



**FOOD FUTURES
PANEL**



Food Systems Project

A GFS Food Futures panel activity

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Author(s)	Lucy Farrow, Sophie Reid
Quality Assurance by	Diane Beddoes
Main point of contact	Lucy Farrow
Telephone	0207 042 8000
Email	lucy@dialoguebydesign.co.uk

If you would like a large text version of this document, please contact us.

OPM Group

252B Gray's Inn Road
London
WC1X 8XG

+44 (0)20 7042 8000
www.dialoguebydesign.co.uk
info@dialoguebydesign.co.uk



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Executive summary

About the project

The Global Food Security (GFS) programme brings together the UK's major public funders of research into food security. A central part of the programme is to understand and respond to public views on global food security challenges and potential solutions. To help meet this aim, the GFS programme has commissioned a panel of 600 members of the public to take part in deliberative dialogue activities exploring different aspects of research on food security. The GFS programme will be using the findings to inform the direction of publicly funded food research in the UK. The panel is co-funded by Sciencewise¹.

The Food Systems project is one of the two large-scale mixed methods activities undertaken early on with the panel, alongside the Urban Agriculture project. The Food Systems project sought to explore with the public how they understand the food *system* as a complex and interconnected set of actors and actions. The project had three specific aims:

To increase the public panel's understanding of food security and food systems.

To surface existing knowledge and beliefs about food systems.

To understand public views on where the power lies for change, to move the food system towards improved health and sustainability outcomes.

The project involved a mix of online and offline activities. It started with an online phase, using a blog, online forum and online chat to explore participants' initial understanding of the food



¹ Sciencewise is the UK's national centre for public dialogue in policy making involving science and emerging technology issues

system and the challenge of global food security. The second phase used case studies hosted online to help participants look at the food system through a particular food which posed a challenge to global food security. The final phase involved one half-day workshop each in Cardiff and Plymouth. These deliberative workshops invited participants, supported by food security specialists, to explore scenarios in which different actors in the food system tried to effect change. The scenarios posed trade-offs and consequences of changes to the food system, helping participants understand the interconnections between the different actors and activities.

A total of 178 participants were involved in the project as a whole, distributed across the different phases as shown in the diagram. This report brings together findings from across the different activities, as identified in a process of thematic analysis. It reflects on what participants said, how they said it, and whether their views changed through the course of the deliberation.

Findings

The food system and global food security

We found that through the course of the activities, and in particular the face-to-face workshops participants were increasingly able to draw connections between their own food experiences and the wider food system. However they were best able to do this through specific aspects of the food system and tangible aspects such as household food waste and individual diets were more prominent in their discourse than more distant aspects such as global trade and the impact of climate change. Many participants reported surprise at the complexity of the food system and the difficulty of effecting change, suggesting that they had not previously considered their own food choices in this context.

Participants tended to conceptualise the actors in the food system using a framework in which they as individuals assumed different roles, as consumers in relation to food business, as citizens in relation to government, and often as families in relation to diet. The media and advertisers were seen as important intermediaries between individuals and the food system, with a significant responsibility to support other actors to effect change. Participants also tended not to distinguish actors with a direct role in the food system according to the stage of the food supply chain (producers, manufacturers, distributors, retailers). Rather they tended to think of food businesses, by which they meant commercial entities involved in the manufacture and sale of food, in opposition to producers who they saw as less commercial and with a greater connection to the growing of food. This conceptual framework has implications for how policy makers and researchers communicate with and understand the public when discussing food systems.

We also explored the extent to which participants felt that food security was an issue globally and in the UK. As is true for the panel overall, the majority of participants thought that food security was 'a big' or 'quite a big' issue globally, with less (but still a majority) thinking it was an issue in the UK. After taking part in the food systems workshops we found that participants

were more likely to think that food security was a big or quite big issue in the UK, suggesting that they had become more aware of food issues affecting and affected by the UK. However in relation to food security as a global issue participants were more likely to have moved to the central 'quite a big issue', with those who had initially been more concerned and those who had been less concerned converging. This finding was replicated across both locations and we hypothesise that it reflects an increased awareness of global food security issues, but perhaps that the process of deliberation made participants less concerned about the consequences, or more optimistic about the scope to address them.

The following sections report the findings of the project in relation to the main actors.

Citizens, consumers and families

The most common topic discussed by participants in relation to the role of individuals in the food system was health. Along with price, which recurred through the discussions as a motivating factor, health was the most likely issue to prompt participants to call for change in the food system. However the focus was very much on domestic concerns, particularly obesity. This is likely to reflect in part the use of sugar as a case study, which in turn reflected the timely media debate about sugar taxation. Participants tended to see the responsibility for healthy eating lying with individuals, particularly with families, and the potential to effect changes to food habits through generational change was a common topic.

When it came to environmental impacts of food production participants were much less likely to consider these impacts as necessitating change in the food system, and when they did it was more likely to be considered at the government or business level than the individual. There were notable exceptions to this, particularly in relation to food miles, food waste and seasonal eating. However participants tended to argue for these in terms of local economic benefits, supporting producers or simply common sense, much less frequently making explicit arguments about environmental impacts. For other potential areas of change like meat consumption participants were unwilling to entertain individual action, and in some cases sceptical about the environmental arguments put forward.

Ethical issues in food production were often viewed by participants with sympathy, and marks like Fairtrade were viewed positively. However when asked to consider specific impacts of the global food system on economies around the world participants often felt that this was a problem for the market to solve and were not supportive of intervention. There was a degree of acceptance by some participants that inequality is a native condition of a global system, which is impossible to overcome through intervention.

Governments and other public bodies

The role of governments was also widely discussed across all activities of the project. Participants tended to take a broad view of government, and rarely made specific reference to particular governmental actors. There were mixed views about the extent to which governments held power over or responsibility for the food system. Often participants started from a view that governments ought to be responsible (and some assumed that the GFS

programme is a governmental body with direct responsibility for food security). However through the course of the project and particularly the workshops, participants acknowledged that governments might have limited power over other actors, particularly large commercial entities.

Participants were most supportive of government intervention in the food system via indirect action: educating and raising awareness among consumers so they could make healthier and more sustainable choices. Participants had mixed views about the role of government as a legislator, and there was particular dissent about the role of taxation in discouraging unhealthy or unsustainable food choices.

Retailers, manufacturers and supermarkets

As mentioned above participants tended to group together food businesses upstream of production and felt that they had significant responsibility for the food system, in particular current patterns of unhealthy and unsustainable consumption in the UK. Participants saw retailers as particularly powerful because of their dual influence on consumers (through the products they make available and market) and on producers (through the supply chain on which producers depend). Participants often had initially sceptical views about the extent to which retailers and manufacturers would be willing to act in the interests of global food security in the face of financial incentives. However in some cases participant views softened through the course of the discussion, concluding that consumers had greater power over and responsibility for influencing these actors through purchasing power.

Participants identified particular roles for manufacturers in formulating healthy products: particularly on the issue of sugar, which was featured heavily in the news around the time of the workshops, and featured in the case studies and workshop scenarios. They tended to see the responsibility for change with manufacturers, and in many cases felt that their own lack of knowledge inhibited them from having an influence. Food waste was another topical issue which participants felt supermarkets and other retailers had a responsibility to act on. Labelling and the types of products stocked were also raised regularly by participants who felt that with appropriate information and levels of choice these actors could support changing behaviours, which could in turn support wider system change.

Food safety was discussed briefly, but appeared not to be a major concern for participants, perhaps reflecting a tendency to focus on UK-specific issues, or a lack of knowledge about the effects of unsafe food globally.

Producers

Producers were the actor referenced least often in the project, and participants rarely volunteered in depth views on the sustainability or otherwise of production methods. Time constraints meant that producers were not discussed as a separate scenario in the workshops, which is likely to have contributed to the focus on other actors. Where participants did discuss producers they tended to think of individual farmers, in contrast with manufacturers and retailers where they tended to think of large businesses. This lack of knowledge about food

production suggests a gap in public understanding of the food system, and a need for further research to fully understand public views on this element of the food supply chain.

When participants did talk about producers they discussed both UK and overseas producers, in both cases participants tended to feel sympathetic to producers who were felt to have limited power to effect change, but this did not necessarily translate into motivation for action. As mentioned above in the workshops in particular participants tended to think that market forces would mitigate negative impacts prompted by any change.

Participants rarely talked about production techniques or technologies in any detail. Although there was a tendency for participants to express preferences for “natural” techniques this was not accompanied with specific opposition to more technologically advanced processes like genetic modification. There was a fairly common misconception among participants that food production in developing countries was likely to be more ‘natural’ than in the UK, which coupled with a lack of knowledge about agribusiness suggests that participants had limited awareness of intensive agriculture as part of global trade.

Indirect actors: media, advertisers, researchers and scientists

The media and advertisers were seen by participants as some of the most powerful actors in the food system because of their role as intermediaries between consumers and the food system. Participants were concerned with the consistency and accuracy of health and sustainability information given in the media, and by product advertisers. This lack of consistency made messages encouraging positive behaviour less persuasive.

We observed throughout the activities of the project the importance of popular narratives in the media: food waste and sugar were two examples which had been widely reported on and were frequently mentioned. The concept of food miles was another example of a persistent narrative, in this case one which participants were reluctant to abandon even when provided with contradictory evidence from experts.

The implications of this are clear: the media have a crucial role in effecting change towards healthier and more sustainable behaviour in the UK. However this finding of course reflects the tendency for participants to focus on their own interactions with the food system, which pervaded the dialogue.

Trade-offs

The view of global food security presented by the GFS programme is one in which there are inevitable trade-offs between the different outcomes. This was acknowledged by participants, but tended to be interpreted in terms of their own experiences. For health, environment and ethical considerations participants often assumed that the major trade-off would be price to the consumer. They were by and large much more willing to accept trade-offs where the negative impacts accrued to organisations, in particular businesses, rather than individuals. The tension between individual choice and collective responsibility was also widely discussed, with participants expressing varied views on the extent to which appropriate solutions to the

global food security challenge should, or must, involve actions which restrict the ability of individuals to make choices which adversely affect their own, or others' interests.

On a global scale we found that participants tended to take a nationally-focussed view: they saw the responsibility for food security residing with national governments and when faced with trade-offs between UK and international interests they often prioritised the UK.

Reflections on the project

This project has produced a wealth of findings about participant views on the food system, but these are predominantly from the perspective of the UK consumer. This illustrates the challenge of engaging the public in issues which are often perceived distant in time and space, complex and interconnected in nature, and where there are no unequivocal solutions. The project should be viewed in context as one of the first activities in a programme designed to engage panel members over an extended period, building their knowledge and understanding of the food system. This project provides a base of evidence which can be built on, with future work exploring particular trade-offs and perspectives, which participants who participated in at least one of the activities should now be able to situate more readily in the food system as a whole. This also offers the opportunity in future projects to compare the trade-offs and perspectives of participants who were not involved with this project, with those who did participate.

Chapter 1: About the project

1.1. Background to the project

The Global Food Security (GFS) programme brings together the UK's major public funders of research into food security. A central part of the programme is to understand and respond to public views on global food security challenges and potential solutions. To help meet this aim, the GFS programme has commissioned a panel of 600 members of the public to take part in deliberative dialogue activities exploring different aspects of the food security research space. The GFS programme will be using the findings to inform the direction of publicly-funded food research in the UK. The panel is co-funded by Sciencewise.²,

The Food Systems project is one of the two large-scale mixed methods activities undertaken early on with the panel, alongside the Urban Agriculture project. Food Systems sought to explore with the public how they understand the food *system* as a complex and interconnected set of actors and actions. As the brief outlined:

'There are many actors and stakeholders across the food systems. What are the respective roles and responsibilities of the food industry, government and civil society? Who has the power to drive the change we need for a healthy sustainable food system?'

The project had three specific aims:

To increase the public panel's understanding of food security and food systems.

As one of the first activities on the panel the project would help to equip the panel with the tools to engage with the breadth and complexity of the food system, and on other more specific topics in future.

To surface existing knowledge and beliefs about food systems.

² Sciencewise is funded by the Department for Business, Innovation & Skills (BIS). Sciencewise aims to improve policy making involving science and emerging technology across Government by increasing the effectiveness with which public dialogue is used, and encouraging its wider use where appropriate. It provides a wide range of information, advice, guidance and support services aimed at policy makers and all the different stakeholders involved in science and technology policy making, including the public. Sciencewise also provides co-funding to Government departments and agencies to develop and commission public dialogue activities. www.sciencewise-erc.org.uk

This aim was about exploring what participants' existing knowledge and motivations in relation to food.

To understand public views on where the power lies for change, to move the food system towards improved health and sustainability outcomes.

The third aim was to go beyond existing research and dialogue work to understand how the public make judgments about the potential for the food system to change, when they are introduced to the complexities and interconnections of the systems. What are the trade-offs they make, and who do they ascribe responsibility to?

Steering Group Members

Tim Benton, GFS

Caroline Drummond, LEAF

Lucy Foster, Defra

Tara Garnett, University of Oxford

Peter Jackson, University of Sheffield

Roland Jackson, Independent chair

Huw Jones, Rothamsted Research

Hannah King, NERC

Suzannah Lansdell, Sciencewise

Jennie Macdiarmid, University of Aberdeen

Alison Mohr, University of Nottingham

Kieron Stanley, Defra

Geoff Tansey, Food Systems Academy

Jon Woolven, IGD

1.2. Involving specialists

Dialogue, particularly that promoted by Sciencewise, is a two-way process of deliberation between the public and 'specialists' on a topic. This means that expertise is brought to the room to help participants engage with the landscape and content, but also so that specialists can hear from the public. This project involved a number of specialists from within the GFS programme, and others recruited specifically for their expertise in the topic area.

The project aims and research questions were proposed by the GFS team, and developed through an iterative process of feedback with the GFS steering group (see left). We used additional specialist expertise at several points, firstly in developing stimulus materials and then via a range of specialists present at the workshop. We aimed to include the broadest range of specialists in the development of the project including academics, third sector representatives and industry. A full list of specialists is included below alongside their involvement:

Specialist	Involvement
Dr Tim Benson, Global Food Security Champion	Interviewed for stimulus video
Riaz Bhunnoo, GFS	Project lead
Professor Martin Caraher, City University	Interviewed for case study: fried chicken
Malcolm Clark, Sustain	Interviewed for case study: sugar
Professor Simon Davies, Harper Adams University	Interviewed for case study: oily fish and attended workshop in Plymouth
Jackie Young, Devon and Cornwall Food Association/Environmental Scientist	Attended Plymouth workshop

Evangelia Kougioumoutzi, GFS	Attended Plymouth workshop
Steve Garrett, Cardiff Food Council	Attended Cardiff workshop
Barbora Adlerova, MSc University of Cardiff	Attended Cardiff workshop
Dr Angelina Sanderson Bellamy, University of Cardiff	Attended Cardiff workshop
Dave O’Gorman, GFS	Attended Cardiff workshop

The specialists who attended the events were chosen to represent a range of viewpoints and disciplines, and briefed to support participant discussions through prompting and questioning, through raising issues which participants might not have known about or understood to be relevant, but not to present a definite perspective on which solutions to the global food security challenge were best. The workshops were structured as follows:

1.3. Our approach

1.3.1. About the Food Futures panel

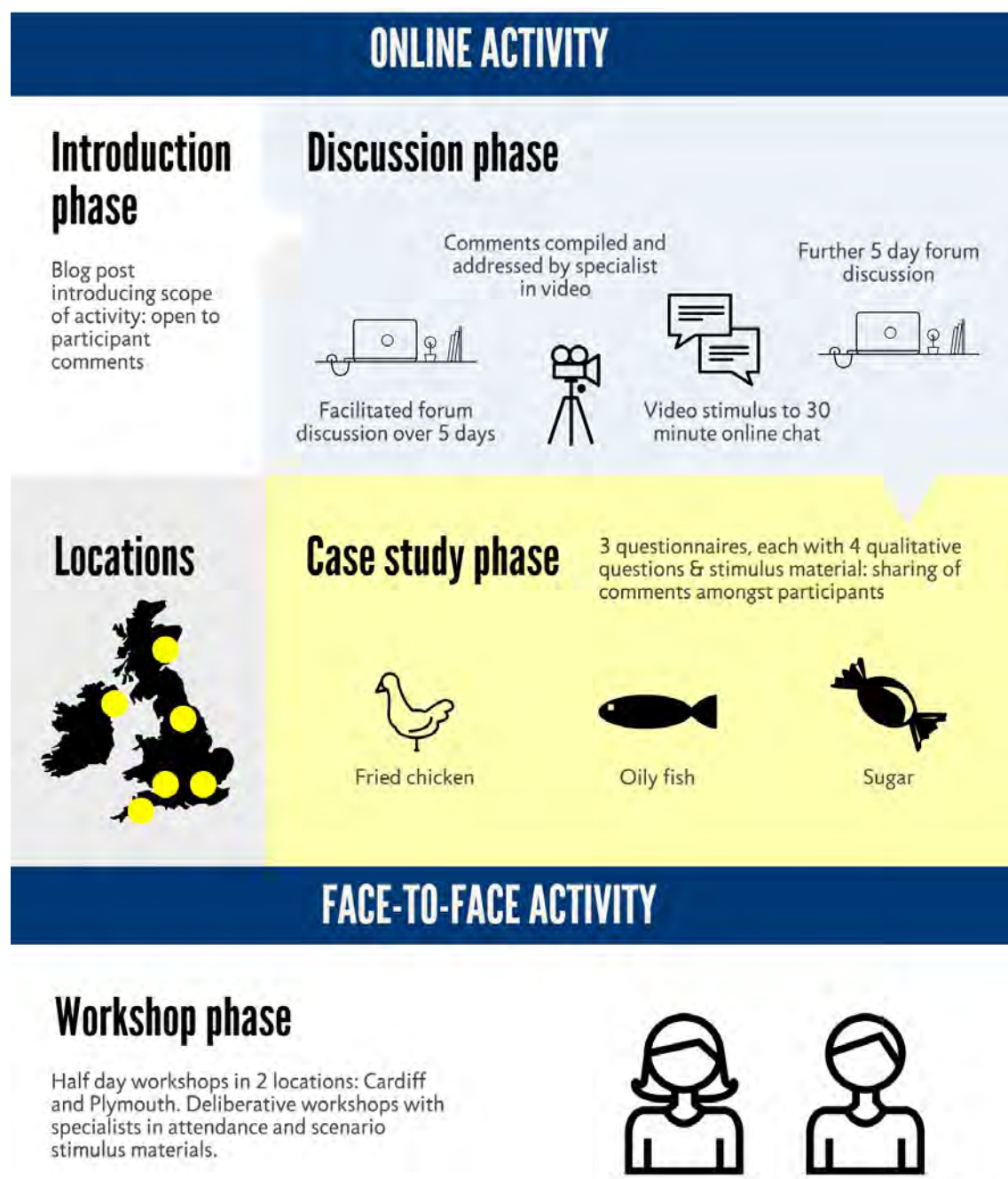
The Food Futures panel is designed to facilitate both online and face-to-face engagement. The panel is managed through a software platform, which can host a range of different digital materials and activities. The panel is closed, with members recruited to a quota and all content is password protected, allowing privacy for participants. The panel is clustered in 6 locations around the UK, allowing for a diverse sample but also the opportunity for face to face activities.³

The panel consists of 600 participants, quota sampled to be broadly representative of the UK population. The sample does not perfectly represent the UK, ethnicity is representative of local areas, and there is a slight bias towards female participants, middle age groups and more educated participants. Participants are incentivised for taking part in selected activities on the panel, with incentives tailored to the activity.

³ Locations are: Belfast, Cardiff, Dundee, Harrogate, London, Plymouth

1.3.2. About the Food Systems project

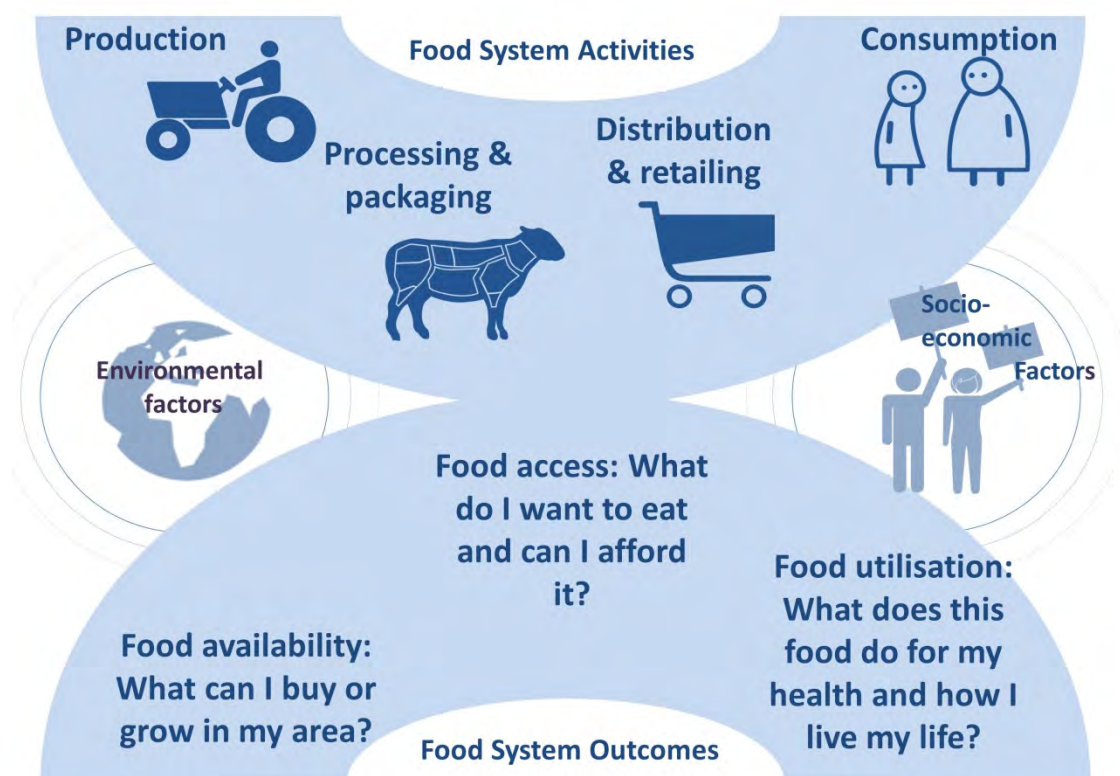
The Food Systems Project combined a mix of on and offline activities, as shown in the following infographic.



In the Food Systems project we explored participants' views on the food system as a complex, interconnected system with multiple actors, activities and possible outcomes. To do this we used a range of different perspectives on the issues. To help frame the topic we developed the following graphic, which we shared with participants in different forms throughout the project.

Actors

- Producers & manufacturers
- Retailers & supermarkets
- Citizens & consumers
- Governments & councils



In the **introductory blog** we set out some of the challenges of achieving global food security, to give participants a simple and accessible introduction to the topic. This was available to all panel members, not just those who took part in the later parts of the project, and comments were invited and included in this analysis.

In the second stage we hosted a forum discussion and online chat, with the forum open to all panel members, and the chat to the first 25 to respond to an open invitation. This involved:

- A series of forum questions designed to elicit participants initial understand of and views on global food security as a concept, the challenges it presents, and participant priorities for action.
- We then recorded an interview with Professor Tim Benton discussing the issues which participants had raised. This was played back to the online chat participants who then had a half hour discussion with prompt questions designed to elicit their response to Prof Benton's reflections.
- The video was then posted to the open forum and further questions were posted to explore participants' understanding of the issues of global food security as part of a system, with multiple actors.

We had anticipated that participants might find it difficult to engage with the food system as a complex system at first, so these early online activities were exploratory. They contributed to the aim of surfacing existing knowledge and beliefs. The later stages introduced case studies and scenarios designed to help participants move from specific and familiar examples to more general principles.

