Future Food Symposium 2025
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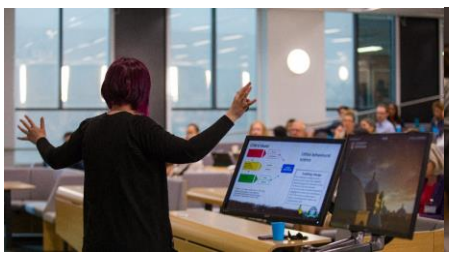

Foreword

We must start by recognising the work that John Harvey, Jordan Lazell and Marsha Smith have put in to establishing this event and running it for the last five years. Last year we went to Nottingham University to attend the Future Food Symposium 2024. It was the first time we had been to the event and we were blown away by the conversations and presentations crossing so many different disciplines, something we had not experienced before at a conference. We were also blown away by the mix of participants - from academia, industry, the public sector as well as community groups and we were struck by the friendly and collegiate atmosphere in which the discussion took place - assisted by the wonderful food provided.

In planning the 2025 event we wated to maintain these elements and the original values of the symposium but in addition showcase some of the work of the University of Birmingham as well as the city of Birmingham. We welcomed contributions from BISCA (Birmingham Institute for Sustainability and Climate Action), the Plastics Network and the Centre for Responsible Business. Birmingham City Council discussed their food revolution and Charlotte Hill an alumni of the University of Birmingham and recent recipient of an Honorary Doctorate returned to discuss The Felix Project, London's largest food redistribution charity.

We also wanted to stimulate discussion through new connections and welcomed Professor Sarah Berry from King's College London to discuss the good, the bad and the ugly of ultra-processed foods. Our panel on food fraud, which comprised of Sterling Crew and John Points from the Food Authenticity Network, Jessica Merryfield from the Chartered Trading Standards Institute, Professor Louise Manning from the University of Lincoln and Professor Anirban Mukhopadhyay from Bayes Business School shared their expertise around understanding the threats to authenticity and safety in the food chain and the challenges this poses to both organisations and consumers.

As well as the plenaries and panels this year over 100 papers covering a wide range of food related topics were presented, the abstracts of which are all contained in this document. We were joined by approximately 200 delegates from across the UK and overseas. It was a pleasure to meet you all and we thank you for your contributions to the thought-provoking discussions that took place.

Future Food Symposium 2025 would not have taken place without the support of a number of people. We would like to thank Birmingham Business School for providing financial support, specifically we would like to thank Professor Will Green, the Director of Research for BBS and Andrew Miles, Corporate Relations Manager for the School. We have also received financial support from the Centre for Responsible Business and Birmingham Institute for Sustainability and Climate Action (BISCA). We would also like to thank ChangeKitchen CIC and the Nishkam Centre for providing the delicious food. Pam Warrington has also helped greatly in organising travel and accommodation, and Candice Hipkiss, Claire Stanley Emily Pickering, Agata Szulc, Min Son, Ishmael Arhin, Emmanuel Buah and Simone Hawley provided the hard work and support to ensure everything ran smoothly over the two days.

Thank you also to the stream leads and chairs, everyone who took the time to present their work and who gave up their time to attend and be a part of FFS 2025.

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PLENARY SESSIONS

Building a Food Revolution: Birmingham's journey to transform the food system - Sarah Newton

Join Sarah Newton, Food System Lead at Birmingham City Council, as she shares insights from the city's ambitious effort to transform its food system through collaboration, empowerment, and equity. Since 2021, Birmingham has been driving forward its co-produced *Birmingham Food System Strategy 2022–2030*, with a bold vision created by a city-wide partnership. The aim? To regenerate Birmingham's communities, economy and environment by uniting the people and projects shaping its food system under the Birmingham Food Revolution movement.

In this session, Sarah will:

- Outline the Birmingham Food System Strategy
- Share key achievements and milestones to date
- Reflect on challenges and lessons learned
- Offer practical recommendations for those looking to spark change in their own communities

She'll also address key questions, including:

- Where do you begin with such a complex system?
- How can inclusive governance be developed across diverse stakeholders?
- What inspires a whole city to rally behind a shared vision?
- How do you prioritise in the face of limited funding and capacity?
- And how can we ensure food justice for all?

This session will explore what it takes to build a local food revolution.

Processed Food: The Good, the Bad and the Ugly. - Professor Sarah Berry, King's College London

Ultra-processed foods (UPFs) are everywhere: on our shelves and in our newsfeeds! High intakes of UPFs are associated with diverse adverse health outcomes including weight gain, cardiometabolic disease, neurological changes and cancer. However, not all UPF's are created equal. Public health strategies to reduce their intake are hindered by the limitations of current classification systems and the lack of certainty regarding the mechanisms through which UPFs influence health. To improve health within our current food landscape, we need to move beyond a singular focus on UPF's to a more nuanced examination of how food processing may negatively or beneficially impact health, via effects on food matrix and nutrient and non-nutrient composition.

This talk will examine:

- The link between UPF and health
- The prevelance and diversity of UPF intake
- The mechansism linking food processing to health (good and bad) with a focus on the food matrix
- Future perspectives

From Production to Plate: The Impact of Plastics on Our Food System - Robyn MacPherson, The Plastics Network, University of Birmingham

Join Robyn from the Birmingham Plastics Network for an enlightening plenary talk on the intricate relationship between plastics and food. Discover how plastics affect multiple stages of the food lifecycle, from growth to packaging, and learn about innovative solutions emerging from food itself. We'll delve into how microplastics contaminate soil and water, entering our food chain, and raising significant food safety concerns. We'll also discuss the crucial role of plastic packaging in food preservation and the challenges it poses, as well as explore sustainable packaging solutions, such as bioplastics derived from corn and seaweed, which offer alternatives to traditional plastics. Lastly, we will consider the impact of upcoming policy, such as the simpler recycling bills and mandatory food waste collections on waste management, and the complexities introduced by unclear consumer guidelines on compostable and biodegradable plastics. This talk will highlight the profound impact of plastics on our food system and the necessity for sustainable practices and enhanced policy innovations.

Stopping Food Waste and Fighting Hunger: The Circular Economy of Food. - Charlotte Hill, Dan Byam-Shaw, The Felix Project

The Felix Project is London's largest food redistribution charity. In 2024, the charity rescued almost 16,000 tonnes of surplus food, supplying over 1,200 community organisations and schools with enough food for 38 million meals.

In this session, Charlotte Hill (CEO) and Dan Byam Shaw (Policy Lead) will discuss the progress made by the charity since it was founded in 2016, the challenges the organisation has faced and the lessons learnt along the way.

They will also reflect on the state of the UK's food waste landscape. At present, despite government advice, less than 1% of the UK's surplus food is redistributed to people, with huge quantities sent to anaerobic digestion, incineration and landfill.

The session will conclude with a discussion of specific policies that could be adopted to drive greater redistribution, including using circular economy principles to incentivise businesses to donate more of their surplus and reforming farming subsidies to prevent waste occurring before food reaches the farm gate.

STREAM 1: Transforming Public Food Procurement through Place-based Innovations. – Lopa Patnaik Saxena

59. Public procurement and local food in Sweden, Denmark and the UK - Mark Stein, Yiannis Polychronakis

This paper explores public sector approaches to sourcing local food in Sweden, Denmark and the UK. Since the introduction of the Single European Market in the late 1980s EU procurement law has required public authorities to open up procurement opportunities to suppliers from all over the EU (Martin, Hartley & Cox, 1999). The UK left the EU on 31st January 2020 but continues to be subject to the World Trade Organisation Agreement on Government Procurement which means that foreign suppliers are still entitled to equal access to all public procurement tenders (Kimbell, 2023). The paper shows how public sector procurers have found ways of sourcing local food while complying such legal provisions. It reveals significant differences in the approaches developed in the three countries. Different definitions of "local food" are explored as is the significance of the scale of public food procurement arrangements. Several techniques are discussed whereby public authorities can assist smaller suppliers. Dividing up contracts. Dialogue with smaller suppliers. Assistance with logistics. The paper also explores the use of an innovative technique – dynamic food procurement – whereby new and smaller suppliers are able to enter the procurement arrangement much more readily

86. Public Procurement and Place-based Innovations: Pitfalls, Potential and Pre-requisites – Siobhan Maderson

The potential role of public food procurement to transform food systems has gained increasing attention in recent years. Initial interventions focused on public food procurement as an efficient avenue to deliver particular nutritional outcomes, and/or to support preferred production methods, with Copenhagen's successful efforts to transform their school meals to feature 90% organic content frequently lauded. The potential to operationalise the procurement system to deliver wider socio-economic goals is increasingly being explored by diverse actors throughout the food chain. Recent policy developments in England and Wales explicitly state that public procurement should be used to support the delivery of broader government priorities, including social responsibility and sustainable development. Other environmental goals such as carbon neutrality, waste minimisation and the phasing out of plastics within the procurement supply network are also embedded in various place-based efforts to transform procurement systems. While the development of this systemic approach to public food procurement is refreshing, evidence suggests that 'the devil is in the detail' when it comes to actually delivering on laudable and ambitious strategies.

This paper will discuss examples from a recent major European project, and preliminary research currently being carried out in Wales. In some instances, national legislative developments which support transforming food systems often come into conflict with a lack of place-based capacity. In other cases, locally driven innovations are hampered by market priorities, a lack of national objectives and/or supportive conditions to foster innovations. Investment is often required for 'hard' infrastructure such as local or regional processing plants. Often overlooked is the importance of increasing the skills capacity, and a sense of agency, amongst front-line public kitchen staff, who are frequently low-paid and overlooked when it comes to planning significant food system transformation. Barriers such as lack of access to land and processing opportunities need to be tackled.

To fully maximise the transformative potential of public food procurement benefits will require effective collaborations between national and local government, producers, wholesalers, and others.

101. Roadmap to More Sustainable, Local Food Procurement in Nottingham and Nottinghamshire. - Charles Walker, Stacia Stetkiewicz

Our project has developed a "Roadmap to More Sustainable, Local Food Procurement in Nottingham and Nottinghamshire". The project was a collaborative endeavour by four major institutions in the city and county. It was commissioned by the University of Nottingham in partnership with Nottingham Trent University, Nottingham City Council and Nottinghamshire County Council. The roadmap is now used to guide the work of a Joint Working Group on Local Sustainable Food Sourcing, which spans both the Nottingham and Nottinghamshire Sustainable Food Partnerships. To develop the roadmap, we undertook a literature review to define potential benefits associated with sustainable, local public food procurement with respect to social, economic and environmental factors. We then explored public food procurement in other areas of the country, through interviews and policy analysis, to source ideas about how our local food system could be developed. This included London, Birmingham, Bath & Northeast Somerset, Leicestershire, The Marches, The Southwest, South Wales, and the Northeast Food Security Alliance. In addition, we undertook a detailed policy analysis of sustainable food procurement in the four Nottingham/shire anchor institutions. We interviewed local stakeholders, including procurement, policy, and public health staff and hosted three workshops. Our roadmap is based upon a cooperative, policy-based approach to developing a more sustainable, local, public food procurement system in Nottingham/shire.

We propose a twin-track approach:
1.Short-term outcomes: Take action through the joint working group to deliver existing shared policy aims and objectives
2.Medium/long-term outcomes: Through the joint working group, establish new, shared policy aims and objectives and develop an action plan to deliver them

The roadmap can be summarised as follows:
• Initially, focus on areas where institutions' policy aims overlap
• Define benefits of working together to deliver these aims: What do we want to achieve? Why?
• Identify institutional objectives with respect to these aims? Can they be harmonised?
• Include all stakeholders early
• Define actions we are going to take together to deliver shared aims and objectives
• Establish monitoring that all institutions can use so that aggregate impact can be calculated
• Through discussions in the working group, consider additional policy aims that could be co-produced in the medium/long-term and develop shared objectives to support them

In Nottingham and Nottinghamshire, we identified convergence around the following policy aims which could form the basis of short-term actions:
• Reduce Greenhouse Gas Emissions: in the supply chain and reducing/managing waste
• Support Local SMEs: anchor institutions to buy more food from local SMEs, promote more direct sales from SMEs to local consumers and visitors
• Health and Wellbeing: promote nutritional density, increase the availability of healthy food options and use the procurement system to purchase low-cost food for food relief projects
• Fair and Ethical Trade: Secure livelihoods, tackle modern slavery, diversity/equality, land sovereignty

Medium and long-term policy aims included, reducing GHG emissions through shifting consumption habits to reduce the amount of (red) meat in local diets and reducing GHG emissions and enhancing biodiversity by promoting the use of agroecological farming practices on local farms.

STREAM 2: The Role of Civic Partnerships in Securing the Right to Food for All. - Iain Wilkinson, Katherine Moss, Rob Barker

21. A Co-Design Approach to Food Accessibility in Belfast- Sinead Furey Beth Bell, Louise Ferguson

Food insecurity (the inability to afford or access food in sufficient quantities or the anxiety of being unable to do so in a socially acceptable way) is a very real concern in this socioeconomic and geo-political climate. The Belfast Sustainable Food Partnership, housed within Belfast City Council (BCC) but retaining independence, has achieved Bronze status for its Sustainable Food Places (SFP) partnership. The partnership is devising a Food Strategy and working collaboratively to ensure that all are able to access nutritious and culturally appropriate food in a dignified and equitable way. This will also serve to create more inclusive and collaborative food decision-making by working closely with local authorities to deliver robust and representative food policies, strategies and action plans.

BCC's Food Accessibility Working Group, the community sector and citizens came together to determine what is and isn't working and what collaborative action could and should be taken in the short, medium and long term to inform its Food Strategy to improve on the City's food sustainability and resilience. Actions include representing the needs of the most vulnerable to food insecurity, identifying actions at a City and wider level that address the root causes of food insecurity; strengthening partnerships working across the City and Northern Ireland, and communicating this work to the public to create a shared vision and momentum for change.

Findings to date confirm that any change should be Sustainable – Systemic – Structural: Sustainable refers to planetary sustainability; the hopefulness of future generations and the environment, as well as funding/resources. Meaningful change can be achieved by transforming the systems that people live within, not tweaking the system by placing responsibility on individuals to make better choices. We need to understand what is choice. We can't make good choices if there aren't good options! Structural change is needed but solutions need to be person-centric to provide a complete response. The right to food is universal. We need to have the systems, legislation and policies in place that mean everyone can access sufficient, nutritious, safe and culturally appropriate food. We need to build a dignified system and equitable food access – this isn't about entrenching dignified responses to the broken/compromised system we have now or trying to instil dignity into food aid. It is about tackling the stigmatisation of people and ensuring that shame is rightfully incurred by the system and not the individual. The goal must be for a dignified system within which people can thrive, not tweaking the current system which too often individualizes the issues.

Our civic partnership's next steps are to disseminate our values, principles and associated calls to action in a citizen-facing Strategy upon which the Partnership and BCC will consult. This will be accompanied by food stories disseminating the good practice already being done and building an impetus for future citizen-led initiatives that will make healthy food for all a reality.

*This research is part of a larger Sustainable Food research project funded by Belfast City Council.

31. Birmingham's Experience of Leveraging Civic Partnerships for Food Provision – Dr Rosemary H. Jenkins, Sarah Newton

In Birmingham, 88% of wards are in the 20% most deprived in England. This means that the majority of our population is at risk of food security, which has likely been exacerbated during the Cost-of-Living crisis. In October 2022, Birmingham City Council initiated its emergency Cost of Living response, which included a Food Provision workstream. In this contribution, we will talk about how Birmingham was able to leverage existing relationships through the Birmingham Food System Partnership and work synergistically to implement multiple strategic interventions to address access to food and capacity of food projects during the Cost-of-Living crisis. These interventions included the Food Aid Funds for food and other consumables, the Affordable Food Infrastructure Fund to support capacity of food projects in the city, and the Affordable Food Models grant scheme to initiate more Affordable Food Models in specific neighbourhoods. We will talk about how we were able to work with partners to design and deliver these interventions, and the positive unintended consequences that these interventions had for the city. We will also discuss how we were able to make to most of the networks that came out of both the COVID-19 pandemic and the Cost of Living crisis to develop innovative approaches to address the lack of data on food insecurity in the city: the City-Wide Food Aid Count took place in March 2023 and March 2025 in partnership with the Food Justice Network to capture more accurate information on food aid usage. We will also speak about how we were able to apply public health concepts and academic rigour to this Cost-of-Living workstream. We hope that our experience of public health practice in relation to food insecurity and the right to food will inspire and inform the researchers at the Future Food Symposium.

85. Can Community Fridges Be Catalysts for Sustainable Community Food Practices? - Hela Hassen, Fatos Ozkan Erciyas

As food insecurity and waste are increasingly recognised as interconnected crises in food systems, the limitations of food redistribution programmes call for more comprehensive solutions that tackle systemic inequalities, ensure equitable access to food for all and creating community connections. Community fridges, known as "Les Frigos Solidaires" in France, are a community-driven solution to food waste and food insecurity in both France and the UK. Located in public spaces, community centres, and universities, these fridges invite donations from individuals, businesses, and organisations, offering free access to surplus food for those in need. Their success lies not only in reducing food waste but also in their seamless integration within local communities.

UK initiatives, such as Harper Adams University's Community Fridge Pilot Project, utilise live-streaming to display fridge contents in real-time, encouraging engagement and meal planning. By contrast, France’s fridges prioritise grassroots involvement, with local businesses hosting them as part of corporate social responsibility, emphasising in-person connections over technology. Together, these fridges exemplify the potential for community-led efforts in advancing sustainable food practices and fostering solidarity.

This research explores how community fridges in the UK and France are perceived, experienced, practised and engaged with by local communities, using these countries as contexts to understand the role of community fridges in tackling food insecurity, food waste, stigma, and marketplace exclusion (Saren et al. 2019). The study will examine social, cultural, and institutional factors that influence engagement with community fridges and how these initiatives can be integrated into daily life to promote sustainable, inclusive food practices.

By focusing on the impacts of stigma and the barriers it creates, this research aims to assess whether community fridges can break down social stigma and reduce marketplace exclusion. Insights gained will shed light on the potential of community fridges to reshape public perceptions and encourage broader participation in sustainable community food-sharing practices.

104. Food partnerships: creative practices for and with what was supposed to be an emergency response to food poverty. - Sabine Mayeux

Emergency food services have gradually become part of a normalised response to food poverty in the UK. Increasingly, initiatives such as pantries have sought to infuse dignity in the provision of food services by offering a choice of food items to its members. The charitable voluntary sector now delivers a wide range of services that local authorities have a duty to provide to their communities. Considering current central government funding reductions, councils are having to find supplementary sources of funds and rethink discretionary services, favouring the legal minimum. In this context, food partnerships have been established across the country to get stakeholders to buy into and commit to common goals for a better local food system. Sustain's (2025) Sustainable Food Places brings together partnerships that promote best practice in healthy eating and sustainable food but with differing structure according to local needs, assets and themes. In Reading, I will discuss how the food partnership builds on a long-standing food security network made up of commissioned services, faith-based organisations and informal groups, drawing on networks between providers and residents who engage in what I call 'relational individual activism' in their approach to food poverty alleviation.

STREAM 3: Unveiling and Challenging On-Going Colonial Dynamics in the Foodscape. - Belinda Zakrzewska

42. Challenges of Agroecological Transitions and Circular Economy in Low- and Middle-Income Countries, Notes From the Field in Colombia. - Oscar A. Forrero, Nathalia Bustamante, Santiago A. Roa, Eliana Martinez Pachon

Following the 1996 World Food Summit, criticising the technocratic approximation to food systems that ignored the relationship between neocolonialism and technological deployment in food systems, "Via Campesina" consolidating a movement around food sovereignty. "Food sovereignty" was devised to put peasant rights at the centre of public policy: the rights to decide what to grow, when and where to grow it and for whom. Until then, global food conglomerates informed food policy development domestically and internationally (including at FAO). These conglomerates very much dictated global food security strategies.

Part of the legacy of via Campesina is that it inspired activist, consumers and scientist to study food systems in their complexity, this is recognising the interrelation between social systems and ecosystems, acknowledging that food is not simply a means of nutrition but integral to cultural reproduction and indigeneity, and that foodways (the way we produce, distribute, consume food and manage 'waste') influence poverty and inequalities. At the turn of the 21st century, the rise of environmentally conscious consumers and the development of complexity research in food systems, echoed the social movement in calling for change in food governance, thus the interest of agriculturalists and consumers be considered, and not only thus of corporations dominating food supply systems.

During the last two decades, funding for research and development of foods systems calls to facilitate transitioning to fairer, sustainable and resilient food systems. Some funding calls are conditioned to advancing conservation of germplasm considering human rights the indigenous and farmers' right to seeds, or that it guarantees stopping violence against women. Short of conditioning funding to advance knowledge coproduction and co-innovation, nevertheless, calls now require strategies for enhancing knowledge exchanges within outputs and dissemination strategies. These conditions and instructions are sound and may seem easy to accomplish. However, there are big differences in what is envisaged in a project proposal and that what is actually possible on the ground in developing countries where social unrest and informal economy are ubiquitous. In this paper (presentation) we refer to the barriers that have prevented smooth development of two projects in Colombia that aim facilitating transitioning towards agroecological production systems linked to circular economy: "ABRIGUE (Agroecology, Bioeconomy, Resiliency, Innovation, Governance, European Union-Spanish acronym)" funded by the EU; and a second project funded by the German Ministry for Agriculture, aimed at strengthening agroecology and sustainable agriculture in Colombia. We interrogate whether some of the goals of these projects are built upon realistic premises. Our notes from the field reflect an ambiguous governance framework for implementation of the projects. We argue that such ambiguity reflects divergent understandings of what agroecological transition entails, and its relation to the bioeconomy or circular economy. Reflection upon the particularities of these projects may inform future interventions in Colombia and help improve the design of projects to be implemented in similar middle-income countries.

56. Foodways as Living Heritage: Understanding the Interconnection of Identity, Culture, and Resistance. - Adriana Arista-Zerga

The approach to foodways through the idea of cultural heritage is not new. The incorporation of elements relating to foodways, customs and food preparation, at the moment 50 foodways-related in the List of Intangible Heritage of UNESCO (2003 Convention), draws the attention of international and national agencies and stakeholders to an element common to all of us as human beings: food.

However, it is not solely the idea of food that should be considered part of international or national inventories of cultural heritage, but food in a broader sense. Food in everyday life, is also considered as an element of other cultural expressions such as rituals and celebrations, and it involves different techniques of preparation and consumption that have been passed down through generations.

In this complex scenario, the history of countries and communities overlaps with the idea of cultural heritage as a social construction—an element that is constantly created and recreated. This process is influenced not just by official discourse (which decides what and when to safeguard certain elements) but also by the communities themselves, who navigate cultural and social changes through their own created or recreated discourse. These discourses may seem different or interconnected, but they always reflect the social, historical, political, cultural, and economic fabric in which all cultural elements develop.

The main objective of this presentation is to interconnect the idea of foodways as living heritage, from a critical point of view, observing the colonial legacies rooted in many elements and practices. This perspective observes foodways, and some actions related to their protection and safeguarding, as a form of resistance and a means of maintaining cultural identity, but this is not as simple as that, because it will discuss how communities or groups drive, or make use, of different official and non-official tools, to safeguard-protect or not their heritage.

This presentation will focus on examples of food elements included in the UNESCO list and other experiences, mainly from Latin America, related to indigenous people and marginalized communities.

It will be based on the following theoretical approaches:

- Cultural heritage is a social construction that is created and recreated. It is changeable and not static, influenced by various internal and external dimensions that shape the identity of communities and their approach to certain cultural elements and traditions. Bearers and communities are at the core of the creation or recreation of their cultural heritage which could or may not could be officially recognised by local or international levels.
- Along the same line, recognise that identity is not a static element or just rooted in the cultural aspects of communities and societies; it is shaped from other dimensions related to historical facts and contemporary changes.
- There is a close relationship between tangible and intangible cultural heritage. Tangible spaces have no meaning without the presence of people who use them to develop their cultural expressions.
- The separation of culture and nature will be discussed, particularly in the context of foodways, specially because its close relationship with sustainable development.

Thus, observing foodways as cultural heritage can help us understand the interconnection between challenging colonial legacies and reclaiming cultural identity, but from a holistic approach which is necessary for understanding the future of food and foodways, interconnected with the food consumption, production and food customs, and therefore to understand its interlinkages with sustainability and sustainable development.

95. Governance and Scale Dynamics in Shaping the Winners and Losers within Brazilian Food Systems. - Mateus Henrique Amaral, Leandro Luiz Giatti

Brazil is a vast country with more than 212 million inhabitants spread across 5,570 municipalities and five regions, each facing significant disparities in human development and biophysical capacity to produce food and commodities that meet current global dietary patterns through both national and international markets. This is especially true for certain municipalities, which are highly specialized in grain and beef production, making these activities their primary economic focus.

However, there is a contradiction in the discourse of the Brazilian agribusiness sector, where agricultural production alone does not guarantee improvements in human development in areas of intense activity. This is because wealth is concentrated in the hands of a few, and the rights of the poorest and traditional communities are often not respected when food becomes a commodity. Additionally, other resources are poorly managed, particularly in irrigation systems and fisheries, leading to violent environmental conflicts, disruptions in supply chains, and increased food insecurity.

Using a set of publicly available Brazilian data and an environmental and social justice lens, our studies' aim is to understand how the dynamics of current food systems at different scales (local, regional, and national) can contribute to (or hinder) human development. This takes into account the multiple institutions and stakeholders' interests over territories and essential resources, such as water and energy, needed to produce food.

As evidence of how human development has been affected across Brazilian territory by dynamics in food systems operating at different scales, we can point to the following examples:
(1) water consumption for irrigation in less advantaged regions like Brazil's Northeast was insufficient to improve human development levels, with many municipalities having low human development despite high consumption;
(2) environmental conflicts between small-scale fishers and industries like oil, gas, and wind farms along the coast are intensified due to differing development views and poor coordination among governments and stakeholders, undermining the livelihoods of traditional communities and limiting access to nutritious local food;
(3) and, among the municipalities that export meat, not all have benefited equally. Some municipalities integrated into the global supply chain with high human development use less water for livestock, while others, with fewer technological facilities, consume more water and focus on the internal market, where the meat likely has lower added value and financial return.

Based on these findings, we argue that inequalities in human development across the country, as reflected in the interactions between food production at different scales, demonstrate that Brazil perpetuates deep historical inequalities. This occurs as agricultural values are being undermined within centralized governance structures that align with the current neoliberal food regime.

