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Public food consumption and sustainable food systems: Exploring the role of large organisations

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For Poppy and Robyn

Eat with a difference.
Abstract

Sustainable food is increasingly recognised for its potential to contribute to the development of resilient and healthy global urban and rural communities. The prominence of sustainable food on political agendas worldwide reflects the growing awareness of the social, economic and environmental implications of consuming different foods. Most recently, organisations have been identified as a key influence on individuals’ food consumption outside home. However, rigorous social-scientific research on the role of organisations in public food consumption remains scarce. Instead, food practices of individual consumers continue to be the focus of inquiry, with considerable implications for food sustainability policy.

This thesis addresses this research gap by examining food consumption within organisations and its sustainability impacts on society and the environment. It builds on the view that organisations, as intermediaries in the food chain, are in a position to significantly shape the production, processing and distribution of food as well as food-related practices of large groups.

Through a comparative case study of eight large organisations in the West of Ireland, this thesis offers a context-focused sociological analysis of key actors and decision-making channels within these organisations that shape the meal choices of up to 40,000 people per day. Semi-structured qualitative interviews with 25 individuals responsible for food procurement, preparation and sales form the basis of a rigorous cross-case comparison of organisational structures and decision-making processes that reveals suitable points for sustainability improvements. This is complemented with quantitative information about the sustainability of food on offer, which was collected using the FOODSCALE method (Goggins and Rau, 2016).

The thesis highlights the influence of context and culture, the role of key actors and the methods of food provisioning on the food sustainability performance of organisations. Importantly, it examines areas within large organisations whose particular social and material characteristics open up ‘alteration spaces’ that provide unique opportunities for intra-organisational sustainability transitions, especially regarding food provision. Importantly, this concept of ‘alteration spaces’ diverges from much existing conceptual work on sustainability transitions in organisations by explicitly recognising individuals’ collective capacity to affect intra-organisational change, without necessarily requiring outside intervention. Overall, the thesis makes a major contribution to the advancement of theoretical and empirical research on the social, economic and environmental impacts of food provisioning in large organisations. Importantly, its findings are not only relevant to the provision of food but can be applied to other organisational activities that harbour considerable sustainability potential.
Acknowledgements

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Finally, thanks to my family, and in particular my wife Laura, for supporting me throughout the duration of the thesis.
Declaration

I hereby declare that this thesis is entirely my own work and has not previously been submitted in whole or in part as an exercise for a degree at this or any other university.

Signed:  

Date: 2\textsuperscript{nd} September 2016
# Contents

Abstract iii
Acknowledgements iv
Declaration v
List of tables x
List of figures xi
List of abbreviations xii
List of publications by author of this thesis xiii

## Chapter 1: Introduction

1.1 Overview 2
1.2 Sustainability and food: Key challenges 3
1.3 Significance of public food consumption for sustainability 9
1.4 Sustainable food systems: What role for consumption? 12
1.5 Key research questions and research design 15
1.6 Contribution to knowledge 17
1.7 Outline for the remainder of the thesis 17

## Chapter 2: Literature Review

2.1 Introduction 20
2.2 What’s the alternative? Sustainable food systems 22
   2.2.1 Organic food 24
   2.2.2 Fairly traded produce 26
   2.2.3 Local and regionalised food systems: Solution or part of the problem? 28
2.3 Sustainable food consumption research 34
2.4 Organisations, culture and food provisioning 41
2.5 Conceptual framework 47

## Chapter 3: Methodology

3.1 Introduction 53
3.2 Research Design 53
   3.2.1 Introduction to case study research 53
3.2.2 Choosing Ireland as a case study location 55
3.2.3 Description of case study site: Galway City 60
3.2.4 Case selection 63

3.3 Data collection 66
3.3.1 Interviews 67
3.3.2 Quantitative sustainability assessment (FOODSCALE) 72
3.3.3 Organisational charts 77
3.3.4 Supply chain investigations 78
3.3.5 Documentary evidence 80
3.3.6 Direct observation 80

3.4 Data analysis and interpretation 81

Chapter 4: Influences on food provisioning practices in large organisations
4.1 Introduction 85
4.2 Organisational context 85
4.2.1 Primary function and consumer base 86
4.2.2 Public v private sector 88
4.2.3 Size and scale 90
4.3 Contracts and procurement practices 91
4.3.1 Contract holder 92
4.3.2 Scale and scope of the contract 93
4.3.3 Type of contract 94
4.3.4 Food subsidies and tariffs 97
4.3.5 Procurement practices 99
4.4 Organisational food culture 102
4.5 Conclusion 109

Chapter 5: Assessing the sustainability of food provided for public consumption using the FOODSCALE method
5.1 Introduction 111
5.2 How the FOODSCALE works 111
5.2.1 Organic certified food 116
5.2.2 Seasonal 116
5.2.3 Fairly traded produce 117
5.2.4 Meat 117
5.2.5 Seafood 117
5.2.6 Eggs 118
5.2.7 Water 118
5.2.8 Food waste 119
5.2.9 Origin of food 119
5.2.10 Consumer engagement 121
5.2.11 Engaging with small producers and the local community 122
5.3 Comparing FOODSCALE scores across cases 122
5.4 Conclusion 138

Chapter 6: Alteration spaces: Intra-organisational opportunities for sustainable food transitions

6.1 Introduction 141
6.2 The common good: promoting strong organisation-caterer relationships 141
6.3 Planning for the future: building on (sustainability) foundations 145
6.4 From the top down: food sustainability in a complex hierarchical system 149
6.5 Buying local: resisting cost-cutting food provisioning models 152
6.6 From the inside out: influencing sustainable food provisioning from the role of middle management 154
6.7 Top, middle and bottom: developing sustainability across all organisational levels 157
6.8 All-inclusive: the need to (re-)engage with food provisioning 160
6.9 Outside the (snack) box: introducing innovative and participatory approaches to food provisioning 163
6.10 Conclusion 166

Chapter 7: Discussion and recommendations

7.1 Introduction 168
7.2 Sustainable food provisioning in organisations: key findings 168
7.3 Alteration spaces: Promising areas for food sustainability improvements in large organisations 172
   7.3.1 Food procurement 182
   7.3.2 Catering contract 183
   7.3.3 Menu development 185
   7.3.4 Tariffs, subsidies and pricing 187
   7.3.5 Waste management 188
7.3.6 Infrastructure 189
7.3.7 Staff training 190
7.3.8 Information 190
7.3.9 Education 191
7.3.10 Communication and feedback 191
7.3.11 Partnerships 192
7.3.12 Special events 193

7.4 Barriers to sustainable food provisioning in large organisations 194
7.4.1 Cost and other financial constraints 194
7.4.2 Knowledge 196
7.4.3 Awareness and information 197
7.4.4 Inertia 197
7.4.5 Leadership 198
7.4.6 Consumer demand 199
7.4.7 Risk 199
7.4.8 Legal issues 200
7.4.9 Perceived inefficiencies 201
7.4.10 Availability 201
7.4.11 Resources 202

Chapter 8: Conclusions 204

References 217

Appendices
Appendix 1: Participant information sheet 237
Appendix 2: Participant consent form 239
Appendix 3: Interview guide 1 (catering managers) 240
Appendix 4: Interview guide 2 (organisational managers) 241
Appendix 5: FOODSCALE method data collection survey 242
Appendix 6: FOODSCALE method scoring system 247
Appendix 7: Report sheet for use with FOODSCALE assessment tool 250
List of tables

Table 1.1 Spaces of public food consumption and the degree of consumer choice to eat at each location 11

Table 3.1 Farmer and country markets operating in Galway City and County 61

Table 3.2 Spaces of public food consumption showing food provisioning as a primary or secondary activity 64

Table 3.3 Description of cases – selected data 65

Table 3.4 Interview data 70

Table 3.5 Distribution and collection of FOODSCALE questionnaires 76

Table 3.6 Seasonality chart for Ireland showing selected produce 79

Table 4.1 Organisational context: details for Case s 1-8 86

Table 4.2 Contracts and procurement: specifications for Cases 1-8 91

Table 4.3 Factors influencing food culture across 8 organisations under study 105

Table 5.1 Social, environmental and economic rationale for the FOODSCALE and indicators used to assess food sustainability 112

Table 5.2 Area under production, production volume and value of five cottage pie ingredients produced in Ireland and imports into Ireland 121

Table 5.3 Description of food outlets under study 123

Table 5.4 FOODSCALE scores for each case 124

Table 5.5 FOODSCALE scores calculated using summation, arithmetic mean and geometric mean and corresponding rank order of cases using each method 125

Table 5.6 FOODSCALE scores for individual indicators 126

Table 7.1 Opportunities for increasing the sustainability of food provisioning in organisations 173

Table 7.2 Sustainability actions, alteration spaces and barriers to change: Case 1 175

Table 7.3 Sustainability actions, alteration spaces and barriers to change: Case 2 176

Table 7.4 Sustainability actions, alteration spaces and barriers to change: Case 3 177

Table 7.5 Sustainability actions, alteration spaces and barriers to change: Case 4 178

Table 7.6 Sustainability actions, alteration spaces and barriers to change: Case 6 179

Table 7.7 Sustainability actions, alteration spaces and barriers to change: Case 7 180

Table 7.8 Sustainability actions, alteration spaces and barriers to change: Case 8 181

Table 7.9 Barriers to sustainable food provisioning in organisations 194

Table 7.10 Economic barriers to sustainable food provisioning in organisations 195

Table 8.1 Recommendations and mechanisms for effecting change by governments, organisations and consumers/civil society for actions and policies on improving food sustainability in large organisations 213
# List of figures

**Figure 2.1** Influences on food consumption 39  
**Figure 2.2** Research process and conceptual framework 47  
**Figure 3.1** Regional Aid map for Ireland 2014-2020 57  
**Figure 3.2** Map of NUTS regions 58  
**Figure 3.3** Map of Irish provinces 58  
**Figure 3.4** Case study location 59  
**Figure 3.5** Data collection – triangulation of evidence 66  
**Figure 3.6** Map showing local and regional definition used in the FOODSCALE 74  
**Figure 3.7** Example of organisational chart showing key actors influencing food provisioning: Case 6 78  
**Figure 4.1** An example of the economic pressures reported by a catering manager 96  
**Figure 5.1** Country of origin for beef used in organisation-based cases 133  
**Figure 5.2** Country of origin for potatoes used in organisation-based cases 134  
**Figure 5.3** Country of origin for carrots used in organisation-based cases 134  
**Figure 5.4** Country of origin for onions used in organisation-based cases 135  
**Figure 5.5** Country of origin for tomatoes used in organisation-based cases 135  
**Figure 6.1** Organisational chart showing key actors influencing food provisioning – Case 1 143  
**Figure 6.2** Organisational chart showing key actors influencing food provisioning – Case 2 147  
**Figure 6.3** Organisational chart showing key actors influencing food provisioning – Case 3 151  
**Figure 6.4** Organisational chart showing key actors influencing food provisioning – Case 4 153  
**Figure 6.5** Organisational chart showing key actors influencing food provisioning – Case 5 156  
**Figure 6.6** Organisational chart showing key actors influencing food provisioning – Case 6 158  
**Figure 6.7** Organisational chart showing key actors influencing food provisioning – Case 7 161  
**Figure 6.8** Organisational chart showing key actors influencing food provisioning – Case 8 164
List of abbreviations

AFN – Alternative food network
AGM – Annual general meeting
APL – Approved product listing
B&I – Business and Industry
BIM - Bord lascaigh Mhara
BRC – British Retail Consortium
BSE – Bovine spongiform encephalopathy
CO₂ – Carbon dioxide
CSR – Corporate social responsibility
EQAS - Egg quality assurance scheme
EU – European Union
FAO – Food and Agriculture Organization
GAA – Gaelic Athletic Association
GDA – Guideline daily amount
GDP – Gross domestic product
GHG – Greenhouse gas
GM - Genetically modified
H&S – Health and safety
HACCP – Hazard analysis critical control point
HR – Human resources
ICT – Information and communications technology
IRFU – Irish Rugby Football Union
IT – Information technology
KPI - Key performance indicator
MEAT - Most economically advantageous tender
MSC - Marine Stewardship Council
NGO – Non-governmental organization
NUTS – Nomenclature of territorial units for statistics
PGI - Protected geographical indication
PR – Public relations
QAS - Quality assurance scheme
SFCR - Sustainable Food Consumption Research
SME – Small to medium-sized enterprise
UK – United Kingdom
UN – United Nations
US – United States
VIP – Very important person
List of publications by author of this thesis


This article in one of the top interdisciplinary sustainability research journals introduces the FOODSCALE method for measuring the (un)sustainability of food intended for public consumption and its application to eight cases in Ireland. The article builds and provides reference to previous research on this topic and adds an integrative assessment tool that goes beyond established sustainability assessment approaches (such as food miles or life cycle assessment) by including health, socio-economic and cultural factors. It introduces a new and innovative approach to food sustainability assessment and offers original results that go beyond previous knowledge. The article has received considerable attention from academics and sustainable food advocates worldwide. Already, the FOODSCALE method is, or has been, used in projects in the US, UK, Brazil, Sweden, Czech Republic, Germany and Austria. For example, researchers at the Wuppertal Institute in Germany have included it in a joint project testing novel concepts for sustainable production and consumption in out-of-home catering (NAHGAST).


This article, currently under review, provides a comprehensive framework for improving food sustainability in organisations. The article demonstrates how organisations can facilitate a sustainable and healthy eating environment through composite approaches that target individual, social and material influences on food consumption choices. Importantly, the majority of recommendations can be enacted within organisations, without the need for outside intervention. A number of barriers to achieving a sustainable food transition within organisations are also presented. The article is highly relevant to organisational managers, catering managers, policy makers and others seeking integrated solutions for improving food sustainability in large public and private sector organisations.
Chapter 1

Introduction
1.1 Overview

Sustainability challenges occur throughout all stages in the food system from production through processing, distribution, retailing, consumption and waste disposal. Global food production is higher than ever before, but at a great cost. A host of environmental problems such as GHG emissions, deforestation, desertification, eutrophication and biodiversity loss are exacerbated through current food system activities (Popp et al., 2010; Garnett, 2011). Moreover, economic globalisation has increased people’s dependency on both local and geographically distant food systems. Food insecurity is growing worldwide due to the heightened interconnectedness and complexity of these systems and, consequently, their susceptibility to disturbances and interruptions, including unpredictable weather patterns associated with climate change (Brown and Kshirsagar, 2015). All in all, the global food system fails to effectively carry out its primary function – to provide adequate nutrition for all people. Some people eat too much food whilst others go hungry, including many small farmers in developing countries. Diet-related diseases are prevalent among all populations, often for different reasons, but nonetheless at a great cost to society (Kjølesdal et al., 2011; Garnett, 2013). The rapid depletion of key natural resources such as oil, arable land and water further compound the difficulties in achieving a sustainable food system. Additionally, greater prosperity, changes in food culture and dietary preferences, population growth and rapid urbanisation make food-related challenges increasingly urgent, with increases in food demand over the next 30-40 years estimated to be as high as 70-100 per cent (FAO, 2009; Westhoek et al., 2014).

To address these sustainability challenges, the food system must substantially increase output and simultaneously reduce its negative environmental impacts. At the same time, significant distributional problems need to be addressed. Food prices need to be kept at a level that allows producers to earn a decent living while keeping nutritious food affordable and accessible for all (Tschäntke et al., 2012). To reconcile these goals demands a radical transition towards a food system that is productive, resource efficient and able to cope with internal and external shocks, supports livelihoods, and protects the environment (Godfray et al., 2010). This requires concerted efforts by actors at all stages of the food system, including producers, processors, distributors, consumers, policy makers and others (Spaargaren et al., 2012; Quiñones-Ruiz et al., 2016). An integrated long-term vision is needed that goes beyond a mere focus on technological innovation and individual consumer responsibility (Sage, 2012; Garnett, 2014; Davis et al., 2016). In this regard, one area of influence in the food system is the sphere of public food consumption, in other words food that is eaten away from home. Public food consumption is recognised as an area of increasing importance for food sustainability, particularly in wealthy countries, due to its direct and indirect social, environmental and economic impacts and its significant influence on the wider food system (Wahlen et al., 2012; Chen et al., 2016).
Introduction

This thesis contributes to current food sustainability debates by focusing on food bought, prepared and consumed in organisations such as schools, universities, hospitals and businesses that are not primarily tasked with the provision of food but that offer meals for their workers, service users and visitors. It thus seeks to shift attention away from food practices within the household and towards everyday public food consumption, a vastly under-researched aspect of food systems. Building on theoretical insights and conceptual tools from the social science literature on sustainable food, the thesis examines the central role of organisations in food systems, with a view to revealing potential pathways toward more sustainable food procurement and consumption. To achieve this aim, the study uses an innovative comparative case study design and presents highly complex empirical material in an accessible and engaging way using novel visualisation tools.

The following section (1.2) contextualises the issues addressed in this thesis by placing public food consumption in large organisations within the wider context of sustainability. It examines how, despite its initial promise, the sustainability movement has struggled to galvanise efforts to promote environmental protection, social justice and economic fairness, including in relation to food production, distribution and consumption. Following this, the dependency of the conventional food system on fossil fuels is articulated and the contentious issue of externalisation of environmental and societal food system costs is explored. The section then introduces key trends and developments in organisational food provisioning in the context of increased use of technology and globalisation of the food system. Finally, the myriad factors that influence food consumption choices and behaviour are considered. Section 1.3 outlines the significance of public food consumption in relation to this study. Section 1.4 introduces key aspects of sustainable food consumption and asks if local and regional food systems can provide a sustainable alternative to large-scale industrialised agriculture. The research questions to be addressed in the thesis are presented in Section 1.5. Section 1.6 details the contribution that this study makes to existing knowledge, with an outline for the remainder of the thesis set out in section 1.7.

1.2 Sustainability and food: Key challenges

Addressing the prevalent social, cultural, economic and environmental problems of a time presents a constant challenge for decent human survival and universal well-being. The concept of sustainability was conceived as a means of integrating and balancing environmental, social and economic interests (WCED, 1987; Seyfang, 2005; Khoo, 2013). Since its proper introduction into the realms of science and policy in the late 1980s, the notion of sustainability has been subject to considerable debate, with different strands of theory and practice emerging (Sachs, 1997; Khoo, 2013). Similarly, sustainability measurement has undergone many changes, with a wide range of assessment tools competing for attention (Rau and Fahy, 2013). Sustainability issues are evident at a range of scales from local to global and therefore must be addressed across all levels encompassing both top-
down and bottom-up approaches (Penker, 2009; Sage, 2014; Rau et al., 2014). Overall, for sustainability initiatives to be effective they must be both multi-dimensional (social, environmental, economic, cultural) and multi-scalar (local, regional, national, international) (Schäfer et al., 2004; Smith et al., 2016).

The aspirations of the sustainability agenda, incorporating social, economic and environmental dimensions, promised much when it first appeared on the international scene in the late 1970s and early 1980s (Seyfang, 2005). The potential for multi-stakeholder collaboration to ensure a more sustainable and just society was widely welcomed by a variety of interest groups including governments, businesses and civil society. However, almost 30 years after the publication of the oft cited Brundtland Report (WCED, 1987), the concept of sustainability has consistently struggled to make clear advances in its objective of creating a more just and equal society, greater protection for the environment and biodiversity, and poverty alleviation (Khoo, 2013). Just as development is frequently associated with economic dimensions, sustainability is all too often compartmentalised as an environmental issue.

Where governments are concerned, sustainability as an environmental issue is often perceived as easier to control with achievable targets and measures relatively simple to put in place. Aspects of sustainability concerning social justice and economic solidarity with the wider public can be problematic to quantify and may raise difficult questions that pose a threat to the status quo (Morgan, 2008; O’Neill, 2014). Failure to address controversial issues such as increasing inequality and unequal allocation of resources serves to reinforce often unsustainable, unjust or unethical behaviour (Shove, 2003; Wilkinson and Pickett, 2010). As a result, workers continue to be exploited while many smallholder farmers battle to stave off hunger and malnutrition. The world’s natural resources are being depleted at record rates resulting in food insecurity, loss of biodiversity and irreversible damage to ecosystems and the natural environment.

*Climate change and food system dependency on fossil fuels*

One pressing sustainability issue where a general consensus prevails is in the fact that human activity is altering the world’s climate. Although it is impossible to predict the exact impact of climate change, details of impending implications are becoming clearer as scientists continue to produce evidence of adverse risks to decent survival (Stern, 2007; Foresight, 2011; IPCC, 2014). The scientific argument for manmade climate change is all but over, with mainstream debate shifting towards finding economic and political consensus for necessary action to mitigate danger. At the centre of this debate are fossil fuels. Burning all the known reserves of oil, coal and gas that are deemed economically viable is likely to see global temperatures rise beyond the 2°C that is seen as a potential tipping point and a threat to food security in many regions (IPCC, 2007). As a leading consumer of fossil fuels and a large contributor to GHG emissions, the agriculture and food sector has an important role to play in climate change mitigation related activities (McMichael, 2011). Indeed, interest in reducing global warming from the
Introduction

perspective of the food sector as a whole is even more important owing to the negative impact of climate change on agriculture (de Boer et al., 2016). Fossil fuel dependency occurs across all stages of the conventional food system, from input supplies of petro-chemicals and machinery, through food chain distribution systems over land, air, sea and road to packaging, storage and waste collection (Sage, 2013). Furthermore, the diversion of land to the production of biofuel crops, expedited by the cost of rising oil prices and obligations to meet internationally agreed targets in renewable energy use, has contributed to increased prices for staple foods such as wheat, barley and maize (McMichael et al., 2007).

Externalised costs in the food system

One of the major criticisms of prominent food production systems is that costs to the environment and to society are often externalised. For example, significant food transportation costs are transferred to the public infrastructure and the natural environment through the building of roads and airports, pollutant emissions, etc. (Böge, 1995). Other costs that are largely externalised include health-related problems caused by eating highly processed and unhealthy foods; the impact of greenhouse gas emissions from forests cleared to create farmland; the loss of recreational space and loss of biodiversity; visual impairments and noise pollution; the disappearance of small family farms and loss of rural jobs; and costs associated with cleaning up the pollution from nitrates and pesticides extensively used in intensive agriculture practices (Carolan, 2011; Ruini et al., 2015). Critics argue that if these costs were to appear on the balance sheets of businesses and governments, sometimes referred to as true-cost accounting, the price of goods and services would be much greater than is currently the case (Pretty et al., 2005; McMichael, 2012). Incorporating externalities into the meal prices paid by consumers would significantly add to the cost of eating out of home, with meat-based dishes facing the largest overall increases (Clune et al., 2016).

Attempts at valuing externalities and hence developing an economic valuation of nature have led to widespread debate as to whether it is either feasible or desirable to reduce environmental assets and resources to a quantifiable economic measure (Dietz and Neumeyer, 2007; Neumeyer, 2012). For example, prominent advocates of ecological economics (as opposed to environmental economics) have questioned the concept of substitutability that lies at the core of many attempts to value nature and that also supports the unsustainable growth logic of many current economic activities and systems (Fischer-Kowalski and Swilling, 2011; O’Neill, 2014). Similarly, criticism from political economists and environmentalists has revolved around concerns that placing an economic cost on nature will lead to corporations and private interests seizing control over these resources by making everything purchasable and open to private investment and ownership (Shiva, 2002; McKibben, 2007). Placing an economic value on nature thus remains a very contentious political issue that gives rise to a myriad of related problems, for example questions of democracy, the commodification of nature and the use of quantitative indicators for sustainability (McMichael, 2011). Moreover, major questions have been raised about the scientific merit, validity and reliability of
economic valuation efforts as well as their inherent normativity (Dietz and O’Neill, 2013).

*Sustainable food consumption and the limitations of technological innovation*

In a world that currently produces enough food energy for at least 7 billion people, but in reality only adequately feeds at best 6 billion, and probably closer to 5 billion, it is somewhat surprising that almost all the focus on the future of the food provisioning system is centred on increasing output and the intensification of farm production (Tilman et al., 2002; Tscharntke et al., 2012; Lam et al., 2013; Odegard and Van der Voet, 2014). In this regard, a number of reports suggest that reducing the so called ‘yield gap’, the difference between potential and actual yields, can greatly increase agricultural output per unit of area whilst limiting the amount of new land brought under production (Godfray et al., 2010; Foresight, 2011; Foley et al., 2011). However, arguments abound that strategies for overcoming food-related challenges that focus (almost) exclusively on increased yields are unlikely to be as effective in reducing hunger or protecting the environment as those giving prominence to global human welfare, where ultimate goals are orientated around human and social interests (Lappé, 2010; Carolan, 2011; Barnes and Thomson, 2014). Increased efficiencies in production may supply more food, while new technologies and management techniques may reduce the environmental impact per unit of food produced, however too little attention is placed on the type of food produced, its nutritional quality and issues of distribution and accessibility (Mount, 2011; Hallström et al., 2014).

At the centre of these debates are GM technologies. Genetic modification and nanotechnology are promoted as potential cornerstones of future food systems due to their ability to tailor crops to specific growing conditions and provide built-in resistance to disease, aphids and other pests (Beddington, 2010). However, the use of such technologies has stimulated much debate across all levels in the food system due to concerns over safety, food security and democracy (Morgan and Murdoch, 2000; McMichael, 2011). Furthermore, concerns abound surrounding property rights in the area of food genetics. Activists point to the vast majority of patents and subsequent concentration of power held by just a handful of large corporations, leading to the intensification of an industrialised neo-liberal food system (Carolan, 2011; Dibden et al., 2013). This monopolisation of control has been met with deep suspicion in many quarters, not least of all from farmers. The main beneficiaries from GM technology have not been farmers, producers or consumers, but rather private investors who have gained through market control and enormous returns on investments (Pretty et al., 2010). Further fuelling the controversy over GM food are conflicting discourses regarding the ecological impacts of biogenetics and reservations about the ability of agricultural biotechnology to address global food sustainability problems (IAASTD, 2009).

Dominant production-focused models and conventional approaches to agricultural research that focus primarily on transferrable scientific knowledge are not sufficient to support a long-term sustainable food provisioning system (Tscharntke
Introduction

et al., 2012). Technological improvements, although essential, cannot adequately ensure the required reduction in GHG emissions and desired yields to sustain current and projected consumption patterns (McMichael et al., 2007; Garnett, 2011). Moreover, technologies may have the adverse effect of reinforcing and strengthening existing power imbalances that maintain inequalities. The unequal distribution of agri-based scientific knowledge has disproportionately benefited large corporations, for example agricultural input suppliers and food processors, leading to standardisation and greater industrialisation of the food system (Van der Ploeg, 2010). The dependence of conventional farmers on scientifically produced agro-chemicals – fertilizers, herbicides, pesticides, etc. – has shifted greater value to upstream activities and replaced traditional local knowledge with standardisation of farming practices (Morgan and Murdoch, 2000). As a result, farmers find themselves stuck between large input suppliers on the one hand, and large retailers and food distributors on the other. In this regard, critics have repeatedly pointed towards the dominance of a handful of large corporations in controlling agricultural input supplies such as seeds and fertilizers (McMichael, 2011). While technologies have improved efficiencies, many farmers find themselves on the ‘agriculture treadmill’, where increased production leads to excess supply and falling prices, meaning farmers must continually invest in new technologies to increase output without realising proportional profits (Morgan and Murdoch, 2000; Carolan, 2012). Further criticism of prominent production-focused strategies highlights the failure to protect biodiversity from the impacts of agricultural intensification (Cunningham et al., 2013). Therefore, in assessing progress towards long-term sustainable food production, measuring output yields is only one action required. What is equally important is a careful and rigorous assessment of related economic, environmental and social impacts.

Globalisation of the food system

Economic globalisation has led to an increased dependency on worldwide food systems functioning properly (Godfray et al., 2010; Sachs, 2010; Foley et al., 2011). However, the structure of the current food system is extremely frail and food security in affluent regions can no longer be taken for granted (IPCC, 2014; Candel et al., 2014). People in more developed countries are finding, some for the first time, that they too are vulnerable to impacts from disruptions of food trade and rising prices for production input supplies (van der Ploeg, 2010).

The globalisation of food markets has increased the media and public focus on the origin, safety, quality and health value of food, and the ethicality and sustainability of food production (Goodman and Sage, 2014). Increased access to overseas markets through deregulation and trade agreements, and the emergence of new powerful economies with burgeoning middle-classes has brought millions of new consumers into the marketplace (Schäfer et al., 2011). However, rising prosperity also results in increased demand for consumer goods, thus placing further pressure on the environment. Current unsustainable global resource use, and subsequent (intended and unintended) adverse consequences, have the most
significant effects on the world’s poorest and most vulnerable, including many small farmers who have limited opportunities for advancement (IAASTD, 2009).

The emergence of global food markets has also resulted in highly complex food chains, with more of the food value moved off the farm into upstream (e.g. raw materials, agro-technology and input supplies) and downstream (e.g. processing, retail) activities, thereby leaving farmers around the world exposed to significant economic pressures. Downward pressures on food prices, driven by increased competition and consolidation in the marketplace, have had a disproportionate impact on primary producers whose percentage share of food retail prices has been in recent steady decline (Foresight, 2011). Large food retailers and food service providers have diversified and expanded their non-food activities, thus limiting their exposure to disruptions in the food system as they spread risk and opportunity across a number of areas (Spaargaren et al., 2012). This type of business consolidation is typified in the case of multi-national supermarkets, many of which have diversified into a wide range of activities including clothing, insurance, holidays, homeware, cafés, mobile phones and other technologies.

Consolidation and diversification strategies are also increasingly evident in the catering sector. Many organisations and institutions, both in the public and private sector, provide meals through contracts with facilities management companies, some of which already operate on a global scale. From a production efficiency perspective, with globalised systems of production and distribution at its core, these large multinational companies could be viewed as part of an overall strategy to improve efficiencies in the food system and deliver economies of scale in terms of cost and environmental impact. That many companies offering catering services do so as part of an expanded facilities service (to include, for example, security, cleaning, administration, etc.) indicates a shift towards consolidation in wider service provision within organisations, beyond the provision of food. In these cases, food is just one aspect of an integrated service management operation that may impact on how food procurement and other food related strategies are implemented. This study will explore how organisations structure their food procurement operations - for example, through the use of contract and non-contract sources - and examine ways that procurement procedures facilitate more or less sustainable food provisioning.

Many large organisations by their nature are embedded in conventional global markets. Large businesses and industry are likely to rely on global markets for their survival through their purchasing and sales activities. Yet at the same time, many of these same organisations are deeply embedded in local communities and become part of the fabric of society. In addition to providing employment opportunities, they often support local communities through various philanthropic schemes and charitable causes. Some organisations such as hospitals and educational institutions are integral to local and regional communities and play a central role in regional well-being. Procurement, including food, represents an area of activity where organisations can play an important role in supporting local economies and developing relationships within local communities (Smith et al.,
Introduction

2016). The extent to which an increased demand for more local, seasonal or sustainable food has influenced organisational food procurement policies is relevant in the overall context of this study and will be explored through empirical evidence.

Factors that influence food consumption practices

How and what people eat is not solely based on individual choice but dependent on a number of interrelated social, political, cultural and economic factors, thus leading to greater or less sustainable food consumption practices (Di Giulio et al., 2014). Every day, at every meal, people across Ireland are reliant on a global network of actors to produce, process and distribute the food that they consume. These activities have a direct impact on people’s health, the economy, social wellbeing and the environment. Structural issues including planning guidelines, laws, transport and rural development determine the level of availability, convenience and affordability of food. For example, the greater the choice in terms of number of supermarkets, food retailers and food outlets in an area, the types and diversity of foods sold (e.g. fast-food outlets, fruit and vegetable retailers) and the proximity of individuals and mode of access to these marketplaces shape the food environment and influence the type of food consumed (Laraia et al., 2004; Sanae Inagami et al., 2009; Leonard et al., 2014). Producer access to markets, the regulatory framework in which they operate and government policy (Wahlen et al., 2012) further impact on the supply of (un)sustainable food choices. In this regard, supply does not only reflect demand but also shapes demand through preferential treatment and unequal opportunities.

In addition to external factors, some of which are mentioned above, individual-level factors also have a major role to play in food consumption patterns (Warde, 2005; Oosterveer and Spaargaren, 2012; Verain et al., 2012). A person’s net income, skills, amount of leisure time, and level of knowledge and experience (Bove et al., 2003; Davies et al., 2010), in addition to their interests, values, attitudes, beliefs and standards (Jackson, 2005; Spaargaren et al., 2013) all combine to influence food consumption practices. These individual-level factors are, in turn, inextricably linked to the social and institutional contexts within which people live and act (Di Giulio et al., 2014). Societal changes associated with modernisation such as changing parental pressures, time and work constraints and the commodification of food preparation highlight the social construction of food consumption and contribute to the increasing trend towards public food consumption and eating outside home (see Warde 1997, 2016 for detailed accounts of these changes in food consumption).

1.3 Significance of public food consumption for sustainability

With its increasing prevalence in modern food consumption habits, food consumed outside home is becoming ever more significant in terms of its economic, social and environmental impacts. There are many factors which contribute to
consumers’ decisions to eat out including higher incomes; more female participation in the workforce; greater choice in eating out options; increased work pressure resulting in longer working hours; and lack of time or energy. At the same time, a wide variety of eating-out options and strong market competition across the choice spectrum have led to substantial variance in the type and quality of food offered (Goggins and Rau, 2016).

In many Western countries, including Ireland, the proportion of meals eaten outside home in restaurants, schools, from take-away outlets and in canteens has increased over recent years (Lachat et al., 2010). People are now spending a significant proportion of their food budgets on eating out, thereby reinforcing the economic importance of the food service sector. The average weekly household expenditure on meals away from home in Ireland is €27.77, accounting for over 20% of the total food expenditure of Irish households (CSO, 2012). The proportion of energy intake from food consumed outside home is generally higher in northern European countries than in southern ones and ranges from 11-28% (Orfanos et al., 2007). In the US this figure rises even further, thus increasing concerns of nutritional quality of away-from-home food (French et al., 2001; Nguyen and Powell, 2014). This phenomenon is not confined to a single age cohort, as across all age groups people consume a significant proportion of their energy from eating outside home (Burke et al., 2007; Lachat et al., 2012). In Ireland almost one in four consumers eat outside home at least once a week (Bord Bia, 2013) and food consumed outside home contributes 24% to the energy intake of Irish adults (IUNA, 2001). Similar results were found among adults in Britain where 27% of energy intake was consumed outside home (Kearney et al., 2001). Worryingly from a public health perspective, foods eaten outside home tend to be less healthy (Orfanos et al., 2007) and in Ireland were found to contain higher levels of fat compared with food prepared at home (O’Dwyer et al., 2005).

The range of eating out options in highly developed countries is greater today than ever before. Traditional eateries such as restaurants, cafés and hotels now find themselves in competition with more recent entries into the pre-prepared food service market. Notable among these is the transformation and expansion of the deli-counter into a quick and convenient breakfast or lunchtime option. Delis offering sandwiches, fried chicken, sausage rolls and other pre-prepared food choices have become a common fixture for retailers seeking to diversify into the lower and convenience end of the food service market. Newsagents, convenience stores and corner shops have largely embraced hot-food and sandwich counters as a result of the modest initial investment needed, low maintenance and running costs, high economic returns, quick and efficient service and high consumer demand for quick low cost food.

Neither is the seeming ubiquity of convenience food confined to city or town centre locations. The relatively recent and increasing dominance of supermarkets and corporate retailers in the food market, facilitated by planning laws and transport policies, have fostered new linkages between mobility and food consumption. Exemplifying the relationship between society’s considerable
dependence on cars on the one hand, and greater consumer demand for cheap and convenient eating options on the other, is the popularity of petrol filling stations as a location for the purchase and consumption of ready-made and prepared meals (Share, 2011). Usually situated on the outskirts of towns or cities or along motorways, the garage forecourt has become a popular choice for meal options with food sales providing an important revenue stream for proprietors. Public houses serving food, a wide range of takeaway and fast food outlets and food markets further increase consumer choice for eating outside home.

For many the choice of eating options is considerable, for others, they have little option but to eat away from home (Table 1.1). Hospital in-patients, prisoners, nursing home residents and school boarders are generally more limited in their food consumption choices. When and what they eat is influenced to a greater degree by the decisions of others. In Ireland, direct provision centres provide food and shelter for refugees and asylum seekers while their applications are being processed, which can take from a few months to many years. Controversially, people living in direct provision are provided with pre-prepared meals at set times and have thus very limited opportunities for cooking for themselves or their families. Other large-scale food preparation sites such as those at schools, universities, workplace canteens and other in-house catering typically provide food for employees, students or other affiliated consumers. They thus tend to have a limited but nonetheless constant number of potential patrons, with large worksites and campuses more likely to have canteen facilities than smaller ones. The extent to which the food services within these organisations are availed of is dependent on a number of factors including the nature, size and location of the organisation, the quality of the food on offer, the number of alternative eating options and the degree to which food is subsidised if at all.

Table 1.1
Spaces of public food consumption and the degree of consumer choice to eat at each location

<table>
<thead>
<tr>
<th>Food provisioning – Primary activity</th>
<th>Consumer choice</th>
<th>Food provisioning – Secondary activity</th>
<th>Consumer choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restaurants</td>
<td>High</td>
<td>Hospitals</td>
<td>Low/Medium</td>
</tr>
<tr>
<td>Hotels</td>
<td>High</td>
<td>Schools, colleges, universities</td>
<td>Low/Medium</td>
</tr>
<tr>
<td>Cafés</td>
<td>High</td>
<td>Workplaces</td>
<td>Medium</td>
</tr>
<tr>
<td>Take-away/fast food outlets</td>
<td>High</td>
<td>Care homes</td>
<td>Low</td>
</tr>
<tr>
<td>Public houses serving food</td>
<td>High</td>
<td>Prisons</td>
<td>Low</td>
</tr>
<tr>
<td>Convenience stores preparing food</td>
<td>High</td>
<td>Direct provision centres</td>
<td>Low</td>
</tr>
<tr>
<td>Food markets and festivals</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Event catering</td>
<td>High</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In contrast to hotels, cafés, restaurants and other public sites of food consumption outlined above, the provision of food is not a primary activity of many of these large organisations. Whereas a hotel may acclaim quality food as a focal point to attract potential customers, or a convenience store may promote itself as a handy lunchtime meal option, the primary concern of a school is education, hospitals first and foremost provide medical and surgical treatment, and workplace canteens provide food for staff otherwise engaged in various activities of employment be it manufacturing, accounts, IT or other facets of the particular organisation in which they work. Hence, expectations of taste and quality among those who eat in these organisations may be different or perhaps lower to those availing of more traditional eating options (Price et al., 2016). These expectations are reflected in the reputation of canteen and hospital food as being inferior to home-cooked meals or restaurant food. Of course, such thinking may not reflect reality - some canteens offer high quality and tasty food, while some people are unable cook for themselves. Nonetheless, observable differences in expectations can have a significant impact on supply chains, food procurement, meal preparation and food consumption habits, all of which contribute to overall sustainability of food consumption. Through their food provisioning activities, these various organisations and institutions act as important intermediaries between producers and consumers and play an important role in the development of food systems.

1.4 Sustainable food systems: What role for consumption?

To sustainably meet projected demand for food, many of the strategies and solutions proposed lie in scientific and technological innovation (Tilman et al., 2002; Lam et al., 2013). From this perspective, developing a sustainable food system is conceptualised as a production challenge that can be addressed by adapting new technologies to improve the unit efficiency of food production (Beddington, 2010; Foresight, 2011). As with other dominant psychological and economic approaches in sustainable consumption (e.g. behavioural economics; choice theory), the productivist perspective regards consumers as rational thinkers making conscious decisions (Jackson, 2005). The focus is on individual consumer choice, with more complex considerations such as cultural and contextual conditions of consumption receiving little attention (Shove, 2003; Tovey and Share, 2003; Warde, 2016). The productivist perspective looks to market signals to reveal consumer desires for certain foods (e.g. convenient and processed food, large quantities of animal-based products) and considers it the role of the food system to provide these foods in the least harmful way possible (Garnett, 2014; Sonnino et al., 2014). Proponents of this approach believe that consumers should be provided with information pertaining to their consumption choices, however consumption patterns should nevertheless be free from prescriptive intervention (Godfray, 2015).

Critics of the productivist perspective argue that it fails to recognise and tackle the structural power imbalances that perpetuate inequalities in the current dominant food system (Sonnino et al., 2014; Fraser et al., 2015). As many scholars have
Introduction

pointed out, the focus of attention on supply side issues, although important, is alone insufficient to address the challenges of food sustainability, and a more integrated approach must be taken (Schönhart et al., 2009; Popp et al., 2010; Foley et al., 2011; Sage, 2012). Moreover, efforts targeting individual consumers as a means of addressing food sustainability issues are likely to be largely ineffective unless wider contextual issues are acknowledged and considered (Goodman and DuPuis, 2002; Fraser et al., 2015). Consumers do not act in isolation; instead they are influenced by myriad internal and external factors and conditions (Wansink, 2004; Shove and Walker, 2010; Davies et al., 2014; Lehner et al., 2015). Approaches that target a change in consumption patterns need to take account of issues including individual (e.g. skills, values), social (e.g. social norms) and material (e.g. infrastructure, technologies) factors. Composite interventions should be multi-dimensional (targeting societal, cultural and economic influences) and multi-scalar (global and local initiatives). This requires a more integrated approach to food sustainability focusing on the structures, systems and relationships underpinning all stages along the food chain, including the role of intermediary actors such as large organisations.

The concept of sustainable food is changing all the time with new evidence continually emerging on how to improve sustainability as farming and agricultural practices evolve (Longfield, 2013). Ongoing evolution of the food system and contestations in terms of interpretation, desired goals and strategies make a sustainable food system difficult to define (Clark et al., 2010). According to the FAO:

’a sustainable food system (SFS) is a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised ’ (HLPE, 2014).

However, this definition is problematic as it remains very broad and open to multiple interpretations that can accommodate competing perspectives (Seyfang, 2005; Schäfer et al., 2010). Importantly, sustainable food systems can only be achieved through a number of trade-offs, turning their creation and development into inherently political processes. What concessions are sought, by whom and for whom, will be dependent on the agendas of actors involved (Hinrichs, 2014). Therefore, outcomes deriving from a food system are largely context-specific, depending on who benefits from particular social arrangements in a given food provisioning system (Born and Purcell, 2006).

Changes in consumption are a central part of any effort towards a more sustainable food system. Although its precise definition remains elusive (Seyfang, 2006; Pape et al., 2011; Davies et al., 2014), sustainable consumption is about reducing the negative social and environmental impacts of consumption, for example by cutting down on dairy and meat intake. Yet, sustainable consumption is not just about consuming less, it is about consuming differently (Hinton and Goodman, 2010; Jaeger-Erben et al., 2015). Making more efficient use of what is
consumed, such as making meals from leftovers and reducing food waste (Stuart, 2009), or choosing to make purchases to support social and environmental causes such as fair trade certified products or organic goods are examples of more sustainable food consumption. Only consuming small amounts of sustainably sourced fish and avoiding at-risk species can limit damage to the ecosystem and allow stocks to replenish so future generations can enjoy the same levels of marine biodiversity. Furthermore, choosing fresh, locally caught seafood can help support and sustain local economies and coastal communities, and also deliver less tangible benefits similar to those attributed to local land-based agriculture initiatives such as increased producer-consumer relations and knowledge sharing (Olson et al., 2014). Eating seasonal and healthy foods such as salads in summer and brassicas in winter, introducing more wholegrain products into diets and avoiding artificial additives, salts and fats contributes to greater health and well-being therefore having a positive social impact.

This multiplicity of issues and interdependencies along the food chain are recognised in the FAO’s definition for sustainable diets:

‘Sustainable Diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources’ (FAO, 2012, p7).

Although the FAO definition for sustainable diets does not explicitly mention local and regional food, these concepts remain central considerations in the development of sustainable food systems (Marsden and Morley, 2014). However, questions remain surrounding the precise role that local and regional food can and should play in adequately feeding the world’s population.

Local and regional food systems – an alternative?

Is local food more sustainable? Buying locally produced foods can be more sustainable as it reduces the distance between production and consumption whilst supporting local jobs and enterprise by keeping money in the local economy. Local food that is produced using ecologically sensitive farm management practices by farmers and employees enjoying fair prices and good working conditions can bring multiple dividends to communities (Hinrichs, 2003). In addition, integrated production and distribution channels through multiple markets, coupled with supportive agricultural and government policies, can ensure that local, seasonal, fairly traded and healthy food is accessible to a wide section of society (Quiñones-Ruiz et al., 2016b).

At the same time, food that is produced locally using large quantities of energy and water may be less environmentally sustainable than food imported from abroad (Fraser et al., 2015). The production methods employed also have a significant impact in terms of ecological footprint, far more than other contributing factors
such as transportation (Fairchild and Collins, 2011). Hence, the negative environmental cost of imported food attributed to food miles could be more than offset if the production methods used elsewhere are of a low environmental impact (Avetisyan et al., 2013; Del Borghi et al., 2014). Additionally, the use of food miles as a measure of environmental sustainability often follows a narrow conception (Coley et al., 2009), for example failing to take into consideration the type of transport and different fuels used. If food miles are attributed to shipped goods the environmental cost will be significantly lower than if they were generated from air freight or road transport. Furthermore, the economic benefits realised by relatively poor producers in developing countries cannot be ignored. A transition to entirely local diets in more affluent countries may have catastrophic consequences for producers in developing countries (Foresight, 2011).

While the creation of local food systems is certainly not always the answer to food sustainability challenges, it can play a significant role. Local food systems may be sustainable or not, just as globalised food networks can produce various outcomes depending on the desired goals and strategy employed by agents (Winter, 2003; Schönhart et al., 2009). A mixture of local seasonal food and global ‘fairly-traded’ food may turn out to be the most sustainable system, however many variables exist along the way (Morgan, 2010). Differences in production methods, growing conditions, employee welfare, modes of distribution and government regulations are just some of the factors to be taken into consideration. These issues are comprehensively addressed in Chapter 2 in the context of an extensive review of the relevant literature.

