



The future of surplus food redistribution in the UK: Reimagining a 'win-win' scenario

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ABSTRACT

Surplus food redistribution (SFR) is hailed as a 'win-win' strategy to address both household food insecurity and food waste. However, SFR is condemned as being a 'band-aid' solution that addresses neither the fundamental socio-economic causes of poverty, nor the systematic roots of food waste. This research aims to set an agenda for the future of SFR in the UK for the next five to 10 years, including policy interventions required to achieve this future. To this end, it critically examines the motivations, challenges and perspectives on SFR in the UK, explores the ideal future scenario of SFR (by reimagining the 'win-win' scenario), and identifies intervention pathways leading to this future. It achieves this through a participatory, mixed methods research design of 17 interviews, explorative scenario building and normative back casting exercises with 40 relevant SFR stakeholders across the private, public and third sectors. It concludes that SFR paradoxically reinforces the same problems it attempts to solve. The future of SFR lies in truly sustainable food systems that meet the needs of the people and deliver socio-economic benefits whilst respecting planetary boundaries. In this future, SFR is no longer required as a solution for food waste or household food insecurity. Finally, the study identifies five pathways leading to this future: i) rejecting the SFR 'win-win' narrative ii) tackling systematic food overproduction iii) eradicating poverty iv) balancing uneven power distribution amongst food systems actors, and v) delivering food security within planetary boundaries. The proposed interventions are relevant to food and waste policies, and offer insights to transition pathways for sustainable food and other socio-technical systems.

1. Introduction

Our global food systems face the twin challenge of delivering food security (i.e. when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life), whilst not exceeding planetary boundaries (e.g. climate and land system change, ocean acidification, freshwater use and others). Feeding an ever growing population a healthy diet without further impacting the planet, cannot be achieved without transforming our eating habits, improving food production and reducing food waste (The Eat-Lancet Commission, 2019).

Diverting surplus food to people affected by household food insecurity has been identified particularly in the Global North, as a method of preventing food waste and thus reducing the environmental impact of

the food systems, while providing nourishment (WRAP and IGD, 2020). Surplus food redistribution (SFR) has been promoted as a 'win-win' solution, solving two problems at once, namely food waste and household food insecurity. However, SFR has been criticised as a primarily waste and economic loss minimisation strategy, being used to tackle household food insecurity (Fisher et al., 2017). In this process, SFR potentially depoliticises and individualises food provision at the expense of structural critique and action (Caraher and Furey, 2017; O'Brien, 2013; Spring et al., 2019).

In this context, this research aims to set an agenda for the future of SFR in the UK for the next five to 10 years, including policy interventions required to achieve this future. To this end, it critically examines the motivations, challenges and perspectives on SFR in the UK, explores the ideal future scenario of SFR (reimagining a 'win-win' scenario), and identifies intervention pathways leading to this future.

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2. Literature review

2.1. Food waste and surplus

Over the last decades food waste has been gaining increasing attention in policy, practice and research (Schanes et al., 2018; Spring et al., 2020). As the scale and severity of food waste's environmental, social, and economic impacts have become more apparent (Gustavsson et al., 2011; Parfitt et al., 2010) interventions for food waste reduction have emerged. Garrone et al. (2014), Thyberg and Tonjes (2016) make notable food waste prevention contributions at the policy level. Cicatiello et al. (2016), Filimonau and De Coteau (2019), Papargyropoulou et al. (2016) focus on the organisational level. The majority of the research though, targets food waste during the consumption stage at a household level (Evans, 2014; Graham-Rowe et al., 2014; Parizeau et al., 2015; Quested et al., 2013; Reynolds et al., 2019; Russell et al., 2017; Soma et al., 2020; Young et al., 2017).

In the UK context, it is estimated that 10Mt of food waste is generated along the food chain annually (Defra, 2018). This has an economic value of £17billion, and is associated with 20Mt of greenhouse gas emissions (WRAP, 2017). Redistribution of surplus food to people affected by food insecurity is promoted by WRAP and the Department for Environment, Food and Rural Affairs (Defra) as an effective method of reducing food waste and features as a preferred option in the food and drink material hierarchy (WRAP and IGD, 2020). It is estimated that 0.56Mt of surplus food was redistributed via charitable and commercial organisations to food insecure people in 2018 in the UK (WRAP, 2019). SFR almost doubled between 2015 and 2018 (96% increase in three years) supported by the Courtauld commitment 2025 via grants to increase capacity in surplus food redistribution, and guidance on surplus redistribution and labelling best practice (WRAP, 2021).

For the purposes of this study, food surplus is defined as agricultural produce or a quantity of food produced in excess of our needs (Papargyropoulou et al., 2014). Agronomists suggest that some food surplus is necessary as it provides a buffer or safeguard for example against unpredictable weather patterns affecting crops and other system shocks (Smil, 2004). Nevertheless, in this definition the authors recognise that systematic overproduction of food can lead to food surplus, most of which eventually becomes food waste. Increasing food production initially intended to address the needs of a growing demand and population. However, overproduction has outpaced consumption and in many cases overconsumption, generating food waste rather than further overconsumption (Messner et al., 2020). A food systems perspective exposes the 'lock-in' mechanisms that reinforce systemic overproduction leading to surplus and waste. These lock-in mechanisms can be institutional (e.g. food policy that reinforces retail market concentration, growth and profit maximisation), cultural (e.g. cognitive conditioning in regards to imperfect looking fruit and vegetables) or technical-material (e.g. prevailing business models and the associated material infrastructure, practices and processes) in nature (Messner et al., 2021). These food systems lock-in mechanisms operate within broader socio-economic macro structures. Therefore, any transformative action needs to also confront the unsustainability of the continuous growth paradigm.

2.2. Household food insecurity and food aid

Household food insecurity is defined as "the inability to acquire or consume an adequate quality or sufficient quantity of food in a socially acceptable manner, or the uncertainty that one will be able to do so" (Dowler and O'Connor, 2012). Although there is no comprehensive measurement of food insecurity in the UK, several studies have found that it has intensified significantly in the past decade as a result of austerity and welfare reforms introduced by the coalition government from 2010 (Dowler and Lambie-Mumford, 2015; Lambie-Mumford, 2019). These reforms have impacted directly on key structural determinants of food

insecurity such as costs of living, income levels and income security (Loopstra et al., 2018; Perry et al., 2014). The latest estimates suggest that in 2018, approximately 10% of UK households were experiencing moderate to severe food insecurity, and a further 10% were classified as marginally food insecure (Sosenko et al., 2019).

This rise in food insecurity is reflected by a dramatic rise in the provision of charitable food aid over the past decade (House of Commons, 2020), which can be defined as "any type of aid giving activity which aims to provide relief from the symptoms of food insecurity and poverty. It includes a broad spectrum of activities, from small to large scale, local to national, emergency one-off operations or well established food banks." (Lambie-Mumford et al., 2014). In the UK, food aid is delivered via various different means. There are food banks that provide emergency food parcels from food that is predominantly purchased and donated from individuals (i.e. not surplus). It is important to note the distinction between food banks in the UK, and the term 'food bank' in a European/North American context, where it refers to organisations that procure, store and redistribute surplus food from the commercial food system (Caraher and Davison, 2019; Downing et al., 2014). Food aid is also delivered by charities and community organisations that utilise surplus food from the commercial food system to prepare meals and donate food to various causes. Emerging models such as food pantries, social supermarkets and cooperatives give more agency and choice to their recipients for example by enabling small monetary exchanges for this provision. As well as at least 2000 food banks in the UK, there are now more than 3000 independent frontline food aid providers operating outside of the food bank model, which largely utilise surplus food from the commercial food industry (House of Commons, 2020). Preliminary figures show that the COVID-19 pandemic could have doubled demand for food aid, with the Trussell Trust reporting an 89% increase in food bank usage in April 2020 compared to April 2019 (House of Commons, 2020).