102. The Role and Dynamics of Women's Power in Seed Systems: Resilience and the Preservation of Traditional Foodways in Rural Zimbabwe. - Nbuwak Peace Yashim, Flávia dos Santos Barbosa Brito, Ariane Cristina Thoaldo Romeiro, Caroline de Souza Mendonca, Maria Eduarda da Silva de Sant'Ana, Alexandre dos Santos Brito, Débora Martins dos Santos

This research critically examines the intricate dynamics of women's power within formal and farmer-managed seed systems (FMSS) in rural Zimbabwe, focusing on women's pivotal yet often overlooked power. In rural Zimbabwe, seeds are fundamental to food security and serve as symbols of autonomy, resilience, and cultural identity. Women have historically acted as custodians of seed, knowledge, engaging in seed selection, conservation, and exchange to sustain biodiversity and community food systems. However, the expansion of corporate-driven industrial seed systems—rooted in colonial histories, neoliberal economic policies, and philanthropic interventions—threatens to erode these traditional systems. These interventions often frame women as passive and vulnerable actors within food systems discourse, requiring empowerment through development aid, and integration into commercial seed markets, thereby obscuring their existing agency and the vital contributions they make to agricultural resilience and sovereignty.

Focusing on the Chikukwa community in Zimbabwe's eastern highlands, the study employs a participatory ethnographic approach rooted in feminist epistemologies, foregrounding women's lived experiences navigating complex power dynamics within seed systems. The findings reveal that women's agency extends beyond formal economic structures, manifesting through informal seed exchanges, traditional gendered seed custodianship roles, intergenerational knowledge transfer, and agroecological practices. By cultivating and sharing traditional seed varieties, women actively resist corporate control, asserting autonomy through solidarity economies that operate outside cash-based transactions. Their ability to regenerate and adapt seed stocks in response to environmental, political and economic uncertainties highlights their resilience and self-determination. Furthermore, embedded spiritual and cultural traditions reinforce their authority over local food systems, challenging patriarchal constraints while sustaining collective food sovereignty.

Despite their critical roles, women's control over seed systems remains threatened by policies that seek to criminalize traditional seed-saving practices, favouring industrialized agriculture. Global agribusiness interests, supported by international institutions and gender-mainstreaming discourses, promote the adoption of proprietary seed technologies that undermine community-driven biodiversity conservation. This research contends that integrating women into industrial seed economies does not equate to empowerment; instead, it entrenches corporate monopolization while eroding localized agroecological resilience and women's power. By re-centring women's power in seed governance, this study calls for policy frameworks that recognize and protect FMSS as integral to food sovereignty. Ultimately, the struggle over seed is a struggle over power—one in which rural women emerge not as passive subjects of development but as central architects of resilient and sovereign food systems.

STREAM 4: Food Hauls, and Food Hubs- Considering the Collective as a Nexus of Consumption. - Marsha Smith

10. Community Restaurants as Food System Re-Generation Hubs. - Ben Selwyn

The UK's food system is fundamentally broken, and bold change is needed to fix it. Subsidised community restaurants could serve seasonal dishes made with locally grown plant-based food, produced on farms supported by the state to encourage natural restoration. A mass roll-out of such restaurants could help tackle the UK's food poverty and malnutrition, while also increasing agriculture's resilience to climate breakdown and raising farmers' incomes. This paper looks at examples of subsidised food consumption – including wartime British restaurants, and contemporary Polish Milk Bars. It argues that an underlying problem of the UK's food system is its high-degree of commodification (market-orientation) – including production, delivery to consumers and consumption - and proposes that subsidised community restaurants could act as a lever to de-commodify the food system. The paper joins up the dots between environmentally sustainable food production and socially equitable food consumption, as part of a de-commodifying and democratising political economic agenda.

77. From Kitchen Skills to Life Skills - Embedding Food Literacy in Secondary Education: Supporting Adolescent Health, Wellbeing, and Sustainability Through Innovative Food Education. - Lauren Rathbone, Best Food Forward at School of Artisan Food

Background:

Food education plays a vital role in equipping young people with the knowledge, skills, and confidence to make healthier, informed choices. Evidence shows that food literacy - the knowledge, skills, and attitudes required to make informed decisions about food directly influences dietary behaviours, health outcomes, and environmental impact (Silva et al., 2023; Howard & Brichta, 2013).

With diet-related diseases on the rise, embedding high-quality food education into secondary schools is more urgent than ever. In England, obesity rates among 11–15-year-olds have nearly doubled in recent decades, rising from 19.7% in 1995 to 38.0% in 2019 (Broadbent et al., 2024). Adolescence is a pivotal time when young people gain increasing autonomy over their food choices, making schools uniquely placed to intervene.

Presented by Jenny Paxman, CEO of The School of Artisan Food, this session introduces Best Food Forward—an innovative project aimed at enhancing food literacy and promoting healthier behaviours in secondary schools. The project addresses multiple barriers to healthy eating while reintroducing the pleasure of good food through practical, evidence-based education. This presentation will feature practice-based evidence from Best Food Forward's internal evaluation.

Intervention Approach:

Using the COM-B behaviour change model (Atkins & Michie, 2015), Best Food Forward focused on building: (C) capability—developing practical food skills among students and boosting teacher confidence to deliver food education, (O) opportunity—providing engaging, hands-on learning while reducing barriers to participation and (M) motivation—creating enjoyable experiences that challenge existing beliefs about food and foster long-term behaviour change.

Students participated in high-quality, practical food learning—such as chopping, kneading, and cooking—while teachers gained observational learning from skilled food educators to strengthen their own practice.

Findings:
Evaluation of the project demonstrates the significant potential of high-quality food education to enhance adolescent food literacy. Participants developed stronger knowledge and skills related to food, enabling more informed, healthier choices both in and outside school.

Beyond food literacy, the intervention contributed to improvements in student behaviour and psychological wellbeing. Teachers reported that students showed increased engagement, cooperation, and confidence during practical food activities. Many students expressed increased confidence around new food while also demonstrating improved self-efficacy in preparing and handling food.

In addition, the project fostered a more connected food culture within participating schools. Teachers gained opportunities to discuss food education with colleagues and embed resources into broader curriculum, supporting a sustainable, long-term impact on school communities.

These findings highlight the potential for comprehensive food education to drive not only health improvements but also wider wellbeing and social benefits in secondary school settings.

Policy implications:
This intervention demonstrates that high-quality food education improves adolescent food literacy and wellbeing. These findings strengthen the case for embedding food education within national education and health policy.

Food literacy must be recognised as a core component of the curriculum—critical to tackling diet-related disease and building healthier, more resilient communities. We are using this evidence to advocate for national policies that prioritise food education, ensuring it becomes central to the wider conversation on public health, education, and sustainability.

88. Capacity Building to Feed More and Waste Less. – Vicky Hemming
At The Active Wellbeing Society (TAWS), we have been funded by Public Health to help increasing access to food for the Food Justice Network (FJN). Two key elements of this work are strengthening the FJN network and building on a surplus food pilot based at Birmingham's Wholesale Markets. Another element is based around communal dining

The FJN is a coalition of 350+ organisations including food banks, pantries and community cafes working together to tackle food poverty and food insecurity. This ranges from emergency food coordination, food growing initiatives, campaigning, and strategic work to change the current food system in the city to one which is equal, fair and makes healthy food accessible to all. The aim is to advocate for a better food system that leaves nobody behind. Funding to strengthen this network is imperative to ensure a coordinated approach.

The new round of funding builds on the surplus food hub pilot at the Wholesale Market where TAWS have spent 9 months exploring methods to reduce edible waste and have distributed over 45 tonnes of surplus food to FJN organisations such as food banks and pantries across Birmingham to further increase access to food. This project is a great example of the public, private and third sectors working together on a project that brings benefits to all parties.

The surplus food hub at the Wholesale Market is working with wholesale traders and external food suppliers to repurpose and redistribute edible food waste. The project also incorporates kitchen capacity to process and preserve food gluts. It provides valuable infrastructure for

external donations of surplus produce and will be exploring collective buying of and sourcing fresh produce from external growers and farmers as well as working with the national surplus organisation Xcess to share gluts nationwide.

So far, the pilot has shown that there is a high demand for the meals produced in the central surplus kitchen. Here is a quote from me in a recent BCC article:
"St Martin's Church supports homeless people on a Monday," Vicky explained. "They said they've really noticed such a positive difference in the atmosphere from people coming to sit down, having a nice hot meal, and then they can start talking about other issues that perhaps need addressing too."

Part of the new funding will help join dots and facilitate the set-up of a city-wide network to make surplus food redistribution more coordinated and effective.
There is already a significant amount of surplus food redistributed across the city and lots of work going on in terms of reducing waste in businesses but we know that sometimes unexpected surplus food arises and not every food business is plugged in to the surplus food network. A joined up network will attract further surplus from food producers. This will provide less reasons for businesses to waste food with a strong, well connected and promoted network

Food builds networks and strengthens communities. By creating tasty and nutritious meals that are free to all, from all walks of life, we break down barriers and open the door to new experiences. And by coming together to promote healthy food, we also help overcome loneliness and support positive mental health. We want to encourage more communal dining and have received funding to create a Pop-Up Communal Dining Cook's role to set up and run communal meals across the city:

- Some groups lack the capacity to cook in terms of kitchen space or cooks so we would bring hot food directly to groups and set up a welcoming safe dining space where people can eat together, family style or work with groups to cook food on the ground together and eat together.
- In addition we'd offer place-based communal meals on a regular basis as a start to rewire networks where there are gaps in the system/city. There will be a focus on East Birmingham.

STREAM 5: Community Food Practices for a Resilient Future and Cultivating Connections. - Fatos Ozkan Erciyas

MINI PANEL 5A: Community Food Interventions and Partnerships.

14. Creating Value Through Joined-up Community Value Networks in Food Sharing Communities. - Dulekha Kasturiratne, Shaofeng Liu, Uchitha Jayawickrama, Guoqing Zhao, Huilan Chen, Xinyi Li, Guoste Pivoraite

Hunger and food inequality are global issues not only in developing countries but also in some of the most economically developed countries within and beyond Europe (FAO Council, 2022). FareShare, the UK's largest charity that redistributes food to frontline charities, reveals that 88% of charities face increasing demand for their services than ever before (FareShare, 2025). The lack of access to sufficient, nutritious food subsequently results in many social, economic, environmental and health concerns, including malnutrition and ill-health, loss of working hours and job security, hindering education, economic development, social cohesion, and escalating societal instability. Most adversely affected by the above food issues are disadvantaged groups, defined as groups of individuals that experience a higher risk of poverty, social exclusion, discrimination and violence than the general public (CEDEFOP, 2025). These include the elderly, single-parent families, people with low income, refugees, and asylum-seekers. Furthermore, food poverty and inequality are not the only issues that disadvantaged groups face. For example, statistics show that, in 2023 in the EU, an average rate of 26.6% of single-parent families experienced overcrowding, indicating inadequate living conditions, and that 48% of elderly had an unmet need for a medical examination or treatment (Eurostat, 2025). On the surface, these look like separate, isolated issues. However, scientific evidence shows that many of the issues that disadvantaged groups face are closely interrelated (FareShare, 2025). For example, eating habits and lifestyle can be a key contributor to poor health, and low income resulting from lack of job skills could force the unemployed to use food banks more frequently just to survive. There is no doubt that many organisations such as governments, charitable organisations, and societal groups take significant effort to support disadvantaged groups with the help of food banks, affordable food clubs, social supermarkets and other support systems. However, needs of disadvantaged groups are varied, for example, these groups have simultaneous pressing needs apart from food, for other services such as housing, debt and health needs which they have to access separately and independently, taking more time and resources leading to further deprivation. In reality, not all solutions make significant impact, nor work in unison to meet social and economic needs of the collective communities, due to developing solutions in silos, with low community consultation and involvement, thereby lacking effectiveness and efficiency in servicing these communities or adding any real value. Thus, there is an urgent need to develop more cohesive and systematic social innovation solutions to improve the services provided to disadvantaged groups.

As food has the capacity to bring people together to foster shared understanding and collaboration, and transform communities, we explore how disadvantaged groups can be better supported via food sharing communities as central hubs enhanced with "wrap-around services". Taking into consideration the current situation and needs of disadvantaged communities, the key concept we propose is the implementation of joined-up social interventions (i.e. food sharing with "wrap-around services"), aiming for cascading impacts and long-lasting community value in food sharing communities.

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29. Sharing In or Selling Out: Food Access in Remote Island Communities. - David Marshall, Paul Freathy

The Covid-19 pandemic highlighted the vulnerability of remote communities to market disruptions, emphasizing the importance of local food networks in enhancing resilience and food security. In this paper we look at how informal food-sharing practices, in remote island communities off the North West Coast of Scotland offer some resistance to and resilience against external market dependencies. It examines how locally grown produce is informally distributed through familial and community networks and considers the importance of this form of sharing to island residents.

Our interpretative methodology involved a combination of field observations and qualitative interviews conducted with island residents, including crofters, local retailers, producers, community groups, and a local councillor. This convenience sample utilized personal contacts and a snowball approach, drawing participants from key organizations and institutions on the islands. Interviews were loosely structured to allow exploration of food access and informal provisioning practices. Field work was conducted across several islands in the summer of 2022, and follow up with virtual workshops. A total of 21 interviews, each lasting 30-90 minutes, generated over twenty hours of recorded data. Additionally, casual encounters with residents and reviews of official documents and historical accounts provided further insights.

Our findings show that food sharing in these communities extends across familial and social networks, often without any form of monetary transactions. We highlight several forms of sharing from ‘sharing-in’ between kinship groups to ‘sharing out’ surplus produce via community initiatives and ‘selling-out’ through informal "croft-gate" sales. Moreover, these practices operate alongside formal markets and for many reinforce cultural traditions and build social cohesion. However, given the informal and undocumented nature of this sharing activity it is difficult to trace or map these flows of food and sharing networks (Hendrickson et al 2020). However, there is little doubt that these practices continue to thrive among certain sections of the island communities and provide evidence of the adaptability and resilience of these communities.

While acknowledging the contributions of these food sharing practices, we find their broader impact on food security limited. Nonetheless, informal sharing networks play an important social role in these communities if offering only marginal buffering against disruption. In acknowledging the complementary role of informal food sharing, we provide insights into how culturally attuned local food systems strengthen community ties and reduce market dependency.

50. Understanding the Wellbeing Capabilities of Community Supported Agriculture. - Dave Watson

The food and agricultural system faces multiple challenges including resilience, sustainability and transparency (FAO, 2024). Community Supported Agriculture Schemes (CSAs) have

potential to transform agrifood systems by localising food production and bridging the divide between food production and consumption through partnerships between producers and consumers who share the rewards, risks and responsibilities of food production. There is not one agreed definition of CSA but the definition applied by the Soil Association (2011) captures their essential feature, which centres on sharing the risks and rewards of production: "Community Supported Agriculture means any food, fuel or fibre producing initiative where the community shares the risks and rewards of production, whether through ownership, investment, sharing the costs of production, or provision of labour" (p. 4). The organisational diversity and wide-ranging impacts of CSA invite further research in order to understand how different forms of CSA might be capable of transforming the food system and enhancing communities.

Many CSA farms claim to offer improved health from eating the local (and often organic) produce grown (Flora & Bregendahl, 2012, p. 343), taking part in physical activity and volunteering on the farm, or simply being outdoors with 'nature' (Chen, 2013). Wells and Gradwell (2001, p. 117) describe CSA as a food system characterised by partnership and respect formed around an enactment of 'caring practices'. Indeed, many CSAs actively attempt to create ways for their farms to provide some form of 'therapeutic' benefit, often working in partnership with external organisations to invite people onto their farms (Charles 2011). Despite evidence that CSAs provide a wide range of wellbeing benefits, there has been very limited conceptualisation of them in terms of wellbeing and evaluation of their impact on wellbeing. This research aims to examine how CSAs contribute to wellbeing using the lens of capability theory (Sen, 2008) to review existing CSA research. Sen defined capabilities as the different combinations of functioning or activity that a person can achieve. As such capability theory provides an open-ended framework which can be used to explore different ways in which CSA can support well-being.

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74. Connecting Households and Spaces with Fruit and Vegetable Vouchers: The Fresh Street Manton Community Garden Feasibility Study. - Clare Relton, Michelle Thomas, Andria Birch, Jessica Hardwick, Marzena Karp-Singh, Sonya Brown, Sally Hibbert, Simon Welham

Background

Social isolation, loneliness and poor diet all increase the risk of developing serious mental and physical health conditions. Fresh Street is a place-based food system intervention designed to foster healthier connections and diets. Key features of this intervention are: (i) Vouchers exchangeable for fresh fruit and vegetables (FV), (ii) FV supplied by local independent retailers (not supermarkets), (iii) offered to all in area households, (iv) no requirement to prove need (no application forms), (v) vouchers are paper and shareable.

We describe a small-scale feasibility project in a deprived rural area in Nottinghamshire where local services identified a need to develop assets, build connections and grow pride in place. The overall aim was to use the Fresh Street intervention to support the development of the local community and a wide range of volunteering and wider well-being initiatives at the Community Garden

Methods

Manton is one of the most deprived areas in Bassetlaw in Nottinghamshire. The area is culturally diverse with 17% of residents born outside the UK. One section of a street adjacent to the unused Willow Community Garden was chosen at random. Volunteers hand deliver 10 x £1 Fresh Street vouchers to 40 households each week. Vouchers are exchanged at the community garden for prepacked fresh FV boxes provided by a local independent FV retailer and staffed by Bassetlaw Community Voluntary Service. Boxes are collected by households, and volunteers deliver FV boxes for the housebound. The feasibility and impact of the intervention is being evaluated using operational data (household uptake, voucher redemption rates), surveys rating community connection and general health at baseline and weeks 26-27, and conversations with households.

Results

The scheme began on 5th September 2024 (ongoing). Uptake of the weekly FV boxes is increasing over time (currently 75%, 30/40 households). Some households collect boxes for neighbours who have work commitments and swap depending on shifts.

Households interviewed (n=14/40) reported increased community connection and general health and eating more healthily.

“it’s nutritious” “I’m walking more to fetch the boxes, otherwise I wouldn’t have left home”, “I feel like a good Mum when I make a healthy dinner”, “cooking Sunday dinner every week now for my neighbour who initially refused his box”

Multiple opportunities for community support have arisen from the Fresh Street/ Willow Community Garden collaboration. Some households have volunteered at the Community Garden, others have been introduced to support that they were unaware of (e.g. Citizen’s Advice Energy team, Social Prescribers, Debt support, Pathways for employment and mental health support for those with disabilities).

Discussion
The lack of FV in the UK diet has a negative impact on all aspects of daily life. Most FV voucher schemes target individual low-income families and require individuals to apply and state their low-income status. In contrast Fresh Street takes a place-based approach which minimises potential stigma and facilitates connections. Strong social connections are crucial for overall well-being. This project demonstrates the feasibility of offering Fresh Street vouchers to help connect households to fresh FV, each other, and local opportunities.

87. Can Vibrant, Visionary Faith Complement a Sustainable Business Model for Foodbanks Looking to Transition to Community Grocery Stores? - Gill Hancock

"Where is the food going to come from?" was a frequent question expressed by bemused volunteers that very first Christmas in 2022. We were almost a year down the road from taking a major step of faith and deciding to come away from a foodbank model of support, transitioning into a three-tier holistic hub Centre. It was a totally understandable question; most of the volunteers had been part of a Trussell Trust foodbank team covering five venues across Bedworth. They knew the difficulties of ensuring there was enough food on a weekly basis to meet the ever-increasing demand of people needing to access a foodbank, especially during the Covid pandemic which had included two Christmas seasons. The teams had been involved in numerous discussions around the new vision and to their credit everyone agreed to being part of this new journey.

In February 2022 Life Church opened the Harbour Centre as part of their mission to facilitating transformation to the town of Bedworth (1). It consists of a community grocery store, a coffee shop and an area for training, groups, meetings etc. We estimated 38,000 people would visit the Centre in the first year of opening, whereas in fact, 56,000 individuals came through the doors! The Centre is unashamedly a vibrant, Christian enterprise totally respecting and honouring every person who walks through its doors irrespective of their personal beliefs. The Bedworth community know we are Church based and in their own words express how "this place feels different, its welcoming, friendly and non-judgemental."

The faith answer to the initial question posed by the volunteers was brief and simple: "Wait and see." which understandably left many of them curious, bewildered and somewhat fearful. All they could see was a myriad of laid out tables at the back of the store, with minimal amount of food, yet knowing over 350 hampers had been requested by vulnerable families and individuals. Over the following four days volunteers were invited to witness with their own eyes the verbal and physical unpacking of this cryptic statement. Verbally, they were gently invited to listen to (or be reminded of) one of the parables (2) of Jesus who, on one of his many gatherings, had fed five thousand people with five small barley loaves and two fish, which a little boy had donated (3). Physically they observed phenomenal amounts of food donations and Christmas gifts being delivered to the Centre on a daily basis, including a young lad who had decided to use his Advent calendar in a unique way by donating an item of food each day instead of receiving sweets and chocolates.

On a human level, we could be seen as naïve in stepping out with the business model we work with, especially in the light of many big brand retail names closing branches or worse, filing for bankruptcy. We combine a mixture of faith in believing God will supply what is needed on a daily basis, through many avenues, along with a business minded mentality in ensuring

sustainability.

References
1. see website https://lifechurcheu.com for further information.
2. Explanation of a parable - the parables of Jesus are simple, memorable stories that convey profound spiritual truths and moral lessons. They are primarily found in the Gospels of Matthew, Mark, Luke and John in the New Testament. See bibleportal.com
3. Gospel of John, Chapter 6, verses 3-13: New International Version Bible translation.

90. Building Sustainable, Dignified, and Resilient Community Food Systems. - Jo Haydon

Food insecurity is a growing challenge in the UK, worsened by economic instability and rising living costs. Traditional food banks provide immediate relief but often lack sustainability. J's Pantry and the Food Distribution Hub, led by 4 Community Trust (4CT) in Sandwell, take a membership-based approach, prioritising dignity, choice, and resilience.
J's Pantry operates as a low-cost membership pantry, allowing individuals to choose their food while maintaining affordability. The Food Distribution Hub, launching in April 2025, will centralise food procurement and distribution, improving efficiency. This paper explores how community-led food systems enhance food security, economic sustainability, and social resilience.

The Growing Need for Sustainable Food Systems
Food insecurity in the UK has surged, with food bank usage up 40% since 2021 (Trussell Trust, 2023). In Sandwell, demand has risen 25% in the past year, with a 30% projected increase in 2025.

Key Causes of Food Insecurity:
- Rising living costs – Inflation has outpaced wage growth.
- Declining food donations – Economic pressures limit charitable giving.
- Food aid dependency – Traditional food banks lack sustainability.
- Community-driven models like J's Pantry and the Food Distribution Hub shift the focus from emergency relief to self-sufficient food systems.

J's Pantry: A Dignified Alternative to Food Banks
As part of the Your Local Pantry network, J's Pantry offers affordable, choice-based food aid. Members pay £5-£7 per week and select fresh, frozen, and non-perishable items.

Benefits of the Membership Model:
- Choice & Autonomy – Individuals select food suited to their dietary and cultural needs.
- Reduced Stigma – Membership removes the shame of food bank reliance.
- Financial Sustainability – The fee-based model reduces donation dependency.

Currently, 206 individuals (141 adults, 65 children) rely on J's Pantry, with demand growing.

Beyond Food: J's Pantry as a Resilience Hub
J's Pantry provides:
- Cost-of-living support, benefits advice, and debt management.
- Mental health services to address food insecurity's emotional impact.
- Essential household items, including energy-efficient appliances.

J's Pantry strengthens community resilience by offering holistic support, ensuring individuals

move beyond survival.

The Food Distribution Hub: Strengthening Local Food Security
Launching in April 2025, the Food Distribution Hub will source and distribute bulk food to multiple pantries.

Key Functions of the Hub:
- Bulk Purchasing & Redistribution – Lowering costs for food pantries.
- Storage & Inventory Management – Ensuring a consistent food supply.
- Repackaging & Distribution – Volunteers portion bulk food into family-sized packages.
- Lower Environmental Impact – Reduced food waste and carbon footprint.
- Employment & Skills Training – Volunteers gain valuable experience.

By optimising food distribution, the hub will create a stable food supply for Sandwell, reducing reliance on donations.

Conclusion and Recommendations
Key Findings:
- Membership-based models restore dignity and choice.
- Community meals reduce social isolation and food-related stigma.
- Centralised food hubs improve supply chain efficiency.

Recommendations:
- Expand the Food Hub model across more regions.
- Strengthen funding partnerships for long-term viability.
- Implement digital inventory tracking for efficient food management.

By prioritising dignity, choice, and sustainability, J's Pantry and the Food Distribution Hub offer a scalable, community-driven model for tackling food insecurity, ensuring communities receive nutritious food and essential support services.

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MINI PANEL 5B: Governing and Innovating for Sustainable Local Food Systems.

51. Territorial Ordering and Governance Challenges in Transitioning Towards Agroecology and Solidarity Economy in Eastern Colombia. - Santiago A. Roa-Ortiz,Oscar Alfredo Forero Larañaga

Increasing resilience to climate change and sustainability of agriculture encounters challenges that vary depending on the specific biogeographical conditions and the socio-political context. In this presentation (article) we will refer to governance and territorial ordering challenges encountered in Eastern Colombia. Drawing from the findings of the ABRIGUE project implementation conducted in municipalities of Mesetas, La Uribe, and Vista Hermosa in the Meta department, we interrogate appropriateness of governance frameworks to advance agroecology and the solidarity economy. Using participatory approaches, our team developed a set of indicators that participants and researchers identified as most relevant to facilitate agro-ecological transitions. Among issues to be ranked by participants were sustainable biomass intensification, water resource optimization, gender equality, biodiversity conservation, and

reduction of petrochemical inputs in agriculture. The study revealed substantial governance gaps, with participants assigning low-ranking (indicative of precariousness or deficit) to indicators related to infrastructure, water resource management, environmental degradation, and inclusive economic participation (IEP). Of particular IEP concern are indicators of gender equity, and smallholders' access to markets and financial services. Additional challenges were identified by participants, indicating suboptimal adoption rates of sustainable technologies, precarious infrastructure, and insipient collaborative networks between agriculturalists. These findings revealed the inexistence of an integrated governance approach to identify and fund capacity building programs in areas prioritized by locals, as well the need to enable participatory monitoring of advances (or retreat) in achieving sustainability and increased socio-ecological resilience. The experience in Meta offers practical lessons for advancing territorial ordering and improving governance setting in middle-income countries and in regions experiencing similar challenges.