During the second, **case study phase**, we asked participants to consider a series of questions each about one of the case studies, which were hosted online. The case studies took specific foods and explored how their production, distribution and consumption could contribute to the global food security goal of access to 'sufficient, safe, affordable and nutritious food, all of the time and in ways the planet can sustain into the future'. They were:

- **Fried chicken:** a popular but usually unhealthy fast food, with disproportionate availability in areas where low incomes are common, and popularity among young people. Chicken is also linked with campylobacter poisoning.
- **Oily fish:** health guidelines recommend two portions a week but this is not widely known or observed. Sustainability implications of over-fishing of the most popular species.
- **Sugar:** a globally traded crop with complex subsidy arrangements and environmental impacts associated with intensive production. Health impacts in the UK associated with over-consumption and a topical issue with calls for taxation to regulate consumption.

Within each case study participants saw three stimulus prompts discussing the issue, and then answered a question (as chart below).

What do you think about the example? Is it a problem?	• Stimulus: animated video introducing the case study
What changes do you think should be made in this area? How realistic do you think these changes are?	• Stimulus: recorded interview with a relevant specialist discussing possible interventions
Who do you think is responsible for change now? And who do you think should be responsible?	• Stimulus: diagram showing actors with influence over change
What do you think about the example? Is it a problem?	• Stimulus: animated video introducing the case study
What changes do you think should be made in this area? How realistic do you think these changes are?	• Stimulus: recorded interview with a relevant specialist discussing possible interventions
Who do you think is responsible for change now? And who do you think should be responsible?	• Stimulus: diagram showing actors with influence over change

Participants could see each other's comments before they responded, to allow the overall discussion to evolve, but did not go back to the discussion once they had made their contribution to each question. The case studies were each available to 50 participants, who were invited according to a sampling strategy aiming for a diverse and broadly representative sample.

The final stage of the project was two half day **workshops**, one each in Cardiff and Plymouth, with around 24 participants. The workshops lasted half a day each and followed a simple structure, with the majority of the time spent working through scenarios which explored how different types of actor could influence the food system to be healthier and more sustainable,

and the trade-offs which would be faced in working towards this goal. Each workshop was attended by specialists invited to engage with participants at their tables. Facilitators were briefed to prompt participants throughout the day to consider issues from a range of perspectives (different actors, environmental, social, economic), at different scales (local, national, global), or in relation to different steps of the food supply chain.

Session	Description and stimulus
What would a healthy and sustainable food system look like?	<p>An open discussion of what challenges participants identified in the food system, and what solutions they would prioritise.</p> <p>Stimulus: food system map (see page 16).</p>
What happens when different actors in the food system try to effect change?	<p>Participants, in groups of eight, discussed four scenarios:</p> <ul style="list-style-type: none"> - The responsible manufacturer: a food manufacturer who wants to improve the nutritional value of their products by reducing sugar. Explored issues of healthy eating, product choice and purchasing behaviour, international trade. - The responsible council: a local authority wants to reduce childhood obesity in their area. Explored issues of individual vs collective responsibility, encouraging healthy/sustainable vs discouraging unhealthy/unsustainable choices, the costs of intervention - The responsible citizen: an individual trying to make healthy and sustainable choices for their family. Explored trade-offs around health, price, sustainability, behaviour and diet change. - The responsible retailer: a supermarket tries to shift to stocking healthier and more sustainable products, explored more environmental trade-offs around seasonal availability, transport impacts, climate change. <p>Stimulus: each scenario was described in an info-graphic with a series of questions and some description of how the scenario evolves, in particular the consequences of each step.</p>
Whose responsibility is change?	<p>At the beginning and end of the scenario session participants, as a group, ranked the actors in the food system against how much responsibility they had for change. Prompts asked whether there were actors missing, who had most responsibility in practice and in principle, why views changed if at all.</p>

1.4. Sampling and recruitment

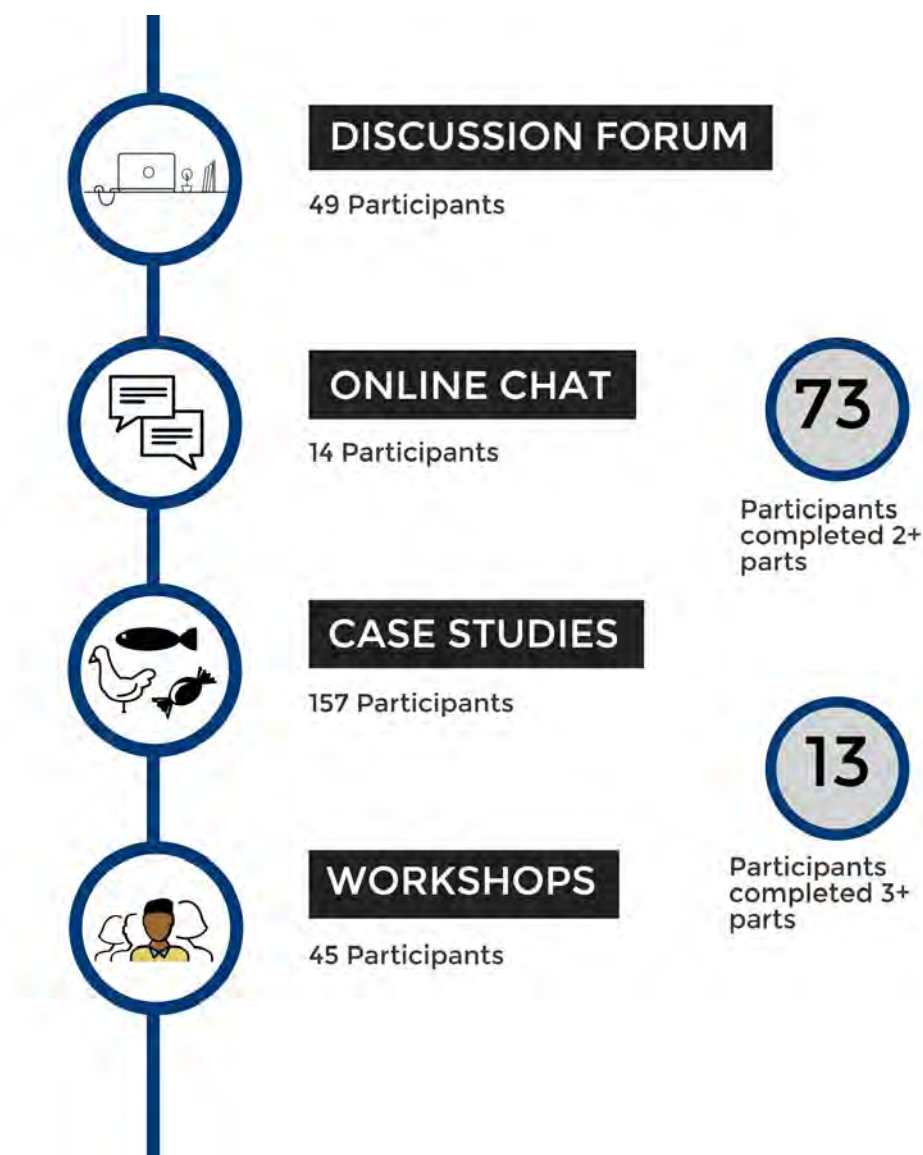
For the Food Systems project, some elements were open to all participants and others were recruited with specific quotas in mind, as shown below. Incentives are used in the Food Futures panel to compensate participants for the time they contribute to the activities. The incentive level for individual activities is set based on an assessment of the time and complexity of the task, as well as practical considerations about the nature of the method (e.g. the online chat depended upon reliable attendance of a small number of participants so a large prize was offered).

	Sampling approach	Reward strategy
Introduction phase	None – open activity	None
Discussion phase	Forums: None – open activity. Online chat: recruited from first 25 forum commenters, then subsequent top-up recruitment from other forum commenters. Online chat limited to maximum of 25 participants.	Prize draw of £50 for participants in the online chat, no incentive for forum participation
Case study phase	Quota sampling across all 6 locations and the 3 case studies – sampling for diversity rather than representativeness.	Incentive of £10 for completing one survey
Workshop phase	Quota sampling across 2 selected locations – sampling for diversity rather than representativeness.	Incentive of £50 for attending the half day workshop

1.5. Participation data

The chart below shows the number of participants involved at each stage of the project. There were a total of 178 participants involved, of whom 13 completed all three main stages, and 73 completed 2 (including the majority of workshop participants taking part in the case studies). The benefit of having participants complete several stages was that the workshop participants had already started to engage with the topic, and had the case studies as common ground from which to start a discussion.

The demographics of participants are given in Appendix A. We have presented this information for all participants who took part in the Food Systems project, as well as separating out participants who attended workshops, to identify any major differences between face-to-face activities and online activities. These are addressed below.



The main differences are as follows:

- There were two workshops – in Cardiff and in Plymouth. This subsequently affected our sampling strategy, as workshop participants were recruited in order to be broadly representative of our sample in these locations i.e. not broadly representative of the whole panel. This had the following effects:
 - As a whole, the Food Systems participants had qualifications of a high level (49% had level 4+ qualifications). In contrast, qualification levels were more evenly spread for workshop participants.
 - Workshop participants were less ethnically diverse than Food Systems participants as a whole.
 - There was a greater proportion of workshop participants in the 41-55 age group and 66+ age group and a smaller proportion in the 26-40 age group, in comparison to Food Systems participants as a whole.

- There was a higher proportion of female workshop participants than female Food Systems participants as a whole.

1.6. Analysis and reporting

We used a thematic approach to analysis, producing an overarching coding framework, specifying themes and sub-themes. As analysis continued, we modified the framework to capture emerging themes. Transcripts were read in full and we used NVivo⁴ qualitative data analysis software to support the analysis. This enabled us to interrogate the data further by running queries to explore initial coding rounds in more detail. The final report is designed to meet Sciencewise’s ‘Guidance for Final Dialogue Project Report’⁵.

1.6.1. Nature of data: online and offline

One of the purposes of the Food Futures panel is to test the innovative methodologies offered by an online panel which can also be used for face to face activities. We used a mix of methods for this project which yielded different data types:

- **Blog and forum comments:** An asynchronous approach, with participants responding in their own time, to each other’s comments and prompt questions from facilitators. This produced comments which are best analysed within their context. Comments varied in length but tended to express an argument or point, with some supporting evidence or rationale.
- **Online chat:** A synchronous approach with participants responding in real time to each other’s comments and prompts from the facilitators. This tended to generate shorter utterances than the forum, which are more difficult to interpret out of context, reflecting the rapid nature of the discourse. Comments more often expressed simple agreement or disagreement than the lengthier and more involved forum posts.
- **Case studies:** The case studies were asynchronous, as per the forum, and each participant had only one opportunity to contribute to the discussion. Comments varied, with a minority of participants giving only very short responses (‘I agree’ or ‘No further comments’) as each question was compulsory. Longer responses tended to fall somewhere between the chat and forum style; participants had more time to compose a response than in the chat, but as they were not coming back to the discussion as in the forum addressed themselves less to other participants.

⁴ NVivo is a qualitative data analysis computer software package designed for use on qualitative unstructured data. http://www.qsrinternational.com/products_nvivo.aspx?

⁵ Sciencewise’s ‘Guidance for Final Dialogue Project Report’ can be accessed here <http://www.sciencewise-erc.org.uk/cms/assets/Uploads/Publications/SWP06-Project-final-report-Jun14.pdf>

- **Workshops:** The workshop data was captured by facilitators at the time, who later wrote up their notes, using the digital recordings for clarification. This data is the most detailed and voluminous, with around 20 hours of supporting recordings across the two events. Again, comments are analysed in the context of the discussion to enable the analyst to understand this context. The possibility for the facilitator to interject with prompt questions means that comments are more often accompanied with an explanation of their rationale.

As might be expected the workshop notes offer the most discursive data, followed by the forum, the case studies and then the online chat. The less discursive data is a more useful guide to *what* participants raised, rather than *why*. This report is based on a cross-cutting analysis of all the data and most findings are based on several sources and appear consistently across them. Where findings are based on a particular data source this is noted in the text.

There were two areas where we identified potential differences in the nature of participant responses between the online and offline stages: specifically people who had strong views on vegetarianism were more likely to cite specific examples of environmental impacts about which they were knowledgeable and those with some knowledge of production/agriculture likewise. This suggests that the larger, online sample gave a wider range of views which were not moderated by group discussion (see sections 3.3.2 and 6.4).

1.7. About this report

The remainder of this report is organised as follows:

- Chapter 2 looks at participants' views of the food system and the global food security challenge.
- Chapter 3 explores the roles and responsibilities of citizens, consumers, people and families in the food system
- Chapter 4 looks at the role of government in the food system, taking this in a very broad sense to include central and local government, schools and other public bodies.
- Chapter 5 discusses the role of food retailers, distributors and manufacturers, looking at supermarkets in particular.
- Chapter 6 looks at participant views on producers and their role in the food system and global food security challenge.
- Chapter 7 explores views on the role of the media, advertisers and scientists, all of which were seen by participants as having responsibilities for effecting change in the food system.
- Chapter 8 looks at the trade-offs that participants made throughout the topic, across different levels (e.g., individual vs social good) and in different arenas (e.g., environmental benefits vs health impacts): these are discussed in earlier chapters but covered in detail here.

Within each chapter we discuss several (often overlapping) issues:

- What views participants expressed
- How they expressed them
- Whether those views changed in the course of the deliberation
- Why they changed, where it is possible to identify this.

Chapter 2: The food system and global food security

In this chapter we discuss participants' views on the food system as a whole. Our focus is on the ways in which participants engaged with the topic, rather than the values and beliefs they ascribe to particular aspects of the food system, or possible interventions in it. We cover three areas:

- What do participants know about food security and the food system?
 - o Here we look at the extent to which participants engaged with the complexity of the food system as a *system*, rather than with its individual parts. We reflect on the extent to which participants' understanding of the food system changed through the course of the project.
- Who do participants think the main actors in the food system are?
 - o Here we look at the way in which participants spoke about the different actors in the food system, not in terms of their responsibility for specific actions, but as interconnected parts of the system.
- How important do participants think food security is?
 - o Finally we look at the importance participants ascribed to the problem of achieving global food security, or their acceptance of the need case for change. Again we reflect on how views changed through the project.

This chapter is a synthesis of data from all strands of the topic though it draws in particular on three sources:

- Data from the first forum, at the beginning of the food systems topic, where participants responded to questions designed to surface their existing understanding
- The baseline study completed by participants first joining the panel
- Data from evaluation forms participants completed at the end of each workshop, which included questions about how their views had changed through the topic (these forms are part of the independent evaluation process).

2.1. To what extent did participants know about food security and the food system?

When designing the project we hypothesised that participants would not immediately identify their own experiences of the food system as individual consumers with the complex relationships of the system as a whole. In the first stage of the project, in the opening blog, forum discussion and online chat we asked broad questions about the food system to surface participants' existing attitudes and beliefs. As expected, in these early stages participants tended to talk about particular elements of the food system, such as food prices, or their own

diets, drawing links between these topics and the global food system less frequently. This suggests that participants were not explicitly aware of the food system as a larger whole. For example in the initial forum discussion several participants referred to an activity where participants fed back on the origin of the food they ate on a particular day, with the locations plotted on a map. Many reported surprise at the wide variety of countries from which their everyday food originated, and felt that this had prompted them to reflect more than usual on how their own food choices could affect the wider system.

'It has brought the whole subject of safe and sustainable food and sufficient food for all to the forefront of my mind. I have found myself watching television programmes about food production (eg. Harvest and Eat well for Less) which I would not have done prior to joining the Food Futures panel. I would have said prior to joining that I was a careful shopper, not influenced by the shape of fresh fruit and veg and that I did not waste food. I think maybe I was kidding myself'. Participant – Discussion forum [ONLINE]

This feeling of surprise at the complexity of the system, and the relationship between their own choices and the wider world, particularly in terms of environmental impacts persisted throughout the case studies and into the workshops. The workshops dealt more explicitly, through the scenarios, with the relationships within the food system, and participants began to draw their own conclusions about how their choices affected others. As is discussed throughout this report however, this increasing awareness did not necessarily translate into a willingness to change their own behaviour.

One explicit measure of this growing understanding of the complexity of the food system was a question posed in an evaluation form participants completed at the end of the workshops. Two questions asked: 'How has taking part changed your views on food systems, if at all?' and 'How has taking part changed your views on food systems, if at all?' Some participants made comments such as 'consider the wider picture' 'made me realise how complex the problems are', others reported having learnt more about the food supply chain and the shared responsibility of the different actors. It seems clear that while participants were often aware of specific problems within the food system they were not used to thinking about them as part of a wider whole, and they recognised both the complexity and the difficulty of change.

'That the subject is quite huge and so interconnected and tangled that it is hard to assign responsibility to one group.' Evaluation feedback, Cardiff workshop

2.1.1. Agency and interest

As well as the amount of knowledge that participants had about a particular topic, we found that the extent to which they felt they had some influence also affected how engaged participants were with a topic. This was most clear in the case of environmental impacts of food production; in both the case studies and workshops, participants often reported that they were surprised by information about negative impacts of food production. Broad and multifaceted environmental problems like climate change were particular examples where

participants reported feeling that their actions could have little impact, and so they tended not to consider them, as discussed in more detail in chapter 3. The implication of this is that even where participants *knew* about a problem they were unlikely to be motivated to consider it in their daily lives when they couldn't see a clear path to action.

2.2. Who are the actors in the food system?

The third aim of the food systems project was:

To understand public views on where the power lies for change, to move the food system towards improved health and sustainability outcomes.

Understanding who has the power to change the food system necessarily implies understanding who the actors are in the food system, and there are many possible ways of conceptualising the actors.

When designing the project we initially differentiated actors according to their position in the food supply chain – distinguishing producers, manufacturers, retailers/distributor, consumers and governments. However it became clear through the project and the workshops in particular, that participants tended to use a different categorisation system, as shown in the image below.



2.2.1. Growers and food businesses

Our initial framing separated producers, manufacturers and retailers. However participants tended to draw retailers such as supermarkets and food manufacturers into the same category, expressing similar views about both groups. They saw retailers and manufacturers as large commercial entities, with a primary focus on selling food at a profit. In contrast, producers were more often assumed to be farmers and other growers, with a relationship to the land and less of a profit motive. At its most simplistic, participants tended towards a sympathetic view of farmers and a cynical view of business interests whose products happen to be food. Participants also tended to see more power concentrated in the hands of the food businesses than the producers, who they felt were at the mercy of the commercial enterprises on which their livelihoods depended. These assumptions about power, and the motives of the actors, meant that participants were more supportive of interventions targeted at changing the behaviour of manufacturers and retailers, and more accepting of trade-offs which could disadvantage them.

2.2.2. Consumers, citizens, people and families

Our initial framing recognised that individuals might take different roles as consumers and citizens. However, when referring to individuals, a wider variety of roles were used by participants, depending on the topic at hand and the relationships under discussion.

- Where their role was defined by their relationship with food businesses, participants saw themselves as consumers, who could be influenced by marketing and promotions. Participants had conflicting views about the powers of consumers, seeing themselves both as subject to the power of food businesses to influence their choices, but increasingly through the workshops seeing themselves as having the power to shape the supply chain through their purchasing decisions.
- When discussing potential policy interventions, participants saw themselves as citizens, who pay taxes. In this role participants rarely saw themselves as holding much power of the food system, relative to government.
- When discussing personal choices and individual behaviours, participants often defined themselves in terms of their families, with food choices commonly structured around providing an appropriate diet for children. This role was seen as powerful because of a belief that generational change was central to changing diet and behaviours by developing a culture of healthy and sustainable choices.

The implication of these multiple framings is that individuals at times expressed different views depending on the roles they assumed, making their preferences more complex to interpret. For example, when thinking about healthy eating, participants as families were strongly motivated to support policy initiatives which could improve children's health, but as individual citizens they balked at increased taxation. Framing interventions in terms of these roles seems to affect their acceptability to the public, and appealing to different roles can empower or disempower individuals to act.

2.2.3. The media and advertising

One actor who we had not included in our initial framing was the media; however through the workshop discussions it became clear that participants saw their relationship with other actors (and their access to information) as being strongly mediated by the media and advertising. Participants both relied upon and felt let down by the media when it came to providing clear and consistent information about food security. The importance of the media as an influencer should not be underestimated in considering how change will be effected in the food system.

2.2.4. Global food security as an organisation

When asked about global food security in the introductory forum discussion it was clear that the majority of participants had not heard of GFS as an organisation and some assumed that it must be a body which looked after or controlled food availability and supply on a global scale⁶. This misunderstanding reveals something about the way in which participants conceptualised global food security as an issue which was outside their sphere of understanding and influence. The assumption seemed to be that such an important and complex issue ought to be dealt with by an appropriately powerful body acting independently of commercial or individual interests. This view seemed to underpin in some cases a frustration that things which experts knew to be unhealthy or unsustainable were still available to uninformed consumers to purchase and thus support.

2.3. How important do participants consider global food security to be?

When participants initially joined the panel, they were asked the following questions:

- How much of an issue do you think food security is in the world today?
- How much of an issue do you think food security is in the UK today?

After the Food Systems workshops, participants were asked the same questions as part of an evaluation form. We have compared the answers given by workshop participants in their initial baseline survey to their responses in the evaluation form after the workshop⁷.