1.5 Key research questions and research design

Undoubtedly, the current food system is in need of radical transformation in order to adequately feed the world’s population in the long term and keep the use of natural resources at sustainable levels. In this context, much interdisciplinary research on (un)sustainable food systems tends to focus on production activities, including ways to produce more food using less resources. From this perspective, technological innovations is seen to hold the key to creating a more sustainable food system and ecological considerations, such as a reduction in GHG emissions, are paramount. In other words, developing and adopting the appropriate technological solutions can increase production efficiencies, lead to economies of scale and increase sustainability in the food system.

However, many researchers believe that technological advances alone are insufficient to address the myriad concerns of food sustainability (Sage, 2010; McMichael, 2011; Tscharntke et al., 2012; Davis et al., 2016). More importantly for this thesis, a sole focus on production completely ignores the fact that food production and consumption are inextricably linked (Schönhart et al., 2009). A more holistic approach to food sustainability is thus needed, incorporating aspects of production and consumption and covering hitherto under-researched issues such as questions of affordability, availability and accessibility of healthy nutritious
food for all, producer-consumer relations and new forms of consumer-led food production (e.g. urban gardening). In addition, more research is needed concerning recent changes in lifestyle and consumption patterns in both highly industrialised and less developed countries that have led to an increasing proportion of our food intake occurring outside home. Attending to these challenges, this thesis focuses explicitly on public food consumption in Ireland.

Within the sphere of food consumption, research is generally conducted at the micro level, examining individual or household behaviour, looking at where people shop, what they buy, what motivates them to do so as well as the impacts of these decisions on society and the environment (Austgulen, 2014; Davies and Doyle, 2015). Research that adopts a macro-level perspective tends to examine national or supranational aspects of food consumption (Reusswig, 2005; Ericksen, 2008). This typically involves the exploration of global markets and food chains, focussing on issues such as the worldwide meat trade, national-level import-export balances and national diets and food cultures.

A third and often overlooked sphere of food consumption is located at the organisational or meso level. This space, between the micro (i.e. individual, household) and the macro (i.e. national, global) level, is occupied by a variety of organisations and institutions. Hospitals, schools, universities, prisons, corporations, workplaces and other organisations purchase vast amounts of food and feed thousands of people every day, yet very little research has been undertaken to assess their impact on food sustainability, in particular regarding private sector organisations. To address this gap, this research focuses on public food consumption and the role of organisations in the emergence and development of sustainable food systems. In particular, it examines food provisioning in large organisations that employ over 250 people. It thus addresses a central question:

What role do large organisations play in supporting sustainable food systems?

In order to satisfactorily answer the central research question, at least three sub-questions must also be addressed.

1. What are the factors that shape food provisioning practices in large organisations?

2. How sustainable is the food provided by organisations, and how can organisations improve their food sustainability performance?

3. Where are the best and most effective points to initiate change towards greater sustainable food provisioning within organisations?
Introduction

These questions remain pertinent throughout the thesis and are dealt with more explicitly in Chapters 4, 5 and 6 respectively, with regular references to the relevant literature that is mapped and discussed in Chapter 2. To answer these questions, the study examines key characteristics of sustainable food systems – organic produce, fairly traded goods and local and regional food – and explores their significance to food provisioning in large organisations that provide food as a secondary activity. To present a comprehensive picture in relation to food sustainability, other aspects of sustainable food such as increased animal welfare and reduced-meat diets are also considered.

Adopting an integrated approach to food sustainability that includes social, economic and cultural considerations as well as environmental and ecological factors, the study uses a comparative mixed-methods case study approach to study the motivations, understandings, rationale, attitudes and perceptions of key actors with responsibility for food provisioning in eight large organisations in the West of Ireland. This is complemented with a detailed assessment of current levels of food sustainability in these organisations, with a view to identifying potential areas for improvement.

1.6 Contribution to knowledge

The focus of this research is on the food provided to workers, students, patients and visitors by schools, universities, hospitals and workplace canteens. The research is highly relevant in the area of sustainable food consumption and its impact on society. Studies have shown the potentially negative health effects arising from a growing share of food being consumed outside of home (O’Dwyer et al., 2005). The potential for a transition towards more sustainable food systems as well as growing consumer concerns regarding the healthiness, origin and socio-ecological impact of food production and consumption have also been documented (Goodman and Sage, 2014). In view of the societal relevance of this topic, the lack of empirical data relating to organisational food provisioning and associated methods for sustainability assessments heretofore is surprising.

This thesis seeks to make a substantial contribution to the advancement of knowledge by addressing this significant gap in food sustainability research. It presents a comprehensive overview of the role organisations play in supporting sustainable food systems as well as developing new innovative methods for assessing food sustainability. The study also progresses policy-relevant scientific knowledge through the identification of specific areas for sustainability improvement in public food provisioning.

1.7 Outline for remainder of the thesis

Following this introductory chapter, Chapter 2 critically reviews relevant social scientific research on 1) alternative food networks and systems, 2) (un)sustainable
food consumption practices, and 3) the current role and future sustainability transition potential of large organisations in relation to the provision of food for public consumption. Integrating these distinct strands of work, Chapter 2 presents a conceptual framework for the empirical part of this study that incorporates the novel concept of intra-organisational ‘alteration spaces’ that provide suitable social-material environments for food sustainability transitions within organisations. Chapter 3 details the methodological approach adopted in this study, including research design and data collection and analysis. Chapters 4, 5 and 6 present empirical results emanating from the empirical research. More specifically, Chapter 4 deals with contextual considerations in relation to sustainable food provisioning in large organisations and shows that ‘a one size fits all’ approach is unsuitable in relation to addressing sustainability issues and improving food sustainability. Chapter 5 introduces the FOODSCALE method, an innovative food sustainability assessment tool developed specifically for this PhD study, and uses it to compare the sustainability of food provided by participating organisations and to identify particular areas for increasing food sustainability. Results show a high degree of variance within and between cases, the significance of which is discussed in depth. Chapter 6 provides an overview of decision-making channels in relation to food provisioning for each of the eight organisations and identifies suitable points for sustainability intervention. Key findings in relation to improving food sustainability in large organisations and the barriers thereof are examined in Chapter 7, followed by some recommendations for developing a long-term food sustainability strategy within organisational settings. Finally, conclusions from the study are presented in Chapter 8, along with recommendations in relation to policies and actions for increasing food sustainability.
Chapter 2

Literature Review
2.1 Introduction

The production and consumption of food encompasses multiple social, economic and environmental interactions and concerns. Agriculture is a key driver of climate change, is responsible for up to 30% of GHG emissions, accounts for 70% of freshwater use and contributes significantly to soil degradation, water pollution and loss of biodiversity (Lundqvist et al., 2008; WWAP, 2009; Lotti, 2010; Garnett, 2011). Higher temperatures, changing and unpredictable patterns of rainfall, and an increase in extreme weather activity are all set to contribute to more difficult food production conditions (IPCC, 2014). On the demand side, expanding populations, urbanisation, changing diets, and concerns over obesity and diet related diseases have a significant impact on the global food system (FAO, 2009; Marsden, 2012; Westhoek et al., 2014).

All of the aforementioned concerns relating to the food system are interlinked and need to be addressed simultaneously. However, addressing these problems on a global scale remains notoriously difficult. For these reasons, among others, there has been a growing interest in ‘alternative’ models of food provision that may address some of the deficiencies in the ability of the current dominant system to deliver fair, equitable and sustainable food for all (Sonnino and Marsden, 2006). These ‘alternative’ food systems, so-called as they are deemed to run counter to the prevailing globalised industrial food system, aim to reconnect consumers with the food they eat, reconcile the food system with the natural world, and closely link the various actors along the food chain (Renting et al., 2003; Watts et al., 2005; Goodman and Goodman, 2007).

This study builds on alternative food networks (AFN) approaches and incorporates key messages emanating from this expanding field of research. Within the AFN literature, rural development is a central consideration in developing a sustainable food system, with many supporters advocating for more localised food systems and for an increased role for organic and smallholder production (Moore, 2006; Marsden and Morley, 2014). In addressing the perceived inequalities in the food system, the emphasis is on fair trade, food security and the development of local food systems (Sage, 2012; Goodman and Sage, 2014). Within this perspective, studies have focused on macro-level activities such as trade between nations, and micro-level activities such as community-based initiatives.

While AFN research is useful in demonstrating how a more sustainable food system might emerge, it does not adequately address wider issues relating to food consumption. Food consumption practices are influenced by a composite of individual (e.g. values, knowledge), social (e.g. social norms) and material (e.g. technologies) factors. Although acknowledging these contextual considerations, AFN approaches generally focus on the practices of individual AFN participants. As a result, they overemphasise the potential for individuals to effect food system transformation through their consumption choices. A practice theory approach, on the other hand, shifts the focus away from individual consumers by taking social practices as the central concern (Warde, 2005; Shove et al., 2012). In this regard,
practice theory focuses on consumption behaviour within the context of the socio-material infrastructures that enable certain modes of food provisioning. Importantly, understanding food consumption as a set of practices also draws attention to the crucial role of organisations in shaping the food system.

Organisations such as schools, hospitals and workplaces play a significant role in the food system, although this is often underappreciated. As well as feeding thousands of people every day, they represent a suitable focal point for interventions aimed at developing sustainable eating habits (Jørgensen et al., 2010). Organisations cater for repeat customers on a daily basis. This captive environment presents an opportunity to promotes healthy and sustainable consumption practices that can benefit individuals, communities and wider society (Price et al., 2016b). This study examines food provisioning in organisations. It investigates the degree to which organisations deliberately and inadvertently shape consumer consumption patterns, and the effectiveness of methods used, as well as looking at what actions organisations might take to promote sustainable food consumption.

The remainder of the chapter is divided into four sections. Section 2.2 provides an in-depth discussion of research on sustainable food systems, in particular three main ‘alternatives’, namely organic, fairly traded and local and regionalised food systems. Here, particular attention is paid to the literature on Alternative Food Networks (AFN). Although many AFN studies focus on individual consumers – for example, exploring individuals actions, motivations and agency – key elements from the research can be applied to other contexts, including, in this case, organisational food provisioning. Section 2.3 maps and critically examines the rich research landscape in relation to food consumption, focusing in particular on sociological investigations of everyday practices. Here, it is shown how an explicit focus on practices (as opposed to individuals or households) shifts attention away from individuals’ attitudes and choices and other micro-level phenomena, and towards social and material influences on food consumption at the meso and macro levels of social organisation. Section 2.4 examines the role of organisations in supporting transitions towards a more sustainable food system and, in doing so, exposes a number of opportunities and obstacles in relation to sustainable food provisioning within organisational settings. This section identifies major gaps in the literature on food consumption in organisations, highlighting the need for extensive additional work in this area.

Finally, section 2.5 outlines the conceptual framework of the thesis. Drawing on the work reviewed in sections 2.2 to 2.4, it integrates hitherto distinct strands of social-scientific food sustainability research, namely alternative food networks approaches (2.2) and food consumption research (2.3). Importantly, the conceptual framework moves beyond individualistic perspectives to incorporate existing work on organisations more generally, and sustainability transitions within organisations in particular (2.4.). Building on previous work on sustainability transitions in organisations, the novel concept of ‘alteration spaces’ is introduced. Alteration spaces describe areas within large organisations whose particular social
and material characteristics lend themselves to intra-organisational sustainability transitions, especially regarding food provision. Importantly, the concept of ‘alteration spaces’ explicitly recognises individuals’ collective capacity to affect change within organisations, without necessarily requiring an intervention from outside. It thus offers an alternative to widely used concepts in sustainability transitions research such as points of intervention or leverage points that tend to (over)emphasise influences that are external to organisations.

2.2 What’s the alternative? Sustainable food systems

Debates about what specific actions must be taken to overcome, or at least mitigate, the many sustainability challenges that characterise today’s global food production and consumption continue unabated (see Chapter 1). While proposals targeting sustainable intensification and efficiency in food production continue to dominate research and policy debates, critics argue that these ‘productivist’ approaches fail to address inequalities and imbalances in relationships that cause sustainability problems in the food system (Hinrichs, 2003; Spaargaren et al., 2013). Advocates for a more integrated approach to developing a sustainable food system have highlighted that the world already produces enough food to feed the present population, therefore a greater focus is needed on widespread accessibility to the right types of food (Pape et al., 2011; Kneafsey et al., 2013b). This necessitates an increase in food production only in some regions and for some consumers, with importance placed on what type of additional food is produced, and by whom (Garnett, 2014).

In contrast to approaches that focus on efficiency improvements within the prevailing model, Alternative Food Systems or Network (AFN) approaches examine modes of food provisioning that are considered to have certain characteristics that make them different to, or distinguish them from, the conventional industrialised food system that dominates in Western societies (Tregear, 2011). In this regard, AFN research has highlighted the importance of several key features that characterise sustainable food systems. Central considerations include production methods (organic/non-organic), scale (smallholder/large-scale production), distance (local/global), equality (fair/unfair trade), and consumption practices (un/sustainable).

Perhaps more importantly in the context of this thesis, AFN research strongly focuses on equality and social justice, with responsibility for achieving food sustainability objectives placed on the ‘system’ rather than on the individual (Moore, 2006; Van der Ploeg, 2010; Sage, 2012). Moreover, there is a strong emphasis in AFN thinking on social relations and the capacity of individuals to pool their agency and engage in transformative collective action to enhance the sustainability of the food system. Studies into AFNs include those based on local and short food supply chains (Marsden et al., 2000; Renting et al., 2003; Kneafsey et al., 2013), regional food systems (Donald et al., 2010; Kneafsey, 2010), community supported agriculture (Hinrichs, 2003; Moore et al., 2014), farmers
markets (Feagan and Morris, 2009) and organic schemes (Seyfang, 2006; Goodman and Goodman, 2007; Vittersø and Tangeland, 2015). A common feature of all of these strands of AFN research is the importance for sustainability of building and maintaining reciprocal relationships between various actors in the food system (Sage, 2003; Renting et al., 2003; Roep and Wiskerke, 2012; Kneafsey et al., 2013).

**Fostering embeddedness through reciprocal producer-consumer relationships**

The development of relationships between producers and consumers built on foundations of trust, quality, care and other such characteristics is a central component of AFNs (Renting et al., 2003; Watts et al., 2005; Moore, 2006; Autio et al., 2013; Moore et al., 2014). The notion of embeddedness, where alternative food is deemed to carry information conveyed through social interactions, is considered a characteristic that makes alternative food more valuable (Marsden et al., 2000). Furthermore, it provides a means by which to distinguish alternative food from more conventional market transactions that are based primarily on monetary values (Feagan and Morris, 2009).

Although social relationships between producers and consumers are central to the concept of embeddedness, other attributes such as local production, higher quality food, sound environmental management and greater community cohesion are also considered to bring additional value to products (Penker, 2006; Mount, 2011). These attributes are not communicated sufficiently through price signals alone, and to pass on such information requires more diverse methods of communication such as eco or food origin labelling, interaction between producers and consumers, or communicative processes led by food retailers and other intermediaries, including organisations providing food (Morris and Kirwan, 2011; de Magistris and Gracia, 2016).

Embedded information allows consumers to make value judgements about products whilst also distinguishing these foods from more generic conventional offerings (Sonnino, 2013). How these value-added products and associated embedded information are passed from producer to consumer can vary, the most obvious example being face-to-face interactions between producer and consumer as seen at farmers markets, farm-shops or through other avenues of direct sale (Hinrichs, 2000; Sage, 2003; Kirwan, 2004; Moore, 2006; Karner, 2010; Joseph et al., 2013; Goodman and Sage, 2014). Here, direct contact between producer and consumer creates conditions for reciprocal relationships to develop (Morris and Kirwan, 2011). Aside from the more obvious economic advantages, these relationships contribute to the building of trust and mutual learning between parties, thus enabling consumers to make more informed moral, ethical or sustainable choices whilst providing producers with feedback on consumer preferences and demands (Sage, 2003; Chen et al., 2016).

In addition to direct contact, Renting et al. (2003) also identify proximate supply chains as a means of maintaining producer-consumer relations. Here, intermediary actors take over the role of providing consumers with information on food that is
produced and retailed in close proximity. This might include ecological, ethical or sustainable attributes of the foods, for instance organic production. Examples of proximate supply chains include restaurants, pubs, hotels, supermarkets or specialised retail shops selling local produce (Kneafsey et al., 2013). These outlets can help to stabilise incomes and security for producers while creating access to sustainable foods for consumers (Hinrichs, 2000). Similarly, organisations and institutions such as hospitals, educational institutions, workplace canteens and other sites of public food consumption provide a large quantity of meals every day, therefore representing a potentially significant outlet for sustainable food (Thatcher and Sharp, 2008; Smith et al., 2016).

This study explores the role of these organisations in supporting sustainable food systems and looks at how, through their position as intermediaries between producer and consumer, they can maintain or disrupt relationships that potentially contribute to increased sustainability along the food chain. However, to be able to closely examine the sustainability potential of organisations regarding ‘alternative’ models of food provisioning, we first need to consider three key elements: organic farming, fair trade and a return to more local and regional systems of food provision.

2.2.1 Organic food

Organic farming is seen as a system of food production that is sensitive to the surrounding ecosystem and that reconnects consumers with producers (Fraser et al., 2015). Organic farming limits the amount of artificial chemical input supplies allowed in the production process, thereby reducing dependence on fertilizers, pesticides, herbicides and other synthetic chemical compounds. High animal welfare standards are central to the organic ideal, including restrictions on the use of antibiotics and other drugs routinely used in conventional farming. Further downstream, inputs such as artificial colourings and sweeteners are banned in organic food processing, and the use of additives and flavourings are greatly restricted. Sound farm management practices involving holistic production methods for crops and livestock are key to the success of organic farming. Organic farmers use mixed farming methods including crop diversification, rotation and animal husbandry to develop fertile, nutrient-rich soils and control pests and diseases (Williams and Hedlund, 2013). By incorporating these methods, they contribute to biodiversity and environmental conservation whilst eliminating some of the so-called externalities associated with conventional farming (Kröger and Schäfer, 2014).

Attempts to quantify the benefits of organic farming can be fraught with difficulty, a fact that has been used by its critics. A hierarchical meta-analysis of organic farming conducted by Tuck et al. (2014) shows that organic farming increases biodiversity by an average of about one-third relative to conventional farming, however the extent to which organic farming promotes biodiversity to a larger extent than well-managed conventional farms adopting specific ecologically and
geographically targeted practices is as yet unknown (Hole et al., 2005; Tuomisto et al., 2012). Moreover, Tuomisto et al. (2012) found that although organic farming results in better soil quality, it requires more land to produce a unit of product than conventional agriculture. As global demand for food increases, the environmental benefits of large-scale organic farming may be off-set by the need to bring more land into the sphere of production, particularly if this land delivers an alternative service to the environment such as forestry or wildlife habitation. Therefore, a focus on the effects of specific farming systems and farm management practices, rather than concentrating on particular terms such as ‘organic’ and ‘conventional’, may provide a greater understanding of the associated benefits of different production methods employed (Williams and Hedlund, 2013). Additionally, greater attention needs to be paid to the agricultural potential of cities, including roof areas and disused buildings that could be used for large-scale urban farming. Yet, whether or not urban farming is compatible with the principles of organic agriculture remains to be ascertained.

*Individual and societal health benefits of organic food consumption*

Consumer concerns over the health and safety of food provided through an industrialised system have resulted in a rise in demand for organic produce over recent years (de Magistris and Gracia, 2016). The motivations most often cited by consumers for purchasing organic food are self-orientated – centred around health, food safety and taste – however, wider concerns for the environment and animal welfare are also found to be of importance (Lockie et al., 2002; Seyfang, 2006; Vittersø and Tangeland, 2015). Hence, organic consumers in general are influenced by a number of interrelated factors in their purchasing decisions (Moore, 2006). Regarding health and food safety, a comprehensive review of the literature from January 1966 to May 2011 on the comparative health outcomes, nutrition and safety of organic and conventional foods carried out by Smith-Spangler et al. (2012) did not reveal any marked health benefits from consuming organic food. Furthermore, in a review of the literature on the safety of organic versus conventional food, Magkos et al. (2006) concluded that ‘organic’ does not automatically equal ‘safe’. However, they do note that valid comparisons between organic and conventional food products are difficult to carry out due to variables in growing conditions and research methodologies.

Notwithstanding these uncertainties, some of the major advantages to consuming organic food are likely be realised at a wider societal level, a point that is often overlooked in health-related studies that focus solely on the attitudes, views and practices of individual consumers. For example, the widespread use of antibiotics in conventional meat production contributes to the spread of new antibiotic-resistant bacteria, thus impacting on the health of societies (Zikeli et al., 2014). Antibiotics can also inadvertently end up in water systems, soils, or other animals. Nitrogen and phosphorous pollution, a major problem in many areas, is largely caused by leaching from intensive farming practices and can be reduced through implementing organic farming practices. In other words, organic farming may
diminish societal exposure to certain health risks, further reducing externalised costs to society (Tuomisto et al., 2012).

**Alternative demand, conventional supply – scaling up organic food**

Prolonged market growth, increased political importance and widespread support for organic farming has led to strong state regulation of the sector and resulted in difficulties for the organic movement in retaining its identity as an alternative space of political activism (Klintman and Boström, 2012). The growth of the organic food market, fuelled by consumer demand, has resulted in organic produce becoming increasingly subsumed into mainstream food systems by producers, processors and retailers (Kröger and Schäfer, 2014). This expansion has facilitated the entry of large-scale agri-business into the organics market, thereby losing some of the social connectedness and personal relationships associated with participation in organic food networks (Zikeli et al., 2014). Critics argue that the industrialised nature of large-scale organic production that is required to supply these conventional chains, and the minimum standards enforced by large-scale organic producers, place them outside of what could be considered alternative. As Flynn and Bailey (2014) observe, organic has essentially become a branded form of production. While supermarkets and retail chains have facilitated growth in the organic market through their diversification strategies, and therefore made organic more widely available to consumers, they have done so mainly through overseas supply chains and conventional wholesalers, thereby relegating indigenous organic producers to local markets (Smith and Marsden, 2004). Where indigenous organic farmers seek to supply supermarkets, they are susceptible to the same price-squeeze experienced by conventional farmers in similar bargaining positions. In this regard, supermarkets and food service providers continue to drive down prices and seek bulk buying deals, making it more difficult for small-scale domestic farmers to compete with import substitution (Seyfang, 2006; Oosterveer, 2012). As large-scale organic production continues to expand, it increasingly blurs the boundaries between the two spheres of alternative and conventional foods (Bloom and Hinrichs, 2010). In a similar vein, products emanating from the fair trade movement have become increasingly mainstream and accessible through conventional supply chains, again raising conceptual questions as to what exactly constitutes ‘alternative’ food.

### 2.2.2 Fairly traded produce

Access to international export markets has long been cited as a means of escaping from poverty for smallholder farmers. As far back as the 1960s Oxfam and other fair trade movements have called for ‘trade not aid’ as a means of reducing poverty and addressing issues of social justice. Initially, charity shops sold coffee and other raw materials sourced from small farmers struggling to survive in an increasingly globalised market. The expansion of labelling for generic products allowed consumers to identify these products as ethically sourced, thus opening up the possibility of selling them through conventional retailers (van Otterloo, 2012).
Movements such as fair trade aim to address issues of equality in developing country agriculture systems and assist producers to overcome disadvantage by securing access to mainstream markets under fair and equitable trading conditions. The widely recognised and increasingly accessible fair trade labels give consumers, businesses and institutions faith that their purchase choice is ethically and morally sound (Tikkanen and Varkoi, 2011). Fair trade products are produced under favourable working conditions and sold at a higher price with a premium paid back to the farmer.

Many of the world’s poor are made up of smallholder farmers in Africa, Asia and elsewhere, and loss of markets for these producers could have a detrimental effect on their already precarious livelihoods, thus putting lives at risk. Many of these poor farmers spend a large proportion of their income on buying food to feed their families (FAO, 2009). Consequently, rather than benefiting from rising food prices through income received, this cohort of vulnerable farmers are exposed to shocks in the food system and pushed further into poverty as food prices escalate. Government support for farmers in industrialised countries, mainly in the form of subsidies and tariffs, exacerbate the problems of developing nation farmers (Sonnino et al., 2014). These ‘supportive’ measures insulate rich farmers against price fluctuations, enabling them to produce food at an economic loss whilst pricing poorer developing country farmers out of the market (Candel et al., 2014). The removal of barriers to free trade, such as Europe’s Common Agricultural Policy, would dramatically alter the world’s food system, most likely to the benefit of poorer farmers. Benefits accruing for local farmers worldwide through fairer trade rules and greater access to lucrative international markets has potential to lift millions of poor families out of poverty and improve food security (Garnett, 2013).

Profits generated by smallholder farmers through the export market can be used to purchase seed and fertilizer to gradually improve output and reduce the yield gap between achievable and realised productivity (Godfray et al., 2010). Although nitrogen and other fertilizers are overused in many industrialised regions, studies have shown that developing countries including many African nations underuse nitrogen fertilizer in agriculture. An increase in nitrogen fertilizer in these regions could significantly improve output, thereby boosting potential income and food security in the regions (Foley et al., 2011). Lifting smallholder farmers out of the cycle of poverty has potential to deliver multiple dividends for society and the environment through sustainable management of soils and water, greater disposal incomes for poor families, increased health and education, rural development, secure livelihoods and other benefits aligned with a sustainability agenda (UNEP, 2012).

Criticisms of the fair trade movement

Despite its many benefits, the fair trade system is not without criticism. By propping up the price received by farmers for particular foods – such as tea, coffee, cocoa, nuts, juices and exotic fruit – the fair trade system encourages
farmers to grow more of these products and discourages them from diversifying out of a narrow selection of primary goods (Morgan, 2010). This can lead to overproduction of certain goods and lower market prices, thereby leaving many farmers without the rewards intended from the establishment of the fair trade initiative in the first place. In other words, the fair trade system ensures farmers receive a premium as long as they remain producing the goods that locked them in poverty.

Although the fair trade movement benefits from a positive image of the impact of fair trade on producers and their communities, McArdle and Thomas (2013) warn against the vested interests in the fair trade movement of organisations and individuals conducting much of this research. They argue that benefits from the fair trade movement may not be spread evenly across communities, and may serve to reproduce and potentially exacerbate existing gender inequalities, a viewpoint shared by Smith (2013). Women make up a large proportion of the agricultural labour force and produce a significant amount of the world’s food, particularly in developing countries (UNEP, 2012). Yet the productivity potential of women is constantly undermined by inequalities and limitations in access to agricultural extension services, credit, land, inputs and other resources (Qureshi et al., 2015). The role of women in agriculture is under-valued, they are often not even recognised as farmers. The importance of women in the production of food, their contribution to food security - at micro and macro levels - and their conservation and reproduction of traditional and indigenous knowledge, skills and expertise in growing and storing food is all too often absent from political discussions and wider debates about food provision.

If movements such as fair trade do not try to change the underlying conditions that marginalise women and allow farmers to live in poverty, and if they do not challenge existing structures so that it is made impossible for farmers to go hungry, then they are in danger of further legitimising an unfair and socially unsustainable food system. By operating within the rules and regulations of the dominant food system, these social movements can give a misguided impression that poverty can be easily alleviated through an act of ethical consumerism. They thereby miss an opportunity to pressure governments for reform of the trading system, to generate new conceptions about fair food, and to develop pragmatic proposals for a truly just, equitable and sustainable food system (Kröger and Schäfer, 2014). The failure of the fair trade and other social movements to sufficiently address these issues may be as a result of more deep-rooted and widespread social and cultural inequalities, nonetheless this contention also provides a reminder of Kneafsey’s (2010) assertion that intrinsic desirable traits cannot be assumed at any scale, be it local, regional, national or international.

2.2.3 Local and regionalised food systems: Solution or part of the problem?

Advocates for a local and regional food approach argue that re-localising the food system will result in a number of related benefits in comparison to conventional
industrialised agriculture (Morgan and Morley, 2002; Ilbery and Maye, 2005; Feagan and Morris, 2009; Sonnino, 2013). These range from social, economic and environmental benefits and include enhanced rural development, stronger local economies more resilient against external forces and threats associated with globalisation and protection of biodiversity (Sage, 2003; Feagan, 2007; Anderson, 2009; Murtagh, 2010; Carroll, 2012; Moore et al., 2014). However, a departure from a simplified ‘local equals better’ logic is needed, desirable outcomes such as social justice or economic feasibility cannot be presumed to be inherent to local food systems (Winter, 2003; Tregear, 2011). Local food systems may be sustainable or not, and locally produced food is equally as likely to lack in taste, freshness or quality as food that is produced elsewhere (Watts et al., 2005). Moreover, local food may turn out to be less sustainable than imported food depending on conditions under which it is produced and distributed and the methods employed (Ilbery and Maye, 2005). Furthermore, comparative advantages such as access to fresh water and transport by shipping over domestic road transport may result in net environmental gains in imported food (Avetisyan et al., 2013). In addition, economic gains generated through the provision of local food may also be allocated in unsustainable ways, thus reinforcing and contributing to inequality (Born and Purcell, 2006). Therefore, understanding and measuring the sustainability of food requires going beyond merely looking at distance to include additional criteria such as production methods, supply chains and community engagement (Goggins and Rau, 2016).

Localisation of food systems suggests that food should be consumed within the same area as it is produced or as close to the point of origin as possible, thus resulting in shorter food supply chains (Karner, 2010). However, what constitutes ‘local’ food is not easy to define. Does it mean food from the same community, food from a specified radius, food from the same county or even the same country? Indeed, is local food even related to distance or scale? Without a legal definition for local food, understanding of the concept is largely subjective and context dependent (Sonnino, 2013). It is generally accepted that boundaries and spatial concepts are social constructs arising out of social and political struggles and that they are subject to change (Born and Purcell, 2006; Carroll and Fahy, 2014). The notion of local food is a case in point. The geographical limitations of the concept of ‘local’ food are a source of contention and can be reliant on interpretations from specific interest groups (Hinrichs, 2003).

Several distinct criteria are used to delineate local food systems. Interpretations of local food include those based on distance, referring to a defined radius from origin to the point of sale or consumption. These range from 50km or less up to 160km (100 miles) for larger cities or remote areas (Kneafsey et al., 2013). Many universities in the US run sustainable campus food initiatives and use a 250 mile (402km) radius as a local food definition (e.g. Cornell, University of Maryland, University of California Davies). Other interpretations of local food are understood in relation to a recognised boundary such as a county or distinct geographical area. In this regard, people in Ireland tend to have a strong association with the county in which they live. This identity is shaped by political and administrative divisions.
and reinforced by strong social and cultural attachments, in particular with sporting events (Henchion and McIntyre, 2000). In some cases, local and national are conflated by producers, consumers and food promoters (Carroll and Fahy, 2014). The local here is contextualised in a wider geographical sense. This conflation has facilitated the increased use of symbols, imagery and local food rhetoric to conjure up nationalism and patriotic purchasing such as evident in ‘buy Irish food’ campaigns (Carroll, 2012).

Local may be understood in terms of distance or geopolitical boundaries, however it may also be understood relative to the availability of certain produce. In this instance it is the existence of producers in an area, rather than the potential to produce a product in that area, which determines how local a food is. Thus, the term local may not have the same interpretation for all foods. Less commonly produced foods may be considered local if they represent the nearest available source of a product. Furthermore, in a recent Irish-based study, the understanding of local by some chefs was extended to include speciality foods from other European countries (Duram and Cawley, 2012). Here, the concept of local is less concerned with geographical distances or boundaries and more associated with inherent qualities of the food such as artisanal production techniques. However this understanding is not without its own difficulties, as defining these so-called inherent qualities in food is a further source of contention (Born and Purcell, 2006).

In a similar vein, DuPuis and Goodman (2005) caution against attributing desired qualities to the local as a site of resistance against more undesirable traits associated with globalisation and a neoliberal agenda. They argue that an ‘unreflexive’ localism can result in defensive practices where local elites appropriate power and create niche markets for their own benefit, often to the exclusion of large parts of the population. Different actors advocating for different types of alternative food systems place greater emphasis on certain aspects of quality, and define quality so as to meet their own desires. Consequently, the local can become a site of inequality dominated by a minority interest group (often characterised as white middle-class consumers) acting contrary to the aims of the sustainability movement outlined in Chapter 1 (Slocum, 2008). Indeed, without due consideration for the constraining forces of neoliberalism, efforts at building alternative food systems are in danger of reproducing or even reinforcing the very system they often claim to oppose (Allen and Guthman, 2006). Instead, DuPuis and Goodman (2005) argue for reflexive localism, where an open and inclusive governance structure allows for a more democratic politics. This involves bringing together a broadly representative group to engage in adaptive and flexible negotiations (Penker, 2009). Here, the process of negotiation itself can create value and reinforce favourable positions, leading to more transparent, respectful and open dialogue between participants (Mount, 2011; Van Gameren et al., 2015). Therefore, a reflexive localism offers opportunities for equitable global networks to compliment local food provisioning systems (and vice versa) in a sort of ‘cosmopolitan localism’ (Morgan and Sonnino, 2010) where the local is embedded in, and part of, a national or international community of local food activists.
Literature review

Alternative food systems are based on adding value through the valorisation of socio-ecological attributes of products, and it is these attributes that can then command higher prices for alternative food producers (Carroll, 2012). At the same time, the price that people pay for local food must be low enough to make purchasing it a viable option for consumers but high enough to make it feasible for producers and purveyors to supply local food. Integrated local networks can increase the accessibility of local food through a variety of channels, be it box schemes, specialty shops, supermarkets or through organisational procurement (Risku-Norja and Mikkola, 2010). However, if demand for local food increases, supply must also be stimulated to avoid a situation where the deficit is made up by mass imports. This raises questions about the ability of small local producers to scale up to meet increased demand (Mount, 2011). Furthermore, if supplying new markets requires a significant scaling-up of operations, then food systems that are currently seen as alternative may be subsumed into conventional supply chains (Bloom and Hinrichs, 2010). As with larger-scale organic production, it is unclear where the transition from an alternative food into a conventional food takes place, thus increasing the theoretical difficulties in making a distinction between alternative and conventional food systems. For example, Ilbery and Maye (2005) found that livestock producers in the Scottish/English borders used supply chains that could be considered part alternative and part conventional. Indeed, some producers they interviewed articulated a preference for greater integration into conventional supply networks as they felt these offered more stable relationships.

On the other hand, if the market for local food is not large enough to sustain local producers then farmers must either reduce the amount of goods they produce, find alternative avenues for selling their goods, develop adequate storage techniques, or dump excess produce thereby increasing food waste. Resources available in the locality, structures that are in place, dominant political systems, availability of natural and physical resources, market demand and cultural distinctions all play a part in the ability of local food to satisfy local demand (Kneafsey et al., 2013; Fraser et al., 2015; Ilbery et al., 2016). Yet, whilst acknowledging these intricacies, local food systems are generally not concerned about meeting the entire food requirements of an area, rather they seek to fulfil local food needs as far as is structurally and economically viable (Morgan and Morley, 2002). Local food therefore is not about being self-sufficient in food; it is about being as self-sufficient as is beneficial to the local society, environment and economy (Morgan, 2010).

Regional Food Networks

Complementing proposals for more localised food systems, regionalised food networks have also been posited as an effective means of delivering a more healthy, sustainable and equitable supply of food (Ilbery et al., 2016). However, many of the criticisms and shortcomings of local food systems can also apply to the regionalisation of food systems, which ‘could be equally vulnerable to the politics of exclusion and normative assumptions about the benefits of organizing food systems at any particular scale’ (Kneafsey, 2010, p180). Additionally, defining what
might constitute regional food is equally problematic (Donald et al., 2010). In an Irish context, where power and decision making is recognised as being largely centralised, the potential of regional authorities to influence prevailing food systems may be limited. Thereby, the development of a regional food system for Ireland needs to be considered within the scope and limitations of overall regional development programs.

Although no standard agreed definition exists for local or regional food, Coderre et al. (2010) give two practical reasons for using the term ‘regional food’ for food produced within the same geopolitical region of a country. Firstly, this is the concept shared by the majority of consumers and producers, thus leading to wider interpretational consensus, and second, understanding regional foods as related to a geopolitical unit facilitates the development and implementation of regional food programs and policies within existing socio-administrative divisions. Devolution of decision-making power to regional institutions can facilitate the conditions necessary to allow regions create appropriate and place specific strategies to develop regional food networks (Penker, 2009; Kneafsey et al., 2013). The strengthening of regional governance presents these institutions with the potential to influence the structure of the food system, for example through planning and procurement policies (Ilbery et al., 2016). However, given the complexity of the food system and the environment in which it operates, the extent to which regional institutions can influence the provision of food is open to debate and very much dependent on underlying place-specific socio-economic, political and environmental conditions.

Regional food networks are created through the organisation of food production, processing, distribution and consumption at a geographically distinct scale recognised as such by the actors involved (Marsden, 2010). They involve the promotion of sustainable food systems through empowerment of actors within innovative local networks (Risku-Norja and Mikkola, 2010). The potential for development is greatest where supply chains can facilitate access to markets for local producers and include local processors and distributors (Friedmann, 2007), thus promoting local enterprise whilst adding value and retaining money in the locality for longer. However, significant barriers exist, particularly in regions where agricultural consolidation practices have led to the concentration of intermediary activities resulting in fewer and larger processing, distribution and retailing facilities. Compounding the difficulties for many farmers is the necessary requirement of some form of processing for their produce and the lack of infrastructure to carry out these activities themselves (Kneafsey, 2010). In addition, regulation and government policy which favours large-scale activity and promotes economies of scale further inhibits the ability of smaller local producers to eliminate or replace intermediaries and take advantage of their own proximity to marketplaces (Morgan and Sonnino, 2010). In relation to this point, Parrott et al. (2002) highlight that cultural and structural factors such as larger and more specialised farms, consolidation in the food processing sector and a tendency to encourage alternative food producers to compete in free markets impede the
development of regional and spatially distinct foods in many northern European countries (Sonnino and Marsden, 2006).

The agricultural history of a region may act as a further barrier to the development of regionalised food systems (Clark et al., 2010). Historically, regions develop specialised agricultural systems around dominant commodities that in turn support specific types of agricultural infrastructure. Investment in this infrastructure and related activities accumulates and reinforces production of certain commodities, thereby allowing a dominant system to prevail (Clark et al., 2010). Where this system is controlled by large agri-business, producers can become entrenched in production of particular goods and may find it difficult to diversify or take an alternative approach, especially when given substantial past financial, technological and human investment (Kneafsey, 2010). Hence, food governance and management solutions must be adapted to different regions and must be context-specific, responding to the need to develop sustainable food systems identified through collaborative partnerships (Schönhart et al., 2009; Quiñones-Ruiz et al., 2016). This approach supports cooperative infrastructure and institutional planning that incorporates sustainable food production and consumption and considers social, environmental, economic and technical factors to be equally important.

Summary

The multi-dimensional nature of (un)sustainable food systems implies that trade-offs must take place before agreement can be reached on setting goals and targets (Odegard and Van der Voet, 2014). Individually, the issues involved are complex in their own right. When taken collectively, the range of considerations, their multiple interrelationships, and the implications of decisions are manifold (Schäfer et al., 2010). This makes negotiation notoriously difficult as resistance or opposition to serious attempts at addressing social inequality and environmental protection in the context of food has come from all levels of society (Carolan, 2012). Action on many fronts appears to be largely tokenistic or even self-serving as individuals and groups protect their own interests at the expense of more equitable and just solutions that might bring a broader societal benefit (Born and Purcell, 2006). With this in mind, the research presented in this study reflects on criticisms of AFN approaches in an attempt to avoid repeating shortcomings identified by other scholars (e.g. DuPuis and Goodman, 2005; Born and Purcell, 2006; Tregear, 2011; Sonnino, 2013). In particular, AFN writing has been criticised by a number of scholars for romanticising local food movements (DuPuis and Goodman, 2005) and conflating characteristics of scale with desirable outcomes such as increased social capital (Winter, 2003; Hinrichs, 2003), ecological integrity (Renting et al., 2003) and healthier safer food (Sage, 2003).

AFN approaches have clearly demonstrated the importance of reciprocal relationships in the emergence and development of sustainable food systems (Sage, 2003; Mount, 2011). In the context of this study, understanding structural relations in organisational food provisioning is crucial in identifying potential
pathways toward greater sustainability, particularly given the dominance of a small number of large service providers in the institutional catering market. At the same time, investigating organisational food provisioning within the context of AFNs is likely to give rise to tensions between alternative and conventional food system approaches. In this regard, a number of case studies have shown how ‘alternative’ products are becoming increasingly mainstream as they are subsumed into conventional supply chains (Ilbery and Maye, 2005; Kröger and Schäfer, 2014). Although this facilitates easier access for organisations to sustainable products, it also raises questions regarding the trade-offs and unintended consequences of measures aimed at shifting consumption practices in organisational settings. For example, the entry of corporate retailers into the organic market has driven down prices of organic products and made them more accessible to a wider range of consumers. However, as demand for organic food continues to increase, the sector faces challenges in retaining its integrity and credibility as an environmentally friendly and socially just form of agriculture (Zikeli et al., 2014).

Every food provisioning system, whether conventional or otherwise, has both intended and unintended ecological and societal impacts (Morgan, 2010; UNEP, 2012). A sustainable food system, including access to an adequate supply of nutritious food, coupled with reductions in agricultural associated carbon dioxide and GHG emissions, can only be achieved in a joint effort of industrialised, emerging and developing countries. While technological advances can be beneficial, they should be just one aspect of an integrated approach to developing a system of sustainable food provisioning that considers production and consumption activities (Pape et al., 2011).

2.3 Sustainable food consumption research

Sustainable consumption has gained increasing attention in the global political arena (Seyfang, 2005; Di Giulio et al., 2014). Food consumption, in particular, has become a major political issue owing to its substantial impact on the environment, social well-being, and the economy (Goggins and Rau, 2016; Notarnicola et al., 2016). However, there is no agreed definition for sustainable food, and it remains unclear what sustainable food consumption looks like in practice (Garnett et al., 2015). Sustainable food consumption is highly context dependent. For example, food and nutritional requirements differ between regions and among populations. Production-consumption interactions are also complex (Fraser et al., 2015). For example, food production methods influence environmental impacts, but also play a considerable role in the cost and availability of food, which in turn influences consumption. Consumption is also influenced by wider socio-material and cultural factors, including social norms, tastes and meanings (Warde, 2016). In India, for example, vegetarianism is widespread, and eating beef is considered a taboo. In other regions, demand for beef and other animal-based products is growing, with a significant impact on food security, land use and health and well-being (Westhoek et al., 2014). Consideration also needs to be given to trade-offs, substitution effects and externalised costs. Lower consumption of animal products may not
equal better health and lower environmental impacts if consumers switch to high impact fruit and vegetables, and energy dense processed food. Overall, sustainable food consumption needs to be understood within the complex social system of the real world. Integrated solutions to addressing concerns need to move beyond individualistic perspectives to develop social infrastructures and systems of provision that facilitate a shift towards sustainable consumption, benefiting individuals, society and future generations.

Current and projected worldwide demographic and socio-economic trends are expected to stimulate demand for more and better quality food, with estimates suggesting that a 70% overall increase in production will be needed in the next forty years (McKenzie and Williams, 2015). Population growth, urbanisation, changing diets and rising economic prosperity are key drivers that are likely to place additional pressure on already stretched natural resources (McClintock, 2010; Vinnari and Vinnari, 2013). Increases in demand for food are expected as citizens of so-called emerging economies become more prosperous and can afford to spend more on food (FAO, 2009).

On top of this quantitative increase, qualitative changes to people’s food preferences in developing and emerging economies are already well underway, thus bringing them more in line with Western dietary norms of high meat and dairy consumption (Garnett, 2009; Vranken et al., 2014). Diets containing high levels of animal-based produce are generally seen as some of the most unsustainable from environmental and health perspectives (McMichael et al., 2007; Westhoek et al., 2014; van der Weele and Tramper, 2014). However, efforts by environmental campaign groups to promote a reduction in meat consumption have run counter to many government and agricultural policies in Ireland (and elsewhere) which continue to advocate increased production and consumption of animal-based products (e.g. see ‘Food Harvest 2020’ (DAFM, 2010)) (Fox and Rau, 2016).

While many environmentalists and public health analysts agree that we need to look at ways to reduce meat consumption and increase our protein intake from plants (Vinnari and Vinnari, 2013; Chemnitz et al., 2014), it remains unclear what exactly constitutes a sustainable diet. Various studies have focused on the environmental impacts and GHG emissions associated with different foods (Popp et al., 2010; Macdiarmid, 2013; Hallström et al., 2015) or the nutritional impact and health outcomes of diets (Vranken et al., 2014; Fan and Brzeska, 2015; Thomas et al., 2015). Other studies marry health and environmental concerns in an attempt to define a healthy sustainable diet (Sáez-Almendros et al., 2013; Ruini et al., 2015). Importantly, these studies demonstrate that consumption of healthy diets do not always result in lower environmental impacts. For example, healthy diets may not be sustainable if they contain excessive amounts of high impact foods such as vegetables grown using high levels of artificial inputs, fruit and

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1 Published in 2010, the Irish government’s current strategy document Food Harvest 2020: A Vision
vegetables transported by airfreight, or crops that contribute to deforestation or pollution (Avetisyan et al., 2013).