68. Grow Together: A Semi-Systematic Literature Review of Multi-Level Third Sector Engagement with Food Access in Developed Nations. - Nicholas Malderelli, David Marshall, Mary Brennan
For the past thirty years, structural drivers of food access in urban developed regions negatively impacted area-level household food insecurity [HFI] across neighbourhoods of high relative deprivation. A mixture of compositional and contextual drivers at the macro-level of food access exerts pressure on Third Sector Food Organisations at the meso-level to take responsibility and close the food gap while vulnerable people/households at the micro-level are limited in agency, control, and capacity to lift themselves out of area-level HFI. To date, the relationship these different levels of influence over food access have not been investigated from the perspective of TSFOs in the context of urban food access and HFI. In particular, community gardens exhibit high levels of capacity and resilience in addressing local food access but have not received adequate attention, despite evident benefits spanning mental and physical health as well as improvements in social capital and civic engagement. In response to this research gap, a PRISMA* semi-systematic review of the literature on urban food access is conducted to evaluate and update the knowledge state of what role, if any, TSFOs play in addressing urban food access through grassroots activism. Qualitative thematic analysis grounded in data observation elicits two inter-dependent groups of themes from a record sample of 238 records. Histories of the built environment, rapid urban development, governmental precarisation, contestation of land, public policy blind spots, and uncertainty and risk present as macro-environmental themes, those which can be characterised as structural forces pressuring organisations at the meso-level to respond accordingly. Conversely, subjective lived experience, knowledge exchange and innovation co-creation, reclamation of agency and control, organizational governance, degree of formalization, adaptability in function and identity, and collaborative potential with the private/public sector represent a mixture of people- and TSFO-facing themes. Thematic findings and discussion reveal an overall complexity of urban-developed food systems and the more specific, collective objective of a space-to-place transition where food can be accessed by all, and through TSFOs that are more participative, inclusive, democratic, and empowering to all stakeholders. It outlines limitations and future research by inviting a closer look into the challenges and opportunities of the third sector, namely community gardens, in mediating area-level HFI and enhancing routes to urban food access.

82. Moving Beyond Materiality: Food System Innovations for Community Transformation. - Siobhan Maderson

There is a growing trend for community food practices to embed food system innovations within wider socio-economic contexts which highlight the multifactorial characteristics of food. There are also increasing efforts to develop territorial food systems, which celebrate and strengthen relationships between producers and consumers in urban and rural areas. A recent major research project on European urban food system reform notes many municipal and/or third sector food system interventions are explicitly positioned within innovative and potentially transformative socio-economic relationships of producers, local governments, third sector organisations, and citizens. Community dining, community food growing schemes, and municipal and community procurement projects address multiple yet interrelated challenges to sustainability, as well as highlight the social significance of food and the food system (Agyeman and McLaren 2017; Ulug & Trell 2020).

A new project in rural Wales also seeks to embed food system interventions within wider socio-economic goals. The Wales Future Generations Act provides a potentially radical framework for food system innovations that prioritise the social, economic, environmental and cultural well-being of Wales. Against this backdrop, food system experiments include efforts to increase agroecological production and strengthen market opportunities by addressing challenges around land and housing for producers, a revitalised procurement system that forefronts social responsibility, and ensuring that upland farmers are included in a Just Transition to net zero.

This presentation will review European urban food system innovations which seek to address recurrent challenges for both food producers and consumers, including access to land and markets, and affordable healthy food. It will also introduce new work on rural food system innovation in Wales. We suggest that national, regional and local governments can drive multiple improvements in their food systems, and the wider social, economic and environmental context, by embedding social solidarity goals and priorities within all food system interventions. Municipalities can facilitate this by applying the range of material, discursive and organisational powers they have at their disposal (Mattioni et al 2022). We propose that community-driven food system innovations can serve to inform and inspire city governance in transitioning toward urban sustainability. Prioritising aspects of food systems outside of dominant capitalist commodity frameworks creates both imaginative and practical spaces for revitalised, sustainable community relationships and food systems (Vivero-Pol 2017), where strategies are coproduced with end users.

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91. Birmingham's Soil Matters, for Food Resilience and Community Resilience. - Claire Woolnough, Louise Bowden

We are sharing our work raising awareness of the importance of urban soil for food and community resilience (as well as city cooling and flood mitigation), and some of the practical work we are doing to support community skills to build healthier soil across the city. We are a small, grassroots organisation, that has spent years developing our expertise and practice so that we can be a catalyst for change in Birmingham.

We are currently working to set up a project funded by the Food Legends Fund, sharing practical skills and knowledge about building healthy, resilient soils with allotments across the city. This is in response to feedback at our composting workshops on allotments over the past few years, where we have been frequently told about difficulties growing in our challenging weather - with increased flooding, drought and pests - and a lack of understanding on how building soil health can help to build greater resilience. We deliver workshops and training, passing on knowledge that we have learnt from experts working in agricultural settings, and 'translating ' this knowledge to make it accessible and relevant for diverse urban allotment holders. We focus on connecting people to knowledge about the soil in a very practical way, with hands on soil testing and looking at soil microbes under the microscope. Our sessions are also about bringing people together, over a common need and interest in food, growing and soil.

Soil needs organic matter to be resilient, and the key organic resource that we have in the city is our food 'waste'. Our vision is that this should, wherever possible, be composted locally and used to support food production and building spongy soils. We believe it is short-sighted, and a social justice issue, that Birmingham residents pay Veolia to take this resource from us, when our city's soil needs it urgently to support future resilience in the face of climate change. There needs a to be multilayered approach, that does include some large scale food waste collection, but that there also needs to be greater support for more small scale solutions, and a greater understanding across the board that we need to be returning more of this valuable matter to our urban soil.

To this end, we train organisations to compost (e.g. Incredible Surplus, TAWS and local community growing spaces), and run workshops and training for households and allotments about composting.

We are also currently starting a piece of work with the Adults and Social Care department of Birmingham City Council to support them to start composting the food waste produced at their adult daycare centres, to be utilised at their outdoor horticultural daycare provision. This compost will be used for their growing projects and provide a model of how closed loop systems can have greater benefits than just the environmental ones. As a small organisation we are dependent on applying for funding for this sort of project. But if successful, this project will also deliver soil resilience workshops across the city, with a focus on Bordesley Green, and train up organisations and the general public in how to create growing spaces that can greater withstand the impacts of climate change, empowering them to improve poor urban soil, and grow nutritious food.

103. Green Room Gardeners. - Lydia Towsey

Green Room Gardeners is a creative gardening project, initially funded in 2018 by Royal Botanical Kew as one of only 50 national beacons. The project has recently been identified by

Kew as one of their top six community led initiatives. It has also picked out by LRCF (Leicester Rutland Community Foundation) within their annual report as one of their most successful funded projects of 2024.

Green Room Gardeners focuses on adults with experience of severe and enduring mental health issues, alongside vulnerable young homeless people facing a variety of complex health and social issues. It combines gardening, environmental education and the creative arts, with community wide outreach – to build mental health recovery, life-skills and resilience, whilst tackling mental health related stigma and building stronger and more inclusive communities. A key part of the project is to improve access to green spaces, especially amongst low income, global majority and disabled demographics experiencing inequities in this way. The project is led by BrightSparks Arts CIO, and co-produced by Leicestershire Partnership NHS Trust and WildScapes – a horticultural CIC who and lead the gardening based aspects of the project.

Following the 2018 development of a new courtyard 'amphitheatre' style garden at University of Leicester's Attenborough Arts Centre – this focused on UK native species, wellbeing, education and performance - Green Room Gardeners have developed a permanent project base at Queens Road Allotment, in Leicester - focused on food production and security, health, wellbeing, access and equity. Over the winter months participants have been based at Leicester's Central Library, where we have been collaborating with Leicester Libraries to involve a wider group of adults in indoor gardening and eco-arts activities – from propagating cuttings and growing from seeds and kitchen scraps – to developing poetry and art in response.

Alongside gardening, participants have worked with a range of facilitators to develop a line of green-room merchandise, using produce from our allotment base to build sustainability, within and beyond our project. Products have included: hand-picked, tied and packaged herbal teas; lavender and rosemary bags for therapeutic purposes; lavender and spiced honeys – and a range of skincare projects, from organic carrot oil for the face and body, to lip-balms and body-butters. All products are made by participants, in a sterile professional kitchen, with the support and supervision of professional maker/facilitators.

Participants are currently working towards the completion of a Green Room Gardeners Cookbook – sharing recipes alongside linked poetry and artwork, all emerging from the project. In developing the cookbook, the participants have worked to support themselves and each other, whilst developing new identities as ambassadors for creative health and the environment. The project process has seen participants develop the skills to grow their own food, identify recipes and prepare meals using produce – supported via planning, communal food sharing and discussion. The Green Room Gardeners will launch their cookbook in June as part of Leicester's major Riverside Festival. Alongside a book-launch led by participants, the project will undertake further outreach around the festival to sell books and merchandise – to foster sustainability within our project and beyond. We will share learning through a linked festival drop-in workshop and reach out to new potential participants, volunteers and partners to share the benefit and ambition of our work.

110. Food, True Giving, and Corporate Social Responsibility: A Perspective from GNNSJ - Shaminder Singh

Introduction The concept of true giving, embodied in the Sikh practice of langar, provides a framework for understanding corporate social responsibility (CSR). Guru Nanak Nishkam Sewak

Jatha (GNNSJ) has demonstrated how selfless service can foster community cohesion and address social inequalities. By examining the origins of langar and its application in a modern context, we can explore how businesses can integrate CSR into their core strategies in a meaningful and sustainable way.

The Origins of True Giving: - Sacha Sauda and Langar Guru Nanak Dev Ji, the founder of Sikhism, laid the foundation for true giving through an act known as "Sacha Sauda." Instead of engaging in conventional trade, Guru Nanak used his father's money to feed hungry sadhus, exemplifying that true value lies in selfless service. This principle was institutionalised in the Sikh tradition of langar, a community kitchen providing free meals to all, regardless of background. Today, langar is an essential part of Sikh life, serving millions worldwide and reinforcing values of humility, equality, and social responsibility.

Langar in Practice: GNNSJ and Community Engagement - GNNSJ in Birmingham has exemplified the power of langar by serving over 25,000 meals weekly, with numbers doubling during festivals. The organisation extends its efforts beyond the Gurudwara, providing food to the homeless and those in need. Volunteers embody selfless service, preparing and serving meals with devotion and humility. The process fosters intergenerational learning, where young volunteers are guided by experienced elders, ensuring continuity in service and values. A remarkable instance of langar fostering social cohesion was during the 2001 Ram Katha Vedic Festival in Birmingham. GNNSJ provided langar to over 90,000 attendees, strengthening ties between the Hindu and Sikh communities. This act of service demonstrated that food has the power to unite people, heal historical wounds, and promote harmony.

Corporate Social Responsibility and True Giving - CSR, as a formalised concept, has evolved over centuries. From the philanthropic initiatives of the 18th and 19th centuries to the strategic CSR models of the 20th and 21st centuries, businesses have increasingly recognised their role in societal development. Influential frameworks like the United Nations Global Compact (2000) and much literature have emphasised the need for companies to integrate social impact with business strategy. The Sustainable Development Goals (SDGs), launched in 2015, offer a global blueprint for responsible business practices. GNNSJ's langar model provides a response as follows:

Applying Langar Principles to Modern CSR - 1. Inclusivity & Equality: Serve all, ensure diverse workplaces and initiatives. 2. Sustainability & Ethics: Minimize waste, source responsibly. 3. Volunteerism & Engagement: Encourage employee participation in service. 4. Long-term Commitment: Move beyond one-time initiatives to sustained impact.

Conclusion - GNNSJ's model of langar offers a blueprint for businesses seeking to integrate CSR authentically. By embracing selfless service, inclusivity, and sustainability, companies can create a lasting impact. How can businesses move from treating CSR as an obligation to making it a core value? By embracing true giving, ensuring every action reflects a commitment to humanity.

STREAM 5C: Creative and Innovative Approaches to Community Food.

25. Art and Food - A Potted History of Art and Food Projects that Inspire Purposeful Change. - Kaye Winwood

This paper explores the act of eating and dining as an enduring theme within artistic and community spaces. It examines food as an artistic material, highlighting its ability to cultivate new audiences and foster innovation, ultimately driving meaningful change.

Food is a fundamental necessity, yet it holds far greater significance within creative and social contexts. This paper will provide a concise history of food in art, identifying major themes before delving into contemporary practices that use food as an artistic and socially engaged medium.

Artists have long been fascinated with food as a subject matter and material, from early 'vanitas; paintings using food to symbolise death, wealth and status; to food as a social commentary (Vincent Van Gogh's The Potato Eaters, 1885); a political tool (Turner Prize nominated Cooking Sections, 2021); a relational practice (Rirkrit Tirivanija's untitled (pad thai), 1990) as defined by 1990s French art critic and curator Nicolas Bourriaud. Food has also been used as a feminist act (The Dinner Party, Judy Chicago,1979); and the reimagining of restaurant as an art space (The Holy Palate, Turin, 1930s; Gordon Matta Clark's FOOD, NY 1970s; artist Jenine Antoni's collaboration at Park Avenue Restaurant, NY, 2011). More recent examples emphasize sensory experiences such as (Hands On Sensuality, Kaye Winwood from 2018) and community engagement (Marije Vogelzang's Eat, Love, Budapest (2015) with a community of Roma women).

Within the growing sector of food design, sustainability and social change is being explored in projects such as Fungi Mutarium (Livin Studio, Austria, 2014)—an edible fungi that breaks down plastic waste.

Building on these themes I will introduce projects that I have worked on that integrate food, art, and community:

Feed: An ongoing arts-based project promoting inclusive, sustainable approaches to infant feeding and public space. As Creative Producer for 'Milk and Blankets' I am working with 3 artists to create safe workshops for mothers and carers, culminating in a community event fusing food and art in June 2025. https://www.feedproject.art/

Taste, Touch and Smell (2023): A multi-sensory visitor experience co-produced with learning disabled adults from The Monday Night Club over 9 months at the Museum of Royal Worcester. (https://www.museumofroyalworcester.org/new-sensory-experiences-launched/)

MAC Moms (2024-present): An ongoing series of workshops with mothers caring for children with complex disabilities. These sessions offer sensory respite and a safe space for integrating sensory self-care into daily routines.
(https://macbirmingham.co.uk/exhibition-archive/who-cares)

The sheer breadth of this food-led research is testament to the interdisciplinarity and potential for cross-sector. Many rely on community participation to activate artistic process and demonstrate a definitive case to be made for the artists influencing food policy, technologies, food waste, community cohesion and education.

Together these insights show food's unique ability to foster connections and communities

together through shared (edible) experiences that go beyond eating for fuel into a powerful space of meaningful connection and shared experience.

49. Incredible Surplus, Compost, Growing - Food, People, Partnerships. - Ann Gallagher
I would simply like to share the story of incredible surplus / compost culture over the last decade and how we know community connections are established, developed and maintained for an inclusive society where all can thrive not just survive.

STREAM 6: Sticky Progress and Unrealised Opportunities for Food Waste. Jordan Lazell, Scott Jones, Aneesha Makhal

STREAM 6A: Community Actions and Food Waste Action.

65. Finding Coherent Actions to Support Food Waste Reductions. - Christian Reynolds

This paper explores the multifaceted approach required to effectively reduce food waste across various stages of the food supply chain. The paper emphasizes the importance of community building among academic researchers and practitioners focused on food waste waste. It highlights the need for collaborative efforts to share experiences, develop new ideas, and support the implementation of effective interventions.

The paper reviews the evolution of food waste reduction strategies from 2019 to the present, noting the shift in framing food loss and waste as a significant climate change issue. It discusses the various drivers of food waste and the hierarchy of solutions, including prevention, diversion, and reduction. The paper underscores the necessity of combining multiple actions to achieve Sustainable Development Goal 12.3, which aims to halve food waste at the consumption end and reduce food loss throughout the supply chain.

The paper reviews the effectiveness of different interventions, such as plate size changes, school meal guidelines, and information campaigns. It highlights the gaps in the literature and the need for more robust data to quantify the impact of these interventions. The paper calls for the development of an evidence-based database to support policymakers in designing and implementing effective food waste reduction strategies.

Finally, the paper discusses the importance of policy coherence and the integration of food waste reduction efforts across various government departments and local authorities. It advocates for the creation of policy bundles that address multiple objectives, including health, climate, and economic outcomes. The paper concludes with a call to action for the academic and policy-making communities to collaborate and expand the evidence base, ensuring scalable and impactful solutions to food waste reduction.

64. Changing the Narrative on the Word 'Waste': Food Surplus, Community Resistance and Hands-on Climate Action. -Chris Poolman, Elizabeth Rowe

The Waste and Resources Action Programme outline that “If food waste were a country, it would be the third biggest emitter of greenhouse gases, behind the USA and China.” Within the entangled vocabulary of climate change, we would argue that the word 'waste' is problematic.

How we talk about excess food within supermarket supply chains is important. The phrase 'food waste' is widely used to describe food items over-supplied by supermarkets that are near, or past their sell-by dates. But what if definitions are performative? By labelling excess food pejoratively, specifically in its redistribution to socially and economically challenged individuals, it accumulates negative connotations that shape how it can be used by communities fighting climate change at ground level.

Incredible Surplus, lead partner in the Compost Culture project, prefers to use the word 'surplus' to 'waste'. Originally established in 2014 as The Real Junk Food Project Birmingham, they intercept food and other usable materials that would otherwise go to waste from supermarkets, restaurants and other sources, and provide them to individuals and community organisations on a “Pay-As-You-Feel” basis.

Since 2014, they have redistributed over 1800 tonnes of food surplus to local communities and also transform this surplus - through their involvement in The Compost Culture project - into compost. This process has a direct social and political impact on those involved.

Compost Culture is a project working to transform people's views around food surplus and composting in the West Midlands supported by the National Lottery Community Fund (Climate Action) 2025 - 2029. Birmingham-based organisations General Public, Incredible Surplus, The Active Wellbeing Society, St Paul's Trust, Birmingham Friends of the Earth & Crick Gardens are working in partnership to develop a pioneering programme of composting initiatives across the city where you can learn about turning food scraps into beautiful compost which can then be used for growing fresh, nutritious food locally.

The paper outlines, via a series of case studies from the project, why the phrase 'food waste' is unproductive. By rethinking out of date food as 'surplus', the project has created a series of radical opportunities for people taking part in the fight against climate change. The paper will explore:

• Community composting as conversation: 'compostations'.
• Local Networks of climate action resistance (i.e. Birmingham Food Justice Network).
• Closed Loop Systems: empowering third sector organisations.
• Managing seasonal gluts as moments of 'compost commonality'.
• The impact of the project on volunteers with complex problems (i.e. recently we have had a large cohort of early release prisoners as volunteers) and how reimagining excess food as surplus transforms how people can take part in climate action.

www.compostculture.co.uk

71. Save Money, Save the Planet – Motivation for Taking Action (A Household Food Waste Study). - B. O'Connor, M. Hardman, P.A. Cook, M.L. Howarth, L.M. Donkin, L. Forrest, A. Harrison, B. Jordan, H. Singh

The 'Save Money, Save the Planet' food waste study is a community intervention exploring how action around reducing household food waste might generate community conversations and collective action around climate change. Developed around the premise of 'Climate via stealth', this community-inspired and designed intervention explores what motivates Community Leaders and community groups to take part and if this approach can engage groups new to climate action.

Co-researchers from the community designed an intervention to enable households to take action on climate change. The focus was household food waste, a topic with daily opportunities to positively influence change. A food waste survey (questionnaire and diary) was completed as a baseline to measure how, what and why food is wasted and then repeated after a community intervention to see if food waste was reduced and if it sparked further action within the community.

The intervention was co-created for each specific community and included information and awareness raising. It was rolled out in two contrasting geographical areas in a town in the Northwest of England. In total 11 Community Leaders and 130 households took part. The Community Leaders played a pivotal role in recruiting and supporting participants from their groups to take part. Through these community connections, many diverse communities came together around food waste, exploring the reasons why food is wasted and sharing tips on how

they could reduce their food waste. In-depth interviews with the Community Leaders explored their motivations for taking part and how this could inform engagement strategies going forward.

Finally, this intervention significantly reduced household food waste by 307g per week per household (z= -2.77 p=.006) and has further contributed to the evidence base around community engagement for climate change and food waste. The development of the food waste toolkit, based on the learning from the study, provides an opportunity to engage more communities beyond the study area and ensure a wider impact.

92. Food Sourcing Practices at a Community Cooking Project: The Implications of Utilising Surplus Food. - Jordan Lazell

Community organisations have increasingly become dependent on surplus food in order to deliver their services. Such surpluses result from the overprovisioning of food in the retail sector, with this food surplus to requirements in going unsold but is yet to be designated as waste. Whilst the usage rather than wastage of such food is beneficial from a sustainability perspective, its usage in projects to tackle food insecurity have raised a number of questions. Who should and should not have a right to surpluses? How can such surpluses be equally distributed? Why are supermarkets producing so much surplus food and what does this mean for the ongoing resilience of food supply to community food projects? The findings of an ongoing 2 year ethnographic project with a community eating project in Clacton, Essex are reported.

Clear tensions have been drawn between surplus food and food donations that have implications for how the project is delivered. Performances of dignity are conditioned in different ways depending upon the nature of the food being served. Implications are given for the ongoing resilience of such projects in light of their sourcing practices.

STREAM 6B: Surplus, Upcycled and Donated Food.

108. Food efficiency, Our Own Worst Enemy: How the Perfect Efficiencies of the Supermarket Food System Create the Surplus Issue and How It Could Tackle It. - Chris Steele-Kendrick

Surplus is not a new issue. Since the agricultural revolution about 10,000 years ago, when humans started managing agriculture, we've had surplus. It has enabled communities to grow, trade, and thrive. Yet today, surplus is closely associated with waste. Statistics such as 30% of all food produced being wasted, show the scale at which we produce surplus food and its impact. A key part of the food system often cited as a driver of surplus is the supermarket. With 98.7% of grocery market sales made through major supermarkets, they are the biggest customer for farmers and growers across the world. They purchase most of the groceries we consume, yet UK supermarkets account for only 2-3% of food waste. Consumers contribute 70% of the food waste mountain. So is the problem really consumer behavior? It's important to understand how supermarkets operate and the implications this has on the food system and in particular fresh produce. Fresh produce is divided into three main classes: first class, second class, and home processing. While there are no exact statistics, supermarkets largely source first-class produce. Class II produce falls into 'perfectly imperfect' or 'wonky' ranges, which make up a small fraction of sales. Since supermarkets demand Class I produce, more is planted to ensure there is enough to meet supply contracts. As the season shifts, demand moves from one region to another where supply is greater, leaving produce at the tail end of the season at greater risk of waste. Supermarkets plan their supply through agreements called programs, committing to a certain quality, quantity, and price. Growers overproduce to meet their

obligations, but supermarkets have no ownership over what they don't order. Farmers factor this into their pricing, yet these inefficiencies push up shelf prices. For imported produce, the problem worsens. With exotic produce travelling weeks, suppliers must factor in loss from demand fluctuations or quality issues. Programs demand a continuous supply, leading to surplus packed, labelled, and stored, ready for orders. These efficiencies in food supply create inefficiencies in food waste. Standardised pack sizes leave produce outside specifications, even when it meets Class I standards. So what are the solutions? A shift back to daily, market-based shopping might better handle gluts, but that's unlikely to happen. Instead, we must work within the system to make meaningful change. We have built a highly efficient food system using barcodes, refrigeration, and AI, yet food waste remains poorly measured. WRAP estimates 7.2% of produce is wasted at farm level, but the real figure may be higher. If technology helped create these inefficiencies, it can help fix them. We need more Class II and odd-sized fresh produce in supermarkets, sold by weight to fairly value what is grown. There are technological barriers, but they are not insurmountable. Legislation may be needed to force real change. At the very least, if we look at these inefficiencies as unrealised opportunities, then we should at least have the data to understand what we're missing out on.

Sources:
*1 UK supermarket grocery sales data: https://www.kantar.com/campaigns/grocery-market-share
*2 Wrap: Food Surplus & Waste in the UK Key Facts: Updated November 2023 https://www.wrap.ngo/resources/report/food-surplus-and-waste-uk-key-facts-updated-november2023?utm_source=chatgpt.com WRAP food waste statistics: https://www.wrap.org.uk/content/household-food-waste-uk-2021 Global food waste and greenhouse gas emissions: https://www.ifco.com/countries-with-the-least-and-most-food-waste/

23. A Solution in Need of a Problem: The Case Against 'Good Samaritan' Food Donation Laws. - Carrie Bradshaw

A widely reported barrier to redistributing the large quantities of edible food produced (and wasted) across the supply chain is said to be the 'fear of liability' if someone suffers harm because of consuming donated food. In response, several jurisdictions have liability protections, known as 'Good Samaritan' laws, to encourage food donation and prevent waste. This article argues—empirically, legally and normatively—that Good Samaritan food donation laws are unnecessary, conceptually incoherent, and potentially harmful.

In the world's first rigorous evidence review, the article demonstrates that the 'fear of liability' around food donation is neither well-grounded empirically nor well-articulated, and identifies several distinct liability fears that would not necessarily be addressed by Good Samaritan laws. In a doctrinal analysis, the dominant legal arguments in favour of Good Samaritan laws—that the law is 'too strict' or 'too uncertain'—are shown to not apply in the UK. This analysis also reveals complex questions about the role of liability in highly regulated fields. These questions in turn render the legal impact and coherence of existing Good Samaritan laws unclear.

Normatively, where large quantities of unsold surplus food are 'priced in' to harmful business models that are generative of overproduction and waste, the justification for liability protections—altruism—is stretched beyond credulity. Retailers that donate surplus food—often at last minute, and sometimes of questionable quality—are not 'Good Samaritans' deserving of protection from the legal consequences of harm caused by their unsold and 'donated' food.