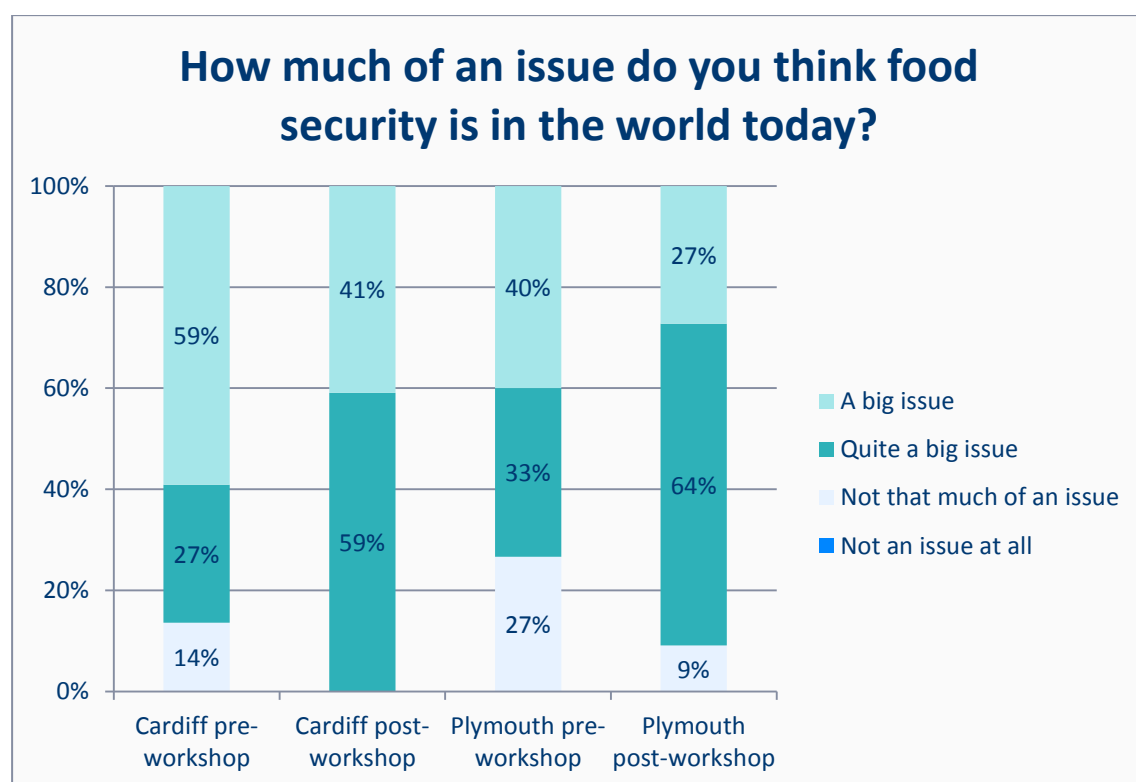
The graphs on the following pages show that participants were more likely to see food security as a bigger issue in the UK after attending the workshop than they had before. This is consistent with comments made throughout the Food Systems project that participants had

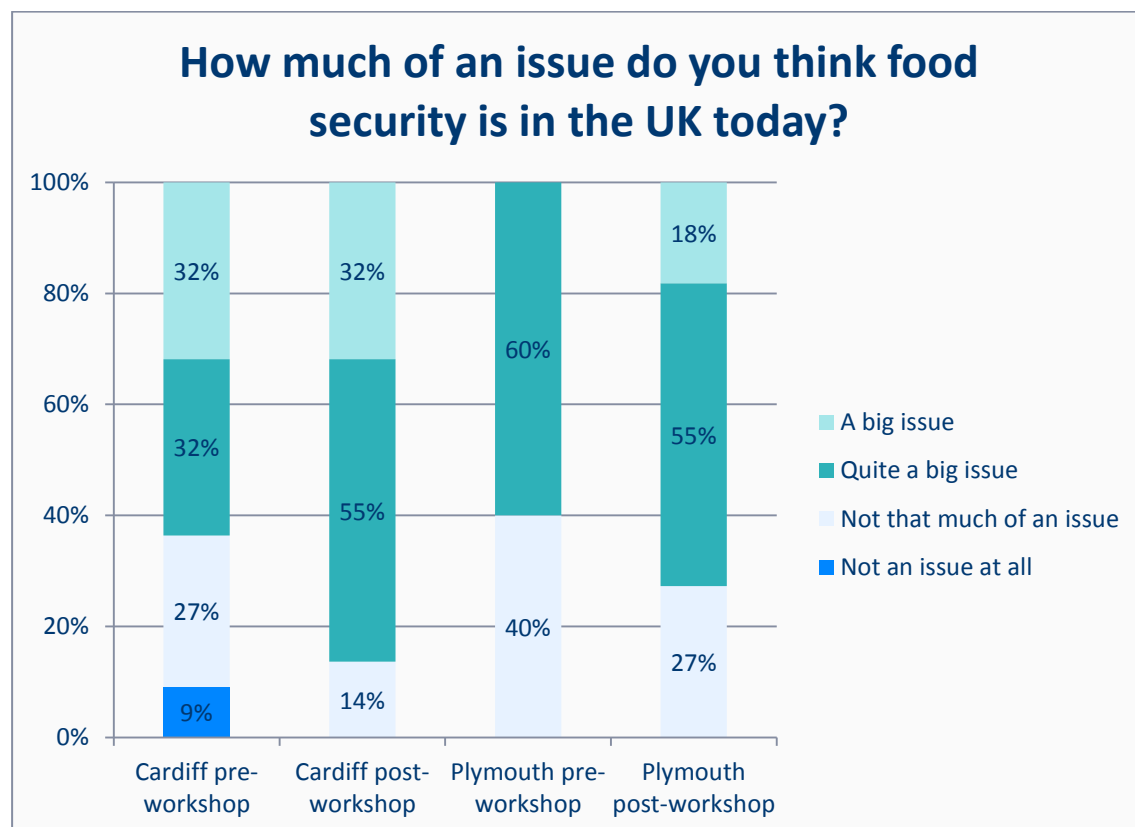
⁶ Again, this finding is consistent with the views expressed in the baseline survey of the panel as a whole.

⁷ In the following graphs it should be noted that a few workshop participants did not complete the initial baseline survey and therefore a slightly smaller sample for the initial survey is being compared to a larger sample from the post-workshop evaluation – therefore responses are displayed as percentages for comparison.

learnt more about the consequences arising from food choices. What is less clear from the data is whether this increased concern represents a view that food security is more likely to have impacts in the UK, or that actions in the UK are more likely to have impacts globally.

In contrast to the increase in how much of an issue food security is perceived to be in the UK, the percentage of participants who felt that food security was ‘a big issue’ in the world was lower after the workshops. However, the percentage of participants who felt that food security was ‘not that much of an issue’ in the world also fell as participants from both response groups were more likely to choose the central ‘quite a bit issue’. The implication of this change is that participants at either end of the response scale reported less extreme views after the workshop, suggesting that the discussion had moderated their initial views.





Chapter 3: Citizens and consumers, people and families

Participants responded to and characterised the roles of individuals in the food system according to three broad categories: citizens, consumers and families, though they moved between these categories and sometimes referred to the more generic ‘individual’ role. In this chapter we look at their views on these roles, and on responsibilities change. The chapter is ordered according to themes most prevalent in the discussions online and face-to-face (and not just because questions were asked on these topics). The data are synthesised from all of the different activities; where a finding seems to relate exclusively to a particular activity or question which was asked, we have highlighted this.

The themes are ordered according to their prevalence in the discussions:

- **health:** participants talked about who has responsibility for ensuring a healthy diet, perceptions of what a healthy diet is and the importance of generational change.
- **environment:** participants discussed specific environmental considerations: food miles, meat consumption, food waste and seasonal eating. We look as well at the connections participants made between the environment and individual diets
- **the ethical choices** participants saw themselves faced with, particularly international solidarity and animal welfare.

This chapter, as with each chapter on actors, concludes with a consideration of the explicit and implicit trade-offs participants discussed in relation to individuals.

3.1. Context

Participants were presented with information and prompted to consider different topic areas across the activities, which has implications for their response to the role of this actor (for more detail see appendices). This is summarised below:

- **Discussion forum:** participants were questioned about their responses to the food system, including identifying some of the main challenges. Participants immediately tended to think of the role of individuals within the food system.
- **Online chat:** participants were specifically questioned about their own behaviour as individuals in response to some of the issues in the food system which were raised in a video with Professor Tim Benton.
- **Case study:** participants completed case studies about fried chicken, oily fish or sugar. These tended to focus on interventions at a higher level than the individual, although participants continued to respond to these in terms of their own individual behaviour i.e. what they chose to eat or what impact they felt they could have as an individual.

- **Workshop:** as part of the workshop activities, groups completed a scenario about ‘The Responsible Citizen’ in which a fictional panel member made choices about healthy eating; the sustainability and environmental impact of her diet and her food waste.

3.2. Health

Health was often cited as a significant factor in participants’ purchasing decisions, alongside price and taste preference. This was reflected in the baseline survey across the whole panel, where 81% of respondents said ‘eating food that is healthy’ was important to them when deciding what to eat at home.

Participants commonly mentioned diet-related health problems and obesity in particular (type-2 diabetes and dental decay were also mentioned, although less commonly). Participants were both aware of and concerned about obesity, sometimes conceptualising it as an ‘obesity crisis’ or ‘epidemic’; terms which echo media reporting of the issue. Similarly, participants often retold the prevailing media narrative of obesity as a significant cost to the NHS, with most participants mentioning cost when they spoke about obesity. Linked to this, participants often referred to the overconsumption of sugar as a problem for the UK and a leading cause of obesity.

Participants tended not to mention other health issues around food security, such as malnutrition and did not tend to make links to diet-related health issues around the world. This could be explained by the visibility and proximity of obesity in comparison to other health issues (e.g. type-2 diabetes) or global health problems. However, participants did sometimes refer to starvation, most commonly held up as an example of the immorality of food waste in the UK. In general, while participants were sympathetic to diet-related health issues in other countries, they were not motivated to take action, sometimes citing corruption within foreign governments as a barrier to change. These sorts of barriers to effecting significant change often appeared to be used by participants as a reason not to change their own behaviour.

3.2.1. Responsibility for health

The majority of participants felt that eating healthily is the responsibility of the consumer and that the power to demand healthier produces lies in their hands.

‘I think the consumer is responsible and should be responsible it is down to us what we eat!’
Participant – Fried Chicken case study [ONLINE]

‘We as the consumer also have a tremendous amount of power. We simply ‘vote with our feet’.’ Participant – Sugar case study [ONLINE]

Participants regularly positioned themselves as parents and families, rather than as individual citizens/consumers. Responsibility for making healthy food choices was therefore closely linked with responsibility for bringing up children – and many participants attributed blame for diet-related health problems in the UK to parents who they felt did not encourage healthy

eating in their children. However, some participants felt that those on low incomes had no opportunity to buy healthy foods, due to their cost:

'It really drives me crazy, the junk can often be so much more expensive than healthy choices...so people are driven down the road of silly choices because their budgets are constrained and at the end of the day it's easier to buy rubbish and it's cheaper to buy rubbish.' Participant - Plymouth workshop.

Some participants felt that it was possible to make quick, healthy *and* cheap meals and therefore thought that problems such as obesity arose from people's lack of cooking skills or ignorance about healthy eating. Other participants were more sceptical about this, feeling that everyone knew what was good or bad for them, but made these choices anyway.

'The consumer is totally responsible, but is often poorly educated with all the facts before making their non healthy choices.' Participant – Fried Chicken case study [ONLINE].

'It has to be the consumer, we must take responsibility for what we eat and what we feed our families. People can not say they are naive anymore - the internet/you tube/media have lots of info on how unhealthy fast food is and to say you do not know how to cook a meal for little money is also a poor excuse - there is the internet/markets/frozen veg.' Participant – Fried Chicken case study [ONLINE].

3.2.2. Perceptions of healthy eating

Participants tended to agree with certain basic assumptions about which foods were healthy and which were unhealthy, for example, it was widely assumed that processed foods were unhealthy and fresh fruit and vegetables were healthy. Although these sentiments were common across the project, they weren't discussed in depth as participants saw this understanding as given.

Many participants had strong views about eating 'natural' foods and eating 'naturally' was linked to eating healthy. Some avoided certain ingredients or products which they felt to be 'artificial' or 'chemical'. The most common example was sweeteners (except for natural sweeteners like stevia, which some participants mentioned), but a few participants also reported that they avoided farmed fish because concerns about health impacts of antibiotic use. In some cases, participants also linked eating 'natural' foods to eating foods that were longstanding in our diets and felt more apprehensive about new elements in our diets.

'I don't take sugar in my coffee and I avoid sweeteners. I also worry about what health effects it may pose in the future. It's better to stick to food that has been in our diet for a long time.' Participant – Cardiff workshop.

Interestingly though, in some cases, participants were prepared to have artificial or synthetic elements in their diet, as a response to other pressures like environmental impact. Many

participants who completed the Oily Fish case study, for example, had assumed that omega-3 supplements were synthetic, rather than containing fish oil. In order to protect fish stocks, many participants suggested that taking a synthetic omega-3 supplement (if this was developed) would be acceptable to them. This difference may perhaps be explained by the position of dietary supplements in the middle ground between food and medicine.

Although health was usually an important concern for most participants, decision-making was also affected by particular situations. In some situations, for example where people considered foods and products to be ‘treats’, participants actively wanted to avoid thinking about health implications.

‘I don’t read the label on that, because I don’t want to be put off because that’s a little treat once a week maybe.’ Participant – Plymouth workshop.

This situation where participants were ‘treating’ themselves (often an individualised behaviour) was contrasted with how participants made decisions about feeding their children. In these cases, participants were more often motivated by the health factor, suggesting that people can be influenced by different factors according to the context and framing of a choice.

3.2.3. Generational change

Participants were particularly concerned about what children and young people ate. There was some acknowledgement among participants of the difficulty of encouraging children to eat healthily, particularly when they were at secondary school due to peer pressure and greater independence to buy their own food. Many participants felt that young people did not consider health issues when choosing food and some participants worried that young people ate fast food as a snack rather than a full meal, thereby consuming much more salt, sugar and fat than they should.

‘I believe most young people do not consider the health issues when making choices about the food they eat. I think one of the main issues is they consider fast food as a snack or food on the go and don’t realise the amount of salt or fat they are eating because they have not prepared the food from scratch themselves. They know it’s not the healthiest option but they do not realise what unnecessary ingredients are included to make it more attractive to eat or tastier.’ Participant – Fried Chicken case study [ONLINE]

It was interesting that participants tended to think about children and young people as the source of the problem, as well as the solution. Many participants felt that their generations knew more about food than younger generations (e.g. in terms of healthy eating, where food comes from). Some participants bemoaned what they saw to be a food culture of processed and pre-prepared foods, so that children did not understand basic food preparation (e.g. how to peel an orange). However, participants also tended to think that the potential for change was in educating children and young people about food (see also section 5.1 on Education).

There was an assumption that young people would continue to make healthy choices for the rest of their lives if they were taught early about healthy eating. In this way, participants deferred a considerable amount of responsibility for changing the food system to younger generations.

3.3. Environment

Making food choices based on their environmental impact was fairly rare amongst participants. In most cases, this was because price was a more influential factor in purchasing decisions or because participants felt that they did not have the necessary information to decide (or heard inconsistent messages).

In terms of the environment, participants commonly mentioned ‘food miles’ and food waste as the biggest problems in the food system. They were also prompted in the activities to discuss issues such as meat consumption and availability of products (e.g. seasonal and unseasonal foods) which were more controversial and therefore provoked more discussion. Many participants had not considered the environmental impact of food production, manufacturing, retailing and consumption before (or not anything other than transportation and long distance haulage) and were surprised by some of the information presented to them – or sceptical about the extent of the problem e.g. overfishing.

Participants rarely brought up climate change spontaneously and discussed it only when prompted by a facilitator, as part of the argument for buying local food (although it is possible that when people spoke about environmental impacts more generally, they were referring to climate change). While participants sometimes considered the negative environmental impact of certain food production activities, they did not reflect on how climate change might affect producers e.g. loss of arable land.

3.3.1. Food miles

Participants often cited ‘food miles’ or ‘air miles’ (the environmental impact of transporting food) as an issue in the food system and were more aware of this in comparison to other environmental impacts, like the use of water in food production.

Participants sometimes made purchasing decisions based on where their food came from (although not always in cases where local food was more expensive). Many participants were aware of the Red Tractor logo scheme and tended to associate this with British food, rather than its stated aim e.g. an assurance scheme to enforce the transparency of the supply chain. However, decisions to ‘buy local’ were not always exclusively motivated by environmental concerns. Participants mentioned environmental arguments alongside arguments for supporting British producers, arguing that local produce was better for their health or that having locally produced goods would be cheaper than importing them from other countries.

‘If I can possibly buy British within my budget then I will do, because a) it’s on my doorstep not coming 55 million miles around the world and b) I just think it’s the right thing to do, to support your own country.’ Participant - Plymouth workshop

'A lot of people think that Lidl and Aldi are foreign companies, but what a lot of people don't know that they actually sell a lot of British food, and that's what I go for.' Participant – Plymouth workshop

It became clear that participants' non-environmental reasons for buying locally outweighed any environmental reasons when presented with examples where growing a type of crop overseas and transporting it would have a lower environmental impact than growing it in the UK (e.g. tomatoes). In these cases, participants most commonly suggested that they would still prefer to buy the British product, expressing doubt that the example took total energy use into account (Note: participants were not given any specific figures on energy use).

'I probably would've gone with British if they were the same price not knowing... not thinking that the Spanish ones are done in the sunshine and whatever and mine are done in the greenhouse because again you're just the consumer looking at trying to support your country.' Participant – Plymouth workshop

3.3.2. Meat consumption

Participants were given information about the environmental impact of individual meat consumption, implying that eating less meat could reduce their environmental impact. However, when questioned about reducing their individual meat consumption, participants tended to think that this was not a priority and meat consumption was not a particular problem. In fact, many participants thought that a transition to vegetarian diets would require more land to grow crops, or that there would be too many cows. Some participants felt that their generations already ate less meat than previous generations in the UK and many participants felt that it would be difficult to have a meal without meat (or to persuade their families to eat less meat).

'It's the main part of the meal the meat, to go without it. You don't feel nourished. It fills you up.' Participant – Cardiff workshop

Whilst some participants felt that increasing meat consumption internationally would worsen the environmental impact of livestock farming globally, the majority of participants felt that the responsibility for meat consumption remained with the governments of each country and would be unwilling to change their own diets (reduce their meat consumption) to compensate for increased demand from other countries. Rationales given for this include countries historically having their own cuisines and food cultures, but also a belief that individual nations should take responsibility for the needs of their own populations.

Some participants felt that they could reduce their meat consumption (especially red meat) and some participants gave non-environmental reasons for trying or wanting to eat less meat, for example, to reduce the cost of their food shopping or because they felt squeamish about preparing it. For some participants, these reasons had led them to try alternative protein products like Quorn. Strong views in favour of reducing meat consumption were only

expressed online by a few participants who felt that meat consumption was a major challenge to global food security.

'I think the biggest challenge is to educate those who eat animals that their choices, particularly those of pathological meat eaters causes so much damage to the planet.'
Participant – Discussion forum [ONLINE]

Most of those (small number of) participants who were vegetarian or vegan did feel that the consumption of meat was a problem – for ethical reasons and environmental reasons, however there were also those whose diet was based on individual reasons, preference or health rather than wider issues, and those participants tended to be similarly unmoved by environmental arguments for vegetarianism.

This finding of limited willingness to reduce meat consumption contrasts with the earlier GO Science/Which dialogue, which found that eating less meat was widely accepted by participants. This distinction may be due to the differential framing of the discussions: in the GO Science/Which work a clear narrative about the need for change was presented in the first half of the process, so that:

'Participants started Day 2 of the food security dialogues with the view that changing consumer food choices was not only necessary, but ultimately unavoidable.' GO Science/Which report, page 31.

In contrast the current project presented the challenges of the food system without also presenting a clear imperative for change, instead allowing participants to determine for themselves the extent to which they felt action was necessary. The implications of this are that without a clear call to action, translating the impacts of global food insecurity into a motivating

Vegetarians online and face to face

Given the apparent prevalence of views in favour of meat eating, we explored the proportion of participants who reported that they were vegetarian at sign up. The panel as a whole is made up of 6% self-reported vegetarians, while the food systems activity as a whole had 8%, with 7% of workshop participants reporting that they were vegetarian. While this suggests that the sample did not contain a disproportionate number of vegetarians, facilitators reflected that vegetarian participants were often alone in a group and so did not speak up as often as they might have. In contrast vegetarian participants online were more vocal about meat consumption, and it may be that the anonymous/ individual nature of the online engagement allowed participants to express less 'popular' views. For example, the quote below was posted to the introductory blog by a participant who only engaged online. It contrasts sharply with the reluctance of several of the workshop groups to accept that meat consumption has higher environmental impacts.

'One of the main reasons so many people are starving is because of our over reliance of eating animals. Grain that should be fed directly to people join third world countries is being fed to animals to fatten them up for slaughter so us greedy Westerners can consume more and more meat.' Participant – introductory blog.

narrative, even when individuals are presented with factual information about the challenges they are unlikely to change their behaviour.

3.3.3. Food waste

Participants agreed that food waste (from households) was a major problem in the food system and it was regularly mentioned by participants, who disapproved of it and felt that individuals should take responsibility for their own food waste.

Some participants were surprised by the high levels of domestic food waste, often blaming consumers' lack of organisation or over-sensitivity to 'use by' and 'best before' dates. Participants tended to report that they did not waste food themselves (suggesting behaviours like freezing portions and planning meals as ways in which they reduced food waste). Some participants reported that they had made an effort since joining the panel to reduce the amount of food they wasted.

'I certainly keep a closer eye on Food Wastage, I was never one to waste a lot of food, but being on the panel has brought any small amount that is wasted in our household into sharper focus, and made me consider how any wastage could have been avoided.'
Participant – Forum discussion [ONLINE]

Although food waste was commonly discussed, it was a fairly uncontroversial topic, where participants tended to agree with each other and therefore it was not discussed in much detail.

3.3.4. Eating seasonally

Participants were familiar with the concept of eating seasonally and mentioned seasonal eating fairly often in response to discussions about choice and the availability of foods. In the baseline survey, 40% of participants reported that 'whether food is in season' was important to them when deciding what to eat at home.

Some participants felt that they already ate seasonally (especially those who grew vegetables themselves: 31% of the panel self-reported that they grew their own fruit and vegetables) or knew which fruits and vegetables were in season. When discussing eating seasonally, participants often spoke about eating habits in the past and some expressed a desire to return to a more limited choice, like in the past where people ate seasonally out of necessity. Some participants gave examples of fruits and vegetables that they would be prepared to only eat when they were in season, including strawberries, oranges and asparagus. However, when presented with examples of particular fruits or vegetables which could not be grown in the UK (and would therefore not be eaten at all in a seasonal diet), participants tended to be less positive about the possibility of going without it e.g. bananas.

A small number of participants were positive about increased choice and being able to eat what they wanted when they wanted. Notably, these comments tended to come from

participants in online activities, suggesting that this view might be held by many more participants but was less socially desirable to express.

'Our demand as a nation is much too high – we can get everything from all over the world, when we want it – better if we ate more seasonally and what is available.' Participant – Plymouth workshop.

Once again, participants' reasons were not purely environmental. They suggested that out-of-season fruits and vegetables tend to be less tasty or more expensive and therefore not worth buying. This suggests that culture, taste preferences and price were stronger reasons for some participants to choose to eat seasonally than environmental factors.

3.3.5. Connection of diet and environment

Occasionally, such as when discussing the Oily Fish case study, participants were more easily able to connect their diet (e.g. eating oily fish for its health benefits) with possible environmental consequences (e.g. reduction of oily fish species). This seemed largely to be motivated by their perception of the stimulus materials: the specialist who presented the oily fish case study was seen to have provided adequate evidence. Reflecting on this, participants felt that a sustainable and healthy food system would have to be diverse and offer alternatives to avoid putting pressure on only one or two sources of nutrition.

However, some participants were more sceptical about the connection between diets and the environment. In the Oily Fish case study, there were some participants who argued that consumption of oily fish in the UK would never be a problem, either because they felt many people did not like the taste of oily fish in the UK, or could not see how stocks could run out:

'If you've ever been inside a "rig leg" and seen the abundance of fish of all sizes you would undoubtedly [sic] think stocks will never run out, plus as a fellow contributor pointed out with 70% of the world surface being water (that's one BIG farm).' Participant – Oily Fish case study [ONLINE]

In general, many participants felt that when it came to environmental impact, there was little they could do personally to make a difference.

'I hear all these things about carbon footprints, about the environment, but I just think it's not my problem. I don't think my contribution is ever going to be enough to make a difference.' Participant – Plymouth workshop.

3.4. Ethical choices

Participants tended not to mention making purchasing decisions based on ethical choices as often as the factors discussed above e.g. health or price. However, a notable exception was made by many participants for the Fairtrade brand and many participants also expressed a

desire for better animal welfare (even if this was not always reflected in their purchasing choices). Indeed, in the baseline survey, 59% of participants reported that ‘animal welfare/free range’ was important to them when deciding what to eat at home.

When prompted to consider whether they make choices based on what impact that might have on people (producers and local populations) around the world, participants generally felt that this was secondary to price and a few other factors.

*‘I think the average person probably doesn’t think about it until it comes on the news.’
Participant - Plymouth workshop.*

3.4.1. International solidarity and Fairtrade

Workshop participants discussing a scenario which described Fijian sugar cane producers potentially losing out to European sugar beet, were often disinclined to support the Fijian producers. This was sometimes expressed as a British solidarity argument:

‘It happens here though, steelworkers are out of work in the UK and the international community hasn’t done anything about this. Why should we do anything about change there?’ Participant – Plymouth workshop.

Others felt that reliance on one crop was unsustainable and felt that it was more important for Fijian sugar cane producers to diversify into other crops (which was expressed as an ‘opportunity’) and for UK population to have a better diet by eating less sugar.

However, although it is a similar situation, participants were much more supportive of the Fairtrade brand. Many participants reported buying Fairtrade products because they identified that the brand meant better pay and conditions for producers.

‘That’s a recognised label isn’t it because you feel like you’re helping the people rather than you don’t think about helping the country or anything like that’ Participant - Plymouth workshop.