While responding to growing evidence of household food insecurity, this unprecedented rise in the provision of charitable food aid in the UK, is also due to the growing scale and coordination of the largest food aid providers such as Trussell Trust, FareShare and Foodcycle in the past decade (Lambie-Mumford, 2016; Spring and Biddulph, 2020). Food aid in the UK is becoming institutionalised, by moving from 'emergency' food provision to models addressing 'routine' household food insecurity (Fisher et al., 2017; Poppendieck, 1998). This entrenchment of charitable provision follows the examples of the US, Canada, Italy and Germany. There is no indication from either charities or government to move away from this model, as Defra's multimillion funding calls in 2018 and 2020 to support businesses and charities redistributing surplus food demonstrate.

2.3. Surplus food redistribution: The 'win-win' narrative

In this context of increasing food waste and rising household food insecurity, surplus food redistribution brings the two issues together. Empirical explorations of SFR have largely arisen from two distinct bodies of literature: sustainable resource management and critical social science debates on food insecurity and the right to food. The paradigm of sustainable resource management is linked to concepts of sustainable consumption and production (SCP) and circular economy (Patel et al., 2021). These are grounded on the notion that waste can be a resource, and that using resources sustainably and efficiently can reduce greenhouse gas emissions and offer further economic and social benefits (Papargyropoulou et al., 2019; UNEP et al., 2014). Research in this sphere unintentionally or explicitly in some cases supports a 'win-win' narrative that suggests SFR addresses separate social and environmental issues at once; i.e. preventing food waste by using surplus food to tackle household food insecurity (Cicatiello et al., 2016; Lipinski et al., 2013; Schneider, 2013; WRAP, 2021).

In contrast, engagements with SFR in the social science literature focus on whether SFR can fulfil the two key components of food security:

i) food availability and access, and ii) safe and healthy food (Garrone et al., 2014). SFR is condemned as being a band-aid solution that addresses neither the fundamental socio-economic causes of poverty nor the inefficiencies in the food systems that result in high levels of surplus and waste (Caraher and Davison, 2019; Lorenz, 2012, 2008; Riches and Silvasti, 2014). By attempting to tackle these two issues together, SFR ultimately runs the risk of legitimising two systematic failings in the food supply chain, depoliticising hunger and absolving governments from their duty as signatories to the Sustainable Development Goals (Alston, 2018). In the US and Canada, which have over forty years of an institutionalised food aid system and measurements of food insecurity, evidence suggests that SFR has not prevented food insecurity (Hawkes and Webster, 2000; Riches and Silvasti, 2014).

The large body of critical literature on SFR is predominantly from a North American/European context, with UK-based empirical literature largely focusing on food banks that are not utilising surplus food (Caplan, 2017; Downing et al., 2014). It is therefore important to contribute to the empirical understanding of SFR in the UK (Alexander and Smaje, 2008; Midgley, 2019, 2014) especially given the indications that SFR will be expanded as part of government strategy to tackle both poverty and food waste.

3. Methods

3.1. Research design

This study aims to set an agenda for the future of SFR in the UK including policy interventions leading to this future. The following three objectives support this aim:

- i. investigate the motivations, challenges and perspectives on SFR in the UK,
- ii. establish consensus on the preferred future of SFR in the UK,
- iii. propose policy interventions that can deliver this future.

A mixed methods research design was developed to address these objectives and is presented in Fig. 1. Empirical qualitative data were collected via 17 semi-structured interviews, and scenario building and normative back casting exercises with 40 participants, during two day-long workshops (research participants were involved in SFR). The interviews and workshops were conducted in 2019, before the COVID-19 pandemic. Qualitative data from the interviews were analysed by coding.

3.2. Interviews

The interviews helped develop a nuanced understanding of

experiences, knowledge and perspectives revealing *why* the phenomenon of surplus food redistribution is occurring rather than simply describing *what* it is or *how* it is happening (Saunders et al., 2009). The semi-structured interviews aimed at collecting data on the motivations, challenges, and perspectives on policies relevant to SFR in the UK. The interview template can be found in Appendix A.

The interviews were recorded digitally, transcribed verbatim and imported into NVivo software. Data was analysed using the constant comparative analysis method from Grounded Theory, where themes were built through analysis of gathered data (Corbin and Strauss, 2008; Seidel and Urquhart, 2013). Using NVivo the transcribed data was reduced and rearranged into more manageable forms for analysis and comparison. Initially, categories emerged from the interview frameworks. Continued analysis and comparison of the data allowed new themes and sub-themes to be coded in NVivo as new evidence and relationships between themes emerged (Seidel and Urquhart, 2013). This reiterative process resulted in the synthesis of the data into the key themes shown in Fig. 2.

3.3. Participatory methods: Explorative scenario building and normative back casting analysis

The interviews were followed by two day long workshops including an explorative future scenario building exercise (i.e. *what do we want the future to be like?*), which was then used to guide various decision making pathways through a normative back casting exercise (i.e. *how can we get there?*). Participatory methods have been proven very effective in co-production of knowledge and consensus building in multi-stakeholder contexts within the food domain. Scenarios methodology aims to recognize and explore uncertainty and complexity in the decision-making rather than limiting or simplifying the context within decisions are made (Kok et al., 2011). The development and use of scenarios has been successfully applied as an approach to guide action in multi-level, multi actor adaptation contexts such as climate change and food security (Reilly and Willenbockel, 2010; Vervoort et al., 2014). In multi-stakeholder contexts, explorative scenarios can engage multiple legitimate perspectives involved in framing and addressing messy challenges such as food security and sustainability (Herrero et al., 2014). In this research explorative scenarios are defined as “multiple plausible futures expressed in words, numbers and/ or images” (van Notten et al., 2003). The explorative scenario building exercise followed the procedure outlined in the Millennium Ecosystems Assessment as described in Henrichs et al (2010). The exercise involved three steps:

- Step 1: Identify main concerns about future developments
- Step 2: Discuss key uncertainties and driving forces
- Step 3: Develop scenarios and narratives

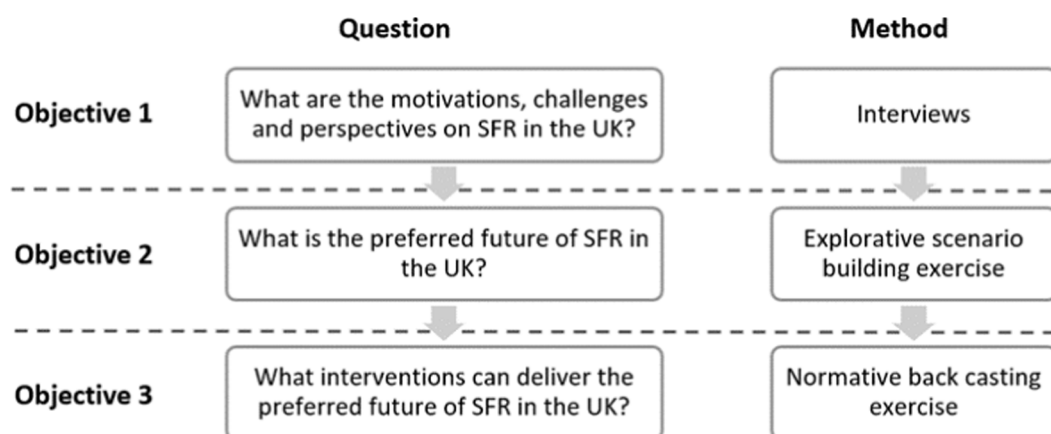


Fig. 1. Research design.