52. From Waste to Taste: Promoting Upcycled Food Adoption in the UK. - Vimala Kunchamboo, Feray Adiguzel

In the United Kingdom, approximately 8.4 million individuals face food poverty, while an estimated 9.5 million tonnes of food are discarded each year (Business Waste UK, 2025). This widespread food waste exacerbates both climate change and food insecurity. Consequently, alternative innovative practices such as food-upcycling are proposed to counter current norms of food product production, consumption and distribution; and to challenge the logic of value exchange (Ye, 2023). Food-upcycling offers a potential supply-side solution to the problem of food-waste; whereby innovators develop new consumer products by repurposing surplus food (EPA, 2024). In the UK, upcycled-food (UPF) brands like Toast Ale (beer from leftover bread) and Rubbies-in-the-Rubble (chutneys from overripe vegetables) use by-products to reduce food waste. Once considered as a niche market, the UPF industry is worth USD761.1 billion in 2024 and is expected to grow at a rate of 5% annually with East-Asia and Europe having the greatest potential (Research Nester, 2025). However, marketing of UPF products is challenged due to end-consumer rejection (Ye, 2023). Previous studies primarily focused on market potential of upcycled foods, identifying potential barriers (e.g., quality and nutritional concerns), and factors driving consumer acceptance (Lu et al. 2024) and marketing communication strategies (de Visser-Amundson et al. 2021). Although useful, these studies fail to acknowledge the role of food culture as a significant influence of food choices and consumption practices. Simply asking consumers about their acceptance without considering context and imbued food meanings overlooks deeper consumer psychology essential to encourage behavioral change. Thus, this study takes into consideration the presence of cultural significance of food reflected through social, moral, religious and ethnic aspects which form the motivation and resistance to consume UPF products.

We apply a mixed-method design consisting of qualitative interviews and quantitative survey, using Behavioural Reasoning Theoretical framework (Westaby, 2005) to investigate the influence of both consumers' 'reasons for' and 'reasons against' upcycled-food adoptions, to gain an understanding of consumer market, culture and characteristics among consumers of White and Asian or Asian-British ethnic origins residing in the UK.

The preliminary findings based on the interviews indicate a strong presence of culturally embedded food beliefs, values, and socialization processes that contribute to the construction of inherent psychological meanings associated with food consumption. The results reveal four emerging themes, i. Cultural and shared food values (cultural practices, religious beliefs, health and wellness), ii. Personal influence (openness to innovation, food neophobia, food waste awareness, need for transparency and trust), iii. Social norm (status and materialism), and iv. Sensory and hedonic expectations (mental-imagery, novelty and sensory appeals). These themes are explained as both motivators and barriers, emphasizing the impact of food culture on consumer intentions towards adopting UPF products. Focusing on waste management, the study aims to generate fundamental knowledge to support stakeholders in preventing food-waste. The insights provide marketers of waste-to-value products the basis for more informed decision-making about target marketing and help in policymaking to promote behavioral change.

STREAM 6C: Food and Waste Behaviours.

8. - Exploring Tone in Food Waste Reduction Ads: The Impact of Assertive vs. Suggestive Approaches on Mature Consumers' Behaviour. - Jasmine Mohsen

The phenomenon of using assertive language has become increasingly popular in advertisements and marketing promotions, aiming to drive consumers to change their behaviours and adopt healthier consumption habits (Fransen et al., 2015; Kellermann and Shea, 1996; Kronrod et al., 2012; Lord, 1994). For instance, advertisement slogans like "Stop talking. Start planting" and "Only YOU can prevent forest fires" are designed to encourage consumers to take action to save the environment (Kronrod et al., 2012; Vanderveken, 1990). The use of assertive language typically associated with words such as "must", "stop", "go" (Brown and Levinson, 1987; Kronrod et al., 2012). However, there are various drawbacks to using assertive language in promotional campaigns and communications, as indicated by several previous studies (e.g., Dillard and Shen, 2005; Edwards et al., 2002; Quick and Considine, 2008). Compared to non-assertive or persuasive messages, using assertive or forceful language is generally associated with lower compliance (Dillard and Shen, 2005; Fitzsimons and Lehmann, 2004; Sanders and Fitch, 2001). This can be attributed to the fact that assertiveness is often intermingled with triggering psychological reactance, as these messages can make consumers feel their sense of freedom is restricted, driving them to act in the opposite direction to restore their autonomy (Edwards et al., 2002; Quick and Considine, 2008).

Previous research on food waste, such as Yen et al. (2022), Bravi et al. (2020), and Bhatti et al. (2023), has predominantly focused on young consumers and their engagement in food waste reduction activities. However, there is a gap in the literature regarding the responses of elderly and mature consumers to food waste reduction advertisements. This study aims to build upon Yen et al.'s (2022) findings, which identified self-control as a key factor influencing young consumers' efforts to reduce food waste. Therefore, the current research seeks to address the following research question: Does self-control retain its relevance as people grow older, or do other factors, such as altruistic tendencies, motivate them to engage in food waste reduction behaviours?

Research Aims and Objectives:
This research proposal aims to achieve the following:
•To understand and investigate the mature/elderly consumers' different responses towards assertive vs. suggestive food waste reduction ads.
•To highlight the psychological barriers that might hinder mature consumers from engaging in positive behaviours, such as reducing food waste.
•To shed light on mature consumers' personality traits that may predispose them to engage in food waste behaviour, such as consumers with higher levels of self-control.

62. Exploring Food Waste Attitudes and Behaviours in Families with Neurodivergent Children. - Hayley Grinter, Pallavi Singh, Rachel Marsden

Aim of the Project:
Food waste is a global challenge with significant economic, social, and environmental impacts. In the UK, household food waste accounts for 70% of the total food waste (WRAP, 2023). Current research identifies families with children as a segment that acknowledges having comparatively more waste due to personal choices, nutritional requirements of children, or health and wellbeing reasons (WRAP, 2023). However, these studies do not represent families with neurodivergent children, despite research indicating that food selectivity leading to food avoidance and rejection can be more persistent in neurodivergent children (Smith et al., 2022). This research aims to fill this gap by exploring food waste within families with neurodivergent children, focusing on attitudes surrounding food and food waste and how it is managed in the

household. Of particular interest is whether reducing food waste has been considered and the barriers around this. The research contributes to wider discourse of food waste among households by exploring food behaviour among families with neurodivergent children, a group currently under-represented in household food waste behaviour research.

This is an ongoing project. To explore the research question, we are using multi method qualitative research design with semi structured interview as first stage follow up with focus group at second stage. We have completed interviews with 10 parents/care givers. Among the participants, 5 being specifically parents or carers of neurodivergent children and 5 parents of neuro typical children. We are currently analysing data and scheduling a focus group in coming months. The focus group will include the interview participants and other stakeholders like charities working with families with neuro divergent children.

The findings from interview highlight the contrasting responsibilities of food in family majorly taken by mothers, spending time to understand the food behaviour of the neuro divergent children , challenges of accepting the challenges of food behaviour comes with having a neuro divergent child, online and offline peer help and support groups mothers resort to, challenges in family dynamics. In the planned focus group, we will explore these themes again and aim to co-create ideas around the support system parents may benefit from.

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WRAP (2023), Household food and drink waste in the United Kingdom 2021/22, Available at https://wrap.org.uk/sites/default/files/2023-11/Household%20Food%20and%20Drink%20Waste%20in%20the%20United%20Kingdom%202021-22.pdf.

69. Frugal Living; Our Path to a Sustainable Foods Future. - Steven Kator Iorfa, Lisa Jack, Lorenzo Stafford, Cressida Bowyer

Food waste (FW) poses significant challenges to global food security, environmental sustainability, and public health, necessitating multi-sectoral strategies for mitigation. Recent research identifies frugality as a key value orientation that influences sustainable food behaviours (SFBs), yet the absence of a robust theoretical framework has hindered a comprehensive understanding of its mechanisms and manifestations. The fragmented conceptualization of frugality in existing literature; where it is often examined as disparate constructs, has led to inconsistencies, miscommunication, and inaccurate problem identification. This paper synthesizes current research on frugality and SFBs to propose a unified theoretical framework that conceptualizes frugality as a continuum, ranging from voluntary simplicity to extreme miserliness. It further introduces a frugal matrix, delineating four distinct frugal profiles that predict individuals' engagement with SFBs. The proposed framework integrates the principles of the circular economy, illustrating how different frugal profiles interact with the 5Rs of sustainability (Refuse, Reduce, Reuse, Recycle, and Rot) in relation to food waste. With its structured approach to understanding frugality's role in SFBs, this framework has implications for policy development, consumer behaviour research, and sustainability interventions. Future research can build upon this model to refine its applicability, expanding its relevance in global sustainability discourse.

105. Intersecting Morals of Healthy Eating and Food Wastage: Understanding the Displacement of Guilt in Consumption Behaviours. - Jordan Lazell, Annesha Makhal, Lara Spiteri-Cornish

Consumers can be influenced by a diversity of morals in their everyday food consumption experiences. Wasting food for example is considered immoral given its contribution towards climate change, the food insecure situation of others and as a waste money, with the wastage of ethical or higher quality food more immoral. There is also a complex picture of morals connected with healthy eating shaping our categorisation of food, with convenience and ultra processed foods moralised through their association with dietary ill-health. In this paper we contend with the intersection of these two areas of morals by setting out a theoretical framework. We consider how consumers negotiate such morals and when the associated guilt of one set of morals is displaced by the other. For example, how throwing food away becomes acceptable during the transition from an unhealthy to a healthy diet, or when consumers justify eating unhealthy foods in order to mitigate any waste. Our work aims to provide further understanding of why behaviours of eating healthily and preventing food waste are interrupted by how morals are exercised in food consumption.

STREAM 7: The Future of the Craft Economy between Promises and Challenges. - Alessandro Gerosa

STREAM 7A:

7. Coffee Development and Cultural/Material Dependencies: The Case of Koraput Coffee. - Chris Land, Manoj Dora, Sashmi Nayak

Coffee carries a culturally specific position in the contemporary economic imaginary. It has been heralded as a brand icon (Triolo et al., 2023). It is one of the most valuable globally traded commodities, referred to as 'black gold' (Francis & Francis, 2006). Douglas McWilliams (2015) even suggested we should refer to the digital/creative economy as the 'flat white economy'. As well as holding a distinctive cultural space in the economy, coffee has enormous economic value. In 2023 the coffee industry was estimated to be worth over $450bn globally. The distribution of this value is extremely uneven, however, with the main share goes to roasters and cafes. According to David Levy's analysis, in 2007 a pound of coffee might be up to $100 once brewed but the growers' share of that was just 20-50¢ (Levy, 2008: 947): less than 0.5%.

This paper reports on work undertaken as part of a British Council funded project, working with sustainable forest coffee growers in Odisha, India to change this model and capture more of the coffee value chain for the growers. This project worked with a government sponsored initiative to 'upgrade' the position of coffee in the tribal regions of Odisha. Using the naturally occurring forest shade of higher altitude regions, the coffee board planted coffee bushes in areas where tribal communities had forest foraging rights. The climate in the region was well suited to the more delicate, but also more valuable, arabica plant, and the forest provided natural shade, so the plants could thrive. Our project worked with growers and coffee experts to map value-adding activities and create a training plan for the tribals to understand how to nurture and care for the plants, harvest the coffee cherries, and process them directly when necessary, to ensure the highest quality and therefore the highest price.

The government supported Tribal Development Co-operative Corporation of Odisha Limited (TDCCOL) purchases coffee cherries from the tribals at 2.5 times the going market rate, ensuring a more sustainable share of the economic value added. The TDCCOL also set up a company to roast and retail coffee locally and explore the potential for building an export line of speciality coffee green beans to supply roasters in the UK. This paper will report on some of the material realities of coffee growing 'on the ground' and critically reflect on the potential for upgrading to rebalance the uneven value chain if speciality coffee consumption continues to be dominated by the global North. This export-led upgrading model risks leaving producers dependent on the shifting fashions of high-value consumers' taste regimes, and differentiation from mass-market, commodity coffee. The TDCCOL café model, building an indigenous coffee culture with shorter, more local value chains, may offer a more sustainable path to development, particularly in a global geopolitical context shaped by economic nationalism and deglobalisation.

79. Knowledge Sharing in the Craft Economy. - Nic Rattle

Overview

I will be presenting initial findings of a study exploring the underlying motivations and processes of knowledge sharing among small craft food-based businesses, and the conditions necessary for this to best take place. Knowledge sharing between small businesses has been under-researched in academic literature (Torres de Oliveira et al., 2021; Verreynne et al, 2020). This research is therefore important because it will deepen understanding of how knowledge exchange and thus, innovative practices, can be made more effective and impactful.

The Puzzle

Small craft businesses can have the freedom to experiment as they seek to produce food and drink for people in a way that is environmentally, socially and economically responsible. These businesses are often engaged in regenerative / agroecological farming techniques that fits with those ethical concerns. However, farming in this way is very knowledge intensive, as opposed to conventional farming (Hurley et al, 2023). Farmers and those further down the supply chain are struggling against a challenging economic backdrop. Conventional thinking would suggest that this is a time for entrenchment and holding any competitive advantage close. However, this is far from being the case - many of these businesses are committed to knowledge sharing with their peers (Hurley et al, 2023). Whilst academic and grey literature repeatedly states that business leaders want to learn from, and trust learnings from their peers (Magistrali et al., 2022; DBT, 2024), there is less understanding about why some business leaders engage in sharing.

Methods

The study adopted a case study strategy, drawing on qualitative data collected from small businesses, operating within a regenerative agriculture supply chain. These include bakers, brewers and market gardeners. Interview data is being further supplemented and triangulated with document analysis and visual analysis.

Preliminary Findings

Some initial themes include:

* Leaders have a clear vision of the type of world they want to live in, and how they want their business to behave within this.
* They believe a strong part of their value proposition is their relationships with their customers, locality and other aligned businesses.
* Scaling out (supporting others to grow and thrive) is seen as a legitimate business strategy.
* Whilst peers are technically their competitors, they regard larger businesses, which are not aligned to their values/vision, as being the 'real' competition.
* Among those scaling up their business, knowledge sharing can decrease as the business grows.
* Willingness to share increases with maturity - of the leader, business and market.

Implications

Academically, this work contributes to understanding of knowledge sharing behaviours by boundary spanners (as small business leaders) and the factors constraining and enabling knowledge sharing.

Practically, it adds to the discourse around the nature and behaviour of the craft economy and provides intelligence regarding how to best stimulate and encourage knowledge sharing, which will benefit the sustainability efforts.

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100. ‘After the Wave’ Can There Be ‘Optimism Forever’? Affect and Place in Stories of Craft Brewery Closure and Relocation. - Thomas Thurnell-Read, Robert Deakin

For some time, both academic and popular coverage of the rise of craft beer in the UK, and beyond, has been characterised by a sense of intense optimism. It has been suggested that craft breweries embodied alternative, more rewarding and equitable, forms of labour (Thurnell-Read, 2014) and make meaningful connections between communities and place (Bowen & Miller, 2023). Breweries are seen as being rooted in locality and as playing an important function as sites of urban sociability and interaction within urban communities (Mellows, 2021). However, a recent spate of brewery closures has raised concerns about the future of the craft drinks industry. Many breweries have struggled in the face of an increasingly saturated market for premium craft drink products alongside the response of larger breweries who have led a concerted effort to buy out or imitate and ultimately replace independent craft brands. Also of concern is how the idealism of the craft beer movement has so frequently obscured more troubling realities, notably gender discrimination (Rydzik & Ellis-Vowles, 2019) and increasingly precarious and often exploitative employment practices (Wallace, 2019).

To explore these concerns, we draw on ethnographic fieldwork conducted as part of a wider project on pub closures in the UK to focus on a specific area of Manchester where a number of breweries and tap rooms clustered but have in recent years closed or relocated. This phase of closure presents an opportune moment to examine the narratives surrounding craft beer beyond the ‘honeymoon period’ of initial opening, success and expansion which has been the focus of many key studies to date. Indeed, the narratives shared evoke a craft beer sector that has reached maturity and experienced its first period of difficulty and possible decline. We seek to examine the stories of the communities that grew around these spaces and how they were impacted by brewery closures and relocations. In varied ways, the stories of those involved with the breweries in this area in the past and currently suggest a waning of the initial idealism surrounding craft beer but, at the same time, a resilience and pragmatics that may, after all, maintain the optimism characteristic of the formative years of the craft beer movement (Waehning et al., 2023).

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STREAM 7B:

13. Vina Aperta and the End of the Individual: Towards Sustainable Food Systems. - Jennifer Smith-Maguire

If consumer economies and their intertwined agri-food systems are to be sustainable and ethical, then substantial structural changes are required. Alongside the development of robust governance regimes and devices to afford supply chain transparency, equitable labour conditions, and the valorisation of sufficiency (Dubuisson-Quellier 2022), attendant changes are also required to the normative imaginaries and embodied dispositions associated with the Global North. Industrialised consumer economies suffer from what Norbert Elias (1998: 234) described as a 'habitus problem.' Despite long-term human societal development towards greater complexity and interdependence, the 'Western' disposition remains tethered to a pre-modern, ego-centric mentality. Elias describes this as homo clausus (closed person) thinking (1970: 14), which regards the individual as a discrete, static, sovereign entity around which society orbits. This imaginary, of the 'individual beyond society' (Elias 1978: 250), is not only not reality congruent, but also actively impedes advancement in understanding, and working with, our fundamental interdependence.

Applying this lens to the food system, we see this habitus problem manifest in the disconnect between production, consumption, and responsibility. Industrialized agriculture and global supply chains constitute an open system in which people are structurally interdependent. Yet, the dominant imaginary is of closed, manageable food systems, reflecting ideals of scientific management of nature, and individual choice as the arbiter of marketplace outcomes. This disjunction complicates responses to climate destabilization, food insecurity, and biodiversity loss: solutions require collective, systems thinking, yet the default is to individualized, short-term decisions, naïve localisms, and simplistic ethics. Even when imaginaries shift (as with the valorisation of craft, small-scale, terroir-driven food and drink), they bump up against ingrained mindsets that prize convenience and choice, value-for-money, and maximization of profit.

Countering the homo clausus myth requires a habitus that recognizes and embraces our fundamental interconnectedness with the physical world, each other, and ourselves: what Elias terms a homines aperti (open human) disposition. Based on research with natural and biodynamic wine growers, makers, distributors, retailers, and sommeliers, I suggest that such a habitus exists in the here and now, characterised by a shared quest for interconnectedness and a vitalist, reparative aesthetic. This vina aperta (open wine) disposition (Smith Maguire 2021, 2024) not only makes the cultural production of natural wine possible, but also constitutes a more reality-congruent, environmentally-supportive ecological habitus (Kasper 2009).

The concept of vina aperta captures an alternative way of thinking about cultural production, foregrounding wine (and food more generally) as an emergent, interdependent process shaped by ecological, social, and sensory entanglements. While vina aperta has emerged in research focused on wine, these themes resonate with work on craft and artisanal food/drink more widely, for which producers and intermediaries frequently reject the dominant logics of industrial production in favour of a more open, processual engagement with their materials,

labour, and customers. As such, I suggest that vina aperta offers a model habitus for the craft imaginary in which 'open humans' are attuned to a taste for interconnectedness, and inhabit a mode of paying attention that fosters ecologically-sound, just food systems.
(495 words)

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94. Are Radical Notions of Authenticity Still Possible in Today's Crafts? Insights From an Early Research Project. - Alessandro Gerosa

A mature body of literature has now examined neo-craft production and consumption as a way to seek more authentic and fulfilling lifestyles in the twenty-first century (see, for example, Gerosa, 2024, and Ocejo, 2017). However, the promise of neo-craft is challenged by both internal tensions and contradictions, as well as corporate attempts to appropriate and exploit this ideal. Overall, the neo-craft economy appears to embody the same ambiguities characterising the ideal of authenticity in society, particularly over the last fifty years in which late modern capitalism has co-opted this ideal to find new legitimations through and in marketing, management, and other fields (Boltanski and Chiapello, 2007).

Nevertheless, the desire for self-determination, realization, and fulfilment in the face of the constraints of modern industrial and capitalist society has a much longer history than neoliberalism and is rooted in modernity itself. The concepts of craft work and consumption also constitute longstanding alternatives to industrialization, at least from the Arts and Crafts movement onwards. Equally, capitalism's tendency to appropriate, sanitize, and normalize countercultural movements is a consistent feature of its history (Fraser, 2022). Thus, the current effort by late modern capitalism to appropriate and exploit the ideals of craft and authenticity in the consumption arena raises a significant question: "Is it still possible to envision and practice radical conceptualizations of authenticity in today's craft economy? If so, how?"

To address this research question, this presentation will share early preliminary findings from a developing project that analyses winemakers belonging to networks with explicit ethical and political commitments. The research follows a threefold rationale. First, it partially shifts the focus of neo-craft research from urban environments and retailers to rural space and producers. Second, it highlights the generally overlooked potential role of collective networks or institutions in supporting the efforts of small, independent neo-craft producers engaged in alternative projects. Third, it aims to move beyond existing critical analyses of the tensions and contradictions characterising the neo-craft economy, providing a more fine-grained understanding of how these tensions can be managed as part of coherent projects – without downplaying their complexity and recognizing that some aspects may be irreducible.

Given that the project is in its early stages, this presentation will concentrate on the research design, theoretical framework, and initial insights. It will contextualize the originality and significance of the study and illustrate the theoretical approach employed. This will involve actively drawing from the theoretical and practical knowledge of winemakers, critics, and activists themselves, starting with the foundational thoughts of essayists and journalists such as Mario Soldati and Luigi Veronelli. Finally, the presentation will present preliminary results

from a quantitative and discursive analysis of secondary data related to winemakers within these networks.

STREAM 9. New Approaches to Tackling Food Insecurity and Related Consumer Experiences. - Caroline Moraes

STREAM 9A: Right to Food and Right to Market.

17. Community Food Assistance Projects as Potential Sites for Asserting Right to Food Claims. - Cindy Leung

The proliferation of community-based food assistance projects, such as community cafes and food pantries, suggests that communities have taken up an increasingly proactive and prominent role in mitigating the impacts of food insecurity. These projects seek to empower individuals not only through the provision of ongoing in-kind food support to alleviate pressures arising from the cost-of-living crisis; increasingly, they facilitate access to on-site advice and wraparound support services to address the root causes of food insecurity. They also offer inclusive and welcoming social spaces for the formation of new social relations among members in the community.

This paper discusses community food assistance projects from a human rights perspective and explores the potential of these community-based projects in serving as sites for asserting right to food claims. More specifically, drawing upon interview data from a doctoral research project, this paper explores the notion of entitlements in the context of the right to food and discusses the roles of community-based food projects in empowering rights holders to claim their right to food entitlements and address food insecurity in the long term.

This paper begins with an overview of community-based food assistance projects in two case study cities, namely York and Leeds. Then, it explores the experiences of users of community-based food pantries and food banks and their views on what they think they should be entitled to as rights holders in the context of the right to food. Next, it revisits the current models of community food assistance projects in the two case study cities and identifies entry points for transforming community food projects into sites for asserting right to food entitlements as defined by rights holders. Specifically, it discusses the potential of community food assistance projects in empowering individuals to assert their rights claims along three avenues, namely building individuals' resilience to move towards food security in the long term, organizing communities for everyday social activism, and serving as sites for public participation in local food policy making. Finally, the paper concludes with policy recommendations for local councils and practitioners to further harness the potential of community-based food projects in fostering rights-based responses to food insecurity.

98. 'More than Food Aid: Approaches to Food and Poverty in the UK. – Paul Milbourne

Recent years have witnessed more critical discussion of the relations between poverty and food, as well as responses to food-related poverty that extend beyond the food aid model. Important here have been efforts to position problems of food and poverty within the wider contexts of neo-liberal economic, food and welfare systems and associated policies. Attention has also been given to a range of 'more than food aid' initiatives, including social supermarkets, social dining projects and affordable food clubs, that are seeking to develop broader and more meaningful responses to food and poverty.

In this paper, I examine these 'more than food aid' approaches in the context of the UK. I draw on materials from on-going research on 'more than food aid' projects - operating at different spatial scales - to explore the shifting contours of the food support landscape in the UK. In particular, I consider how these projects are engaging with ideas of wellbeing, community, sociality, dignity and empowerment to develop more progressive approaches to food and poverty. I also discuss their relations with, and attitudes towards, food banking, as well as the

potential to mainstream the 'more than food aid' agenda and connect it with political debates about a Right to Food in the UK.

20: ‘We can grow anything here, but we can’t sell’: Market Participation in Food Surplus Rural Malaysia. – Yang Bong, Gregor Milligan, Georgiana Nica-Avram, John Harvey

Subsistence farming communities in food surplus regions often produce sufficient food for livelihood but struggle to convert surpluses into economic and nutritional security. This study examines how indigenous communities in rural Malaysia, despite being self-sufficient through farming and foraging, remain marginalised due to constraints in market access, limiting their ability to convert surplus crops to income, essential goods, education needs and dietary diversity [5, 8, 14]. Drawing from Amartya Sen’s entitlement framework [11, 12], which positions market participation as a critical entitlement to food security, this study urges the prioritising of market access, including via digital access, in subsistence communities within food surplus regions.

While food security frameworks emphasise accessibility as both ‘physical and economic access’ [7], research on the agency and capabilities required to participate economically in functional markets for accessing food remains underdeveloped [4, 16]. Studies show that access to functioning markets in subsistence settings remains a key challenge to dietary quality and long-term food security [8, 14]. Overlooking how market participation shapes food security [2], particularly via proliferating digital marketplace platforms that increasingly mediate trade, may hinder progress towards resilient food systems [10].

Based on qualitative ethnographic research, this study reveals how indigenous farming communities in remote Sarawak, despite cultivating and harvesting substantial crop yields, face significant barriers to accessing functional markets in trading agricultural surplus. Restrictive food security policies on rice exports further limit the ability of smallholder farmers to sell surplus rice internationally [1]. These constraints limit their ability to access the cash economy, while unsold crops are repurposed as livestock fodder. Outcome of these limitations not only impact the communities’ economic opportunities, but also undermine nutritional security, investment in agricultural inputs and other household needs, creating long-term cycles of vulnerability [9].