‘I try to buy FairTrade as I hate the thought of my fellow human beings toiling for a pittance just so I can eat a meal I don’t need.’ Participant – Discussion forum [ONLINE]

Where participants indicated that they did not buy Fairtrade products, the main reason was price. Some participants were also not aware of the full range of Fairtrade products available.

‘Fairtrade does make sense, and I understand the concept, but would I pay more for it? No.’ Participant – Plymouth workshop.

3.4.2. Animal welfare

Participants were aware of animal welfare concerns and specific products that they could buy which took animal welfare into consideration e.g. free range chicken and eggs. Many participants felt that animal welfare standards had improved over time and they did feel that animal welfare was sometimes worth paying more for (although participants acknowledged that this was not the case for everyone, particularly those on low incomes).

For many participants, their knowledge of animal welfare concerns came from the media. Many participants reported seeing images and footage of livestock and poultry in cramped and dirty conditions in intensive farms, which influenced their purchase decisions.

'I think most people now, if they can afford to buy what I would call the 'decent end', then they will buy the decent end through the way they feel, but not everybody can afford that.'
Participant - Plymouth workshop.

A few participants were more pessimistic about the future for animal welfare, as a result of the increasing demand from a larger population.

'Also as production increases I fear that chicken welfare will be even worse than it is now (if that is even possible!).' Participant – Fried Chicken case study [ONLINE]

3.5. Responsibility scale

Workshop participants were asked early on to rate the different actors according to the level of responsibility for global food security that they thought each should have. They were then asked at the end of the workshop to repeat the exercise, to see if any of their scores had changed. This was a group activity, with each of the three tables at each event having their own chart. Facilitators supported the groups to reach agreement on each actor, probing areas of disagreement and eliciting explanations of each answer.



Figure 1: Responsibility chart Plymouth workshop

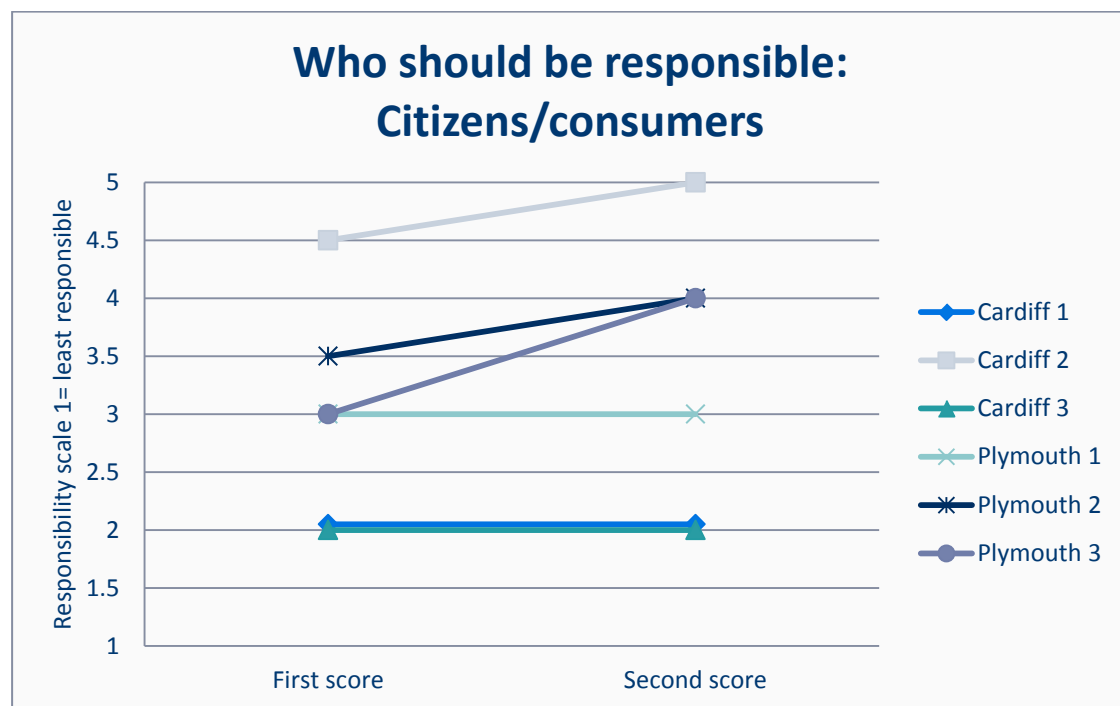


Figure 2 Responsibility chart: citizens/consumers. 1 = least responsible and 5 = most responsible. Each data line represents a table group. Overlapping groups have been slightly displaced for visibility.

By the end of the workshop, half of the six groups decided that citizens/consumers were higher on the responsibility scale than they had decided earlier. Earlier lower scores were given as participants reasoned that consumers only had the power to choose from the options provided. However, later, many participants felt that citizens/consumers were responsible for their choices, which could influence the supply chain and what was available to buy.

'The citizens have the final say at the end of the day. If we're not going to buy it they're not going to produce it.' Participant – Cardiff workshop.

In a lot of cases, participants felt that citizens/consumers were more responsible and powerful than they imagined.

'I think that people feel like they're the least responsible because it's so big... and you don't understand it.' Participant – Cardiff workshop.

Chapter 4: Governments and other public bodies

After citizens, consumers, people and families, government was the most discussed actor in the food system. Government was framed very broadly, and in this chapter we look at the role of central and local government, schools and other public bodies. Participants rarely distinguished between different civic authorities in their comments. In general, their views on the responsibility of governments and councils fell into either education and awareness or legislation and regulation, although most participants felt the need for both approaches to some extent. The data is synthesised from all of the different activities; where a finding seems to relate exclusively to a particular activity or question which was asked, we have highlighted this.

4.1. Context

Participants were presented with information and prompted to consider different topics across the activities, which has implications for their response to the role of this actor (for more detail see appendices).

- **Discussion forum:** participants were questioned about who was responsible for some of the main challenges that they had identified in the food system and were prompted to consider the government's role.
- **Online chat:** in response to participants mentioning a 'sugar tax' discussed in the news, participants discussed their own views on a sugar tax or other forms of regulation.
- **Case study:** participants completed case studies about fried chicken, oily fish or sugar. These tended to focus on government interventions including bans on trans-fats, regulation of fast food outlet openings, maximum limits on sugar content in products and financial mechanisms like a 'sugar tax'.
- **Workshop:** as part of the workshop activities, groups completed a scenario about 'The Responsible Council' in which a fictional local authority in London was attempting to tackle childhood obesity through encouraging healthy choices and restricting access to less healthy choices, through a variety of mechanism including increasing business rates.

4.2. Education and awareness

Participants were extremely positive about the role of education and awareness-raising as a mechanism to change the behaviour of citizens/consumers, with many participants feeling strongly that this was the solution to creating a healthy and sustainable food system. Examples of successful campaigns included drink driving and smoking, with one participant referencing the NHS Change4Life programme, which they thought was positive. More general references

to rules of thumb like ‘five-a-day’ were raised in a way that implied they originated with government, but the connection wasn’t made explicitly in comments.

Tempering the widely held and very positive view of awareness raising and education we note that participants rarely associated these activities with costs to the authority and thus taxpayer in the same way they for did legislative mechanisms. In the workshops participants were asked a specific prompt question about how government action to effect change should be funded – and were reluctant to support any potential funding mechanisms that would impact on individuals (see section 4.3.2 below).

4.2.1. Awareness raising

Participants felt that there was a role for government in making people aware of why they should change their behaviour, particularly where the issues are complex e.g. reducing meat consumption to combat climate change.

‘There’s an educational part here as well, they need to show you why these things are better. If they don’t show you, these things are quite big issues here like climate change.’ Participant – Cardiff workshop.

Some participants likened this to educating people about recycling, which is now commonplace. Reflecting on this, participants reported recycling as an example where they clearly understood what was required of them (for example by the local authority refuse collection service) but rarely talked about recycling in terms of the problems it addresses (resource use, waste management etc.). This begs the question of whether participants felt that governments should inform them about the *problem* of global food security, or simply about the appropriate action they should take.

Some participants answered this question explicitly, supporting education and awareness-raising in preference to government legislation because they wanted people to have the opportunity to choose. They felt that if people were educated with ‘all the information’, then they would make healthy and sustainable choices and that education schemes would gain public buy-in better than legislation. However, participants also acknowledged through probing by facilitators that there were clearly cases where individuals had the relevant information but still chose the ‘wrong’ option, a recognition that often led participants to reluctantly accept that education alone might not effect change. In most cases, participants who supported forms of legislation wanted there to be education and awareness-raising alongside this – and felt that this would be essential for any legislation to work.

‘There is clearly health problems with eating fried chicken. However people need to be free to make their own decision. These do need to be better informed as there aren’t any obvious messages about just how bad it is.’ Participant – Fried Chicken case study [ONLINE].

Many participants suggested ‘shock tactics’ awareness raising campaigns around the health implications of eating foods high in fat, salt and sugar, similar to campaigns on smoking and drink driving on television and on packaging.

‘It seems that in general that we understand that this type of food and trans fats are bad for us but perhaps we need a bit more education into why this is so and the actual effect it has on our bodies, similar to the images on cigarette packets.’ Participant – Fried Chicken case study [ONLINE].

‘I would like to see adverts on both television and in the press that show the direct results of too much sugar on tooth decay. For me, the more shocking the images the better.’ Participant – Sugar case study [ONLINE].

There was some concern among participants that advertising campaigns about health and weight could turn into ‘body shaming’. It was therefore suggested that dental health could be a better way to get across the message about sugar, or focusing on diabetes as a way of explaining the health impacts without focusing on body shape.

4.2.2. The role of schools and teaching

The majority of participants felt that schools should be responsible (along with parents/families) for teaching healthy eating and basic cooking skills to pupils. They thought that early education would enable pupils to develop skills and habits that would last a lifetime, thus avoiding the need for behaviour change later in life. In addition, some participants felt that children would be able to educate their parents, or that healthy eating schemes at school could involve the whole family.

Some participants suggested cooking classes would also be a good way to educate adults about how to cook basic meals on a budget. While participants acknowledged the convenience of ready-meals, they tended to feel that home cooking was both cheaper and healthier and felt that there should be some authority intervention to promote it. It was not clear who participants thought would provide cooking classes, although in some cases participants mentioned television programmes like ‘Eat Well for Less’ which they thought had had a positive impact.

‘I think that more could be done to show it's a cheaper alternative to cook from scratch, and food doesn't have to be fancy. If the research shows people are buying fast food chicken, then it's not down to cost, but time and convenience. Leading with health implications is one way, but we live in a society where people don't want to be preached at.’ Participant – Fried Chicken case study [ONLINE].

4.2.3. Learning through experience

Participants were also extremely positive about schemes in schools to grow vegetables and participants saw potential for aquaponic/hydroponic systems in schools to be used as

educational schemes (citing one existing local example in a Plymouth primary school) to educate pupils about the origin of their food. Participants were particularly supportive of these schemes if they were integrated with school meals.

'I think so many people now have lost sight of their roots and that food is grown. It all comes out of the supermarket and out of packets.' Participant - Plymouth workshop.

Community gardens were another example of a hands-on setting for individuals to learn about and connect with the food system. As with other measures, participants tended to make undifferentiated statements about the role of the state in supporting this type of enterprise, without clarifying which bodies they were referring to, or how schemes should be administered or paid for.

4.3. Legislation and regulation

Participants were familiar with the idea of government taking responsibility for issues like public and environmental health through regulation and other policy interventions. In fact, in spontaneous comments on what global food security means, some participants seemed to assume that there was already a government programme to ensure adequate food supplies. In the course of deliberation, participants often started from the assumption that 'government' had the ability to effect change at will. Through the course of the discussion views about the power that governments actually wield varied; some participants were cynical, particularly about the relationship between governments and commercial entities. Some felt that business had leverage over government through tax revenue, although there were a number of instances of confusion among participants at the workshops about exactly how the financial relationship between business and government works. Another element was the extent to which the UK government had control over the food system in the face of international bodies like the EU, or multinational corporations.

4.3.1. Regulating for health and sustainability

Attitudes expressed towards the responsibility of government predominantly stemmed from an understanding of government as overseeing public health, as well as a feeling that lack of legislation had allowed the UK to slip into an unhealthy food culture in the first place. In many cases, participants felt that nothing would change unless governments were able to regulate the food system, because of business interests etc.

'The burden [to create a more sustainable and healthy food system globally] should lie with the retailers, but unless they're regulated by Government, nothing will change. So it's got to be the Government, especially on the health side.' Participant – Cardiff workshop.

Many participants were very positive about the role of governments in regulation around the food system, with some suggesting extreme measures like banning all sugary food in online discussion forums and case studies. In general, participants were most supportive of regulation

to improve the health of the population, such as governments imposing restrictions on the amount of sugar that manufacturers could use in products, implementing mandatory nutritional information on menus or the number of takeaways which could open near schools or banning trans-fats. However it was less common for participants to proactively suggest or support government regulation around sustainability or ethics issues, even when prompted as a follow up to discussion of environmental challenges to which participants were sympathetic.

Participants sometimes referred to the ban on smoking in public places as an example of a change which was resisted at first but now was relatively uncontroversial – suggesting that a similar situation could occur around healthy eating. This sentiment arose particularly in relation to a scenario posed in the workshops about a local authority using business rates to penalise food outlets which sold the least healthy types of food.

The most common argument against government regulation for health was about choice; participants argued that any food eaten in moderation was not harmful, and any attempt to legislate for health would result in an unwelcome restriction of choice.

[in relation to a prompt question about restricting takeaway outlets] ‘It’s going to be like the prohibition.’ Participant – Cardiff workshop.

Participants were more likely to suggest or support specific legislation that targets schools or children, including strong measures such as: not letting children leave the school premises at lunch; age restrictions at takeaways and making school meals compulsory.

Other reasons for opposing legislation included equity concerns; particularly that financial policies that led to higher prices would have disproportionate impacts on low income households. Participants tended to reason that those on lower incomes were heavier consumers of unhealthy foods, but did not make the connection between lower incomes and proportion of income devoted to providing food. Participants also identified a perception issue with taxation:

‘Banning [fast food] outlets near deprived social areas could backfire as people could take it as ‘class war’, same applies if they introduce tax on fatty food (similar to sugar tax idea).’ Participant – Fried Chicken case study [ONLINE].

4.3.2. Taxation

There were conflicting views about taxation expressed both within groups and by individuals through the course of the workshop discussions. Participants tended to accept that higher pricing through tax could be an effective mechanism for changing behaviour, but made conflicting statements about how such measures would affect them personally. Similarly, participants tended to support the idea of government subsidising healthier choices, but were reluctant to accept proposed measures to fund this via personal or business taxation.

For many, this was based on objection to taxation itself, either because participants felt that they were already paying ‘too much tax’ or because of scepticism about what would be done

with the revenues. Participants in the workshop discussions did not have a consistent understanding of how financial policies would work, sometimes believing that higher taxes would directly benefit big businesses.

While the choice argument was the most common reason for opposing taxation, there were other participants who felt tax would be ineffective as people would quickly 'get used to' the new prices. Others felt that those who most needed to change their diets would be the least swayed, for example young people influenced by peer pressure. A similar argument was that price was not the motivating factor for those products which had the most negative impact, for example fast food which is chosen for convenience, or sweets which were chosen as a treat.

Talking about taxation: changing views

When financial mechanisms to effect behaviour change were positioned as reallocation to provide subsidies for healthier food, participants were generally much more positive; avoiding the term 'tax' made measures more acceptable. This suggests that initial opposition to taxation may be based on a perceptual issue rather than genuine opposition to the policy. Through the course of the deliberation some participants became increasingly open (or perhaps resigned) to government intervention that reduced individual choice or had financial impacts. As one participant put it, 'I know it's not the thing to say... but if these things were regulated it would be better for everyone.' (Participant, Cardiff workshop) This view tended to emerge from conversations about the failure of individuals to change their behaviour despite having the knowledge and means to do so.

4.3.3. Regulating industry

Participants, particularly in the workshops, were more positive about government imposing new legislation on industry, particularly manufacturers of processed foods and supermarkets, who tended to be seen as most culpable in making unhealthy and unsustainable products available. Due to the fact that participants were given sugar consumption as a case study, much of their discussion focused on this issue. Participants were largely supportive of measures by government to impose sugar limits in products and fining manufacturers who did not comply.

Participants were concerned with the need to differentiate between small and local businesses and large chains when designing interventions which would affect industry. The example of smaller businesses being disproportionately affected by interventions was raised in the Fried Chicken case study video by the specialist and discussed in the Responsible Council scenario in the workshop, so it should be noted that this was not generated by participants, but did garner strong support, with some participants even ruling out interventions because of this possibility.

4.4. Responsibility scale

Workshop participants were asked early on to rate the different actors according to the level of responsibility for global food security that they thought each should have. They were then asked at the end of the workshop to repeat the exercise, to see if any of their scores had changed.



Figure 3 Responsibility chart: governments/councils. 1 = least responsible and 5 = most responsible. Each data line represents a table group. Overlapping groups have been slightly displaced for visibility.

At the first score four of the six groups gave the same ranking (4) to government, arguing that government had a role in overseeing all aspects of the food system. The two groups who gave government lower responsibility thought that the government should be responsible for food safety, but little else.

Three of the six groups felt that governments/councils were more responsible by the end of the workshop with a marked change in two groups. The main argument for increasing responsibility was the perceived responsibility of government to influence the other actors, particularly manufacturers and retailers who were seen to have a dedication to profit which conflicted with promoting health and sustainability. For those groups recording no change, the argument was made that their first score (with a high level of responsibility attributed to government) was correct, and nothing they had discussed convinced them that government had more scope for influence.

The distinction between the extent of responsibility for food security and capacity to effect change was discussed in relation to government by most of the groups. They tended to feel that government *should* have significant responsibility for food security, as they could act in the interests of the population as a whole. However many felt that government actually had limited power to make changes to the food system relative to manufacturers and retailers, who represented 'big business'. Participants tended to hold the converse view about

businesses - that they had too much power. However, participants were often resigned to this as inevitable and uninterested in, or unable to conceptualise change.

Chapter 5: Retailers, manufacturers and supermarkets

As discussed in chapter 2, participants tended to perceive food-related businesses as one type of actor, rather than thinking about the different stages of the food supply chain. This report reflects participants' framing of food businesses: this chapter covers retailers, distributors and manufacturers together. We highlight supermarkets in particular as participants mentioned them far more often than any other type of food business.

The chapter covers participant views about the health and sustainability of manufactured foods (an intervention which was presented in the workshops). In terms of retailers and supermarkets, the chapter covers topics which participants most often discussed, including food waste (potentially influenced by a recent television programme 'Hugh's War on Waste'), labelling and choice. Food safety is briefly discussed, reflecting its low incidence and apparent priority in participant discussions. Participants often felt that food businesses influenced the food system indirectly through advertising, which is discussed separately in chapter seven below.

Findings are synthesised from all of the different activities; where a finding seems to relate exclusively to a particular activity or question which was asked, we have highlighted this.

5.1. Context

Across the engagement activities, participants were presented with information and prompted to consider different topic areas, which has implications for their comments on the role of retailers, supermarkets and manufacturers (for more detail see appendices).

- **Discussion forum:** participants were questioned about who was responsible for some of the main challenges that they had identified in the food system and were prompted to consider the roles of retailers and manufacturers.
- **Online chat:** participants discussed the availability of different foods in the supermarket from around the world (as mentioned by Professor Tim Benton in the accompanying video) and whether stocking sustainable produce was the responsibility of supermarkets/retailers.
- **Case study:** participants completed case studies about fried chicken, oily fish or sugar. Food businesses were discussed less in relation to oily fish, but manufacturers were included in sugar case study as having the potential to change the composition of products and food outlets were discussed in the fried chicken example.
- **Workshop:** as part of the workshop activities, groups completed one scenario about a manufacturer who sought to address food security by reformulating (e.g. changing the recipe of) their products, and a supermarket which was trying to improve the sustainability of the produce they stocked.

5.2. Healthy and sustainable products

A significant portion of the workshop discussions was dedicated to the responsibility of manufacturers to ensure that products were healthy, and to a lesser extent sustainable. In one of the scenarios presented participants were asked to consider manufacturers changing the recipes of processed foods to reduce their sugar content, a point also raised in the sugar case study. In both cases, this was about manufacturers reducing the amount of sugar in products, although reference was also made to previous cross-organisation collaboration on salt reduction.

Participants expressed shock when presented with the sugar content of some products and surprise at how many products contained added sugar. In particular, participants were surprised about the sugar content of breakfast cereals, as many thought that these were healthy options. Participants almost universally felt that too much sugar in products (and therefore in people's diets) was a significant problem in terms of the health of the UK population. They tended to argue that their own lack of knowledge of the scale of the issue implied that the responsibility should be on manufacturers to make changes and much of the discussion about manufacturers focused on the consumer-product relationship.

'We have been conditioned to have a sweet tooth and the manufacturers keep adding sugar due to its addictive nature - we keep buying the products, and the manufacturers and supermarkets make their profits. They are NOT concerned with our health, only their wallets.' Participant – sugar case study [ONLINE]

Participants were generally in favour of manufacturers reducing the sugar content of their products, as they have with salt as a mechanism to improve health. Most felt that if the change was gradual, then consumers would find it easy to adapt, with some participants likening the process to their own experiences of reducing their sugar intake, such as giving up sugar in tea and coffee. Participants working through the online case study on sugar were reassured by the specialist's information about salt reduction (i.e. that a great deal of the salt content has been removed from products and that consumers continued to buy products after their salt content was reduced), although some participants thought that consumers would still choose their food based on taste preference. Participants felt that achieving sugar reductions would be most difficult for popular brands because consumers have fixed expectations about the taste of their products.

Reflecting on how manufacturers could be encouraged to reduce the sugar content of their products, some participants expressed concern that if only some manufacturers would do this, they would lose market share to manufacturers maintaining a high sugar content in their products. With this in mind, participants thought that manufacturers would not be prepared to reformulate their products unless obligated to do so by government legislation or the Food Standards Agency. Some of the ideas that participants proposed for legislation included

imposing a maximum limit for sugar in products, taxing sugar or using levies similar to those used for carbon emissions.

'It's about food production companies taking responsibility and, through years of reduction, slowly eliminating unnecessary sugar from the foods they produce, in the same way that a reduction in salt has been achieved.' Participant – sugar case study [ONLINE]

Thinking about ways of reducing the level of sugar in people's diets, participants considered the use of alternative sweeteners. Participants had mixed views about these. In general, participants preferred 'natural' sweeteners (giving examples such as stevia and xylitol) over 'artificial' sweeteners. Some participants worried that an increased use of sugar alternatives might also have negative health impacts in the long term (but did not give more detail about the types of health impacts).

Many participants believed that consumers would end up paying for manufacturers' expenses associated with reformulating products (such as R&D), either through taxes to government or because manufacturers would pass on their costs to consumers in the form of higher prices. They felt that this would be counter-intuitive as it would discourage people from choosing healthy options. Some participants compared this to examples where manufacturers reduced the size of products without changing the price.

Reformulation or changes to cooking methods for the food offer from fast food outlets was also discussed in the online case study on fried chicken. Participants were very supportive of the idea that takeaways could use different cooking methods to reduce fat (particularly trans fats), salt and sugar – as proposed by the specialist – and some participants expressed shock that some of the current cooking methods were commonplace, such as reheating oil.

5.3. Food waste and supply chain

Reflecting on supermarkets' responsibility for reducing food waste, participants spoke passionately about special offers where customers are able to acquire two products for the price of one ('two-for-one' or 'buy-one-get-one-free'), which they believed encouraged people to buy more than they needed, contributing to food waste. Participants almost always preferred half price offers rather than two-for-one, although some felt that consumers would not respond to this as such a good deal. Some participants suggested that for smaller households shopping at markets rather than supermarkets was better, because you could buy individual fruit and vegetables rather than multipacks. In general participants felt that responsibility in this area was shared, with a clear role for retailers in discouraging food waste, and for consumers in managing their household food waste responsibility.