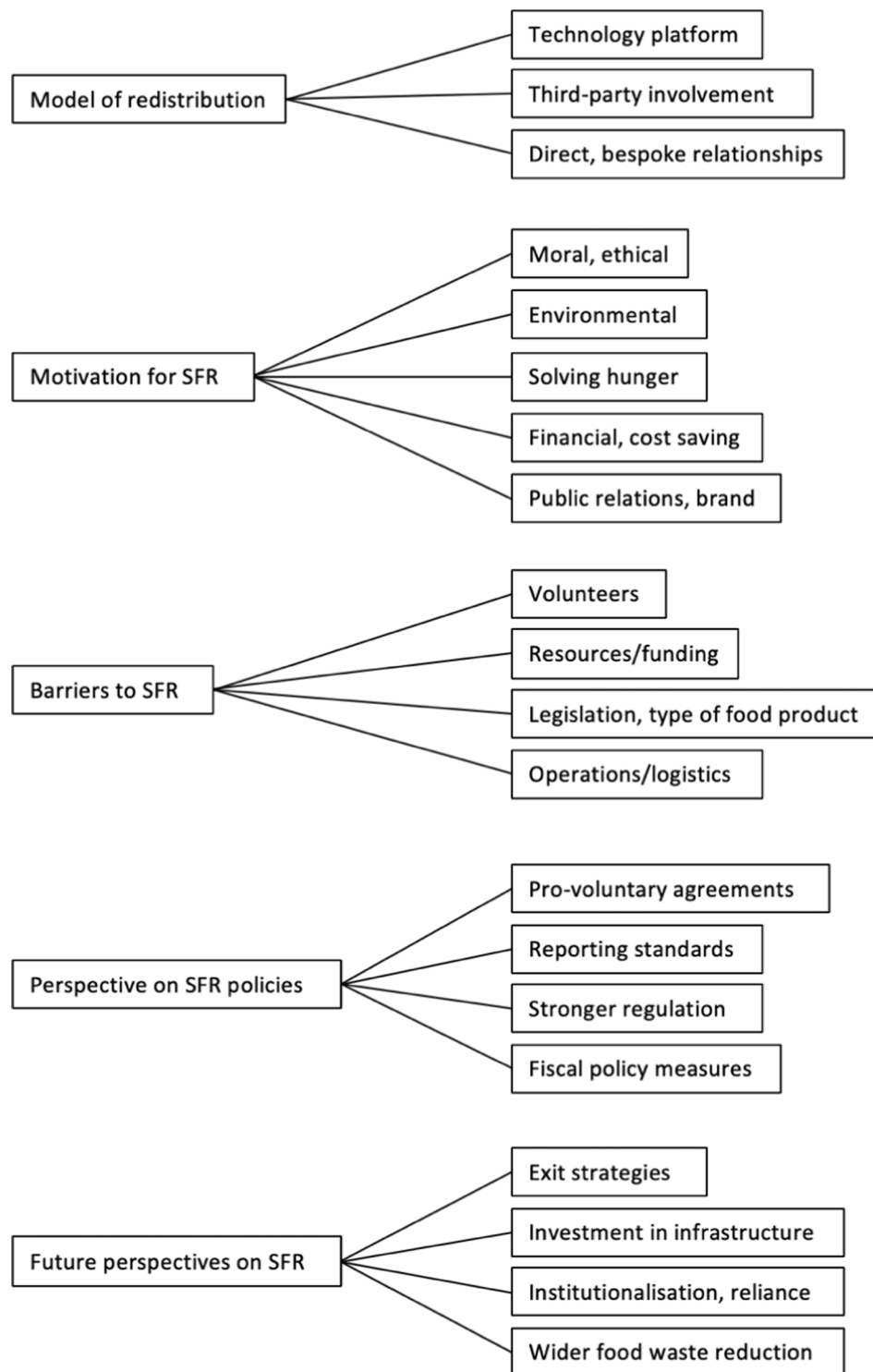


Fig. 2. Coding tree used for analysis in NVivo.

The various SFR stakeholders participating in the workshops were asked to develop explorative scenarios of the future of SFR in the UK. In line with the *scenario-axes technique* (van Vliet and Kok, 2015) two variables i) the availability of surplus food, and ii) the level of household food insecurity were selected during the focus groups as the most significant uncertainties that structure the future of SFR in the UK. These variables were plotted across two vertical axes to produce a matrix of four future scenarios. The workshop participants developed narratives describing these scenarios, complimented by an artist's illustrations

serving as visual summaries (Vervoort et al., 2014).

These scenarios were then used to guide various decision making pathways through normative back casting (Lord et al., 2016). Normative backcasting is a scholarly and planning method that starts with defining a desirable future and then works backwards to identify actions and policies that will lead to that future (Bibri, 2018). The backcasting approach was originally developed for and used in the energy sector (Robinson, 1982) and more recently in strategic planning (The Natural Step, 2021). It is concerned with *how desirable futures can be attained*,

rather than *what futures are likely to happen* which is the focus of explorative scenarios building (Kok et al., 2011). Backcasting is not concerned with predicting the future; rather it is a strategic problem-solving framework aiming to identify ways of reaching desired outcomes in the future. This involves linking future goals to a set of steps performed now and designed to achieve that end (Bibri, 2018). Explorative scenario building and normative backcasting are two methods that have since been combined in numerous participatory research contexts in energy supply, water management, and food security (Tourki et al., 2013). The main advantage of combining explorative scenario building with normative backcasting is in the identification of robust actions that are effective in the different socio-technical and environmental contexts developed through the explorative scenarios building (van Vliet and Kok, 2015). The backcasting method followed five steps as per the van Vliet and Kok (2015) methodology:

- Step 1: establish consensus on the desired endpoint in terms of SFR in the UK in the next five to 10 years
- Step 2: identify obstacles, opportunities and milestones encountered in relation to achieving the desired endpoint
- Step 3: identify actions designed to overcome obstacles and achieve milestones and desired endpoint
- Step 4: develop strategies by sequencing actions and milestones leading to the desired endpoint
- Step 5: refine strategies and summarise the most robust actions that could be effective in the explorative scenarios.

It is worth noting that these five steps are a simplified representation of the participatory process. In reality, this approach allowed space for contention between stakeholders with different needs, priorities and interests (e.g. private organisations with vested interests in the status quo, were resistant to more radical change), as well as variations within specific stakeholder groups (e.g. not all SFR charities have the same view on SFR). The workshop participants co-produced the outputs from Steps 1–4, while the research team facilitated the back casting process. In Step 5, the authors summarised these outputs in coherent interventions, presented in Section 4.5: Policy implications, below.

3.4. Sampling

Purposive and snowball sampling techniques were used to recruit research participants involved in SFR that would best enable the research aim and objectives to be answered (Saunders et al., 2009). This involved making contact with a diverse range of stakeholders from third, private and public sector organisations and institutions engaged in SFR. This approach was successful, allowing interviews and focus groups with actors that directly participate in, manage or have decision-making power in SFR third sector organisations, retail SFR strategy and operations, and local, regional, or national government policies on food, poverty, public health, waste, and the environment. A full ethical review was completed before commencing data collection, in accordance with the University of Leeds Research Ethics and Integrity framework. In line with this framework, the identity of interviewees and their organisation was kept anonymous, and customers/service users of charities supplying surplus food were not approached to protect vulnerable groups. The profiles of the interview participants are presented in Appendix B and of the workshops' participants in Appendix C.