In addition, sustainable diets are shown to be very context specific (Garnett et al., 2015). Food and nutritional requirements differ between high and low income countries and among populations within countries (Westhoek et al., 2014). Despite a reduction in hunger over recent decades, access to adequate food – in terms of quantity and quality – remains a major problem, with around 850 million people undernourished, many of whom are smallholder farmers (Sage, 2013). On top of this, an even greater proportion of people, including many who are overweight, lack a balanced diet leaving them deficient in vitamins, minerals and other nutrients essential for healthy development (Garnett, 2013).

At the same time, the number of people that are overweight or obese is on the increase with over 2 billion adults now considered overweight and more than 1 in 10 adults classified as obese (WHO, 2011). Worryingly, obesity, diabetes and diet-related health problems are on the rise among all age groups including young people, affecting children of all ages including preschool stages (Geaney et al., 2015). A decrease in price of fats and sweeteners, coupled with aggressive marketing campaigns, contribute to a high intake of processed and low nutrition foods (Lachat et al., 2010). Consumption of ‘nutritiously shallow’ foods like sugar, salt and saturated fats increases as populations become more affluent, however, obesity is not just a problem for rich nations, with many overweight people living in low and middle-income countries (Vranken et al., 2014). There are growing concerns about the individual and societal health impacts of energy-dense, nutrient-poor diets across all nations, including rising levels of obesity and higher rates of non-communicable disease such as type-2 diabetes, some cancers and cardiovascular disease (Marsden, 2012). This places additional pressures on already stretched health systems, a cost almost entirely externalised from the market price paid for food (Zwetsloot et al., 2010).

A change in consumption patterns to healthy sustainable diets would have a substantial impact on relative food prices, land and resource use and imports and exports of food (Sáez-Almendros et al., 2013; Ruini et al., 2015). To facilitate this change would require major adjustments in agriculture policies and food-industry practices as well as changes in consumer food choices (Duchin, 2005; Benvenuti et al., 2016). However, shifting consumption patterns is complex. In addition to requiring trade-offs in the food system, changing diets have the potential for untended negative consequences. For example, if meat consumption was replaced with other high environmental impact foods (e.g. at-risk fish species), there could be a net sustainability loss. Similarly, it is possible that an increase in the price of meat products could increase consumption of lower quality meat (e.g. sausages, processed meats), thus complicating its negative environmental and health impacts. Furthermore, a dramatic reduction in demand for meat could decimate the world’s livestock industry. Although this scenario is highly unlikely, at least in the short to medium term, a collapse in livestock production would leave millions
of farmers, meat traders and processors with loss of income and severely threaten many rural communities.

Sustainable diets seek to find a balance between maximising health and well-being and reducing or minimising negative environmental impacts. Dietary changes and altered consumption habits have the potential to simultaneously address health and environmental problems beyond what can be achieved through technological innovation alone (Duchin, 2005; Garnett, 2011; Vinnari and Vinnari, 2013; Hallström et al., 2015; Ruini et al., 2015; Davis et al., 2016). While acknowledging that the constitution of a sustainable diet is complex, altering consumption patterns towards more sustainable food practices requires an understanding of why people eat what they eat, and what might influence them to change.

Factors that influence consumption behaviour

Sustainable consumption can occur at a variety of scales, from individuals and households to community initiatives (Longhurst, 2012; Davies et al., 2014), and from corporations to entire macro-economic sectors (Hinton and Goodman, 2010). The field of sustainable consumption research combines novel theoretical propositions regarding the future of food and food-related economic, social and ecological processes with consumption-focused inquiries into everyday practices that involve the more or less extensive use of natural resources (Shove et al., 2012; Spaargaren et al., 2013; Reisch et al., 2013; Chen et al., 2016; Warde, 2016). This rapidly expanding body of work has been informed by practice theory, behavioural studies and psychological approaches to understanding why consumers choose certain foods over others and under what contexts and conditions do they alter their food consumption habits (Davies, 2013; Lehner et al., 2015; de Boer et al., 2016).

Food consumption practices are influenced by myriad individual, social and material factors (Figure 2.1). On an individual level, food choices are shaped by a range of personal preferences, desires and actions. Within the field of consumption studies, approaches such as behavioural economics and rational choice theory place the individual consumer as a central concern (Honig et al., 2015). Conceptual underpinnings within these disciplines suggest that consumers are expected to act ‘rationally’, making consumption choices based on their own personal interest (see Warde, 2005, 2016 for a sociological critique of this perspective). From this perspective, consumers are expected to respond strongly to tangible attributes such as the cost or the perceived health benefits of consuming certain foods (Moore, 2006). Within this cost-benefit framework, unsustainable consumption practices could be addressed by introducing fiscal measures such as targeted pricing and by providing information, for example on the constitution of healthy sustainable choices (Pape et al., 2011; Price et al., 2016b).

Other consumption-based approaches focus on the social context within which individuals make consumption choices (Di Giulio et al., 2014). For example, social
psychology demonstrates that people’s consumption choices are driven by intangible factors such as habits and emotions that lead to impulsive decisions that may or may not be rational (Verain et al., 2015). From this perspective, consumer choices are influenced by socially constructed roles that shape individuals identity as part of a group, with motivations based on societal influences such as attitudes towards different behaviours (Jackson, 2005). This is clearly understood and exploited by marketing companies who use targeted advertising aimed at shaping consumption behaviour and developing consumer habits and rituals. In addition to advertising, choice architecture and targeted interventions are seen as potential means of addressing sustainability concerns by reinforcing more sustainable behaviour (Privitera and Zuraikat, 2014; Lehner et al., 2015).

Although social psychology considers the social context underpinning consumption choices, the focus of inquiry centres largely on the individual. However, consumption practices are also influenced by a multitude of social and cultural factors such as norms, relationships, networks and meanings. For example, intake of red meat remains high owing to its perceived nutritional and health benefits but also as a consequence of its symbolic and cultural significance (Dagevos and Voordouw, 2013; Vranken et al., 2014). Socio-material factors such as technologies, infrastructure and regulations further impact food consumption practices (Spaargaren, 2011; Marsden, 2012; Warde, 2016). These societal influences are particularly relevant in the sphere of public food consumption, where the role of policy is crucial in shaping consumption practices. For example, macro-level influences such as trade rules and government subsidies have a direct impact on the availability and accessibility of food (Van der Ploeg, 2010). National and regional governments further influence food consumption through a variety of measures including dietary guidelines and public health campaigns, planning regulations, food legislation and labelling, and agricultural policies (Pape et al., 2011; Reisch et al., 2013). Within organisational food provisioning, societal structures around time use bear considerable influence over consumption patterns. Workers, students and patients conform to specific structures for the day, including working hours and allocated times for meal breaks. Other material influences such as innovations in technology and supply chain development have a major impact on consumption patterns (Jabbour and de Sousa Jabbour, 2016). For example, developments in transportation, processing and storage technologies have enabled the widespread movement of food across the world (Del Borghi et al., 2014). The importation of seafood, meats and fresh fruit and vegetables has facilitated accessibility to these items throughout the year, thus raising further questions about consumption and sustainable diets.

Practice-theoretical approaches to food consumption

Recognising the centrality of socio-material influences on consumption, a practice theory approach takes social practices as the central concern, thus shifting the focus away from the individual consumer (Warde, 2005; Shove and Walker, 2010; Jaeger-Erben et al., 2015; Warde, 2016). Practice theory focuses on human behaviour within the context of the social and physical infrastructures that
facilitate certain modes of provisioning (Hargreaves, 2011; Spaargaren et al., 2013). Social practices can be understood as patterns of behaviour that bring together different ways of doing and saying (Warde, 2005; Shove et al., 2012). Practices are considered to be shared social acts that people can observe, recognise and replicate elsewhere. Repetition of practices over space and time form routines and habits that underpin consumer behaviour (Reckwitz, 2002). The meanings (e.g. vegetarianism as a healthy lifestyle), skills (e.g. knowing how to cook) and materials (e.g. vegetables, saucepans) that form the basic elements of practices make them coherent and recognisable and sustain practices over time (Shove et al., 2012; Warde, 2016).

Figure 2.1
Influences on food consumption

From a practice-based approach, altering behaviour focuses on interventions at the level of elements rather than appealing to individual consumers (Shove, 2004). In the context of this study, routine practices provides a suitable lens through which to study the significance of the role played by key individuals in relation to
organisational food consumption. From this viewpoint, the everyday actions and decisions of procurement managers, catering managers, services managers and others become increasingly important as they are considered to have a profound effect on the sustainability of food provisioning within organisations. Building on this perspective, this thesis identifies key positions within organisational structures and examines their respective importance in relation to their potential for influencing a transition towards more sustainable food provisioning through changes in (routine) practices.

Summary

The complexity of factors influencing the food system requires a highly integrated approach to sustainable food advocacy that involves a wide range of actors interested in diverse, yet related issues such as human health and nutrition, food safety, animal welfare, biodiversity, social impacts of food provision, and perhaps most importantly, consumption (Spaargaren et al., 2012; Tscharntke et al., 2012). While science alone cannot address the sustainability challenges inherent in today’s food system (Sage, 2012; Fan and Brzeska, 2016), it is nevertheless essential to base efforts towards food sustainability on sound scientific evidence, including important insights from the social sciences. From a sustainable consumption perspective, overconsumption, and consumption of the wrong types of food (e.g. red meat, dairy, highly processed food) cause negative social and environmental impacts that cannot be addressed through technological innovation alone (Garnett, 2009; Popp et al., 2010; Odegard and van der Voet, 2014). Central to these concerns are issues of animal welfare and the perceived negative impacts of increased meat consumption (Chemnitz et al., 2014; Hallström et al., 2014). Shifting diets and curbing demand for animal-based products is therefore seen as a necessary strategy in developing a sustainable food system (Vinnari and Vinnari, 2013; Chen et al., 2016), with the Mediterranean diet often held as an example of more environmentally friendly consumption (Duchin, 2005; Sáez-Almendros et al., 2013; Benvenuti et al., 2016). Recent pioneering comparative research into (un)sustainable diets reveals the cultural diversity of food consumption practices and related sustainability impacts, an area that urgently requires further research.

Also of relevance is the quantity of food consumed, with obesity and malnutrition considered to have major negative environmental and societal impacts. From this perspective, environmental and dietary problems are interrelated issues that need to be addressed together (Marsden, 2012). However, shifting diets and introducing measures designed to shape or curb demand are politically sensitive and likely to be difficult to implement and unpopular with many consumers (Schäfer et al., 2012; Godfray, 2015). Overcoming these challenges requires a significant shift in consumption and production practices, including at the level of organisational food provisioning.

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2 See for example the recently SNSF-funded project entitled Tipping points toward healthy and sustainable Swiss diets: Assessing prescriptions, practices and impacts (http://herus.epfl.ch/page-134554-en.html).
2.4 Organisations, culture and food provisioning

Large organisations such as workplaces, hospitals and educational institutions play a crucial role in shaping eating habits and developing food experiences more generally (Jørgensen et al., 2010), although this has not yet been adequately recognised in the AFN or SFCR literature. Organisations feed thousands of people every day, with significant impact for the health of individuals, the environment and wider society (Lassen et al., 2011). Organisational canteens and restaurants represent a captive environment with the ability to promote and instil lifelong healthy and sustainable eating habits among consumers (Price et al., 2016b). Food choices made in organisational settings are influenced by personal preferences and tastes, however they are also highly context dependent. Organisations are in a position to shift consumer behaviour through changes in the socio-material conditions that underpin consumption practices.

Of course, organisations do not constitute stand-alone entities detached from their wider social and environmental context (Lozano, 2015). Instead, they occupy the role of powerful actors that operate at the meso level of social organisation and that exert significant social and cultural influence over their wider environment, including employees, their families, or communities. In particular, aspects of organisational culture play a particular role in shaping both intra-organisational and outside environments, including those relating to the provision and consumption of food. According to Schreyögg (1992), key characteristics of organisational culture are based around conscious and unconscious processes, shared values, meanings, convictions and orientations, and successful problem solutions and learning processes, all of which shape the identity of the organisation and its behaviour. Importantly for this research, organisational culture often touches on key sustainability issues such as the use of resources, (lack of) responsibility for the environment, or the role of food in the workplace (Baumgartner and Biedermann, 2007; Baumgartner, 2009; Hargreaves, 2011).

While traditional definitions of organisational culture have often focused on cognitive aspects shared by its members, more recent work has also considered affective and behavioural components as well as the material artefacts that shape and reflect these (Sackman, 1992; Schreyögg, 1992; Kofman and Senge, 1993; Schein, 2010; Senge et al., 2014; Lozano, 2015). As Sackman (1992, p140) argues in her study of cultures and subcultures in organisations,

[...] manifestations of ideas in practices are important. [...] In a study of culture, observations of manifestations such as artifacts and behaviors can therefore be used as sources of data to “triangulate” with information obtained about cognitive components.

Similarly, Schein (2010) distinguishes between three aspects of organisational culture: 1) artefacts, visible structures and processes (e.g. canteens, food procurement strategies), 2) publicly articulated values, strategies, goals and philosophies (e.g. organisation-internal employee welfare document including food, healthy eating) and 3) unconscious, taken-for-granted beliefs, thoughts and
feelings (e.g. embedded sustainability concerns, shared commitment to efficient use of resources, lack of regard for environmental or waste issues).

The extent to which individual organisations support a sustainable eating environment varies depending on a number of factors including the type of organisation and its prevailing (food) culture. By focusing on the (food) culture and practices of large organisations, it is possible to identify different levels of opportunity for increasing food sustainability. Additionally, prevailing cultures significantly impact on an organisation’s ability to overcome potential barriers to sustainable food provisioning and influence the wider food system.

*The influence of organisations on the food system*

As well as providing a large proportion of the population’s food energy intake, food provisioning in organisations provides considerable employment, encompassing a multitude of working conditions ranging from executive to low status jobs. Organisational food provisioning also generates substantial indirect employment, particularly in food production, processing and distribution, and has a notable impact on the environment through its food procurement, preparation and waste disposal activities (Testa *et al.*, 2016). In particular, organisational procurement strategies bear influence over the food system as they support certain aspects of food production and distribution whilst discouraging others (Baldwin *et al.*, 2011; Benvenutti *et al.*, 2016; Chen *et al.*, 2016). For instance, choosing to purchase large amounts of meat and dairy produce sends certain signals to the market and encourages farmers to grow these foods, potentially restricting the availability of alternative foods (Westhoek *et al.*, 2014). However, the relationship between procurement and production of food is complex, not one where supply simply reflects demand. At the same time, food producers and distributors try to promote particular food groups and products (e.g. dairy) where they have a vested interest, thereby reshaping demand by becoming advocates for particular foods. Furthermore, government and public policy further encourages the production and consumption of certain foods through various support measures.

Within the food service sector, catering professionals, food procurement officials and chefs are in positions of responsibility and influence, they continually make decisions that help to shape, guide and control our food system (Walker and Preuss, 2008). The impact of these decisions, their autonomy over them and whether they are taken consciously or otherwise, is significant for the sustainability of food and the system of provision through which it is supplied (Cerutti *et al.*, 2016). Exposing the interrelationships between food production and food procurement is therefore critical to understanding how the dynamics of supply and demand at these intersections impacts on the food chain and helps to shape the wider food system.

Of particular interest to this study are the actions and activities of those at the procurement end of these relationships. In this regard, the extent to which organisations support sustainable food systems through the procurement of local,
regional, organic and fairly traded products is of particular interest. Through interaction and feedback with customers the catering and food service sector can tune into changing markets and consumer demands for more locally sourced food (Wahlen et al., 2012). However, in recognising these market opportunities it is important to acknowledge that institutional consumers are in a different position from individual consumers. Catering professionals are restricted by their organisation and must work within the boundaries of the wider institutional structure (Mikkola, 2009). In public sector procurement, where there is consistent strong economic pressure, and price remains an uppermost consideration, paying a premium for local food may present a challenge (Lehtinen, 2012). Furthermore, catering operations are influenced by policy at all levels and they must conduct their activities within the confines of health and safety, hygiene, procurement, waste management and other regulations (Smith et al., 2016).

Organisations and local food

Despite the social, economic and environmental benefits of providing locally sourced food, smaller producers face considerable difficulties accessing markets that are dominated by large suppliers and distributors. Among the challenges, risk and cost effectiveness are seen as major barriers to organisations for local small-scale food procurement (Walker and Preuss, 2008; Tsui et al., 2015). Local food is often more expensive owing to higher production and transport costs for small-scale production, therefore organisations may have to be willing and able to pay a premium to purchase locally produced food. In addition, producers need to be able to satisfy client concerns over reliability, food safety and continuity of supply. Furthermore, sourcing foods locally can be perceived as troublesome and requires an element of creativity on behalf of caterers as many fresh produce are seasonal (Fairchild and Collins, 2011). Professional procurers often lack the skills, knowledge and organisational capacity required to make sustainable choices feasible (Morgan and Morley, 2014). There may also be an element of inertia on behalf of organisations in their unwillingness to increase sustainability of their food supply. Nevertheless, willing caterers can modify the foods they offer and easily change recipes or ingredients to suit locally available produce and sustainable food more generally (Lachat et al., 2010).

Although public sector organisations are substantially restricted by international procurement regulation from favouring suppliers based on their proximity, efforts at supporting local producers through creative procurement practices have shown to be successful (Morgan and Morley, 2002; Karner, 2010). In the UK, Walker and Preuss (2008) demonstrated the success of collaborative efforts involving local government, contract caterers, schools, local producers and distributors in providing a sustainable food supply for school meals. They also identified a number of supports given to small businesses to assist them in securing public procurement contracts. Particular strategies employed by public procurers included educational campaigns to provide small businesses with information on tendering opportunities and increased transparency in tendering processes. Supply side initiatives included inserting local community benefit clauses into contracts
and legal training for procurement staff to ensure they can maximise support for small local businesses without breaching European Union procurement directives. While acknowledging that their research focused on best practice, Walker and Preuss (2008) nevertheless highlight the potential for small producers to provide a sustainable food supply for public organisations through collaboration using flexible and innovative approaches to sustainability.

Further examples of public procurement initiatives to benefit local producers and promote sustainable food were found in Finland, where the procurement of local and organic food was encouraged through political recommendation. In this case, public procurement officers incorporated sustainability criteria into contracts before putting them out to tender and interpreted tender documents so as to favour local producers (Mikkola, 2009). However, as in the case presented by Walker and Preuss (2008), efforts at promoting local or sustainable food appear to be somewhat disjointed and down to the innovation and drive of interested individuals or small groups rather than as a result of any broader governmental initiative.

Healthy eating in the workplace

Many adults spend a third of their day in the workplace and consume a significant proportion of their daily calories whilst at work (Lassen et al., 2011). In addition to providing fuel for work, eating together with co-workers can build relationships, increase morale, reduce stress and stimulate conversation. Access to fresh healthy food in canteens can improve quality of life for employees, lift moods and lead to a healthier more productive workforce (Wanjek, 2005). Additional benefits for employers are realised through increased productivity and reductions in medical bills and sick days (Zwetsloot et al., 2010). On the other hand, offering poor quality or unhealthy food can have a negative impact on employee health and well-being and reduce morale among the workforce (Vaask and Pitsi, 2010). Furthermore, these positive and negative impacts not only affect the organisation but are also externalised to the community, society and the national economy. In a study carried out in Norway, frequent eating in staff canteens were shown to be associated with unhealthy dietary habits (Kjøllesdal et al., 2010). In contrast, two studies from Finland found that those who had lunch at a staff canteen had better quality diets and were more likely to conform to recommended food guidelines than those who did not (Roos et al., 2004; Raulio et al., 2010). One explanation for these differences may be habit as a result of a long tradition in Finland of providing free school lunches and strong governmental support for healthy workplace meals, a long time target of Finnish health and social policy (Raulio et al., 2010).

Nonetheless, these contrasting findings raise some important cultural considerations around public food provision and the role of public policy in reinforcing social values, standards and expectations. With a vast amount of the food service sector now controlled by large caterers with extensive international operations, the extent to which a region’s prevailing food culture influences and shapes the food offered in workplaces and other sites of public consumption is of particular relevance to the establishment of sustainable food systems.
Literature review

Supporting a sustainable eating environment in organisations

Given the complexities in designing integrated policies for promoting sustainable practices, it can be difficult for organisations to define their role in a macro-level sustainability perspective (Lehtinen, 2012). However, as Senge (2006, p64) has highlighted, ‘small, well-focused actions can sometimes produce significant, enduring improvements, if they are in the right place.’ Taken together, these ‘small’ actions can have a profound impact on organisational food provisioning and the eating environment. In particular, sustainable consumption strategies that combine a number of different mechanisms show the greatest potential for change (Garnett et al., 2015). For example, approaches that combine fiscal (e.g. subsidised vegetarian meals), contextual (e.g. choice architecture, wide selection of tasty meat-free dishes) and societal (e.g. social norms, healthy eating culture) measures are more likely to effectively shift consumption practices towards more sustainable choices than isolated interventions.

Yet, regarding explanations of organisational change, there is perhaps an over-emphasis on ruptures in organisational culture that can be attributed to a specific event or person. For example, there is an expanding body of literature that examines the role of whistleblowers in exposing environmental damage and their role as catalysts of rapid organisational change towards increased sustainability (Berry, 2004). While useful in many respects, at least one limitation emerges from this narrow focus on once-off, out-of-the-ordinary behaviour by individuals. The actions of environmental whistleblowers are frequently presented as examples of ethical behaviour in the face of morally questionable organisational practices. However, such ‘David and Goliath’ stories potentially exaggerate the significance of individuals’ once-off efforts towards organisational change. As will be shown in this thesis, this belies the fact that organisational change frequently occurs through the transformation of everyday activities or subtle and gradual changes in routine practices (e.g. procurement, non-core service delivery) rather than spectacular, once-off interventions by individuals or small groups. Food provision constitutes one such non-core activity that can act as a major site of sustainability transformation.

Food provisioning in organisations provides a logical locus of attention as it represents a manageable community-based setting in which to provide quality sustainable food for employees and others (Jørgensen et al., 2010). Sustainable food provisioning includes sourcing locally produced, fairly traded or organic food (Marsden and Morley, 2014; Goggins and Rau, 2016). From a food consumption perspective, a reduction in the use of red meat and an increase in fresh, healthy options represent more sustainable choices (Garnett, 2013; Westhoek et al., 2014). Additionally, organisations can support food sustainability and improve local and regional economies through sourcing from local suppliers, while at the same time creating spillover effects into communities and private households (Walker and Preuss, 2008; Thatcher and Sharp, 2008). Organisations can also open up opportunities for sustainable food producers to scale up operations as they
have large purchasing power and a potential to provide a steady market (Friedmann, 2007).

Companies can function as important change agents through their food procurement and provision policy, while consumers can learn sustainable eating practices and, therefore, also change their private consumption (Wanjek, 2005; Raulio et al., 2012). For example, organisations can provide incentives for consumers to choose certain menu items such as reduced prices for vegetarian dishes. Also, in cases where institutional food is subsidised, organisations can choose to target certain foods (unhealthy, unsustainable) for greater subsidies while leaving others untouched (healthy, sustainable).

Organisations can also modify the food environment to ‘nudge’ consumers towards more sustainable options. Here, sustainable choices would be given greater prominence, thus making it easier for consumers to choose them (Privitera and Zuraikat, 2014; Lehner et al., 2015). In addition, organisations can provide information for consumers on sustainable food choices, thereby facilitating them to make informed decisions (Price et al., 2016b). However, recent studies have shown that information alone is likely to have limited effect on consumer behaviour and therefore should be used as part of a wider sustainability promotion strategy (Davies et al., 2014; Fraser et al., 2015). Significantly, the use of informational and infrastructural strategies to influence consumer behaviour do not restrict consumer choice, whereas the use of incentives may do so - particularly where disincentives are used to increase prices or restrict the availability of unhealthy or unsustainable choices.

Finally, it should be acknowledged that food practices are highly context-dependent and consumers may display different attitudes towards healthy and sustainable food that are contingent upon the different eating environment they are in (Spaargaren et al., 2013). Therefore concerns expressed in the company canteen may not necessarily be expressed in an external context such as a family setting (Oosterveer and Spaargaren, 2012).

Overall, the focus of the thesis on decision-making practices regarding food provisioning in large organisations explicitly recognises the complex interplay between individual actors and organisational structures. Moreover, it shifts attention towards routine practices that members of organisations engage in. It is argued that these habitual activities offer important spaces for sustainability transitions, contrasting with once-off activities such as whistleblowing. It expands on previous work that has argued for more sustainable (public sector) food procurement by focussing on complementary aspects of food provisioning that can increase sustainability, for example the role of catering contracts and the importance of fostering relationships between organisations, caterers and consumers. These and related issues will receive further attention in the findings and discussion parts of this thesis.
2.5 Conceptual framework

Having identified major gaps in the literature on (un)sustainable food systems, in particular in relation to food consumption, this section draws up a conceptual framework that combines two distinct bodies of social-scientific research on food systems reviewed above – Sustainable Food Consumption Research (SFCR) and Alternative Food Network (AFN) approaches – with existing work on the sustainability transition potential of organisations. While recognising the specificities and divergences of these existing fields of inquiry, efforts have been made to integrate their core ideas and concepts into a coherent conceptual framework for the empirical part of this study (Maxwell, 2012) (see Figure 2.2). Following on from this, the concept of ‘alteration spaces’ is introduced as a new and innovative tool for identifying ‘hot spots’ within existing organisational structures that are likely to produce shifts towards greater sustainability, including in the area of food provision.

Key concerns highlighted in this chapter revolved around the complexity of food sustainability issues, in particular in relation to food provisioning in organisations and (public) food consumption. In this context, an examination of the AFN literature helped to answer the question of what constitutes a sustainable food system. SFCR, on the other hand, has dealt specifically with issues relating to food consumption. It was also possible to show that the role of actors at the organisational level, and knowledge of how organisations that feed thousands of
people every day impact the food system, are largely missing from the debate, leaving a very significant knowledge gap. Moreover, both AFN and SFCR approaches were found to overemphasise the role of individual consumers in a transition to a more sustainable food system, with the significance of wider contextual factors often underplayed or ignored. Here, potential for shifting consumption patterns is clearly demonstrated in SFCR. However, there is also a clear lack of empirical evidence to determine effective strategies and the conditions under which they are likely to succeed. Finally, it was possible to show that existing literature takes a rather narrow view of organisational change and the potential of sustainability transitions within organisations.

To address these shortcomings, an integrative approach was developed specifically for this PhD research. The resulting conceptual heuristic presented above goes beyond individual factors to pay particular attention to social and material influences on (food) consumption practices. Importantly, it explicitly recognises the central role of large organisations in shaping food systems at different scales ranging from the local to the global (Smith et al., 2016; Price et al., 2016). For example, it is assumed that by incorporating ‘alternative’ products into daily food provisioning, organisations can influence the social context of food consumption and develop social norms in relation to sustainable food consumption practices.

However, opportunities for food sustainability transitions within organisations are often contingent upon a particular combination of social and material conditions that favour intra-organisational change. This contrasts with many sustainability studies that talk about ‘leverage points’ or ‘points of intervention’, thereby pointing towards the need for external influences to shift organisational culture and achieve greater sustainability. However, it is argued here that this emphasis on external factors (e.g. changes in global market conditions, policy) underestimates the transformative potential that rests within large organisations. By introducing the concept of ‘alteration spaces’ this thesis explicitly acknowledges the importance of intra-organisational mechanisms in helping or hindering the inception and establishment of more sustainable food practices. Importantly, it recognises that these intra-organisational conditions are instrumental in shaping the impact of external influences such as policy interventions.

*Introducing the concept of ‘alteration spaces’*

A transition towards more sustainable food practices in organisations requires change at different levels of society and needs to involve actors along the entire food chain, including distributors, caterers, services managers and chefs (Spaargaren et al., 2012). While individual consumers have an important role to play, their sustainability potential arising from them changing their food practices cannot be fully realised without creating favourable social, cultural and (infra)structural conditions (Shove, 2004). This is particularly true for organisational food provisioning, where many of the key decisions that influence food consumption practices are taken, not by individual consumers, but by catering managers, chefs, procurement officials and others (Walker and Preuss,
2008; Goggins and Rau, 2016). In other words, food consumption choices are never just the result of individual consumers’ motivations, beliefs and attitudes but are heavily influenced by the actions of others located both within and outside of the organisation (Shove et al., 2012).

Recognising the centrality of decision-making positions in shaping the activities of organisations, the conceptual framework of this study links the routine practices of individual actors who occupy these positions to the wider organisational context and culture, especially with regard to food sustainability. Highlighting the intrinsically social nature of decision-making, this view extends existing research on individuals’ identity and organisational change (Levy and Scully, 2007; Kenny et al., 2011; Wright et al., 2012). By explicitly acknowledging the interplay between the practices of individuals and wider organisational structures, the conceptual framework marks a clear departure from much existing research on sustainability transitions that treats organisations as largely static entities or systems, and overlooks the possibility of individuals re-shaping organisational cultures and dynamics through their routine practices. This lack of emphasis on the transformative power of individuals within organisations is also reflected in the largely technical, structuralist nature of terminology used to describe sustainability transitions (Shove and Walker, 2010; Shove et al., 2012). For example, the prominence of terms such as ‘points of intervention’ (Lidgren et al., 2006) or ‘leverage points’ (Meadows, 1999) suggests a systemic or structuralist approach to understanding organisational change.

The concept of leverage points has been applied to several cases involving food sustainability including identifying interventions to reduce food waste (Priefer et al., 2016) and to promote rural development (Gobattoni et al., 2015). According to Meadows (1999, p1), leverage points are ‘places within a complex system where a small shift in one thing can produce big changes in everything’. Leverage points are difficult to identify, however they can become apparent through the development of causal diagrams of a system that reveal the underlying cause-effect elements and relationships in a systems hidden structure (Nguyen and Bosch, 2013). While this perspective makes a very significant contribution to understanding the structural opportunities and constraints that shape sustainability efforts by organisations, it is less successful in capturing the actions of individuals and their organisation-wide impact.

With this in mind, the term ‘alteration spaces’ is introduced to describe promising opportunities for individuals, through their social-material practices, to initiate sustainability transitions within organisations. Alteration spaces should be understood as a combination of social and material conditions within an organisation that shapes both the intra-organisational sustainability potential and its responses to external impulses to shift towards greater sustainability, including policy initiatives and economic conditions. Whilst acknowledging the potential of individual-level factors to transform food practices, the term ‘alteration spaces’ recognises that initiating large-scale organisational changes is usually beyond the power and capacity of most individuals. Having said this, alteration spaces also
explicitly recognise the potential of specific roles within organisations to effect change internally, including individuals that occupy key positions within an organisation.

Alteration spaces may be temporary or periodic (e.g. introducing sustainability criteria in catering contracts), or they can be more permanent, thereby presenting continual opportunities for change (e.g. providing information on food sustainability). Importantly, alteration spaces are understood as fluid, dynamic and constantly evolving social-material constellations, contrasting with more static concepts such as leverage points. From this perspective, alteration spaces continually evolve, with new opportunities opening while others are closing. For example, catering contract negotiations bring about significant potential for change generally every 3-5 years, however, by introducing an annual appraisal of the contract, organisations create a new alteration space that manifests an a yearly basis.

The potential of alteration spaces to instigate intra-organisational sustainability transitions depends on a range of social and material conditions, including the nature of organisations (e.g. function, size and scale), timing and schedules (e.g. working hours, break times), social norms (e.g. type of food provided) and organisational culture (e.g. attitudes towards food sustainability). Attitudes towards food provisioning also play a significant role (e.g. why, what and how organisations feed people). Collectively, these diverse yet related factors shape food consumption practices within organisations, often underpinned by specific organisational processes and structures. Therefore, sustainability transitions in relation to food provisioning and consumption are made easier when organisational structures afford sufficient autonomy to bring about change, and there is commitment from key decision-makers in relation to sustainable food provisioning (e.g. services managers, catering managers). In other words, alteration spaces capture combinations of structural conditions and aspects of human agency, acting as starting points for organisation-wide food sustainability transitions.

In sum, many existing approaches to the study of sustainability transitions are highly structuralist in nature, which means that they tend to neglect the ability of (small groups of) individuals to effect change through incremental shifts in routine, everyday practices, as opposed to one-off or short-term interventions (see Lavelle et al. 2015 for some evidence from Ireland concerning the uneven adoption of habitual and once-off pro-environmental behaviour). While it is recognised that sustainability transformation through alteration spaces can be achieved from within, their transition potential is also contingent upon external factors (e.g. regulations; legislation; agricultural policy). Furthermore, the influence of external and internal factors tends to vary significantly between organisations. For example, all organisations in Ireland must operate within a legal framework that stipulates a host of rules and regulations in relation to food provisioning (e.g. health and safety); however, not all organisations are equally affected (e.g. in the case of public sector procurement legislation). At the same time, organisations that
appear to operate under the similar constraints (e.g. public sector hospitals) may not be equally equipped to act upon opportunities or overcome barriers (e.g. lacking procurement skills). In other words, large organisations form a highly heterogeneous group, with contextual factors shaping both the emergence and disintegration of intra-organisational alteration spaces and their sustainability potential. Having said this, the empirical part of this thesis aims to identify alteration spaces in relation to sustainable food provisioning that are common across large organisations.

Concerning practical aspects of organisational change, incremental steps toward sustainability can be implemented to greater effect with goals understood more clearly when responsibility for sustainable practices are shared between departments, operations and management, thus building a culture of sustainability from within. Micro-level efforts at sustainability could involve developing routine practices and behaviours such as minimising waste, recycling, employee welfare, green procurement and sustainable supply chains including local and sustainable food procurement. Realising these goals is not without its difficulties, but encouragingly caterers, managers and procurement officials have been shown to share concerns about food provenance, transport, water and energy use in catering operations and the associated social and environmental aspects of each (Walker and Preuss, 2008; Morgan and Sonnino, 2008; Mikkola, 2009). These opportunities and barriers are discussed in more detail in subsequent chapters, but firstly Chapter 3 outlines the research methodology for this thesis.
Chapter 3

Methodology
3.1 Introduction

The main objective of this research is to explore the role of large organisations in supporting a sustainable food system. It aims to critically investigate the significance of food provisioning in organisations and its consequences for the wider food system. The study seeks to make visible the processes, interactions, structures and dynamics that contribute to the central role of organisations, thereby shifting the focus away from individual consumers. The study builds upon the existing body of research concerned with sustainable food, and in itself becomes a source of related knowledge upon which novel theories, concepts and arguments could be developed and tested in the future. The strength of an organisation-centred approach lies in its ability to better understand the relationships between the internal dynamics of organisations and the broader setting in which they operate (Donald, 2008). The collection of different types of data increases the opportunity to uncover unexpected insights and to question and critique prevailing narratives concerning sustainable food systems (Yin, 2009).

This chapter is divided into three main parts. Section 3.2 presents arguments for the suitability of a comparative case study as research design for this project, followed by an overview of the case study location and sample selection. A comprehensive description of the data collection process is then presented in section 3.3, including details on the various tools for data collection, including semi-structured qualitative interviews, quantitative sustainability assessment (FOODSCALE), observations and the collection of documents relating to organisational structures, supply chains and other material dimensions. Finally, section 3.4 provides a brief overview of data analysis techniques deployed in this study.

3.2 Research design

Building on theoretical and conceptual insights from the sustainable food literature examined in Chapter 2, this project adopts an organisation-centred approach to investigating the (un)sustainability of food provisioning intended for public consumption. The study adopts a comparative case study design (Yin, 2009) that combines quantitative and qualitative approaches to data collection and analysis, facilitating the collection of a wide array of case-specific evidence.

Frequent triangulation of different batches of data forms a central element of the empirical part of this study, to add strength and credibility to the research findings and reduce the chances of factual errors. The research incorporates data collected from eight large organisations and institutions, all of which are based in a medium sized city in the West of Ireland.

3.2.1 Introduction to case study research
In conducting comprehensive sustainability research the sheer volume, complexity and diversity of issues to be addressed can be overwhelming (Fahy and Rau, 2013). Regarding SCR more generally, and SFCR in particular, this is complicated further by the context-dependent nature of issues and the need to take into account place-specific conditions for production, distribution and consumption as well as an extensive web of social and economic relations. Hence, a comparative case study approach presents a useful research strategy for this project as it gives priority to contextual conditions that shape behaviours and attitudes toward food and that determine the sustainability of food-related activities within the selected organisations (Flyvbjerg, 2006). Importantly, case studies are a valuable means for exploring and explaining processes, procedures, interactions and dynamics of food system development and have been the empirical methodology of choice for the majority of ‘alternative’ food systems research (Venn et al., 2006; Holloway et al., 2007; Tregear, 2011; Kneafsey et al., 2013; Sonnino, 2013).

The case study method is suitable for investigating a contemporary set of events over which the researcher has little or no control, such as organisational and managerial processes in relation to food provisioning (Yin, 2009). That the case study mirrors actual real-life activity is significant in understanding why certain decisions surrounding food provisioning are being made within organisations, and the motivation behind those decisions (May, 2011). Also of importance is determining where autonomy and influence over decision-making lies, and the actors, processes and procedures involved. In this regard, the case study is advantageous as it lends itself to a greater understanding of complex social phenomena than other research techniques (Robson, 2002; Yin, 2009).

A further advantage of using case studies is that they open up analytical opportunities for assessing power relations in the food system. In the context of this project, the value of this approach is in establishing prevailing power relations in organisational food provisioning and facilitating the identification of suitable opportunities to effect change (Holloway et al., 2007). While this is made possible through a case study approach, at the same time the case study facilitates the retention of the heterogeneity of individual cases. Describing the particulars of each case allows us to understand and assess different ways of how food provisioning works and the agency given to different actors. Moreover, it helps us to understand what changes in organisational structures could contribute to increasing food sustainability across large organisations, ultimately challenging the status quo.

Case study research is not without its critics. For example, case study research on ‘alternative’ food systems has been criticised for playing a largely demonstrative role to confirm pre-established assertions or to reveal the existence of pre-defined concepts, thereby limiting its potential as a source of new insights (Tregear, 2011). Case study research has also been criticised for lacking rigor, thus allowing biased views to influence the findings and conclusions (Yin, 2009). However, as Flyvbjerg (2006) points out, other research methods are just as susceptible to researcher bias. In fact, Flyvbjerg argues that rigorous case study research more often
Methodology

contains a greater bias towards falsification rather than verification of preconceived notions. Researchers gain new insights through the depth of knowledge and complex understandings generated from thorough case study research, thus challenging preconceptions. Finally, case study research is often viewed as a poor method from which to generalise findings. While Flyvbjerg dismisses this ‘misunderstanding’ by providing a number of examples to the contrary, he also recognises that case studies are ideal for falsifying propositions. For example, European procurement laws are regularly cited by catering officials as a barrier to sustainable food provisioning within the public sector, however a number of case studies have shown that it is possible to overcome this perceived barrier and provide sustainable food within the constraints of EU regulation (Walker and Preuss, 2008; Cerutti et al., 2016).

While acknowledging the criticisms of case study research, this study aims to overcome many of these problems by collecting different forms of evidence – quantitative and qualitative – and from a diversity of organisations, and presenting the data in a transparent manner. The multi-method research approach employed in this study facilitates the emergence of unexpected phenomena and provides supportive evidence to reinforce findings and bridge the gap between perception and reality. Furthermore, the conscious inclusion of a diverse range of organisations (e.g. public/private sector; multinational/independent) encourages the collection of data that can challenge expectations that might manifest if a narrower research sample were used. Moreover, considerable thought has been given to selecting the West of Ireland as the case study research location, in particular given some of the criticism regarding case selection mentioned previously.

3.2.2 Choosing Ireland as case study location

Ireland is a suitable location for this case study as it facilitates the collection of information from a diverse range of organisations within an evolving food economy. Ireland has a rich agricultural tradition and a rapidly expanding artisan food sector. Through a combination of food tourism marketing and agri-food exports, the country is gaining an international reputation as a ‘food island’. The nature of the Irish economy (small, open) has facilitated export-led growth in the agri-food sector, as well as the importation of a diversity of products from overseas, from exotic to everyday goods. In line with its branding as a ‘good food destination’, the standard and number of eating out options in Ireland has risen considerably over recent years.

Agriculture and food production play an important role in Irish society and the economy. The Department of Agriculture, Food and the Marine (DAFM) reports that the Irish agri-food sector currently employs approximately 150,000 people and contributes €24 billion to the national economy. Irish food and drink exports are valued at €9 billion, with government targets to grow this figure to €12 billion by 2020 (DAFM, 2010). Beef and milk production dominate Irish agriculture,
accounting for well over half of all agricultural output, and their domination is set to continue in line with government targets to dramatically increase output in these areas.

The European Union’s Common Agricultural Policy (CAP) and Irish government policy have been hugely influential in forming the structure of agricultural production in Ireland. Price supports and infrastructural improvement grants have led to a switch from traditional mixed farming to specialisation. Specialisation in beef, and to a lesser degree sheep production, gave farmers decent returns during times when supports were high, however this has changed in recent years with a reduction in farm payments and increased market price competition putting increasing economic pressure on farmers in the region. For example, the average standard output (the average monetary value of the agricultural output at farmgate prices) for a farm in county Galway is €13,852, and without EU subsidies many farms would be economically unviable. This is particularly true of cattle and sheep farms, which are generally more economically vulnerable than dairy or tillage farms (Ryan et al., 2014). Although the standard output is low relative to the national average of €30,726, it is comparable with other counties in the Western region such as Mayo and Roscommon (CSO, 2012).

Since 2008, the economic recession has had a devastating impact on rural communities in Ireland, resulting in high levels of unemployment and emigration. Economic recovery has been slow to reach rural areas, as the majority of benefits have been confined to Dublin and larger urban centres. One opportunity for the Irish government to stimulate rural economies is the through the implementation of regional development programmes. Regional aid guidelines adopted by the European Commission set out the conditions under which Member States can grant aid to businesses for regional development purposes. Ireland’s map for granting regional aid between 2014 and 2020 defines the areas that are eligible for such investment. The agreed Irish regional aid map 2014-2020 represents 51.28% of the population and covers the South-East, Midland, Mid-West, West and Border regions in their entirety as well as parts of the Mid-East and South-West regions (Figure 3.1). The only areas not to be included in the regional aid map are Cork, Dublin, and areas directly bordering Dublin.

Other regional categorisations in Ireland are based on political and territorial divisions such as European electorate areas – Dublin, Midlands-North-West, South – and EU Nomenclature of territorial units for statistics (NUTS) classification (Figure 3.2), which subdivides the EU territory into regions at three different levels from larger to smaller territorial units (Eurostat, no date). In the case of Ireland, NUTS3 regions correspond to the eight regional authorities established under the Local Government Act 1991 and which came into operation in 1994. NUTS2 regions are groupings of the NUTS3 regions. The two NUTS2 regions in Ireland are Border, Midland, Western (BMW) region and the Southern-Eastern (SE) region. NUTS1 is the national level. Although the NUTS regions exist as recognised territorial units with their own regional authorities, in effect these units have very little power,
Methodology

responsibility or autonomy in the Irish political system and decision-making process.

Further regional categorisations in Ireland include provincial divisions. Historically, Ireland was divided into four provinces - Connaught, Ulster, Munster and Leinster (Figure 3.3). These divisions are historical entities and they do not hold any political or administrative regional powers. In present times, provinces are recognised as groups of counties and are largely associated with sporting organisations and events such as IRFU Provincial Rugby and the GAA Provincial Championships.

Figure 3.1
Regional Aid map for Ireland 2014-2020

Figure 3.2
Map of NUTS Regions

Left: NUTS3 - Border; West; Midlands; Mid-East; Dublin; South-East; South-West; Mid-West
Right: NUTS2 - Border, Midland, Western (BMW) region; Southern-Eastern (SE) region

Source: iro.ie

Figure 3.3
Map of Irish provinces
The centralisation of political and fiscal control in Ireland is further evident in the operation of state support agencies, the vast majority of which operate and promote Ireland at a national rather than any regional level (Henchion and McIntyre, 2000). Examples in the food sector include Bord Bia, the National Dairy Council and Bord Iascaigh Mhara. Unsurprisingly, many consumers identify with Ireland as a single region rather than a number of sub-divisions (Henchion and McIntyre, 2000; Carroll and Fahy, 2014). Although power remains largely centralised, the majority of devolution is to the county or city rather than any regional level. Hence, management of the specific location of the case study (Figure 3.4), i.e. Galway City, is predominately overseen from a national level by the Government of Ireland and at a local level by Galway City Council. The latter is responsible for urban planning and development, housing and communities, roads and transport, amenities, culture and the environment. With a similar remit and control, Galway County Council is the authority responsible for local government in County Galway.

According to the influential food writers, John and Sally McKenna, Galway is now ‘the finest city to eat in Ireland’ (Irish Independent, 2015). Yet, while the middle to higher end of the market has continued to evolve towards improving standards, food provisioning in organisations and institutions has largely been ignored. Galway is home to a large number of organisations that employ and feed a
significant proportion of the city’s population. Choosing Ireland, and Galway, as a case study location provides a unique opportunity to explore the role organisations can play in supporting a sustainable food system within the context of a developing food economy and culture. Further information on Galway, and its suitability as a case study location, is provided below.

3.2.3 Description of case study site: Galway City

Situated on the river Corrib and the Irish Atlantic coast, Galway is a relatively small city with population of 75,529 (CSO, 2011). It has a strong local economy as well as a large multinational presence. The city has a well-established tourism market and is a popular destination with Irish and international tourists. The vibrant city centre hosts a mix of smaller independently and family owned stores and larger retail outlets. Importantly, the city is home to a number of speciality shops selling local, national and internationally produced fine foods, cheeses and wines. In recent times the city has actively tried to establish itself as a good food destination, an initiative led by chefs, restaurant owners, food producers, local government bodies and other interested parties. Following a recent successful bid, Galway was selected for the 2018 European Region of Gastronomy Award.