Participants felt that retailers were particularly responsible for encouraging a culture of food waste. They felt that supermarkets and other retailers put too much emphasis on stocking products of a consistent appearance or size. They were horrified by the amount of food that was wasted because it did not comply with retailers' standards on size or appearance (many participants were aware of this because they had seen Hugh Fearnley-Whittingstall's television

programme ‘Hugh’s War on Waste’ - which showed farmers being forced to throw away parsnips because they did not reach the cosmetic standards imposed by retailers). Most participants said that they would be prepared to buy products which differed from these standards (‘wonky vegetables’) and they thought that this would also be true for the wider public. However, others suggested that shoppers who had only ever seen fruits and vegetables in the context of a supermarket would be put off by ‘non-standard’ products.

‘As consumers, I think it universally drives most shoppers crazy this nonsense about it has to be round, it has to be long, it has to be this, it has to be that. We don’t care. We’re going to eat it, we really don’t care and yet it’s made out the consumer does care.’ Participant - Plymouth workshop.

‘A lot of people think they should be. If it doesn’t look like the carrot that’s on the advert, doesn’t look like what’s on the front, it can’t be it. They don’t expect a natural looking item.’ Participant - Plymouth workshop.

Another area where participants believed that supermarkets carried responsibility for the levels of food waste was that of sell-by dates. They observed that supermarkets tend to throw away products on their sell-by date, while these could still be used. Many participants wanted to see other uses for these products, suggesting for instance that supermarkets donate the goods to charity.

In a similar vein, participants often commented on supply chains in food retail, which they considered illogical or wasteful, as they involved unnecessary transportation of fresh produce. They gave examples such as the packaging of cauliflowers from south west England in the north of England and the packaging of North Sea prawns in Thailand, only to be shipped back to the UK for consumption. However as with other areas participants focused much more on the familiar consumer-side impact of food waste, and were less well informed about food waste upstream in the food chain.

5.4. Labelling and information

There were mixed views among participants about the effectiveness of labelling on products, such as nutritional information and information about sustainability.

While most participants were aware of the traffic light system for nutritional value on products, quite a few were not, and even those who were aware would not always look at this when making purchasing decisions. Participants added that labelling was not provided on all products.

Reflecting on the labelling for sugar content, many participants, particularly in the online case study on sugar, thought that current labelling was not clear. They said they were worried about ‘hidden sugars’ in certain products (like breakfast cereal), as these would escape explicit mention in the product’s list of ingredients. Participants thought this was not sufficiently reflective or transparent.

‘Hidden sugar is the main issue, if you seen [sic] proper labelling around sugar then I feel people would choose a different product. The amount of different names used for sugar is unbelievable in some products.’ Participant – sugar case study [ONLINE].

In addition, some participants felt that the traffic light system did not allow people to understand the quantity of sugar in a product in a meaningful way and suggested alternatives, such as comparing with other foods or displaying the sugar content in spoonfuls.

‘I dont [sic] think the public know the roper [sic] truth on how much sugar is actually in our foods, such a can of full fat coke we all know has nearly 40g of sugar in, this needs to be put across more strongly to consumer and actually comparing it to something and showing consumers the amound [sic] of sugar in bags that each sugary product really contains on adverts/posters etc.’ Participant – Sugar case study [ONLINE].

Some participants suggested labelling for takeaway food. In the Responsible Council scenario in the workshops, some participants suggested introducing a food health scale, similar to the current food hygiene ratings. Similarly, in the online case study on fried chicken, some participants felt that a traffic light labelling system on takeaway menus might encourage people to make healthier choices, although others suggested this would have the least impact on those who eat takeaway meals most regularly.

Participants reflected on whether supermarkets and other retailers had a responsibility in educating people about healthy choices. Although many participants thought they did, most acknowledged that this was less of a priority for supermarkets and other retailers than making a profit.

‘We have to accept, though, that the supermarkets prime aim is to make money and if cheap, processed, convenience food sells, they will they will promote it.’ Participant – Forum discussion [ONLINE]

‘Without the government acknowledging that the product is harmful you can't expect retailers not to sell it when the profit margin is so obviously high.’ Participant – Fried chicken case study [ONLINE]

Besides educating customers about healthy choices, a few participants argued that supermarkets could educate customers about seasonal food, but others questioned how this would be efficient if unseasonal produce were still available in the same stores.

‘The fact is their [supermarket's] prime purpose in life is to make a profit and that is their job...they will sell what sells and they will sell it for the best price they can get for it.’ Participant - Plymouth workshop.

When asked about the extent of labelling that was desired, some participants thought that consumers do not currently have enough information about a product and therefore that

consumers should be informed how well products performed across a range of factors (including health, sustainability, ethics, cost, local production, environmental impact), so they could come to an informed judgement. However, in general, participants were most interested in the nutritional information on product labels. Indeed, when workshop participants were asked whether they would like information about sustainability to be available on product labels, some felt that this would be too complicated and time consuming.

‘It’s making it hard work going shopping, it’s an awful lot to take in.’ Participant - Plymouth workshop.

5.5. Type of food stocked

Participants reflected on whether supermarkets and other retailers should adjust the types of foods they stocked in order to encourage customers to make healthier or more sustainable choices. A few participants argued that supermarkets and other retailers should take responsibility for avoiding products with a negative environmental impact and many participants wanted supermarkets and other retailers to stock more local produce. Some also mentioned a desire for supermarkets and retailers to have a greater focus on seasonal produce.

However, most participants disagreed with the idea of restricting choice, often because they felt that consumers were so accustomed to high levels of choice that they would not accept a reduction in choice, or that consumers would shop around if their product of choice was not available in some stores.

‘Our demand as a nation is much too high – we can get everything from all over the world, when we want it – better if we ate more seasonally and what is available.’ Participant – Plymouth workshop.

Looking at healthy foods specifically, most participants thought that supermarkets and other retailers should continue to offer a range of choices. Participants believed that healthy products would be less popular among customers, so retailers would prefer to keep stocking unhealthy products.

‘If they [retailers] can see a profit in more healthy food, they’ll change tomorrow.’ Participant – Cardiff workshop.

Many participants felt that buy-one-get-one-free offers tended to be on the unhealthiest foods in supermarkets, which they felt encouraged people to make unhealthy choices.

‘I notice in the supermarkets that the really cheap offers or BOGOF offers on savoury food tend to be the highly processed items (e.g. burgers or savoury pancakes). There are countless cheap offers on processed cakes and biscuits.’ Participant – Discussion forum [ONLINE].

5.6. Food safety

Food safety was barely mentioned by participants across online or face-to-face activities. This was surprising given recent scandals such as horsemeat, BSE and E.coli. Food safety was raised in one of the online case studies (campylobacter in chicken), but was not referenced explicitly in the workshop materials. The fact that participants did not raise it spontaneously suggests that it was not a major concern for them.

The horsemeat scandal - revelations that many products advertised as beef actually contained horsemeat, highlighting a lack of transparency in the supply chain of meat products - was mentioned only once across the project, as part of an argument describing the current food system as unhealthy and unsustainable.

Where food safety issues were mentioned by participants, they tended to include within their definition the use of pesticides to grow crops, antibiotics used in animal rearing and use of artificial sweeteners in products. Participants sometimes expressed concern about the long-term health implications of these practices.

Participants typically argued that it was the government's responsibility to regulate food safety, adding that producers and manufacturers were legally responsible to make sure their products were safe for human consumption. They rarely felt that this was an area in need of significant change, or made connections to food safety as an issue outside the UK.

5.7. Responsibility scale

Workshop participants were asked early on to rate the different actors according to the level of responsibility for global food security that they thought each should have. They were then asked at the end of the workshop to repeat the exercise, to see if any of their scores had changed.

In the workshops, the actors were grouped as retailers and supermarkets and this group did not include manufacturers.



Figure 4 Responsibility chart: retailers/supermarkets. 1 = least responsible and 5 = most responsible. Each data line represents a table group.

The scores were generally high early on and at the end of the workshop. At the end of the workshop, two groups allocated a higher score to retailers and supermarkets, stating their influence over choices, pricing e.g. through promotions, and their size which allowed them to dominate producers. However, one group decided to slightly lower the responsibility score they initially awarded to retailers and supermarkets, which they explained by emphasising retailers' profit focus and the role of demand in the market.

'He's [the retailer] just selling what the consumer wants.' Participant – Plymouth workshop.

Chapter 6: Producers

Participants rarely discussed producers and tended to assume that producers had little responsibility or power over the food system. When they did refer to producers there was a tendency for participants to think in terms of individual farmers, with limited mention of agribusiness, or large scale production. Participants did not tend to have much information about production methods or knowledge about how changes to the food system might impact on producers. However, in general, participants tended to be supportive of producers and were wary about farmers' ability to make a livelihood. This manifested as a higher concern for UK farmers than for producers overseas (although opinions about Fairtrade suggested that participants could be motivated to support overseas producers when this was presented as a concise and emotive narrative).

6.1. Context

Participants were presented with information and prompted to consider different topics across the activities, which has implications for their response to the role of this actor (for more detail see appendices).

- **Discussion forum:** participants were asked to consider a range of actors, as well as where they felt that the responsibility lay for change, but were not prompted to consider producers specifically.
- **Online chat:** participants were asked to consider the biggest challenges in food production.
- **Case study:** some participants completed a case study about Oily Fish, in which aquaculture was discussed. Others completed a case study about Sugar, in which the specialist spoke about the differences between sugar beet and sugar cane production, as well as the potential impact for sugar cane farmers of changes to EU quotas.
- **Workshop:** as part of the workshop activities, groups completed a scenario about 'The Responsible Manufacturer' in which they were asked to consider the effects of changing demand for sugar on sugar cane producers in Fiji. Participants also completed a case study about 'The Responsible Citizen' in which they were introduced to a proposal to increase the price of meat, which would mean producers would not lose out and demand for meat would decrease.

6.2. UK and overseas

Participants were generally very supportive of producers, particularly UK farmers. Participants thought that producers had little responsibility for global food security (or power to improve the system), as they were tied to producing what the supermarkets and retailers wanted and

under regulation from the EU and other trade bodies. Participants were cautious in their support of any interventions which they felt would impact farmers' incomes in the UK.

Participants had mixed views about producers elsewhere in the world; with many participants prioritising the needs of the UK population e.g. health of UK population. In the Responsible Manufacturer scenario in the workshops, which addressed Fijian sugar cane producers' struggle with a decreasing demand for sugar, participants suggested that these producers diversify into other crops, which they thought should be feasible. The decrease in income that the Fijian sugar growers might face was of lesser concern to most participants, who argued that health improvements in the UK (through less sugar-heavy diets) were more important. A few participants thought that supporting sugar producers in their efforts to diversify with subsidies or income from sugar taxation was reasonable.

However, participants tended to make an exception for Fairtrade, which was widely supported (although not always bought). Participants had positive associations with the brand but were often unaware of what it implied, and in the workshops there was a significant proportion of participants who recognised the label but ignored it in preference for competitively priced goods.

6.3. Land use and trade

Across activities, issues involving international trade and land use came up occasionally, mostly in relation to the purpose of agricultural production in developing countries. Some participants said that a focus on food exports in developing countries might impact on local food supplies. However, others thought that countries would not export produce if there was not enough for local populations, or that profits from exported produce should allow countries to import other foods from elsewhere. There was limited knowledge among participants about the functioning of agricultural markets, and they tended to assume that market forces would act to mitigate against the worst impacts. The concept that business interests could act to the critical detriment of producers was not widely recognised, and although participants felt there was limited power for change from producers they did not associate this with a need for action from more powerful actors.

'Yes for sure, if something comes from a 3rd world/poorer country I do wonder if that land could have been used to produce food for themselves.' Participant – online chat [ONLINE].

'But they keep something for themselves, like we don't export everything we produce. They must do the same.' Participant – Cardiff workshop.

Some participants (for instance those discussing the Responsible Manufacturer scenario about growing sugar cane to manufacture ethanol-based fuels in Brazil) discussed considerations around efficient use of land. Reflecting on the water use involved with sugar production, participants questioned whether growing crops for fuel was appropriate, even if profitable. Many participants expressed a preference for 'healthier' or 'more beneficial' crops to be grown instead.

Across various themes, participants expressed a preference for products which were ‘natural’. There was some sense amongst participants (perhaps mistakenly) that food grown in developing countries was more ‘natural’ and grown without chemical fertilisers. There was also some confusion about organic produce, where many participants were confused about why organic food was more expensive, while participants perceived it as requiring fewer inputs.

6.4. Production techniques and technologies

Overall there were few references to production techniques and technologies in participants’ comments, suggesting perhaps a low awareness among participants of the importance of technology throughout the food production process or an indication that in participants’ perceptions the topic of technology was of limited relevance. Technology was briefly touched upon when participants discussed aquaponics and growing in heated greenhouses.

Similarly, there was little discussion of genetically modified (GM) foods across the project. A small number of forum discussion comments suggested that participants felt that GM products were inevitable, or that consumers were eating GM foods in the UK already. In the workshops, the issue was not raised explicitly in any of the stimulus materials presented to participants, and did not arise spontaneously.

On and off-line dialogue: divergent views vs. common ground

While in the workshops there was limited discussion of food production, in the online sessions there were a few participants who gave detailed comments about particular issues of concern to them, predominantly environmental issues such as the impacts of meat production, use of palm oil or the potential impacts of pesticides on bees. Due to the different sampling approaches of the two aspects (the online sessions were open to the whole panel while the workshops involved an invited sample to achieve representation) it is not possible to say with confidence that this difference is down to the difference in methodological approach rather than a different sample. However, it is possible that participants felt more able to express divergent views when contributing individually and anonymously in the online activity than in group discussions at the workshops. Those with existing views and knowledge of the subject may have been more willing to join the panel initially and perhaps keener to comment where they had expertise or knowledge.

When prompted for their idea of a healthier and more sustainable food system, participants often described local food production. This vision included local, small-scale greenhouses, community gardens and hydroponic systems – with added benefits for education about food as well as various social benefits. In the Plymouth workshop, some participants were aware of a local hydroponic system operating in a local primary school. However, some participants questioned whether the scale of these local initiatives would be big enough to solve any of the

issues within the food system and some participants suggested that only those who already ate healthily would take part.

6.5. Responsibility scale

Workshop participants were asked early on to rate the different actors according to the level of responsibility for global food security that they thought each should have. They were then asked at the end of the workshop to repeat the exercise, to see if any of their scores had changed.

In the workshops, the actors were grouped as producers/manufacturers. In analysing the data, it became apparent that participants tended to think of manufacturers as more closely related to retailers than to producers. This was particularly the case where participants thought about retailers as large supermarkets, manufacturers as global food brands and producers as farmers. The report has therefore been structured according to these altered groupings.

The different group responses to 'producers and manufacturers' as an actor on the responsibility scale are therefore likely to be affected by whether the group were thinking about producers or manufacturers.



Figure 5 Responsibility chart: producers/manufacturers. 1 = least responsible and 5 = most responsible. Each data line represents a table group. Overlapping groups have been slightly displaced for visibility.

Lower scores tended to be awarded by groups that felt that producers and manufacturers were influenced by retailers through supply chain relationships and market demand.

'It should be the responsibility of the producer to grow whatever they want to grow and sell it to the consumer, but that's not what happens. The supermarkets have a monopoly and control what the producer grows.' Participant – Cardiff workshop.

Higher scores were given where participants saw producers/manufacturers as the start of the food system: 'it starts with them'.

Chapter 7: Indirect actors: the media, advertisers, scientists and researchers

As discussed in chapter 3, in addition to those actors with a direct role in the food system, participants also felt that other actors, including the media, advertisers and scientists, all had responsibilities for effecting change in the food system. The media were seen as having a particularly powerful role to play as intermediaries between consumers and food.

Participants referenced the media as the main source of their information about food issues and there were some negative views about the reliability of this information, or the sheer volume of information that participants were exposed to, which appeared to have a demotivating effect on them.

Advertisers were generally seen in a negative light, especially when participants were thinking about their children. Participants generally appeared to give equal advertising power to supermarkets and advertisers, suggesting that participants did not differentiate between the marketing activities of specific brands.

Although findings from research were presented to participants (in a general way), there was very little discussion of scientists and researchers as actors in the food system, or their level of responsibility.

The data is synthesised from all of the different activities; where a finding seems to relate exclusively to a particular activity or question which was asked, we have highlighted this.

7.1. Context

Participants were presented with information and prompted to consider different topics across the activities, which has implications for their response to the role of this actor (for more detail see appendices).

- **Discussion forum:** Participants were not asked specifically about these actors, although they were asked whether they knew about the Global Food Security programme (and therefore, research into global food security issues).
- **Online chat:** Participants were not asked specifically about these actors, but much of the information participants knew had come from media sources.
- **Case study:** The case studies all presented findings from scientists and researchers, for example, into the link between obesity and proximity to fast food outlets.
- **Workshop:** The scenarios did not focus on these actors, although the media was a part of the Responsible Citizen scenario as a source of information for the fictional citizen.

7.2. The media and advertising

As they discussed different possible interventions participants increasingly identified themselves as understanding the food system through the intermediary of media reporting and advertising, whether this was information about products, reporting of policy initiatives or scientific research about health and environmental impacts of food.

7.2.1. Persistent narratives

There were many examples of individual campaigns or stories which many participants were aware of, but these were typically on very specific topics and participants did not immediately make connections between these examples (e.g. food waste) with wider food system and security issues. There was sometimes a conflict in the narrative between the simplistic interpretation of health advice as promoting or censuring a food (as in the example below), and a widely expressed view that nothing was bad for you in moderation.

'I also remember a programme on BBC 2 (Panorama or Horizon I think) that was showing the flawed science behind vitamins/supplements and as part of that stated Scandinavian women, always cited for having such a health [sic] diet due to their high consumption of oily fish, had been proven to actually be at a higher risk for brittle bones & osteoporosis because of over eating of said fish... it was so convincing it made me stop my Cod Liver supplements that very night!' Participant – Oily fish case study [ONLINE].

Despite this, narratives could be both pervasive and persistent. For example, it was common for participants to assume that the more local a product was the lower the environmental impact, because it would have less 'food miles'. When presented with examples where this logic didn't hold, participants found them surprising and were sometimes reluctant to accept them as accurate. This suggests that a well-crafted narrative can quickly become widely accepted, and once it is embedded it was more difficult for the public to engage with complexity.

A second important topic around information provision was perceived consistency. In relation to health and particularly environmental impacts, participants commonly felt that they were given repeated conflicting, or at least inconsistent messages. They argued that when messaging wasn't consistent they were likely to simply stop listening. This was less prominent in relation to health issues, where the topic remained important to individuals, but in relation to environmental issues like climate change participants often reported being disengaged from the debates in the media and policy world.

7.2.2. The media

Participants often cited well-known people who had made media appearances to publicise particular issues such as food waste, overconsumption of sugar or overfishing. Those mentioned were Hugh Fearnley-Whittingstall and Jamie Oliver. At the time of the workshops in Plymouth and Cardiff, many participants had recently seen the television series 'Hugh's War on Waste' and were appalled by the levels of food waste it revealed. Participants often referred to things they had seen on television as examples of why they made particular food choices.

Other participants had seen themselves seeking out food programmes on television as a result of being involved with the Food Futures panel.

When joining the panel, participants were asked whether they had watched a programme about food in the last month. The proportion of the panel who responded ‘yes’ was 86%. For workshop participants, the proportion who had answered ‘yes’ to this question when joining the panel was slightly lower, at 84%.

‘Water being used and leaving none for the towns [sic] population, heard this once about asparagus being grown in Peru. they had a drought as all the water was being used for the crops, this has stuck in my mind for years.’ Participant – Online chat [ONLINE].

For most participants, the media was the channel through which they heard about new research and therefore media coverage could influence how they felt about particular issues and how they prioritised these issues.

The media also played a role in persuading participants to try new foods because of publicised health benefits e.g. ‘superfoods’, whilst reported health scares lead to some participants choosing not to eat certain foods. However, some participants warned that these kind of health scares could lead to consumers misinterpreting the official guidance and some participants felt that the existence of particular ‘hot topics’ (currently sugar), meant that other issues within the food system were sidelined.

‘I think these outlets [Fried chicken shops] will benefit from further growth despite the health risks under the misguided notion that chicken hasn't fallen into the processed meat and colonic cancer recent health scare. Yes fried chicken is high in fat and salt, but a lot of people won't see it that way unfortunately.’ Participant – Fried Chicken case study [ONLINE]

Participants commonly complained of an information overload, where they heard that one thing was good for them and then later that it was not. They felt that the information they received was conflicting and made it difficult to make choices.

‘Sometimes you just get thrown so much information, this week don't eat butter, this week don't eat sugar...and in the end you just think sod it I'll make my own decision.’ Participant - Plymouth workshop.

In the workshops, some groups added the media as an actor on the responsibility scale because they were felt to have a great impact in terms of awareness-raising amongst consumers. They were seen to have potential to encourage consumers to eat better and some participants felt that they should do more to ‘get the national conversation started’.

7.2.3. Advertising

Note: this section on advertising relates to advertising and marketing of products by private companies. Awareness-raising or public health campaigns by government are covered under the government 'education and awareness' section 5.1.

There were mixed views about the role of advertising. A large number of people felt that consumers made their own choices freely and were therefore fully responsible for their own purchasing decisions. However, others acknowledged the power of advertising in purchasing decisions and therefore felt that advertisers had to take some responsibility for promoting products which could be damaging to consumer's health, or the environment.

'It's too easy to blame supermarkets. People aren't coerced into buying such products, it's freedom of choice and perceived value, but at the expense of their health.' Participant – Sugar case study [ONLINE].

'It us [sic] a collective responsibility between all parties but it is harder for consumers to implant sensible choices when faced with bustly lives and manipulative advertising.' Participant – Sugar case study [ONLINE].

However, participants tended to agree that restricting advertising and marketing of unhealthy food to children was a good idea. Some participants thought that advertising was biased towards unhealthy products – citing the example of fried chicken being advertised on television (especially during peak time) and were particularly concerned about this in relation to the television that children watch.

Similarly, there was particular concern about certain foods being marketed as healthy products, even though they often contain high levels of sugar e.g. breakfast cereals.

'The problem is that food that is high in sugar isnt [sic] seen in that way. Cereal is promoted with healthy living and exercise and so people believe it's a healthy option and we are being told how breakfast is an important start to the day.' Participant – Sugar case study [ONLINE].

7.3. Scientists and research

There were very few direct comments about scientists and research.

Participants who worked through case studies, having been introduced to some of the issues, tended to comment that there should be more research in those topic areas. For example, those who completed the Oily Fish case study felt that more research needed to be done to find alternative omega-3 sources to feed farmed fish, or artificial omega-3 supplements for human consumption which did not require oily fish in their production. In this case, most participants had not considered that the diet of farmed fish would have an impact on wild fish stocks and so many felt that this should be a priority. In this case, research was considered to be part of a concerted effort between scientists, universities and government.

There were some individual comments from participants who wanted more research to be done into insects in animal feed and some participants who felt that scientists could use computer models to work out the total environmental impact of different foodstuffs, thereby providing information which could be displayed on the product's label. Some participants also felt that scientists and health officials should play an advisory role to government, providing guidance towards imposing a maximum limit for sugar added to products.

For many participants, they found the volume of information about new research was confusing. It is likely that the majority of participants' exposure to research would be via the media and therefore the previous section on attitudes towards the media are important to understanding public reaction to research.

'Consumers have to educate themselves. The problem is they can [be] confused by so much research claiming EVERY food is bad for you. We have seen studies saying chocolate is good for you...then the next year its [sic] bad for you. A survey a few years ago said apples and citrus fruit were bad for people. Scientists need funding and research brings that. But the sheer volume of information is confusing.' Participant – Fried Chicken case study [ONLINE].