4. Findings and discussion

This study critically examined the motivations, challenges and perspectives on SFR in the UK, explored the ideal future scenario of SFR (the *true* 'win-win' scenario), and identified intervention pathways leading to this future. In this section, findings from the interviews, scenario building and back casting exercises are presented and critically analysed, followed by a discussion on the policy implications of the

research.

4.1. Stakeholders' misaligned motivations

Interviewees suggested that the most common motivation for SFR was to alleviate household food insecurity. This often came from a moral and ethical standpoint of it being 'wrong' that food was being wasted whilst people could not afford to eat, meaning that SFR was simply the 'right' thing to do. Most interviewees therefore considered it essential that surplus was given specifically to those in need, with the exception of Industry Expert 1 who argued surplus should be available for everyone, not exclusively for "poor people". Another strong motivation was to mitigate the environmental impacts of food waste particularly to reduce the climate change impacts, with SFR often seen as a 'win-win' solution for society and the environment.

For retailers, SFR also made good business sense by a) offsetting the significant costs of sending food to waste treatment facilities or animal feed, and b) being good for public relations and marketing. Both charities questioned how genuine the retailers' desire to benefit communities and the environment was in comparison to their desire to protect the bottom line:

"It's all great when they first give the food, you think they want to help the community, but it's not about that, all the time they're thinking of the bottom line. Nothing influences anything more than money." Charity 1: Co-founder

Indeed, evidence from interviews indicated that retailers were not prepared to expand redistribution efforts beyond the extent that it was economically viable, despite their best moral, ethical and environmental intentions. This finding aligns with others studies on the French and US retailers by Mourad (2016) and on UK retailers by Swaffield et al. (2018). This economic motivation also explains the tendency for retailers to favour Anaerobic Digestion over redistribution; as it requires no investment in processes in store and is subsidised as a renewable fuel (O'Brien, 2013).

This misalignment of the stakeholders' motivations supported by evidence from other case studies (Alexander and Smaje, 2008; Mourad, 2016; Swaffield et al., 2018), reveals tensions between stakeholders that are concealed under the 'win-win' portrait of SFR.

4.2. Challenges for surplus food distribution in the UK

Reliance on volunteers was unanimously seen as a challenge, due to unreliability, time constraints and inability to find sufficient volunteers to handle the capacity of surplus generated. This problem tended to be amplified at particular times of year, such as the summer, Easter or Christmas, where a decrease in available volunteers coincided with an increase in surplus to be redistributed:

"When you're engaging a charity network to do this [redistribute surplus food], the vast majority, say 99% of this stuff is done by volunteers. But effectively what you're asking is a voluntary network of people to solve a commercial issue." Retailer 1

There was also criticism from charities that their provision could occasionally be taken advantage of by retailers, who were keen to off-load their surplus problem elsewhere. Each charity had experience of being given food that was in no way fit for redistribution and therefore having the burden of disposing of that food, or felt that they had no power to negotiate demands with retailers, with everything having to be done on the retailers' terms despite the fact the charities were "doing them a favour".

Lack of financial resources was another challenge faced by some charities. The effective and safe redistribution of food requires storage infrastructure, transport, appliances such as fridge-freezers and volunteers or staff, all of which incur capital and operational costs.

Frequently, charities did not have sufficient resources to maximise the amount of food that could be redistributed, or sufficient income to cover weekly expenses, even if they collected ‘pay as you feel’ donations from food recipients:

“It costs about £140 per day to open the cafe, including my wages, rent, gas, electricity, cleaning products, diesel, odd bits of ingredients and bus fares for some volunteers. On a good day we get £80 but it can be as low as £30 in the box. There’s quite a big shortfall.” Charity 2

Although retailers did make significant investment in systems to maximise SFR, they felt this cost was outweighed by financial gains from reduced waste disposal costs and positive reputational benefits. Retailers did note that lack of storage space and resources at the back of store inhibited increased SFR.

Operational and logistical challenges also posed barriers to SFR. Retailers highlighted that that SFR required significant changes to in-store routines and practices. All of the retailers admitted that for staff, the ‘easy’ and more profitable option was to direct food for anaerobic digestion, rather than separating it and arranging for redistribution. This due to the extra time and effort required, confusion over what could be redistributed regarding food safety concerns, and lack of ‘buy-in’ to the motivation for redistribution. Some retailers have attached key performance indicators to SFR to attempt to tackle this:

“Getting the message to colleagues is quite hard. The rules are different on each department so it’s making sure they understand what they can and can’t donate. It does create them a little bit of extra work, and I think everyone needs to buy into why we’re doing it as well.” Retailer 4

Redistributors also noted the logistical challenge to arrange collections from multiple stores at short notice with different collection procedures, especially when collection times from different stores often coincide and are at unsociable hours at the end of the trading day:

“They all want you to go at nine o’clock at night, but people don’t work at nine o’clock at night, especially volunteers. And you can’t be everywhere at nine o’clock at night.” Redistributor 3

Finally, for retailers, legal requirements often inhibited the redistribution of certain types of food. It is illegal for supermarkets to redistribute any food past its use-by date, and in order to retain the potential sales value in these products, supermarkets will keep them on the shelf until the end of trade on the day of their use-by date. Even with best-before and display-until dates that are quality rather than safety indicators, Industry Expert 2 implied that often supermarkets will still be reluctant to redistribute these products after their ‘best by date’ has been reached as they do not want food that is not at its best quality to be associated with their brand. This makes redistribution of products such as raw meat, cooked meat, dairy products, ready meals, and other chilled foods almost impossible, unless redistributors are willing to collect late in the evening and have access to freezer storage to extend the life of the product:

“Some of our stores never close, they are 24/7. It becomes impossible to redistribute within the use-by date, or it starts to incur significant cost, because you’re starting to redistribute the product when there’s still potential sales revenue within it.” Retailer 2

Retailer 3 were unique in their approach to attempt to tackle this problem; making a commercial decision to take use-by products off the shelves two hours before the close of trade to make these products more accessible for charity collections. Another challenge faced by retailers and charities was that there tends to be a mismatch between the type of products that arise as surplus and the type of products that charities need or want for their activities, meaning charities often have no use for the surplus:

“Each charities’ needs may be different to the next. So they might want certain types of food, but the stores have only got what they’ve got.” Redistributor 2

The economic, infrastructural, logistical and legal challenges highlighted above concur with existing explorations of SFR in the UK and overseas (Hermendorf et al., 2017; Priefer et al., 2016; Schneider, 2013). They also highlight the power inequalities between retailers, redistributors and charities using surplus food. As demonstrated in the examples above charities and redistributors have little to no bargaining power in negotiating the type of surplus they receive or collection times. This is exemplified in the ‘first come first serve’ system where charities compete for the acquisition of surplus food, which can undermine collaborative working relationships and further marginalise charities with the least resources (supporting the findings in Mourad, 2016). This puts charities and redistributors in what Alexander and Smaje (2008) call a ‘dependent and subordinate’ position in the retail supply and demand model, where they have to bow to retailers’ demands and embed themselves in the existing food systems infrastructure and practices (as also highlighted in Midgley, 2014).

