordering catering, but then the attitude of opening all catering boxes even where they contained similar items) was stopping us from redistributing the food elsewhere.

With the community members, we created an awareness raising campaign. The community group suggested the banner “Save Our Sandwiches”, which was connected to the well-known phrase Save our Souls (SOS) used in times of emergencies. Given the link between food-waste and our climate crisis, this was seen as an apt link. The phrase also connects with our need to promote keeping food in order to redistribute it- encouraging others to not throw away catering but think how we could save the food in order to help others in need. Also, while the phrase contains the word sandwich, this was seen as a representative food item for the wider catering options.

We agreed the logo (see below) should include our slogan, a brief mission statement and be eye-catching with a link to ‘hazards’ of surplus food and food waste. We suggested that this branding could be utilised across different media in the University: using digital screens to remind people about the risks of surplus food and food waste; on event planning forms to focus event managers on the task of ensuring their event is sustainable and is mindful about the challenge of surplus food and food waste and redistribution; on catering boxes on the day of events to remind people of the hazards of opening multiple boxes before they are actually needed, and an informational pamphlet which highlights how much of an issue surplus food and food waste is at the University, and what the financial and environmental costs are for our inaction.



Discussion

The issue of how to redistribute surplus food is a complex issue. There are multiple issues to keep in mind, including a lack of awareness of how much food is wasted at the University, a lack of agreements in place regarding distribution pathways, as well as issues of legality and food safety. Where other Universities seem to be further down the road of sustainable solutions, the issue of surplus food and food waste at catered events is still a known unknown. We know there is a problem; we see after events there is surplus food (and staff and students potentially benefit from emails relating to 'leftover cake and sandwiches') but combatting this in a sustainable manner acknowledging the social commitments of the University, remains a challenge.

The challenge of how much of a problem it is, and what are the main drivers of surplus food after events, was a key first step. We could not produce recommendations for how to solve the problem without first being able to define the problem.

One of the key findings from our survey was that non-attendance is not the most significant factor contributing to surplus food and food waste. At one event, despite an average attendance rate of over 80%, more than 30% of the food was still wasted. An extract from a response highlights this issue: *"A lot of everything. Tables full of boxes of food. We had the number of people we ordered food for and there was still a lot left over."* This indicates that while attendance rate is a factor, other aspects need attention as well highlighting that it is a multi-faceted problem that requires careful consideration of all the factors and actors involved.

Our analysis identified that one of the primary factors leading to food wastage is the inadequate quantity of food ordered. Over-ordering at events is a major contributor to surplus food and food waste. Additionally, the organization of the events plays a role. A common trend observed is the general non-preference for sandwiches, which tend to be the most leftover food at these events. Therefore, the quality and type of food ordered should be carefully considered. However, there is also a barrier in relation to the food supplier. Many respondents pointed out to the inflexibility of food supplier terms and conditions. For example, one respondent suggested reducing the minimum order requirement from 20 and/or revising the cancellation policy to accommodate registration cancellations before the event.

Conclusion

Our main finding from this project is that surplus food and food waste at the University is both a top-down issue (University policy) and a bottom-up issue (individual behaviours). Therefore, solutions need to focus on both the cultural environment (over-ordering at events, attitude towards surplus food and food waste) and the institutional mechanisms (portion size, clear indications on websites regarding example menus to reduce surplus food and food waste, adjusting the cancellation window for catering changes). Our survey results also highlighted the importance of monitoring the issue, to know where the problem is and when there should be policies in place regarding food redistribution and therefore to have an evidence-based approach to surplus food and food waste management.

Recommendations

- Creating comprehensive policies on catering, sustainability, and surplus food and food waste that can guide event organisers on best practices for ordering and managing food. To achieve this, we recommend to organise a roundtable discussion for all the university departments involved including catering, sustainability as well as event managers.
- Work with events, catering, and estates to create awareness campaign for event organisers and event attendees about the surplus food and food waste issue. Linked to this, provide online resources such as moodle to educate event organisers on sustainable practices and raising awareness about the impact of surplus food and how to create sustainable events.
- Continue to measure surplus food and food waste issue in the wider university community. This can be achieved by utilising this survey to collect data about events and food leftovers in the whole university. This could allow catering to reflect on trends in food waste to customize portion sizes and offering boxed meals can help control individual servings and reduce waste.
- Catering providers to reduce minimum order requirements and allow for flexible cancellation policies will enable more accurate food orders based on real-time attendance predictions.
- Finally, engaging event organisers in pilot initiatives and collaborative efforts, including interviews, focus groups, and idea-sharing sessions, can help develop and refine effective surplus food and food waste reduction strategies.