Chapter 8: Trade-offs

One of the aims of the food systems project was to explore participant views on the trade-offs required to move the food system towards healthy, sustainable food security. These trade-offs were articulated most explicitly in the workshop scenarios, which posed questions for participants about the consequences of potential changes to the food system from the perspectives of the different actors. This chapter draws together and reflects on findings from across the workshop discussions and online activities to present a summary of participant views on these trade-offs.

As was common throughout the project participants were most able to engage with trade-offs in terms of their own behaviour, and found it more challenging to consider trade-offs that occurred in more remote stages of the supply chain. The trade-offs are presented here in terms of:

- Trade-offs around healthy choices
- Trade-offs around environmental impacts
- Trade-offs around ethical impacts
- Trade-offs around collective action

8.1.1. Trade-offs around healthy choices: price and convenience

Price

Across the discussions, particularly in the workshops, participants returned to price as the factor against which they pitted other considerations in making food choices. Where participants were willing to make sacrifices on cost this was more often in relation to health benefits than other considerations. However participants were acutely aware of the existence of structural disincentives to make healthy choices, particularly through retailer and food outlet pricing. The extent to which individuals can avoid these disincentives by making smart choices was a topic of much debate among participants, with strong views on both sides (a finding which echoes earlier dialogue on this topic).

Convenience

Convenience was another factor which participants saw as a trade-off with healthy eating, identifying home cooking from raw ingredients as a healthier option than pre-prepared and processed foods. Participants tended to feel that this should be possible, but recognised that for groups who were time poor this could be difficult.

8.1.2. Trade-offs around environmental impacts: price and personal choice

Price to consumers

Participants were rarely willing to accept higher costs associated with lower environmental impacts. In some cases this was based on scepticism about products billed as environmentally friendly, or doubts that individual actions could make a significant impact. Other participants were more forthright in rejecting environmental arguments, seeing them as irrelevant to their choices. Reducing food waste, buying local produce and seasonal eating were more likely to be seen as acceptable changes to behaviour but tended not to be framed by participants as environmental impacts in the same way that issues like climate change were. For example buying local produce was often rationalised as supporting the local economy, and seasonal diets were described as healthier as well as more sustainable.

Personal choice

When participants were asked to consider potential interventions involving changes to their diets that related specifically to the environment and not health they were more reluctant to accept what were perceived as limitations to their diet. The most widely discussed example was reducing meat consumption, which participants in the Cardiff and Plymouth workshops tended to view as either unacceptable because it formed such a core part of their diet, or simply unnecessary because they did not accept the argument that a vegetarian diet would reduce environmental impacts. They were more positive about change when it was posed in terms of supporting farmers to work in a more environmentally friendly way, perhaps because of their tendency to be sympathetic to producers as some of the least powerful actors in the food system.

As with price participants were more accepting of reduced availability of products (for examples supermarkets stocking more local or seasonal produce) when they could see benefits other than environmental ones, in particular health or local economy. When presented with the specific challenge of reducing their choice of foods which could not be sourced locally (we gave the example of bananas, which can't be grown in the UK) participants were less willing to consider changing their habits. This suggested that changes to the balance of food within their diet, or to different varieties of a product (local vs imported produce) were more acceptable than changes which removed familiar foods from their diets altogether.

8.1.3. Trade-offs around ethical impacts: global trade and small vs large businesses

Global trade

In two of the workshop scenarios participants were specifically asked about the consequences of changes in the UK impacting on food-producing nations around the world: sugar producers in Fiji and banana producers in Ecuador. Participants were sympathetic to the potential impact of changing markets on producers elsewhere but tended not to translate this into a sense of

responsibility for them, or the UK government to mitigate the impacts. When presented with specific examples on the global scale participants often trusted that market forces would account for and correct any initial negative impacts without intervention. For example they tended to assume that producers would be able to shift quickly and easily to other crops if global demand for some products decreased. As with the perceived lack of agency around environmental issues some participants felt that issues of inequality between nations (as exemplified by the production of food in developing nations for sale in the UK) would always exist and so changing behaviour in the UK would be ultimately futile. Participants found it more difficult to engage with complex scenarios, for example a question posed about the effects of producers moving from subsistence to cash crops, even when these were presented in the workshops with support from specialists to explain them. Responses were often phrased with reference to the general topic rather than relating to the specifics of the examples under discussion.

Small and large businesses

Participants were prompted in the fried chicken case study, and the workshop scenarios, to consider potential changes to the food system which could impact negatively on business. Participants responded very differently to the potential for local level regulation to impact on small businesses (as in the case of small take-aways in the fried chicken example) and for national level regulation to impact on large businesses (as in the case of the manufacturer scenario). Participants were much more willing to accept trade-offs which saw large businesses suffer economic impacts than small businesses, who they saw as having less capacity to absorb economic impacts, and less power (and therefore responsibility) to affect the food system.

8.1.4. Trade-offs around collective good: government action, sticks and carrots and information provision

Government action

Participants primarily talked about the need to balance individual choice and collective good when considering the potential for governments to intervene in the food system. As discussed in chapter 4 in relation to individual responsibilities, participants often felt that they lacked the information to make choices with lower environmental impacts, or that their actions as individuals would be ineffectual. Some participants argued that in cases where individuals couldn't take action governments should step in. However tensions remained when the mechanism proposed would affect individuals through higher prices. Facilitators highlighted how often this debate was returned to in the workshop discussions, with groups unable to settle on a consistent approach.

Sticks and carrots

A related debate was held by participants in several groups in relation to the scope of local authorities to effect change through either measures that deterred unhealthy behaviour or measures that promoted healthy choices. Participants were sensitive to measures which

they saw as unnecessarily restrictive, commonly rationalised with the argument that no food in moderation was harmful. However there was a tension between this view and their recognition that individuals do not always make healthy choices even when they have the relevant information, which supported a need for more restrictive measures.

Information provision

There was an interesting discussion in some groups about whether or not consumers needed to be informed by retailers and manufacturers about changes to products which made them healthier or more sustainable. This discussion was prompted by the scenario of a manufacturer reducing the level of free sugars added to a hypothetical product. Participants were surprised (unhappily) about the level of sugar in products now, and in some cases the same participants suggested that reducing sugar without telling consumers would be the best way to ensure people didn't assume reduced quality and switch products. This example of action being taken on consumer's behalf without their involvement seemed in part to be in recognition of the fact that individuals may have the information and agency to make better choices but still fail to do so.

8.1.5. Cross cutting trade-offs

Health vs sustainability

Participants tended not to consider the trade-off between health and sustainability concerns without prompting. However, some participants completed the Oily Fish case study online, which asked: if everyone ate the recommended amount of oily fish (for the benefit of their health), would this be sustainable? This case study forced participants to consider the trade-off between health and sustainability (albeit in a very specific example).

Interestingly, taste preference actually appeared to trump all other factors, with many participants reporting that they wouldn't eat oily fish at all because they didn't like it.

'Let's be honest, I don't think we are going to get to the point where everyone wants to eat oily fish as fish is not really a well-liked food, I find.' (Participant, Oily Fish case study [ONLINE])

Similarly, in this specific example, some participants were sceptical about the extent of the environmental problem and therefore reluctant to make the trade-off at all. For example, some participants did not believe that overfishing was, or would be, a problem. Others listed alternative sources of omega-3 which came from plant sources and therefore had no impact on fish stocks.

One table group in the workshops and several participants in the Oily Fish case study online had begun to explore the possibility of synthetic alternatives to supplements based on oily fish, moving away from their initial assumptions that 'natural' was always the best by default. In this case, they appeared to treat health and sustainability as equal priorities.

A few participants spoke about altering their habits to choose a product which they thought was more sustainable, whilst still having health benefits. Examples included choosing organically-farmed fish, or sustainable krill oil capsules. These participants were happy to pay a higher price for these products, in the knowledge that they were more sustainable whilst still remaining a good source of omega-3 for their health.

'I was brought up on the belief that omega 3 is exceptionally good for you and have for most of my adult life taken supplements and also eaten oily affordable fish like mackerel and tuna regularly. I also eat salmon once a week. It is only in recent years, since learning a lot from Hugh Fearnly-Whittingstall, that I've come to understand the seriousness of the decline in fish and how there needs to be a solution. I've done my research and it seems organic farming is fairly sustainable and therefore I chose to take my omega 3 from organically farmed fish which admittedly is more expensive but definitely more sustainable in the long run. I want to support sustainability for our future as much as possible.' (Participant, Oily Fish case study [ONLINE])

A few participants also identified that the craze for foods with health benefits, or 'superfoods', had potentially disastrous impacts for sustainability, because health concerns were prioritised above all else.

'We identify a super food every few years and use it till the world can't support our greed anymore. Balance and Education are the key. Not sure if we have the will needed to do either one of these.' (Participant, Oily Fish case study [ONLINE])

Self-sufficiency vs imports

There was considerable support for seasonal eating and supporting local food producers in the UK. Many participants reported that they felt shocked by the range of different countries that food came from and wanted to be able to buy more local food; for example, participants in the Plymouth workshop felt that lots of fish was caught in Plymouth but was not available to buy. These participants tended to assume that local food would always be a more sustainable, higher quality choice. For some participants, supporting local food producers was more of patriotic sentiment about 'looking after your own'.

Other participants felt that they would prefer consumers in the UK to be less reliant on imports and instead eat produce which could be grown in the UK, due to sustainability and ethical concerns, for example some participants were concerned that food produced for export in developing countries might have negative effects on resources and domestic food production in those countries.

'Also once remember reading that in Peru, there were water shortages as they were using all the water to make asparagus for the UK/EU. The UK really should be eating what we

produce, do we really need asparagus at Christmas !' (Participant, forum discussion [ONLINE])

However, some participants understood that being totally self-sufficient in the UK would mean a reduced choice of foods available and they were not prepared to accept this.

'We have an appetite for foreign foods here, unlike some other countries, so it wouldn't work to cut imports.' (Participant, Cardiff workshop).

Others were also concerned that importing food from developing countries provided many producers/growers with an income, therefore reducing the amount of food we imported would have a knock-on impact on the ability of farmers/producers in developing countries to earn a livelihood.

'If we all go local then the farmers in Fiji have to get an income from somewhere else. Their income is mainly from us.' (Participant, Cardiff workshop)

However, others felt that this was not the responsibility of UK consumers, and felt that countries had to adapt to changing markets.

There was also some discussion in table groups at the workshops about growing products which are 'natural' to an area and import/export as supporting this. Some participants felt that countries which had the right climate and conditions should grow appropriate produce, which could be exported/imported, rather than trying to grow it in the UK using additional inputs of heat and light.

Production vs demand

There was very little discussion about increasing population and the subsequent need to produce more food to feed everyone. This was only mentioned in the context of increasing demand for meat products from countries where incomes had risen in recent years.

Many participants felt that enough food was produced globally, but that wastage across the food system meant that it did not get to the people who needed it. In these cases there was a lot of focus on supply-side food waste (e.g. not domestic food waste) and the aesthetic standards of retailers. In the context of developing countries, some participants felt that there wasn't the political will to ensure food security for the population.

'There is enough food globally that nobody should be starving.' (Participant, forum discussion [ONLINE])

'Why is it that we have so much food and there are so many poor people? There is just one quarter with all the food.' / 'It's in the wrong places.' (Participants, Cardiff workshop)

'I think the greatest barrier is politics especially that in third world countries. There is starvation in these countries where there is major corruption by the so called governments, i dont think globally there will ever be a solution to access food of any type.' (Participant, forum discussion [ONLINE])

Some participants also discussed demand in terms of choice, with some workshop participants notably saying that they did not need the current level of choice:

'I don't want four choices of carrots' (Participant, Cardiff workshop)

'We all agree we've got too much choice. We don't need 6 types of apples.' (Participant, Cardiff workshop)

In these cases, some participants were aware that providing choice for richer consumers in developed countries might have a negative impact on adequate domestic production in developing countries (see self-sufficiency vs imports).

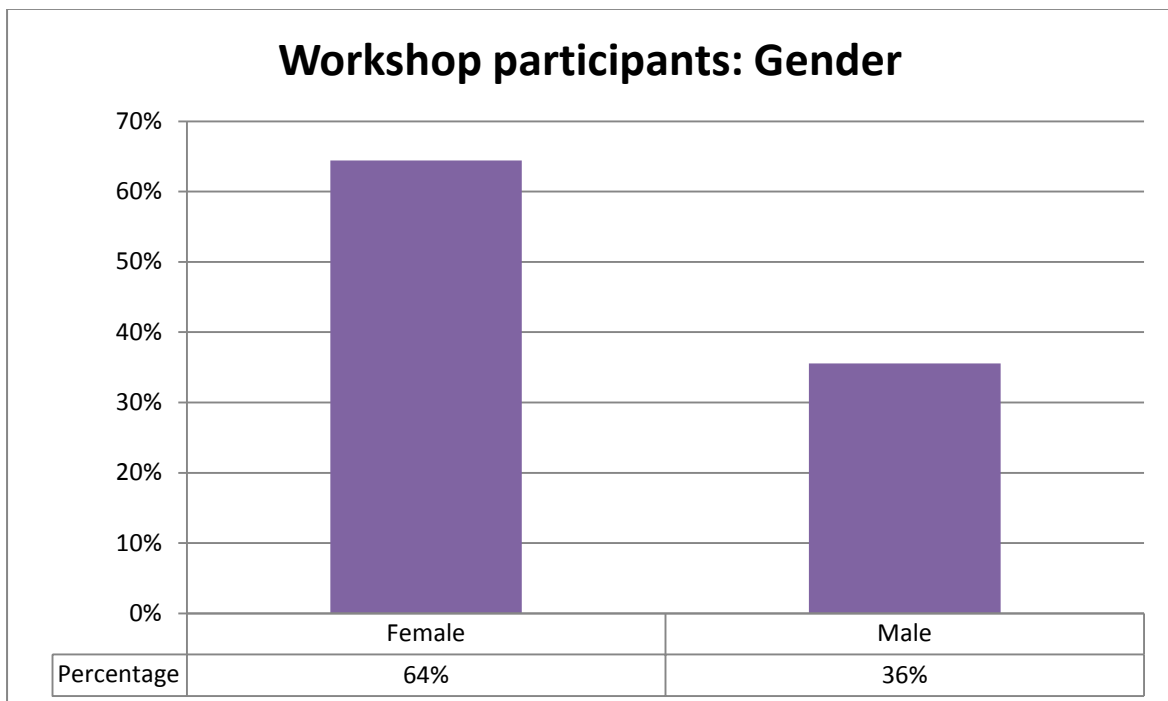
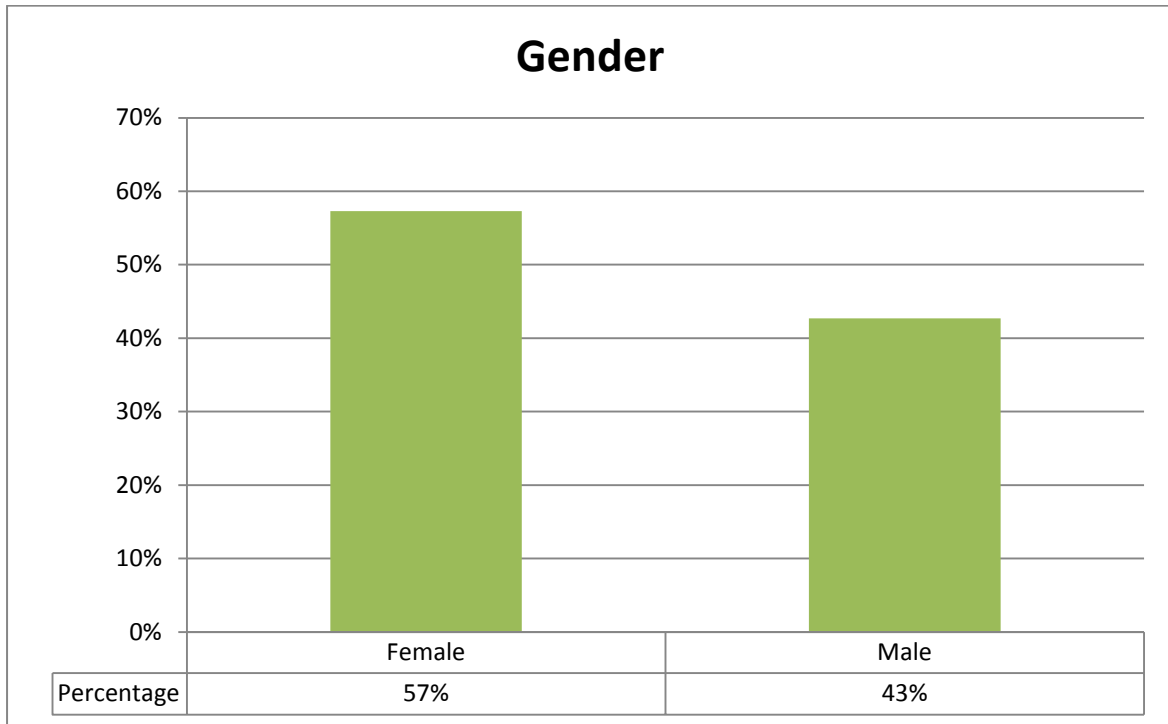
Appendices

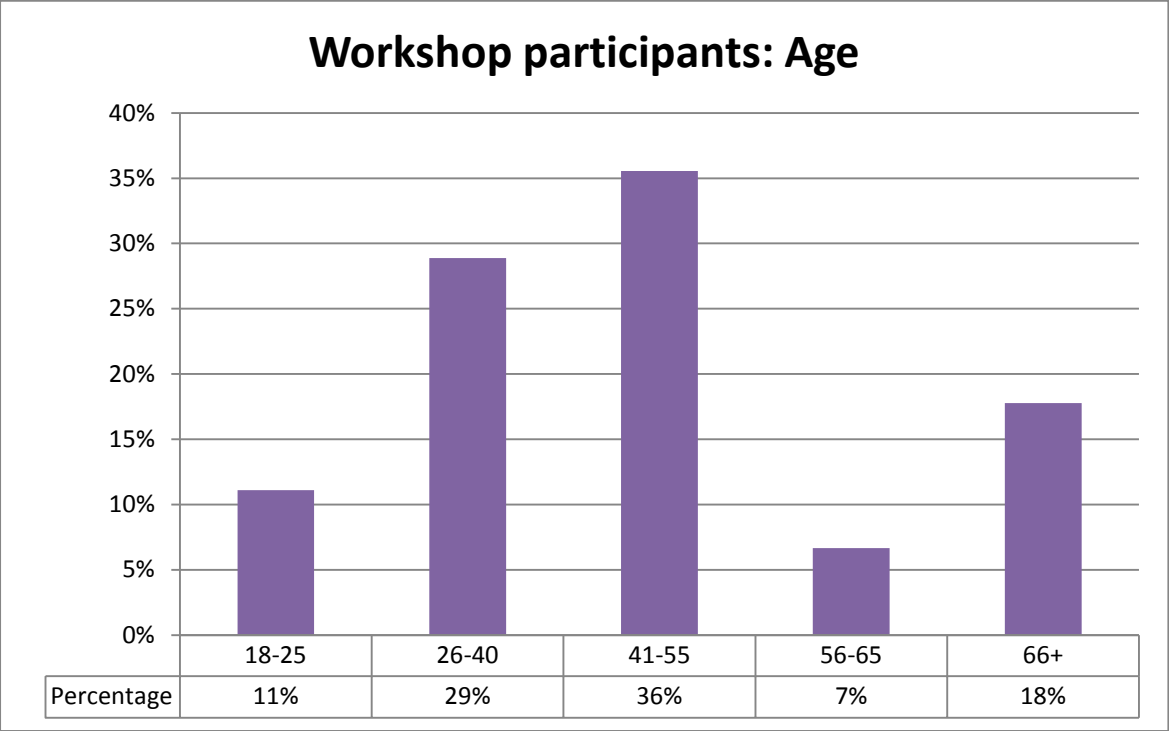
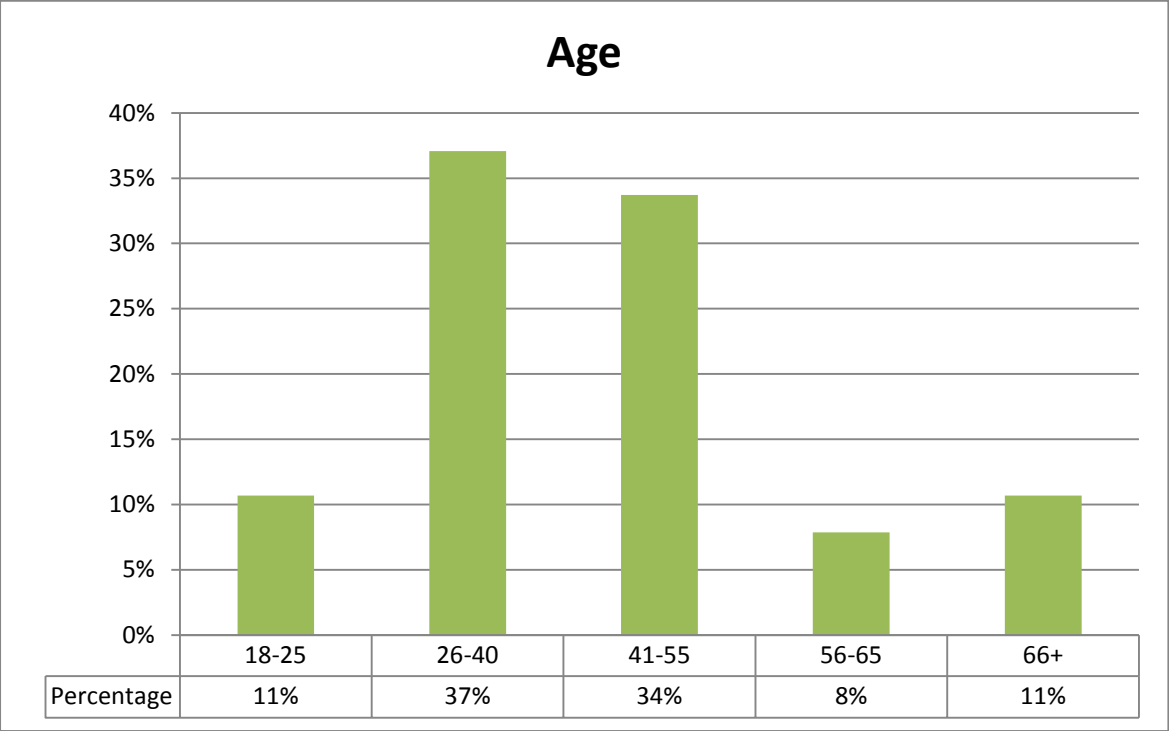
Appendix A: Demographics