4.3. Perspectives on policies relevant to surplus food distribution in the UK

All of the retailers, two redistributors and Industry Expert 2 clearly favoured the Courtauld 2025 voluntary agreement between WRAP and the food industry (WRAP, 2021), and perceived it as an opportunity to increase SFR and reduce food waste throughout the supply chain. They believed that regulatory measures such as the recent French legislation (as analysed in Mourad, 2016) would not overcome the aforementioned barriers to SFR and would be challenging to enforce. They also feared that levelling the playing field through regulation could mean that SFR simply becomes a box ticking exercise, rather than retailers being driven by their competitors and customers to improve practice. One regulatory instrument that some retailers did advocate for was the introduction of mandatory, standardised reporting on food waste data to hold retailers to account and drive competition:

“I think some of our competitors exclude products that are difficult to redistribute from their waste numbers, they know it’s difficult to redistribute a use-by product between 8 pm and midnight and therefore they regard that as inedible and exclude it from their public reporting. Standardisation of reporting would be good, because it would ensure retailers are telling the same story.” Retailer 2

Although all interviewed retailers aimed to reduce surplus food and increase the proportion of surplus that is redistributed in line with their commitments to C2025 and SDG 12.3, they were cautious of expanding their SFR infrastructure given this intended decreased in volume. Having said that, most interviewees believed that realistically it would be impossible to eliminate surplus completely, due to the nature of the current retail system and food supply chain in the UK which make a wide range of products permanently available. They argued that the best thing to happen to that surplus would always be to redistribute it for human consumption:

“It’s an ongoing process to reduce surplus, but there’s always going to be some. If we’ve got surplus the best thing to happen to it is for it to go to humans through colleagues or charities.” Retailer 1

In contrast, charities were generally critical of current voluntary agreements as they did not push beyond economic profitability or challenge retailers’ power in the system. They felt that legislation or financial penalties offered opportunities to ensure retailers adhered to the food waste hierarchy and maximised SFR. Redistributors, charities and industry experts were all in agreement that in an ideal world the long-term goal would be to have an exit strategy for SFR organisations, as surplus food volumes should decrease to a level where it is not necessary for them to exist (for more on SFR charities’ exit vs growth

strategies see [Spring and Biddulph, 2020](#)). Charities, retailers and redistributors were also conscious that increased SFR should not result in a reliance on surplus food for those affected by household food insecurity, thereby masking deeper social problems:

“Retailers aren’t necessarily there to solve the social problems, but by redistributing surplus food they’re filling a little gap. There’s lots of charities and community groups that want that surplus and creating a reliance on that is a big thing to watch out for.” Redistributor 2

To avoid the danger of reliance on surplus food for nourishment, charities instead saw an opportunity to focus on their ‘non-food’ operations and promote the broader positive societal impacts fostered by SFR. As an example, Charity 2 offered haircuts, cooking-on-a-budget skills workshops, surgeries with local councillors and advocacy events, alongside food. This is in line with SFR charities’ shift away from crisis prevention and handouts, towards preparation of food on-site for community engagement, community pantries, lunch clubs and advice services (this supports findings by [Saxena and Tornaghi, 2018](#)). This shift in SFR focus is an opportunity to stimulate social inclusion and learning, provide support services that work at tackling the root causes of poverty and have a ‘trickle down’ effect making people more conscious of food waste generation at both system [or ‘industry’] and household levels (as also highlighted by other studies such as [Blake, 2019](#); [Smith and Bek, 2020](#); [Spring et al., 2019](#)).

4.4. The future of surplus food redistribution in the UK

The interview findings above, provided the necessary context and informed the workshop discussions and exercises. The focus of the explorative scenario building exercise was on the future of surplus food

and its redistribution within the context of household food security and food systems sustainability. Participants developed narratives of four possible scenarios considering the two most significant uncertainties that shape the future of SFR in the UK i) the availability of surplus food, and ii) the level of household food insecurity. The geographical and temporal scope of these scenarios was the UK in the next five to 10 years. As highlighted in the methods section, the scenario-building exercise allowed space for contention between stakeholders with different needs, priorities and interests, as well as variations within specific stakeholder groups. The authors consolidated the outputs of this exercise in the narratives presented below. Artist Mary Tallontire illustrated the narratives in the form of visual summaries in [Fig. 3](#).

‘Lose-lose’ scenario: Low food security combined with high surplus food availability

In this scenario there is low household food security, i.e. people cannot get enough, nutritious, affordable food at all times. This is mainly due to lack of access and affordability, not necessarily because the price of food is high but as a result of poverty and inequality. This is coupled with over production of food (not necessarily nutritious) leading to high levels of surplus food. This is considered as the most likely future if the current trends observed in the UK continue unchallenged.

In this scenario governance is weak and policy is fragmented, leading to unbalanced, globalised food systems that do not meet nutritional needs of the people, and instead focus on profit maximisation with detrimental social and environmental impacts. Food overproduction, leading to surplus food and eventually food waste, has devastating impacts on the environment in terms of climate change, land use change, biodiversity loss, and soil nutrients depletion. The nutritional value of the foods produced is low and not considered a priority. Subsidies for

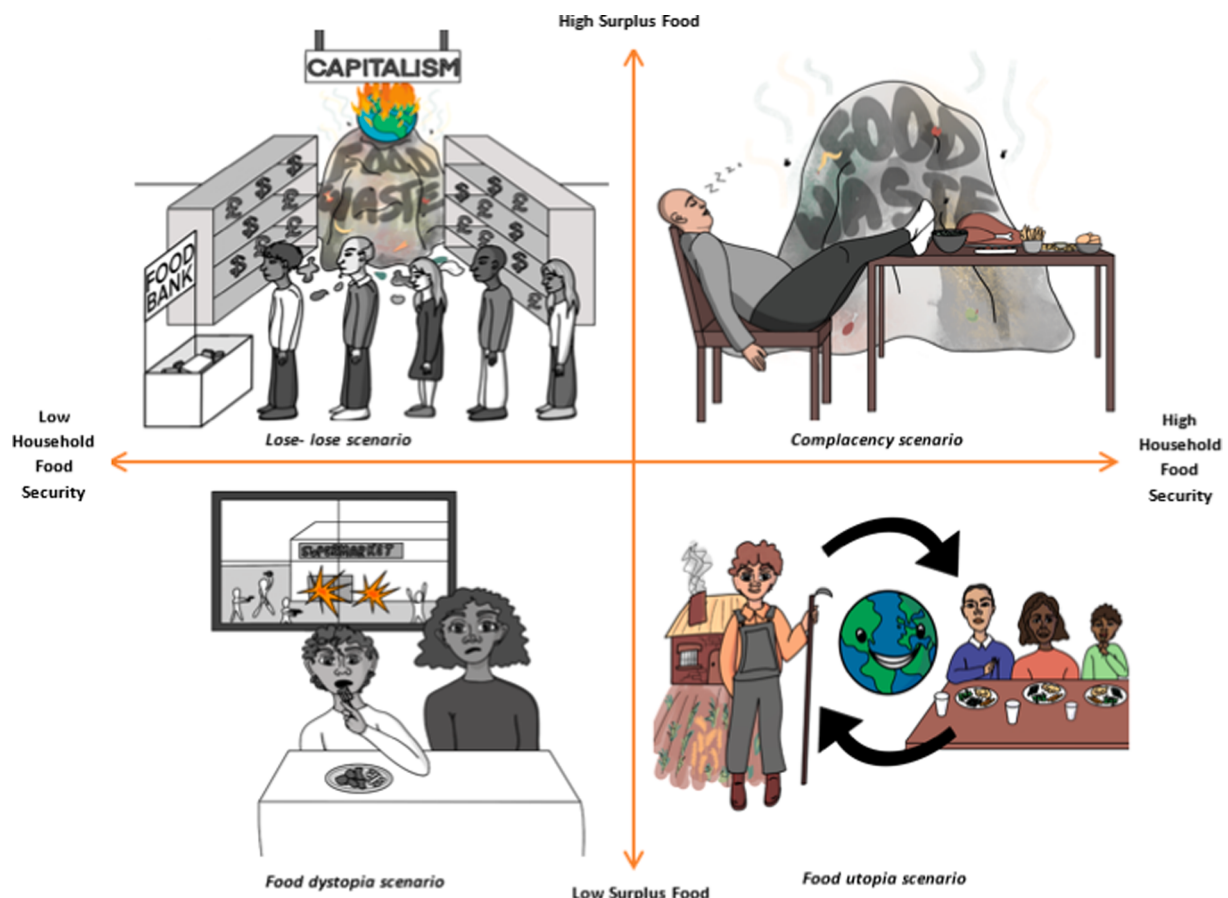


Fig. 3. Visual summaries of the four explorative scenarios of the future of SFR in the UK in the next five to 10 years, by artist Mary Tallontire.