A key factor exacerbating this marginalisation is digital exclusion, which limits farmers’ ability to trade with wider markets [5]. Much food security research of subsistence communities overlook the importance of digital trade infrastructure and digital capabilities in accessing both physical and digital marketplaces [2, 13, 14]. Compounding these challenges, illegal rice smuggling from neighbouring countries further undermines market stability, driving down prices and demand for domestically grown rice. This leaves communities economically vulnerable despite their food production capacity and surplus. To counter these vulnerabilities, indigenous food-sharing networks, which have historically provided resilience against market instability [17], needs further strengthening rather than replacing.

This paper advocates for a food security framework that more prominently integrates market access and digital trade capabilities as access in food surplus subsistence communities, further extending the framework of agency as entitlements in food security as advocated by Chappell et al. [4]. Policy interventions should prioritise building functioning markets that are accessible, investing in digital and marketplace literacy [15], localised digital marketplace systems [3], and enforcing local trade protection. By addressing market engagement constraints, this study contributes to a more inclusive understanding of food security, where the

ability to trade is recognised as essential for resilient and sustainable rural food security.

STREAM 9B: Social Supermarkets, Community Fridges and 'regimes of practice'.

109 A National Survey of Affordable Food Clubs in the UK. – Greta Defeyter, Manik Puranik, Clare Relton, Clare Pettinger, Michelle Thomas, Rachel Sutton, Barbara Diouri, Jane Bradbeer, Jiang Pan, Lisa Howard, Paridhi Garg, Trisha Bennett, Carol Wagstaff

Affordable Food Clubs have emerged as an innovative response to food insecurity in the UK, providing direct food support in an environment that offers choice and preserves dignity. These clubs take various forms, ranging from pop-up pantries in church halls to established social supermarkets in town centres, and mobile grocers operating from converted buses. What unites them all is a shared purpose of tackling food insecurity, and three characteristics: people make a financial contribution, for food made available at a low cost, in the form of groceries (rather than pre-prepared meals). Whilst several qualitative studies have examined the impact of Affordable Food Clubs, few large-scale quantitative studies exist. To address this gap in the literature, in the summer of 2024, Feeding Britain conducted a comprehensive survey of 2,460 service users across their network of Affordable Food Clubs. The survey, available both online and in paper format, explored participants' shopping habits, the impact of Affordable Food Clubs on their health, diet, wellbeing, and access to services, as well as the price and perceived value of the goods offered. The results indicate that Affordable Food Club customers who worried they will run out of money to buy food tend to purchase larger quantities of it from their Affordable Food Club, leading them to perceive greater direct benefits from these clubs. These perceived benefits include being able to consume more (1) cooked meals (2) balanced meals, and (3) fruits and vegetables. This increase in perceived benefits, in turn, is related to improved wellbeing. These findings suggest that Affordable Food Clubs may not only promote more healthy eating practices but may also improve mental wellbeing for members of the public who worry most about access to affordable food.

35. Social Supermarket Knowledge Exchange: Principles and Best Practice. – Emma Beacom, Sinead Furey

Background

Approximately 10% of the Irish population struggle to access food. Food banks have responded to this need but are not a sustainable solution. In Northern Ireland (NI), social supermarkets (SSMs) have been piloted as an alternative response. In the Republic of Ireland (ROI) development of SSMs is limited, and there is an identified knowledge gap among stakeholders regarding how to implement and manage SSMs. This study will examine Standard Operating Procedures among SSMs in NI and will use a co-design approach to determine operating principles which should be standardised among SSMs, and operational aspects which can be customised by individual organisations.

Methods

This research takes a mixed methods approach and has three stages: rapid literature review, primary data collection (observations and interviews); and a knowledge exchange workshop where further primary data will be collected in the form of in-time survey responses.

Preliminary findings

Literature indicates that the Social Supermarket model is a less frequently used mode of food aid in comparison to food banks but the literature indicates a developing interest in, and piloting of, models of food aid provision which offer an element of choice. To date, the SSM model has been more common in certain regions particularly Europe and the United Kingdom, and terminology used varies across regions. For example, SSMs are referred to as 'community

shops' in Britain, and 'Emporia of Solidarity' in Italy (Andriessen et al., 2020). SSMs have the common characteristic of offering clients the ability to choose their own food, but there is some variation in their operating practices, for example monthly fee amount and rules relating to how much clients can spend per week and the number of items they can purchase (Andriessen et al, 2020). Most SSMs will also provide additional support services (Berri and Toma, 2023).

Food aid recipients can feel shame and a lack of dignity when using food banks, and pre-selected food hampers can lead to food waste if they do not meet clients' food preferences (Remley et al., 2010; Schweitzer et al., 2024). Therefore, a food aid model that allows recipients to make their own food choices is preferred (Mulrooney et al., 2023; Remley et al., 2010).

As SSMs are fairly limited in their adoption in comparison to food banks there is currently limited research on SSM operating procedures (e.g. barriers and facilitators), which further highlights the relevance of this work. However, the existing literature on SSMs and other literature on food pantries has applicable learnings and indicate that barriers to developing and operating a SSM include funding, lack of staff/volunteers needed to facilitate a choice model, and difficulties with procurement of food (e.g. logistical challenges in receiving the food, and/or difficulty setting up agreements with donation organisations due to concerns by donors that adequate food safety procedures are not being used) (Mousa and Freeland-Graves, 2017; Martin et al., 2023; De Boeck et al., 2017).

72. Food Insecurity in a Food Assistance Hotspot: The Case of Birmingham, England. – Yasmin Houamed, Susanne Jaspers, Iris Lim

Amid rising food insecurity and the expansion of automated governance in the UK, a range of digitalised food assistance practices has emerged. These include apps to source and distribute surplus food, digital food vouchers or debit-type cards, and broader government welfare schemes such as Universal Credit (digital-by-default since its rollout in 2013). Introduced for their apparent efficiency and inclusivity, little empirical evidence exists about their actual effect on food security. Building on fieldwork conducted in Birmingham between December 2024 and May 2025, this paper presents preliminary findings from the ESRC-funded Digitalising Food Assistance project.

Using concepts of political economy, 'regimes of practices' (Keen, 1994; Schaffer, 1984; Foucault, 2007), and the structural causes of food insecurity (Lang, 2010), this paper argues that the digitalisation of welfare has resulted in a regime of food assistance practices whose material and ideological effects extend beyond those explicitly stated by policy. This regime consists of localised food strategies, a proliferation of diverse food provisioning methods, and an orientation towards 'hubification'. By 'hubification', we mean the integration of disparate services within physical spaces that extend beyond food provision to include administrative, financial, and digital support or signposting.

This regime is underpinned by a neoliberal ideology of privatisation and individualisation. While it may help some individuals meet immediate food needs, it also excludes some of the most vulnerable groups, facilitates supermarket disposal of "waste", and risks reinforcing structural inequalities under the guise of integration and accessibility.

Our research in Birmingham provides a compelling case study of these issues. The city has developed a robust eight-year local food strategy, backed by a city-wide partnership of stakeholders across the food system, while operating under a Section 114 notice. The city's Food Justice Network Map documents more than 350 locations of Trussell Trust foodbanks, independent food banks and pantries, community cafés and hot meal providers, on-street food

outreach, and additional support. However, high levels of food insecurity persist across Birmingham's many diverse communities.

Hubification is conceptualised in various ways in Birmingham (e.g. libraries transforming into community connector hubs versus food banks offering wraparound services). On one hand, it reflects a grassroots effort to re-embed social services into local, physical spaces in response to the digitalisation of welfare. On the other, it risks further institutionalising charitable responses (Dowler, 2014) and entrenching a fragmented system in which ad hoc support replaces a coherent food security policy.

This paper provides a critical analysis of how the effects of digitalised food assistance, including hubification, operate within a broader regime of practices that compensates for inadequacies in social welfare and does not necessarily lead to improved food security.

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STREAM 9C: Improving Access to Nutritious and Safe Foods.

40. Fresh Street Voucher Scheme to Tackle Food Insecurity: Evaluating the Impact of Fruit and Vegetable Intake in Two Disadvantaged Communities in England. – Manik Puranik, Clare Relton, Jane Bradbeer, Clare Pettinger, Michelle Thomas, Rachel Sutton, Barbara Diouri, Jiang Pan, Lisa Howard, Paridhi Garg, Trisha Bennett, Carol Wagstaff

Background and aim:

Food insecurity remains a pressing issue, particularly regarding the affordability, availability and accessibility of fresh fruit and vegetables (FV) for individuals living within disadvantaged communities. Limited access to FV often results in an increased reliance on cheaper, high-fat, high-sugar, and low-fibre foods, contributing to poorer long-term health outcomes such as obesity, cardiovascular diseases, and type 2 diabetes. Whilst existing UK FV voucher schemes aim to support low-income households, many require proof of eligibility which can be a barrier to access and may contribute to stigma, discouraging participants. The project aims to identify the best way to integrate the FreshStreet voucher scheme into the local food system in areas of high deprivation, improving access to fresh produce.

Method:

Altogether thirteen streets from two locations: Reading and Plymouth were selected based on high indices of multiple deprivation (IMD). All households (n ~ 300 at each location) from these

streets could purchase and/or order FV at their local community centre from November 2023 (Reading) and January 2024 (Plymouth) using FreshStreet vouchers. Regular communications were provided to the community about FV availability and ongoing activities at their community centre to encourage engagement with the adjunct health and social care services. Physical access to the FV market stalls was open to everyone, however, only economic access (£10 FV voucher) was provided to the intervention streets. Importantly, eligibility was unrestricted, ensuring inclusivity irrespective of household size, composition, or income level.

To evaluate the effectiveness of this voucher scheme, researchers monitored FV purchasing patterns and voucher redemption rates. In addition to quantitative measures, qualitative insights were gathered through informal chats with households, offering a deeper understanding of their experiences, challenges, and perspectives on the scheme. Further engagement with vendors, community workers, and public health teams provided a broader view of how the initiative integrates with existing food systems and support networks.

Significance:
This scheme aims to enable households to choose their FV and makes FV more affordable and available for everyone in the community. The baseline FV consumption was low in the intervention and control streets in both geographic areas. However, at the end of the 12 months, an increase in FV consumption of 1.2 and 1 portion/person/day compared to the baseline was reported in Reading and Plymouth, respectively. The qualitative data in the Reading area demonstrated that the voucher scheme increased access (physical and economic) to fresh produce. It also fostered a sense of community as people shared vouchers to support one another. The detailed results will be presented at the conference.

24. Understanding the Perception of Millet Consumers in Nigeria: A Structural Equation Model Approach. – Ademiku Adeleye

Millet, a staple food with significant nutritional and environmental benefits, has experienced a decline in consumption in Nigeria due to various socio-economic and cultural barriers. This study employed Structural Equation Modelling (SEM) to investigate the factors influencing millet consumption in Nigeria, focusing on barriers such as sensory properties, availability, affordability, and consumer knowledge. The research explored how these factors vary among different consumer segments and their impact on consumer attitudes and behaviours toward millet. Data were collected from 209 respondents across urban communities in Nigeria, providing a robust sample for SEM analysis. The study revealed that while sensory properties and environmental benefits strongly influence the intention to purchase millet-based products, there is a notable lack of consumer knowledge regarding the preparation and nutritional advantages of millet, which negatively impacts its adoption. The findings show the need for targeted interventions that enhance the sensory appeal of millet products and improve consumer education on millet's health and environmental benefits. These insights are critical for policymakers, food producers, and agricultural stakeholders aiming to promote millet as a sustainable and nutritious food choice in Nigeria.

44. Consumption of Bushmeat After the Covid Pandemic: Implications for Food Security in Ghana. – Joshua Kwao Oduah, Collins Assante-Addo, Edward Eboonumah

The COVID-19 pandemic has significantly impacted food consumption patterns. In Ghana, bushmeat remains an important protein source and livelihood activity, yet the pandemic has influenced its consumption dynamics, raising concerns for food security. This study examines post-COVID-19 bushmeat consumption and its food security implications in the Greater Accra, Ashanti, and Bono-East regions of Ghana. Cross-sectional data from three hundred (300) bushmeat consumers were analysed using STATA 17, employing descriptive statistics,

multinomial logistic regression, structural equation modelling, and Kendall's coefficient of concordance (W). Findings show that cane rat (grasscutter), rat, and antelope are the most consumed bushmeat types due to availability and taste. Consumer preferences are influenced by gender, income, region, health risks, and price. Bushmeat variety and quantity positively affect availability, while high prices and low income hinder accessibility. Information access and community advocacy negatively impact agency. Key challenges include taste distortion, illegal hunting, public health concerns, and economic instability, affecting consumption stability. Major constraints include high prices, income limitations, zoonotic disease risks, and sales outlet distance. To enhance food security, policy recommendations include promoting farmed bushmeat production through training and research, offering smaller affordable portions, enforcing anti-poaching laws, and creating sustainable employment opportunities. Public health campaigns and community education are also essential for ensuring stability and sustainability in bushmeat consumption.

5. Consumer Trust in Food Safety in the Island of Ireland: The Brexit Effect. – David Omoniyi, Fiona Lalor, Sinead Furey

The United Kingdom's withdrawal from the European Union (Brexit) has introduced significant changes to food trade regulations, raising concerns about food safety, authenticity, and consumer trust in imported products. This study examines how Brexit has influenced consumer trust in the safety of food products imported from third countries (non-EU) compared to those from the EU. Using a cross-sectional survey of Island of Ireland consumers, the study assesses perceived risk, reliance on government information, and food fraud concerns. Statistical analyses, including t-tests and ANOVA, reveal significant differences in trust levels based on the country of origin, with consumers exhibiting greater scepticism towards third-country imports. Additionally, findings suggest that consumer reliance on government sources does not necessarily correlate with higher trust in food safety. The study also explores the relationship between perceived food fraud risks and preferences for locally produced foods. These insights contribute to understanding post-Brexit consumer behaviour, informing policymakers and industry stakeholders on trust dynamics in Ireland's evolving food landscape.

STREAM 9D: Food Literacy and Place Based Approaches.

43. The Impact of Food Literacy on Promoting Food Security and Health Among University Students: An Interventional study. – Amnah Jasem, Preeti Jetwah, Lisa Coneyworth.

Background: Food insecurity is a prevalent issue among university students, affecting their academic performance, mental health, and overall well-being. Food literacy interventions have emerged as a promising approach to improve food security status among vulnerable populations.

Hypothesis: We hypothesize that enhancing students' food literacy through theoretical education and practical cooking demonstrations will improve self-efficacy, a critical determinant of health behavioural change, improving food security status and preventing negative health outcomes.

Setting: University of Nottingham students (n=21).

Methods: Participants attended multiple visits over a 19-week period. We conducted a baseline screening visit at week 1 before starting the intervention. The intervention phase (weeks 1-8) focused on developing food literacy skills through an educational lecture and one practical cooking class. Participants received a food box with recipe booklet and a money voucher to practice these skills. To assess sustainability, a follow-up screening visit occurred at week 19.

Throughout the study, participants had body measurements taken, blood glucose sampling, completed online surveys, and participated in focus group discussions at different timepoints.

Results: The food literacy intervention significantly improved food security status, with mean scores decreasing from 6.77±3.61 at baseline to 2.00±2.20 post-intervention ($p<0.001$), with sustained improvement at 8 week follow-up (1.77±2.65, $p<0.001$). Food secure participants increased from 0% at baseline to 36.4% post-intervention and 50% at follow-up. Cooking confidence scores improved significantly from baseline (2.95±0.56) to post-intervention (3.32±0.46, $p=0.004$) and remained elevated at follow-up (3.38±0.46, $p=0.002$). Food behaviours similarly improved from baseline (2.77±0.53) to post-intervention (3.09±0.38, $p<0.001$) and follow-up (3.11±0.48, $p<0.001$). Health parameters showed significant improvements in HbA1c (5.38±0.48 to 5.24±0.31, $p=0.02$), general health perception (56.14±16.61 to 66.36±14.15, $p=0.003$), stress levels (15.55±8.83 to 11.82±7.0, $p=0.03$), anxiety (9.1±6.9 to 5.2±6.6, $p=0.02$), and sleep quality. Qualitative data from focus groups revealed five themes: Dietary Habits Improvements, Perceived Health Benefits, Intervention Effectiveness, Food Security Self-Efficacy, and Barriers with Corresponding Strategies. After the intervention, 86.3% of participants perceived themselves as food secure, with all participants reporting healthier eating while saving time. Sustainable healthy eating habits were developed by 59% of participants, and 72.7% reported feeling healthier overall. While "lack of time" was initially cited as the primary barrier by 68.1% of students, 45.4% subsequently adopted meal prepping as a time-saving strategy. Most participants (77.2%) recommended similar food literacy training for other students.

Conclusion: This study demonstrates that a comprehensive food literacy intervention effectively improved food security status and health outcomes among university students, with benefits sustained for 8 week follow up post intervention. These findings support implementing food literacy programs in university settings, especially for vulnerable populations such as international and first-year students.

55. An Exploration of the Interlinkages Between Food Literacy and Food Insecurity in the UK. – James Shepherd

Resilience theory argues that it is not the nature of adversity that is most important, but how we deal with it (Moore, 2019). Resilience is not limited to the individual but involves a transactional, dynamic process of person: environment exchanges including competence in daily functions which are influenced by diversity, physical, and mental ability (Greene, 2003; Masten, 2014; Southwick et al, 2014). Increasingly the term literacy is used to describe the knowledge and skills needed to navigate a range of societal systems including health and nutrition. The food literacy framework for action (Cullen et al., 2015) shows food literacy as the juncture where community food security and individual food skills intertwine and has been described scaffolding that empowers, protects, and strengthens (Vidgen & Gallegos, 2014).

The food insecure are often labelled as lacking these functional cookery skills and knowledge promoted as a route out of food insecurity, both in the press and in parliament (Hansard, 2023), which influences the general dialogue. Interventions purport to offer a means to addressing inequalities (Coveney et al., 2012, Dimbleby et al, 2021). Further debate exists as to the extent to which these interventions can be construed as effective alongside discussion on the actual impact for those accessing (Bocquier et al, 2015; Davison, Gondara, & Kaplan, 2017; Palumbo et al., 2019; Terragni et al, 2020).

By adopting emic -etic approaches involving interviews, focus groups and conversations conducted nationally with stakeholders, academics, commissioners, practitioners, and

beneficiaries This paper aims to address two research questions. Firstly, it examines the impact of food literacy on the incidence of food insecurity in the case of the UK and secondly, it investigates the wider roles of food intervention programmes within the UK and their effectiveness.

The main findings of the study underpin the statement that the notion of 'can you cook' cannot be answered with a yes or no. This is on the basis of uncovering potential misinterpretation of the imperative for skills enhancement, challenges around the dissemination of empirically sound nutritional information, and an increased need for contextual understanding. In particular, this is inferred around how cooking is valued, by whom, and what cooking may be considered to be. However, it is also noted that food insecurity limits the opportunity to leverage less tangible environmental factors associated with food literacy, and extended interventions offer benefits beyond the provision of emergency food and 'education'.

In addition, localism has seen many of the services considered the responsibility of the state devolved to the third sector, with interventions bolstered by volunteerism, bricolage, and sweat equity. In parallel to the debate on the sustainability of these perceived solutions and despite a shift towards agency and choice, challenges to the narrative of destigmatisation and increasing dignity linger.

60. Could Recipe Boxes be the Holy Grail for Food Insecurity? A Conversation on Their Potential, Research Gaps and Sustainable Funding. – Amanda Shiach

Context

Commercial recipe boxes, or meal kits, are a global success story with a forecasted revenue of $16 billion USD for 2025 (1). In the UK 5% of consumers order them at least monthly (2) and the projected U.K. spend for 2025 is over $1.5 billion USD (3).

They carry something of a health halo and are frequently promoted with a focus on fresh produce, alongside convenience and taste. These attributes have made them appealing, but they are unaffordable for many people. However, increasingly there are charitable or social enterprise recipes boxes distributed at low or no cost to the consumer. Anecdotally these are well received and are often tailored to be appealing and culturally appropriate to the communities receiving them. However, reliance on charitable funding makes them an insecure offer to the very families who are struggling; is a sustainable approach possible?

Furthermore, can recipe boxes offer more than the contents of the box itself? Is there a positive impact on food literacy, including nutrition? Or is it just accepted that this is a good way to offer food to families? Do we want to see a specific nutritional profile across the offer? Vidgen's definition of food literacy (4), has certainty, choice and pleasure at its nexus. Is it the case that recipe boxes deliver on those criteria and therefore increased use could see improved nutrition?

76. Neighbourhood based vouchers for local fruit and vegetables: what do we know about Fresh Street so far? – Clare Relton, Michelle Thomas, Manik Puranik, Carol Wagstaff

Background

Fresh Street is a place-based food system intervention designed to foster healthier connections and reduce food insecurity. Key features of this intervention are: (i) Vouchers exchangeable for fresh fruit and vegetables (FV), (ii) FV supplied by local independent retailers (not supermarkets), (iii) offered to all in area households, (iv) no requirement to prove need (no application forms) and (v) vouchers are paper and shareable.

Fresh Street has been implemented in three research projects in UK areas of high deprivation. In this talk we describe different ways the Fresh Street approach has been/ is being implemented. Key findings are summarised and recommendations made as to how to develop this approach to building healthier neighbourhood food systems.

Methods
We reviewed three research projects in terms of the feasibility and acceptability of this place-based FV voucher intervention (Fresh Street).

Results
The project settings, designs and methods varied.
In total Fresh Street vouchers have been offered to 1000+ households in eight neighbourhoods (35 streets and one block of flats) in seven urban neighbourhoods (Barnsley, Sheffield, Doncaster, Bradford, Tower Hamlets, Reading, Plymouth) and one village (Manton, Nottinghamshire). Most (n= 6) neighbourhoods were food deserts. The number of households eligible in each project ranged from 40 to 545. An efficient scalable paper voucher system (safe, secure, easy to use) was developed with a commercial provider (A1SP) during projects two and three.

Two projects used established retailers (FV shop, van, market stalls). The remainder set up new retailers (weekly pop-up stalls) in community centres or community gardens. Vouchers were distributed either weekly or fortnightly using either doorstep delivery (envelopes +/- door knocking) or collection from the local community hub.

Duration of intervention ranged from 14 to 74 weeks. Two sites continuing the intervention beyond the project lifetime. Fresh Street Community is delivered by Whitley Community Development Association and funded by Reading Borough Council. Fresh Street Community Garden is funded and delivered by Bassetlaw Community Volunteer Service.
To evaluate the acceptability and impact of this voucher scheme, operational data (e.g. household uptake, voucher redemption rates) were monitored. Two projects used control groups (one randomised clusters i.e. streets) and both assessed self-reported FV consumption at baseline and project end using surveys. In all neighbourhoods FV consumption increased compared to baseline (and non-voucher control groups).
Insights into impact were gathered through conversations and "Food and Well-being" chats with households and community representatives. Householders reported a wide range of impacts were described (better physical and mental health, reduced food insecurity). Community leaders and representatives reported better health, increased community connectivity and reduced social isolation.

Discussion
Voucher schemes vary widely in how they tackle food insecurity, bring communities together and help develop local food assets. Most FV voucher schemes target individual low-income families and require individuals to apply and state their low-income status. In contrast Fresh Street takes a place-based approach which minimises potential stigma and facilitates connections. Further research is needed to assess the role of this place-based approach in building fairer, healthier, and more resilient local food systems.

STREAM 10. Cultured Meat: Present and Futures. - Neil Stephens Eric Shiu
STREAM 10A:

53. Culturing Meat: Engaging with Art in the Flesh in Butcher's Row, Barnstaple. - Naomi Hart

Meat is fundamental to so many cultures, and for some a way to define ourselves, either supporting or vilifying its consumption. Working with an interdisciplinary team of scientists - a social scientist, a biochemist and a lawyer - artist Naomi Hart created a mobile sculpture, 'Mana', which was paraded through the streets of Barnstaple, North Devon, to whet people's appetites for discussion and thinking around the concept of lab-grown meat. A striking, seven foot mannequin sculpture, with the head of a cow-god/dess and a string of fake sausages around the neck, prompted people's comments and questions. We invited the public to sit at a table with us; to listen, converse and share fears, concerns, hopes and ideas on the meaty subjects of food, farming, climate, big-tech, biodiversity, animal cruelty, spirituality and human-animal interactions.

We sat down with farmers, vegans, tourists and locals, to see what people knew and thought about 'cultured meat', what they didn't know, and what they hoped or feared from its future. Using art as the mechanism, we created collages together. We began by cannibalising a pile of glossy magazines with scissors, then adding some paper and glue. With these basic ingredients, people constructed their own visions of the future of cultivated meat.

In this presentation, demonstrating how art can provide a valuable way in for engagement, Naomi will share images of the art, discuss the inspiration behind 'Mana' and the making of the sculpture, as well as the ideas around the methodology and psychology of making collages together to aid conversation.

She will discuss her approach to the collaboration, from the bones of the idea, through the process of working as an artist with a group of scientists, and some of the serendipitous situations which contributed to a fruitful engagement with the public in and around Barnstaple.

47. Dominant and Competing Narratives of Cultured Meat. - Neil Stephens

Cultured meat – the growth of muscle and fats cells for consumption as food – was first sold legally for human consumption in Singapore in 2020, and more recently as dog food in the UK in 2025. The dominant framing used within the sector is that cultured meat is a technology that seeks to produce meat as we know it, but through a sustainable and ethically superior production process. This framing was embedded and rendered most visible 2013, when the world's first cultured burger was presented and tasted at a London press conference, in a narrative that has remained central until today. My own work on this topic began in 2008, when, working from a Science and Technology Studies (STS) perspective, I started tracking the technology, and subsequently, began a sustained project of interviewing scientists and entrepreneurs involved in the sector. Across this time I have built up an analysis of how cultured meat has been constructed and positioned by those developing and supporting it. In this paper, first, I will analyse this dominant narrative, to make clear how the use-case, economics, and ontology are configured around a specific model of social change. Second, I will then outline a set of alternative but instantiated narratives that configure cultured meat differently, invoking alternative use-cases, economics, and ontologies. The paper will argue that cultured meat remains within a process of becoming that is deeply shaped by asserted but contested normative framings and futures.

93. Prospect of Diffusion of Cultured Meat and the Public's Initial Responses. - Eric Shiu

For a radically new product such as cultured meat to be successful in the market, it needs to pass through a five-attribute test first introduced by Rogers. This study will use Rogers' diffusion

theory to discuss the prospect ahead for this product. The product will also be examined in light of the chasm theory to find out if it will face the fate as predicted by the chasm theory.