Showcasing the region’s food scene, Galway holds an annual five-day food festival on the Easter weekend in which over 100 restaurants, food outlets and food producers participate. The festival ‘celebrates Galway as a good food destination, with a strong emphasis on artisan, seasonal and local produce’ (galwayfoodfestival.com). In addition, every September the city hosts the Galway International Oyster & Seafood Festival. The ‘world’s longest running oyster festival’ was established in 1954 and attracts thousands of visitors each year (galwayoysterfest.com). Other food festivals around the county include the Connemara Mussel Festival; Bia Lover - Festival of Food Athenry; and the Clarenbridge Oyster Festival.

Farmer and country markets operate in most large towns and villages around Galway (Table 3.1). Three farmers markets are located in Galway city, with a further twelve markets located in towns and villages around the county (Bord Bia, 2014; Country Markets Ltd., 2015). Many vendors operating at these markets sell locally produced foods while others sell imported produce. Galway County Council supports the farmers markets to varying degrees, although they do favour the markets that tend to provide a majority of local food sold directly by the producers. Galway is home to number of craft bakers, cheese producers, breweries, seafood specialists, jams and chutney producers, meat suppliers, smokehouses, processors and specialist retailers. An Internet search revealed at least six Galway based producers offering box delivery schemes of mainly fresh and organic produce.
Methodology

Table 3.1
Farmer and country markets operating in Galway City and County

<table>
<thead>
<tr>
<th>Galway County</th>
<th>Galway City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinvara Farmers Market</td>
<td>Galway City Market</td>
</tr>
<tr>
<td>Loughrea Market</td>
<td>Woodquay Country Market</td>
</tr>
<tr>
<td>Mountbellew Local Food Market</td>
<td>Indoor Food and Craft Fair, The Claddagh, Galway</td>
</tr>
<tr>
<td>Moycullen Market</td>
<td></td>
</tr>
<tr>
<td>Oranmore Producers Market</td>
<td></td>
</tr>
<tr>
<td>Roundstone Country Market</td>
<td></td>
</tr>
<tr>
<td>The Village Market, Oughterard</td>
<td></td>
</tr>
<tr>
<td>Ballinasloe Farmers Market</td>
<td></td>
</tr>
<tr>
<td>Cliften Farmers Market</td>
<td></td>
</tr>
<tr>
<td>Portumna Country Market</td>
<td></td>
</tr>
<tr>
<td>Ballinasloe Country Market</td>
<td></td>
</tr>
<tr>
<td>Dunmore Country Market</td>
<td></td>
</tr>
</tbody>
</table>


Its location on the Western seaboard and adjoining agricultural farmland, supported by a maritime temperate climate, gives Galway city access to a variety of local food sources. The surrounding county of Galway, with a population of just over 250,000 (CSO, 2011), consists of rugged coastline, several offshore islands, beaches, lakes, rivers, bogland, forestry, mountains, national parks, towns and villages. Agriculture is a major activity, with approximately two-thirds of the county's 614,877 hectares currently farmed, the majority of which is under grassland. Farming represents the sole occupation for over half of the 13,445 farm owners in the county, and provides employment for 24,206 family workers. At 25.8 hectares, the average farm size in the county is less than the national average of 32.7 hectares. Farm owners in the county are older than the national average with one third of owners aged 65 or over. Less than 5% of farm owners in the county are under 35 years of age (CSO, 2011).

The majority of farms consist of livestock with specialist beef production easily the most dominant farm type (8,672 farms) followed by specialist sheep (1,233 farms) and mixed grazing livestock (2,083 farms). There are 430 specialist dairying farms, with the remainder made up of specialist tillage (72 farms), mixed crops and livestock (101 farms), and mixed field crops (818 farms). The vast majority of farms have at least some cattle (11,247 farms), however, at 37, the average number of cattle per farm is among the lowest in Ireland. Sheep farming is also common, in particular in the mountainous Connemara region to the northwest of Galway City, where in 2007 Connemara Hill Lamb was awarded European Union Protected Geographical Indication (PGI) status.

Eating out is a popular activity, catered for by over 135 restaurants and as many pubs selling food (Duram and Cawley, 2012). The variety and quality of dining options has increased substantially over recent times, with many of the city's
restaurants recognised in national and international good food guides. At the pinnacle, at least in terms of recognition, is Aniar restaurant and boutique cookery school, a locally owned restaurant that received its first Michelin Star in 2012. This was the first time such an award was presented to a restaurant in Galway, and since then the city has built on its success with a second Galway based restaurant – Loam – receiving a Michelin Star in 2015. Anair and Loam are terroir-based restaurants, using foods that come from Galway and the West of Ireland, thus reflecting the wide variety of wild and farmed foods available in the area. A number of other restaurants in the city also advertise their use of local ingredients, with many outlets providing producer details on their restaurant menus.

Another key area of food consumption in Galway City concerns food provided in large public- and private-sector organisations. Galway city features a large number of overseas companies, particularly in the medical devices, biomedical and information and communication technologies (ICT) sectors. Multinational companies operating in Galway include Boston Scientific, Medtronic, Hewlett Packard, Cisco, Ingersoll Rand, SAP and Nortel. They provide significant employment in the area, with the largest companies – Boston Scientific and Medtronic – each employing over 3,000 people. The majority of multinational organisations are based in one of several designated business parks located on the outskirts of the city. Their peri-urban location has a significant impact on employee food consumption choices, with limited eating out alternatives in the immediate vicinity. On the other hand, two major third-level institutions, the National University of Ireland Galway (NUIG) and Galway-Mayo Institute of Technology (GMIT), are located relatively close to the city centre and are surrounded by numerous eating out options. Together they have a combined staff and student population of around 30,000. The main public hospital for the city is located on two campuses - University Hospital Galway and Merlin Park University Hospital. The main hospital campus is located adjacent to NUIG and caters for patients from a wide geographical area in the West of Ireland. Two private healthcare providers - Bon Secours Hospital and The Galway Clinic - are also located in the city, although the latter is situated several kilometres to the East. Combined, the public and private sector hospitals employ in the region of 4,500 staff, made up of 3,000 public sector employees and 750 employees for each of the private hospitals.

Upon setting the geographical scope of the research, consideration was given to include all large organisations in the Republic of Ireland, however this was later discounted. Conducting the research in one city meant that all case sites had potential access to similar food distribution channels and networks. Furthermore, a single location reduces any anomalies arising from the context specific nature of food sustainability, for example variations in access to markets, climatic conditions or the types of food produced in the region. Galway City was considered a good choice for 5 key reasons:

1. A large number of large organisations are located in Galway City, including hospitals, third-level education institutions and several European and US multinational corporations.
Methodology

2. The location of the city, with its proximity to the ocean, freshwaters and agricultural hinterland, and its access to road and rail networks, provides various options for sourcing food locally and nationally.

3. A growing food culture in the city ensures the increasing availability of fresh, seasonal and sustainable foods.

4. The researcher had built up contacts in the region, thus increasing the likelihood of gaining access to research participants.

5. The location was convenient for conducting interviews at short notice, also being the location of the university in which the research is based.

In all, the wide range of large organisations located in the city make Galway a suitable case study site for this research. Furthermore, focusing this study on a single city gives a consistent representation of food provisioning options available for selected case study sites and facilitates a more accurate cross-case comparison.

3.2.4 Case selection

The decision to limit the research sample to large organisations was taken for two main reasons. Firstly, these organisations were more likely to provide food on-site, and secondly, they potentially feed more people and handle a greater volume of food than smaller organisations. Potential case study sites were identified as fitting the predefined criteria set out for the project. The criteria for inclusion of cases were as follows:

a) Large organisations (>250 employees)

b) Located in Galway City

c) Provide prepared food on-site

d) Food provisioning is not a primary activity of the organisation

In addition the following criteria were considered significant:

e) Mix of public and private sector organisations

f) Organisations operating in a diverse range of sectors (e.g. education, healthcare, business and industry)

Large organisations that prepare food on-site were included in the case criteria, however only organisations that provide food as a secondary activity were considered (Table 3.2). This decision essentially eliminated from the research businesses that provide food as a core activity, such as hotels, restaurants and cafés. What happens in these spaces of public food consumption is highly significant in terms of how a sustainable food system might develop and be supported, nonetheless it was necessary to draw boundaries that allowed realistic research targets to be met. In this regard, a focus on spaces of public food
consumption where food is a primary activity could be a target for future research emanating from this project. It is also worth noting that no care homes, prisons or direct provision centres were included in the study as none of these met the full case study criteria, e.g. they did not employ enough staff to qualify for inclusion.

The final considerations in developing the case study criteria included a preference for a mixture of public and private sector organisations and the inclusion of organisations operating in a diverse range of areas, including healthcare, education and business and industry. With the possible exception of health-related studies, very little research has been undertaken on food provisioning within private sector organisations, despite their influence on the public sector, not least through replication and adoption of business models. The inclusion of a diverse range of organisations in the study facilitates knowledge sharing towards how a more sustainable food system might develop. In this regard common barriers and challenges as well as innovative solutions can be identified.

**Table 3.2**

Spaces of public food consumption showing food provisioning as a primary or secondary activity

<table>
<thead>
<tr>
<th>Spaces of public food consumption where food is a primary or secondary activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary activity:</strong></td>
</tr>
<tr>
<td>Restaurants</td>
</tr>
<tr>
<td>Hotels</td>
</tr>
<tr>
<td>Cafés</td>
</tr>
<tr>
<td>Take-away/fast food outlets</td>
</tr>
<tr>
<td>Public houses serving food</td>
</tr>
<tr>
<td>Convenience stores preparing food</td>
</tr>
<tr>
<td>Food markets and festivals</td>
</tr>
<tr>
<td>Event catering</td>
</tr>
</tbody>
</table>

**Sampling**

In total, twelve organisations matching the case criteria were identified. All twelve were invited to take part in the research with various strategies used in the recruitment process. The total number of employees across the twelve organisations is over 15,000. In addition to feeding staff, many of the organisations also feed visitors, students, patients and others, thus bringing the total potential consumer base for the twelve organisations to over 40,000 people each working day. This represents the equivalent of approximately half of the population of Galway city.

Recruiting organisations proved difficult and a number of techniques were deployed to increase participation rates. This included direct contact by email and telephone, and indirect contact through third parties. In the end a total of eight organisations participated in the project (Table 3.3), however various difficulties
Methodology

were encountered in securing each case. In three cases the organisations were recruited relatively easily following their positive response to correspondence via an email outlining the research project and inviting them to participate. Nevertheless, despite their initial willingness to take part, there were difficulties in collecting quantitative data for each of the three organisations (see section 3.3.2).

Table 3.3
Description of cases – selected data

<table>
<thead>
<tr>
<th>Primary function</th>
<th>Sector</th>
<th>Potential number of daily consumers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>Education</td>
<td>Public</td>
</tr>
<tr>
<td>Case 2</td>
<td>Education</td>
<td>Public</td>
</tr>
<tr>
<td>Case 3</td>
<td>Healthcare</td>
<td>Public</td>
</tr>
<tr>
<td>Case 4</td>
<td>Healthcare</td>
<td>Private</td>
</tr>
<tr>
<td>Case 5</td>
<td>Healthcare</td>
<td>Private</td>
</tr>
<tr>
<td>Case 6</td>
<td>Business &amp; industry</td>
<td>Private</td>
</tr>
<tr>
<td>Case 7</td>
<td>Business &amp; industry</td>
<td>Private</td>
</tr>
<tr>
<td>Case 8</td>
<td>Business &amp; industry</td>
<td>Private</td>
</tr>
</tbody>
</table>

In a number of cases where initial contact was unsuccessful, gatekeepers were used to gain access to organisations. In three instances, friends of the researcher provided an introduction to contacts working in management positions in suitable organisations. These contacts subsequently connected the researcher with the appropriate person in charge of food provisioning. This strategy was successful in recruiting two organisations. In the third case the researcher travelled to the organisation to conduct a prearranged interview only to find that the catering manager had fallen ill and was off work. Several unsuccessful attempts were made to rearrange the interview over the subsequent weeks and ultimately the case had to be dropped.

In another case the researcher knew a person who was working in what was identified as a suitable organisation for the research. This employee personally contacted the catering manager and the facilities manager, but following several communications they were unsuccessful in recruiting them, largely due to a combination of time constraints and disinterest on behalf of the facilities manager. The researcher also contacted the facilities manager directly but did not receive a response. A further attempt was made to recruit this organisation through a third-party who was also the managing director in another large organisation. This strategy was also unsuccessful. Finally the researcher directly contacted the managing director of the target organisation, who responded favourably to the invitation and subsequently connected the researcher with the facilities and catering managers. Data collection proceeded shortly afterwards. In a separate case, participants who had been difficult to recruit also took part later following
intervention from third parties (i.e. people working in more senior management positions in the organisation). In a final case, a work colleague gained further access to an organisation where the fieldwork had started but had stalled due to difficulties in recruiting further participants. In this case the colleague had a professional relationship with the manager in the organisation and was able to use this link to gain access to the relevant persons.

In summary, the case selection and recruitment stage proved to be somewhat difficult. Having said this, many of the obstacles encountered during the recruitment process had been anticipated and were pre-empted in the research design. In particular, the reluctance of participants to take part in the study was unsurprising. Nevertheless, the researcher was confident that a number of suitable organisations could be successfully targeted with the assistance of personal contacts. While this recruitment strategy eventually proved successful, it is likely that it would have been much more difficult to access suitable organisations without intervention from known third parties, thus reaffirming the merit of selecting Galway as the case study location.

3.3 Data Collection

The collection of data for this study combined six different qualitative and quantitative techniques: 1) semi-structured qualitative interviews; 2) the development and implementation of quantitative sustainability indicators for food sold for public consumption (FOODSCALE); 3) compiling organisational charts that identify key decision makers in relation to food provisioning; 4) tracing the provenance of five key food items to demonstrate the length and structure of food supply chains; 5) the collection of documentary evidence used to inform, interpret and validate facts and opinions, and 6) direct observation (Figure 3.5).

A description of how each data collection method is used in relation to this study is provided below.
Methodology

3.3.1 Interviews

Qualitative empirical material was collected through semi-structured and unstructured interviews with twenty-one participants from case organisations and a further four from the food industry. Prior to commencing interviews, the study received ethical approval from the university ethics committee and anonymity was granted to all participants. Interviewees included catering managers, food procurement officials, head chefs, service managers, HR managers, general managers and others (see Table 3.4). The primary purpose of the interviews was to gather facts, opinions and perceptions about issues relating to the food activities of case organisations. The initial strategy was to interview a minimum of two people from each participating organisation, to include the catering manager and the person overseeing the catering contract (e.g. services, facilities or HR manager). However, in practice, this was not always the most advantageous approach. In one case, where food provisioning in the organisation is provided by a number of separate caterers, it was deemed necessary to interview at least one person from each of the catering providers. In another organisation, where the catering was not contracted out (i.e. catering remained in-house), a single interview was sufficient as the catering and services manager roles overlapped. Further information about interviewees and the interview process is provided below, but first the process of developing interview guides is discussed.

Developing interview guides

An interview guide was used in the majority of interviews in order to maintain consistency. Following a review of the food sustainability literature as presented in Chapter 2, a list of possible interview questions was compiled. The questions related to various aspects of food sustainability. They included specific queries relating to the individuals role and more general questions about food provisioning in the organisation. These were then checked, edited and revisited to ensure they were relevant to the objectives of the study and to eliminate any unnecessary duplication of material. It should be stressed that a distinction was made between questions that might result in a direct duplication of data and those that were similar in nature but were retained to back up, clarify or reinforce facts. The latter type questions were not eliminated at this stage and were seen as a means to expand on important points of interest and to provide supplementary information, in particular for the purposes of validation.

Following this process, over 60 possible interview questions had being identified. The questions were then categorised as either quantitative or qualitative with approximately 25 questions falling into the latter category. These questions were used to develop two interview guides. The first guide was used when interviewing catering managers, or those with responsibility for food procurement within the organisation, while the second was used for additional interviews, for example with general managers, service managers, HR managers and other people identified as having influence over food provisioning within each organisation. The quantitative questions formed the basis for the development of a survey that was
used to gather information about specific sustainability practices and to assess the sustainability of food provided within case study organisations (see section 3.3.2 below). In addition to measuring the sustainability of food provided by each organisation, the quantitative survey facilitated the triangulation of data (see Figure 3.5).

The questions for the first interview guide were grouped into one of five sections relating to (i) aims and objectives of food provisioning in the organisation; (ii) factors determining product choices; (iii) current, previous and potential future procurement practices; (iv) factual knowledge and perceptions regarding food sustainability and the provision of local and regional food; (v) contractual arrangements and tendering processes. A final round of editing included the amalgamation of some questions to reduce the overall number, and the restructuring of a number of questions to facilitate their inclusion in the quantitative section. The resulting guide contained 15 questions across the five sections identified above (see Appendix 3). One participant from each case site was interviewed using this guide, except in Case 1 where contracts are awarded to several caterers. In this case the guide was used to interview a representative from each of the four caterers operating on-site. In total, eleven semi-structured interviews were conducted using interview guide one.

The second interview guide was shorter, containing eight questions, and included sections on (i) aims and objectives of food provisioning in the organisation; (ii) factors influencing food provisioning; (iii) contractual arrangements (see Appendix 4). The total number of participants interviewed using this guide was seven, including three participants in the group interview and four semi-structured interviews. The total number of unstructured interviews conducted without an interview guide was seven. Three of the unstructured interviews were carried out over the telephone and four were completed face-to-face. None of the unstructured interviews were audio-recorded and all were documented using hand-written notes taken either during the interview or immediately afterwards.

*difficulties in recruiting participants*

Direct contact with target respondents (e.g. catering manager, services manager) was a somewhat successful recruitment strategy, a total of eight respondents based in four different organisations were recruited in this way. Just one person directly declined a request to be interviewed, citing their unavailability to meet at that time. Another person who was contacted did not want to appear in the research but they were happy to provide some information off the record. In general, the majority of catering managers were happy to be interviewed, although some who were working for contract caterers would not partake without authorisation from their client (i.e. the organisation with which they had the catering contract). This was not a major issue as the person overseeing the catering contract for each organisation was also an interview target. However, these people – mainly services, facilities or HR managers – were not always easy to recruit. Several people identified as potential participants ignored emails inviting
Methodology

them to become involved in the study or were unable to find a suitable time to meet, despite clear flexibility from the researcher in this regard. To increase the participation rate, one successful strategy was to invite the person who sits above the intended respondent in the organisational management structure to take part in an interview. On a couple of occasions, this person then nominated the originally intended respondent to conduct an interview on their behalf. Once the request came from a higher management position the interview was relatively simple to organise. A number of other interviews that were difficult to obtain were secured following intervention from third parties as outlined in section 3.2.4.

Conducting interviews

To facilitate participation in the research project, and to inconvenience participants as little as possible, participants were asked to choose where and when interviews took place. The selected location was typically the interviewees’ workplace, e.g. their own office, a conference room or the canteen. Each location had its advantages and some had drawbacks, for example conducting interviews in the canteen facilitated the collection of observational data but it also tended to be noisier, thus making transcription more difficult.

A project information sheet (see Appendix 1) and informed consent form (see Appendix 2) were prepared in advance and given to all those who participated in formal interviews. Signed copies of consent forms were filed and kept with the research notes. All semi-structured and group interviews were audiotaped and transcribed with participants’ consent obtained prior to recording. Handwritten notes were recorded during some interviews with additional field notes recorded afterwards. These were subsequently typed up. Recordings, notes and transcripts were categorised and stored for efficient retrieval. To protect anonymity, each participant was ascribed a code (e.g. R1 for the first person interviewed) and any identifiers (e.g. names of colleagues, name of employer) were removed during transcription.

The interviews lasted for an average of 40 minutes, ranging from 10 minutes to slightly over 77 minutes. The majority of interviews were conducted face-to-face (n=22) with the remainder conducted over the telephone (n=3). In two cases, where it was necessary to gather follow-up information or check facts, supplementary questions were posed via email, however it was not necessary to conduct any follow-up interviews per se. Interviewees were both male and female with 16 females and 9 males taking part in the study.

At the beginning of each interview, participants were given an open but brief introduction to the project describing the background to the work, the topics of interest and the types of questions that would be asked. The introduction was delivered in a friendly manner and was broad in scope. The objective was not primarily to inform but rather to put the interviewee at ease and to reassure them that they are the expert and their knowledge is valuable. To further put respondents at ease, and provide a focus, the first question asked of interviewees
<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Position</th>
<th>Interview type</th>
<th>Interview guide</th>
<th>Method</th>
<th>Style</th>
<th>Record</th>
<th>Date</th>
<th>Duration</th>
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<td>Face-to-face</td>
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<td>Formal</td>
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<td>21/05/14</td>
<td>26.24</td>
</tr>
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<td>Audio-recorded</td>
<td>30/05/14</td>
<td>75.51</td>
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<td>Telephone</td>
<td>Informal</td>
<td>Handwritten notes</td>
<td>04/06/14</td>
<td>11.31</td>
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<td>Services Manager</td>
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<td>2</td>
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<td>Formal</td>
<td>Audio-recorded</td>
<td>13/06/14</td>
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<td>Formal</td>
<td>Audio-recorded</td>
<td>26/06/14</td>
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<td>Department Head</td>
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<td>2</td>
<td>Face-to-face</td>
<td>Formal</td>
<td>Audio-recorded</td>
<td>26/06/14</td>
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<td>R9</td>
<td>Chef/Food Writer</td>
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<td>n/a</td>
<td>Telephone</td>
<td>Informal</td>
<td>Handwritten notes</td>
<td>13/06/14</td>
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<td>n/a</td>
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<td>Informal</td>
<td>Handwritten notes</td>
<td>13/10/14</td>
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<td>Unstructured</td>
<td>n/a</td>
<td>Face-to-face</td>
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<td>Handwritten notes</td>
<td>19/11/14</td>
<td>15</td>
</tr>
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<td>n/a</td>
<td>Face-to-face</td>
<td>Informal</td>
<td>Handwritten notes</td>
<td>28/01/15</td>
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<td>1</td>
<td>Face-to-face</td>
<td>Formal</td>
<td>Audio-recorded</td>
<td>29/07/14</td>
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<td>Group interview</td>
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<td>Face-to-face</td>
<td>Formal</td>
<td>Audio-recorded</td>
<td>22/01/15</td>
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<td>Group interview</td>
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<td>Formal</td>
<td>Audio-recorded</td>
<td>22/01/15</td>
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<td>Group interview</td>
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<td>Audio-recorded</td>
<td>22/01/15</td>
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<td>1</td>
<td>Face-to-face</td>
<td>Formal</td>
<td>Audio-recorded</td>
<td>29/10/14</td>
<td>57.04</td>
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<td>Unstructured</td>
<td>n/a</td>
<td>Face-to-face</td>
<td>Informal</td>
<td>Handwritten notes</td>
<td>29/10/14</td>
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<td>Face-to-face</td>
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<td>10/11/14</td>
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<td>Audio-recorded</td>
<td>14/11/14</td>
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<td>n/a</td>
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<td>1</td>
<td>Face-to-face</td>
<td>Formal</td>
<td>Audio-recorded</td>
<td>18/02/15</td>
<td>31.02</td>
</tr>
</tbody>
</table>
Methodology

was to describe their typical working day to include roles, responsibilities and duties. This open-ended and somewhat personal question stimulated the conversation, set a relaxed tone and allowed the interviewee to reflect on their own role, be it within the case organisation or otherwise. It also provided context for understanding the role of the individual, particularly in relation to food provisioning.

The structure for the remainder of each interview varied, although the semi-structured interviews broadly followed the guides. Some of the variance could be attributed to the interviewees’ willingness to talk in depth about issues and to expand on specific points, thereby prompting additional questions and topics to be explored. Another reason for variance was the order in which topics were discussed. Originally, the section on contractual arrangements and tender agreements was considered to be the most sensitive and therefore was situated at the end of the interview guide, meaning it could be discussed after trust had been built up. In practice however, the interviewee often brought up issues around contracts earlier in the conversation. In these cases the topic was discussed at that stage in the interview but it was often returned to later for further investigation. Similarly, issues around food procurement practices tended to arise at various stages throughout the interview, although it was sometimes necessary to revisit this topic as some interviewees were initially reluctant to provide extensive information. One of the reasons given for this hesitance was a fear of revealing trade secrets regarding the modus operandi of their food service operations. Having said this, the majority of interviewees were open to discussing any issues that arose during interviews and none declined to answer any question, even though this option was emphasised in the participant information sheet and again verbally before interviews commenced.

Efforts to determine potential research participants in Case 1 led to the development of an organisational chart identifying the key people influencing food provisioning in that organisation. As well as aiding the identification of additional research participants, this chart proved useful in visualising the operational and structural factors influencing food provisioning. A decision was then taken to produce similar charts for all subsequent organisations. The charts were drawn up at the end of the first interview in each organisation and validated with the assistance of the interviewee. Example charts were shown to the interviewee to help clarify what was required. In cases where multiple interviews were carried out, charts were also presented to additional interviewees both for the purposes of crosschecking and as an interview aid. The development of the organisational charts is further discussed in section 3.3.3 and they provide a basis for analysis carried out in Chapter 6.
3.3.2 Quantitative sustainability assessment (FOODSCALE)

The process of developing the interview guide as outlined in section 3.3.1 resulted in the identification of almost 40 questions relating to the sustainability of food within organisations that could be answered through quantitative research. This information was considered important in identifying and validating sustainable and unsustainable food practices within organisations, yet it was unrealistic to expect participants to answer this many additional questions during face-to-face interviews. Additionally, interviewees were unlikely to have all the necessary data at hand. Some questions were nominal – requiring straightforward yes or no answers –, while others sought more detailed information such as percentages of budget spends. To overcome this data collection problem, and to incorporate these questions into the research, a separate questionnaire was developed. The questionnaire then evolved into an innovative assessment tool called the FOODSCALE that was designed to measure the sustainability of food intended for public consumption in organisations such as schools, hospitals and workplaces (Goggins and Rau, 2016, see Appendix 5). The FOODSCALE method had five original purposes:

1. to gather reliable data concerning food sustainability in organisations
2. to facilitate data collection in a transparent and user friendly manner that would give respondents enough time to gather the required information
3. to identify and rate current sustainability practices and to provide an overview of sustainability practices within organisations
4. to corroborate data collected within the organisations under study through other means, including qualitative interviews, documentation and observation
5. as a comparison tool between organisations.

Drawing on an in-depth review of the relevant literature, distinct areas of food sustainability were identified and the questions were developed to cover 11 key categories including organic; seasonal; fairly traded; meat; seafood; eggs; water; waste; origin of food; consumer engagement and engaging with smaller producers and local communities. Following this process, the literature was again revisited in order to identify any outstanding issues or categorical omissions. Wherever feasible, the questions were then translated into food sustainability indicators to facilitate quantitative measurement of sustainability performance (e.g. the question ‘Do you use organic food?’ was changed to ‘What percentage of the total food budget is spent on organic food?’).

Calculating scores using the FOODSCALE method

A weighting/scoring system was devised in which categories were allocated between 5 and 20 points according to their relative importance in food sustainability. The application of weights to different indicators was based on a
Methodology

number of factors including an extensive review of relevant literature, 25 qualitative interviews with food experts as well as an iterative process of data collection adjusting during the development and pilot phases. Food origin is allocated a maximum of 20 points to reflect the high social, economic and environmental impact of food supply chain structures (Thatcher and Sharp, 2008), with higher marks indicating shorter supply chains. The allocation of 15 points to meat recognises the significance of meat production and consumption, especially of red meat, for food sustainability (Chemnitz et al., 2014). Categories allocated 10 points include those dealing with community and consumer engagement, food waste and use of organic produce. The remaining 5 categories – seasonal, fairly traded, seafood, eggs and water – are given 5 points each. Individual indicators were allocated between 1 and 6 points with a maximum total score of 100 points (see Appendix 6).

The allocation of points to indicators enabled the quantification of nominal variables. The use of the aggregation method to calculate scores (calculated by adding the scores for each individual indicator to obtain a total score) was deemed most suitable for this project in order to prioritise the usability and user friendliness of the tool and to ensure easy comparability between cases. In addition, the aggregation method is suitable to the relatively small number of cases involved. Nonetheless, to assist with accuracy in data analysis, Chapter 5 also presents results calculated using both the geometric mean and arithmetic mean (see Table 5.5). The geometric mean is defined as the ‘$n^{th}$’ root product of ‘$n$’ numbers. It indicates the central tendency of a set of numbers, thereby normalising the ranges being averaged so that no range dominates the weighting, and a given percentage change in any of the categories has the same effect on the geometric mean. For example (in the context of its application in this study), a 20% change in the category ‘seasonal’ from 4 to 5 will have the same effect on the geometric mean as a 20% change in the category ‘origin of food’ from 16 to 20.

The geometric mean of a data set \( \{a_1, a_2, ..., a_n\} \) is derived from the formula:

\[
\left( \prod_{i=1}^{n} a_i \right)^{1/n} = \sqrt[n]{a_1 a_2 \cdots a_n}.
\]

or, \( \sqrt[n]{a_1 \times a_2 \times \cdots \times a_n} \)

The assessment tool contains eleven categories and therefore the following formula is applied:

\[11^{\sqrt[n]{a_1 \times a_2 \times \cdots \times a_{11}}}\]

In contrast, the arithmetic mean is calculated by dividing the sum of the scores for each category by the total number of categories. The arithmetic mean of a data set \( \{a_1, a_2, ..., a_n\} \) is calculated using the formula:

\[\frac{a_1 + a_2 + \cdots + a_n}{n}\]
Therefore, the arithmetic mean in relation to the data set in this study is:

\[
\frac{a_1 + a_2 + \ldots + a_{11}}{11}
\]

During the pilot testing in two locations in the West of Ireland, as in all subsequent applications of the FOODSCALE tool, participating food outlets were not made aware of the scoring procedure and did not know that a points allocation method was in place. This was intended to improve reliability and reduce bias in data collection. Modifications made during the pilot phase included minor changes to the breakdown of scores and redistribution of points across sections, thereby further enhancing user-friendliness. This concluding selection and modification process yielded 36 food sustainability indicators across the aforementioned 11 sustainability categories.

**Local and regional food definitions applied to the FOODSCALE**

For the purpose of data collection and analysis using the FOODSCALE, it was necessary to define an appropriate concept of local and regional foods to be applied. Taking the considerations presented in section 3.2.1 into account, not least the relatively small size of the country and the geo-political structures in Ireland, the definition for local food decided upon for the FOODSCALE is food that is produced, processed and retailed within 50km of Galway city or within County Galway (Figure 3.6). There is a wide range of foods produced in this area, with over 200 independent food producers located in County Galway alone. More detailed information on Galway and the surrounding area is presented in section 3.2.3.

**Figure 3.6**
Map showing local and regional definition used in the FOODSCALE
Methodology

With regards to the FOODSCALE as applied in this study, regional food is defined as that which is produced, processed and retailed in the Republic of Ireland. However, it should be noted that this definition of regional food is far from ideal and has been chosen primarily because of the absence of any clear alternative (see section 2.5.3 for related discussion). Although it is true that most Irish people tend to associate Ireland as being a single region, there are concerns with this interpretation from the perspective of establishing a sustainable regional food system. Not least of all, treating Ireland as a single region from which to produce and source regional food can conceal negative impacts arising from consolidation in Irish food production. In essence, regional food on a national scale could be supplied by just one large producer, even if this is to the detriment of many small-scale producers and results in an overall disadvantage to wider society. Consolidation is already evident in the Irish agricultural system with the size of farms steadily increasing over time (CSO, 2012). Horticulture in particular has seen a rapid decline in the number of growers as a result of consolidation and rationalisation of the sector.

Reliability testing of the FOODSCALE method

A number of characteristics distinguish the FOODSCALE from other food sustainability assessment tools. First, it covers and integrates the three pillars of sustainability – society, economy, environment – treating these as interdependent and coexisting. Secondly, it considers the entire food system, thus incorporating aspects of production, distribution, procurement, consumption and waste disposal. Cross-cutting themes of health and human agency complement the 11 specified categories to present a holistic assessment of food sustainability. The tool helps to identify both good practice and areas for improvement and points towards specific measures for increasing food sustainability.

While the comparative case study approach used was never intended to facilitate conventional quantitative validity and reliability testing (as well as being based on ontological and epistemological considerations that caution against the application of conventional validity and reliability criteria to qualitative and mixed-method research), it is nevertheless possible to qualitatively check the validity and reliability of the tool. Regarding validity, food sustainability experts were consulted throughout the entire FOODSCALE questionnaire design process. An early version of the tool was presented at the European Union funded TRADEIT Entrepreneurial Summer Academy 2014 in Tralee, Co. Kerry to an expert panel consisting of academics, consultants and business managers working in the food industry. Additionally, the questionnaire was completed by a food business in the study region that is well known locally and nationally for its food sustainability credentials. This generated a benchmark for good sustainability practice that could be used for subsequent comparisons across cases.

FOODSCALE data collection
Regarding data collection, questionnaires were completed by catering managers or others with responsibility for food procurement within each organisation. These reports from participants at each organisation were complemented with observations, interviews with food suppliers, and documentation such as menus and tender documents where available. A total of 12 questionnaires were administered, with 11 completed, including the benchmark case. Four of the respondents were from separate food outlets located in the same public sector organisation. Participants were given the choice to complete and return the questionnaire electronically (via email), using Microsoft Word, or to fill out a paper version that was later collected by the researcher. Three participants completed the questionnaire on paper, with the remaining eight submitting electronic versions. Those who chose to complete the questionnaire electronically were also given a paper copy of the questionnaire for their own records.

In many instances, getting participants to complete questionnaires proved challenging, with several follow-up communications required before questionnaires were returned (Table 3.5). In just two cases the questionnaire was completed and returned without any follow-up communication necessary. Where participants had not returned the questionnaire two weeks after receipt, an initial reminder was sent via email. If this was unsuccessful or did not receive a response, a further email reminder was sent after approximately another two weeks. A third and final email was sent no less than two weeks later. If there was still no response after three emails, participants were contacted via telephone.

<table>
<thead>
<tr>
<th>Number</th>
<th>Format</th>
<th>Returned</th>
<th>Follow-up</th>
<th>Returned</th>
<th>Follow-up</th>
<th>Returned</th>
<th>Follow-up</th>
<th>Returned</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>Telephone</td>
<td>Yes</td>
<td></td>
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<td>Email, n=3</td>
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<td>Telephone</td>
<td>No</td>
<td>Third-party</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td>Electronic</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Paper</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>9</td>
<td>Paper</td>
<td>No</td>
<td>Email, n=3</td>
<td>No</td>
<td>Telephone</td>
<td>No</td>
<td>Site visit</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td>Electronic</td>
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<td>Email, n=3</td>
<td>No</td>
<td>Telephone</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Electronic</td>
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<td>Email, n=1</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Electronic</td>
<td>No</td>
<td>Email, n=3</td>
<td>No</td>
<td>Telephone</td>
<td>No</td>
<td>Face-to-face</td>
<td>Yes</td>
</tr>
</tbody>
</table>

This strategy resulted in various outcomes. In one case the questionnaire was completed and returned the day after the phone call, with apologies for the delay. In another case the intended respondent was off work for a lengthy period and was not available. Here, the researcher was invited to return to the case site to meet with a catering manager who subsequently completed the questionnaire. In a third case, the intended respondent did not return phone calls or reply to messages. For this organisation, another research participant completed the
Methodology

questionnaire at a later date, following a request from a third-party who was also a manager in that organisation. In the final case, where the questionnaire data was not collected, the participant simply did not respond to any email or telephone messages that were sent over a period of approximately three months. At no stage did this, or any other, participant suggest that they would not, or did not want to complete the questionnaire. The longest period between the administration and collection of a questionnaire was more than six months, while the shortest was in two cases where the completed questionnaire was returned on the same day. Further details about the FOODSCALE assessment tool, including results and analysis from the case study sites are presented in detail in Chapter 5.

3.3.3 Organisational Charts

The third data collection method used was the development of organisational charts showing the key actors who influence food provisioning in each case study organisation (see Figure 3.7 for example). The charts were compiled with the assistance of at least one person from each organisation who was working in a key position relevant to food provisioning (e.g. catering manager). In each case this person also participated in a semi-structured interview and the charts were drawn up post interview. Participants were then asked to confirm the accuracy of the chart and to identify any possible omissions or errors. In two cases the organisational chart was initially developed with the assistance of a first interviewee and later modified and confirmed following consultation with a second interviewee from the same organisation. In one of these cases the first interviewee was working for a contract caterer and was unsure of the structure of the client organisation. In a further case the catering manager agreed to compile and forward on a chart for the organisation in which they worked, however when a response was not forthcoming an initial draft chart was compiled by the researcher and was later revised and corrected with the assistance of the general manager of that organisation.

The idea to develop these organisational charts originated from a need to identify and recruit possible participants in the research. Having interviewed a number of participants from the first case site, it was clear that food provisioning in this organisation was complex and involved diverse actors. Therefore a chart was developed as a tool to assist with identifying the key people and positions that should be targeted for participation in the research. Once completed, it was evident that this chart could be valuable in identifying not only where influence over food provisioning lay and the key decision makers involved, but also where were the best opportunities to enhance food sustainability in these organisations. Therefore it was decided to produce similar charts for each of the eight case study organisations.
3.3.4 Supply chain investigations

A series of maps tracing the supply of five chosen ingredients (potatoes, carrots, onions, tomatoes, beef) from their origin to their destination at case study organisations formed the fourth component of data collection. Here, the intention was to make visible some of the food supply chains used by organisations. The selected ingredients were chosen as they form the basis for a cottage pie recipe, a popular dish in canteens and food outlets in Ireland. The ingredients are also commonly used in other popular canteen meals such as stews and casseroles. With the exception of tomatoes, the ingredients are either in-season or available from
Methodology

storage throughout much of the year in Ireland (Table 3.6). Tomatoes have been included as, from an environmental impact perspective, they are one of the most researched foods due to the wide variety of conditions under which they are produced. Tomatoes have been at the centre of a number of life-cycle assessment studies – typically undertaken in Northern European countries – that compare the environmental impact of consuming domestic tomatoes grown in artificially heated greenhouses with imported tomatoes produced using solar energy (Del Borghi et al., 2014).

Table 3.6
Seasonality chart for Ireland showing selected produce

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potatoes (Main Crop)</td>
<td>FS</td>
<td>FS</td>
<td>FS</td>
<td>FS</td>
<td>FS</td>
<td>FS</td>
<td>FS</td>
<td>CIOS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>FS</td>
</tr>
<tr>
<td>Potatoes (New Season)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>CIOS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
</tr>
<tr>
<td>Carrots</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>CIOS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
</tr>
<tr>
<td>Onions</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>FS</td>
<td>FS</td>
<td>FS</td>
<td>CIOS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>IS</td>
<td>CIOS</td>
<td>-</td>
</tr>
</tbody>
</table>

*IS = In Season, CIOS = Coming in or out of season; FS = From Storage*

Supply chain data was collected from two main sources, from case study organisations via interviews and the FOODSCALE method, and through direct communication with relevant food distributors. Here respondents were asked to identify the origin of the five key ingredients mentioned above. They were also asked how many intermediaries these products go through before they receive them. Additionally, during semi-structured interviews, a number of participants identified individual suppliers for these products. Although a specific question asking participants to identify suppliers was not included in the interview guide, this information was regularly sought in the interview process, although often indirectly. This indirect approach was necessary in a number of cases where, for whatever reason, interviewees were uncomfortable in naming their suppliers. For example, in one particular interview the interviewee deliberately avoided providing information about their fruit and vegetable supplier, despite the fact that this information was clearly printed on the menus and at the restaurant entrance.

In total, four beef suppliers and five fruit and veg suppliers were identified as operating across the eight case sites. All of the beef was of Irish origin; this could be easily verified as legislation requires all food outlets based in Ireland to publicly display the country of origin for beef. Further information on food origins and supply chains was sought via email from the five fruit and vegetable distributors identified as supplying one or more of the case study sites. The owner of one of these distributors was interviewed via telephone after a third-party had initially made contact on behalf of the researcher. A further two of the distributors
responded to an email request for information, one after a second follow-up email was sent, and both were very helpful and forthright in providing the necessary data. Two of the distributors did not respond to the initial or follow-up email, however information regarding the origin of the produce that they supply was gathered through the quantitative assessment tool. In one case the person completing the assessment tool contacted the supplier to ask about their supply chain, and in the other instance the respondent located the origin information on the labels of goods that had been delivered to them. Further information regarding the supply chain investigations is presented in Chapter 5.

3.3.5 Documentary evidence

The collection of documentary evidence formed a fifth strand of the data collection plan, with a view to corroborating data from other sources including interviews, supply chains, and the FOODSCALE tool. In addition, documentation was useful in identifying what might be considered contradictory evidence – for example, in what an organisation claim to do and what they actually do – and in determining issues requiring further investigation.

Documentary evidence consisted of internal publications (e.g. procurement policy documents) and external documents (e.g. news clippings). Documentary evidence in the form of physical materials – for example menus, product information sheets – were photographed and filed to facilitate efficient storage and to make them readily retrievable for inspection. Webpages, Internet postings and other online material on issues such as announcements, reports and news clippings concerning case organisations were bookmarked and filed in an online folder. As documentary evidence can be sometimes unreliable (Yin, 2009), the conditions and context under which the documentary evidence was produced was considered when collecting and reviewing the data.

3.3.6 Direct observation

Further evidence was collected through informal observations made during field visits. This proved a useful source of observational data, providing information about the food practices within organisations, the eating habits of consumers, and as a means of checking and confirming the validity of data collected using other techniques. For example, noticeboards and other displays that carry information about the food offered in organisations were observed in several premises. These information sources are an indication of different levels of interaction between the organisation and the consumer as well as been useful in corroborating evidence from other sources, in particular interview and quantitative assessment tool data.

In addition, the layout of canteens, the various products offered and location and prominence given to different types of food provide an indication of attempts to ‘push’ certain items on consumers (Lehner et al., 2015). In one case an ice-cream
Methodology

freezer, chocolate bars and other confectionary were located beside the cash tills, a marketing strategy widely used by retailers to increase consumption of these items. Photographs were taken at some case sites to record observational evidence and were stored on computer hardware for later retrieval. Permission to take photographs was sought in advance.

A total of nine interviews took place in canteens and restaurants located across five different case study organisations. The canteens/restaurants in the three other case study organisations were visited either pre or post interview. This facilitated the collection of valuable observational data, particularly in two instances where interviews took place in canteens around lunchtime. The timing of these interviews allowed the researcher to observe first-hand the types of foods being consumed on that day. In both these cases the interviewee claimed that their customers were very health conscious, however there were distinct differences between eating habits observed in both locations. For example, in one case many of the plates been consumed contained chips while in the other case the wide consumption of salads was evident. Obviously these observations were for a single day, and therefore cannot be claimed to be representative of the overall consumption patterns within these organisations, Nonetheless these observations are important, especially when viewed in conjunction with other evidence.

Observational evidence was also used to verify several of the FOODSCALE indicators. Information available on menus such as calorie counting, allergen-free dishes, the number of dishes containing meat and seasonality of ingredients all support questionnaire data. Information boards and displays with details of food provenance, sustainability awards and certification to food and animal welfare standards further backed-up claims. Additional assessment tool data that could be directly observed included sources of water available to consumers, origin of bottled water and the use of fairly traded tea and coffee. In one organisation the catering manager organised a tour of the restaurant, kitchen and food storage facilities. The kitchen staff were preparing lunch at the time. In this case, additional data could be collected by examining labels on boxes of fruit and vegetables to determine their origin, checking stamps on eggs showing production methods and standards certification and observation of waste minimisation strategies including separate recycling facilities for food waste.

3.4 Data analysis and interpretation

The study includes both public and private sector organisations and considers social, economic and environmental impacts of organisational food provisioning. It draws on a broad range of empirical data collected using qualitative and quantitative techniques. Data analysis combined a number of different elements that link the data gathered to the conceptual and theoretical frameworks that underpin this thesis:

1. Content analysis of semi-structured interviews;
2. Statistical analysis of quantitative data collected through the food sustainability assessment tool;

3. Supply chain analysis and product mapping based on information gathered through the tracking of food from selected organisations back to its origin;

4. Analysis of documentary evidence that capture aspects of public food consumption such as menus and information boards across eight cases;


Where possible, tables, charts, graphs and figures were used to present information in a clear and concise format.

One of the aims of this research was to identify how organisations can contribute to the development of a more sustainable food system. Cases were cross-analysed to determine similarities, differences, comparisons and contrasts between ways in which organisations support (un)sustainable food consumption and production. Putting the organisation, rather than individual consumers, at the centre of analysis incorporates contextual considerations that might otherwise be overlooked. Furthermore, placing organisational food provisioning in a wider societal context facilitates greater understanding of ways that innovative approaches can be applied to improve food sustainability. By focusing on similarities and differences between a largely heterogeneous group of organisations, it is possible to identify common opportunities as well as barriers for improving food sustainability in organisational settings. The integration of findings from a review of the literature concerning sustainable food provisioning in organisations further enhances the empirical results of the study.