wheat and sugar continue to incentivise cheap over nutritious and diverse food production. Power is consolidated amongst fewer and fewer agents controlling the system and promoting a capitalist model of continuous growth. In this scenario SFR has become part of the mainstream food provision system, following the example of the US model. Food provision via SFR is branded as hunger relief and the responsibility for household food security is individualised. When the individual is unable to secure sufficient food, SFR provides a form of a 'safety net' in absence of social security structures, albeit a safety net based on contingent charity rather than guaranteed entitlements. The government takes no responsibility and no involvement in food provision and it has gradually handed over the controls to the commercial sector (much like the neoliberal Anglo-Saxon model presented in Richards et al., 2016). The government and commercial sector rely on the voluntary and not-for-profit organisations to a) prevent surplus food becoming waste by intercepting it at the retail level before it goes onto landfill or other waste management facilities, and b) divert surplus food to people experiencing household food insecurity. This scenario is referred to as a 'lose-lose' scenario as neither food waste prevention, nor household food security are priorities leading to detrimental environmental and social impacts. This scenario represents a continuation of the current SFR trends.

'Complacency' or 'tipping point' scenario: High food security combined with high surplus food availability

This scenario features high levels of household level food security i.e. people can access sufficient, nutritious and affordable food at all times. However, it also features high levels of surplus food eventually becoming food waste.

High levels of household food security are the result of strong and socially-minded policy and actions addressing the underlying causes of poverty and inequality. This eventually reduces the reliance on SFR operations for hunger relief. Although this is a positive outcome of this scenario it exacerbates the environmental problems caused by over-production of food. This is because surplus food no longer has an avenue for redistribution and thus is more likely to become food waste. In this scenario, the nutritional value of food is high, leading to healthy and varied diets and positive outcomes in terms of reduction of non-communicable diseases and associated healthcare costs. The government in this scenario has addressed the underlying causes of household food insecurity, however it has not addressed the systematic over-production of food leading to surplus food and eventually waste. This is because the power over food production and provision still lies on the hands of few agents in the commercial sector, who have overall control of the food systems. The few agents that control the food supply chain use over-production as a means to maximise profit, and they externalise its true cost to both the environment (i.e. GHG emissions produced at every stage of food production and consumption) and people (i.e. workers along the food supply chain in foreign countries not getting appropriate wages, healthcare and other employment rights). This is because there are no incentives or regulatory controls to entice or force the commercial sector to adopt alternative business models. The government steps in to 'prop up' workers and ensure household food security.

This scenario could eventually move into two very separate directions. In the 'complacency' version of this scenario, people are not motivated to act or challenge the status quo because their basic needs are met. This leads to the intensification of the profit driven model causing irreversible environmental destruction. It eventually leads to a decline of household food security for the people along the food supply chain, when the government is no longer able to ultimately subsidise the commercial sector by picking up the externalised social cost of food production. In the 'tipping point' version of this scenario, when people's basic needs are met (i.e. high household food security), 'higher' needs such as sustainability become more important. The high level of surplus

food becomes a moral and political issue needing attention and action. Food consumers take a more active role as food citizens and demand action from political powers to change the status quo. This could potentially lead to a shift away from the current commodification of food, and towards a version of renationalisation of food production and provision, based on the idea that food is a common good and a human right.

'Food dystopia' scenario: Low food security combined with low surplus food availability

This scenario is characterised by low household food security i.e. people cannot get enough, nutritious, affordable food at all times, and low surplus food. Low household food security is considered as the result of the continuation of current trends in terms of:

- austerity, social benefits cuts, inequality and poverty i.e. people cannot afford adequate food, and
- production of cheap but not nutritious food i.e. the food that people can afford and access, is not nutritious or varied.

In this scenario, the low level of surplus food can be seen as an opportunity to prevent food waste. However, it creates tensions when there is not enough surplus food to satisfy the growing demand for SFR brought by the chronic and problematic overreliance on SFR to address food insecurity. This phenomenon is already being observed in instances where supermarkets do not have enough (or the right type) of surplus food to give to the charities, causing conflict and competition amongst SFR organisations. In this scenario version, this point of tension becomes even more pronounced.

This scenario has the potential to lead to extremes such as civil unrest. People are unable to meet their basic needs, and SFR is no longer coping with the increased demand, causing tensions. This exposes the fragile and temporary nature of hunger relief operations and highlights the need to address the root causes of food insecurity and food waste as decoupled issues rather than use SFR as a 'band-aid' over both issues. This scenario also raises the question of responsibility. Currently and in this scenario, the responsibility for household level food security falls on the individual, and the third sector steps in when the individual is unable to do so. As a result, the third sector finds itself playing a central role in food provision, a risk foreseen 20 years ago by Hawkes and Webster (2000). This scenario reveals how problematic and unsustainable it is to rely on SFR to address household food insecurity, instead of addressing the root causes of household food insecurity.

'Food utopia' scenario: High food security combined with low surplus food availability

This scenario is all about an ideal future where everyone can access and afford sufficient and nutritious food at all times, coupled with low levels of surplus food. This is the true 'win-win' scenario, where truly sustainable food systems meet the needs of the people and deliver socio-economic benefits whilst respecting planetary boundaries. High food security, healthy diets, reduced poverty and inequality lead to broader positive socio-economic outcomes. The true social and environmental cost of food production is not externalised. However, the price of food still ensures affordability even if it reflects food's true value. This is achieved by cost efficiencies via food waste prevention, and redirection of subsidies away from dominant crops such as wheat and sugar, towards fruits, vegetables, and other nutrition rich foods, to make the latter more affordable. Paying workers decent wages along the food supply chain, also ensures they are food secure. Regulation targeting food overproduction prevents food waste and its environmental impacts, whilst it ensures a level playing field across the commercial sector. SFR is kept to a minimum and only as an emergency safety net, because there is no need for it due to high food security and low surplus food.

The dominant characteristic of this scenario is food systems that put

people and planet before profit. It is a future with strong, coherent and connected policy and governance that prioritises social values over a capitalist model relying on continuous growth. The commercial sector is part of the system but does not dominate it. Although it is the most sustainable and resilient scenario out of the four, there is still the risk of tipping back into the current status quo. Therefore, safeguards are needed to prevent the food systems from reverting back to their current state.

4.5. Policy implications for the future of surplus food redistribution in the UK

The scenario building exercise sought to develop four possible futures of the UK surplus food redistribution for the next five to 10 years. Through this process, the participants also developed a vision for the future and it was agreed that ideally there would be no need for SFR in the UK in next five to 10 years. This implied that the ideal scenario for the future would be one where people are food secure and the food systems are not wasteful. This vision aligns closely with the 'food utopia' scenario. The participants agreed that this scenario would exist within future food systems designed for healthy people and a healthy planet, in other words sustainable food systems.