Then this study will do a small scale investigation into the public's initial responses to cultured meat including factors they would consider in purchasing or not as well as exploration into the best name for this product.

When communicating a new product to consumers for their likely purchase, product naming becomes crucial because it can influence the communication effectiveness of the intended information of the new product. New product managers always need to check if the product name most accurately describes the information they intend to deliver to consumers.

Apart from accuracy, product naming also needs to consider acceptability. An accurate product name doesn't necessarily imply this name is acceptable to consumers. For example a long product name using complex language may serve well in accurately describing the new product, but it is not likely to be well perceived by consumers because the name sounds too long and complex.

In addition, due to the radical and environmental friendly nature of this product, distinctiveness and environmental friendliness are also included as criteria in evaluating the different names in this study.

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STREAM 10B:

73. From Unnaturalness to Disgust: How Perceived Risk Influences Cultured Meat Acceptance. - Ekin Kosegil, Gulbanu Kaptan, Paul Rozin

Research suggests perceived unnaturalness and disgust as the two key barriers to consumer acceptance of cultured meat. Furthermore, perceiving cultured meat as unnatural can lead to disgust. However, the mechanism underlying the relationship between perceived unnaturalness and disgust is not yet known. We hypothesize that perceived risk mediates the relationship between unnaturalness and disgust. The same risks associated with meat consumption were much more acceptable for traditionally produced meat compared with cultured meat. Cultured meat was perceived as less natural, leading to a lower acceptance of potential risks associated with its consumption compared to traditional meat. Since the effects of cultured meat are unknown, people likely assess its risks based on mechanisms such as disgust, which is a risk avoidance system functioning to protect an organism against potentially harmful agents. We collected data from a representative sample of UK consumers (N=750) through Prolific. We will conduct a path analysis to test our hypothesized model. We expect that perceived risk explains the relationship between the perception of unnaturalness and disgust, which are two significant barriers to the acceptance of cultured meat and are challenging to alter. However, by highlighting the mediating role of perceived risk, we aim to design effective risk communications to influence risk perceptions, thus increasing consumer acceptance. We will discuss our results in light of our findings and the existing literature.

97. The Influence of Pre-Attitudinal Beliefs, Knowledge, Food Neophobia, and Cultural Integration on the Purchase and Continued Consumption of Novel Food Alternatives. - Xiao Wang

As global food systems face growing sustainability challenges, novel food alternatives (NFAs), such as plant-based meat, cultured meat, and insect-based foods, are increasingly promoted as viable solutions. However, their widespread adoption remains constrained by psychological, cultural, and informational barriers. This study examines how health consciousness, environmental concern, knowledge, food neophobia, and cultural integration influence both the purchase and continued consumption of NFAs.

Beyond the decision to try NFAs, habit formation and sustained consumption play a crucial role in determining their long-term success. While health consciousness and environmental concern may drive initial willingness to experiment with NFAs, their impact on regular consumption remains uncertain. Knowledge (both objective and subjective) is expected to enhance consumer confidence, reinforcing habitual consumption over time. In contrast, food neophobia may serve as a psychological barrier, hindering the transition from trial to long-term dietary integration. Additionally, exposure to diverse diets and cultural influences may shape how easily NFAs become part of consumers' everyday eating habits.

This study adopts a survey-based quantitative approach, collecting data from a diverse consumer sample to analyse key determinants of both adoption and sustained consumption. The findings will contribute to consumer behaviour theory, offering insights into the interplay between psychological and informational factors in shaping not only purchase decisions but also long-term dietary habits.

99. Navigating Incongruity: Clustering Consumer Responses to Cultured Meat for Sustainable Food Futures. - Min Yeong Son, Eric Shiu, Raphael Akamavi

Global challenges demand sustainable food systems, positioning alternative proteins, such as plant-based and cell-cultured options, as key solutions. However, consumer acceptance remains limited by ingrained preferences and cultural ties to traditional foods. Government

investments in alternative protein research, exemplified by EU and US initiatives, aim to reduce the environmental impact of conventional agriculture. Yet, shifting consumer trends and uneven adoption of these innovations underscore the complex interplay of factors shaping their perceptions. Understanding the perceived disconnect between future food technologies and consumer expectations is essential to bridge the gap and enhance their acceptance.

This research explores how arousal gaps, emotions, and cognitive engagement cluster to form distinct consumer segments with varied responses to product incongruity. Drawing on Berlyne's (1960) arousal theory and Mandler's (1982) schema theory, it highlights the limitations of prior studies examining these factors in isolation. Using cluster analysis, it identifies these segments and examines their response pattern of incongruent products to improve marketing strategies.

This research design uses cluster analysis to segment U.S. consumers into homogeneous groups based on psychometric traits. It uses a sample of 250 adults, recruited via convenience sampling through Prodege and Qualtrics, targeting a broad U.S. population. Data is collected using online surveys with product stimuli (Tofu based meat vs lab-grown meat) across four conditions of incongruity and innovation locus. Variables like arousal gap, anxiety, curiosity, resolution capability, product knowledge, and trait innovativeness for analysis. Cluster analysis identifies distinct consumer profiles, complementing multilevel modeling by uncovering patterns for market segmentation.

Cluster analysis highlights the interplay of arousal gaps, emotional states, and cognitive engagement in shaping consumer responses to incongruent products. This shows varied segmentation across four conditions that guide tailored marketing strategies for effective product positioning. Consumer reactions differed significantly. For instance, some conditions displayed diverse responses driven by arousal gap, emotions, and cognitive processing, while others showed limited variation, focusing only on arousal gaps and resolution—potentially signalling avoidance or rejection.

A concrete result from this analysis is that in Conditions 2 and 3, where only arousal gaps and resolution varied significantly, the 'Frustrated Processors' cluster emerged as a distinct group affecting consumer responses. This consistent pattern of processing difficulty signals avoidance or rejection of core enhancements in extremely new products (Condition 2) and peripheral innovations in moderately new products (Condition 3). This provides a clear directive for marketers to adjust innovation framing to reduce consumer withdrawal.

By integrating arousal gap dynamics, schema incongruity processing, and contextual influences into a theoretical framework, this research underscores how innovation locus (core vs. peripheral) and incongruity levels shape individual-specific reactions. This cluster-based approach offers practical insights for marketers and product developers, providing a detailed framework to align innovation strategies with diverse consumer profiles, enhance future food product evaluations, and improve market success through precise segmentation and targeted positioning.

Keywords: Alternative proteins, Cultured Meat, Future Food product incongruity, Innovation locus, Arousal Gaps, Emotions, Cognitive engagement, Cluster analysis, Market segmentation, Targeted marketing

STREAM 10C:

16. A Recipe for Success: Predictors of Cultivated Meat Provision by Parents of Children in Primary and Secondary School. - Jason Michael Thomas, Emma Alving-Jessep, Claire V. Farrow, Eirini Theodosiou, Nicola J. Tuck, Katie L. Edwards, Jean-Baptiste Souppez, Jacqueline M. Blissett

Novel and potentially sustainable alternative meat products, such as cultivated meat, face many barriers when entering the consumer market, yet, these are less well explored with children and their parents, who comprise a significant proportion of the consumer market. Across two online cross-sectional survey studies, the factors that influence the likelihood of trying and regularly consuming cultivated meat were investigated, with a focus on parents, their children, and the family. Study 1 recruited UK parents of children aged 6-10 years old (n=475) and study 2 recruited UK parents of children aged 11-15 years old (n=453). Both presented questionnaires relating to the parents and their children, including measures of eating behaviour, neophobia, and child temperament, along with specific items to determine the likelihood of trying and regularly consuming cultivated meat. Regression analyses revealed that in both studies: familiarity with cultivated meat, acceptance of new technologies and processes, and attitudes towards cultivated meat predicted how likely parents were to provide cultivated meat, to try and regularly consume, for themselves, their children, and their family. Acceptance of cultivated meat, and attitudes towards conventional beef generally predicted these outcomes also. Child and adult eating behaviour, and child and adolescent temperament, selectively predicted outcomes. Parents were more likely to provide cultivated meat if their child was more responsive to food, showed a greater enjoyment of food, or was a slower eater. Parents, who engaged in more emotional eating (over or under) were more likely to provide cultivated meat, whereas parents who were more responsive to their own satiety, showed greater food disgust, food fussiness or food neophobia, were less likely to provide it. Provision also depended upon temperament, with child shyness and sociability predicting provision for the 6-10 year olds, and adolescent activation control, frustration, inhibitory control and aggression predicting provision for 11-15 year olds. Together, these findings are useful for theory development, but also indicate generic targets that may be useful to enhance the acceptance of cultivated meat (e.g., educational campaigns to increase familiarity).

75. “Cultured Meat, Factory Slop and Tinfoil Hats”: How Alternative Proteins Feed the Culture Wars, Digital Capitalism and Creeping Authoritarianism. - Alexandra E. Sexton, Michael K. Goodman

From Greta forcing us to eat bugs, to Bill Gates funding alternative proteins so he can buy up empty farmland, to US states banning the future manufacturing and sale of cultured meat, alternative proteins (APs) are central to contemporary culture wars and conspiracy theories. This speculative paper situates APs, and food more broadly, within the various stripes of the culture wars raging in digital and ‘real world’ spaces and places. We first situate APs within these different strands of the culture wars, arguing that food—and cultured meat in particular as something ‘novel’ and ‘less knowable’—is particularly well-made as a target of the culture wars. What we or ‘others’ eat has always been connected to classism, racism and gender dynamics and APs are no different in this regard. We then explore the ways that the rhetorics surrounding APs, particularly from right-wing authoritarians, work to uphold numerous hierarchies, spread toxic masculinities and feed into conspiracy theories on global elites and what is increasingly known as ‘conspirituality’. We conclude with a discussion of how AP culture wars and the outrage, memes and trolling that sustain them are a function of, but also substantial contributor to, our current era of digital capitalism and creeping (online) authoritarianism.

54. Misinformation on the Menu: Analysing X (Twitter) based Conspiracy Theories about Cultured Meat. - Gouste Pivoraite, Shaofeng Liu, Saeyeon Roh, Guoqing Zhao

Cultured meat (CM), which is produced through the cultivation of animal cells rather than conventional livestock farming, has emerged as a potential solution to food security, sustainability, and animal welfare challenges. Despite its potential benefits, CM remains subject to public scepticism, that can be influenced by misinformation and conspiracy theories found on social media. This study explores how conspiracy theories circulating on Twitter may shape public perceptions and decision-making regarding CM acceptance. Using an analysis of Twitter conversations, the research combined machine learning techniques (BERTopic) with qualitative thematic review to uncover conspiracy-related narratives and their implications for consumer attitudes. Preliminary findings indicated public concerns linking CM to perceived hidden agendas, biotechnology fears, and distrust toward influential entities. These conspiracy theories may negatively influence consumer perceptions and pose barriers to the acceptance and commercialisation of CM. This research highlights the need for industry stakeholders and policymakers to address misinformation proactively through transparent and factual communication. By understanding how conspiracy beliefs form and spread, effective strategies can be developed to counter misinformation and encourage more informed consumer decision-making regarding novel food technologies. Future work will further investigate these narratives across social media platforms and incorporate detailed sentiment analyses to deepen the understanding of consumer scepticism toward cultured meat.

STREAM 11. Sustainable Crop Production and Improved Crop Quality. - Christine Foyer

12. Markers for Light Use Efficiency in Lettuce: Towards Sustainability in Indoor Agriculture. - Robert Hancock, Raymond Campbell, Kyriakos Varypatakis, Sanjeev Kumar Sharma

Indoor agriculture presents opportunities for year-round crop production on a small footprint close to centres of population providing the capacity to produce high quality crops independent of environmental influences. Moreover, given the density of production, the rapid production cycles and the capacity to significantly reduce supply chain length; the technology has the potential to add to UK food security and sustainability. However, a key input is the need to generate artificial light requiring significant energy inputs that are not required in conventional agriculture. While there have been great developments in improving lighting efficiency with LED efficiencies increasing approximately 6-fold from the early 2000's (Pattison et al., 2018), less attention has been paid to adapting the crop to the growing environment.

To address the problem of crop adaptation, we have focussed on the identification of germplasm and markers that have improved light use efficiency (LUE) under conditions of low light typical of indoor agriculture. Using an F7 population derived by crossing Romaine and Iceberg types of Lactuca sativa, we conducted light (A/i) and CO2 (A/Ci) response curves allowing us to derive photochemical and biochemical parameters associated with CO2 assimilation. For the majority of derived constants, we observed a 2-fold difference between lowest and highest values across the population. Population genotyping has been conducted by GbS and the identification of quantitative trait loci associated with light use efficiency are under investigation. Future work will address the relationship between LUE, biomass assimilation, nutritional and flavour qualities of the plants.

PM Pattison, M Hansen, JY Tsao (2018) LED lighting efficacy: status and directions. CR Physique 19:143-145

19. Protein and Nutrient Losses in Forest Tree Seeds Under Elevated Atmospheric CO2. - Christine Foyer, Barbara Karpinska, Rosa Sanchez-Lucas, Andrew Plackett, A. Rob MacKenzie

While the global increases in atmospheric CO2 levels increase plant growth, the negative impacts are often overlooked. Here we present evidence that acorns produced by mature oak trees under elevated CO2 at the Birmingham Institute for Forest Research (BIFoR) free air carbon enrichment (FACE) site for 8 years had less protein but more phosphate and phytate at maturity than air-grown controls. Elevated CO2 significantly altered the acorn transcriptome and proteome profiles decreasing metabolic pathways involved in the flow of carbon into amino acids and secondary metabolites. We demonstrate that in long-lived trees elevated CO2 produces similar sized acorns that contain less protein by redirecting metabolism to deal with excess carbon, while triggering nutrient deficiency responses. These findings predict a future carbon-rich, nutrient poor diet for animals and insects in natural ecosystems.

48. Expert Assessment of the Potential of Regenerative Farming for Delivering Sustainable Crop Production. - Nicholas Girkin, Kenisha Garnett, Ezekiel Mugende

Regenerative farming describes a range of crop, soil and water management practices with potential to address wide-ranging agricultural sustainability issues. However, in many cases we lack extensive evidence on the whole system benefits and trade-offs from adoption, and it is not always clear how benefits will translate across crops, soils, or geographies. We used expert assessment to assess the benefits of three regenerative farming practices (intercropping, organic, and agroforestry) on crop yields, soil carbon sequestration, biodiversity and profitability, drawing on the expertise and knowledge of researchers, and practitioners globally, investigating trends in wheat, cocoa, tea, coffee, palm oil, and bananas. We created a series of online surveys for each crop, and gathered contributions from over 150 experts globally. We

identified a broad consensus that regenerative farming can significantly benefit all measured metrics of sustainability, but such benefits can vary between crops and the type of intervention. In wheat, we identified that benefits are likely to decline over time under a changing climate (although were best maintained under agroforestry), suggesting that certain practices may have potential for enhancing the long-term resilience of global crop production.

78. Europe's First Gene-Edited Crop Growers? - Jonathan Menary, Stacia Stetkiewicz,Skye Melita

Gene editing has been promoted to improve food system sustainability and the Genetic Technologies (Precision Breeding) Act 2023 has paved the way for gene-edited crops in England. However, someone has to grow, process and sell these crops, but little work has so far involved farmers and the agri-food industry to assess the risks, benefits and impacts of crops with specific traits – here we present our work on the PROBITY project, a Platform to Rate Organisms Bred for Improved Traits and Yield, which engages farmers and agri-food industry to discuss three specific crop improvement strategies for wheat and barley.

We have so far conducted a rapid evidence synthesis of research involving farmers and gene editing in agriculture and two workshops with farmers and other agri-food stakeholders in the UK; through our review we found relatively little academic research that involves farmers in primary data collection (n=8) and none focussed on the UK. Two grey literature reports do engage UK farmers in these discussions. Where it is measured, the evidence shows many farmers are interested in the technology, with the notable exception of agroecological farmers who have long been against directed mutagenesis in crop plants. However, the paucity of papers and the inconsistency in methods and terminology makes comparison challenging, as does the lack of literature on low-income country contexts. As such, we suggest research now focusses on potential implications for gene editing in England, such as isolation distances, safety and risks assessments, trait targets and development, labelling, traceability, contamination and trade, whilst also balancing research between higher and lower income countries and demographic groups.

We identified a number of important themes through our workshops with agri-food stakeholders (n=20), particularly around traceability, labelling and supermarket and consumers attitudes towards gene editing. Participants highlighted the need for clarity on the secondary legislation that will operationalise the Genetic Technologies Act, particularly around intellectual property, which it was hoped would ensure benefits across the supply chain rather than only with developers.

Future work will focus on engaging those farmers who will be part of Europe's first gene-edited crop trials and the wider agri-food industry to explore perceptions around the traits being developed in wheat and barley, as well as probing the issues raised through the rapid evidence synthesis and workshops.

STREAM 12: Food, Digital Footprints, and Big Data: How Can Records of What We Buy and Consume be Used for Social Good? - John Harvey

STREAM 12A:

67. The Introduction of Low-alcohol Wines in Retail Outlets and Its Impact on Alcohol Purchases in Finland. - Henna Vepsäläinen, Maijaliisa Erkkola, Mikael Fogelholm, Hannu Saarijärvi, Jaakko Nevalainen

Background: Finland has traditionally restricted the availability of alcohol by running a state monopoly, which is the only off-premise outlet licensed to sell all alcoholic beverages regardless their alcohol percentage. However, recent amendments to the Alcohol Act have increased the availability of alcohol in Finland. From June 2024 onwards, all retail license holders were authorized to sell fermented alcoholic beverages containing up to 8% alcohol by volume. As a result, a new product category was launched in Finnish retail outlets: low-alcohol wines. Earlier studies have shown that the introduction of new no- and low-alcohol beers might lead to replacement in purchases from higher strength beers reducing the amount of purchased alcohol. However, this phenomenon seems to be restricted to beers and not contribute to lower total alcohol purchases on a population level in any significant way. The recent amendment in Finland and the consequent introduction of low-alcohol wines in retail outlets gives an exceptional opportunity to study the impact of increasing alcohol availability through low-alcohol products on alcohol purchases across different population groups.

Methods: To produce a preliminary understanding of the effects of the amendment at population level, we explored statistics on sales of alcoholic beverages produced by the National Supervisory Authority for Welfare and Health (Valvira). These statistics describe the sales of alcoholic beverages by manufacturing and wholesale license holders to retail outlets. For a more detailed analysis, we will use purchase data from the largest grocery retail chain in Finland. This data covers six years (2019—2024) and contains food purchases of 42,340 loyalty card holders. The data includes the purchases of beer, cider, ready-to-drink beverages, and wines, and is available for analyses in April 2025. We will calculate the purchased volume of 100% alcohol in total and from wines. The effects of the amendment will be studied using interrupted time series analysis.

Results: The statistics revealed that overall, total sales of 100% alcohol seemed to slightly decline between 2021 and 2024. Similarly, wine sales (in litres of 100% alcohol) for the state monopoly showed a decrease towards 2024. In contrast, wine sales to other retail outlets recorded an increase in June 2024 following the amendment. More detailed results from the purchase data are available in April 2025.

Conclusions: Statistics show that overall alcohol sales may be on the decline. However, there are indications that the amendment particularly affected the sales of wine with more wine being sold to other retail outlets. These ambiguous results suggest that alcohol purchases should be investigated further. Of particular interest is whether the emergence of a new product category of low-alcohol wines has an impact on overall alcohol consumption. It is also important to consider other factors that influence alcohol purchases, such as the price of alcohol. As the availability and price of alcohol may affect the purchasing behaviours of population sub-groups in different ways, stratified analyses are necessary to identify groups at risk for harmful alcohol use.

70. Food Insecurity, Consumer Purchasing Patterns, and Preventable Mortality: A Machine Learning Analysis of Retail Data. - Elizabeth Dolan, Gavin Long, John Harvey, James Goulding

Retail purchasing data provides insights into dietary behaviours that influence health inequalities, particularly in the context of food insecurity. This study examines how consumer transaction data can predict preventable mortality under 75 years, focusing on circulatory disease and cancer. By integrating socio-demographic data with retail purchasing records, we assess the role of food purchasing behaviours in shaping health outcomes.

A Random Forest Regressor model was developed using ONS Census data (2011) and anonymized Co-op customer transaction records (July 2019–April 2021) across 1,703 Middle Super Output Areas (MSOAs). The model was trained and tested on a 30% held-out test dataset, predicting preventable deaths from all causes with an R^2 of 0.70, a mean absolute error (MAE) of 12.96, and a root mean square error (RMSE) of 16.52. Performance varied by disease category, with circulatory disease mortality predicted at $R^2 = 0.48$ (MAE = 16.54, RMSE = 20.64) and cancer mortality at $R^2 = 0.40$ (MAE = 12.11, RMSE = 15.58).

SHAP (Shapley Additive Explanations) analysis confirmed that food purchasing patterns were predictive of preventable mortality and highlighted differences between disease models. Calorie-Oriented Purchasing (COP), which measures the tendency to maximize calories for money spent (total calories purchased divided by total money spent), was more important in cancer mortality prediction than circulatory disease. This suggests that high-calorie, low-cost purchases may reflect economic constraints that influence diet and long-term cancer risk. Sodium-containing products were more important for circulatory disease, aligning with known links between sodium intake, hypertension, and cardiovascular outcomes.

Soft drinks and fruit and vegetable purchases were key predictors in all models. The relationship between soft drinks and circulatory disease mortality aligns with research on cardiovascular risks. Areas with higher mortality consistently showed lower fruit and vegetable purchases, reinforcing the role of dietary quality in disease prevention.

Further analysis examined the relationship between COP and the Index of Multiple Deprivation (IMD) 2019, which measures deprivation in England. COP was higher in more deprived areas, suggesting economic constraints drive greater reliance on calorie-dense, low-cost foods, reinforcing links between deprivation, diet, and health risks. This relationship remained stable from July 2019 to April 2021 despite seasonal fluctuations, such as summer declines and Christmas increases, which occurred across all IMD deciles but did not change deprivation-related differences in COP.

These findings demonstrate how retail data can inform food policy and public health interventions, particularly in addressing food insecurity. Targeted promotions for healthier options could be implemented at the MSOA level, focusing on areas with higher predicted mortality under 75, where food purchasing patterns play a key role in risk. Public health strategies must also consider how economic constraints shape dietary choices, as reflected in the importance of Calorie-Oriented Purchasing (COP) across all our predictive models.

Further research requires cross-sector investment and access to higher-resolution health data, such as LSOA-level records, to refine understanding of the links between food, socioeconomic factors, and health. Strengthening collaboration between retailers, public health agencies, and policymakers will allow these insights to be applied to targeted interventions.

28. Climate Change Aggravates the Overconsumption of Added Sugar in the U.S. especially in Disadvantaged Groups. - Pan He, Zhuojing Xu, Duo Chan, Pengfei Liu, Yan Bai

Climate change with frequent extreme heat may affect consumption of added sugar due to increased demand of drinks and frozen desserts. The health and economic burden attributed to added sugar intake has become the leading factor for premature death in various countries and regions. However, the magnitude of such impact is rarely quantified. This study estimates the relationship between temperature and added sugar consumption of the U.S. households from 2004 to 2019 using individual transaction-level data. We find that the added sugar consumption is positively related to temperature, notably within 12°C-30°C at a rate of 0.74 g per °C. This increase is primarily driven by the higher consumption of sugar-sweetened beverages and frozen desserts. Further analysis reveals that the temperature-dependent rise in sugar consumption has larger magnitudes among households with lower income or educational levels. Our projections indicate a substantial nationwide increase in added sugar consumption of 3.25 g/day by the year 2095 (or equivalently 5°C warming level), with the most vulnerable groups at an even higher risk based on the warming trajectories. Our results highlight the critical need for cross-sectoral policies to adapt to climate change and mitigate health risks from over-intake of added sugar.

STREAM 12B:

89. Harnessing AI in Nutrition: A Comparative Analysis of AI Models for Dietary Recommendations. - Pheobe Hammond, Nikhil Deshpande, Kyle Harrington, Aislinn Gomez Bergin, Aly Magassouba

Abstract

Currently, the UK faces a growing epidemic of nutrition-related illnesses, with over “3 million people malnourished or at risk of malnutrition” (Holoway 2021). Many individuals struggle to maintain a balanced diet, contributing to conditions such as obesity, type 2 diabetes, and cardiovascular disease. Post-hospital discharge also lacks support, “with 51% of patients not receiving contact information for further nutritional support (NHS) (November 2023)”. Poor metabolic health and insufficient aftercare worsen health outcomes, highlighting the urgent need for innovative solutions. This study explores whether AI could enhance post-discharge nutrition care, improve dietary management, and support long-term health maintenance. We investigate the use of AI in nutrition by comparing several AI models and evaluating their practical uses.

AI Models in Nutrition.

During our study we evaluated models like GPT-4 and Co-Pilot, which provide personalised dietary advice using natural language processing. We compared these models with dietary tracking apps, such as MyFitnessPal, and emerging VR-driven AI companions, such as Replika.

Real-world Evaluation

To systematically assess AI tools, we developed specific evaluation criteria focusing on:

Accuracy & Reliability – Measured how well AI-generated recommendations aligned with evidence-based dietary guidelines (e.g., BDA and NHS frameworks).

Adaptability – Assessed the flexibility of AI models in responding to diverse patient needs, including comorbidities and dietary restrictions.

Accessibility – Evaluated usability for patients with different digital literacy levels and potential barriers such as age or socioeconomic status.

NHS Integration Potential – Analysed whether AI tools could realistically be implemented within NHS systems, considering cost, scalability, and compliance with GDPR and data security standards.

To assess AI’s ability to personalise recommendations, we conducted role-play scenarios

representing different patient profiles, including:
An 80-year-old male post-hospital discharge for osteoarthritis.
A 14-year-old female post-knee surgery on antibiotics with a nut allergy.

We also tested the AI's response to dangerous eating habits, such as eating disorders, and harmful food items for individuals on medication or with allergies.