Another major goal of this research is to widen the scope of sustainability assessment beyond environmental concerns, to include key economic and social aspects in relation to food on offer in organisations. Quantitative techniques such as life-cycle analysis (e.g. Baldwin et al., 2011; Notarnicola et al., 2012; Del Borghi et al., 2014), material flow analysis and food miles calculators (e.g. Pretty et al., 2005; Avetisyan et al., 2013) have tended to focus solely on environmental issues, thereby reflecting a rather narrow understanding of sustainability (cf. Rau and Fahy, 2013 for a more general discussion of sustainability concepts and their social-scientific and interdisciplinary investigation). Equating sustainability with sounder environmental practices, such as a reduction in GHG emissions, can have the effect, even if undesired, of undermining or ignoring the societal and economic aspects of sustainable food (Morgan, 2008). The idea that sustainable food equals more environmentally friendly food is a simplified notion as it fails to acknowledge the trade-offs that take place between social, environmental and economic factors in the food system and the contextual considerations of food sustainability (Lozano, 2008). In other words, food with a lower environmental impact is not necessarily more sustainable than food that might be more environmentally unfriendly but brings greater overall benefits to wider society. With this in mind, the FOODSCALE method used in this study consciously integrates environmental,
Methodology

social and economic concerns, as well as health-related issues, in order to generate the depth and scope of data that facilitates analysis from a broad sustainability perspective.
Chapter 4

Influences on food provisioning practices in large organisations
4.1 Introduction

To examine the economic, social and environmental qualities of the food system requires multi-layered forms of interdisciplinary inquiry. In the context of large organisations, it is necessary to identify all factors influencing the provision of food, ranging from organisational processes, structures and cultural elements to the composition of the workforce and physical and infrastructural aspects.

This chapter marks the start of the empirical part of this thesis. It examines qualitative evidence from the eight organisations included in this study to demonstrate how their organisational context and culture as well as their contract and procurement practices shape their food provisioning practices. The chapter draws on excerpts from interviews conducted with personnel based within these organisations and uses direct quotes to illustrate key points. Following this short introduction, section 4.2 explores the influence of organisational context on food provisioning. Focusing on key factors such as the primary function, public versus private sector, size and scale of the organisations, and their consumer base, it examines their significance both individually and in combination. The importance of catering contracts and centralisation of food procurement practices in supporting particular food systems is discussed in detail in section 4.3. Central to this section is a focus on the type, scale and scope of catering contracts, and the consolidation of services in relation to each. Section 4.4 examines organisational culture and shows how attitudes towards sustainable food are shaped by embedded values and traditions underpinned by long-term strategies and historical legacies. Relationships between caterers, consumers, communities and organisations are explored, with specific examples highlighting disparities between organisations. Section 4.5 forms a short conclusion of the main points covered in this chapter and their links to Chapter 5.

4.2 Organisational Context

One of the main goals of this research is to identify opportunities for and barriers to more sustainable food provisioning within organisations that arise from the specific organisational characteristics and decision-making practices in relation to food provisioning. This raises a number of questions concerning organisational context. For example, what is the significance of the sector (public or private) in which the organisation operates? Do perceived barriers to sustainable public sector procurement also exist in the private sector, and, if so, do they bear the same influence over decisions taken? By focusing on contextual considerations in relation to organisational food provisioning, it is possible to address these questions.

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3 To help readers distinguish between interviewees, each interview is assigned a particular code (e.g. R7 for respondent number 7).
Furthermore, taking context into account opens up possibilities for generating new insights into food consumption outside home. For example, are there similarities and differences between food provisioning in organisations? What types of food are available to consumers? Who determines what foods are on offer, and how much autonomy have individuals over food provisioning practices? These questions are important in understanding the potential role of organisations in building a more sustainable food system.

Although this research focuses on large organisations located in a single city, it nevertheless captures a heterogeneous sample in terms of size, structure, function, and consumer base (Table 4.1). Importantly, the organisations under scrutiny are each unique in the manner in which they deliver their food provisioning service, and each are influenced by myriad factors, both from within their own organisation and externally.

### Table 4.1
Organisational context: details for Case 1-8

<table>
<thead>
<tr>
<th>Primary function</th>
<th>Sector</th>
<th>Scale</th>
<th>Consumer base</th>
<th>Size (No. of employees)</th>
<th>Potential daily consumers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>Education</td>
<td>Public</td>
<td>National group</td>
<td>Employees, students, visitors, others</td>
<td>2,000 - 2,500</td>
</tr>
<tr>
<td>Case 2</td>
<td>Education</td>
<td>Public</td>
<td>National group</td>
<td>Employees, students, visitors, others</td>
<td>500 - 1,000</td>
</tr>
<tr>
<td>Case 3</td>
<td>Healthcare</td>
<td>Public</td>
<td>National group</td>
<td>Employees, patients, visitors, others</td>
<td>2,500 - 3,000</td>
</tr>
<tr>
<td>Case 4</td>
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<td>Private</td>
<td>National group</td>
<td>Employees, patients, visitors, others</td>
<td>500 - 1,000</td>
</tr>
<tr>
<td>Case 5</td>
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<td>500 - 1,000</td>
</tr>
<tr>
<td>Case 6</td>
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<td>Private</td>
<td>Multi-national</td>
<td>Employees</td>
<td>500 - 1,000</td>
</tr>
<tr>
<td>Case 7</td>
<td>Business &amp; Industry</td>
<td>Private</td>
<td>Multi-national</td>
<td>Employees, others</td>
<td>3,000 - 3,500</td>
</tr>
<tr>
<td>Case 8</td>
<td>Business &amp; Industry</td>
<td>Private</td>
<td>Multi-national</td>
<td>Employees</td>
<td>500 - 1,000</td>
</tr>
</tbody>
</table>

### 4.2.1 Primary function and consumer base

As outlined previously, the eight cases under study primarily operate in three different areas – education, healthcare, and business and industry. In each case the organisation provides on-site catering facilities, however the food service operations differ significantly between organisations. One significant factor in this regard is the primary function of the organisation, which in turn largely determines the consumer base for its catering services.

**Education**

Third-level institutions provide educational services for a large national and international student population. They conduct a wide range of activities in the areas of teaching and research. The nature of tertiary education means that the student population is relatively transient, with the majority of undergraduate and
Findings one

postgraduate courses lasting for four years or less. In Ireland, undergraduate
courses generally run from September to May/June, therefore student numbers on
campus significantly reduce in the summer months. Student populations are likely
to be young, well educated, and have low levels of disposable income, although
this can vary.

Institutional employees constitute a second consumer base for campus-based
restaurants and canteens, with a variety of staffing roles being fulfilled, primarily in
teaching, research and administration. Additional catering facilities are provided
for visitors, dignitaries, corporate dining/VIPs, conference attendees, functions,
summer schools and other events. Consequentially, a third-level campus
represents a diverse community in terms of catering requirements and
expectations.

Healthcare

Hospitals are primarily tasked with providing healthcare, and have a high turnover
of service users. Advances in medical and surgical techniques have resulted in a
reduction in the average stay in hospital. At the same time, an increasing number
of procedures that once required hospital admission are now carried out in
outpatient departments and day clinics. As a result, hospitals are catering for
greater numbers of patients than ever before.

Healthcare providers employ high levels of staff across a wide range of areas,
including doctors, medical assistance, therapy, nursing, patient care and
administration. In addition, hospital in-patients tend to receive a significant
number of visitors, while outpatients are often accompanied to appointments by
relatives or friends. Therefore, food provisioning in a typical or general hospital
caters for an extremely diverse population, with variations occurring across all
demographic and socio-economic indicators including age, gender, occupation,
income, and health.

Business and Industry

The final area in which organisations involved in this study operate is business and
industry (B&I). In the Irish market, sales of food through B&I channels are worth
approximately €200m per annum and growing (Bord Bia, 2011, 2014b). Although
the category itself can be considered diverse, organisations working in this area
tend to cater for a narrower consumer base, the vast majority of which is made up
direct employees. In terms of service provisions, the motivation to provide on-
site catering facilities for employees differs between organisations. Workplaces
might provide catering facilities for staff as a fringe benefit, or because they are
concerned over employee health and wellbeing. At the same time, their
motivations might be more profit- or productivity-oriented, for example as a
means of retaining employees on-site, reducing the need for longer mealtime
breaks, or a general blurring of the boundaries between the workplace and home.
The consumer base for organisations working in B&I may be relatively homogeneous within organisations, however it can differ significantly between organisations depending on their specific function (e.g. IT, manufacturing, pharmaceuticals, etc.). For instance, consumer variations – both within and between organisations – can occur in terms of education, income, age, gender, nationality, employment status (e.g. full-time/part-time), etc. In addition, the nature of work undertaken by the majority of employees in an organisation is likely to have an impact on decisions taken around food procurement. For example, employees working in manufacturing roles would be expected to burn more calories during working hours in comparison with someone in a sedentary office based role, with the former requiring more substantial meals. Some organisations operate 24 hours – incorporating day, evening and night shifts – while others only open during office hours. In the three cases presented here, two of the organisations are involved in IT, while the other is more representative of manufacturing.

4.2.2 Public versus private sector

Public sector food provisioning has long been recognised as having the potential to influence the food system and bring about positive social and economic change by stimulating the supply and demand for healthy sustainable food (Marsden and Morley, 2014). The public sector in the Republic of Ireland spends an estimated €195m annually on food and catering services (Bord Bia, 2014b). However, national and international policy and regulation is perceived as a barrier to maximising the potential socio-economic benefits of organisational food provisioning. For example, EU procurement regulations prohibit public sector organisations from incorporating criteria that explicitly favour local food. Interestingly, despite being exempt from EU public procurement regulation, and unaffected by some national policies in relation to food, research involving large private sector organisations has to date been largely lacking. As a result, there is a poor understanding of the interactions between food provisioning in the public and private sectors and the crossover effects between both domains.

This study incorporates both public (n=3) and private (n=5) sector organisations. The two educational institutions operate in the public sector, while the three organisations primarily involved in B&I are in the private sector. The healthcare organisations are a mixture of both public (n=1) and private (n=2) sector. The relevance of this is primarily in terms of its impact on current and future or potential food sustainability practices.

Regardless of their sector, willing organisations can facilitate greater support for local producers through creative interpretation of national and international procurement regulations (Morgan and Morley, 2002; Smith et al., 2016). Specific actions that can be taken by organisations – including specifying organic, fresh and seasonal produce, or dividing tenders into smaller lots – can be advantageous to
small producers. Nevertheless, results from previous studies show relatively low levels of engagement between public sector organisations and smaller and local producers (Smith et al., 2016). Although ‘buy local’ preferences cannot be stated on public procurement tender documents, production processes that are recognised at EU level – such as organic – can be stipulated. However, the use of organic food was almost non-existent among all eight cases in this study, including public and private sector organisations. Moreover, in three private sector cases, catering managers did not have the option to provide organic food, as it was not available on their approved product listing. Hence, depending on the catering service provider, and the nature of the catering contract, private sector organisations are potentially even more restricted than their public sector counterparts in terms of providing local or organic food. However, it must be recognised that these restrictions are more due to autonomous choices that have been taken, rather than legislation and regulatory constraints (see Section 4.3).

Public sector organisations have a responsibility to provide various government services, and in doing so, they have potential to effect positive change across wider society (Testa et al., 2014). Possible ripple effects generated through the provision of sustainable food include enhanced rural development, environmental protection and increased health and wellbeing (Goggins and Rau, 2016). However, the wider consequence of our food choices is not adequately recognised, and instead public sector organisations are regularly pressurised to provide ‘value for money’, a term generally construed as cost-cutting or cost minimisation. This strategy is manifested through contract arrangements that are awarded on the basis of ‘lowest price tender’ or ‘the most economically advantageous tender’ (MEAT), both of which prioritise low cost over social or environmental aspects (Morgan and Morley, 2014).

In some cases, public sector organisations are not only expected to reduce costs in relation to non-core activities such as catering, they “are asked to be creative and resourceful in generating income” by capturing spending on-site (R5). The growing pressure on public sector organisations to become increasingly self-financing – stimulated by neoliberal government policy, including new public management and austerity measures, as well as the corporate media –, inevitably impacts on food provisioning and the relationship between organisations, caterers and consumers (see Section 4.4). In addition, a number of interviewees reported that the latest business models and innovation driving change in organisational catering originate in the private sector before being incorporated into public sector organisations (R5; R7; R13). In this regard, the changing nature of public sector catering was outlined by one of the interviewees:

[…] this building for example, how it approaches its business is changing and eventually it will be more like the corporate sector...But it’s a transition and it’s a learning process, you know, it’s going to take time but it’s definitely heading that way (R13).

4 These are also incorporated into the FOODSCALE method discussed in detail in Chapter 5.
One explanation for this phenomenon is the dominance of a relatively small number of facilities management companies in providing catering services to large organisations in both the public and private sector, and the tendency for organisations to follow ‘trends’ in the catering market.

In highly developed economies, private sector organisations are given unprecedented power through corporate law (limited liability), pro-corporation regulation, trade agreements (free movement of goods and services, access to markets), tax incentives (tax breaks, low tax on profits) and strong bargaining power. In response to perceived weaker government regulation, pressure has increased from civil society, NGOs and the media for companies to be accountable and considerate of the social and environmental impacts of their activities (Hartmann, 2011; Tikkanen and Varkoi, 2011). The rise in ICTs and social media has facilitated rapid and widespread information sharing, thus providing an effective avenue for positive and negative promotion of business activities. The counter-response of business organisations has been to develop statements of social responsibility, sustainability performance or non-financial reporting. Yet, despite the potentially positive intentions behind commitments to corporate responsibility, the effectiveness of such self-regulation is questionable. Having said this, there are some examples of good practice. In one case covered in this study, a preference for procurement of food from local sources is stated in the organisation’s annual Integrated Report, a point that was reinforced by organisational management during the interviews (R24) and is somewhat evident following scrutiny of their supply chains.

4.2.3 Size and scale

The final contextual factor examined in this section is the size and scale of the organisation. Organisations that feed greater numbers of people provide larger volumes of food, thus increasing their (positive or negative) impact on the food system. Although all organisations involved in this study can be considered large, as they employ more than 250 people, the range in organisational size varies from approximately 550 - 3200 employees. When additional consumers, such as patients, students and others, are taken into consideration, the range of potential consumers expands significantly, to the region of 700-20,000 per organisation. In order to accommodate the large number of consumers, four of the organisations have more than one restaurant/canteen on-site. In three of these cases, a single service provider manages the catering, while in the other case, four separate service providers hold catering contracts (see section 4.3.3).

The majority of cases involved in this study form part of a larger organisational structure. The three cases operating in B&I are part of global operations, thus constituting multinational organisations. The two educational institutions form part of national groupings, as do two of the healthcare organisations. The final organisation, also in healthcare, can be considered independent, although they do have a smaller base in another Irish city. The scale of the organisation –
multinational, national or independent – is highly significant in terms of the scale and scope of catering contracts. This issue is further explored in section 4.3.

4.3 Contracts and procurement practices

Organisations make a number of highly significant decisions that impact on the sustainability of food provided on-site. Several of these important decisions directly relate to catering contracts and the consequences thereof. In this regard, organisations can avail of numerous options when designing and negotiating catering contracts (Table 4.2). For instance, organisations can outsource catering operations or provide them in-house. Organisations operating in more than one location may decide to expand the scale of catering contracts across numerous sites in the region or internationally. In addition to choosing the type of contract to suit their objectives (see section 4.3.3), organisations may choose to extend the scope of contracts to include other non-core activities such as cleaning, security, administration and landscaping. Hence, the catering contract may not be a catering contract per se, but rather a component part of a larger facilities management arrangement. In addition, food procurement practices within organisations can be unique to each site (non-centralised), partly controlled through central management (semi-centralised) or fully centralised. However, this approach is largely determined when choosing a particular catering provider, many of whom operate a centralised system of food purchasing. The impacts of particular procurement practices on food sustainability, as well as the other considerations mentioned above, are discussed in the following sections.

Table 4.2
Contracts and procurement: specifications for Cases 1-8

<table>
<thead>
<tr>
<th>Catering contract</th>
<th>Scale of contract</th>
<th>Scope of contract</th>
<th>Type of contract</th>
<th>Food subsidised</th>
<th>Procurement practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>Outsourced</td>
<td>Site-specific</td>
<td>Catering only (4 contracts)</td>
<td>Concession</td>
<td>No</td>
</tr>
<tr>
<td>Case 2</td>
<td>In-house</td>
<td>Site-specific</td>
<td>Catering only</td>
<td>Concession</td>
<td>No</td>
</tr>
<tr>
<td>Case 3</td>
<td>Outsourced</td>
<td>Regional</td>
<td>Catering only</td>
<td>Cost-plus-incentive fee</td>
<td>Yes (staff only)</td>
</tr>
<tr>
<td>Case 4</td>
<td>In-house</td>
<td>Site-specific</td>
<td>n/a</td>
<td>n/a</td>
<td>Yes (staff only)</td>
</tr>
<tr>
<td>Case 5</td>
<td>In-house</td>
<td>Site-specific</td>
<td>n/a</td>
<td>n/a</td>
<td>Yes (staff only)</td>
</tr>
<tr>
<td>Case 6</td>
<td>Outsourced</td>
<td>Global</td>
<td>Non-core activities</td>
<td>Commercial</td>
<td>Yes</td>
</tr>
<tr>
<td>Case 7</td>
<td>Outsourced</td>
<td>European</td>
<td>Non-core activities</td>
<td>Commercial</td>
<td>Yes</td>
</tr>
<tr>
<td>Case 8</td>
<td>Outsourced</td>
<td>National</td>
<td>Catering only</td>
<td>Cost-plus</td>
<td>Yes</td>
</tr>
</tbody>
</table>
4.3.1 Contract holder

Of the eight cases under study, three provide catering in-house. Two of these are private sector healthcare organisations, while the other is a public sector educational institution. The remaining five cases outsource their catering operations to one of several different companies. Just one company provides catering services for more than one of the case study organisations. In this instance, the company has (separate) contracts with two of the case study organisations (1 education; 1 healthcare). Therefore, a total of 10 different providers (including in-house catering) operate across the eight organisations. As evident from Table 4.2, all cases under study unique in terms of their catering arrangements, although similarities are greater between certain cases (e.g. Case 1 & 2; Case 4 & 5; Case 6 & 7) than others. For example, Case 4 and 5 both operate using in-house catering and are not bound by any contracts. In contrast, Case 6 and 7 have international agreements with outsourced providers that supply a range of non-core services including catering.

In-house

During interviews for Cases 4 and 5, the advantages of in-house catering were articulated in terms of maintaining control over the food service and having the flexibility to change and quickly adapt to any arising situations. Both of these organisations place food quality and consistency of standards as the number one goal. Although cost is also reported as a significant factor in food provisioning, quality is not sacrificed for cost. Hence, in Cases 4 and 5, they establish the minimum food quality they require and subsequently attempt to achieve that quality at the best possible price. This is in direct contrast to other organisations that first set the price and then try to maximise the quality within this constraint (e.g. Case 3). Additionally, Cases 4 and 5 displayed a preference for supporting local producers and suppliers where feasible. They felt that this ability would be diminished were they to lose control over the catering services. Interestingly, in Case 2, where the catering is also in-house, one interviewee envisaged a move towards outsourcing of their catering operations. They felt that “the majority of services will be centralised. Anything that can be centralised will be centralised” (R7). From this respondent’s perspective, greater centralisation of support services was seen as a positive action, as it would ultimately reduce administration and food procurement costs. Significantly, this attitude clearly reflects the ‘low-cost mentality’ that dominates public sector procurement in Ireland (and elsewhere).

Outsourced

In addition to lower food costs, further perceived advantages of contract catering within public sector organisations were outlined by the general manager in Case 3. From their organisational point of view, people management was deemed much easier with contract catering because rostering, staffing and administration are all under the remit of the contract. Additionally, contract staff were perceived to have more flexible terms and conditions, or working arrangements, than in-house staff,
Findings one

thus allowing labour efficiency to be maximised. Similar labour efficiencies are regarded impossible to achieve in-house, because public sector organisations are bound by national terms and conditions for particular pay grades, and changes in working arrangements require extensive union negotiations. Finally, the interviewee expressed the belief that contract staff are considered to have a greater focus on Key Performance Indicators (KPIs) than in-house staff, thereby allowing performance and productivity to be more easily measured and managed.

4.3.2 Scale and scope of contract

Catering contracts across the eight case study organisations ranged in scale from site-specific contracts to global contracts. The scope of the contracts ranged from catering only to wider facilities management, incorporating additional services including cleaning, hygiene, landscaping, mechanical and electrical maintenance, office support services and security.

In addition to the three in-house operations (Cases 2, 4 and 5), only one other organisation (Case 1) had a catering contract that is specific to a single site. In the other four cases, the contract covers more than one location. In 2015, Case 3 moved from a site-specific contract to a regional contract covering seven locations. The contract is for catering only, and does not include other support services (e.g. cleaning). According to the organisational management, the decision to tender on a regional basis was taken with a view to achieving greater cost efficiencies as a result of their stronger bargaining power. Again, this position is reflective of current trends within public sector contracts and services towards consolidation and increased centralisation, primarily motivated by financial considerations.

The other three cases (Cases 6, 7 and 8) involved multinational organisations. Interestingly, each case varied in relation to the scale and scope of their catering contract. In Case 6, the catering forms part of a facilities management contract that is negotiated on a global basis, thus covering non-core activities (e.g. cleaning, landscaping, security, etc.) for their entire worldwide operations. Hence, contract negotiations take place outside of the specific site and largely outside of the remit of the on-site management team. According to the organisation’s Managing Director, the on-site catering manager is largely responsible for running the canteen, and organisational management rarely intervene. Having said this, the on-site management team still take independent decisions around catering issues. For example, they decided to introduce a subsidy for the canteen to reduce costs for employees. This decision was taken locally and does not affect their other sites in Ireland or abroad.

Similarly, for Case 7, catering is a component part of a larger facilities management contract. In this instance, the contract covers the organisation’s European operations, however, each site is still negotiated independently, thus maintaining a degree of flexibility on behalf of the organisation to adapt terms and conditions or change service provider if necessary. In the past, the organisation employed a local
independent caterer to provide the canteen services. They then switched catering provider, employing a large multinational company. After a further period of 4 to 5 years, the contract, retained by the incumbent, was expanded to include wider facilities management. Most recently, the facilities management contract was renegotiated on a European-wide basis, resulting in a change of service provider. According to organisational management, there was no explicit focus on food sustainability during contract negotiations. The transition, from the original catering contract held by a small local company, to an international facilities management contract held by a large multinational company, provides a further clear example of current trends towards consolidation in support service provision. This example from the private sector reiterates the earlier findings within public sector organisations.

In contrast to the previous two cases involving multinational organisations, the catering contract in Case 8 covers the organisation’s two Irish operations only, and does not include any other support services. According to the HR manager, negotiating a separate catering contract allows the organisation to find a proficient food service provider that best suits their needs, without compromising the quality of other facilities management services. The catering contract is a result of extensive negotiations between management personnel and prospective service suppliers. The process involves an initial evaluation of five tenders, from which the three most suitable submissions are selected. Successful candidates enter the next phase of the tender, which involves site-visits to assess their catering service in similar environments elsewhere, followed by a first phase interview. Following this process, two caterers are shortlisted. In the final stage, the two remaining caterers are weighted in relation to the KPIs set out by the organisation. These KPIs are then used to monitor the appointed caterer’s performance over the duration of the three-year contract. Although cost is reported as a factor in choosing a catering provider, quality, service and partnership are more pertinent considerations. According to organisational management, sustainability is a huge focus for the organisation, and is incorporated into all third-party contracts. Examples from catering contracts include KPIs for food waste (< 2%) and a preference for local food supply chains.

4.3.3 Type of contract

There are numerous different types of contracts that an organisation can agree with a catering provider. These include concession contracts (Cases 1 and 2), cost-plus contracts (Cases 3 and 8), and commercial contracts (Cases 6 and 7).

Concession contract

A concession agreement is an agreement between the organisation and the concession owner that grants the caterer the right to operate on the organisation’s premises under specified conditions. In return, the owner of the concession pays a
Findings one

fixed sum or a percentage of revenue to the organisation. The terms of the concession agreement vary depending on its desirability.

In Case 1, there are four concession owners operating a total of 15 restaurants and cafés of various sizes. In addition to fixed costs, such as concession rates, caterers must cover all overhead costs associated with the provision of the service. These costs include electricity, gas, water, insurance, waste disposal, etc. The caterer also pays a referral fee to the organisation for all conference/function business generated. Additionally, the net profit on all function business is split between the organisation and the caterer. In some agreements, caterers are expected to contribute to an investment fund for the improvement of new and existing facilities. At the time of interview, the majority of concessions that were in place were agreed in the period from 2007-09, either before or during the early stages of the subsequent economic recession. Hence, it is unsurprising that, following several years of economic austerity, caterers operating in Case 1 identified high rents and rates as a constraining factor for developing their business. In addition to rental payments, a fall in consumer spending, coupled with rising food prices, place severe economic pressure on caterers. As a result, caterers operating in this organisation felt they are forced to cut costs wherever possible, including sourcing cheaper food. Figure 4.1 uses direct quotes taken from an interview with a catering manager based in Case 1 to show how combined economic pressures from multiple sources result in “a race to the bottom within food service” (R4).

In Case 2, the concession owner is a subsidiary of the main organisation. Hence, although the concession owner pays rent and rates to the organisation, they are in effect an in-house operation. The caterers are not under the same economic pressure as concession holders in Case 1, despite paying rent and rates, having a similar consumer base and dealing with rising food prices. The primary difference for the catering manager in Case 2 is that any profit generated is reinvested back into the catering company rather than going to shareholders or wider organisational budgets.
Figure 4.1  
An example of the economic pressures reported by a catering manager (Case 1)  

Organisation:  
"the rents and the depreciation rates that are paid to government bodies are absolutely chronic."

Consumers:  
"realistically, unless it’s food for nothing they have no interest."

Rising food prices:  
"over the last number of years, everybody will say food inflation is chronic"

Catering manager:  

Head office (contract caterer):  
"you have to follow what your head office want, and no matter what, head offices will continue to squeeze their units to make head office look profitable."

Cost-plus contract

A cost-plus contract is an agreement where the caterer is paid for their expenses to an agreed limit plus additional payment to allow for profit. The structure of cost-plus contracts differs depending on the agreement reached between the caterer and the organisation. In Case 3, the contract is somewhat complex as it covers a number of different streams including patient food, staff and visitor restaurants and a retail outlet. The agreement is most closely representative of a cost-plus-incentive fee contract. Here, the caterer is reimbursed for costs incurred, plus paid a management fee and a percentage split of profit from retail sales. Therefore, there is an incentive for both the organisation and the caterer to maximise income from catering operations. From the organisation’s perspective, profit generated from catering operations feeds into the organisation’s overall budget, and does not go directly towards catering and food service. This is in contrast to Case 2 above where profit is directly reinvested into catering.

Although Case 8 is not strictly a cost-plus contract, it nevertheless shares many characteristics with this type of agreement. Case 8 is unique in this study insofar as the organisation pays for lunch for all employees. In addition, they also subsidise breakfast and other food including tea and coffees. The impact of food subsidies in terms of sustainability and employee wellbeing is further explored in section 4.3.4.

Commercial contract
Commercial contracts are becoming increasingly common in contract catering, particularly within the B&I sector where organisations are moving away from cost-plus agreements. From the organisation’s perspective, a commercial contract shifts a large quantity of the financial risk onto the contract caterer. The caterer is generally paid a small management fee in order to run the canteen/restaurant under agreed terms and conditions. The caterer retains any profit generated, however, they also absorb any loss.

In Cases 6 and 7 the catering contracts are both commercial. The contract is agreed between the facilities management company and the organisation. Contract agreements include price controls and tariffs placed on certain dishes and food items (see also section 4.3.4), thus restricting the autonomy of the catering manager in terms of pricing. In addition, the facilities management company set financial performance targets for their on-site catering managers, typically expressed as a percentage of gross profit. Therefore, catering managers are “working in very, very tight guidelines” (R18). In order to meet financial targets, they are under pressure to increase the use of their service and reduce costs whilst maintaining the agreed standard of quality and service. According to one respondent:

“...the big business and industry contracts that are coming up, they used to be traditionally cost-plus contracts, they're all currently commercial. So what's actually happening then is the food is not viable, and what’s happening then is you have a huge switch towards integrated services and combined services management, where it’s cleaning, security, everything underneath. That’s where you’re making your money, and the food is just breaking even. That’s where the industry is going, there is no money left in food” (R4).

In other words, when commercial catering contracts form part of a larger integrated services agreement, as in Cases 6 and 7, facilities management companies can make an overall profit by offsetting losses made in one area against gains in another.

4.3.4 Food subsidies and tariffs

Of the eight organisations under study, six choose to subsidise food for staff. From an organisational perspective, subsidised food encourages staff to use catering facilities (R21), which “keeps the employees on-site” (R18) and “causes minimum disruption to the working day” (R20). Food subsidies can take a number of different forms including staff discounts, direct monetary payments to caterers, and indirect subsidies such as the provision of overheads. Staff in Cases 3 and 4 receive a small discount on food purchases; however, the visitor price is also deliberately kept below high street prices. In Case 3 the subsidy has gradually been reduced over the last number of years and, according to the general manager, “the gap is narrowing all the time between the public and the staff” (R14). In Case 5 the food is not directly subsidised for staff, however they do receive a discount (15%) if they purchase food using a prepaid loyalty card system.
The canteen in Case 6 is directly subsidised by the organisation. Here, consumers are charged at a reduced rate and the agreed difference is paid to the contract caterer by the organisation. As previously mentioned, the decision to subsidise the canteen was taken by the local management team. This is in contrast to the organisations other sites in Ireland and worldwide, where food is not subsidised despite the organisation operating under a global catering agreement.

In Case 8 the food is also directly subsidised for employees. The subsidy extends to a free lunch for all employees, plus subsidised breakfast, tea, coffee and other foods. From the organisation’s perspective,

[...] they look on the company as being hugely successful on the back of each and everyone of their employees...they look at different ideas in attracting people, and in keeping people, and securing people, so one of the things is they’ve always had this free lunch (R24).

The free lunch currently operates on a flexi-points system, whereby each employee has a maximum daily allowance of 10 points. The points are distributed between soup/starter (2 points), main course dish (6/8 points, depending on size and daily specials), and dessert/fruit & yogurt (2 points). The modus operandi for the lunch service is constantly evolving and changing, with new systems and delivery models regularly tested.

In Case 7 the organisation does not pay a direct subsidy to the contract caterer, thus leading to some confusion and tension around the issue. According to the catering manager, “it’s debatable, the whole thing of subsidy” (R19). Much of this uncertainty can be attributed to a recent change from a cost-plus to a commercial contract. Hence, where the contract caterer used to get reimbursed for all their expenses under the old agreement, they no longer do so. Nonetheless, organisational management still takes the view that catering is subsidised because of the facilities and overheads provided at no cost. According to an organisational manager:

“It’s subsidised, if you think of the content of the electricity been provided, the facilities been provided. So if you were to open up a food service provider company you would be minus before you could start, you would have to pay rent, rates, insurance, public liability insurance, you’d have to pay your gas, electricity, so there is all of those type of overheads, and we pay those” (R20).

In Case 1, the caterers operate without any subsidy and must pay for all of their overheads. One catering manager reported paying an annual waste bill of €38,000, while another emphasised that they are “not subsidised in any way, yet our meals, a lot of our food is at subsidised prices” (R1). With students accounting for a large proportion of their consumers, another catering manager agreed that “producing food to match their price is a challenge, and it’s getting more of a challenge” (R2). High levels of rent and rates, and low levels of consumer spending, mean that caterers are forced to cut their food budgets, with one catering manager admitting to “trying to put everything on their plate for less than €1” (R2).
Evidence from the eight case studies suggests that meals purchased in large organisations are typically cheaper than high street cafés and restaurants. In some cases (e.g. Cases 3 and 7) the price of food in organisational settings can be kept relatively low because caterers do not have the same levels of overheads (rent and rates) as other food outlets. In other cases the caterer can keep prices down because they are not under pressure to reach high profit targets (e.g. Cases 2 and 4), or because they are subsidised by the organisation where they operate (e.g. Cases 6 and 8). In many catering contracts, tariffs are agreed between the organisation and contract caterers, thus ensuring low food prices. In effect, the tariffs restrict caterers from charging consumers above the agreed price for particular items or dishes. One advantage of setting tariffs is that they keep the consumer price low and restrict caterers from profiteering. However, tariffs can also be effective in terms of making healthy and sustainable food more affordable, whilst offsetting price reductions against unhealthy items. This strategy was articulated by one organisational manager:

“we agree the tariffs for particular items available, so certain items like your confectionary, bars of chocolate, cans of coke, or whatever, we don’t get involved in the pricing of those, they’re regular retail price. For your main course, lunch, your soup, that kind of stuff, we would, all tariffs are agreed with [the organisation]...So in the last number of years we got some very, very strong feedback from employees that they felt it was more expensive to eat healthy, you know, the chips with curry sauce, the cost of that versus to get some salads at the salad bar. So with that in mind we’ve consciously not increased the cost of some of our healthier options, our salad bars, etc., but we might have increased the cost of other products, the sausages, the rashers, the chips, that kind of thing” (R20).

This example shows a potential pathway towards promoting healthy sustainable eating in organisational settings, using targeted pricing as a key strategy. On the downside, with pricing restrictions in place, caterers may be tempted to ‘push’ items with higher profit margins, such as confectionary and processed foods, on consumers. Hence, organisations must work with caterers, and vice versa, to develop the optimum strategy that allows caterers make a profit, keeps consumer prices at reasonable levels, and ensures a healthy sustainable supply of food.

4.3.5 Procurement practices

As highlighted previously, organisations, in their role as purchasers of large volumes of food, influence the food system through their procurement activities. By purchasing certain items, they support the production of specific foods and the methods used to produce them, including fresh, processed, and pre-prepared products. Organisations also influence consumption behaviour through their decisions that affect the availability, accessibility, and affordability of different foods. In addition, organisations, whether inadvertently or otherwise, support and legitimise specific modes of food production and distribution through their direct and indirect supply chains.

Organisational food procurement occurs through different scales and structures, ranging from large multinationals purchasing through centralised procurement
systems and large public-sector purchasing consortia, down to individual organisations with independent non-centralised purchasing models. In this regard, caterers in this study operate using one of three principle procurement practices, centralised (Cases 1, 3, 6, 7 and 8), semi-centralised (Cases 1 and 4) and non-centralised procurement (Cases 1, 2, and 5).

Centralised procurement

Centralised procurement contracts generally favour large ‘conventional’ supply chains (Marsden and Morley, 2014). At the same time, multinational facilities management companies are increasingly moving towards centralised food procurement systems, often using a single supplier. Approved product listings (APLs) and prices are negotiated and agreed with suppliers at head-office level rather than on an individual site basis. Individual site managers then purchase from within the APL at the agreed prices. According to one catering manager, “the two main reasons for centralised buying is 1) the HACCP side of it and, 2) the financial side of it” (R17). Another manager who has “only one supplier for everything” feels that “it supports [them] from an administrative point of view, it’s all on one docket” (R19). Many catering companies “try to standardise each location within the realms of a certain [level]” (R13). In this respect, APLs ensure that “every single site that [the catering company] have in Ireland are buying off the same people, get charged the same amount, and can only buy the listed number of products from each supplier” (R17).

On the other hand, one caterer felt that their flexibility was restricted by central control: “when your menu goes out, it has to be what you’re allowed to buy, so your ability to be creative is null and void” (R4).

Within the central procurement system, some companies source all of their products from one distribution company. As one responded noted, “disposables, chemicals, fruit and veg, sandwiches, everything comes off of that one truck” (R4). Other companies “have an approved list of suppliers and [they] would have an approved list of products that [they] can buy off those suppliers” (R25). However, these companies are also continually consolidating their supply chains. In this regard, this catering manager feels that “it will keep going until eventually it’s down to one van, or one lorry coming in on a daily basis, or every second day” (R25).

Semi-centralised and non-centralised procurement

Semi-centralised procurement occurs when catering companies give autonomy to individual sites for some purchases but other items are bought centrally. In these instances dry goods such as cash-and-carry items are generally purchased from nominated suppliers at agreed prices, whilst fresh goods such as fruit and vegetables, dairy, bread, fish and meat might be bought on a non-centralised basis. In non-centralised procurement, individual sites carry out all of their own
purchasing. In one case, where food procurement is non-centralised, contracts are awarded to suppliers under a framework agreement for an initial period of one year, and extended for up to four years if satisfactory. If the caterers are not happy, then a mini competition is held to find a new supplier. The catering manager does not feel “that they get the best value with the tenders” (R7), however the system does bring some degree of certainty that you cannot guarantee “if you were to go to the market every single day”. Although tenders are awarded on the most economically advantageous tender,

“it’s not awarded just on price, you’re awarding on your pre-set criteria which would include getting samples, it would include, you know, sometimes it might be that there is a certain amount of organic included” (R7).

Non-centralised procurement allows purchasing managers flexibility to negotiate individual deals to ensure they can get the best in terms of quality, service and price. Some managers compare prices on a monthly or bi-annual basis, depending on the product (R21), whilst others are “checking prices all the time, just constantly, constantly keeping on top” (R3). Catering managers operating a non-centralised procurement system find that “it keeps the competition going” and “you’re able to negotiate better prices” (R23). Additionally, caterers find it reassuring to not have all of their eggs in one basket,

“it’s good to have a balance, you know, that if you keep with just one supplier, the loyalty is just with one supplier and they know that as well. And then if they let you down, well where are you left with?” (R21).

A number of interviewees also cited the ability to support local producers and suppliers as an advantage of non-centralised procurement (R8; R21; R23); this issue is further explored in section 4.4.

Advantages and disadvantages of different procurement systems

Although the advantages and disadvantages of centralised and non-centralised procurement systems might be considered context dependent, Case 1 provides an interesting example, as four caterers operate using their own particular purchasing strategies including centralised and non-centralised procurement. The decision to have a variety of caterers, working to different business models, is a strategic one taken at management level. Organisational management feel that, “if you have competition, it will drive quality, choice, and variety, and it will improve competitiveness” (R5). Significantly, expectations in terms of procurement differ depending on the size of the catering contract. Hence, larger catering providers are not expected to support smaller and local suppliers to the same extent as smaller catering companies. In reference to being asked to list suppliers on bigger tenders, management say that they

“would still ask that question, but the weighting might be less, because we would know that the type of operator who had the wherewithal to deliver that service may not, you know, is working towards a model” (R5).
This model, of centralised procurement through a single supplier, is seen as standard for large multinational catering providers, and is perceived to bring certain benefits, particularly greater purchasing power through economies of scale. They are considered to “have a model for purchasing, and that model is imposed on each site that they’re in” (R5). Therefore, there is a perceived inevitability about how larger catering companies operate, and there is no attempt from the organisation to influence their modus operandi.

Although larger caterers have economic advantages in terms of purchasing power, this advantage does not necessarily filter down to site level. Prices are agreed on a national basis, thus removing the autonomy of individual site managers to make personal deals. Therefore, the greater savings from centralised procurement systems are likely to be made outside of food in relation to areas such as administration, finance and accounting. According to a catering manager working within a centralised procurement system,

> “when you’re dealing with one big chain and your unresponsive to the little person, you can’t negotiate the little deals that are going to get you over the mark” (R4).

Another catering manager, when comparing their respective procurement practices, also recognises this pricing differential:

> “Their price is set. Whereas I’m different, I can, I’ll carry 4 to 5 suppliers here and I’ll play them off of one another...so I’m able to buy stuff at a lot cheaper rate...[Suppliers] will sell you stuff even under their cost price so that they get a foot in the door, because they’ll ask you to get something else” (R2).

Like supermarkets, food distributors will engage in below-cost selling in an attempt to gain market share. As well as promoting more discounted deals and special offers, smaller suppliers are carrying a wider range of products in order to compete with larger food distributors:

> “[One time] a lot of them would deal only in frozen food...they didn’t want to deal with anything else. Now these companies are diversifying into dairy, fresh stuff, canned, everything, they’ll do everything just to get any corner of the market at all” (R2).

Evidence from Case 1 shows how competition in the sector is driving prices down and leading to consolidation within food distribution chains. Smaller companies are diversifying in order to compete with larger suppliers, and larger suppliers are continually expanding and consolidating, thereby removing competition and maintaining their competitive advantage.

4.4 Organisational food culture

Organisational culture plays a significant role in shaping and reinforcing prevailing attitudes to food provisioning in large organisations. As outlined in Chapter 2, organisational culture is made up of visible aspects, such as behaviour and physical structures, and invisible facets such as underlying values, assumptions and beliefs
Findings one

(Schein, 2010). In the context of this study, organisational culture refers to the practices of organisations in relation to food provisioning and their promoted values and statement of beliefs concerning food-related activities. Acknowledging and understanding the prominence of diverse food cultures across organisations suggests that certain decisions or changes in relation to food provisioning may impact differently between organisations. Hence, attempts to improve food sustainability (e.g. introduction of a meat-free day) will not be equally as effective across all organisations, with prominent food cultures playing a major role in the variation. In other words, organisational culture can facilitate or inhibit a transition to more sustainable food provisioning within organisations (Senge, 2014).

Organisational culture is influenced by myriad internal and external factors; however, some influences are likely to be more dominant than others depending on the case considered (Senge et al., 2008; Harper, 2015). In some instances, attitudes towards sustainable food can be primarily driven by interested individuals working within an organisation, while in other cases it may be down to external factors such as government directives (Walker and Preuss, 2008; Goggins and Rau, 2016). Whatever the source, dominant attitudes impact on the food service delivery, including consumer expectations and the type and quality of food provided (Price et al., 2016). Identifying key roles and positions from which to develop and instil a positive culture in relation to sustainable food is a major goal of this research.

Over the last number of years, a low-cost mentality has dominated public sector catering (Morgan and Morley, 2014) (Table 4.3, C4). Moreover, Irish public sector organisations are increasingly expected to maximise revenue from alternative avenues, including catering operations (Table 4.3, C1; A4). Although there are examples to the contrary (Table 4.3, B4), these are likely to be the exception rather than the rule. Nonetheless, exceptional cases provide an insight into alternative approaches to food provisioning, and show that a low-cost model is not a fait accompli. In an example external to this research project, The Marine Institute redesigned their menus to support local producers, reduce food waste and introduce an organic menu one day a week. They were able to achieve this change without budget increases, and feedback from staff was very positive. The initiative shows that ‘organic foods can be introduced to public sector canteens at little or no extra cost, provided that the focus of procurement is on local and seasonal food ingredients’ (Government of Ireland, 2011, p43). The example from the Marine Institute also shows that an appreciation of the need for change, and a willingness to change, are important factors in developing a more sustainable supply of food in large organisations. As this research shows, these characteristics are more prominent in some public sector organisations (Table 4.3, B2) than others (Table 4.3, A2).

Although cost remains a central consideration for private sector organisations, it is not necessarily their primary concern in relation to food provisioning (Table 4.3, D4; E1; H4). This is particularly evident for Cases 4 and 5, where quality is their
foremost objective. In these cases, the quality of food is not compromised for cost; however, they do try to attain their respective standards at the lowest price possible. When put in context – these are both private sector healthcare providers – it is understandable that these two organisations must maintain a high standard in order to attract customers in a competitive market. Nonetheless, their attitude towards expectations in terms of food standards is notably different in comparison to the public sector healthcare provider involved in this study (Case 3). Whereby, in Case 5, the nutritional value of the meal service is considered to be “a very important part of the rehabilitation of patients” (R23), in Case 3 it is considered more of “a requirement that patients are fed”, to “offer a good enough choice that it’s not damaging the well-being of the patient” and “that the food is up to an acceptable edible standard” (R13). Although by no means the most extreme cases possible, these examples illustrate the existence of a wide range of expectations and standards in organisational food provisioning.
Findings one

Table 4.3
Factors influencing food culture across 8 organisations under study

Note on table: This table includes quotations from key decision makers regarding food provisioning in Cases 1-8. In order to protect anonymity of research participants, quotations have not been attributed to specific individuals. Instead, selected quotations derive from one of two sources, 1) interviews with catering managers, and 2) interviews with organisational management. To distinguish between these two sources, quotations from catering managers are presented in italicics.