It is worth noting, that the backcasting exercise allowed space for contention and debate across the various actors, and diversity within the actor groups themselves (e.g. SFR charities do not all have similar strategies). Consensus was achieved by focusing on the common vision that participants developed collectively, and by acknowledging that compromises and trade-offs were unavoidable (Blay-Palmer, 2016; Garnett, 2013). Building on the interviews and scenario building exercise, the backcasting exercise developed a number of interventions that would be necessary to deliver the preferred future. The authors summarised these interventions under the five policy recommendations presented below, while acknowledging the tensions between the various stakeholders and opposing vested interests.

Reject the SFR 'win-win' narrative

One of the key interview findings is that although SFR provides a waste reduction solution for retailers (highlighted in section 4.1), it fails to address the root causes of household food insecurity. This masks deeper social problems such as inequality and poverty, and risks reliance on SFR for nourishment (outlined in section 4.3). The 'food dystopia' scenario illustrates how problematic and unsustainable it is to rely on SFR as a solution to household food insecurity (section 4.4). A fundamental requirement for achieving sustainable food systems (for the context of this research these are food systems that are not wasteful and ensure everyone is food secure) is to move away from using SFR as a tool to tackle food waste and food poverty in tandem (supporting similar calls by Arcuri, 2019). This is because although SFR delivers some short-term benefits for both issues, in the long term it actually perpetuates both problems. Investment in the expansion of SFR infrastructure would further entrench a two-tier food system that lacks resilience, is inefficient, and cannot deliver food security. Instead, there is a need for a greater focus on tackling the systemic causes of food waste throughout the food supply chain, and reforming welfare and wage policies to adequately address the root causes of household food insecurity (for more on food systems approach see Lang, 2020).

Tackle systematic food overproduction

Another key finding is that although there has been an increase in SFR, economic, operational, logistical and legal challenges prevent SFR from reducing a higher proportion of retail food waste (section 4.2). In addition, retail food waste only accounts for 2% of the UK's food waste (WRAP, 2019), illustrating the limited impact SFR has in reducing food waste throughout the whole food supply chain. Reducing food wastage throughout the food supply chain can be achieved by a combination of

technology innovation, policy and regulatory mechanisms (Bajzelj et al., 2020; Reynolds et al., 2019). As acknowledged during retailers' interviews (section 4.3.), these type of interventions have unquestionably delivered efficiencies along the food supply chain and reduced the environmental and economic impacts associated with food production and consumption, however they have limitations. Waste management interventions manage the problem of waste once it is created. Although waste prevention sits at the top of the food waste management hierarchy, waste management strategies were never designed to challenge the broader food environment within which food waste exists, and are therefore unsuitable to do so. Participants of the backcasting exercise, recognised that food waste prevention (as opposed to reduction only) can only be truly achieved by tackling the root causes of systemic food waste generation. Systemic overproduction of food is behind surplus food generation and its eventual transition into food waste. Therefore interventions seeking to prevent food waste should tackle the cultural, regulatory, material, and economic reliance on unsustainable overproduction in the whole food system (for an in depth analysis of these see Messner et al., 2021).

Eradicate poverty

The interview and workshop participants recognised that household food insecurity is a problem rooted in inequality and poverty (section 4.3), and as such it cannot be addressed by SFR (as illustrated in the 'lose-lose' scenario). During the backcasting exercise, it was acknowledged that interventions targeting poverty are central in addressing household food insecurity (supporting recommendations by Fisher et al., 2017). Decent work is the best way to eliminate household food insecurity, especially for those working within the food supply chain who are often food insecure. However, social security has also got an important role to play especially for those out of work. Urgent action is also needed to address the UK's social security system delays and errors that have been shown to cause acute household food insecurity. The Independent Food Aid Network (IFAN) proposes welfare interventions such as a 'cash-first' approach to poverty prevention, including immediate reversals to welfare policies that limit families' incomes below basic living costs, as well as ending 'zero-hours contracts', a genuine Living Wage, and ending 'No Recourse to Public Funds' status for non-citizens. Central to these interventions is the *right to food* approach which locates food within a social justice framework (for more on the right to food approach see Fabian Society, 2015). The human right to food enshrines the right to feed oneself and one's family with dignity, and it has been set out in the Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural rights to which the UK is a signatory. Translating the statutory right to food into a reality for food-insecure households requires tackling the poverty experienced by one-fifth of the UK population and set to further increase.

Balance uneven power distribution amongst food systems actors

An overarching theme in both the interviews and the scenario building exercise, was the role of power in shaping SFR in the UK and determining its future. The power imbalances amongst SFR actors are manifested in the 'first come, first served' surplus food collection system, or in the fact that charities do not have a say in the quantity or type of surplus food they are given (as highlighted in section 4.2). Although power was a contested topic of discussion, workshop participants recognised that balancing current power dynamics between key actors in the food systems is a prerequisite to food security, which is a common goal. They acknowledged that the private sector plays a key role in the food systems, however it is fundamentally motivated by factors unrelated to health or sustainability, particularly [shareholder] profit (also highlighted by Fisher et al., 2017). As a result, the private sector often promotes unhealthy foods and profits from a wasteful system that exploits natural and human resources. On the other hand, the costs of diet-

related poor health, ecological degradation, climate change and other such externalities, are borne by the wider society. In the backcasting exercise, workshop participants concluded it is crucial that private and public sectors work together to a common agenda, and for the public sector to address the current policy distortions (for example agricultural subsidies and food governance structures that reinforce retail market concentration) that lead to power concentration solely on private sector actors.

Deliver food security within planetary boundaries

The backcasting exercise participants identified the ‘*food utopia*’ scenario as the preferred future of SFR in the UK. They agreed that this future scenario exists in a context of household food security, where nutritious and desirable food is available, affordable, accessible to all at all times, and is produced and consumed within planetary boundaries. However, rebalancing food production to ensure availability of a greater variety of nutrient-rich, sustainably-produced food is a major challenge. The shift to healthy and sustainable diets has cost implications at a time that a healthy diet is already unaffordable for large parts of the UK population (Fabian Society, 2015). Today’s food prices although low, they do not account for external impacts, for example in respect to climate change and diet related poor health. If these externalities were factored in, sustainable and healthy diets would eventually cost less (Global Panel on Agriculture and Food Systems for Nutrition, 2020). However, the workshop participants drew attention to the need for affordability safety nets to ensure that low income households are protected from any temporary food prices increases. A key intervention to ensure affordability of nutritious, varied and sustainably produced food is to carefully rebalance agriculture subsidies to encompass a wider range of nutrient rich foods (as discussed by Butterfly and Fitzpatrick, 2017). This type of intervention will eventually reduce demand for ultra-processed foods. Affordability can also be boosted by preventing food losses and waste throughout the food supply chain (supporting recommendations by the Global Panel on Agriculture and Food Systems for Nutrition, 2020). Finally, in the backcasting exercise workshop participants highlighted the need for interventions that seek to remove physical barriers to affordable, nutritious and sustainable food (for example in the case of so-called ‘food deserts’). Regional and local authorities have a central role in this intervention, by establishing food access plans that identify these barriers and mechanisms to overcome them.

5. Conclusion

This research aims to set an agenda for the future of surplus food, its redistribution and prevention for the next five to ten years in the UK, including policy interventions leading to this future. Through a participatory, mixed methods research design of interviews, explorative scenario building and normative back casting exercises with relevant stakeholders, this study i) explores the motivations, challenges and perspectives on SFR in the UK, ii) constructs the ideal future of SFR in

the UK, and iii) develops intervention pathways leading to this future.