The results indicated that while LLMs such as GPT-4, Co-Pilot, and Llama excel in generating personalised dietary recommendations, their adaptability to individual patient needs remains a challenge. LLMs, though structured and evidence-based, often lack flexibility in handling complex dietary requirements. Dietary tracking tools were effective for general use but struggled with NHS integration and accuracy in portion estimation. VR-based AI companions showed promise in behavioural coaching, offering motivation and habit tracking, which could enhance long-term dietary adherence. However, accessibility, digital literacy, and data privacy concerns remain key challenges. Through our red teaming questions, we noticed that LLMs were able to make dietary recommendations that protected the service user. LLMs did not refer users to professional help such as practitioners, dietician or national health services websites.

Conclusion
Despite its promise, AI in nutrition has several major obstacles, such as bias in datasets, ethical challenges, and restrictions on cultural adaption. Their incorporation into NHS care must be improved for patient-specific requirements and accessibility. AI's involvement in nutrition could be strengthened by addressing these concerns through increased adaptability and ethical protections, assisting with long-term nutritional monitoring and post-discharge care.

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96. Unpicking Consumer Emotions Associated with Ultra-Processed Foods. - Paul Frobisher, Weiyao Meng, Mina Forrest
Ultra-processed foods (UPFs) dominate modern diets, sparking debates over health, sustainability, and ethics. However, there remains much confusion on their definition, which extends to consumers. Transactional data such as purchases and loyalty cards show us what we consume, yet a richer dimension emerges from the emotional narratives woven into our digital footprints that reveal how people understand and feel about these products. Think Better World (TBW), an initiative led by Strategic Innovation Ltd through a Knowledge Transfer Partnership with the University of Nottingham's N/LAB, harnesses AI-driven analytics to explore this emerging research field. TBW is building a novel dataset from diverse narratives surrounding digital sources ranging from online reviews and web forums (e.g., Mumsnet) to social media and government/policy documents. By decoding the emotions and themes tied to UPFs, this study investigates how these narratives enrich consumption records and offer insights that can then inform action for social good.
Using emotion detection (e.g., fear, delight, frustration, anger) and topic modelling, TBW unpicks drivers of UPF perceptions, including concerns around health, nutrition, convenience, indulgence, affordability, food waste and sustainability. Strategic Innovation's 15 years of food system expertise, paired with cutting-edge AI methods, transforms this data into actionable understanding. For Track 12, we suggest that blending emotional analytics with "hard" consumption data builds a fuller digital footprint. It empowers food system stakeholders such as food manufacturers, NGOs, retailers, and policymakers, often with contrasting perspectives, to align their understanding of key issues to make informed, impactful decisions.

This approach advances food system research by revealing how digital conversations expose emotions tied to food-related topics and how such dialogue shapes behaviour by complementing traditional datasets. Strategic Innovation Ltd's leadership connects consumer sentiment with policy and industry action, positioning TBW as a catalyst for system change. This bold objective spans myriad sub-topics, with UPFs as one key focus. By uncovering the emotional undercurrents of UPFs, this work supports healthier, sustainable diets—showing how big data, enriched by societal narratives, drives transformative social outcomes in future food systems.

15. Rising Mercury Consumption from Blue Foods in China Balanced by a Shift to Lower-mercury Choices. - Wei Wang, Yumiao Xue, Rui Wang, Pan He, Lei Huang and Beibei Liu

Blue foods pose significant health risks as a primary dietary source of total mercury (THg) exposure for humans. Accurate meal-level THg content assessment that incorporates dietary preferences is essential to pinpoint major contributors to exposure. This study evaluated THg content and uncovered shifts in regional patterns of dietary choices across China from 2011 to 2019 by integrating THg concentration meta dataset, online recipe, household consumption data, and Internet user searching records. Results show that despite per capita THg consumption rose gradually due to rising blue food consumption, there was a national shift toward low-THg blue foods driven by increased shrimp and decreased high-THg fish consumption. Coastal regions exhibited the highest THg consumption due to greater blue food consumption while Northwest China displayed high-THg preferences with low overall consumption. While future dietary guidelines (EAT-Lancet, CDG) could increase THg intake in Northwest China by up to 7.1 times compared to 2019 levels, current dietary patterns and guidelines indicate that THg intake remains within safe health thresholds. This study provides a framework for meal-level Hg assessment to support safe, low-Hg blue food tailored recommendations regionally.

STREAM 13. Food in Education. - Irina Pokhilenko, Miranda Pallan, Kiya Hurley, Marie Murphy, Emma Frew

STREAM 13A:

33. Policies to Increase Provision of Affordable Primary School Meals in the UK: A Cost-benefit Analysis Case Study in the West Midlands. - B. Osifowora, V. Kesaite, A. Yau, I. Pokhilenko, R. Loopstra, S. Cummins, M. White, E. Frew

Background: Free school meals (FSMs) contribute to better nutrition, reduced food insecurity, and improved health and education outcomes, potentially lowering long-term healthcare costs. However, many children still lack access to FSMs.

Methods: This study conducted a cost-benefit analysis to evaluate different FSM policy options within the West Midlands, UK. Four scenarios were assessed: universal provision, extension to families who receive welfare support, a subsidised school meal scheme, and universal extension within schools who have 50% FSM-eligible pupils. We calculated the return on investment (ROI) from a societal perspective, considering factors such as meal uptake, health benefits, environmental impacts, and educational outcomes.

Results: All policies showed positive returns over the current FSM policy in England. The subsidised scheme showed potential for the highest ROI, yielding a net present value of £542 million and a benefit-cost ratio of 2.44 over 20 years, driven primarily by productivity gains (79%) and reduced household costs (19%).

Discussion: Findings suggest that subsidising school meals for non-FSM-eligible students provides a cost-effective, scalable alternative to universal FSM provision. This approach offers a potentially viable policy option for regional and national governments to boost health, education, and economic outcomes.

39. Changing Food Habits and Attitude towards Food in a School Setting. - Estelle Dukeshogan

I have been working in the food industry all of my life. For 20 years as a business owner. Having 2 small restaurants and an outside catering company. After that I worked as an employee for agency staff as a head chef in various school kitchens. I have also worked with Taws as a food provider at the holiday clubs. The roles have given me unique insight to the world of children's eating habits.

School is the place to develop good food choices, habits and create healthy attitudes to food. In my experience children are very rushed at lunch time. They don't have the time to relax and sit with friends and take time over their food, so they develop an attitude that food isn't important that lunchtime is a quick rush in between lessons. I believe we need to make lunch time part of the curriculum. Lunch being a lesson in itself. Giving more time to sit at a table with their friends. To teach at the table and have food on the table such as raw vegetables, fruit and bread. To plant seeds, potatoes etc. Understanding calories, fats, trans fats. Digestion and nutrition. Helping children understand where food comes from. Introduce new foods and develop a healthy attitude towards trying new foods. Use the time to discuss food and what foods are eaten at home. Who cooks at home, do the family eat together. We must develop positive habits and attitudes for the rest of their lives.

As a chef I threw away masses of healthy food I had cooked all morning. Trays of vegetables and shepherd's pie. The children didn't eat it because they didn't have time. I believe this new way of thinking about lunchtime will reduce food waste. Saving schools millions of pounds in costs.

Saving the NHS time and money. Reduce weight related diseases. Healthier, happy outcomes for everyone.

61. Rise and Decline of Standards in UK School Meal Provision, 1980-2022. - Mark Stein, Yiannis Polychronakis

This paper describes how changes in UK policy on school meals have affected the quality of food provided to children over the period since the change of government in 1979. The paper focuses particularly on England where government policy has seen a series of abrupt changes of direction. It shows how policy relating to England has increasingly diverged from policies adopted by the devolved governments in Scotland and Wales. Important issues include levels of funding, outsourcing of school catering services, quality standards and their enforcement or non-enforcement, local initiatives to improve school food and the role of the Soil Association's Food for Life accreditation.

STREAM 13B:

26. What's for Lunch? Eliciting Preferences for Food on University Campus. - I. Pokhilenko, N. Afentou, L. Fu, M. Hiligsmann, C. Witthoft, M.Hefni, L. Dapi Nzefa, F. Randelli, A.J. Elias, K. Bartos, K. Ouguerram, P. Parnet, S. Ruiz de Maya, E. Ferrer-Bernal, E. Frew

Background. - Being both a place of education and work, universities act as 'anchor institutions' within a food system and have a responsibility for providing a healthy environment for their staff and students. Yet, there is a paucity of evidence on food provision in university settings. Understanding the drivers of students' and staff preferences for food can provide valuable evidence for informing university food policy. This study aimed to identify the factors that influence food choice for lunch served on university campuses, and to compare the preferences of university staff and students, and across different country settings.

Methods. - We conducted a discrete choice experiment with university staff and students in six universities in France, Hungary, Italy, Spain, Sweden, and the United Kingdom. An online survey was designed based on a comprehensive literature review, a focus group, and a series of pilot interviews. In addition to campus lunch preferences, we collected data on demographics, dietary preferences, eating and drinking habits, physical activity, food insecurity, and body composition. Data on-campus food preferences were analysed using random parameter logit and latent class models to capture preference heterogeneity.

Results. - In the presentation, we will provide a descriptive overview of the data as well as insights into the preference data. We will discuss overall preferences in the sample, and then present a more detailed analysis of how preferences vary by country, type of respondent (staff vs student), and other characteristics, including diet and physical activity habits.

Discussion. - To the best of our knowledge, this is the first study to examine the drivers of university students' and staff preferences for lunch on campus contributing evidence to inform university food system policies. Incorporating their preferences in how food policies are developed can offer a new perspective to decision-makers and help enhance the satisfaction and well-being of university students and staff.

107. Commensality in the Transition to University for First Year University Students. - Emma Surman, Sheena Leek

In the United Kingdom the rate of entry into higher education among UK 18 year olds increased from 24.7% in 2006 to 38.2% in 2021 with a slight decrease in 2023 to 35.8% (Bolton 2023). Moving to university is a significant transitional period for these young adults. For many it

involves moving away from the family home from the first time. This means leaving an environment with which they are very familiar and entering one that is largely unknown and in which they also begin to take on greater responsibility for looking after themselves. As they leave the family unit for the first time and take on these additional responsibilities, they also become separated from established networks and social relationships (Thomas, Orme, and Kerrigan, 2020). For international students, adjusting to cultural differences can add to the challenges faced (Wawera and McCamley (2020).

Younger people are increasing reporting feeling lonely (McClelland, 2023). For students feeling lonely is a primary concern coming ahead of fears about finance, housing or their degree programme. Research has found nearly all students felt lonely at some point in the academic year (Better Health: Every Mind matters, 2023) and 1 in 4 students were lonely most or all of the time (Jeffreys and Clarke, 2022). Loneliness impacts students in terms of both their physical and mental well-being as well as their academic achievements. A strong sense of community at university is associated with lower levels of loneliness (Thomas, Orme, and Kerrigan, 2020). Establishing new networks and social relationship is thus an important aspect of the transition to university life. Commensality – eating together at the same table (Smith and Harvey, 2021) increases the opportunities for closeness, cohesion and the sense of belonging between family, friends, colleagues (Jönsson et al., 2021, Mensah and Tuomainen, 2024). Sharing meals in this way creates an opportunity for bonding (Danesi, 2012) and also provides support in difficult situations (Deliens et al., 2014). Commensality and its associated benefits have been extended also to the act of cooking (Neuman et al., 2017).

This paper looks at the role of food in building and maintaining of social relations among first year undergraduates at UK universities. It draws on a study comprising 25 in-depth semi structured interviews conducted with first year students looking at the way students, shop for, prepare, cook and eat food when living away from home for the first time.

With reference to Jönsson et al.'s (2021) dimensions of commensality - the material, the relationships between the participants and orchestration, the findings show the ways in which commensality can be enhanced or hindered among students and makes suggestions as to what universities might do to enhance opportunities for commensality for first year students, as route to reducing loneliness.

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38 The Joy of Sensory Food Education: TastEd's Innovative Approach to Helping Children Learn to Love Eating Fruit and Vegetables. - Fran Box, Kim Smith

Ensuring children have access to healthy, nutritious food at school is vital for child health outcomes, but how do we ensure children eat those fruits, vegetables and whole foods they are being offered? Children's vegetable consumption in the UK is low and continues to decline (Food Foundation, 2021) despite long standing national healthy eating campaigns and school food improvements. Food preferences are shaped across a lifetime of food experiences and children have innate built in preferences for sweet foods and dislike for bitter foods (Birch, 1998). Children need to learn how to eat a variety of foods, each with their own unique combinations of tastes, smells and textures. Sensory food education is one simple and exciting way to help children increase their willingness to try new foods that helps them develop a lifelong love of vegetables and fruit.

Away from the pressure of mealtimes, TastEd (UK sensory food education charity) provides schools and nurseries with free resources and inspiration to run classroom-based, experiential sessions that use the five senses to deeply explore vegetables and fruits. Using simple and fun activities such as looking at different apples, sniffing spices and describing what it reminds us of, or exploring different citrus fruit flavours, children become increasingly familiar and comfortable in using their senses to experience bumpy cauliflowers or squishy blueberries. These easy to run sessions, which can support multiple curriculum subjects including science and Cooking and Nutrition, enable children to build their confidence with food, understand their own food preferences, increase their willingness to try new foods. Some even discover a new love of radishes, blood oranges or chickpeas!

To date, TastEd has trained hundreds of teachers and early years practitioners largely in collaboration with local authorities. But in 2025, an innovative new partnership with Angela Ruskin University brings TastEd sensory food education tools to trainee teachers on their new BEd Primary Education degree. Students received hands on training during their course, including time to experiment with teaching sessions in peer-to-peer learning. Students will have the opportunity to put learning into practice during their school placements, with TastEd supporting the cost of fruit and veg as they deliver TastEd lessons for the first time.

This innovative approach not only supports newly qualified teachers with the tools to implement sensory food education from the beginning of their teaching career. It also inspires teachers to see food teaching opportunities across the school curriculum, by taking a whole school approach to food (Bryant et al., 2022), therefore helping to shape healthier, better equipped generations who love eating delicious vegetables and fruit.

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45. Involving Students in Co-creating Environmentally and Socially Sustainable Protein Alternatives to Reduce Food Insecurity. - Fern Baker, Rounaq Nayak

There have been concerns over food security, with the COVID19 pandemic (Gebeyehu et al., 2023), the UK leaving the European Union (Ranta & Milrooney, 2021) and the conflict between Russia and Ukraine (Aygun et al., 2025). In addition to rises in malnutrition due to these issues (Kakaei et al., 2022). The cost-of-living crisis in the UK has also led to significant increases in food costs, with the 12-month consumer price index rate for food and drink rising by 3.3% to January 2025 (ONS, 2025). From this, food security has become a huge issue, especially amongst young adults, with an average of 42% of post-secondary students surveyed suffering from food insecurity (Bruening et al., 2019). UK university students are known to have certain dietary deficiencies, such as micronutrient intake below relevant reference nutrient intakes (RNI), from iron, vitamin D, A, iodine, selenium and potassium (Farhat et al., 2019). However, there are alternative sources of protein that are significantly higher in soluble iron than sirloin beef, such as crickets and mealworms (Latunde-Dada et al., 2016). Universities are one of the main sources of education for young adults and their influence could extend to outside the students chosen study area to crucial topics, such as food security. Especially, as universities have a large influence on dietary behaviour in students, to improve nutrition and student health (Bailey et al., 2020; Li et al., 2022). This is not surprising, given that university students spend a significant portion of time on-campus, with an average of 64 hours a month studying on-campus outside the core lecture hours in the UK (Nat West, 2024). Educational institutions should extend their influence on health, such as through alternative sources of dietary protein, that are sustainable, nutritious and affordable, to improve food security. A participatory approach where universities co-design projects with students is needed, to involve the students in the decision-making process. Participatory approaches have been successful in multiple contexts of research, to involve those at the forefront and provide knowledge exchange to understand the main challenges and promote success (Slattery et al., 2020; Javanparast et al., 2022; Zogas et al., 2024). Participatory research is of higher quality and empowers those involved (Jagosh et al., 2012). The current project reviews the potential of insects as a case study, as one of the possible protein alternatives for use in university students' diets to improve food security, nutrition and sustainability. Insects have been highlighted as a possible method for affordably overcoming shortages of protein and reducing food insecurity (Fellows et al., 2014). Insects also provide ecosystem services and require a small portion of land space, equating to a sustainable source of protein (Aidoo et al., 2023).

STREAM 13C:

11. The Child Nutrition Policy Rollercoaster – Navigating Inconsistency at Every Stage. - Dayna Brackley, Myles Bremner

This paper explores the fragmented approach to food provision across early years, schools, and further education. Nutrition is critical throughout childhood and young adulthood, shaping health, development, and life outcomes. Yet, current policies create inequalities in access, funding, and quality. Without a joined-up approach, children face inconsistencies in food provision, reinforcing health disparities.

The first 8,000 days of life, from conception to early adulthood, are key for growth and development. Food policy should support children throughout this period, yet provision is inconsistent and depends on setting, location, and family income. Early years settings, where eating habits are formed, lack dedicated food funding. While 72% of children aged 0–4 attend

childcare, only 8% receive free meals, leaving many settings to charge parents or absorb costs. Provision varies widely, with some offering full meals, others only snacks, and many requiring packed lunches, often high in ultra-processed foods.

School food provision is more structured but remains inconsistent. Primary schools have mandatory food standards, and universal infant free school meals are in place, but access depends on eligibility criteria that exclude many families. Secondary school food provision is even more fragmented, with fewer pupils eligible for free meals and no mandatory standards in further education or university settings. A recent survey found that 35% of students reported low or very low food security, highlighting affordability challenges in higher education.

Rising costs are worsening these inconsistencies. A survey of early years settings found 78% reported food provision had been negatively affected, with 62% using cheaper ingredients and over half increasing fees for families. Some settings have had to reduce portion sizes or rely on food redistribution schemes. Research also shows that portion sizes are inconsistent, with some caterers serving the same amounts to three to four-year-olds as to five to seven-year-olds.

Despite these challenges, there are signs of policy momentum. The House of Lords Food, Diet and Obesity Committee has recommended making early years food standards mandatory and introducing compliance checks. The expansion of free school meals in Scotland, Wales, and London suggests growing recognition of the need for universal provision. There is increasing support for a more coordinated, life course approach to food policy, ensuring children and young people receive consistent, high-quality nutrition from early years through to further education.

Food provision remains important beyond school, yet students in further education and university face unregulated, often unaffordable food environments. Without policy action, the cycle of inconsistency will continue, reinforcing inequalities.

This presentation will highlight the gaps in the system and set out key policy changes needed to create a coherent, well-funded, and equitable approach to food provision across early years, schools, and further education, ensuring no child or young person is left behind.

34. In What Way Do Primary School Food Education Curriculums Around the World Address Food Literacy? - Kim Smith, Corinna Hawkes. Rebecca Wells

Incontrovertible evidence places the food system as the biggest driver in planetary and public health issues (GLOPAN, 2020). Yet, this same food system also has unrealised potential to shift consumption to sustainable diets through a range of policy levers, including education (Yap, 2023). Schools are an effective site for food education, especially as childhood is a crucial phase for establishing habits that persist into adulthood (Lavelle et al., 2016; WHO, 2018).

Schools present multiple opportunities to learn about food, but recommendations often focus on school meals (Willet et al., 2019). Whilst mealtimes have a place in food pedagogy, a holistic food education should be implemented through curriculum (WHO, 2018). Food Literacy (Slater et al., 2018) was used in this research as a proxy for holistic food education, as it incorporates food skills, socio-cultural topics, sustainability and food systems, to better equip children for the food systems challenges they face.

This study set out to analyse mandatory, primary school curriculums in 11 different countries to

establish how food education curriculums address Food Literacy. Content analysis of secondary data in the form of policy documents and the Food Literacy (FL) framework were employed.

Findings revealed how national primary school curriculums around the world deliver food education policy, varies enormously and rarely approach FL comprehensively. Each country had a curriculum dedicated to food, supported by inclusion of food topics in non-food curriculums, such as science. There was no standardised approach to primary school food education policy, no consensus in primary food education nomenclature or what curriculums constitute. Curriculums predominantly focus on health and cooking, but significantly less on social-cultural, equity, and sustainability issues.

This research provides a source of curriculum policy inspiration for how food education could be addressed in primary school, and examples of different food education curriculum approaches from around the world, that could better equip children for the future challenges they face.

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83. How Does the Dining Experience in English Secondary Schools Impact Students' Food Choices? - Eimer Brown

Over the last ten years, childhood obesity rates in England have increased and the gap between those living in the most and least deprived areas has widened, with 13% of Year 6 pupils in the least deprived areas now living with obesity, compared to 29.2% in the most deprived areas. The UK Government has identified school food as a key avenue to tackle this rise, launching

initiatives to make school food more nutritionally balanced, such as the School Food Standards Compliance Pilot.

However, the majority of secondary school students do not then consume these school meals, meaning any initiatives to improve school food are not as impactful for child health as intended. Previous research suggests the main reasons for low school meal uptake relate to elements of the dining environment, in particular long queues and crowded canteens, rather than food quality. Previous studies point to these elements causing students to choose packed lunches or the grab'n'go offer, which we know to be less healthy than the main meal and therefore, there are likely negative health consequences.

The existing research in this area is mostly quantitative. Where there is qualitative data, only school staff participated. This study aimed to strengthen the contribution of student voice in the area by using focus groups and a reflexive thematic approach to understand how the dining environment is impacting students and which foods they consume.

This study found that all students were impacted by the dining environment to some degree, with younger and more introverted students being the most impacted. For these students the dining experience was very unpleasant, causing students to go against school rules to take food out of the canteen, meaning they had to purchase portable options. From observations, it was clear the portable foods were less nutritious than the main option, so may have adverse health consequences for students. In addition to physical health impacts, some students found their dining experience very distressing, with it negatively impacting their overall school experience.

School leaders should strive for a school day that maximises emotional and physical wellbeing for all students: making alterations to the dining environment is one avenue to achieve this.

84. Promoting Healthy Eating Across the School Food System in Special Schools and Alternative Provision Settings: A Qualitative Study with Pupils, Parents, and School Staff. - Jessica Tanner, Samantha Friedman, Emily Round, Estera Sevel, Miranda Pallan, Iain Brownlee, Margaret Anne Defeyter, Marie Murphy

Background:

Children and young people with special educational needs and disabilities (SEND) have diverse feeding and dietary needs due to physical disabilities, medical conditions, sensory needs and mental health conditions. Special schools (SS) and alternative provision (AP) settings cater for children for whom mainstream provision isn't appropriate. These settings face challenges promoting healthy eating across the school food system, including through food provision, school policies, food education, and the eating environment. Although around 173,000 pupils in England attend SS and AP settings, there is a paucity of research exploring healthy eating practices in the school food system within these contexts. This is important to understand given that schools play an important role in supporting pupil nutrition and that Free School Meal eligibility in SS and AP settings is double that of mainstream schools, meaning that a significant proportion of their daily food intake is consumed at school.

Methods:

A qualitative study was conducted across eight state-funded SS and AP settings in two regions of England (West Midlands and North East). Schools were recruited through purposive sampling to ensure diversity in school type and catering provision. Interviews and focus groups were held with parents, pupils and schools staff, including governors and catering representatives, to explore their perceptions of different aspects of the school food system. A participant-centred approach was used, employing a multi-modal 'toolbox' of methods to ensure an inclusive

approach for pupils with communication needs. Data were analysed inductively using thematic framework analysis, with a framework matrix and thematic summaries created for each school.

Results:
Four overarching themes were developed, linking to four areas of the school food system: 1. Food provision; 2. Eating environment; 3. Food curriculum; 4. Whole-school policy and culture around food. School food was viewed as an important part of the school day and schools saw value in the social aspects of eating. However careful planning was required around menu provision and eating arrangements to accommodate pupils' sensory, medical and behavioural needs, although there were distinct challenges faced by SS and AP schools. While schools aimed to promote healthy eating, they faced challenges providing nutritious meals which appealed to pupils. Across both settings, the food curriculum was deemed important for building life skills, offering career opportunities, and preparing pupils for adulthood, but food technology teaching could be limited by a lack of resources and facilities. In both SS and AP schools, food was sometimes used to incentivise/disincentivise pupils, and there were challenges of limited parental contact due to the majority of pupils using school transport.

Discussion:
Findings highlight the complexities and challenges of implementing healthy eating practices within different aspects of the school food system within SS and AP settings, where pupils have diverse and complex dietary needs, to improve the dietary outcomes of children attending these settings. This highlights the need for specific guidance tailored to SS and AP settings. Further research exploring provision within these contexts is also needed, including evaluating the impact of specific school policies on healthy eating, breakfast and fruit provision.

STREAM 14. Innovations in Food Processing: Advancing Sustainable and Scalable Solutions - Taghi Miri

STREAM 14A: Innovations in Packaging and Processing

3. Packaging Reimagined: Overcoming Barriers to Reuse in the Food Industry. - Elliot Woolley, Mariam Qaiser, Garrath Wilson

The use of plastic packaging in the food industry is under increasing scrutiny due to its environmental impact. Governments, businesses, and consumers are demanding a shift toward more sustainable alternatives, yet many proposed materials fail to deliver the expected environmental benefits. A promising solution to reduce plastic waste in future food provision is the development of commercially viable and socially acceptable reuse systems. However, implementing such closed-loop packaging systems requires addressing key challenges, including circular logistics, financial viability, and strict quality control to meet regulatory and ethical obligations.

One of the most significant technical barriers to reusable food packaging is ensuring effective cleaning and verifying hygiene to prevent cross-contamination. This research addresses cleaning assurance by investigating the application of ultraviolet-induced fluorescence imaging (UVIFI) for the optical detection of residual food fouling on plastic packaging surfaces. The assessment process is benchmarked against Adenosine Triphosphate (ATP) assays, an industry-standard method for evaluating the cleanliness of food contact surfaces. Additionally, the responsiveness of certain polymers to UVIFI enables real-time assessment of packaging integrity, ensuring suitability for automated systems and consumer acceptance.

The findings of this study help address a key challenge in scaling up plastic food packaging reuse for industrial applications. The ability to rapidly and accurately assess fouling on each pack is essential for building both business and consumer confidence in circular packaging systems and hence this technique has the potential to become an integral component of broader polymer packaging reuse strategies. Considerations for optimizing optical detection, improving packaging design, and ensuring compatibility with automated systems are explored, alongside their implications on the wider future food supply chain.