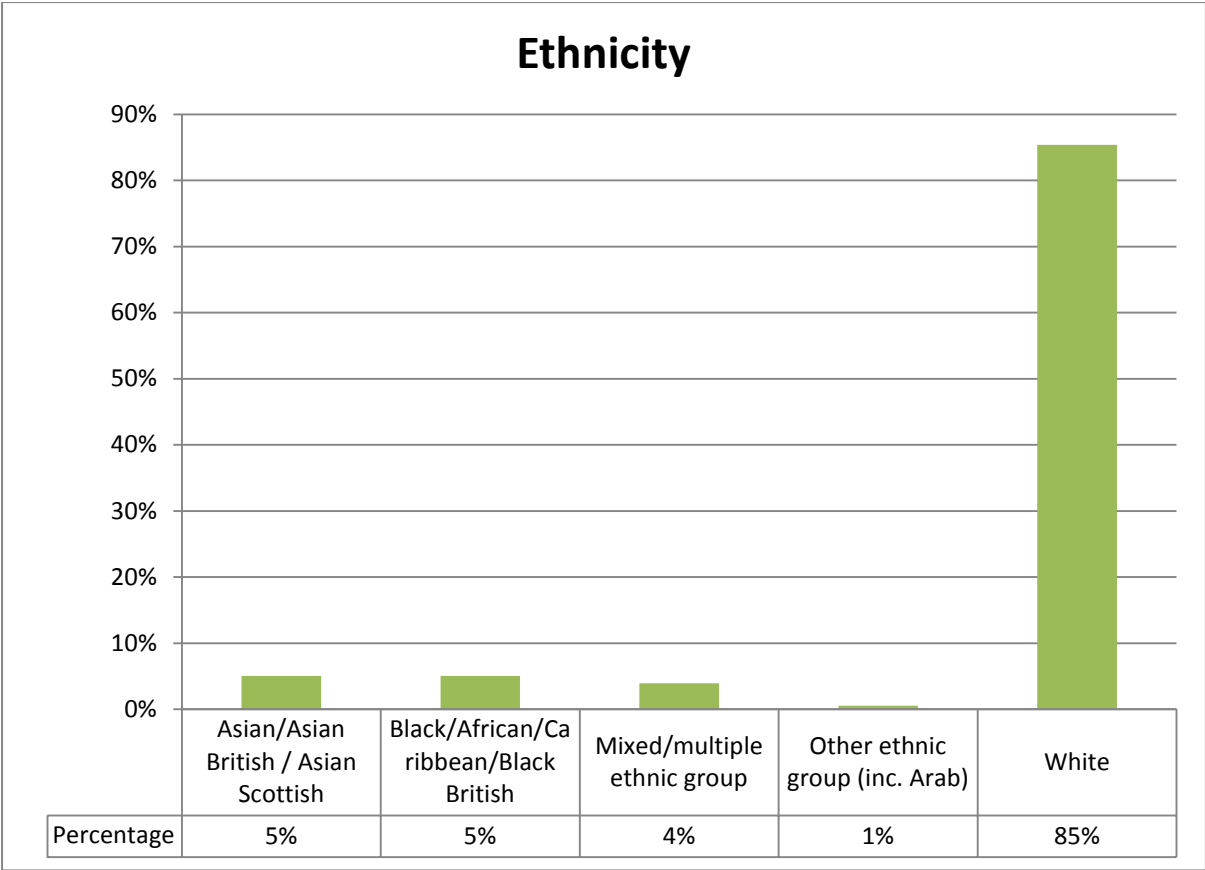
Graphs are presented for the main demographic groupings. We have presented this information for:

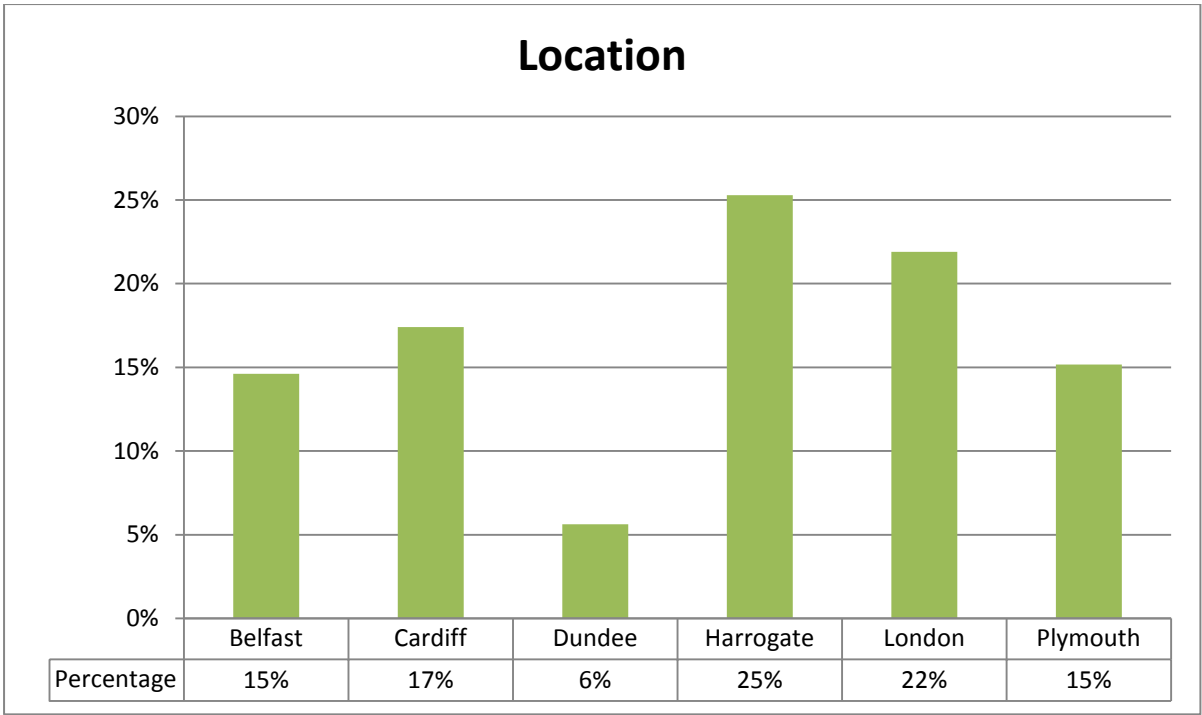
a) all participants who took part in any section of the Food Systems project

b) all participants who attended a workshop (in order to demonstrate any differences in our samples for face-to-face activities)

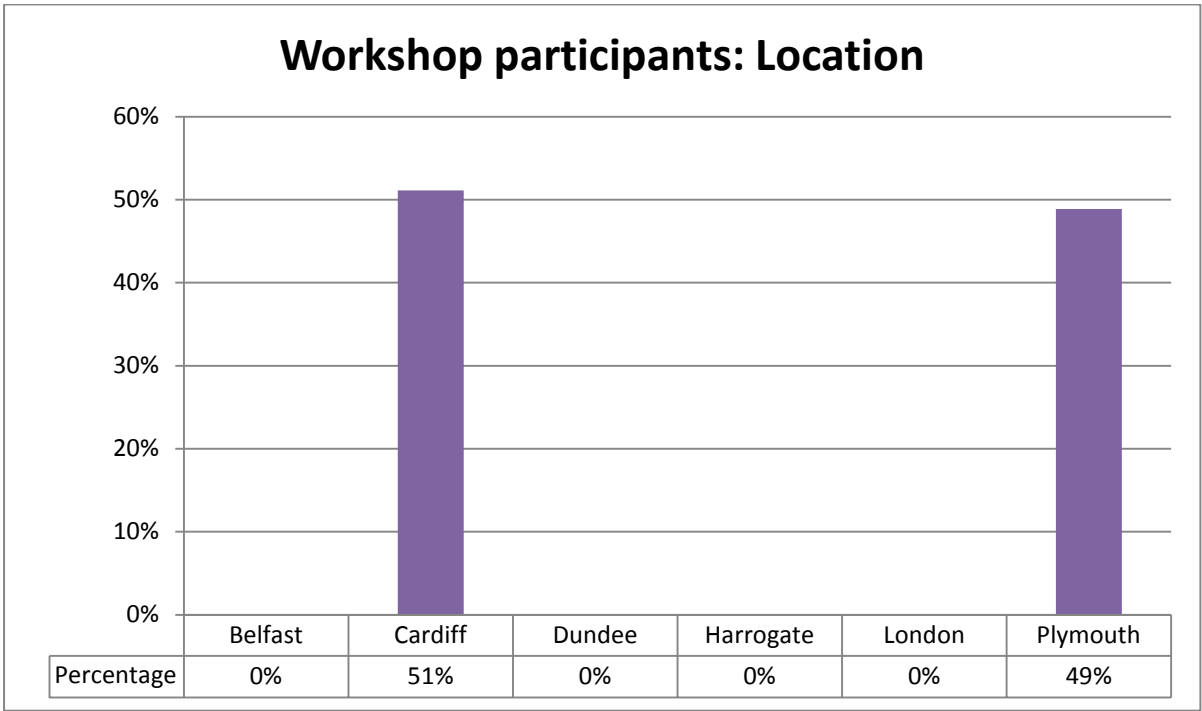




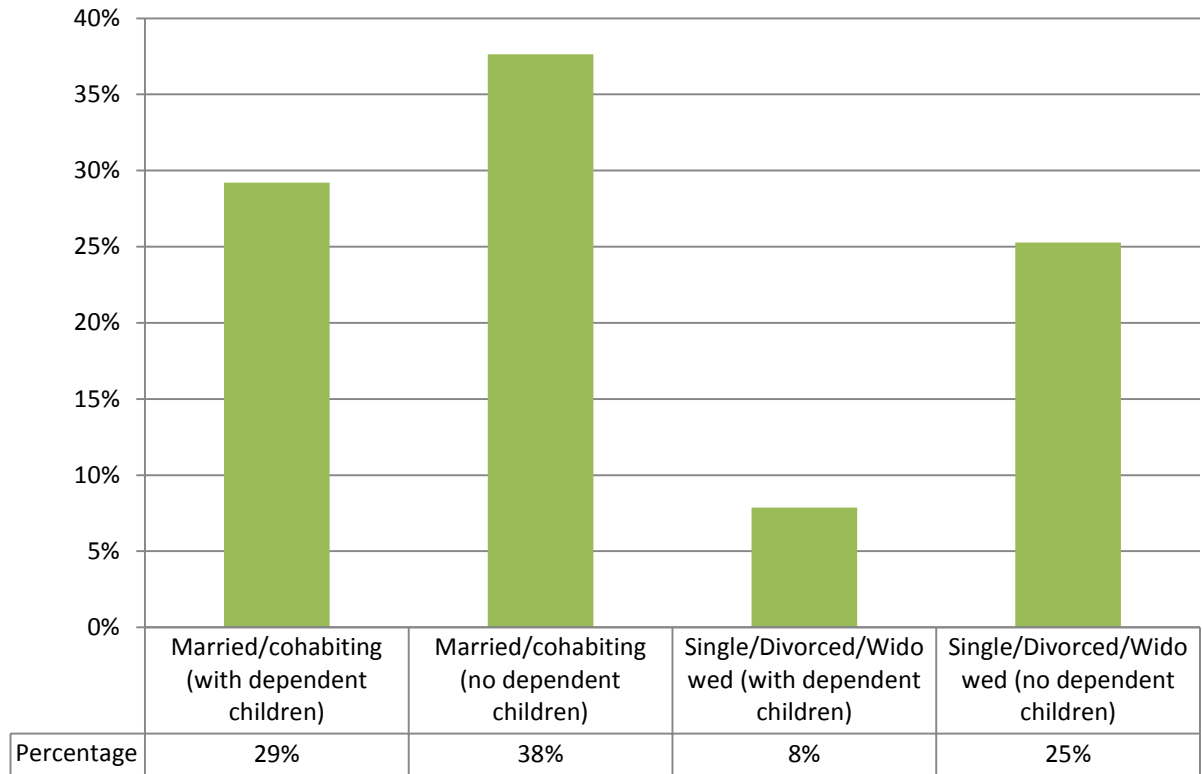




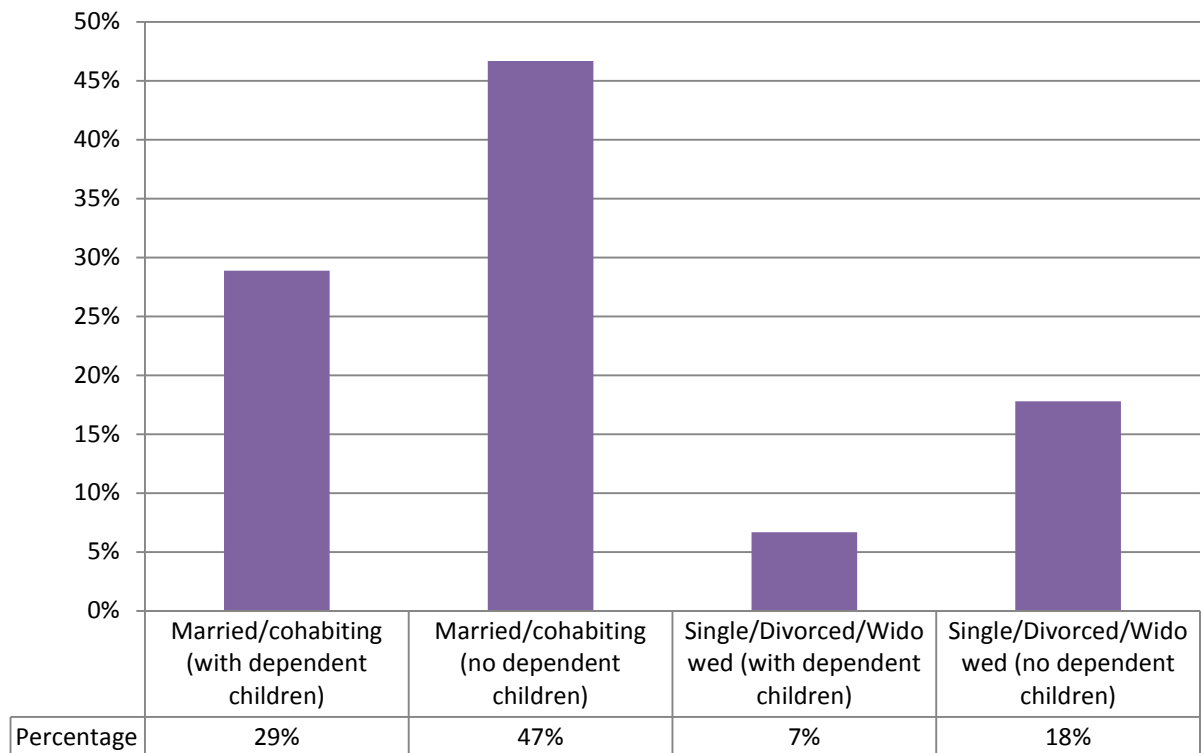
Two workshops were held: one in Cardiff and one in Plymouth.

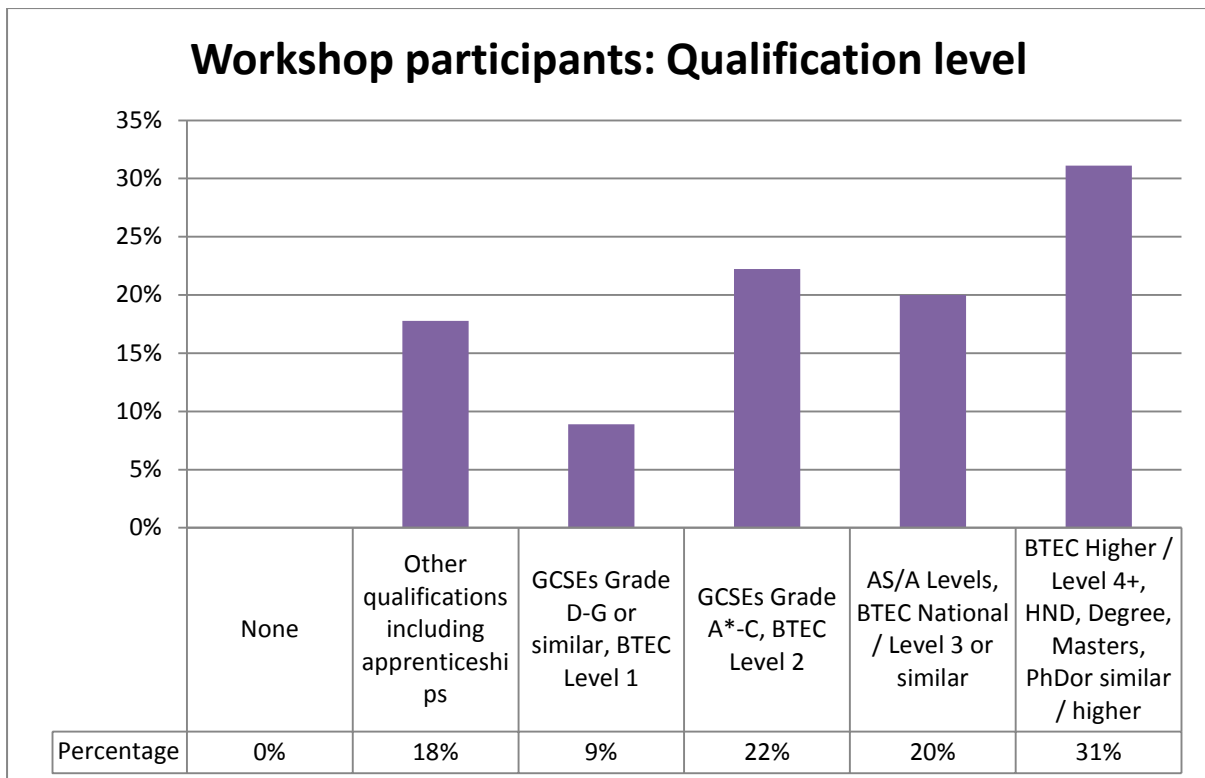
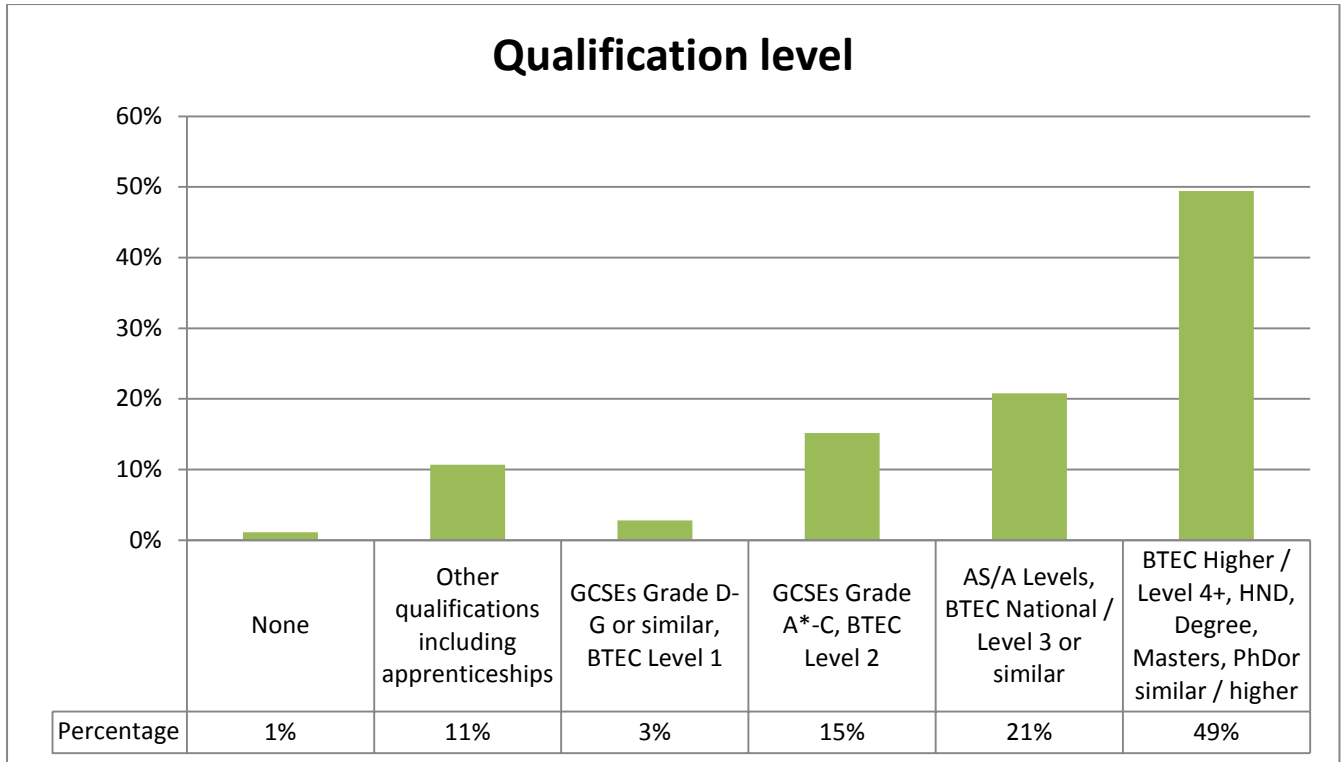


Family status



Workshop participants: Family status





Appendix B: Resource list

- i. Introductory food blog (posted on panel site)

Food systems: what's it all about?

Finding solutions to the global food security challenge isn't going to be easy and may mean changes for everyone. The food system is a complex web of consumers, producers, manufacturers, distributors, retailers and regulators, there are small farmers and global agri-businesses, some governments are facing starvation on a massive scale while others are struggling with an obesity epidemic. Here on the Food Futures panel we intend to spend the next few months exploring the challenge, finding out what kind of change you want to see, and reflecting on who should take responsibility for bringing about a healthy and sustainable food system.

What is Global Food Security?

Global Food Security occurs when everyone has access to sufficient, safe, affordable and nutritious food, all of the time and in ways the planet can sustain into the future. This is becoming more difficult all the time as the world's population grows. We also know that as people become wealthier they become more demanding of resource intensive food like meat and dairy. At the same time environmental pressures like climate change are changing the availability of resources such as water and land. The challenge facing us all is how to use less land, lower inputs, and declining resources to produce enough food for everybody, whilst at the same time helping people make better choices for health and the environment.



In the UK, although we have a successful agricultural industry, we rely on importing food from other countries, in part because we have limited land for agriculture but also because we can't produce the wide variety of foods that people consume in the UK. We import 40% of the total food we consume - and this is rising. This means we are vulnerable to economic and environmental events around the world, such as a poor harvest or an outbreak of a disease or pest. As consumers, we experience these as a rise in food prices, as in 2008 when world food prices rose sharply. In the 12

months leading up to March 2008, the wheat price rose by 130%. However, self sufficiency also comes with its own risks, for example if there was an outbreak of disease in a particular food crop within the UK, it could mean that product is no longer available. A diverse food supply from multiple sources helps to insure the UK against both domestic and international disruptions.

We will also experience changes in the UK as a result of climate change, where warmer, wetter winters are forecast alongside drier summers. This will change the sorts of pests, diseases and weeds we have in the UK, and could also lead to poorer harvests. Pesticide resistance is another problem, and if temperatures are warmer then pest populations may not die back in the winter as they do now.



Around the world, with a rapidly growing global population, we need to produce more food to feed everyone. Currently, more people die each year from hunger and malnutrition than from AIDS, tuberculosis and malaria combined. Climate change is bringing more extreme and unpredictable weather patterns, leading to flooding, drought and desertification in some areas, which can reduce yields and the amount of land suitable for growing crops. Flooding can also increase the number of insects and pests. Some modern farming methods are contributing to climate change, such as the use of synthetic fertilisers. Many countries share water sources like lakes and rivers, but with less water available, this is a potential source of conflict. Consumption patterns are changing around the world, increasing the demand for meat and dairy in countries like India and China.

We also know that our food choices affect our health and wellbeing. There are now around 600M obese people around the world. Producing enough food is not the only challenge when so many people are eating unhealthily; we need to think about ways of changing diets too.

Achieving global food security is not just a problem of growing the food we need or changing diets. In the developing world up to 37% of food harvested can be lost before it is consumed because of insufficient processing, storage and transport. In the UK, WRAP, an anti-waste charity, estimates that the average family throws away £680 worth of food each year.



Even if we are able to increase the amount of food produced, the distribution of food around the globe is not equal. Research shows that the world already produces enough calories to feed 11 billion people, compared to 7 billion in the world today. But there are still over 800 million people starving. Deciding how to address this imbalance is an important part of the food security puzzle.

- ii. Forum discussion guide and online chat topic guide

Forum part 1: What are the main challenges for food security?