The first contribution of this research, is a critique of the mainstream ‘win-win’ surplus food redistribution narrative (i.e. solving two problems with one solution). The interviews revealed tensions between SFR stakeholders, grounded in the divergence of motivations, and uneven power dynamics. They also revealed financial, infrastructural, logistical and legal challenges that limit SFR. These tensions and challenges are concealed under the ‘win-win’ portrait of SFR. Moreover, SFR fails to address the root causes of household food insecurity and food waste, and by doing so it paradoxically reinforces and perpetuates the same problems it tries to solve.

The second contribution of this study, is the construction of the ideal future for SFR in the UK for the next 10 years. This future lies in an ideal scenario (‘*food utopia*’) where SFR is no longer needed as a ‘solution’ for food waste or household food insecurity. This *true* ‘win-win’ scenario exists in the context of sustainable food systems delivering household food security, where nutritious food is available, affordable, accessible to all at all times, and it is produced and consumed while respecting planetary boundaries. In this future, SFR exists alongside ‘non-food’ charitable operations aimed at community engagement and social inclusion.

The third contribution of this research, is a set of policy recommendations that would be necessary to deliver the preferred future of SFR. This ‘*food utopia*’ can be achieved by (i) rejecting the mainstream SFR ‘win-win’ narrative, (ii) tackling food poverty and systematic food overproduction, as the root causes of household food insecurity and food waste respectively, (iii) rebalancing the uneven power distribution amongst food systems actors, and (iv) delivering food security within planetary boundaries. These interventions have implications not only to food and waste related policies (such as the UK’s National Food Strategy by Dibleby, 2020), but also offer lessons relevant more broadly to transition pathways for sustainable food and other socio-technical systems.

CRediT authorship contribution statement

Effie Papargyropoulou: Conceptualization, Methodology, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization, Supervision, Project administration, Funding acquisition. **Kate Fearnough:** Methodology, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization. **Charlotte Spring:** Investigation, Writing – review & editing. **Lucy Antal:** Investigation, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix. A: Interview template

The following template was taken to each interview to guide the discussion around the research aims and objectives. Themes were not always discussed in the order presented below, and the questions listed were prompts rather than predefined instructions.

1. Organisation info

- History of the organisation/history of the surplus food redistribution scheme
- Size (e.g. no. of volunteers, number of stores participating)
- Funding/investment in redistribution processes
- Is the organisation independent or part of a wider network? Which retailers is it linked to (for charities)? Which charities/redistribution organisations are you linked to (for retailers)?

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- e. How does the charity redistribute food, and who do you distribute it to?
 - f. What is the process of redistributing food at the store level? Does this align with the food waste hierarchy?
 - g. What is the retailer's policy on surplus food redistribution at corporate level?
 - 2. **Motivation**
 - a. Why should surplus food be redistributed? What problems does it solve?
 - b. Why do you think surplus food redistribution is growing and is this a good thing?
 - 3. **Challenges**
 - a. What are the main challenges you face as an organisation in trying to maximise the redistribution of surplus food? E.g. resources, logistics, volunteers, staff, legislation, materiality of food, type of food, funding, convenience
 - b. How could these challenges be overcome?
 - 4. **Relationships with external partners**
 - a. Explore relationships with/between e.g. retailers, local council, third sector, other partners.
 - b. What are retailers/charities doing well or not so well? How could relationships be improved?
 - 5. **SFR policies and regulations**
 - a. What role do you think government should have in the redistribution of surplus food from retail?
 - b. Do you think the current regulation of surplus food redistribution in the UK using voluntary agreements and codes of conduct is working?
 - c. What impact do you think a 'hard' regulatory approach, such as that adopted in France, would have on your own operations and on surplus food redistribution generally?
 - d. Do you have any other suggestions on legislative instruments that you would like to see related to surplus food redistribution?
 - e. What does the future look like for surplus food redistribution?
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Appendix B.: Interview participants' profiles

Interviewee	Position	Organisation
National/ International Retailers		
Retailer 1	Head of Sustainability, Sourcing and Waste Policy; responsible for delivery of food waste reduction programme	Major international retail chain
Retailer 2	Leading a review on SFR in the Sustainable Business Team	Major international retail chain
Retailer 3	Food Redistribution Manager	Major national retail chain
Retailer 4	Community Champion, responsible for SFR in-store	Major national retail chain
Retailer 5	Community Colleague, responsible for SFR in-store	Major national retail chain
Regional Retailers		
Retailer 6	Customer Experience Manager, responsible for SFR across 26 stores	Major regional retail chain
National Redistribution Organisations		
Redistributor 1	Regional Manager for Yorkshire	UK's largest food redistribution charity, redistributing surplus from the food industry to community groups and charities
Redistributor 2	Account Director	Technology platform (certified B-Corp) connecting retail outlets with community causes to donate surplus
Regional Redistribution Organisations		
Redistributor 3	Sharehouse Manager	Charity that donates surplus to schools as well as running outside catering events, a pay-as-you-fee supermarket and education programmes.
Charities utilising surplus food		
Charity 1	Co-founder	Community cafe and food redistribution charity
	Long-term volunteer	Community cafe and food redistribution charity
	Trustee	Community cafe and food redistribution charity
Charity 2	Manager	Community cafe and events catering
Advocacy		
Industry expert 1	Project Manager, Regional Food Economies North West	Campaign NGO working to transform the food systems
Industry expert 2	Head of Surplus food Redistribution Working Group	NGO working with governments, businesses and communities to improve resource efficiency and reduce food waste throughout the supply chain.
Local Authority		
Councillor 1	Leader of the Council	Local government
Councillor 2	Chief Officer of Environmental Services	Local government

Appendix C.: Workshop participants' profiles

Organisation Type	List	Description
Local community cafes	Toast Love Coffee (Harehills, Leeds) Rainbow Junktion (Hyde Park, Leeds)	Small, local charities whose primary activities are cooking hot meals from surplus food and serving them in a communal setting, on a pay as you feel basis.
Multi-Activity Charities		

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Organisation Type	List	Description
Advocacy, campaigning and capacity building networks	Zest Leeds	Medium-sized charities that undertake a variety of activities such as employability skills training, holiday programmes, cookery classes, campaigns and social clubs. Utilisation of surplus food is only a part of their activities.
	Be Enriched (London)	
	Project Bind (Newcastle)	
	Independent Food Aid Network (IFAN)	
	Food Power	
Redistribution platforms	Sustainable Food Places	Registered charities working with actors across the food systems to advocate and campaign for fairer, more sustainable food systems. Generally operating at a national scale supporting local-level projects.
	Feedback	
	FareShareGo	
	Neighbourly	
Food Retailers	Marks and Spencer	Charitable (e.g. FareShareGo) and for-profit (Neighbourly) organisations that provide a technology solution on a national scale to allow retailers to alert local charities or food redistributors of surplus food available for collection.
	Company Shop	
Universities	University of Leeds	Major multinational retailer that donates surplus to local causes.
	University of Huddersfield	
	University of Sheffield	
	University of Liverpool	
	Nottingham Trent University	
	University of York	
		Social enterprise operating an alternative model by purchasing surplus from other retailers/manufacturers to sell to members at discounted prices.
		Researchers whose work explores food surplus redistribution from a variety of different angles, e.g. health and wellbeing, sustainable business, environmental law, social eating initiatives and food poverty and insecurity.

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