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<thead>
<tr>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td>Factors influencing food provisioning</td>
<td>Attitudes to food sustainability</td>
<td>Relationship between consumer and caterer</td>
<td>Relationship between organisation and caterer</td>
<td>Relationship with community and small producers</td>
<td>Consumer choice</td>
</tr>
<tr>
<td>A Case 1</td>
<td>“if you have competition it will drive quality, choice, and variety and it will improve competitiveness.”</td>
<td>“the average person going to buy a plate of food at the moment, I don’t, is it [sustainability] a big, is it an issue?”</td>
<td>“producing food to match their price is a challenge, and it’s getting more of a challenge”</td>
<td>“all of the caterers, you know, they’re self-financing, they’re here contributing finances to the [organisation]”</td>
<td>“we try then to have a balance of the larger company and the smaller company, you know, the larger company would bring certain economies of scale”</td>
</tr>
<tr>
<td>B Case 2</td>
<td>“one of the main factors we have to consider here is that we have the very same people every single day, so choice is a big consideration.”</td>
<td>“there has been some system change in terms of what we were doing, but there’s also been a mindset change which has also helped as well”</td>
<td>“we would do customer surveys just to see, you know, to benchmark year on year to see how we’re doing, we do it a number of times a year.”</td>
<td>“I suppose the priorities of the [catering] company and [the organisation] is not to be filling up the bank, it’s to keep the company going, keep the staff employed, keep providing a service, but to keep the costs as low as possible for [consumers]”</td>
<td>“a relationship is not just about ordering a product and paying the bill, it’s about actually having a relationship.”</td>
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105
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<th>1</th>
<th>Factors influencing food provisioning</th>
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<tr>
<td>C</td>
<td>Case 3</td>
<td>“[the service provision] is governed by national guidelines in terms of nutrition for the patients, it’s governed by kind of commercial aspects in terms of your, you know, for staff and in the retail shops”</td>
<td>“Where we would be looking more to be sustainable, I suppose, is on careful management of quantities and things…there’s a huge focus on waste management and waste reduction if at all possible.”</td>
<td>“you’ve to be very careful about what you’re doing on-site so that you don’t upset anybody, so that’s the balance that you’re trying to find all of the time.”</td>
<td>“Cleaning and catering would be well up there in terms of expectations on saving for the last three or four years in honesty.”</td>
<td>“in terms of the producers and the suppliers, that would be out of our hands”</td>
<td>“Traditional Ireland, the quantity of vegetarian as yet, it hasn’t gone up that much, I think on an average day you might make 20 portions of a vegetarian dish”</td>
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<td>D</td>
<td>Case 4</td>
<td>“ensure there is consistency and value given to both the patient, visitor and staff members.”</td>
<td>“we would be very conscious of our suppliers and where those products are sourced from.”</td>
<td>“you want to ensure that all the stakeholders of the restaurant, you need to ensure that they are 100% satisfied and that we do have a policy in place if somebody isn’t happy, what is the procedure then.”</td>
<td>“we can provide a service but you have to either break even or make a profit, you know, you can’t really ideally run at a loss.”</td>
<td>“when you’re in a business, no matter what the business is, you would like the support of local people using your [services], so you want to support local businesses”</td>
<td>“there was things like sausages and all of that on the menu, so we took all of that back”</td>
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<tr>
<td>E</td>
<td>Case 5</td>
<td>“Quality is number one and then we look at the cost, and then we have a quality and what is the best cost that we can get this at.”</td>
<td>“we’re very conscious of the fact that we’ve an awful lot of wastage as well within our food industry, and that’s a huge cause of concern for us, because it’s good food that’s being wasted”</td>
<td>“we take a lot of our feedback from our staff and our patients, we conduct surveys”</td>
<td>“we have a little core group within the [organisation] that are very free in giving their opinions on stuff. So we’ll always contact them if we have something new in, come up and try it out, let us know what you think.”</td>
<td>“I suppose we’ve become more conscious about local businesses and purchasing and staying with them.”</td>
<td>“Healthy options have become huge, so we look at many different healthy options”</td>
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### Findings one

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<th>Consumer choice</th>
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<td><strong>Case 6</strong></td>
<td>“the big thing is to keep the employees on-site, and not letting them go off for their lunch-break.”</td>
<td>“[The organisation] organise different events throughout the year for wellness, for example, there’s a free fruit Monday, so every Monday there’s fruit given out to the employees free.”</td>
<td>“It’s a very open two-way street that we have, that if somebody does find something wrong or they do request something, it’s a very open shop where they can come up and say, is there any way we can…”</td>
<td>“But it’s a unique site in fairness because that’s one thing that’s kind of instilled, not just in the catering department, but everywhere, is like general respect for people and a happy place to work.”</td>
<td>“So every single site that [the contract caterer] have in Ireland are buying off the same people, get charged the same amount, and can only buy the listed number of products from each supplier.”</td>
<td>“This was driven from different angles really…fry’s for breakfast, a big no no”</td>
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<td><strong>Case 7</strong></td>
<td>“very much from a business perspective it would be about providing the on-site facilities so it causes minimum disruption to the working day, keep the breaks short”</td>
<td>“sustainability, no, to be honest, we didn’t set that as a criteria”</td>
<td>“the customer look on it as they’re not getting value for money because they’re not getting heaped plates that they used to get, do you know what I mean, but we’re trying to control their intake, do you know, because of the healthy eating.”</td>
<td>“There’s a social agreement between [the contract caterer] and [the organisation] that I still haven’t got a definition about…what that social agreement is, to this day, I can’t tell you, I don’t know what it is.”</td>
<td>“Even our milk, our dairy products, comes from [one supplier], where they source this stuff from, I’ve no idea.”</td>
<td>“there will always be the chips, we did try to remove the chips one day a week… It didn’t go down well, it didn’t go down well.”</td>
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<tr>
<td><strong>Case 8</strong></td>
<td>“[the organisation] look at different ideas in attracting people and in keeping people and securing people, so one of the things, I suppose, is they’ve always had this free lunch.”</td>
<td>“They [the contract caterer] have a very sustainable practice the way they run their restaurants, and that would be something that would be huge for us”</td>
<td>“they are very good, they don’t look at us as the catering staff, they think of us as part of the [organisational] team, which is very good because other places I have been it’s, you know, you’re the hired help.”</td>
<td>“We don’t just choose a company that gives us bottom dollar for bottom thingy, that’s not what the company is all about. We want quality and service, what they can come in and partner with us, and how we feel that they will fit in the organisation.”</td>
<td>“that would be one of the major things that has changed, with the cutting down the suppliers”</td>
<td>“we only do chips on a Friday…they’re used to it, it’s always been the way here”</td>
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</table>
From a social-scientific perspective, one crucial aspect of any sustainable food system is the relationships that it fosters. From an organisational perspective, relationships are paramount in forming and reinforcing organisational culture. Therefore, the relationship between the caterer and the consumer, between the caterer and the organisation, and between the organisation and the local community are crucial to understanding how a more sustainable food system might develop within this sphere. Although all of the caterers involved in this study communicate with their customers to some degree – through their everyday interactions, comment cards and other feedback systems – not all relationships are equal. In some of the Cases, the caterers are very much considered part of the organisational team (Table 4.3, D3; F3; H3); whilst in other organisations there is a disconnection between consumers and caterers (Table 4.3, C3; G3).

Interestingly, it appears that in cases where a disconnection exists between caterers and consumers, there is also a similar discrepancy between the caterer and the organisation (Table 4.3, A4; C4; G4). Moreover, organisations in this study that show good consumer-caterer relations also tend to have healthier organisation-caterer connections (Table 4.3, B4; E4; F4; H4). Hence, organisational culture and attitudes towards food provisioning has a significant impact on relationships at both sides of the catering equation. As well as fostering linkages with consumers and organisations, the catering service, whether in-house or outsourced, also creates an important link between the organisation and food producers and suppliers. For some organisations, food procurement is seen as an opportunity to support local business (Table 4.3, E5) and build meaningful or reciprocal relationships within the community (Table 4.3, B5; D5). In other organisations, food procurement is a functional activity and there is little consideration from the organisation’s perspective to food provenance or its sustainability credentials (Table 4.3, F7; G7). How these relationships, or lack of, can be harnessed with a view to developing a more sustainable food system is explored in detail in Chapter 6.

The final aspect of organisational culture that is explored in Table 4.3 is consumer choice and the power dynamics in relation to food provisioning. All of the organisations in this study mentioned consumer health as an influencing factor on food provisioning, however some organisations are more willing than others to intervene in areas such as menu choice. While the majority of organisations in the study claim to have expanded consumer choice, to include a greater number of healthier options (e.g. Table 4.3, E6), this trend has generally been led by consumer demand. On the other hand, restrictions in terms of availability of unhealthy produce are in place only in some organisations (Table 4.3, D6; F6; H6) and have largely been organisational-led. Having said this, not all attempts by organisations to instil healthy eating behaviour have been successful (Table 4.3, G7), thus further highlighting the important role of organisational culture in sustainable food provisioning. The willingness of organisations to take the lead in promoting sustainable food, and the best opportunities for intervention, are also explored in Chapter 6.
4.5 Conclusion

By linking data collected through qualitative interviews to key insights from the literature review concerning the sustainability potential of organisations, this chapter has revealed the heterogeneity of large organisations concerning food provisioning, highlighting some of the factors that influence decisions taken around catering services. It has demonstrated how organisations differ in terms of their primary function, consumer base, sector, size and scale, with each of these factors affecting decisions taken in relation to food practices. Significantly, the influence of each of these factors on sustainable food provisioning clearly varies across cases, indicating potential opportunities for sustainability improvement.

With an increasing organisational trend towards outsourcing non-core activities, the scale, scope and specifications of catering contracts significantly impact on food provisioning and the system by which it is realised. In this regard, this chapter has demonstrated the crucial importance of well-considered food related contracts in supporting sustainability. Finally, organisational food culture has been shown to substantially influence decisions relating to food provisioning and the possibility to develop a more sustainable supply of food. How exactly this transition might be achieved given current organisational structures is further investigated in Chapters 6 and 7, but first, Chapter 5 assesses the sustainability of current food provisioning across the eight organisations and highlights incremental changes that could increase food sustainability in the long-term.
Chapter 5

Assessing the sustainability of food provided for public consumption using the FOODSCALE method
5.1 Introduction

As has been shown in Chapter 4, qualitative forms of inquiry are very suitable to capture decision-making processes concerning food provisioning and sustainability in organisations. However, there are limitations in terms of measuring the concrete impact of these decisions, with opportunities emerging for quantitative food sustainability assessment that delivers data to complement the interview material. The FOODSCALE method developed specifically for this study considers social, economic and environmental factors (Table 5.1) as well as production methods (supply side) and consumption patterns (demand side). It thus differs significantly from established sustainability assessment tools that have been applied to food systems across different geographical assessment scales ranging from the local to the global (Schader et al., 2014).

The choice of indicators included in the FOODSCALE closely mirrors key themes in the food sustainability literature outlined in Chapter 2. In particular, the eleven categories included incorporate the ‘seven principles of sustainable food’ identified in Sustain’s (2007) report ‘Serving up sustainability: A guide for restaurants and caterers on how to provide greener, healthier and more ethical food’. The report produces guidelines for businesses on adopting a sustainable food approach. Principles of sustainable food identified include using local, seasonal, organic and fair trade certified products; reducing the amount of meat served; avoiding at risk fish species; serving tap water instead of bottled water; and promoting health and wellbeing. In addition to measuring these seven principles, the FOODSCALE also incorporates indicators for food waste, interaction with consumers, and engagement with small producers and local communities.

5.2 How the FOODSCALE works

As previously outlined in section 3.3.2, the FOODSCALE deploys a points system ranging from 0-100, only using integers to make the results easy to understand and to facilitate comparisons both within and between cases. The maximum score of 100 points is distributed across 11 categories and 36 indicators. Each of the 11 categories are weighted to a maximum score of 5, 10, 15 or 20 points, with scores for each indicator ranging from 6 to 1. Higher scores indicate greater sustainability (see column 1 in Table 5.1 for details). Greater weight is given to categories that are considered to have a more significant impact on overall food sustainability and that reflect a positive attitude towards providing healthy, sustainable food for consumers, combined with a significant commitment to change. Allocating scores across a number of categories and subcategories helps to clearly identify where current practices are sustainable or where they are insufficient or can be improved. Further information on each of the main categories and their relative importance in food sustainability is provided below.
Table 5.1
Social, environmental and economic rationale for the FOODSCALE and indicators used to assess food sustainability

<table>
<thead>
<tr>
<th>Category</th>
<th>Social Impacts</th>
<th>Environmental Impacts</th>
<th>Economic Impacts</th>
<th>FOODSCALE Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organic (10 points)</td>
<td>• High ethical and animal welfare standards</td>
<td>• Avoids use of artificial chemical fertilizers leading to lower environmental impact</td>
<td>• Reduces external costs to society associated with conventional food systems</td>
<td>✓ Percentage of total food organic certified</td>
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<td></td>
<td>• Greater bio-diversity and crop diversification</td>
<td>• Restricted pesticide use protects bio-diversity</td>
<td>• Fulfils growing demand for organic produce</td>
<td>✓ Percentage of fruit and vegetables organic certified</td>
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<td></td>
<td>• Societal health benefits from restricted use of antibiotics</td>
<td>• Greater crop diversification</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>• Facilitates social connectedness and personal relationships</td>
<td>• Reduces external costs to society associated with conventional food systems</td>
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<td>2. Seasonality (5 points)</td>
<td>• Fresher/less processed food</td>
<td>• Reduces need for chemical treatments to increase shelf-life</td>
<td>• Reduces transport, storage and packaging costs</td>
<td>✓ Changing menus to suit seasons</td>
</tr>
<tr>
<td></td>
<td>• Increased food security</td>
<td>• Decreases energy used for storage</td>
<td>• Facilitates local producers to provide food all year round</td>
<td>✓ Displaying a seasonal food calendar for the region</td>
</tr>
<tr>
<td></td>
<td>• Supports traditional food, techniques and culture</td>
<td>• Lower transport emissions</td>
<td>• Creates more resilient farming system</td>
<td>✓ Growing own herbs/ vegetables</td>
</tr>
<tr>
<td></td>
<td>• Fosters educational relationships between growers and consumers</td>
<td>• Food produced with natures natural rhythms</td>
<td>• Importation of out-of-season produce narrows balance of trade</td>
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<tr>
<td>3. Fairly traded produce (5 points)</td>
<td>• Improved well-being for farmers in developing countries</td>
<td>• Minimum environmental standards enforced</td>
<td>• Greater access to overseas markets for poorer farmers</td>
<td>✓ Using fairly traded coffee, tea and bananas</td>
</tr>
<tr>
<td></td>
<td>• Minimum health and safety standards enforced</td>
<td>• Sustainable farming methods promoted</td>
<td>• Guaranteed minimum price for farmers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Investment in social and business development</td>
<td>• Investment in environmental projects</td>
<td>• Potential to lift poor farmers out of poverty</td>
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<td></td>
<td>• Reduces child labour</td>
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<td></td>
<td>• Builds alliances among small-scale producers</td>
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## Findings two

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<thead>
<tr>
<th>Category</th>
<th>Social Impacts</th>
<th>Environmental Impacts</th>
<th>Economic Impacts</th>
<th>FOODSCALE Indicators</th>
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</thead>
<tbody>
<tr>
<td>4. Meat (15 points)</td>
<td>• Reduced meat consumption benefits human health</td>
<td>• Reduces GHG emissions</td>
<td>• Low conversion rate from grain to meat results in high production costs</td>
<td>✓ Percentage of total food and drink budget spent on meat</td>
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<td></td>
<td>• Certification maintains high animal welfare and health and safety standards</td>
<td>• Discourages deforestation for meat production</td>
<td>• Increased consumer demand for fully traceable and certified meat products</td>
<td>✓ Percentage of total meat budget spent on red meat</td>
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<td></td>
<td>• Less intensive farming and routine use of antibiotics reduces spread of zoonosis and other diseases</td>
<td>• Prevents soil damage due to overgrazing and loss of biodiversity caused by intensive animal farming</td>
<td>• Animal welfare certification for meat products</td>
<td>✓ Animal welfare certification for meat products</td>
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<td></td>
<td></td>
<td>• Certification to a quality assurance scheme that incorporates environmental standards</td>
<td>• Prevents damage to coral reefs and other sensitive habitats (especially due to bottom trawling)</td>
<td>✓ Percentage of main course dishes containing meat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Low conversion rate from grain to meat results in high production costs</td>
<td>• Responsible fish farming can prevent disease and parasites (e.g. sea lice)</td>
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<tr>
<td></td>
<td></td>
<td>• Reduced meat consumption benefits human health</td>
<td>• Discourages illegal and unregulated fishing that undermines markets</td>
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<td>• Certifications maintains high animal welfare and health and safety standards</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>• Less intensive farming and routine use of antibiotics reduces spread of zoonosis and other diseases</td>
<td>• Discourages destruction of important natural habitats for aquaculture development</td>
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<tr>
<td></td>
<td></td>
<td>• Reduced meat consumption benefits human health</td>
<td>• Discourages illegal and unregulated fishing that undermines markets</td>
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<td></td>
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<td>• Less intensive farming and routine use of antibiotics reduces spread of zoonosis and other diseases</td>
<td>• Discourages destruction of important natural habitats for aquaculture development</td>
<td></td>
</tr>
<tr>
<td>5. Sustainably sourced seafood (5 points)</td>
<td>• Protects source of food and livelihood for millions of people</td>
<td>• Protects against overfishing, catching of non-target species and marine biodiversity loss</td>
<td>• Discourages illegal and unregulated fishing that undermines markets</td>
<td>✓ Seafood sourced from recognized accredited scheme which incorporates sustainability</td>
</tr>
<tr>
<td></td>
<td>• Addresses animal welfare concerns associated with intensive aquaculture</td>
<td>• Prevents damage to coral reefs and other sensitive habitats (especially due to bottom trawling)</td>
<td>• Responds to increased consumer demand for sustainably produced fish</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Prevents displacement of poorer coastal communities for aquaculture developments</td>
<td>• Responsible fish farming can prevent disease and parasites (e.g. sea lice)</td>
<td>• Responds to increased consumer demand for sustainably produced fish</td>
<td></td>
</tr>
<tr>
<td>6. Eggs (5 points)</td>
<td>• Organic and free-range eggs produced to higher animal welfare standards</td>
<td>• Organic and free-range eggs produced to higher environmental standards</td>
<td>• Higher returns for producers</td>
<td>✓ Type of egg used (e.g. organic, free-range, regular, bottled)</td>
</tr>
<tr>
<td></td>
<td>• Higher quality produce increases taste and flavour</td>
<td>• Quality Assurance Scheme accreditation maintains environmental standards</td>
<td>• Responds to consumer demand for higher quality produce</td>
<td>✓ Traceability and quality assurance</td>
</tr>
<tr>
<td></td>
<td>• Quality Assurance Scheme accreditation ensures health and safety standards</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 7. Water (5 points)

- Healthy alternative to sugary drinks
- High cost (of bottled water) may deter consumers from drinking water
- Tap water highly regulated and safe to drink

### 8. Food waste (10 points)

- Lower food waste increases food security
- Minimizing use of oils and fats reduces waste and leads to healthier food
- Food waste reduction initiatives raise awareness and can lead to healthier eating habits
- Unused food can be donated to feed people and reduce waste
- Waste prevention initiatives can increase communication between staff, management and consumers

### 9. Origin of food (20 points)

- Sourcing food locally/in the region increases food security and resilience to external shocks in food system
- Links producers and consumers
- Facilitates education
- Protects local food cultures

### Social Impacts

- Healthy alternative to sugary drinks
- High cost (of bottled water) may deter consumers from drinking water
- Tap water highly regulated and safe to drink

### Environmental Impacts

- Drinking tap water reduces environmental impact of bottled water including production, transport and disposal costs
- Locally bottled water has lower transport emissions

### Economic Impacts

- Bottled water more expensive than tap water
- Eliminates waste costs for disposal of plastic bottles
- Supplying locally bottled water contributes to local economy

### FOODSCALE Indicators

- Source available for customers (e.g. filtered water free of charge, tap water, bottled water only)
- Origin of bottled water

- Lower food waste increases food security
- Minimizing use of oils and fats reduces waste and leads to healthier food
- Food waste reduction initiatives raise awareness and can lead to healthier eating habits
- Unused food can be donated to feed people and reduce waste
- Waste prevention initiatives can increase communication between staff, management and consumers

- Reducing food waste also reduces environmental costs
- Food waste can be recycled to produce compost, fuel or animal feed
- Provides awareness of environmental issues
- Encourages other sustainable practices such as using reusable or recyclable supplementary materials

- Less food waste reduces costs for producers, consumers, caterers and intermediaries
- Reducing food waste can lead to more efficient overall business management procedures (e.g. stocktaking, ordering, storage)

- Provenance of five key foods to local, regional, national or international origin
- Number of intermediaries between producer and consumer
### Findings two

<table>
<thead>
<tr>
<th>Category</th>
<th>Social Impacts</th>
<th>Environmental Impacts</th>
<th>Economic Impacts</th>
<th>FOODSCALE Indicators</th>
</tr>
</thead>
</table>
| 10. Consumer engagement (10 points)   | • Improved health and nutrition  
• Increased awareness  
• Producer-consumer relationships built on trust and reciprocity  | • Promotes sustainable food activities  
• Educates consumers about environmental benefits and costs of certain food items  | • Promotes food provenance and locally produced goods  
• Consumer input can reduce costs  | ✓ Nutrition information on menus  
✓ Health/sustainability promotion activities  
✓ Customer surveys  
✓ Menu information re food provenance  
✓ Good choice of allergen-free dishes and options |
| 11. Engaging with smaller producers and local communities (10 points) | • Provides educational opportunities for local community  
• Fosters relationships between local producers and consumers | • Educates workers about environmental impacts of food choice  
• Promotes environmentally sustainable food  | • Increased business opportunities for small producers  
• Contributes to resilient local economy  
• Keeps money in the local community for longer  | ✓ Hosting information events (re tendering) for small and local producers  
✓ Incorporating specifications into contracts that increase opportunities for smaller and local producers  
✓ Activities to promote local food  
✓ Staff training in product information (origin, environmental and social quality of products) |
5.2.1 **Organic certified food** *(10 points):*

Organic food is produced with limited use of artificial chemical fertilizers, thereby reducing the dependency on fossil fuels associated with conventional agricultural practices. Soil health is maintained through the use of natural fertilizers and strategic crop rotation and diversification, contrasting conventional monoculture farming. The restricted use of synthetic fertilizers, pesticides and antibiotics helps to protect biodiversity and avoid negative societal impacts such as water pollution through leaching or the spread of antibiotic resistant bacteria through routine use of antibiotics. The organic movement is built around a strong connection between people and the land and promotes high ethical and animal welfare standards (Morris and Kirwan, 2011). However as organic agriculture becomes more commercialised, and consequently mechanised, the distinction between the pioneering organic movement and modern industrialised agriculture has become somewhat blurred (Klintman and Boström, 2012). Nevertheless, choosing to purchase organic food can reduce the environmental impact of food procurement and bring benefits for society. Organisations can support organic production by choosing to purchase these foods. Using organic food does not require a change in menu for food outlets, however it may increase the cost of the food. The allocation of marks awarded for organic food is based on the percentage of total food and percentage of fruit and vegetables (in terms of value) that is certified organic.

5.2.2 **Seasonal** *(5 points):*

Despite technological advances in food transport and storage, seasonality remains an important consideration in food sustainability. Providing seasonal food means that local producers can potentially supply organisations all year round. Eating with the seasons can educate people about food and support traditional food, techniques and culture in a resilient food system. Eating in season food reduces the need to extend the shelf-life of food through the application of chemical treatments while reducing the energy needed for storage and the use of artificially heated greenhouses. Although the concept of food miles was once considered a proxy to assess the environmental impact of food, transport emissions from imported goods are now seen as less important than other factors (e.g. methods of production, type of food consumed), with the exception of goods transported by airfreight (Macdiarmid, 2013). Menus based on seasonal produce year round can potentially reduce the price of food due to better availability and fewer transport, storage and packaging costs, though this is often not adequately recognised. Organisations can change menus to suit seasons and educate staff and consumers about food seasonality by providing information such as a seasonal food calendar or list of in-season foods.
5.2.3 **Fairly traded produce** (5 points):

In a globalised food system, many consumers are detached from the impacts of their consumption choices. Increased distances between producers and consumers have helped conceal a host of diverse but related social and ethical concerns such as poor environmental practices, poor working conditions, child labour and other labour abuses. The concept of fair trade emerged in response to these concerns, seeking to address inequalities and ethical considerations in the global food system. Purchasing fairly traded produce guarantees a minimum price for farmers in developing countries, generates a social premium used to support community and environmental projects and ensures producers can secure long-term secure contracts for supplying products (Berlan and Dolan, 2014). The items chosen for inclusion in the assessment tool are coffee, tea and bananas. These represent three of the most important commodities in international food trade, they are widely available with the fair trade labels, and widely consumed in organisational settings (Tikkanen and Varkoi, 2011). Points are allocated based on the percentage of fairly traded coffee, tea and bananas purchased.

5.2.4 **Meat** (15 points):

The production of meat, in particular red meat, has a greater environmental impact than other foods (McMichael et al., 2007). Reducing the availability of meat dishes in food outlets and providing consumers with alternative options benefit human health and the environment (Hallström et al., 2014). In Ireland and other industrialised countries, many people regard meat as an everyday staple rather than a luxury option. The majority of consumers have access to, and can afford to purchase meat on regular occasions. With demand for meat and meat products on the rise worldwide, curtailing meat consumption, in particular for the biggest consumers, is seen by many as essential to maintain a food system that operates within planetary boundaries (Chenmritz et al., 2014; Garnett, 2014b). Progressive reductions can be achieved by adjusting the portion sizes in meat dishes, and economic savings can be used to replace lower quality meat with better cuts. Concerns over animal welfare can be alleviated through credible certification and full traceability, hence the inclusion of certification criteria in the study. Thresholds used in this study for budget spend on meat (≤ 20% of total food and drink budget spent on meat; ≤ 70% of total meat budget spent on red meat) were identified by Panzone et al. (2013) as the ‘implicit social norm’ in their study on sustainable household consumption. An additional threshold of ≤ 50% was included in the sub-category ‘meat budget spent on red meat’ to reflect the diverse nature of restaurants and food outlets.

5.2.5 **Seafood** (5 points):
The increased industrialisation of the fishing industry and advances in fishing technologies has enabled large vessels to locate and catch enormous quantities of fish. Coupled with an increased demand for fish, overfishing has led to numerous species been over exploited leaving the many of the world’s fish stocks in danger of collapse (Olson et al., 2014). Unsustainable fishing practices result in loss of biodiversity, destruction of marine habitats and damage to sensitive ecosystems such as coral reefs. These problems are being further exacerbated by the effects of climate change (IPCC, 2014). In addition to environmental problems, overfishing also raises social and economic concerns as millions of people, including entire coastal communities, rely on fishing for food and for their livelihood. The Irish seafood industry is worth about €700 million annually and employs approximately 11,000 people, mainly in coastal counties. Organisations who buy fish certified to sustainability standards such as the Marine Stewardship Council (MSC) or Bord Iascaigh Mhara’s (BIM) Responsibly Sourced Standard help to facilitate more sustainable choices for consumers.

5.2.6 Eggs (5 points):

Eggs are a cheap, nutritious and versatile food. They are a popular ingredient in breakfast, lunch and dinner dishes. Certification by a recognised food standards agency such as Bord Bia’s Egg Quality Assurance Scheme (EQAS) or the British Retail Consortium (BRC) Global Food Standard requires that producers comply with minimum health and safety and animal welfare standards. Traceability allows consumers to identify specific farms where eggs were produced while stock control and coding systems enable consumers to identify production methods such as organic or free range. The use of organic or free-range eggs in food outlets indicates a preference for greater quality and sustainability.

5.2.7 Water (5 points):

Agriculture uses more water than any other human activity, however the exact usage of fresh water is difficult to quantify (Lunqvist et al., 2008). Different types of food and different production methods have a greater or less water footprint, with beef and red meat some of the more water intensive foods. Access to freshwater is also a significant factor in debates over food sustainability, not least because imported food grown in areas with greater availability of water may be less environmentally harmful than ‘local’ food produced in arid or water stressed regions. Quantifying the consumption of embedded water is an important consideration in food sustainability, however, due to the complexity of ‘virtual’ or ‘embedded water’ calculations, this section of the FOODSCALE focuses on two indicators of actual water use, namely source of water for consumers and the origin of bottled water. Having said this, it is also important to acknowledge that a reduction in ‘virtual’ water can be achieved by
Findings two

changing diets (e.g. away from water intensive red meat consumption) and by reducing food waste, two factors that are included elsewhere in the FOODSCALE.

In addition to economic costs for consumers, bottled water has significant environmental costs in production, transport and disposal of plastic bottles. Providing only bottled water discourages consumers to drink more water, a practice that is beneficial for health and well-being. Supplying chilled filtered tap water for consumers removes this disincentive and encourages greater consumption of water. Tap water is often regulated to high health and safety standards making it safe to drink. Where bottled water is procured, sourcing from local producers reduces transport distances and contributes to the local economy.

5.2.8 Food waste (10 points):

Food waste occurs at all stages of the food chain from production to consumption with up to half of all food lost at some stage throughout the system (Parfitt et al., 2010). In higher-income countries, where eating out is most common, the greatest waste is incurred by the food services industry and the consumer (Foresight, 2011). Reducing food waste has multiple benefits for society, the economy and the environment (Stuart, 2009; Papargyropoulou et al., 2014). Organisations can achieve a reduction in food waste by training staff in waste minimisation and food management efforts such as efficient ordering, storage and usage practices. Surplus food can be redistributed via food banks or other charitable schemes while food deemed to be no longer fit for human consumption can be used as animal feed or converted to energy through anaerobic digestion or other processes. Other initiatives that organisations can introduce to encourage waste reduction include providing consumers with free pre-purchase samples, offering smaller portion sizes at a lower cost and providing condiments in reusable jars. Additionally, a study carried out by Aramark (2008) in the US found that ‘trayless’ dining in canteens resulted in a 25-30% reduction in food waste per person.

5.2.9 Origin of food (20 points):

Identifying food origins can reveal the complexity of food supply chains as well as the relationships involved in getting foods from ‘farm to fork’ (Feagan, 2007; DeLind, 2011; Kneafsey et al., 2013). This section of the assessment tool determines where the ingredients for a typical lunchtime dish come from. Much of the food we eat today is imported from around the world. Some foods, such as cacao, coffee, tea, citrus and exotic fruits, cannot be grown in certain regions and need to be sourced from abroad. Other foods are imported because of seasonality, availability, cost, convenience, or for trading reasons (Safefood, 2009). For this study, potatoes, carrots, onions, tomatoes and beef were traced to their origin as in Ireland they represent five key ingredients in
cottage pie, a popular dish that is widely consumed both at home and in public. Were this tool to be used in other regions, these five ingredients could easily be replaced with foods that are important to that particular area. In Greece for example the dish could be represented as a Greek Salad (olives, feta, tomatoes, onion, cucumber).

Using the assessment tool outside of the EU would require a change in scoring criteria to become more representative of a short supply chain for that specific region. This may require different interpretations for local and regionally sourced but nonetheless the basic principles would remain the same. Points are allocated on the assumption that, in terms of sustainability, locally produced ingredients are favourable to imported options and the shorter the distance between producer and consumer the better. In addition, having one or less intermediaries is deemed an indication of sustainability in the food chain as it fosters the development of relationships and facilitates the flow of product information. Further information on the cottage pie ingredients traced for this study is provided below (see also Table 5.2):

_Potatoes_

Potatoes play a major role in Irish culinary and cultural tradition. They represent a key food in the Irish diet. This said, their importance is reducing as people increasingly turn to other sources of carbohydrates such as pasta and rice. Over half of Ireland’s potato production occurs in North Leinster with Dublin, Meath and Louth key production areas. Nationally, around 200 of the 1,560 growers control 70% of the total production area.

_Carrots_

Carrots, together with cabbage, are the most important crops in the Irish field vegetable sector. In 2011, the latest data available, the production area of carrots was 650.5 hectares producing 39,000 tonnes with a value of €13.27 million (Bord Bia, 2011b). On-going consolidation in the sector is evident with large-scale producers representing a growing proportion of the total production area. The largest 50 field vegetable growers now account for three quarters of the total area under production (DAFM, 2009).

_Onions_

The commercial production of onions in Ireland is dominated by a small number of growers with the top 10 growers accounting for 97% of the total production area (DAFM, 2009). The total annual output of onions is 3,800 tonnes with a value of €1,474,000.

_Tomatoes_
Findings two

Ireland produces around 4,700 tonnes of tomatoes annually, with a value of over €9 million. The area under production is around 13.4 hectares (Bord Bia, 2011b), a reduction of over forty per cent since 1998. However, production value has increased over the same period. Further evidence of consolidation in tomato production is witnessed in the declining number of growers, with the largest five growers accounting for over half of the tomato production area (DAFM, 2008).

*Beef*

Ireland is home to more cattle than people, with more than 6.6 million animals living in the state (CSO, 2012). Ireland is one of the world’s largest beef producers and exporters, producing enough beef to feed over 30 million people. Yet, despite exporting 466,000 tonnes of beef worth over €2 billion in 2013, Ireland still imported 35,000 tonnes of beef in the same year (Bord Bia, 2013b).

**Table 5.2**
Area under production, production volume and value of five cottage pie ingredients produced in Ireland and imports into Ireland

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Area (hectares)</th>
<th>Volume (tonnes)</th>
<th>Value (€ '000)</th>
<th>Imports (tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potatoes</td>
<td>12,198</td>
<td>350,200</td>
<td>60,000</td>
<td>61,920</td>
</tr>
<tr>
<td>Carrots</td>
<td>650.5</td>
<td>39,030</td>
<td>13,270</td>
<td>23,887</td>
</tr>
<tr>
<td>Onions</td>
<td>149</td>
<td>3,829</td>
<td>1,474</td>
<td>39,127</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>13.4</td>
<td>4,663</td>
<td>9,102</td>
<td>4,663</td>
</tr>
<tr>
<td>Beef</td>
<td>518,000</td>
<td>212,040</td>
<td>34,374</td>
<td></td>
</tr>
</tbody>
</table>


5.2.10 **Consumer engagement (10 points):**

Food outlets can act as powerful intermediaries that provide information to help consumers make more sustainable and healthy food choices while consumer feedback can educate organisations on consumer preferences, concerns and awareness of sustainability issues (Marsden *et al.*, 2000; Kneafsey *et al.*, 2013). Providing nutrition information on menus, for example through calorie counting or a traffic light system, facilitates consumers to make healthier food choices. Organisations can hold food sustainability promotion activities such as meat-free days or sustainable food events (Vinnari and Vinnari, 2013). They are in a position to detect consumer trends and survey consumers to gather information that can subsequently be acted upon, for example a preference for more local produce. Other initiatives such as providing information regarding food provenance reinforce the organisation’s position as a key
intermediary between producers and consumers (Renting *et al.*, 2003). This said, information alone has been shown to have limited impact on consumer choices (Davies *et al.*, 2014; Vittersø and Tangeland, 2015).

5.2.11 Engaging with small producers and the local community *(10 points)*:

Organisations are in a strong position to support local and smaller producers (Friedmann, 2007), however to do this they need to be willing to overcome potential barriers both within their own organisation and outside, including organisational inertia and national and EU regulations regarding food procurement (Morgan and Morley, 2014). Willing organisations can engage with local providers through cooperation and communication, such as information events alerting smaller producers about potential contracts (Walker and Preuss, 2008; Fairchild and Collins, 2011). They may also tailor contracts to increase opportunities for smaller producers whilst adhering to regulation (Mikkola, 2009). Staff training in product information - for example on provenance, environmental and social quality of the products - can create a long-term commitment towards food sustainability within organisations.

5.3 Comparing FOODSCALE scores across cases

As mentioned previously, the FOODSCALE data collection yielded results for ten different food outlets across seven organisations, with a further case acting as a benchmark. In analysing the data, it is necessary to differentiate between the benchmark case (a middle- to high-end independent city centre restaurant with a strong reputation for food sustainability) and food outlets that are located within the case study organisations. In order to make this distinction, food outlets located within the case study organisations are collectively referred to as ‘organisation-based’ food outlets. It is also important to note that four of the eleven food outlets were located within the same public sector organisation; however, they differed considerably with regard to size of the facility, consumer base, number of transactions/meals served per day, price and quality of meals and food procurement practices. It was thus decided to treat them as individual cases for the purpose of this section (referred to as Case 1a, 1b, 1c, 1d). Table 5.3 provides an overview of some key characteristics of all cases.

Results of the study show significant differences in the sustainability of food provided by participating organisations (Tables 5.4, 5.5 and 5.6). Between-case comparisons cast light on the potential impact of both organisational characteristics and prevailing attitudes towards food on food sustainability performance. Contrasting two food outlets in particular – those with the highest (61) and the lowest (41) score respectively – reveals how different yet comparable organisational settings can produce significantly different food sustainability scores.
Table 5.3
Description of food outlets under study

NB: FOODSCALE data was not collected for Case 5 (see section 3.3.2 for details)

<table>
<thead>
<tr>
<th>Food outlet reference</th>
<th>Primary function</th>
<th>Sector</th>
<th>Number of food transactions per day</th>
<th>Food procurement practices</th>
<th>Catering</th>
<th>Subsidised food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1a</td>
<td>Education</td>
<td>Public</td>
<td>650 meals</td>
<td>Non-centralised</td>
<td>Outsourced</td>
<td>No</td>
</tr>
<tr>
<td>Case 1b</td>
<td>Education</td>
<td>Public</td>
<td>1750 food transactions</td>
<td>Non-centralised</td>
<td>Outsourced</td>
<td>No</td>
</tr>
<tr>
<td>Case 1c</td>
<td>Education</td>
<td>Public</td>
<td>n/a</td>
<td>Semi-centralised</td>
<td>Outsourced</td>
<td>No</td>
</tr>
<tr>
<td>Case 1d</td>
<td>Education</td>
<td>Public</td>
<td>4500 food transactions</td>
<td>Centralised</td>
<td>Outsourced</td>
<td>No</td>
</tr>
<tr>
<td>Case 2</td>
<td>Education</td>
<td>Public</td>
<td>5000 food transactions</td>
<td>Non-centralised</td>
<td>In-house</td>
<td>No</td>
</tr>
<tr>
<td>Case 3</td>
<td>Healthcare</td>
<td>Public</td>
<td>4850 food transactions</td>
<td>Centralised</td>
<td>Outsourced</td>
<td>Yes (staff only)</td>
</tr>
<tr>
<td>Case 4</td>
<td>Healthcare</td>
<td>Private</td>
<td>1000 food transactions</td>
<td>Semi-centralised</td>
<td>In-house</td>
<td>Yes (staff only)</td>
</tr>
<tr>
<td>Case 5</td>
<td>Healthcare</td>
<td>Private</td>
<td>1000 food transactions</td>
<td>Non-centralised</td>
<td>In-house</td>
<td>Yes (staff only)</td>
</tr>
<tr>
<td>Case 6</td>
<td>Business &amp; industry</td>
<td>Private</td>
<td>375 main course meals</td>
<td>Centralised</td>
<td>Outsourced</td>
<td>Yes</td>
</tr>
<tr>
<td>Case 7</td>
<td>Business &amp; industry</td>
<td>Private</td>
<td>1600 main course meal</td>
<td>Centralised</td>
<td>Outsourced</td>
<td>Yes</td>
</tr>
<tr>
<td>Case 8</td>
<td>Business &amp; industry</td>
<td>Private</td>
<td>900 meals</td>
<td>Centralised</td>
<td>Outsourced</td>
<td>Yes</td>
</tr>
<tr>
<td>Benchmark</td>
<td>Food business</td>
<td>Private</td>
<td>n/a</td>
<td>Non-centralised</td>
<td>In-house</td>
<td>No</td>
</tr>
</tbody>
</table>

Cases 1d and 2 have similar characteristics such as function (third level education), the number of meals served per day, demographic and socio-economic composition of their consumer base, organisational structures, and location in close proximity to alternative eating options such as shops, restaurants and cafes. In contrast, the remaining eight food outlets (excluding the benchmark case) that achieved FOODSCALE scores ranging from 44 to 59 differ in all or some of these characteristics. The results from Case 1d and 2 point towards the crucial role of key decision makers both within and outside these organisations – catering and services managers, finance officers, central procurement officers – whose food procurement decisions impact on the food choices of thousands of customers every day. Qualitative interview data presented in Chapter 4 shows significant differences in attitudes towards food provisioning among key decision makers, a fact that is also reflected in the FOODSCALE scores for these two cases. The role of key individuals and the importance of organisational structure in sustainable food provisioning are further examined in the latter stages of this chapter, and again in Chapter 6, but firstly collective results from the FOODSCALE data are presented in more detail.
### Table 5.4
FOODSCALE scores for each case

<table>
<thead>
<tr>
<th>Score</th>
<th>Organic</th>
<th>Seasonal</th>
<th>Fairly traded</th>
<th>Meat</th>
<th>Fish</th>
<th>Eggs</th>
<th>Water</th>
<th>Waste</th>
<th>Origin</th>
<th>Consumer engagement</th>
<th>Community engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Score</td>
<td>100</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Case 1a</td>
<td>44</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Case 1b</td>
<td>50</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Case 1c</td>
<td>59</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Case 1d</td>
<td>41</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Case 2</td>
<td>61</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Case 3</td>
<td>50</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Case 4</td>
<td>53</td>
<td>1</td>
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</tr>
<tr>
<td>Case 5</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Case 6</td>
<td>48</td>
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</tr>
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</tr>
<tr>
<td>Case 8</td>
<td>57</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Benchmark</td>
<td>78</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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</tr>
</tbody>
</table>
Table 5.5
FOODSCALE scores calculated using summation, arithmetic mean and geometric mean and corresponding rank order of cases using each method.

<table>
<thead>
<tr>
<th></th>
<th>Summation</th>
<th>Rank</th>
<th>Arithmetic Mean</th>
<th>Rank</th>
<th>Geometric Mean</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1a</td>
<td>44</td>
<td>10</td>
<td>4</td>
<td>10</td>
<td>3.32</td>
<td>10</td>
</tr>
<tr>
<td>Case 1b</td>
<td>50</td>
<td>7</td>
<td>4.55</td>
<td>7</td>
<td>3.58</td>
<td>8</td>
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<tr>
<td>Case 1c</td>
<td>59</td>
<td>3</td>
<td>5.36</td>
<td>3</td>
<td>4.91</td>
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</tr>
<tr>
<td>Case 1d</td>
<td>41</td>
<td>11</td>
<td>3.73</td>
<td>11</td>
<td>3.26</td>
<td>11</td>
</tr>
<tr>
<td>Case 2</td>
<td>61</td>
<td>2</td>
<td>5.55</td>
<td>2</td>
<td>4.54</td>
<td>3</td>
</tr>
<tr>
<td>Case 3</td>
<td>52</td>
<td>6</td>
<td>4.73</td>
<td>6</td>
<td>3.77</td>
<td>6</td>
</tr>
<tr>
<td>Case 4</td>
<td>53</td>
<td>5</td>
<td>4.82</td>
<td>5</td>
<td>4.04</td>
<td>5</td>
</tr>
<tr>
<td>Case 5</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
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<tr>
<td>Case 6</td>
<td>48</td>
<td>=8</td>
<td>4.36</td>
<td>=8</td>
<td>3.40</td>
<td>9</td>
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<tr>
<td>Case 7</td>
<td>48</td>
<td>=8</td>
<td>4.36</td>
<td>=8</td>
<td>3.67</td>
<td>7</td>
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<td>Case 8</td>
<td>57</td>
<td>4</td>
<td>5.18</td>
<td>4</td>
<td>4.27</td>
<td>4</td>
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<tr>
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<td>1</td>
<td>7.09</td>
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<td>6.47</td>
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</tr>
</tbody>
</table>

Note: Only Case 3 and the Benchmark case have positive values for all eleven categories. Geometric mean for the other 6 cases is calculated after substituting all 0’s for 1’s. Substitution is necessary so as not to lose the data set. If any one of the data points is zero, the geometric mean will be zero. This makes the geometric mean unsuitable for application to FOODSCALE data, as there is a high chance of having a zero in the data set. Importantly, the application of different aggregation methods has only a very limited impact on the rank order of cases. The use of the more user-friendly summation is thus recommended.
### Table 5.6
FOODSCALE scores for individual indicators.

<table>
<thead>
<tr>
<th>Case number</th>
<th>1a</th>
<th>1b</th>
<th>1c</th>
<th>1d</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>Avg*</th>
<th>B’mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organic Certified Food - 10 points</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of your total food certified organic</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.2</td>
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<tr>
<td>% of fruit &amp; vegetables certified organic</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
<td>4</td>
</tr>
<tr>
<td>2. Seasonal - 5 points</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Menu changed to suit seasons</td>
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<td>2</td>
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<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<td>2</td>
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<tr>
<td>Displaying a seasonal food calendar</td>
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<td>2</td>
<td>0</td>
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<td>2</td>
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<tr>
<td>Growing own herbs or vegetables</td>
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<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>3. Fairly traded produce (Fairtrade or equivalent ethical standard) - 5 points</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>% Coffee Fairtrade</td>
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<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
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<td>2</td>
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<tr>
<td>% Tea (including herbal) Fairtrade</td>
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<td>1</td>
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<td>4. Meat - 15 points</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of total food and drink budget spent on meat</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
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<td>% of total meat budget spent on red meat</td>
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<td>0</td>
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<td>4</td>
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<tr>
<td>Animal Welfare Certification (Bord Bia QAS or equivalent) 100% certified</td>
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<td>3</td>
<td>3</td>
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<td>3</td>
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<tr>
<td>% main course dishes meat</td>
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<td>4</td>
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<td></td>
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<tr>
<td>Seafood sourced from recognised accredited sustainability scheme</td>
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<td>6. Eggs - 5 points</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Type of eggs used (organic, free-range, regular, bottled)</td>
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<td>2</td>
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<td>2</td>
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</tr>
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<td>Fully traceable and quality assured (e.g. Bord Bia QAS, BRC or equivalent)</td>
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<td>2</td>
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<td>2</td>
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<td>7. Water - 5 points</td>
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<td></td>
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<tr>
<td>Sources of water available for customers (filtered, tap water, bottled only)</td>
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<td>4</td>
<td>4</td>
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<td>4</td>
<td>4</td>
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<td>Origin of bottled water</td>
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<td>1</td>
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<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0.5</td>
<td>1</td>
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<td>8. Food Waste - 10 points</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Staff trained in waste minimisation</td>
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<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<td>2</td>
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<tr>
<td>Composting organic material separate</td>
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Findings two

<table>
<thead>
<tr>
<th>Findings</th>
<th>Score</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donate edible unused food to charity/food banks</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Use cooking techniques that minimise quantities of oils and fats used</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Other waste reduction initiatives</td>
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<td></td>
</tr>
<tr>
<td><strong>9. Origin of food - 20 points</strong></td>
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</tr>
<tr>
<td>Source of potatoes (local, regional, EU, other)/Intermediaries</td>
<td>4</td>
<td>3 3 3 2 3 2 3 3 2 3 2.7 3</td>
</tr>
<tr>
<td>Source of carrots (local, regional, EU, other)/Intermediaries</td>
<td>4</td>
<td>1 1 1 1 1 1 1 1 1 1 1.0 3</td>
</tr>
<tr>
<td>Source of onions (local, regional, EU, other)/Intermediaries</td>
<td>4</td>
<td>1 1 1 1 1 1 1 1 1 1.0 3</td>
</tr>
<tr>
<td>Source of tomatoes (local, regional, EU, other)/Intermediaries</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Source of beef (local, regional, EU, other)/Intermediaries</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>10. Consumer engagement - 10 points</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition information on menus (e.g. calorie counting, traffic light system)</td>
<td>2</td>
<td>2 2 2 2 0 2 0 0 2 2 1.4 0</td>
</tr>
<tr>
<td>Health/sustainability promotion activities</td>
<td>2</td>
<td>0 2 2 2 2 2 2 2 0 2 1.6 2</td>
</tr>
<tr>
<td>Survey customers to get opinions about food sustainability (at least annual)</td>
<td>2</td>
<td>2 0 0 0 2 0 2 2 2 2 1.2 0</td>
</tr>
<tr>
<td>Menu information re food provenance (displayed on menus or at point of sale)</td>
<td>2</td>
<td>0 2 2 0 2 0 0 2 2 2 1.2 2</td>
</tr>
<tr>
<td>Good choice of allergen-free dishes &amp; options clearly displayed</td>
<td>2</td>
<td>2 2 2 2 2 2 2 2 2 2.0 2</td>
</tr>
<tr>
<td><strong>11. Engaging with small producers &amp; the local community - 10 points</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information events (re tendering) for small and local producers</td>
<td>3</td>
<td>0 0 0 0 3 0 0 0 0 0.3 3</td>
</tr>
<tr>
<td>Contract specifications that increase opportunities for smaller and local producers</td>
<td>3</td>
<td>0 3 0 0 3 0 3 0 0 0.9 3</td>
</tr>
<tr>
<td>Activities to promote local food</td>
<td>2</td>
<td>0 0 2 0 0 2 0 2 0 0.6 2</td>
</tr>
<tr>
<td>Staff trained in product information (origin, environmental, social quality of products)</td>
<td>2</td>
<td>0 0 2 2 0 0 2 2 2 1.0 2</td>
</tr>
</tbody>
</table>

**TOTAL** | 100 | 44 50 59 41 61 50 53 48 48 57 51.1 78 |

*Note: Average (Avg) score is calculated for Cases 1a-8 only and does not include the benchmark (B’mark) score. The benchmark score was generated from data collected from an independent high-end restaurant that is well-known for good sustainability practice. Its intended use is to compare food sustainability in large organisations with an example of good practice in the region.*
Organic (10 points):

Increasing purchases of organic produce has a positive impact on food sustainability. Access to, and availability of, organic food has increased in recent years, largely facilitated through large retailers and food distributors. Nonetheless, FOODSCALE data shows little availability of organic produce in the organisation-based food outlets under study. Excluding the benchmark, only Case 1c managed to score points for organic food. Examples of organic foods purchased in this case include herbal teas, micro herbs, salmon, tomatoes and cucumbers. In two additional cases, organisations occasionally purchased organic produce, however this amounted to very little of the total food budget. In Case 4 organic spices were used while in Case 3, organic food, including soya milk and some yogurts, made up approximately 1% of the total food budget. Neither of these two cases made the minimum threshold of 5% organic food needed to score points on the FOODSCALE. In the remaining cases, no organic food was purchased. Although no organisation set a requirement for caterers to provide organic food, the management in Case 2 were considering introducing tender specifications for a minimum percentage (3-5%) of organic food to be supplied. In contrast to the organisation-based food outlets, the benchmark case scored relatively high in the organic category, achieving a score of six out of ten. The benchmark case spent 5% of their total food budget and 20% of their fruit and vegetable budget on organic food, thus bringing them over the respective levels required to score points for the two organic section FOODSCALE indicators.