Objective: To surface existing knowledge and beliefs about the food system

Stimulus: Introductory blog post

Q. No.	Suggested question text	Facilitator notes	Purpose/rationale
	<p>Welcome text: Welcome to the food systems forum, I'm Sophie and I'll be facilitating the discussion. Over the next few days I'll be posting a series of questions to explore your views about the food system.</p> <p>As a reminder, this is the first part of the food systems activity, and we'll be inviting 25 of you to take part in an online chat on Wednesday with a prize draw for a 500 point bonus. Later there will be a series of online surveys, with 100 points per survey, and workshops in Plymouth and Cardiff.</p>		Clarifying the terms of the activity, setting the scene.
1	What have you heard so far since joining the	Use prompts if no	Most general question to elicit

Q. No.	Suggested question text	Facilitator notes	Purpose/rationale
	panel? What's been surprising or new to you?	initial response.	most top of mind issues.
2	What do you think of when you hear the term 'Global Food Security'? Had anyone heard of food security or global food security before? Where did you come across the idea of (global) food security?		
3	What did you know about Global Food Security before you joined the panel? How did it impact on your daily life?	Follow up on particular references as they emerge.	Contextualising people's initial knowledge, what is the source/basis for it?
4	Did any of you read the blog on the food system? What did you find interesting or striking about it?	Follow up as appropriate, probe if panel members learning from each other.	Follow up to identify how much/ what parts of the top of mind response is based on exposure via the panel.
5	The GFS programme definition says that 'Global Food Security occurs when everyone has access to sufficient, safe, affordable and nutritious food, all of the time and in ways the planet can sustain in to the future.' What do you think is the biggest challenge to everyone having access to enough food? For example, do you think the challenge is to produce enough food? Or to make sure people eat healthily? Or more about how different people have access to food?	Let this discussion run on to the topics below if possible. Prompt with 'why' questions where possible / appropriate.	Introducing the GFS definition, probing for reactions. Starting to touch on prioritisation of issues.
6	What about challenges for the natural environment? For example, what challenges might climate change have for global food security? How might agriculture impact on the natural environment? (both in terms of inputs such as water and from pollution).What about food waste?	Introduce as prompts only if they don't emerge from previous discussion. Use examples only if question does not prompt response.	Surfacing existing views and knowledge of participants on the different aspects of the food system definition.
7	What about having enough, and affordable,		

Q. No.	Suggested question text	Facilitator notes	Purpose/rationale
	<p>food all of the time?</p> <p>For example do you think people in the UK struggle to afford nutritious food? What about in other countries? How important is it to have regular access to nutritious food? Do you think food is distributed equally across the world?</p>		
8	<p>What challenges are there for ensuring that food is safe and healthy?</p> <p>For example do you think that obesity is a problem in the UK or globally? How about under-nutrition? (enough calories but not enough micro-nutrients). What about the safety of food in supermarkets, and other types of food supplies?</p>		

Online chat: How do the challenges of global food security fit together in the food system?

Objective: To increase the public panel's understanding of food security and food system.

Stimulus: Video of Tim Benton: pulls together the points raised by the panel in part one of the forum discussion (above) into the food system conceptual framework, highlighting gaps and misconceptions.



CTRL + click to open in browser and play (<https://www.youtube.com/watch?v=p4RHXWMW7UA>)

Q. No.	Suggested question text	Facilitator notes	Purpose/rationale
	Welcome text: Thanks for joining the online chat – I’m Sophie and I’ll be facilitating the discussion. I’ll be suggesting some questions for you to think about and spark some thoughts. We’re going to start by watching a short video with specialist Professor Tim Benton. He took a look at all the comments in the forum this week and told us how they fit together in the food system. Make sure you turn up the sound on your computer to hear the video.	Confirm that participants can see and hear the video	Introducing the session.
1	What did you find particularly interesting about the things that Tim talked about in the video? Is there anything you found surprising? Which of the challenges that Tim covered (?) did you already know about? Is there anything in the video that wasn’t clear?	Draw out specific examples of challenges to prompt response.	Getting initial responses to the food systems concept. Teasing out any confusion or misunderstandings.
2	Do any of the things mentioned in the video affect your food choices? Do you think about how your food choices affect other countries?	Move to this more quickly if participants are struggling with the first questions.	Relating the food system back to participants’ individual experience.
3	Do you think there are any challenges that are specific to the UK? Or to other countries?	Use specific examples from video to prompt as needed.	Drawing out the international dimension.
4	What do you think are the biggest challenges in food production? Which do you think about in your daily lives? What about distribution? And consumption?		Drawing out the range of food system activities.
5	What do you think are the biggest challenges for food system outcomes? Food availability (what can I buy or grow in my area)? Food allocation (what do I want to eat and can I afford it?) Food utilisation (what does this food do for my health and how I live my life?)		Drawing out the range of food system outcomes.

Forum part 2: Who is responsible for these issues? Who should be responsible?

Objectives: To surface existing knowledge and beliefs about food systems. To understand public views on where the power lies for change, to move the food system towards improved health and sustainability outcomes

Stimulus: The video from the online chat will be posted to the forum to make sure participants who did not take part in the chat have access to the same information.

Q. No.	Suggested question text	Facilitator notes	Purpose/rationale
	<p>Welcome text: Thanks to those who took part in the online chat yesterday. If you missed it you can watch the video our food systems specialist Professor Tim Benton made for us. Click on the video to the left and make sure you turn the sound up on your computer.</p> <p>For this section of the forum we're going to discuss who is responsible for the food security challenge now, and who you think <i>should</i> be responsible.</p>		<p>Clarifying the terms of the activity, setting the scene.</p> <p>Directing participants to the stimulus video.</p>
1	So, whose job is it to make sure that everyone has access to safe and healthy food all the time?	Probe on each actor raised, try to identify others in the same sector, then different sectors.	Understanding peoples initial assumptions about who has influence in the food system.
2	And who do you think has the most influence in the UK? The EU? Globally?	Prompts if needed.	Bringing in the international dimension.
3	<p>What about the role of individuals and the choices they make about food? What responsibility do individuals have to make choices that help everyone to have access to safe and healthy food all the time?</p> <p>Do governments have a role?</p> <p>What about the private sector, where do you see their influence?</p>	Prompts only if participants haven't raised these actors already.	Move from surfacing initial views to prompting participants to think about the full range of actors.

Q. No.	Suggested question text	Facilitator notes	Purpose/rationale
4	<p>Who do you think <i>should</i> be responsible for ensuring everyone has access to healthy and sustainable food?</p> <p>Does the government take enough responsibility? What about individuals? Food producers?</p> <p>Do you think they are doing enough? Who could do more?</p>	Prompts as needed.	<p>Testing where peoples understanding of current influence matches what they think should be the case.</p> <p>Moving away from just reporting what participants already know and starting to think about a healthier and more sustainable system.</p>

Case studies (participants worked through in steps online)

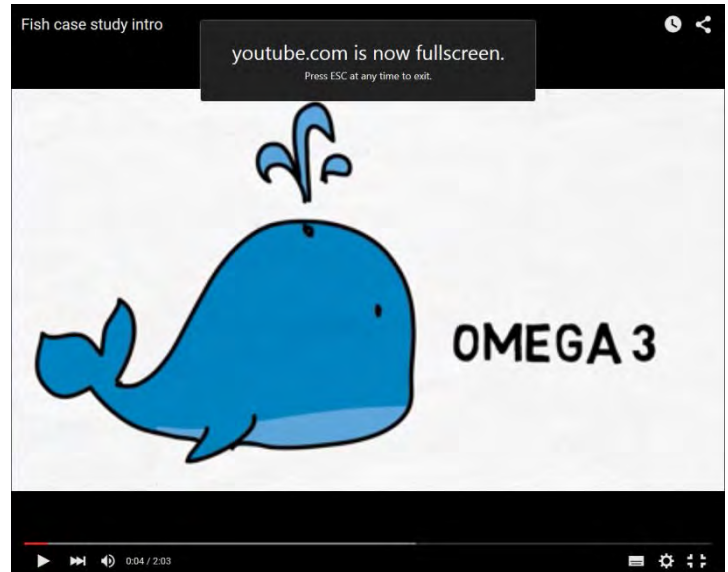
Oily fish

Step 1: Introduction

Stimulus: Animated introduction

[CTRL + click to open in browser and play](https://www.youtube.com/watch?v=bm52YGTNPII)
(https://www.youtube.com/watch?v=bm52YGTNPII)

Question: What do you think about eating enough oily fish? Is it a problem?



Step 2: What could change?

Stimulus: interview with Simon Davies, Harper Adams University discussing possible changes.

- Alternative sources of food for farmed fish
- Alternative sources of fatty acids in human diets
- Managing fisheries sustainably

[CTRL + click to open in browser and play](https://www.youtube.com/watch?v=OmmlvjWhiNg) (https://www.youtube.com/watch?v=OmmlvjWhiNg)

Question: Professor Davies identified some potential changes to the food system which could affect the production, distribution and consumption of oily fish. What changes do you think should be made in this area? How realistic do you think these changes are?



Step 3: Who's responsible?

Stimulus: Network diagram

Oily fish: Who is responsible for this change?



Question: This chart shows some of the organisations and individuals in the food system that have an influence on the production, distribution and consumption of oily fish. Who do you think is responsible for change now? And who **should** be responsible?

Fried chicken

Step 1: Introduction

Stimulus: Animated introduction

[CTRL + click to open in browser and play \(https://www.youtube.com/watch?v=T9ZFrBDr-oY\)](https://www.youtube.com/watch?v=T9ZFrBDr-oY)

Question: How does access to food affect health?



Step 2: What could change?

Stimulus: interview with Martin Caraher, City University discussing possible changes.

- Changing diets amongst different demographic groups
- Policies that affect the availability of food
- Changing practices and food safety

Stimulus: Animated interview

[CTRL + click to open in browser and play \(https://www.youtube.com/watch?v=gAlfx0xa5kE\)](https://www.youtube.com/watch?v=gAlfx0xa5kE)

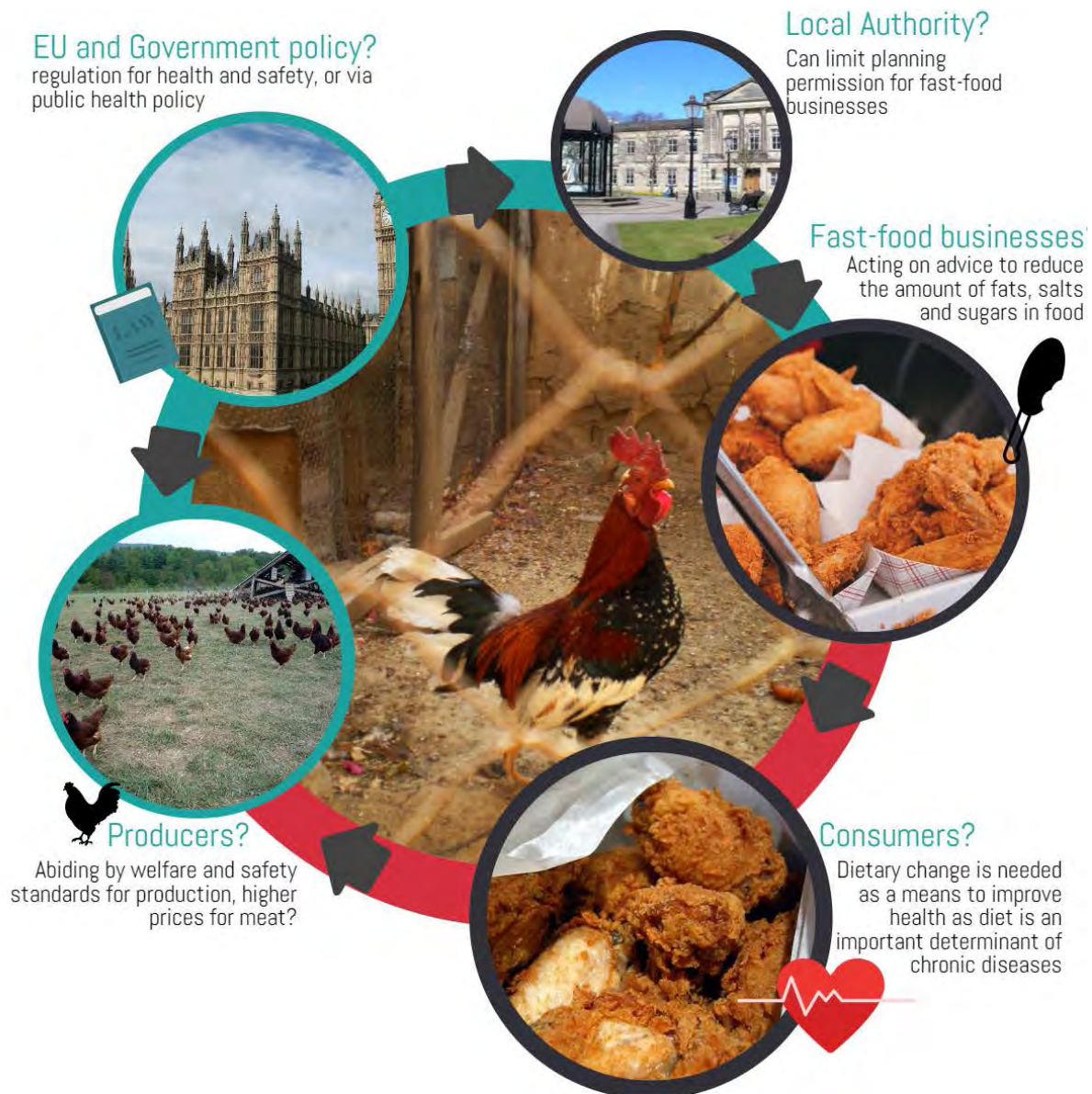


Question: Professor Caraher identified some potential changes to the food system which could affect the production, distribution and consumption of fried chicken. What changes do you think should be made in this area? How realistic do you think these changes are?

Step 3: Who's responsible?

Stimulus: Network diagram

Fried chicken: Who is responsible for the change?



Question: This chart shows some of the organisations and individuals in the food system that have an influence on the production, distribution and consumption of fried chicken. Who do you think is responsible for change now? And who **should** be responsible?

Sugar

Step 1: Introduction

Stimulus: Animated introduction

[CTRL + click to open in browser and play](https://www.youtube.com/watch?v=3NwcYTOWjl4) (https://www.youtube.com/watch?v=3NwcYTOWjl4)

Question: What do you think about the amount of sugar people eat? Is it a problem? What about the way in which it's produced?



Step 2: What could change?

Stimulus: interview with Malcolm Clark (Sustain) discussing possible changes.

- Changing diets to reduce sugar consumption
- Changing food production to reduce the amount of sugar in foods
- Policies to change behaviour

[CTRL + click to open in browser and play](https://www.youtube.com/watch?v=nu2ah2AbErA)
(https://www.youtube.com/watch?v=nu2ah2AbErA)



Question: Malcolm identified some potential changes to the food system which could affect the production, distribution and consumption of sugar. What changes do you think should be made in this area? How realistic do you think these changes are?

Step 3: Who's responsible?

Stimulus: Network diagram

Sugar: who is responsible for this change?

Government Policy?

Stronger regulation
or tax needed?



Health professionals?

Recommendations to
patients and displaying
sugar content?



Manufacturers?

Reduce sugar content in
their products



Consumers?

Impacts on health if too
much sugar in diet



Producers?

Impacts for cane
producers if sugar
prices fall and less
demand for sugar

Question: This chart shows some of the organisations and individuals in the food system that have an influence on the production, distribution and consumption of sugar. Who do you think is responsible for change now? And who **should** be responsible?

iii. Scenarios (presented in workshops)



The responsible manufacturer

The manufacturer tries to mix things up and offers two different low sugar versions of the product. One is sweetened with beetroot, it's an acquired taste but a healthy option. The other uses an artificial sweetener to give a flavour that's closer to the original.

Which do you think you would choose, the beetroot option or the sweetener?



A major UK food manufacturer has committed to reducing the amount of added sugars in their products by 5% each year until 2020. Some people think this is a response to a public campaign led by a well known TV chef, others think the company is just acting responsibly.



Should manufacturers take action to protect our health?

Or is it up to individuals to vote with their wallets and make healthy choices?

Who needs to make the first move?

At the moment there are limits set by the EU on how much sugar can be grown in the EU. However in 2017 these rules expire and sugar production increases. At the same time there is a decrease in demand from manufacturers which reduces the global sugar price.



Sugar cane farmers in Fiji (where 20% of the population work in the sugar industry) are struggling. Household income has fallen and pressure on the environment has increased as producers try to increase the amount they grow to make up for lower prices, for example by using more land.

The manufacturer invests a significant amount of money in research and development to try and keep the flavour and texture of their products the same with less sugar.



Who should pay for this?

- The manufacturer, they make enough of a profit.
- The government, it's a public health issue.
- The consumer, it's acceptable to pay a higher price for a healthier option.

What are the options to avoid our sugar choices negatively impacting producers in Fiji?

- Produce less sugar in the EU by reintroducing quotas and supporting farmers to transition to other crops.
- Produce less sugar in Fiji by supporting farmers to transition to other crops.

Despite all the R&D work the products don't taste quite the same, and taste tests show most people prefer the full sugar version a competitor is selling. Because sugar is a preservative they also find that the product doesn't last as long before it goes off.

vs.



What do you think will happen to sales?

- They'll go up as people choose the healthier option.
- They'll go down as people choose the tastier version.


Another option for farmers whose food crops are no longer economic is to produce crops for other purposes.

Farmers can grow crops for animal feed, or for fuel. Sugar beet and cane can be turned into ethanol, a fuel which is widely used in countries like Brazil.

What are the consequences of countries shifting to cash crops rather than food crops?



The responsible citizen

 Mrs A. Citizen joined the Food Futures panel 4 months ago and has learnt a lot about the challenges of global food security. She's been thinking about how she could change her behaviour to help.

Mrs Citizen has three children, all of them typical teenagers.

She's doing her best to make sure they get a balanced diet, and don't eat unhealthily all the time. She's looking for snacks for their school bags. She can buy oranges at 25p each, or £3.75 a week, but there's a special offer on individually wrapped chocolate biscuits, she could have a weeks worth for £2.40 and happy teenagers.

That's just one item on her list too, she's trying to balance the whole shop!

There's a special offer on green beans, but Mrs Citizen has heard green beans take a lot of water to grow, and that this can cause problems in countries like Kenya where the beans are grown for export. There is a packet of organic, UK grown sugar snaps on the next shelf, but it's nearly twice the price.

Like many of us, Mrs Citizen increasingly does part of her shopping at a discount retailer. She wants to choose the most sustainable option for each product, but in most cases there's only one option.

She could go down the road to one of the bigger supermarkets, but that means stretching the budget a little. At the other end of the scale she could go to a premium supermarket, where everything is sustainable, but that would blow the budget completely. And in between are the corner shops, local markets and all the other retailers to choose from.

How do you balance the costs of a healthy diet? What factors are likely to affect your decisions?

What should Mrs Citizen do? What factors are likely to influence her decision?

How much choice do we need as consumers? Should the responsibility be on retailers to avoid selling unsustainable products, even if that limits our choices?

Mrs Citizen talks to her neighbour about her sustainability kick, and Mr Health Conscious suggests that eating less meat is one of the most effective ways of reducing the impact of our food. He shows her an article in the newspaper about the impact on the climate of greenhouse gas emissions from meat production, and how much land is devoted to it.

The article says that the problem is only going to get worse as countries that previously ate very little meat are becoming wealthier and changing their diets.

Whose responsibility is it to change their diets? Should we change at all, or be focusing on ways to reduce the impacts? What's a fair solution?

What about climate change?








Reading up a bit more about the impacts of farming on the environment Mrs Citizen becomes concerned. She sees a proposal from a retailer to pay a bonus of 10% on meat produced to higher environmental standards. However they'd pass on the cost to the shopper, and it's likely their order would reduce.

So farmers might produce less but not be out of pocket.

What do you think of this idea, could it work? Would you be prepared to pay more for meat and eat less of it to reduce environmental impacts without harming the farming economy?

As well as changing what she eats Mrs Citizen is thinking about how much she buys, and wastes.

What can we do about food waste as citizens? What about foods where portions could be reduced, or special offers that encourage us to buy more than we need?

The responsible council

A local authority in London has decided to take action on fast food in response to increasing levels of obesity in children, particularly those from low income households. They are considering two approaches:

- Trying to restrict the availability of unhealthy fast food in the borough.
- Trying to increase the availability of fresh produce in the borough.

Which approach do you think the local authority should take?

- Encouraging the positive choices.
- Restricting access to the less healthy choices.

The authority decides to trial a scheme that increases business rates (a type of taxation) for food outlets that sell the least healthy types of food.

The big chains are able to absorb the increased cost, but some small local businesses are struggling with it.

The council quickly finds that they run into trouble trying to decide which businesses should be taxed and which encouraged.

How should the council decide what is a 'healthy' food outlet?

What should the authority do?

- Scrap the scheme, the local economy should come first.
- Accept that small businesses may lose out by swallowing the extra cost, but it's a small price to pay for improving children's health.
- Keep the scheme, businesses should pass on the additional costs to their customers who should pay for their choices.
- Pair the scheme with grants for the small businesses to make changes, paid for from council tax.

As well as reducing the availability of unhealthy food, the council wants to increase the availability of healthy options. They trial a scheme which gives reduced business rates (a type of taxation) to businesses that increase the space dedicated to fresh fruit and vegetables in shops, or healthy options in takeaways/restaurants.

What do you think will happen?

- If healthier produce is more prominent people will make healthier choices.
- Nothing, it's not the availability of healthy food which stops people choosing it.

Despite their best efforts, the local council hasn't seen much change in levels of obesity in the borough.


A local councillor suggests that the council needs to do more to promote local food, getting people working together to produce food in the community and encouraging them to eat the food they grow.

What do you think about a community garden scheme?

Would you take part? What about your friends and family?

Would it make a difference to your diet?


What about commercial food production in your local area?



The responsible supermarket

A major UK supermarket has a new chief executive who wants the business to become a leader in healthy and sustainable food. She decides that their first priority will be increasing the amount of local produce they stock.

The chief exec thinks this will help reduce greenhouse gas emissions, as well as being preferred by consumers.



? How important to you is buying local produce? Do you think it's better for the environment? What about health?

The chief exec asks the buyers to investigate replacing the top 10 imported products. They report back that there are a few problems:


- In the case of products like meat there are local alternatives available, but they'll be more expensive and can't be bought in such large quantities.
- And in some cases products grown in the UK would actually have higher environmental impacts than their imported equivalents. For example tomatoes grown in heated greenhouses in the UK vs those grown outdoors and shipped here.

Would you accept higher prices for local produce with a lower impact?

What about cases where imports actually have lower environmental impacts?

?

Aside from the whole food products, the buyers also point out that processed foods often contain ingredients from all over the world. For example, a chocolate biscuit can contain soy, wheat, cocoa, salt, sugar and milk powder all from different countries.



?

How should the supermarket deal with these products?


- Try to encourage suppliers to select local ingredients, or at least label the origins of the ingredients?
- They don't need to, a global food market is a good thing.

Selling only local food would also affect what is available in the supermarket.

- Some products (like green beans) will only be available for a few months a year as they can't be grown in the UK in the winter.
- Other products like bananas just wouldn't be available at all.

? What do you think would be acceptable to consumers:

- Only buying products when they're in season in the UK?
- Accepting that some products we're used to might not be available at all?



If the supermarket went ahead and cut products which had to be imported for some or all of the year it would have knock-on effects on producers around the world who rely on exports.

For example, Ecuador relies on banana export for some 5% of its national income.


?

5%

How do you think we should balance the need to protect the environment with the livelihoods of farmers around the world?

Whose responsibility is it to help the farmers if we change our diets to protect the environment?

While looking into their banana contracts the supermarkets discover that one of their largest suppliers has identified incidences of Panama disease in their crop. Panama disease is a plant disease which wiped out a whole variety of bananas in the 1950s.



The supplier currently grows a variety of banana called the Cavendish, because its taste is favoured internationally, it ripens at the right rate and can be grown in large quantities. If this plant disease takes hold it could wipe out the entire plantation - they only grow one variety because it's so popular.

? **?** **?**

Who do you think is responsible for this situation?

- Should supermarkets encourage their producers to grow more varieties?
- What about consumers who prefer the variety they're used to?
- Should governments in the growing countries take responsibility, or do governments in the nations where the product is consumed have some role?