32. Health and Safety Issues in Pet Bottled Water and Canned Carbonated Drinks- A Bisphenol Migration and Storage Period Nexus. - Oluseye O. Abiona, Akinsola Famuwagun, Precious Adeyemi, Oluwanifemi Alao, Salimot Adetutu, Samson Ajayi

The need to evaluate the extent of safety of plastics/can water and soft drinks consumption with respect to migration of various bisphenols informs this study. Samples of water packaged in plastics (P3080, BE and BV) and soft drinks packaged in plastics/canned (BB, BC and BM) were collected on the very day of supply from different locations within Osun State, Nigeria. The bisphenol contents of the control samples were determined using Gas Chromatography-Mass Spectroscopy and then, every four (4) weeks for three months (February and May, 2024) under direct sunlight. The results showed that nine types of bisphenols (E, C, A, Z, G, P, TMC, AF, and F) were identified in the plastic bottled and canned/plastics soft-drinks the concentration of bisphenols that migrated into B3080, BE and BV water samples between day zero to 3rd month ranged between 0.37 to 4.90 µg/L, 0.13 to 4.90 µg/L and 0.11 to 2.96 µg/L respectively. Also, the concentrations of various bisphenols that migrated from the plastic bottles into the soft drinks BB, BC and BM ranged between 1.23 to 4.95 µg/L, 1.25 to 5.24 µg/L and 0.14 to 5.41 µg/L respectively within the three months of storage. The concentrations of various bisphenols in the canned soft drinks were in the range of 2.93 to 6.13 µg/L, 0.52 to 7.99 µg/L and 0.54 to 7.19 µg/L for BCC, BCF and BCF samples respectively. The results further revealed that the different bisphenols identified in the samples of water and soft drinks were influenced by sunlight and

the longer the storage, the more the migration. The study concluded that public enlightenment, education and proper storage of these drinks would drastically reduce the rate of migration of this toxic chemical and by extension reduce the lethal effects of various bisphenols on human health

57. An Eco-friendly Method for Chlorpyrifos Pesticide Removal from Water Uses a New Magnetic Nanomaterial. - Achyuta Kumar Biswal, Pramila K. Misra

Over the past twenty years, organophosphate pesticides have become a notable category of toxic water pollutants. These substances are detrimental to living organisms, and their degradation process requires a significant duration. This study presents the novel application of nano-magnetized iron oxide nanoparticles (IONP) sourced from Mahua oil cake (MOC), a bio-waste, for extracting chlorpyrifos from water resources. The nano-magnetized Mahua oil cake (NMMOC) was synthesized via the co-precipitation method utilizing iron salts. The adsorbents were analyzed through FT-IR, SEM, EDX, and XRD techniques. The FTIR spectra indicated a peak at 540 cm −1, corresponding to the Fe-O bond, thereby confirming the successful incorporation of iron salts into MOC. Biosorption studies were performed by altering various parameters to evaluate the effectiveness of the adsorbents in chlorpyrifos uptake. The factors examined comprised adsorbent dose, contact time, initial concentration of pesticide, pH levels, and temperature. Maximum adsorption was observed at an adsorbent dose of 0.4 g, a contact time of 50 minutes, an initial pesticide concentration of 150 ppm, a pH of 4, and a temperature of 30°C. The results indicate that the synthesized nano-magnetized IONP derived from MOC has considerable potential for removing toxic pesticides, establishing it as a significant resource for future agricultural safety initiatives.

66. Exploring Yeast Metabolic Diversity on Food and Vegetable Wastes using NMR. - Darren Greetham, Meryem Benahoud

Micronutrient deficiency is sometimes referred to as ‘hidden hunger’ which refers to a consumers lack of essential vitamins and minerals. Vegetable, fruit and algal biomass contain these nutrients but only in small quantities, yeast have been shown to accumulate these essential nutrients when fermenting media derived from these common agricultural products. Yeast also produces desirable chemicals such as polyunsaturated fatty acids, organic acids, phenolics, as a natural product of fermentation and can be modified for production of a huge range of platform chemicals or nutraceuticals as desired. The yeast themselves can be considered a source of single-celled proteins and have been targeted as a source of protein produced from a more sustainable and renewable source.

Research has focused on the processing of common agricultural residues (sidestreams) which when rejected by market forces (bruised, shape, colour) are often processed into juices and powders for the food industry. However, even after this process step, there is considerable leftover waste material (plant cell walls, insoluble fibre etc), this biomass can be converted into a media suitable for yeast following a low acid hydrolysis. Research has highlighted that low energy inputs such as use of microwave technology and commercial vinegars with sidestreams such as avocado nut, apple pomace, seaweeds and onion waste generate a media high in fermentable sugars. Fermentation profiles have shown that these mediums can sustain rapid yeast growth

Recently, data has revealed that there is considerable metabolic variation in yeast species in terms of production of higher value compounds (unsaturated fatty acids, sugars, nucleotides). Yeast also accumulates nutritionally viable minerals whilst fermenting these diverse feedstocks with significantly higher iron, zinc, magnesium and others when compared with yeast fermenting under control conditions. Yeast also accumulates antioxidant compounds such as

polyphenols, betalains, anthocyanins and vitamins during the fermentation dependent on source material. Comprehensive metabolic profiling is on-going with different yeast and media through use of nuclear magnetic resonance (NMR) and elemental analysis via ICP-OES and this research will be discussed in context with identifying potentially higher value compounds from the fermentations.

STREAM 14B:

6. Sustainable Food Production in South Yorkshire: Bridging Research and Industry for a Greener Future. - Hessam Jahangiri, Aida Daei, Donya Asgharzadeh, Mukesh Goel, Hongwei Zhang

This project aims to speed up the shift towards greener food production in South Yorkshire. It's all about bridging the gap between what researchers know and what's happening on the ground. The team came up with a step-by-step way to check how well food and drink companies are doing with sustainability and saving energy.

We have been surveying some businesses to figure out which parts of their operations use the most energy and pump out the most emissions. These are the areas where there's the most room for improvement. Based on what they found, they've come up with some ideas for how these companies can be more eco-friendly.

By mixing interviews with number-crunching, the study gives a good picture of where the industry stands right now and how much potential there is to cut down on carbon emissions. It is not just about going green but also pushing for a more circular economy and trying to hit that net-zero target. This project mainly focused on how this affects South Yorkshire's food and drink sector.

27. Integrating Health and Sustainability Criteria into the Food Product Development Process. - Bethan Moncur, Letizia Mortara

Decision-making in food product development is overwhelmingly complex for individuals involved in the process. The sheer number of factors to consider (consumer acceptance, retailer demands, manufacturability, nutritional profile, CO2e...) and their inherent uncertainty, coupled with a dynamic operating environment influenced by media and policy, make it difficult for food manufacturers to know how to innovate responsibly. Multi-criteria decision analysis (MCDA) is a structured approach to guiding rational decision-making [citation]. MCDA involves weighting different criteria based on their importance to the decision-maker and scoring alternatives against the weighted criteria. Example applications include guiding project selection decisions in food manufacturing firms (Chang, 2013) and assessing urban dietary patterns based on socio-economic, health and environmental criteria (Garcia-Alvarez-Coque et al., 2021).

A key aspect of MCDA is that the criteria weightings dictate the outcome of the decision tool. Whilst there is an abundance of decision science papers exploring the sensitivities of different MCDA methods, there is a lack of literature explicitly exploring why decision-makers give priority to different factors and the organisational influences on this prioritisation. In this research project we ask: how do different groups within the same food manufacturing organisation compare and prioritise decision criteria, and what tensions emerge? What social, organisational, and material influences shape criteria weightings?

This research adopts an Action Research approach with a large UK-based food manufacturing company, exploring and comparing product development across multiple categories and

production sites. With each product development team, semi-structured interviews will be conducted with individuals to understand how they structure decision-making. Participants will be asked to draw the decision-making process(es) involved in food product development (for new propositions and/or existing product iterations) using think-aloud to elicit how different decision criteria are elicited throughout the innovation process. Then, to understand why participants prioritise criteria over others and where tensions arise, we will use think-aloud during an MCDA task that determines salient criteria and their weightings (Analytic Hierarchy Process followed by pairwise comparisons).

We will conduct thematic analysis to explore how different groups conceptualise the product innovation process and how they construct and prioritise decision criteria. We do not view the pairwise comparisons as purely rational outputs, but instead as enactments of existing practices that reveal decision logics and trade-offs. The MCDA weightings will guide the participatory design of a decision tool that the teams across the organisation can use to explicitly consider health and sustainability criteria in food product development.
Our findings are expected to help us understand how people think about different food product development decision criteria, such as nutrient profile modelling or CO2e, and what social, organisational and material factors influence their thinking. This will enable innovation managers to facilitate consideration of health and sustainability metrics in decision processes rather than reinforcing 'business as usual' practices.

Chang, K. (2013). Combined MCDM approaches for century-old Taiwanese food firm new product development project selection. British Food Journal, 115(8), 1197–1210.
Garcia-Alvarez-Coque, J.-M., Abdullateef, O., Fenollosa, L., Ribal, J., Sanjuan, N., & Soriano, J. M. (2021). Integrating sustainability into the multi-criteria assessment of urban dietary patterns. Renewable Agriculture and Food Systems, 36(1), 69–76.

STREAM 14c:

36. Consumer (Mis)Perception in Sustainable Food Consumption. - Ludovica Serafini, Alessandro M. Peluso, Aurora Martignano, Luigi Pipe

Several barriers prevent consumers from adopting sustainable actions in different domains including food consumption (Wijayaratne et al., 2018). This leads to the so-called attitude-behavior gap, where consumers fail to act on their pro-environmental attitudes, partly due to misperceptions about the actual CO_2 mitigation potential of environmentally friendly actions (Johnstone & Tan, 2015). Prior research (Ivanova et al., 2020; Lembregts and Cadario, 2024) suggests that, while high-impact behaviors, such as adopting plant-based diets, are crucial for CO_2 reduction, lower-impact actions like recycling receive disproportionate attention.
Our research investigates why consumers struggle to adopt high-impact sustainable behaviors in food consumption. By assessing perceived effort and mitigation impact, we identify leverage points for increasing sustainable behavior adoption and propose strategies to enhance accessibility and desirability. The research employs a mixed-methods approach that combines quantitative and qualitative techniques. A structured survey on food consumption was administered to 176 Italian consumers. Participants identified promotive and preventive sustainable behaviors and rated their perceived CO_2 mitigation potential and adoption difficulty (Winterich et al., 2024). This preliminary investigation revealed that only 18% of respondents mentioned sustainability as a primary behavioral driver, while 82% prioritized factors like taste or health. A knowledge gap emerged regarding high-impact behaviors: participants frequently cited low-impact actions (e.g., choosing eco-friendly packaging) but overlooked high-impact ones (e.g., adopting a vegan diet). Perceived impact and effort misalignment was evident: veganism, identified as highly effective for CO_2 reduction, was ranked lowest in impact but

highest in difficulty. This discrepancy reinforces the attitude-behavior gap, with effective behaviors perceived as too effortful.

We then conducted semi-structured, in-depth interviews (n = 12), including both consumers and sustainability experts. Thematic analysis (Braun & Clarke, 2006) revealed a disconnect between sustainability ideals and behavior, exacerbated by skepticism toward institutional policies and economic constraints. Informants viewed sustainable behaviors as effortful, describing a "sunk cost of sustainability", the belief that sustainability demands excessive personal sacrifice. Laziness emerged as a critical barrier, encompassing reluctance to change habits, effort avoidance, and inertia. However, informants suggested that habit formation, gamification, and positive reinforcement could facilitate sustainable choices.

Based on our findings, organizations could reframe sustainability as effortless and rewarding. Companies should try to educate consumers on actual environmental impacts while lowering perceived barriers through behavioral nudges and gamification. Transparency is crucial to counteract greenwashing concerns, with clear sustainability metrics and third-party endorsements enhancing credibility. Economic and infrastructural support is vital, with policymakers aligning incentives to consumer priorities through subsidies and regulatory measures. Large-scale campaigns should promote sustainable behaviors as aspirational, while investment in infrastructure, such as public transport expansion and local food supply chains, can enhance feasibility.

This research extends the literature by focusing on high-impact behaviors and identifying key cognitive and structural barriers. The mixed-methods approach provides a comprehensive understanding of sustainable decision-making, offering actionable insights for policymakers and businesses to bridge the sustainability gap in food consumption.

81. My Secret Weapon for Combating Food Waste. - Leon Aarts
Three lessons I learned in sixteen years of feeding hungry people

Whatever happened to good fresh food?
Fresh produce is treated like a pariah - dumped, hidden and destroyed
Philanthropy will never achieve the scale of transformation we need

In my family, when I was young, food was the language of love. Everything, from connecting to strangers to solving our problems started with, “Would you like something to eat?” Food was shared easily and fairly. But as our societies have grown wealthier, the world has become more optimised and monetised, and people have lost not only our connection to each other but also to the physical and social nutrition in the foods we used to eat and share. The notion has emerged that food has to look as perfect and harmonised, like white picket fences. But nature doesn't work like that and despite attempts to homogenise crops, substantial volumes of the food we grow get rejected because they no longer meet the specification.

The problem: Fresh produce is treated like a pariah - dumped, hidden and destroyed
We all know that industrialised agriculture harms our planet due to emissions, chemicals and pollutants. But what is worse is that farmers, obliged to deliver what consumers want, don’t get paid for their produce that doesn't make the grade. On farms, up to 20% of all food grown never leaves the farm because it doesn't fit these cosmetic requirements. In the UK this amounts to the equivalent of at least 10 million meals every day. And where does it go? Much of this so-called “waste” food is simply being ploughed back, burned or sent to landfill.

Philanthropy will never achieve the scale of transformation we need
We also know that donating food is not the solution. Despite twenty years of valiant work by charities, churches and community groups, we have not managed to redistribute more than 1% of food waste.

A surplus supply chain that spans months not days
At Ample we understand that farmers cannot grow food for free. They need to be paid. Furthermore, food should be re-positioned as a commodity of high value, not an option to be given away or disregarded as no more than fuel. We are committed to help solve this food crisis by saving hundreds of thousands of tonnes of farm surplus by ensuring it is identified, cherished and consumed. Our marketplace ensures that farmers get paid fairly, and buyers get a great deal. Utilising the discipline of commercial reality, Ample is a scalable solution which addresses these problems head on, eliminating wasteful practices with a new channel to market. But this is just part of our ambition. With our latest investment in Ample Kitchen we will demonstrate how surplus can be redirected at scale for commercial solutions by producing a million low-cost nutritious and delicious meals a month for schools and hospitals. Not only will we save thousands of tonnes of surplus but also we will extend its life with the latest technology for freezing and preserving. This offers ample opportunity to tackle surplus in a sustainable and scalable way, addressing the crises of poor nutrition, poverty and waste.

37. AI-driven Predictions in Food Spoilage: Efficiently Mitigating Food Waste. - Gu Pang, Keru Duan

Abstract: Globally, about one-third of all food produced for human consumption is lost or wasted, compounding issues of food security, economic inefficiency, and environmental harm. Artificial Intelligence (AI) presents transformative potential to mitigate these losses by enhancing food spoilage predictions and optimizing supply chain management. This paper examines the deployment of AI technologies—such as machine learning models and predictive analytics—in predicting food spoilage with high accuracy, thereby reducing food waste substantially. We discuss the integration of AI across the food supply chain, from crop monitoring and pest detection to inventory management and consumer-level waste reduction. Innovations include early detection systems to identify spoilage factors, algorithms suggesting optimal storage conditions, and predictive models forecasting waste patterns. Through a review of existing literature and various case studies, this study demonstrates AI's efficacy in reducing waste and improving operational efficiency. However, significant challenges remain in data collection, model training, and integration into existing systems. The paper concludes with recommendations for future research directions, emphasizing the need for interdisciplinary approaches and collaborative frameworks to realize the full potential of AI in curbing global food waste.

Keywords: Artificial Intelligence, food spoilage, food waste, machine learning

Conclusion: AI technology offers a revolutionary approach to tackling the pervasive issues of food safety and waste, facilitating early spoilage detection and real-time monitoring and control across the food supply chain. By employing advanced algorithms and data analytics, AI has the potential to transform food management practices, significantly reduce economic losses, and promote environmental sustainability. The broad implementation of AI in predicting food spoilage is poised to decrease food waste dramatically, boost food security, and contribute to a healthier planet for future generations. To fully realize AI's potential in this area, a concerted effort from technologists, researchers, industry stakeholders, and policymakers at all levels is essential. For instance, international organizations like the World Food Programme (WFP) could play a pivotal role in facilitating dialogue among stakeholders, particularly by engaging

vulnerable groups such as farmers in sharing experiences and best practices. Such collaboration is crucial to surmount challenges like data quality, integration with existing systems, and regulatory compliance, thereby enhancing the effectiveness of AI in the food sector. Moreover, interdisciplinary research is vital, as the integration of AI with other technologies such as IoT and big data offers significant opportunities to create an efficient and effective system for ensuring food safety. The hurdles identified—such as data privacy issues, model biases, and the absence of a mature regulatory framework—underscore the complexity of these challenges. Overcoming these requires a collaborative approach involving governments, international organizations, industry practitioners, and AI experts to harness these technologies for sustainable growth in the global food supply chain. This collaborative effort is key to developing a more sustainable and efficient food system, leveraging AI's capabilities to their fullest potential.

STREAM 15: Contemporary Consumer and Retail Food Issues.

STREAM 15A: Contemporary Consumer and Retail Food Issues.

18. Components of Food Supply Chain Resilience: A Case Study of the Chicken Tikka Masala Supply Chain. - Kate Jones, Kenisha Garnett, Paul Burgess

The resilience of food supply chains, and thus their ability to deliver this objective, is at risk from environmental disruptions such as extreme weather events and disease outbreaks. These are increasingly exacerbated by environmental disruption including climate change and biodiversity loss. This has led to increased concern around food sustainability, safety and food security.

In the context of an increasingly uncertain natural environment, supply chain actors can adopt strategies to maintain or enhance resilience or benefit from new opportunities. Resilience strategies can involve avoiding disruptions, accelerating recovery post disruption, or reorienting long-term objectives, emphasis or focus, in response to uncertainty. Although there is a body of literature that provides a conceptual understanding of resilience, there is low consensus on the most effective strategies for food supply chain resilience, and how they can be applied in practice. Consequently, there is a gap in understanding the barriers to, and enablers, for resilience, and hence the role of policy and regulation in facilitating and enhancing resilience is unclear.

This study seeks to understand how resilience is perceived and operationalised by food chain actors, thereby identifying key challenges and opportunities to enhance policy and research efforts to improve resilience. It introduces a theoretical framework for resilience in food supply chains, focusing on the concepts and characteristics that food supply chains need to adapt to and manage disruption. This is based on three resilience domains: robustness (operating 'as normal' through disruption); recovery (getting 'back to normal' after disruption), and reorientation (adapting to a 'new normal' in the face of disruption).

The research employs an embedded case study approach comprising surveys, interviews, and workshop with supply chain actors across three tiers of the chicken tikka supply chain. Thematic analysis reveals the resilience strategies prioritised by supply chain actors, analysed against the theoretical framework. Results reveal that actors prioritise robustness and recovery strategies, in particular vertical collaboration between suppliers and customers; supply chain visibility, and redundancy strategies such as stockholding and back-up supplies. Reorientation strategies, such as long-term adaptability and early warning systems, are less emphasized due to perceived investment and capacity constraints. While supply chain visibility is perceived as aiding recovery from disruption, and actors see collaboration as key in maintaining and enhancing resilience, both these strategies may be curtailed in SMEs with limited influence with larger actors.

The study highlights key barriers to supply chain resilience perceived by actors, including fragmented information flows, limited government policy alignment, and challenges of digital technology adoption. Recommendations include the need for policy consultation frameworks that improve understanding of food supply chains and actors' decision-making processes, and for a strategic vision for the food system that fosters resilience to long-term environmental change.

58. Redesigning of Food Waste Management: A Conceptual Framework to Unrealised Opportunities & Sustainable Intensification - Begüm Önal

Food Waste" and "Food Loss" are multifaced problems that occurs the entire agri-food supply chain. The global challenge of food waste continues to exacerbate environmental, economic, and social issues and implications.

Despite significant advancements and promising solutions in technology, innovation, policy & legislation, education and consumer awareness progress in reducing food waste remains "sticky" – limited by systemic inefficiencies, behavioural change, a lack of accurate date on food waste across supply chains. and fragmented approaches. This study examines the state of the art of food waste emphasizing the ongoing barriers and the unrealised opportunities that remain to accelerate change. By exploring current challenges, such as logistical inefficiencies and insufficient collaboration across the supply chain, we propose a multi-dimensional approach that integrates technological innovation, policy reforms, redefining value, better data & transparency and behavioural change to enhance "Sustainable Production and Consumption". Additionally, this framework emphasizes the role of sustainable intensification—maximizing resource use while minimizing environmental impact—through circular economy principles, novel value-chain solutions, digital innovation, compliance with regulations and sustainable supply chain applications. This paper presents the development of a conceptual framework to key research themes, research & industrial gaps and unrealised opportunities for " Food Waste". Ultimately, the paper aims to foster "Rethink Food Waste Management" the entire agri-food value chain offering a roadmap for a multi-sectoral approach. To tackle barriers and challenges and to realize the full potential of opportunities in " Food Waste Management", "Collaboration Across Sectors" is necessary - one that integrates policy, industry, technology, and consumer behaviour to achieve meaningful reductions in food waste and its associated impacts.

STREAM 15B: Contemporary Consumer and Retail Food Issues.

2. Food Type Guides Perceptions of Environmental and Nutritional Impact, While the Interaction of Knowledge, Attitudes, and Framing Shapes Meal Choices. - Jiarui Sun, Pan He, Yixian Sun, Jiahua Yue, Natalia Lawrence, Kerry Ann Brown, Caroline Verfuerth, Jessica Paddock, Wouter Poortinga

Sustainable food choices are key to reducing environmental impact and improving public health, making it essential to understand their underlying drivers. While previous research has explored the role of various factors in food choices, little is known about how knowledge, attitudes, and information framing interact to shape meal preferences. To address this gap, we conducted a conjoint experiment through an online survey with 4,162 UK respondents, examining meal choices across 6 key attributes while incorporating sections on knowledge, attitudes, and dietary habits. Participants were randomly assigned to environmental, health, or control information treatments to assess the impact of information framing on decision-making.

Results show that consumers demonstrated a strong preference for homemade, low-cost, high-protein meat-based meals, with protein food type emerging as the most influential factor. Greater environmental or nutrition knowledge was associated with a stronger preference for plant-based proteins, though attention to nutritional composition, eating scenarios, and price remained unchanged. Differences in food choices among nutrition knowledge-attitude groups were primarily driven by attitudes, while both environmental knowledge and attitudes influenced concern for food-related environmental impact. Moreover, information framing primarily affected protein source selection, increasing the preference for plant-based proteins, with a stronger effect among individuals with higher knowledge levels than those with pro-environmental or pro-health attitudes. This highlights the role of targeted messaging in

reinforcing sustainable food choices. These findings suggest that individuals assess a meal's sustainability primarily based on its protein source, rather than directly engaging with presented information. By examining the interplay of knowledge, attitudes, and external messaging, this study enhances understanding of consumer behaviour in sustainable food transitions, offering valuable insights for policy, public messaging, and sustainable food system development.

46. Perceived Risk and Innovativeness in Digital Food Retail: Balancing Consumer Trust, Engagement, and Ethical Implications. - M. Sajid Khan

The digitisation of consumer transactions in the FMCG sector presents opportunities to analyse food purchase decisions using digital footprint data, particularly in rapidly evolving markets like the UAE. Supermarkets, convenience stores, and restaurants record transactions that capture consumer preferences, even among those not enrolled in loyalty programs. While this data is typically proprietary, anonymised datasets can provide insights into consumer behaviour and social inequalities (Cluley, 2019). However, ethical issues surrounding digital surveillance in food marketing raise concerns about consumer trust and privacy. This study explores the impact of perceived innovativeness and ethical concerns on consumer trust and engagement with digital tracking in food retail.

Ethical concerns about digital surveillance impact consumer trust and purchasing behaviour. Growing scepticism about data collection raises privacy and security concerns, reducing trust in retailers and digital transactions (Crombrugge et al., 2023). Transparency, consent, and corporate accountability heighten perceived risks in food purchases, leading consumers to avoid manipulative brands and reinforcing ethical marketing's role in brand loyalty (Isojärvi & Aspara, 2023). Ethical concerns may also amplify the negative effects of perceived risk on consumer engagement (H1: Ethical concerns moderate the relationship between perceived risk and purchasing behaviour, intensifying the negative impact).

While ethical concerns may deter engagement, technological advancements offer counterincentives. Perceived innovativeness shapes attitudes toward digital food purchases, as consumers value personalisation but fear corporate exploitation (Bardhi & Eckhardt, 2017; Broekhuizen et al., 2021). Balancing technological benefits and consumer rights is crucial (Chan et al., 2022). This study examines how perceived innovativeness influences acceptance of digital tracking and testing (H2) and how it positively affects willingness to engage in data-driven retail interactions.

Data-driven purchasing insights raise ethical concerns regarding consent and public health, as algorithms often prioritise profit over consumer welfare, especially for vulnerable populations.(Bentsen & Pedersen, 2023). Concerns regarding ethics in FMCG data analytics should prioritise consumer well-being and fairness. Understanding consumer sentiment toward digital tracking in various socioeconomic contexts can promote responsible market strategies (Simms & Trott, 2022). Increased ethical concerns may erode consumer trust in digital retail, leading to reduced engagement (H3: Higher perceived ethical concerns negatively impact consumer trust and engagement with digital tracking in FMCG transactions).

Consumer awareness of data privacy policies mitigates perceived risks and fosters acceptance of digital surveillance in food marketing. Research shows that informed consumers exhibit lower perceived risk and greater trust in data-driven retail interactions (Morewedge et al., 2020). Understanding demographic and socioeconomic variations in perceptions of digital surveillance is essential (H4: Consumers with higher awareness of data privacy policies exhibit lower perceived risk and greater acceptance of digital tracking).

This research examines perceived risk, innovation, and ethics in UAE consumer food purchases, focusing on AI-driven retail transformation. It will use surveys and interviews to assess consumer reactions to digital footprint data. The findings will inform academics, policymakers, and industry leaders, promoting consumer-centric digital marketing. A balanced approach is vital: leveraging data for societal benefits, such as enhancing consumer trust, while ensuring ethical and responsible FMCG data management (Li & Kannan, 2014).