Seasonal (5 points):

Seasonality showed a high level of variation across cases, with scores ranging from the minimum zero points in Case 1b to a maximum of five points for Case 1c. The remaining organisation-based food outlets scored either two (n=4) or four points (n=4). The benchmark case also scored four points. Regarding specific seasonality indicators, all but one of the cases changed their menus to suit the seasons, whilst half of the ten organisation-based food outlets displayed a seasonal food calendar showing when the main food products are grown in the region. In Case 1c the restaurant grew herbs for use in their kitchen, but none of the organisations had a vegetable garden, orchard or other means of on-site food production. Cost was cited by several respondents as the main reason for using seasonal ingredients, with seasonal foods often cheaper or available as special offers from suppliers. A number of respondents also felt that foods were more likely to be of a better quality when in season, whilst some items, such as lamb, were only available at certain times of the year. In contrast to the general consensus on cheaper seasonal foods, the respondent in Case 1a said that they would like to base their menus more on seasonality, but could not do so because of budgetary constraints. Another respondent (Case 2), who operates within a tender system, felt that they did not benefit from cheaper seasonal produce because they were committed to purchasing from nominated suppliers at contractually agreed prices. A separate organisation (Case 4) attempted to overcome this perceived disadvantage by issuing shorter contracts for seasonal produce such as fish and meat.
Findings two

_Fairly traded produce (5 points):_

Just one of the ten organisation-based food outlets (Case 8) scored a maximum of five points for using fairly traded produce, as did the benchmark case. The other scores ranged from four (n=4) to zero (Case 6). Fair trade coffee was supplied by all but one of the organisations. Tea showed a greater variation, with a combination of some, all or none of the tea supplied being labelled fair trade. In many cases respondents were using fair trade regular tea and non-fair trade herbal tea or vice versa. Cases 1a and 8 regularly supplied fair trade bananas whilst Case 2 supplied them on occasion only (e.g. whilst promoting ‘Fairtrade fortnight’).

_Meat (15 points):_

The range of scores across the meat category was very significant, with four being the lowest score (Case 1d) and eleven the highest (Case 2). The benchmark case scored nine, as did five of the organisation-based food outlets. The remaining three organisation-based food outlets scored seven. The breakdown of points in the meat category raised some interesting issues. As mentioned previously, meat, in particular red meat, has a high environmental impact and curbing meat consumption in Western societies is seen by many as a necessary step towards the development of a sustainable food system (Chemnitz et al., 2014). All of the participating cases in this study offered both meat and vegetarian dishes as lunchtime options. Nevertheless, meat-based main course dishes dominate the choice spectrum, with just a single vegetarian option available in many instances. In the majority of cases (n=7) at least two-thirds of main course dishes contained meat, compared with 50% for the benchmark case. However, vegetarian options often extended beyond main course dishes to include soups, sandwiches and salad bar items.

Interview data suggests that the uptake of vegetarian choices is low (less than 5%) in the majority of organisations surveyed, with the exception of Case 8 where vegetarian options accounted for up to 15% or higher of main course dishes. In this case the catering manager noticed a significant increase in the amount of people choosing vegetarian dishes over the last 5 years. When asked why this might be, three possible explanations were given: the demographic of the workforce (multinational, young, well-educated); the type of organisation (office-based as opposed to factory work); and perceived health benefits of a vegetarian diet. Interestingly, catering managers in other organisations cited demographic (nationality, age) and cultural considerations (‘traditional Ireland’) as barriers to vegetarianism.

The percentage of the total food and drink budget spent on meat varied significantly between organisation-based food outlets, ranging from 20% in Cases 2 and 4 up to 50% in Case 3. This compares with a total budget spend on meat of 16% for the benchmark case. The percentage of meat budget spent on red meat also showed a high degree of variation, ranging from 10% in Case 1b to 75% in Case 4, and rising to 85% for the benchmark case. In total, nine of the organisation-
Based food outlets spent 50% or less of their meat budget on red meat. One reason given for the lower spend on red meat is the popularity of chicken dishes for lunchtime meals. Other respondents highlighted the fact that much of their red meat budget was spent on cheaper meats such as mince and other processed meats (sausages, bacon, burgers, etc.) as a means of keeping costs down. This could also explain the higher spend on red meat in the benchmark case, where more expensive cuts are used. This raises an important consideration in terms of looking at budget spend on meat and the need to consider quality as well as quantity. Partly in order to address this issue – but also as a means of assessing production, processing and animal welfare standards – certification of meat by a recognised standards authority was included as a FOODSCALE indicator. With the exception of Case 1d, all meat provided was certified by a recognised authority such as the Bord Bia Quality Assurance Scheme.

Seafood (5 points):

Of the ten organisation-based food outlets, seven used only seafood that is sourced from suppliers accredited with a recognised sustainability scheme. As the case study is based in a coastal city, there are several options to source fresh seafood in the locality. Three of the organisation-based food outlets source their seafood from small local businesses, as does the benchmark case. Other respondents cited centralised procurement systems as a barrier to sourcing seafood more locally. Cost was also an important factor in decisions for sourcing fish. In Case 1a the caterer was previously using a local fish supplier but had switched to a large central distributor to reduce costs. In Case 2 the caterer changed in the opposite direction, from a central distributor to a specialised local fish supplier, as they were unhappy with the quality and service from the larger company. Interestingly, these two cases have a similar consumer base, both being based in third level educational institutions, however they are under different financial pressures, partly owing to levels of rent and rates imposed by the organisations in which they are located, but also because of different expectations in terms of profit. A number of respondents also indicated a desire to provide more fish dishes but felt restricted in doing so due to the relatively higher price for fish over meat (e.g. Case 6). Assumingly the comparative price difference is for the more commonly used cheaper cuts of meat rather than, say, fillet steak. Two of the organisations tried to have a daily fish option, however in the majority of cases fish was on the menu only once or twice a week and when available it tended to show little variety (generally salmon or cod).

Eggs (5 points):

The category ‘eggs’ includes scores between two and four for the organisation-based food outlets, with the benchmark case also scoring four. None of the cases scored maximum points for this category, which can be achieved by using certified organic eggs. Three of the organisation-based food outlets use free-range eggs whilst the other seven use either regular or pasteurised eggs. In all cases the eggs used were certified by a recognised quality assurance scheme.
Findings two

Water (5 points):

Scores for water were high across all cases, with half of the organisation-based food outlets (n=5) and the benchmark case scoring maximum points. The remaining five cases scored four points. In all of the cases filtered water was available for consumers free of charge and bottled water was available for purchase, however only those who scored maximum points sourced their bottled water from local suppliers. In this regard, there are a number of companies producing bottled water within a fifty-kilometre radius of the case study location. Of the five cases not sourcing bottled water locally, the majority were selling water supplied by a large multi-national company. In many organisations the same multi-national company had separate contracts to supply vending machines on-site. In addition to providing bottled water, vending machines observed at case study sites also stocked carbonated soft drinks and isotonic sports drinks.

Waste (10 points):

The waste category covers five indicators, each with a score of two points. Four of the organisation-based food outlets scored eight points for waste, as did the benchmark case. The remaining six cases scored six points. In each case staff were trained in waste minimisation, including procedures for weighing and recording waste. Additionally, in some organisations staff both monitor and report any food items that are commonly returned or left uneaten on any given day (e.g. Case 2). These foods are then examined to determine why they are not being eaten (e.g. pasta might be over- or undercooked) and appropriate remedial action is taken. This might include taking items off the menu or adjusting cooking times. As well as replacing individual food items, unpopular meals are frequently discontinued and replaced with more popular dishes. Food waste is also composted separately in each case and subsequently collected by a licenced waste management service provider. In all but one of the cases, cooking techniques are implemented that minimise the use of oil and fats. This includes a preference for baking and grilling over fried items when appropriate. In some cases, when oils are needed, healthier oils such as rapeseed are favoured.

Just one case (Case 1b) scored points for donating edible unused food to a charity. On several occasions the head chef in this case had delivered leftover sandwiches and other convenience food to a city-based charity. However, this was not a regular arrangement and good food often went to waste as staff in the restaurant were too busy to deliver the food and the charity lacked the resources to collect it. A similar situation arose in two further interviews where catering managers had contacted charities on several occasions to offer food but the charities had declined, citing their inability to collect it. A number of other respondents felt they would put their business at risk if they donated unused food to charities because it would expose them to possible litigation, for example if someone were to get food poisoning.
As well as those already mentioned, additional waste reduction initiatives are in place in some case sites. These include pre-purchase sampling, discounts for reusing coffee cups, a reduction in the number of condiments automatically provided with meals and greater interaction and communication between staff to determine the number and types of meals required. A number of cases, in particular those involved in the healthcare sector, implemented technological innovations aimed at reducing food waste. These include initiatives to regulate temperature control, such as food distribution trolleys with split compartments that keep food at constant hot or cold temperatures, and scan boxes that provide uniform heating of small volumes of food, thus allowing smaller quantities to be transported from the kitchen to patients in the wards. Prior to the introduction of these technologies, containers often had to be overfilled to keep food above the temperatures required to meet regulation. One organisation introduced technology that facilitates instant communication between ward staff taking patient orders and kitchen staff preparing meals. This technology allows staff to instantly alter or cancel patient meals. It is particularly effective in a healthcare setting where a patient’s requirements can quickly change, for example if they are discharged, fasting or absent for a procedure at mealtimes.

**Origin of food (20 points):**

Scores for origin of food display a narrow range of between eight and ten for the organisation-based food outlets, with the benchmark scoring sixteen. The corresponding scores in the organisation-based food outlets reflect the relative similarity of supply chains used for sourcing the five traced ingredients – potatoes, carrots, onions, tomatoes and beef. All of the cases only use Irish beef and had the country of origin (i.e. Ireland) displayed. Displaying the country of origin of beef products is a statutory requirement in Ireland as per legislation introduced in 2006 following the outbreak of BSE. All of the organisation-based food outlets source beef directly or indirectly from one of four large national or multi-national meat suppliers. In contrast, the benchmark case sources beef directly from an independent farmer based in an adjoining county. In total, five different fruit and vegetable suppliers were used across the ten organisation-based food outlets. None of these suppliers grow their own produce. Four of them had either their headquarters or a regional distribution centre based in the city, whilst the other is headquartered in an adjoining county. According to interview respondents, the primary reasons for choosing a particular fruit and vegetable supplier were quality, value and service. Support for local business was also cited as a deciding factor; however, none of the organisation-based food outlets expressed concern regarding the origin of fruit and vegetables purchased. The benchmark case was unique in purchasing directly from growers and they were able to readily identify specific growers from which they source their produce. These include organic growers based in the same county and organic and non-organic growers based in Ireland. When sourcing from outside of Ireland, they reported to also use small-scale producers with a shared ethos of sustainability and quality.
Findings two

The fruit and vegetable supply chain structure in the organisation-based food outlets was sometimes complex involving several intermediaries. However, this varied depending on the product source and the procurement practices of each organisation. For Irish produce, the fruit and vegetable suppliers generally purchased direct from the growers. This arrangement was most common for potatoes and carrots. Imported produce, including onions and tomatoes, was mainly supplied through other wholesalers or agents in particular countries. Some of the larger facilities management companies source all of their catering produce – including fresh, frozen and ambient foods, wine and non-food items – off a single food-service distributor. These ‘one stop shop’ distributors often sub-contract some or all of the fruit and vegetable orders to another provider. In one case, the catering manager explained how fruit and vegetables were delivered by one company but invoiced to a separate company. In another instance, fruit and vegetables were travelling from a supplier based in Galway to a food-service distributor in another city, only to be sent back to Galway to be used by the organisation there. The inefficiency of this system was acknowledged by the organisation and they were attempting to negotiate a more direct delivery arrangement.

The maps presented below (Figures 5.1 – 5.5) contain aggregated data for the origins of the five traced foods used in the ten organisation-based food outlets. As previously stated, all cases used only Irish beef. Potatoes were sourced from five different countries, although the vast majority of potatoes supplied were Irish. Carrots were sourced from six countries, however Irish carrots made up the bulk of produce used during the Irish growing season from June to January. Onions were also sourced from six countries, including as far away as Chile, but the majority of onions used originated in Spain or the Netherlands. Tomatoes were more widely sourced; with supply chains covering nine countries, including seven EU countries as well as Morocco and the Canary Islands.

Figure 5.1
Country of origin for beef used in organisation-based cases
Figure 5.2
Country of origin for potatoes used in organisation-based cases

Figure 5.3
Country of origin for carrots used in organisation-based cases
Findings two

Figure 5.4
Country of origin for onions used in organisation-based cases

Figure 5.5
Country of origin for tomatoes used in organisation-based cases
Consumer engagement (10 points):

Scores in the consumer engagement category ranged from a low of six (n=4) to a maximum of ten points (Case 8) for organisation-based food outlets. The remaining five organisation-based food outlets scored eight, with the benchmark case also receiving six points. There was a wide variety in the breakdown of scores with a total of nine different scoring profiles.

The majority of the organisation-based food outlets (n=7) provide nutrition information on menus. They communicate this information to the customer using one of two methods, via calorie counting for each specific dish, or through a traffic light system. In the traffic light system dishes are assigned a colour code – green, amber or red. Green denotes healthy choices, dishes assigned red are least healthy, and amber is somewhere in the middle. Although providing nutrition information on menus is an increasingly common practice in workplace canteens, many restaurateurs argue against this initiative for two main reasons. Firstly the cost and complexity of providing accurate nutrition information is considered prohibitive, in particular in restaurants where individual dishes are prepared to order. Secondly, some restaurateurs claim consumers largely eat out on special occasions and therefore are not concerned about their calorie intake for a one-off meal. Conversely, this second observation could translate into an argument for providing nutritional information in organisational settings, such as work canteens, where consumers eat on a regular basis. The application of calorie counting received further criticism from some research participants, as it does not consider the source of calories, thereby ignoring the nutritional value of dishes. One respondent was also concerned about possible links between calorie counting and eating disorders such as anorexia, in particular among young females.

Eight of the organisation-based food outlets held health or sustainability promotion activities, with almost all linked with healthy eating initiatives. These include association with national healthy eating campaigns such as Happy Heart and Healthy Ireland. Several organisations run menus in conjunction with weight-loss reality television show ‘Operation Transformation’, and provide dishes prescribed by nutritionists on the show over an eight-week period. One organisation-based food outlet provided free fruit for staff every Monday throughout the year and removed cooked items (sausage, bacon, etc.) from breakfast menus, although the latter initiative was introduced in part to reduce the length of time employees spend in the canteen. Several organisations incorporated various initiatives to reduce the consumption of chips. One case had chip-free Friday, contrasting another case where chips were only served on Fridays. In a third case, the organisation attempted to introduce one chip-free day a week, but they had to drop the initiative almost immediately due to the high level of negative feedback received from employees. These examples demonstrate the impact of consumer culture on organisational food provision through their acceptance or otherwise of certain food choices.
Conversely, organisational culture can also be shown to influence consumer choice, as seen in the case where chips were only a menu option on Friday. This long-running initiative was introduced by the organisation at the early stages and has been continuously implemented by several different contract caterers. Employees accept the initiative as it is ingrained in the organisation and “that’s the way it has always been” (R25). In contrast to the organisation-based food outlets, the benchmark case held many food sustainability promotion activities such as promoting nose-to-tail dining, food educational programmes for school children and other outreach activities such as organising and participation in food sustainability events.

Customer surveys were relatively common in all eight organisations, with six food outlets having undertaken surveys within the previous 12 months. None of the surveys were directly related to food sustainability, however they did ask about perceptions of quality of food, choice and value. Surveys also included a comment section, where consumers could comment or make suggestions on all aspects of the food service operation.

Six organisation-based food outlets provide details of some food suppliers – beyond what is required by legislation (i.e. origin of beef) – on menus or noticeboards. This information includes names and addresses of suppliers, chiefly for those supplying meats, fish and vegetables. The benchmark case provides a more extensive list of suppliers on their menus and on their website, with supplier lists extending to other goods such as coffee, cheese, salads, salt, gluten-free bread and wine. Although supplier lists are not a direct indication of quality or sustainability, providing this information leads to greater transparency and facilitates more informed choice for consumers.

Each of the food outlets involved in the study provided a good range of allergen-free dishes, including gluten and lactose free options. Several respondents noted an increasing uptake in gluten-free options among non-coeliac consumers, as they perceived these to be healthier choices. All cases provide a minimum of one coeliac friendly main course option, and in general soups and sauces are prepared gluten-free. Gluten-free breads tended to be sourced from elsewhere, as caterers are restricted from certifying foods gluten-free unless they meet stringent regulations, such as using separate kitchens to prepare gluten-free food.

Engaging with small producers and the local community (10 points):

Scores in this category ranged from zero (Case 1a) to six (Case 2) for organisation-based food outlets, with the benchmark case achieving a maximum of ten points. Regarding the breakdown of points, just one of the organisation-based food outlets scored points for informing smaller and local producers about tendering opportunities for supplying food (Case 2). In this case the catering manager attended local food fairs in order to meet producers and invite them to tender for contracts. Tenders were broken down into smaller lots to facilitate small-scale producers in winning contracts, and quotes to fulfil these tenders were actively
sought locally. Significantly, the organisation in this case operates in the public sector and was able to support local small-scale producers whilst remaining within the relevant national and European regulatory framework. In two additional organisation-based food outlets, contracts were also divided into smaller lots to allow local businesses the opportunity to bid for tenders (Case 1b and 4). One of these is in the public sector, whilst the other is a private sector organisation.

Three organisations held special activities to promote local and regional food. One of these hosted Christmas markets to allow local food suppliers sell their produce (Case 3), whilst another offered employees free apples for a week to mark the beginning of the Irish apple season (Case 6). Half of the organisation-based food outlets trained their staff in product information, although in some cases training only extended to management and chefs, and did not include other staff members. Contrastingly, the benchmark case extended significant effort to support local and smaller producers. They source much of their ingredients from smaller suppliers, including imported produce. Additionally, they organise and speak at events to promote local food, and act as advocates for more sustainable food consumption through media, social media and other outreach activities. They train their staff about origin, environmental and social quality of products and regularly send staff to visit local supplier farms.

5.4 Conclusion

Overall, significant variations occurred both within and between organisations regarding their overall score as well as their sub-scores profile across the eleven FOODSCALE categories. This suggests that the success of food sustainability measures is likely to depend upon a range of factors that impact on different aspects of the food system and that are more or less influenced by organisational factors such as prevailing attitudes towards food among key decision makers and financial considerations.

Organisations, through their activities in food procurement and provision, have an important role to play in promoting sustainable food. However their success in such endeavours depends on coordinated efforts between institutions, local food producers, processors and distributors, local authorities and public policy makers, food service professionals and management. The FOODSCALE tool presented here offers an innovative integrative method for assessing the sustainability of food provided by organisations. Moreover, it provides opportunities for identifying both existing good practice and areas for improvement while also pointing towards specific measures for improving the food sustainability performance of organisations.

While acknowledging the inherent complexities in comprehensive sustainability assessment, the grouping of thirty-six indicators into eleven categories captures the main aspects of food sustainability, as described in the international literature. The FOODSCALE thus moves beyond many existing assessment tools that define
Findings two

food sustainability more narrowly. Importantly, it is easy to use and adaptable to changing external environments and different local contexts, thereby opening up possibilities for future international comparative research as well as application of revised versions of the tool. For example, concepts of sustainable food are changing all the time, with new evidence continually emerging on how to improve sustainability in farming. Scores can be easily redistributed or indicators added to reflect these changes. Interpretations for local and regional food can also be adjusted to be representative of a specific geographical area, as can the ingredients traced in the food origin section. The versatility of the FOODSCALE also makes it very suitable for application in different organisational contexts ranging from large organisations to small and medium-sized enterprises. Although the FOODSCALE was initially designed to measure the sustainability of food provided as a secondary activity by organisations, primary food sector organisations such as restaurants and take-away outlets could also benefit from its application.

The results presented in this chapter clearly point towards the centrality of food procurement decisions in organisations, with variations in FOODSCALE scores occurring both between cases within the same organisation but also between different organisations. The use of a good practice example as a benchmark shows the potential for businesses to improve their performance in areas directly related to food (e.g. source of meat and fish used) as well as in relation to their interactions with other actors within the food system, most notably local producers but also consumers. Overall, the results presented in this chapter demonstrate the potential of the FOODSCALE method to achieve a more integrated assessment of the (un)sustainability of food intended for public consumption.
Chapter 6

Alteration spaces: Intra-organisational opportunities for sustainable food transitions
6.1 Introduction

In addition to capturing the status quo regarding food sustainability in the organisations under study, Chapters 4 and 5 have also illustrated the central role of key decision makers regarding food sustainability initiatives (or lack thereof) within organisations. In addition, outside influences on food-related decisions are evident in a number of cases, primarily in public sector organisations, but also with regard to contract catering, where central procurement strategies play a significant role.

In light of these findings, this chapter aims to identify suitable points within the organisations under study where changes towards greater food sustainability could be initiated. For example, are successful strategies likely to emanate from top-down initiatives, or is it more worthwhile to target consumers, with a view to influencing food provisioning from the bottom-up? What type of interventions, such as economic incentives or information- and education-based programmes are most likely to be effective, and under what circumstances are they likely to succeed?

This chapter presents and examines organisational charts for the eight organisations under study. The intention is to illustrate networks of key actors and their respective roles in the decision-making process in relation to food provisioning. Due to the relatively heterogeneous nature of food provisioning within the selected organisations, each case is examined individually and key roles and structures in each organisation are discussed, with a view to identifying their specific potential for effecting change. These findings feed into the concluding chapters where a systematic cross-case comparison involving all eight organisations is used to inform the discussion and recommendations.

6.2 The common good: promoting strong organisation-caterer relationships (Case 1)

Case 1 is a third-level educational institution that features multiple catering facilities provided by four separate caterers on a concession basis. Catering contracts are primarily managed on behalf of the organisation by the Commercial Services office, although there are a number of other key roles that influence food provisioning on-site (Figure 6.1). In addition to overseeing catering, the Commercial Services office manages all other commercial activities (e.g. events and conference management), thereby aligning them with the office of the financial manager, to whom they report. The Commercial Services office is staffed by the commercial manager and 3 additional employees, with the commercial manager’s remit fundamentally extending to the role of catering manager for the overall organisation. Catering is a relatively small aspect of the office’s work, accounting for about one fifth of their workload during the busier tendering phases, taking place approximately every four years, and less during the intervening periods. Commercial Services are responsible for developing and awarding catering contracts and, in doing so, they are provided with technical
assistance by the Procurement and Contracts Office to ensure contracts are in compliance with EU and national legislation. Commercial Services also organise catering services for conferences, meetings and other events, for which the organisation are paid a referral fee and a share of profits. Hence, the Commercial Services office is in regular contact with contract caterers and they provide the most direct link between the catering providers and wider organisational management.

Chapter 4 emphasised the important role of open and reciprocal relationships in fostering a receptive environment in which to develop and instil sustainable behaviours and attitudes. In other words, relationships within organisations help to shape the prevailing organisational culture that, in turn, reinforces norms and expectations regarding food practices, including procurement, provision and consumption. From this perspective, the relationship between organisational management, primarily manifested through the Commercial Services office, and the contract caterers is paramount.

Regarding Case 1, the initial point of contact in this relationship is at the tendering and contract negotiation phase. As discussed in Chapter 4, designing and awarding catering contracts that recognise the important role of social and environmental impacts is a crucial process in increasing sustainability. However, a well-designed contract is ineffective unless measures exist to ensure that stated procedures and practices are adhered to. On this front, there appears to be a lack of clear indicators set out by the organisation to monitor caterer’s performance in areas beyond financial considerations. There is relatively little interference on behalf of the organisation once caterers are able to meet deadlines for payment of rent and rates.

Where health and sustainability initiatives have been introduced by the organisation, there has been no attempt to gauge their effectiveness. For example, the Commercial Services office drove the introduction of calorie counting on menus, an initiative that was paid for by the organisation. However, no subsequent efforts exist to monitor the impact of calorie counting on both catering practices and consumer behaviour, although, according to interview data, catering managers reported no evident change in consumer behaviour as a result of the intervention. The Commercial Services office also reported that they recently started to ask for metrics on waste management in tender applications, but they do not set waste related performance targets for caterers. Nevertheless, at least from a financial perspective, it is in the interest of caterers to keep waste at a minimum as they effectively pay twice for wasted food, i.e. at the purchase and disposal stages.
Figure 6.1
Organisational chart showing key actors influencing food provisioning – Case 1

**Management Board**
- Responsible for managing & controlling all of the affairs of the organisation

**Financial Manager**
- Responsible for overall financial planning and financial management of the organisation

**Commercial Services**
- Manage catering in the organisation including developing & awarding catering contracts

*Procurement & Contracts Office*
- Provide technical expertise to ensure contracts are in compliance with National & EU legislation

*Director of Services Improvement*

Contract Caterer 1
- Head Chef
- *General Manager*

Contract Caterer 2
- Contract caterer central procurement office
- Catering Manager
- Head Chef

Contract Caterer 3
- Contract caterer central procurement office
- Catering Manager
- Head Chef

Contract Caterer 4
- Catering Manager
- Head Chef

Catering Panel

Suppliers/Distributors

Food Producers

Consumers influence food provisioning in the organisation by choosing to eat in particular locations, by purchasing certain food items & through customer feedback

NOTE:
- 
- **Consumers** include staff employed by the organisation and others (e.g. visitors, patients, students)
Further disconnection between the organisation and the contract caterers is evident in discrepancies between what Commercial Services believe to be happening, and the actual practices of contract caterers. For example, the Commercial Services office believed that Fairtrade tea and coffee was now ‘the norm’ and that all coffee and beverages provided on-site are Fairtrade. However, FOODSCALE data presented in Chapter 5 shows that, although the majority of hot beverages provided by caterers are indeed Fairtrade, it is not universal across the organisation. In a further example, Commercial Services stated that all chicken served on-site was either Irish or European, however, interviews with catering managers revealed that chicken is sourced from Germany, Thailand and elsewhere. These examples demonstrate a lack of awareness on behalf of the organisation as to the particulars in the practices of contract caterers, and are symptomatic of the somewhat disjointed relationship between the groups.

Further impacting their fractured relationship, there is considerable discontent on behalf of the caterers owing to what they feel are disproportionately high levels of rent and rates paid to the organisation. Although financial conditions were agreed between parties at the contract stage, and are therefore within the right of the organisation to enforce, caterers feel that there has been little or no flexibility from the organisation to account for a reduction in spending, – including consumer spending and hospitality/conference sales –, during a prolonged period of recession. Hence, from the caterer’s perspective, the organisation continues to squeeze on the monetary side, whilst the caterers shoulder the majority of financial risk. This perceived imbalance inevitably leads to tensions between the organisation and the caterers and reduces flexibility on both sides, thus making it difficult to implement operational changes that are not agreed in an initial contract.

Evidence also suggests that financial pressures have led some caterers to employ less sustainable practices in order to reduce costs, for example providing cheaper cuts of meat and increasing the length of supply chains (see Chapter 5). It is unclear whether a favourable change in the financial position of contract caterers would result in an automatic reinvestment in more sustainable procedures, although this would be interesting to ascertain. Nonetheless, steps could be taken by the organisation to ensure that more sustainable practices are adopted, although any such initiatives may need to coincide with the allocation of resources or various support measures to ensure they are successful. For example, in order to introduce sustainability initiatives that may increase costs for caterers (e.g. a requirement to provide organic produce) or reduce their income (e.g. chip-free or meat-free day), the organisation needs to consider providing some form of financial support in terms of rent reductions or subsidies. Changes of this nature, although manifested through the Commercial Services office, would need to be agreed with the consent of the financial manager and others at the upper level of the organisational management structure. Additional supports, such as technical, infrastructural, human or logistical assistance, might be required for other sustainability initiatives to be successful. For example, Commercial Services stated that donating leftover food to charities is very much encouraged, yet aside from
Findings three

one or two isolated instances this rarely happens. There are no formal arrangements in place between caterers and charities. Aside from verbal encouragement, caterers are not provided with any further assistance from the organisation to assist with food donations, whilst charities do not have the resources to collect food.

Although this research project attempts to shift the focus away from the individual consumer, it is nonetheless worth noting their role in food provisioning within the organisation, and their potential to drive bottom-up initiatives to increase sustainability. Collectively, consumers have a lot of influence over food provisioning, in particular through their choice to eat at particular locations and to purchase certain foods. Regarding location, consumer choice is enhanced in this case as there are multiple caterers operating on-site as well as several alternative eating options nearby. All of the catering companies use surveys to gather their own consumer feedback, with a focus largely around issues such as service, quality and value. In this regard, caterers have been somewhat responsive to consumer demands, for example for higher quality food and healthier options, however, these changes generally result in an expansion of consumer choice and do not replace unhealthy or less sustainable options. As a result, the majority of food provided in Case 1 is either unhealthy, from unsustainable sources or both. To increase food sustainability, the organisation would need to work in conjunction with both the caterers and consumers to limit the availability of unsustainable foods. For this to happen, the Commercial Services office would need to be equipped with the appropriate skills, tools and resources required for effective long-term sustainability management.

6.3 Planning for the future: building on (sustainability) foundations (Case 2)

Case 2 is a third-level educational institution with two main strands of catering activities (Figure 6.2). The most significant in terms of volume of food and customer turnover is the large main restaurant, run by a subsidiary of the organisation (this is also the avenue of food that has been the focus of attention in the FOODSCALE data presented in Chapter 5). The activities of the subsidiary company are overseen by a board of directors and the company is managed on a daily basis by a catering manager and support staff. The catering company board of directors report to a management group consisting of representatives from various organisational departments who, in turn, report to the executive management board of the organisation. Decisions relating to finance, such as rent and rates paid by the subsidiary and financial expectations and targets, are taken by the management group at executive level.

From an operational perspective, the catering manager is central to the business, being involved in all the day-to-day catering activities and familiar with the various business aspects including purchasing, tendering, pricing, menu choice, health and safety, staffing and customer service. Together with support staff, the catering
manager develops a rolling business plan that is updated on an annual basis and allows the company to measure performance and improvements against previous years. As with the majority of caterers in this study, they also benchmark against external service providers that operate in similar environments by conducting site visits. Additionally, the company apply for third-party awards such as healthy eating, catering service and environmental standards awards. They also partake in Fairtrade Fortnight, a two-week initiative designed to promote the consumption of Fairtrade products.

The catering manager plays a pivotal role in the food tendering process including formulating and analysing tender documents, arranging site visits to check supplier’s premises, inspecting documentation and paperwork to ensure suppliers meet regulation and compliance standards, and testing food samples. To keep up to date on tendering regulations and procedures, the catering manager undertakes regular tender training provided by an external source. The majority of tendering in this case is on a framework agreement for up to four years, with some contracts being of low enough value to fall under the level covered by EU procurement regulations. In these instances the caterers have more flexibility to favour local producers when seeking quotations, however, according to the catering manager, the additional paperwork required when taking on extra suppliers is burdensome.

Interestingly, the catering manager expressed a desire for greater centralisation of food procurement within the public sector as a means of reducing costs. This notion, that the additional bureaucracy involved in supporting smaller suppliers represents a waste of resources, is common in this and other cases studied and it feeds into the mentality of providing cheap food in the most efficient and risk-proof way possible, without due consideration for externalised costs. In saying this, the catering manager simultaneously expressed a desire to support local suppliers, but acknowledged that it is getting increasingly difficult to differentiate suppliers by setting criteria such as reduced transport, as the majority of national suppliers now have depots in the area and claim to be locally based.

Despite the perceived barriers to sustainable procurement evident above, Case 2 also provides the clearest example in this study of how willing organisations can support a sustainable supply of food. The organisation, an education and training institute, provides culinary arts courses, thereby representing a second area for food related activities. The culinary arts department purchase significant volumes of food, primarily used in chef training. The food purchasing falls under the remit of the head of department and other department staff. Over recent years, food sustainability has become central to the ethos of the department, and they actively try to educate students about the sustainability properties of food. This ethos extends to the purchase of sustainable food where possible, and a move away from mass purchasing and buying food ‘out of a catalogue’. Although the department must adhere to public sector procurement guidelines, they are able to maintain strong support for local food producers and suppliers by breaking down contracts into smaller lots and incorporating a high level of specific details relating
Findings three

Figure 6.2
Organisational chart showing key actors influencing food provisioning – Case 2

Provide technical expertise to ensure contracts are in compliance with National & EU legislation

*Procurement & Contracts Office

*Executive Management Board

Responsible for managing & controlling all of the affairs of the organisation

Made up of representatives from several in-house departments including commercial services, finance, HR, etc.

*Management Group

*Head of Department

Food Producers

Suppliers/Distributors

NOTE:

--- Represents people based off-site

* Represents people directly employed by the organisation

** Consumers include staff employed by the organisation and others (e.g visitors, patients, students)

FOOTNOTE:
The organisation also contains an additional coffee bar run by a third-party. The coffee bar purvey sandwiches and hot and cold beverages but do not prepare any food on-site.

*Procurement & Contracts Office

*Catering Company

Board of Directors

*Catering Manager

*Catering Staff

**Consumers

*Department Staff

**Consumers

*Procurement & Contracts Office

*Catering Company

Board of Directors

*Catering Manager

*Catering Staff

**Consumers

*Department Staff
to sustainability. This provides opportunities for increased numbers of producers to tender for contracts. In addition, the department hosted a seminar run by the national procurement office to educate suppliers on how to tender for items. They also purchase less popular cuts of meat (e.g. beef cheeks, sweetbreads) and fish (e.g. pollock, blossom) that are not always available from the larger national and multi-national suppliers but are available in the local area. The department highly value their relationship with food producers and they harness its reciprocal potential by promoting the work of smaller producers and inviting them to speak at lectures and other events. They feel that as food educators they must teach best practice but also lead by example. Although they acknowledge that it requires greater effort for the department to support local and smaller producers, they feel it is worthwhile and has multiple benefits for themselves and wider society including many social, economic and environmental factors such as those outlined in Chapter 5.

The culinary arts section of the organisation is completely separate to the subsidiary catering company, insofar as they are run and managed independently. Both sectors have very different needs in terms of food requirements and they conduct their own food procurement and tendering processes separately. Despite their stated independence, it is unclear what impacts, subtle or otherwise, the presence of the culinary arts department might have on the choices made in the main restaurant. Nonetheless, there are opportunities for greater direct collaboration between the parties, particularly in terms of education and appreciation for greater sustainability, although this would need to be managed in an open manner involving all stakeholders. From an operational viewpoint, a number of previous collaborative efforts were unsuccessful. Both parties trialled a joint tendering venture several years ago, however it was abandoned due to the disparity between their food requirements. They also trialled an initiative in which culinary arts students cooked a quantity of food and supplied the main restaurant as part of their training, however this was also discontinued due to operational difficulties, albeit this intervention occurred over a decade ago.

In conclusion, many of the sustainability initiatives in the culinary arts department were introduced under the guidance of the head of department. Their efforts at promoting local and sustainable food has seen them become involved in several ‘good food’ movements in the city. As well as changing their own practice, they have offered advice on sustainable procurement to colleagues based in other institutions across the country and are influencing current and future chefs and other industry professionals through their training programmes and outreach activities.

However, despite the positive impact of the culinary arts department on sustainable food provisioning in the case study region and beyond, their influence on organisational food provisioning is likely to be less immediate. Within their own organisation, they operate independently of the on-site restaurant, the main space of food consumption in the organisation. Within the restaurant, the majority of operational decisions are taken by the catering manager and support staff. The
broad remit of the catering manager means the position can influence several aspects of food provisioning including procurement, menu choice and consumer engagement. At the same time, it is imperative that organisational management maintain the financial flexibility afforded to the catering operation and remain cognisant of the impact of decisions in relation to financial performance and expectations.

6.4 From the top down: food sustainability in a complex hierarchical system (Case 3)

In terms of food provisioning, Case 3 is the most complex in this study. As a large public healthcare provider, and part of a national grouping, the organisation has a structure that comprises several layers of management. Food provisioning is influenced by a large number of actors, based within and outside of the organisation (Figure 6.3), thus making potential sustainability interventions challenging to implement. Moreover, this organisation caters for a population that is extremely diverse in its constitution and requirements. Nonetheless, it is possible to identify a number of key areas that represent the most suitable opportunities to achieve a transition towards enhanced sustainable food provisioning.

The first significant area is the procurement process. The organisation is tied into national procurement contracts with the majority of food procured through a centralised tendering process. Tenders can be for nationwide or regional contracts depending on the products involved. Importantly, efforts to directly target the procurement office as part of any food sustainability intervention would have limited impact given that the procurement office takes direction from a National Advisory Group that sets out nutritional guidelines and standards in relation to procurement and contract arrangements for food suppliers. The National Advisory Group, incorporating representatives from a number of areas including dieticians, nutritionists, catering managers and procurement officials, also provides advice to the relevant governmental department, thus making them key actors in a top-down approach to sustainability. Having said this, several attempts by the researcher to ascertain the precise composition of the Advisory Group, and its remit, have been unsuccessful, thus making comprehensive analysis difficult. This is particularly true considering the possibility that there may be vested interests involved. For example, if catering representatives on the Advisory Group were also representing large multi-national caterers, this might be said to constitute a conflict of interest. Nonetheless, even without detailed knowledge of the National Advisory Group, it is still possible to analyse the sustainability attributes of food related tender documents that are publically available.

Despite claims from the national health executive that quality and nutritional content are central to the process, tenders are primarily awarded on the basis of low cost, with ‘ultimate cost’ weighted at least 50% (Incidentally, recent tender documents have allocated a weighting of 4% for environmental characteristics).
Additionally, cost is the only criterion where marks are calculated pro rata relative to the lowest figure. For scoring purposes, the other non-cost criteria – e.g. quality, contract management, delivery, and environmental characteristics – are proportionally ranked as excellent (scoring 100% of percentage weight), good (scoring 75% of percentage weight), fair (scoring 50% of percentage weight) or poor (scoring 25% of percentage weight). Hence, the outcomes of closely contested contracts are more likely to come down to cost, with applicants presumably structuring their proposals accordingly. A transition to more sustainable food procurement could be achieved by incorporating criteria that gives greater consideration to social and environmental characteristics of products and is weighted accordingly. The assumption is that any such changes could stem from guidelines set out by the National Advisory Group and approved by the relevant ministerial department.

In addition to national tenders, the organisation also purchases food through the contract caterer’s supply chain, although this constitutes a smaller percentage of the total food budget. Food purchased through the contract caterer ultimately comes from a single distributor and is mainly used in the staff and visitor restaurant to supplement the offering served to patients on the wards. As shown in Chapter 4, the origin of food used through this second supply stream is largely determined once the catering contract has been awarded. In this case, the catering contract at the time of data collection was negotiated on an individual site level, however future contracts are to be awarded on a regional basis. Hence, if these contracts are to include criteria for greater sustainability, this needs to be agreed with the consent of the group management team (see Figure 6.3), which includes the general manager of the organisation in Case 3. At the same time, a move in this direction would require a change of mindset, since the overarching rationale for switching to a regional catering contract is to strengthen the organisation’s bargaining power with a view to reducing costs.

Even though future catering contracts are to be awarded on a regional basis, catering expenditure is still decided at individual site level as part of the organisation’s overall budget allocation. Menus and operational procedures are developed on-site in conjunction with the contract caterer and patient menus are assessed against nutritional guidelines set down by the National Advisory Group. In Case 3, catering has been a priority in terms of cost savings, incurring several budgetary cuts over recent years. The decision to reduce spending on catering is taken by the general manager together with management personnel from the services and finance departments, and reflects the low-cost mentality that dominates decisions relating to food provisioning.

The influence of consumers on food provisioning in Case 3 varies according to their relative position. Feedback is collected from all consumers, be they patients, staff or visitors, with a distinction being made between different consumer groups. There is greater effort invested in the staff and visitor restaurant because these consumers are directly paying for the food and therefore represent a source of
Figure 6.3
Organisational chart showing key actors influencing food provisioning – Case 3

- Suppliers/Distributors
  - Food Producers
  - Contract Caterer central procurement office
    - Catering - Senior Manager (2)
      - Catering - General Manager
        - Regional Management Team
          - *Group Management Team
            - National Advisory Group
              - Services/Procurement (National)
                - Government Minister
                  - Sets out nutritional guidelines and standards in relation to procurement & contract arrangements for food suppliers. Consists of dieticians, nutritionists, catering managers, procurement.
                  - Management team responsible for organisational group consisting of seven sites

- Professionals
  - *Services Manager
  - *Finance Manager
  - *Hygiene Committee
  - *Hygiene Team (Operational)
  - *Dietetics Team
  - *Speech and Language
  - *Waste Coordinator

- Consumers
  - **Consumers

**NOTE:**
- **Consumers** include staff employed by the organisation and others (e.g. visitors, patients, students)
- * Represents people directly employed by the organisation
- --- Represents people based off-site
income for the organisation. On the other hand, expectations in terms of patient food appear to be lower and complaints from patients taken less seriously (see Chapter 4). This contrasting approach highlights the impact that consumers purchasing power (staff, visitors) can have on decisions as well as revealing the underlying attitude towards food that manifests when dealing with ‘non-paying’ customers (patients).

Overall, the National Advisory Group and, by extension, the governmental department play a significant role in food provisioning in Case 3. The organisation has been shown to be responsive to national (top down) directives in relation to food, however these have not extended to sustainable food provisioning. Without top down guidance to the alternative, cost and other financial considerations have been the key drivers of catering decisions taken on-site. In this regard, the general manager has the necessary influence to allocate greater resources towards food provisioning, and at the same time to develop an organisational culture that respects food as a key component in the health of individuals and wider communities.

6.5 Buying local: resisting cost-cutting food provisioning models (Case 4)

Case 4 is a private healthcare provider that employs over 700 staff. Although there are several key individuals and groups influencing food provisioning in Case 4, there is one role in particular that represents the strongest link between the majority of actors involved (Figure 6.4). The services supervisor oversees operations relating to both strands of food provisioning within the organisation, i.e. patient food and the staff and visitor restaurant, and provides support and analysis to the relevant managers from each area. In addition, the services supervisor liaises with the general manager of the organisation in relation to productivity, finance and operational activities. This responsibility involves setting out and evaluating KPIs in terms of consistency, quality and financial performance in order to ensure that standards relating to work practices and procedures are maintained. In this regard, the services supervisor works in close conjunction with the catering manager, services manager and catering staff to ensure that set targets are achieved. Catering staff are included in menu discussions, as they are the main point of contact with consumers and are acutely aware of consumer preferences and needs. Dieticians are also consulted with a view to increasing healthy options and limiting the availability of unhealthy foods. According to the services supervisor, the catering team view catering activities as reflective of the organisation as a whole, and therefore they feel responsible to meet or exceed consumer expectations. They gather feedback from all patients and positive and negative feedback is considered and acted upon where appropriate. Additionally, they encourage staff to make suggestions on service improvement and invite them to take part in subsequent discussions where new initiatives are being considered.
Findings three

Figure 6.4
Organisational chart showing key actors influencing food provisioning – Case 4

NOTE:
- - -  Represents people based off-site
  * Represents people directly employed by the organisation
  ** Consumers include staff employed by the organisation and others (e.g. visitors, patients, students)
The role of services supervisor also links the catering activities of the organisation with those of their sister locations in other Irish cities. The services supervisor consults with colleagues based in these locations to compare details on issues such as standards in food quality and price points. Significantly, at the time of data collection, the organisation was in the process of moving towards a semi-centralised procurement model involving themselves and their three sister locations. As part of the process, they enlisted the services of an external consultant to advise on areas such as procurement and tendering. A reduction in income across the wider healthcare sector has increased pressure on the organisation to reduce catering costs, an area often viewed as a primary target for expenditure cuts, and a new modus operandi was being developed to achieve greater efficiencies in catering for the organisational group as a whole. As a result of on-going changes, there was some uncertainty about how the final food procurement arrangements will operate.

Despite the cost savings that could be achieved by employing particular strategies such as consolidating supply chains and switching to larger suppliers, the services supervisor expressed the organisation’s desire to retain local suppliers for certain goods such as meat, fish, fruit, vegetables and other fresh products. According to the services supervisor, the organisation would like the support of local people for their business, so they in turn wish to support local business and create indirect employment in the area. Furthermore, the organisation is keen to maintain what they view as valuable and reciprocal relationships that they have built up with local suppliers, despite being able to purchase cheaper food from elsewhere. At the same time, the services supervisor acknowledged that the organisation would ideally like to move towards a model whereby there is greater consistency between their locations in terms of food provided, although this might be interpreted as a euphemism for greater centralisation of services.

The on-going process of transformation of the food provisioning service in Case 4 brings to light a variance in the sentiment of different actors involved. On the one hand, there is a resistance to a move towards a fully centralised procurement system, in particular from the services supervisor and the catering manager, whilst on the other hand there is evidence of a push in this direction from strategic managers and others who base decisions primarily on economic considerations. If the organisation is to centralise food procurement to take advantage of the associated economies of scale, the knock-on effects are likely to have a negative impact on overall food sustainability. However, if they are to resist centralisation and retain local producers and suppliers, the services supervisor, with the support of the catering services managers, will need to play a central role in convincing the relevant decision-makers (i.e. higher level management, external consultants) that it is worthwhile to continue to invest in sustainable food.

6.6 From the inside out: influencing sustainable food provisioning from the role of middle management (Case 5)
Case 5 is an independent healthcare provider with an in-house catering operation. There is a comparatively straightforward organisational structure in relation to food provision, with a relatively small number of actors and roles involved (Figure 6.5). The role of services manager is central to their catering activities, and any successful sustainability intervention is likely to require the support and understanding of the services manager, who, in turn, can influence the other key roles ranging from top-level management, to suppliers and supply chains and consumers.

The services manager oversees all of the catering activities in the organisation, as well as the retail shop, and reports directly to the general manager. The responsibilities of the role of services manager include patient care, quality control, hygiene, health and safety, staffing, procurement, finance and budgets. According to the services manager, quality is the number one goal throughout the organisation’s catering activities. The vast majority of food is prepared in-house for each day and all chefs are restaurant hotel trained. Feedback pertaining to food quality, menu choice and service is collected through staff and patient surveys and the data used in a continuous attempt to improve the catering service and provide consumers with what they want. In this regard there is a high consumer demand among patients for what is perceived as ‘comfort food’ such as shepherd’s pie or rice pudding. To gauge their food service standards, the organisation enters catering excellence awards and they conduct patient satisfaction surveys for internal evaluation and to benchmark against other healthcare providers.

An in-house dietician provides direction and guidance on the nutritional value of menus for different patient groups. According to the services manager, the nutritional value of food is a very important part of the rehabilitation of patients, and it is not generally given as much credit as what it should do. This respect for good food is evident in their attitude towards food waste, where there is a genuine lament for what is regarded as quality food that goes uneaten. Through various service delivery strategies, food waste in the visitor and staff restaurant is kept at a nominal level. However, there is greater wastage in the patient food service, some of which is unavoidable as patients with serious medical conditions might order food before finding that they are unable to eat due to illness or loss of appetite. Nevertheless, the services manager and catering staff are continually innovating and testing new practices and procedures in an attempt to reduce overall food waste to a minimum (see section 5.3).

For the services manager, the rapport with suppliers is considered of paramount importance. The restaurant adapts their menus to reflect the seasons and takes guidance from suppliers on what foods are best at particular times of the year. Suppliers also provide information on new products and trends coming onto the market, and a core group of organisational staff members are invited to give feedback on sample products. The reciprocal nature of the relationship with suppliers is realised through the economic transaction but also through less tangible qualities such as loyalty, goodwill, pride and reputation. Hence, the organisation invests considerable effort in choosing and retaining suppliers that
Figure 6.5
Organisational chart showing key actors influencing food provisioning – Case 5

NOTE:
- - -  Represents people based off-site
*     Represents people directly employed by the organisation
**    Consumers include staff employed by the organisation and others (e.g., visitors, patients, students)
Findings three

they feel fit their requirements. Although they do not award tenders for food or tie themselves into contracts, they informally commit themselves to long-term relationships with suppliers insofar as they are reluctant to change their supply chains without serious consideration and good reason.

Over the past number of years the organisation has become more conscious about supporting what they consider to be local business, including indigenous companies and larger national and multinational suppliers that have an outlet or distribution centre in the area. Although the organisation sources food from a mixture of smaller and larger companies, this rather broad interpretation of ‘local’ business highlights one of the issues facing smaller producers wishing to supply large organisations, in other words, how they differentiate themselves so they can compete on factors beyond cost. The services manager and catering staff visit food shows to speak with suppliers and to discover new products that might suit their business. They also identify potential products during their regular activities such as personal shopping or dining. When they wish to stock new products, they first of all try to source them through one of their existing suppliers. This strategy eliminates the need to invest the time and resources required to deal with an additional vendor. As a result, suppliers have occasionally taken on new products from smaller producers, thereby giving them access to larger, more conventional supply chains. This example shows how support from large organisations can open up new markets and distribution avenues for smaller and local producers.

6.7 Top, middle and bottom: developing sustainability across all organisational levels (Case 6)

Case 6 is a multinational organisation with a global catering agreement. Catering is carried out by a facilities management company that also have responsibility for gardening, security, cleaning, maintenance and other non-core activities. The outsourced company employ a manager who has specific responsibility for the day-to-day running of the catering operation including everything from staffing, menu planning, food procurement, food service, food quality, costumer satisfaction and financial aspects. From a food sustainability perspective, the role of the catering manager is undoubtedly important, however the position lacks the responsibility required to be effective in addressing all issues (Figure 6.6). On the one hand, the catering manager has considerable freedom over the daily running of the restaurant, with a lot of direction coming bottom-up from consumers and little top-down interference from organisational management.

At the same time, the catering manager must operate within a fixed set of guidelines, meaning that a number of highly significant decisions are taken outside of their control. For example, the contract caterers operate using a centralised procurement system, therefore the catering manager is restricted to only purchasing items that feature on the approved listing of products and suppliers compiled by their head office. From a financial perspective, the catering manager
Figure 6.6
Organisational chart showing key actors influencing food provisioning – Case 6

*Global Procurement Contracts

*Management Board

Contract Caterer

Contract caterer central procurement office

Catering Manager

Head Chef

Catering Staff

Suppliers/Distributors

Food Producers

Health professionals

*Consumers

NOTE:
- ** Represents people based off-site
- * Represents people directly employed by the organisation
must reach gross profit targets also set by their head office. With a limited number of potential customers, the restaurant must capture a high percentage of the available footfall if these targets are to be achieved. Profit targets also affect menu choice, with some meals and menu items such as fish dishes limited due to their higher cost of production vis-à-vis meat-based dishes.

Although the catering contract forms part of an international agreement between the organisation and the appointed facilities management company, the on-site management team have autonomy to intervene in issues relating to catering. Within the organisation there is a strong focus on employee welfare, and, as part of their on-going wellness campaign, organisational management invite health professionals to run day clinics and give presentations to employees. These include diabetic clinics, heart screening, eye tests, occupational health and nutrition talks. These initiatives often affect the catering service directly – for example fries (e.g. sausages, bacon, fried eggs, pudding) were removed from the breakfast menu at the request of organisational management – or indirectly, as where individual consumers request certain items pertaining to recommended dietary changes. As well as intervening on menu choice, the organisational management team independently introduced a food subsidy for staff, an action that could potentially be tailored to improve food sustainability by increasing subsidies for certain food items and placing higher tariffs on others (see also Chapter 4).

Notwithstanding the constraints placed on the availability of some food items by organisational management, when it comes to menu choice the catering manager retains a certain degree of autonomy as menus are currently tailored for individual sites to meet client needs (although the facilities management company are in the process of moving towards standardised menus). In this particular case there are a number of factors that feed into the menu choice, not least of all consumer demand. The consumer base is largely made up of employees of the organisation, along with a smaller number of indirect employees. The relatively small number of unique customers means the caterers can identify the name and eating habits of individual clientele. The familiarity between the caterers and their customers facilitates an open and honest relationship, one that is generally encouraged throughout the organisation. As a result, the catering staff feel very much part of organisational team, they are responsive to individual consumer needs as well as wider consumer trends, and they identify with the overall ethos of the organisation.

Although the catering manager represents a logical and pertinent focus for immediate sustainability action, the most effective changes are more likely to take place at top-level management and through bottom-up consumer influence. Although organisational management in this case are reluctant to involve themselves in catering activities, they have nonetheless shown leadership in some important decisions, often taken in conjunction with advice from external sources such as health professionals. These actions suggest that, if food sustainability is to become a priority for the organisation, initiatives could effectively be driven from the top. Having said this, successful sustainability interventions are also likely to
require consumer support, in this case from the organisation’s staff. As well as being influenced in their food choices by occupational health professionals, consumers are influenced by external factors such as keep fit trends (e.g. post-Christmas diets) and influences from the media and popular culture (e.g. reality television weight-loss programmes). The ability of the catering department to respond to these trends empowers consumers to continue to participate in influencing on-site catering decisions.

6.8 All-inclusive: the need to (re-)engage with food provisioning (Case 7)

Case 7 is a multinational organisation employing over 3,000 people in Galway city. The catering service is outsourced on a commercial contract as part of a European wide facilities management agreement. The facilities management company employ a general/catering manager to oversee its on-site operation, which includes service delivery for four catering units. The catering manager liaises with the organisation primarily through their HR manager to discuss and address any concerns or issues arising. In addition, the contract caterer employs two deputy catering managers, each responsible for the supervision of two catering units, and two kitchen managers (Figure 6.7). These roles are somewhat interchangeable insofar as the deputy manager provides cover and support for the catering manager as required, with the kitchen manager slotting into the vacant position left by the deputy manager. Because the organisation operates a 24-hour business, the deputy catering managers spend a considerable amount of time completing paperwork for compliance with regard various regulations spread across the different shifts. The deputy manager is also responsible for managing operations front of house, while the duties of the kitchen manager include menu planning and food purchasing. Menus are rotated on a four-week cycle, and all food purchases are made from an approved product listing and sourced from a single supplier. The catering managers must adhere to relatively strict guidelines set out by their own head office, particularity in relation to procurement practices and budgetary considerations. Therefore, the ability of the various catering managers to influence food sustainability is somewhat limited, as other actors, including their own head office but also including the client and customers, dictate many of their choices and decisions.

Consumers, primarily employees of the organisation, have two main avenues for influencing food provisioning in the organisation. As well as having purchasing power, individually consumers can give direct feedback to the contract caterer either verbally or through comment cards, or collectively they can report to the HR manager through employee representative groups and other feedback schemes. Individual responses and requests are generally addressed by the deputy catering manager and rarely involve organisational management, whilst larger scale concerns are dealt with from an overall site perspective involving the relevant management personnel. In this case there are two clear examples of how collective action on behalf of consumers has influenced food provisioning on-site.
Findings three

Figure 6.7
Organisational chart showing key actors influencing food provisioning – Case 7

NOTE:

- Represents people based off-site
- * Represents people directly employed by the organisation
Firstly, calorie counting was introduced on menus after being proposed and voted for by employees through a workplace improvement initiative. Secondly, employee feedback over a prolonged period suggested that it was more expensive to eat healthily in the workplace, therefore prices for the more healthy options were not increased in line with price rises for less nutritious choices. In both of these cases, the HR manager was involved in the discussion and implementation phases, in effect acting as an intermediary role between the consumers and the caterer.

Although the above examples illustrate the power of consumers to effect positive change, further examination reveals how resistance on behalf of consumers can also limit the beneficial impact of these actions. For example, in order to facilitate the accurate delivery of GDA information, the caterers attempted to enforce regulated portion sizes for food items by replacing the existing self-serve system with a service conducted by catering staff. However, strong opposition from consumers meant that the caterers had to quickly revert to the self-serve system, thereby losing control over portion sizes and reducing the effectiveness of the calorie counting initiative. According to the catering manager, consumers felt that they were being ‘ripped-off’ because the recommended servings were smaller than what consumers were accustomed to. A further example of consumer resistance to change occurred when the organisation attempted to introduce a chip-free day each week. Again, robust consumer opposition to the move resulted in a swift reversal of the decision from organisational management. The organisation also moved away from tailored menus for shift-work and introduced standardised menus across all services, including day, evening and night shift, following customer complaints about their menu choice vis-à-vis workers on other shifts.

The HR manager is involved in the tendering process for catering and other services and is responsible for overseeing the catering contract from the organisation’s perspective. In this regard, food quality, service and cost are the key considerations for the organisation. Although they have not had a specific focus on food sustainability, the HR manager acknowledges that sustainability could potentially become a quality feature. As documented above, the HR manager also provides the outlet for collective consumer action regarding catering issues. Although the organisation doesn’t generally interfere in the day-to-day running of the catering operation, they do provide broad criteria outlining their requirements, for example, the minimum number of hot dishes, snack options, and their desire for consistency in the menu choice across all shifts. The organisation, including input from the HR manager, also agree tariffs for various food items and dishes and have shown a willingness to become involved in broader site-level concerns such as those outlined previously.

In this case, successful sustainability interventions require concerted action from the organisation, the contract caterer and consumers. The HR manager is in a position to influence the actions of the contract caterer, both at the contract negotiation phase and during the intervening period. When viewed as a collective, the HR manager also acts as the intermediary between the consumers and the
Findings three

contract caterer, thus strengthening the suitability of this position as a focus for sustainability improvement. Having said this, the HR manager needs to engage with consumers, both individually and collectively, to address their concerns regarding any potential changes to the catering service and establish an effective two-way avenue for communication of ideas.

6.9 Outside the (snack) box: introducing innovative and participatory approaches to food provisioning (Case 8)

Case 8 is multinational technology-based organisation with a diverse workforce. The catering operation is outsourced to a third-party facilities management company who hold the contract for the organisation’s Irish operations. From a strategic point of view, the organisation prefers to tender for catering separately to other services such as cleaning, landscaping and security. Although more expensive to implement, retaining the catering contract as a separate entity allows the organisation to maintain greater control over managing food provisioning. In this regard, the organisation invests considerable time and resources in developing the food service as a key component in employee welfare, including the daily provision of a free lunch for all employees.

Within the organisation, the catering contract is overseen by the facilities manager, who plays a key role in decisions relating to food provisioning and represents a central figure in the development of a participatory process for stakeholder engagement (Figure 6.8). As well as overseeing the catering contract, the facilities manager is involved in various aspects of the tendering process including developing the statement of work, interviewing, and financial aspects. Although the tendering process is lead by the facilities manager, up to six people can be involved in the negotiations. The catering contract is awarded for a three-year period and performance is monitored through a range of KPIs. The organisation places a lot of emphasis on sustainability in third-party contracts, with a number of performance indicators included to reflect this position. The ethos of the organisation in relation to food provisioning is built around consumer (i.e. employees) satisfaction, with a strong emphasis on consumer choice, including healthy alternatives at all stages.

On-site, the designated contract caterers are responsible for food management, including planning, purchasing and preparation of food. To carry out these duties, the contract caterers employ a catering manager and support staff. In addition, the contract caterer’s regional manager works with the organisation, primarily on issues relating to strategic development. The catering manager plays an essential role in the day-to-day service delivery and is responsible for food purchasing, customer service, menu planning and development. The catering company operate using a centralised food procurement system and, although they do purchase from multiple suppliers, the catering manager cannot purchase outside of the approved product listing. The catering manager liaises with consumers on an on-going basis, and encourages consumer feedback through several avenues including comment
Figure 6.8
Organisational chart showing key actors influencing food provisioning – Case 8

NOTE:
---  Represents people based off-site
*    Represents people directly employed by the organisation
Findings three

cards, via email and face-to-face. According to the catering manager, there is a good relationship between catering staff and consumers, thus facilitating an inclusive environment where decision-making involves relatively high levels of consumer engagement.

From an operations perspective, the catering manager works very closely with the facilities manager on an on-going basis. Additionally, the facilities manager works with the regional catering manager in relation to the strategy of the restaurant and how it is working from a business model perspective. In this regard, the organisation constantly monitors how the catering service is evolving with the business and how it fits with the organisation’s infrastructure and employee base. They take a proactive approach to developing their catering activities and are constantly looking at their strategy in terms of what changes might occur over the succeeding four years. The organisation conduct a lot of research into other companies and how they deliver their food service, thereby keeping on top of industry trends and identifying those that they feel fit best with their own business.

Although the same can be said for the other cases in this study, in this instance the organisation shows a greater willingness and desire to innovate and test new models of service delivery on their own site in comparison to other organisations. In other words, regarding food provisioning, the organisation sees themselves as much trendsetters as trend-followers. The organisation has two restaurants on-site and test new service delivery models in the smaller restaurant before implementing them across the site (see Chapter 4). As well as innovating new eating and service delivery options, the organisation maintains a number of traditions, for example, chips on Fridays and roast dinner on a Wednesday. Fish options are also offered on Fridays, a tradition born from the Catholic practice of abstaining from meat on Fridays.

The organisation, through the facilities manager, engages with their employees in an open process of communication to ascertain what improvements or changes they would like to see regarding food provisioning. Subsequent decisions are taken to reflect the needs of the overall workforce in a de facto system of majority agreement. Although interview reports suggest that most of the consumers are happy with the catering service, the facilities manager finds that consumers can sometimes be less appreciative when they do not have to pay for the food. At the same time, the fact that the lunch is free strengthens the position of the facilities manager to enforce certain sustainability measures, for example, regarding portion control to reduce waste.

In conclusion, the role of the facilities manager is a key position in delivering successful food sustainability improvements. The facilities manager represents the fulcrum between consumers, caterers and top-level management, each of which play important parts in the potential to achieve a sustainable system of food provisioning within the organisation. Consumer buy-in is essential for sustainability initiatives to succeed, however, this cannot be achieved without the support of
management who make important decisions in relation to contracts and service delivery and who help shape an organisational culture that is responsive and open to change. At the same time, the organisation needs to continue to influence contract caterers by increasing the demand for sustainable food and incorporating measurable food sustainability performance indicators into catering contracts.

6.10 Conclusion

The eight cases in this chapter aptly demonstrate the diversity of roles and actors that influence food provisioning in organisational settings and highlight the areas that represent potential alteration spaces, that is, suitable intra-organisational starting points for initiating a transition towards greater food sustainability. As evident from the charts accompanying each case, organisational food provisioning structures involve varying degrees of complexity. In some cases (e.g. Case 5) the majority of key decisions relating to food provisioning are taken on-site by direct employees of the organisation, while in other cases externally based actors are shown to have a greater influence (e.g. Case 3). Nonetheless, in all of the cases studied, organisations display considerable levels of autonomy to take action to enhance the overall sustainability of food provisioning.

The data and findings presented in this chapter further demonstrate the need to shift the focus of food sustainability initiatives away from individual consumers to include actors at all levels of the organisational hierarchy, in particular those at top and middle-level management. Although consumer choice is an important aspect of organisational food provisioning, organisations can influence the food related decisions of individual consumers through a process of consultation and participatory decision-making. In addition, an inclusive approach towards sustainable food provisioning is more likely to be successful in organisations that have already developed a strong food culture where the social and environmental impacts of decisions are considered in addition to economic factors. In this regard, catering contract negotiations are a key point of intervention as they present opportunities for organisations to set out a sustainable food agenda and incorporate measurable and enforceable indicators to assess key sustainability performance areas. Additionally, organisations can work with caterers – in-house and contract – on an on-going basis to incrementally introduce sustainable interventions and encourage more sustainable food consumption behaviour among their consumers. Building on the results of the study put forward thus far, the following chapter offers a thorough and critical discussion of the findings presented in Chapters 4, 5 and 6.
Chapter 7

Discussion and recommendations
7.1 Introduction

Combining synthesis, critical examination and discussion of the findings presented in Chapters 4, 5 and 6, the purpose of this chapter is twofold. First, it highlights key conclusions that are highly relevant to social-scientific and interdisciplinary research on (un)sustainable food provisioning in organisations. In this regard, section 7.2 presents key insights from existing studies of sustainable food consumption within organisational settings and connects them to the findings of this study. Second, the chapter identifies ways of improving food sustainability within organisations and the impediments thereof. Connecting the concept of ‘alteration spaces’ presented in the conceptual framework (Chapter 2) with empirical evidence from Chapters 4, 5 and 6, section 7.3 identifies 12 areas that are central to improving food sustainability performance in organisations. The potential of each of these alteration spaces is also discussed in depth.

For sustainable food provisioning to become routine practice, organisations also need to overcome a number of challenges. Several barriers to sustainable food provisioning were evident in this study. These were identified from three main sources: 1) they were articulated by participants during the interview process; 2) they were identified in the FOODSCALE data collection phase; 3) they were related to aspects of the organisational context outlined in Chapter 4. Eleven of the most commonly cited barriers are presented and discussed in section 7.4.

7.2 Sustainable food provisioning in organisations: key findings

Organisation-based food and nutrition programmes are acknowledged for their ability to promote healthy sustainable eating habits among workers, patients, students and other consumers (Mikkloa, 2009; Fairchild and Collins, 2011; Ruge and Mikkelsen, 2013). However, how organisations influence the production and consumption of food within the complex social system of the real world is poorly understood. While studies have focused on specific aspects of organisational food provisioning (e.g. procurement; choice architecture), a systemic approach to improving sustainability has heretofore been lacking. Moreover, there is a severe lack of empirical evidence to demonstrate how an integrated food sustainability strategy in large organisations might be structured and implemented, and the limitations thereof.

Of all areas where greater food sustainability in organisations can be achieved, food procurement has received the most attention (Morgan and Sonnino, 2008; Smith et al., 2016). The procurement of food gives organisations a direct opportunity to influence the food system by deploying their purchasing power to promote social, economic and environmental goals (Goggins and Rau, 2016; Caputo et al., 2016). As outlined in the literature review in Chapter 2, and subsequently operationalised in the FOODSCALE method in Chapter 5, sustainable food procurement typically involves the purchase of organic, local or fairly traded goods from at home and abroad (Morgan and Morley, 2014). The perception that
Discussion and recommendations

Sustainable procurement comes at a higher financial cost is common among organisational and catering managers (Preuss, 2005; Brammer and Walker, 2011). This impression can be compounded by poor awareness surrounding the benefits of sustainable food provisioning and a lack of appreciation for its core values. Within organisational settings, dominant economic oriented models of food provisioning favour low cost over more sustainable values such as social solidarity, ecological integrity and public health (Smith et al., 2016). Regarding public sector food procurement, awarding contracts on the basis of the ‘most economically advantageous tender’ has generally become a euphemism for low cost. As a result, communicating the potential benefits of sustainable food provisioning to managers, politicians, policy makers, consumers and the general public is one of the core challenges facing sustainable food advocates (Marsden and Morley, 2014). The inherent complexity in quantifying social and environmental impacts of food provisioning, including inevitable trade-offs, makes a convincing argument all the more difficult to articulate. As with other studies, this thesis has shown the extent to which cost dominates other considerations in relation to organisational food provisioning. However, it has also demonstrated a more nuanced appreciation of the financial pressures facing catering managers and procurement officials. Organisational management, contract caterers, consumers and policy makers all contribute to the emergence of low-cost food provisioning as a social norm. Integrated solutions need to go beyond finance and be formulated in the context of wider socio-economic and behavioural influences.

Trade-offs are an inevitable feature of all food provisioning systems, therefore retaining a broad view of food sustainability is essential so as not to over valorise the importance of any single attribute, be it an environmental characteristic or a localism attribute (Born and Purcell, 2006). From an ecological perspective, food procurement policies that affect the production phase have the greatest potential to reduce environmental impacts (Baldwin et al., 2011; Cerutti et al., 2016). Within a productivist framework, a globalised food system is seen to facilitate larger corporations to achieve economies of scale, allowing them to provide greater volumes of food at a lower environmental and economic cost per unit. However, when considered from a broad sustainability perspective – incorporating social, environmental and economic factors – food with the lowest carbon footprint is not automatically the most sustainable (Goggins and Rau, 2016). For example, while local food does not inherently lead to desirable outcomes (Hinrichs, 2003; Tregear, 2011), shortening supply chains and sourcing from local and regional producers can bring additional benefits such as support for the local economy, rural development, and the protection of regional food cultures (Ilbery and Maye, 2005; Kneafsey et al., 2013). Developing a sustainable food provisioning strategy for organisations in a complex task. This thesis has demonstrated a diversity of approaches to food provisioning in organisations, with all eight cases unique in their service delivery. In addition, organisational and catering managers were found to have differing opinions as to which specifics are more sustainable (e.g. centralised/non-centralised procurement). While no one approach can be considered ‘ideal’, it is crucial that organisations and caterers are aware of the
consequences and trade-offs associated with each food provisioning model (e.g. supporting local producers versus economies of scale).

Regardless of the geographical proximity between production and consumption, organic food is often more expensive than conventionally produced food. Despite organic food being regarded by consumers as having social, environmental and political characteristics above and beyond its intrinsic qualities such as taste and appearance (Vittersø and Tangeland, 2015), organisations and food procurement officials may not be willing to pay a premium for it. At the same time, because consumers view organic food as a premium product, they are less likely to expect it in organisational settings (Price et al., 2016). Nonetheless, for organisations that are willing to invest in more sustainable food, providing organic food can bring a number of sustainability benefits. For example, in a study of school catering based in Turin, Cerutti et al. (2016) found that switching from conventional production to organic reduced the carbon footprint by 15-20%. As well as lower carbon emissions, providing organic food can realise other personal and societal benefits such as building resistance to disease (through a reduction in routine antibiotic use) and cleaner water (as a result of less eutrophication). Yet despite its many benefits, this research showed that there is a poor demand for organic food from caterers and consumers. Not only was organic food almost non-existent across all organisations, catering managers expressed little desire to introduce organic food into menus. While many individual consumers chose organic food for personal reasons (e.g. health, taste), this research suggests that increasing organic food in organisations requires intervention at the socio-material level. For example, a government stipulation for a minimum requirement for organic food in public sector organisations could have significant knock-on effects for consumption choices in wider society.

The food choices, organic or otherwise, offered by caterers have a significant impact on the diet and wellbeing of consumers (Pridgeon and Whitehead, 2013). With almost a quarter of calories now consumed outside home in Western societies, and out of home eating associated with higher intake of saturated fats, public food consumption is a key area for promoting healthy eating (Geaney et al., 2015). Traditional behavioural approaches view consumers as individualistic actors who make conscious rational decisions about their consumption choices (Shove and Walker, 2010). These disciplines suggest that consumers make decisions based on factors that maximise their personal utility, for example cost or well-being. From this perspective, providing consumers with information about the impacts of their food choices is expected to empower them to change their attitudes and, ultimately, their behaviour towards more sustainable food. In this regard, consumers have been shown to be responsive to simplified information designed to increase the sustainability of their food choices (Lehner et al., 2015). Research also shows that consumers welcome the provision of information, even when they do not necessarily pay much attention to it (Price et al., 2016b). However, this individualistic approach fails to consider the myriad socio-material factors that influence consumption choices. Moreover, there is a lack of evidence supporting sustainability efforts that appeal to individual consumers.
Discussion and recommendations

Changing the contextual conditions that underpin consumption practices provides and opportunity for organisations to shift normative behaviours towards more sustainable practices. In addition to providing information, educating consumers, caterers and organisational management about sustainable food can have the desired effect of increasing the availability and consumption of such products (Verain et al., 2015). To maximize the effectiveness of their role as intermediaries in a sustainable food supply chain, it is important for organisations and caterers to be aware of the social, economic and environmental qualities of the food they provide (Jabbour and de Sousa Jabbour, 2016). Equipped with such information facilitates the transfer and dissemination of knowledge through the food chain from producer to consumer via the caterer and organisation (Renting et al., 2003; Kneafsey et al., 2013). Furthermore, knowledge about the impacts of food consumption choices can positively influence consumer decisions to choose more sustainable foods. For example, de Boer et al. (2016) found consumer awareness about the impact of high levels of meat consumption on the environment to be very low, but providing education around this topic positively impacted consumers’ willingness to eat less meat. In a similar vein, DeMagistris and Gracia (2016) found that educating consumers about the sustainability attributes of local and organic foods increases their willingness to pay more for these products.

The nature of food provisioning in organisational settings means that caterers have many repeat customers, therefore food choices will be influenced by what consumers have tried before, or particular dishes that they have previously enjoyed in the same location (Price et al., 2016). Investing time and effort into offering a wider range of attractive sustainable options (e.g. tasty vegetarian dishes) is likely to increase consumption of these items, while managing portion sizes has the double benefit of reducing overconsumption and lowering food waste (Wansink, 2004). Portion control can also be applied to individual (unsustainable) items, for example using smaller amounts of meat in dishes and replacing with vegetables. Also of importance is how dishes are presented, as consumer choice often relates to meals rather than individual ingredients (Lehner et al., 2015).

This study has shown how food choices and behaviours are influenced by complex interacting individual, social and material factors. However, how these factors interact and shape food consumption practices within complex socio-material systems such as large organisations is under researched and not fully understood. Understanding the interdependencies and trade-offs that influence and shape consumption practices requires composite approaches that pay particular attention to wider societal influences, structures and norms. This study has identified a diversity of organisational structures around food provisioning, contrasting with relatively simplistic and much less nuanced depictions of organisations in much of the literature on sustainable food. Through its unique and innovative research design, the study was capable of generating fresh insights into public food consumption, thereby distinguishing it from much of the existing research work on food.

Overall, the impact of organisational food provisioning activities have a profound
effect on individuals and the wider food system, yet to date there has been very little research to determine how an integrated approach to food sustainability might be realised in organisational settings. This thesis goes some way towards bridging this research gap through the identification of twelve ‘alteration spaces’ that provide a framework for implementing a consolidated approach to sustainable food provisioning. These recommendations bring together the findings from a number of social-scientific perspectives in food sustainability research and combine them with empirical results emanating from the eight cases in this study.

7.3 Alteration spaces: Promising areas for food sustainability improvements in large organisations

Food consumption outside of home is on the increase as a result of busy modern lifestyles, changing work patterns and evolving societal relations. The growing demand for quick and convenient foods is being met by a range of traditional and novel eating choices, all of which trigger a unique set of social, economic and environmental impacts. To increase sustainability, organisations can take a number of steps to facilitate and support a sustainable eating environment. In this regard, the availability of healthy sustainable foods is paramount. However, availability in itself is inadequate for promoting sustainable food consumption. Sustainable food must also be presented in a manner that makes it attractive and accessible to a wide range of consumers. Hence, sustainable food provisioning goes beyond procurement, to include other considerations that influence consumer choice and consumption practices, including the presentation of different types of food and the system of provision. As shown in Chapters 4, 5 and 6, focusing on the context in which food consumption takes place, and the key actors that determine the mode of provision, reveals specific opportunities for sustainable innovation. These ‘alteration spaces’ can facilitate a transition to more sustainable food provisioning within organisations.

Based on empirical evidence presented in this thesis, twelve areas emerge where organisations can directly influence and shape food provisioning (Table 7.1). The first six could be categorised as hard measures, while the latter six relate to soft measures. Hard measures refer to the more quantifiable or tangible aspects relating to food provisioning. Setting goals and targets is generally perceived as more straightforward for harder measures, thereby making it easier to evaluate performance. For example, an organisation might set a target to spend 20% of their food budget on organic produce, or to reduce the price of vegetarian meals vis-à-vis meat-based dishes. Yet, while it is relatively simple to determine whether such targets are met, evaluating the precise impacts of food sustainability actions remains inherently complex, not least because of trade-offs in the food system. While not impossible, evaluating attempts to improve sustainability performance through soft measures is also difficult. Soft measures are generally more qualitative and are perceived as being more subjective or intangible. Examples include providing information in relation to the sustainability attributes of foods, or facilitating greater communication between caterers and consumers.
Discussion and recommendations

Table 7.1
Opportunities for increasing the sustainability of food provisioning in organisations

<table>
<thead>
<tr>
<th>Hard measures:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food procurement</td>
</tr>
<tr>
<td>Catering contract</td>
</tr>
<tr>
<td>Menu development</td>
</tr>
<tr>
<td>Tariffs, subsidies and pricing</td>
</tr>
<tr>
<td>Waste management</td>
</tr>
<tr>
<td>Infrastructure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Soft measures:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff training</td>
</tr>
<tr>
<td>Information</td>
</tr>
<tr>
<td>Education</td>
</tr>
<tr>
<td>Communication and feedback</td>
</tr>
<tr>
<td>Partnership</td>
</tr>
<tr>
<td>Special events</td>
</tr>
</tbody>
</table>

Before discussing specific areas for sustainability improvement, Tables 7.2-7.8 provide a synthesis of the findings presented in the thesis thus far. The sustainability actions identified in Table 7.2-7.8 (Column 2) relate to the FOODSCALE method indicators presented in Chapter 5. Only the indicators for which organisations did not achieve full marks on the FOODSCALE are included in the tables, as these represent actions where sustainability improvements can be achieved. In the next column, each sustainability action is attributed to a general area relating to food provisioning such as food procurement or education about food sustainability. The following column identifies the specific opportunities for introducing each sustainability initiative. For example, particular changes might be best introduced during contract negotiations, tendering processes or through considered menu development. Data from columns 3 (‘related area’) and 4 (‘opportunity for change’) subsequently feed into the remainder of this section. Drawing on findings from Chapter 6, the tables show the groups or positions best placed to incorporate each particular sustainability initiative in the respective organisations (column 5). In all, the areas related to sustainability actions, the opportunities for change and the positions best suited to initiate change are referred to as ‘alteration spaces’. Finally, the tables highlight the barriers to introducing each associated sustainability action (see Section 7.4).
Notes on Tables 7.2-7.8:

Four separate caterers operate in Case 1. Table 7.2 takes aggregated data from across the whole organisation. Therefore, if at least one caterer does not achieve full marks in any given FOODSCALE indicator, the indicator is included in the table.

There is no table relating to Case 5 as attempts to gather FOODSCALE data for this case were unsuccessful. Nevertheless, interview and other data relating to Case 5 is used to inform the material presented in this chapter and in Chapter 8.
## Discussion and recommendations

**Table 7.2 Sustainability actions, alteration spaces and barriers to change: Case 1**

<table>
<thead>
<tr>
<th>Category</th>
<th>Sustainability action</th>
<th>Related area</th>
<th>Opportunity for change</th>
<th>Person/People</th>
<th>Barriers to change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic</td>
<td>Increase organic food</td>
<td>Food procurement</td>
<td>Catering contracts; Menu development</td>
<td>Commercial services</td>
<td>Cost; Knowledge; Awareness and information; Inertia; Availability; Leadership</td>
</tr>
<tr>
<td>Seasonal</td>
<td>Use seasonal foods</td>
<td>Food procurement</td>
<td>Catering contracts; Menu development</td>
<td>Commercial services</td>
<td>Awareness and information; Inertia</td>
</tr>
<tr>
<td></td>
<td>Display seasonal food calendar</td>
<td>Information</td>
<td>Ongoing</td>
<td>Caterers</td>
<td>Leadership; Knowledge</td>
</tr>
<tr>
<td></td>
<td>Grow herbs/vegetables</td>
<td>Infrastructure</td>
<td>Align with horticulture society (anytime)</td>
<td>Caterers</td>
<td>Risk; Leadership; Inertia; Knowledge</td>
</tr>
<tr>
<td>Fairly traded</td>
<td>Increase fairly traded products</td>
<td>Food procurement</td>
<td>Catering contracts</td>
<td>Commercial services</td>
<td>Awareness and information; Availability</td>
</tr>
<tr>
<td>Meat</td>
<td>Reduce budgetary spending on meat</td>
<td>Budget allocation</td>
<td>Menu development; Catering contract</td>
<td>Commercial services</td>
<td>Awareness and information; Consumer demand (for meat); Inertia; Leadership</td>
</tr>
<tr>
<td></td>
<td>Only use meat that is animal welfare certified</td>
<td>Food procurement</td>
<td>Catering contracts</td>
<td>Commercial services</td>
<td>Awareness and information; Inertia</td>
</tr>
<tr>
<td>Seafood</td>
<td>Increase availability/consumption of meat-free dishes</td>
<td>Menu development</td>
<td>Catering contracts; Menu development</td>
<td>Commercial services</td>
<td>Consumer demand (for meat); Inertia; Awareness and information</td>
</tr>
<tr>
<td></td>
<td>Only use seafood from sustainable sources</td>
<td>Food procurement</td>
<td>Catering contracts</td>
<td>Commercial services</td>
<td>Awareness and information; Inertia</td>
</tr>
<tr>
<td>Eggs</td>
<td>Use organic or free-range eggs</td>
<td>Food procurement</td>
<td>Catering contracts; Menu development</td>
<td>Commercial services; Caterer</td>
<td>Awareness and information; Availability; Cost; Leadership</td>
</tr>
<tr>
<td>Water</td>
<td>Use bottled water from local sources</td>
<td>Food procurement</td>
<td>Catering contracts</td>
<td>Commercial services; Caterer</td>
<td>Legal issues; Availability; Cost; Inertia; Awareness and information; Perceived inefficiencies</td>
</tr>
<tr>
<td>Waste</td>
<td>Donate edible unused food to charity</td>
<td>Partnership</td>
<td>Develop partnership (with local charity)</td>
<td>Commercial services; Caterers</td>
<td>Risk; Resources; Knowledge; Inertia; Leadership</td>
</tr>
<tr>
<td></td>
<td>Introduce additional waste reduction initiatives</td>
<td>Waste management</td>
<td>Catering contracts; Infrastructure; Ongoing</td>
<td>Commercial services; Caterers</td>
<td>Leadership; Inertia; Knowledge</td>
</tr>
<tr>
<td>Origin of food</td>
<td>Increase procurement of local food</td>
<td>Food procurement</td>
<td>Catering contracts</td>
<td>Commercial services; Caterers</td>
<td>Legal issues; Risk; Cost; Knowledge; Availability; Awareness and information; Perceived inefficiencies; Leadership; Inertia</td>
</tr>
<tr>
<td>Consumer</td>
<td>Promote healthy and sustainable food</td>
<td>Education</td>
<td>Catering contracts; Menu development</td>
<td>Commercial services; Caterers</td>
<td>Knowledge; Leadership; Consumer demand</td>
</tr>
<tr>
<td>engagement</td>
<td>Gather consumer opinions re sustainable food</td>
<td>Information</td>
<td>Feedback mechanisms</td>
<td>Caterers</td>
<td>Inertia; Awareness and information; Knowledge</td>
</tr>
<tr>
<td></td>
<td>Provide information re food provenance</td>
<td>Information</td>
<td>Infrastructure (notice boards; menus); Catering contracts</td>
<td>Commercial services; Caterers</td>
<td>Awareness and information; Leadership; Inertia</td>
</tr>
<tr>
<td>Producer</td>
<td>Hold tendering information events for smaller producers</td>
<td>Information</td>
<td>Special events</td>
<td>Procurement and contracts office; Caterers</td>
<td>Cost; Perceived inefficiencies; Inertia; Availability; Risk; Knowledge</td>
</tr>
<tr>
<td>engagement</td>
<td>Include contract specifications to support smaller producers</td>
<td>Food procurement</td>
<td>Catering contracts</td>
<td>Commercial services; Procurement and contracts office</td>
<td>Inertia; Risk; Cost; Perceived inefficiencies; Availability; Knowledge</td>
</tr>
<tr>
<td></td>
<td>Hold activities to promote local food</td>
<td>Education</td>
<td>Special events; Field trips; Food markets</td>
<td>Commercial services; Caterers</td>
<td>Inertia; Leadership; Risk; Awareness and information</td>
</tr>
<tr>
<td></td>
<td>Train staff in product information (origin, social, environmental qualities)</td>
<td>Education</td>
<td>Staff training</td>
<td>Caterers</td>
<td>Awareness and information; Leadership; Knowledge</td>
</tr>
</tbody>
</table>

| 175 |
### Table 7.3
Sustainability actions, alteration spaces and barriers to change: Case 2

<table>
<thead>
<tr>
<th>Category</th>
<th>Sustainability action</th>
<th>Related area</th>
<th>Opportunity for change</th>
<th>Person/People</th>
<th>Barriers to change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic</td>
<td>Increase organic food</td>
<td>Food procurement</td>
<td>Tendering process; Menu development</td>
<td>Catering manager; Catering staff</td>
<td>Cost; Availability; Perceived inefficiencies</td>
</tr>
<tr>
<td>Seasonal</td>
<td>Display seasonal food calendar</td>
<td>Information</td>
<td>Infrastructure (notice board)</td>
<td>Catering manager</td>
<td>Leadership</td>
</tr>
<tr>
<td></td>
<td>Grow herbs/vegetables</td>
<td>Infrastructure</td>
<td>Infrastructure (onsite garden)</td>
<td>Caterers; Clubs &amp; societies (e.g. horticulture society)</td>
<td>Leadership; Inertia; Risk; Resources</td>
</tr>
<tr>
<td>Fairly traded</td>
<td>Increase fairly traded products</td>
<td>Food procurement</td>
<td>Tendering process</td>
<td>Catering manager</td>
<td>Cost; Availability</td>
</tr>
<tr>
<td>Meat</td>
<td>Increase availability/consumption of meat-free dishes</td>
<td>Menu development</td>
<td>Menu development; Pricing</td>
<td>Catering manager; Head chef</td>
<td>Consumer demand (for meat); Knowledge</td>
</tr>
<tr>
<td>Eggs</td>
<td>Use organic or free-range eggs</td>
<td>Food procurement</td>
<td>Tendering process; Menu development</td>
<td>Catering manager</td>
<td>Cost; Awareness and information</td>
</tr>
<tr>
<td>Waste</td>
<td>Donate edible unused food to charity</td>
<td>Partnership</td>
<td>Develop partnership (with local charity)</td>
<td>Catering manager; Catering staff</td>
<td>Risk; Leadership; Resources</td>
</tr>
<tr>
<td>Origin of food</td>
<td>Increase procurement of local food</td>
<td>Food procurement</td>
<td>Tendering process</td>
<td>Catering manager</td>
<td>Legal issues; Risk; Cost; Knowledge; Availability; Perceived inefficiencies</td>
</tr>
<tr>
<td>Consumer engagement</td>
<td>Provide nutrition information for consumers</td>
<td>Education</td>
<td>Infrastructure (new software)</td>
<td>Catering company board of directors</td>
<td>Leadership; Inertia; Knowledge; Cost</td>
</tr>
<tr>
<td>Producer engagement</td>
<td>Hold activities to promote local food</td>
<td>Education</td>
<td>Special events; Field trips</td>
<td>Catering manager</td>
<td>Leadership; Awareness and information</td>
</tr>
<tr>
<td></td>
<td>Train staff in product information (origin, social, environmental qualities)</td>
<td>Education</td>
<td>Staff training</td>
<td>Catering manager</td>
<td>Awareness and information; Knowledge</td>
</tr>
</tbody>
</table>
Discussion and recommendations

Table 7.4 Sustainability actions, alteration spaces and barriers to change: Case 3

<table>
<thead>
<tr>
<th>Category</th>
<th>Sustainability action</th>
<th>Related area</th>
<th>Opportunity for change</th>
<th>Person/People</th>
<th>Barriers to change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic</td>
<td>Increase organic food</td>
<td>Food procurement</td>
<td>Tendering process; Catering contract; Menu development</td>
<td>National advisory group; General manager; Contract caterers</td>
<td>Cost; Knowledge; Leadership; Inertia; Perceived inefficiencies; Awareness and information; Availability</td>
</tr>
<tr>
<td>Seasonal</td>
<td>Display seasonal food calendar</td>
<td>Information</td>
<td>Ongoing</td>
<td>Caterers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grow herbs/vegetables</td>
<td>Infrastructure</td>
<td>Develop onsite garden (ongoing)</td>
<td>General manager; Caterers</td>
<td>Lack of resources; Risk; Inertia; Leadership</td>
</tr>
<tr>
<td>Fairly traded</td>
<td>Increase fairly traded products</td>
<td>Food procurement</td>
<td>Tendering process; Catering contract</td>
<td>National advisory group; Caterer procurement office</td>
<td>Awareness and information; Cost; Availability</td>
</tr>
<tr>
<td>Meat</td>
<td>Reduce budgetary spending on meat</td>
<td>Budget allocation</td>
<td>Menu development; Purchasing</td>
<td>General manager; Services manager; Catering manager; Head chef</td>
<td>Consumer demand (for meat); Inertia</td>
</tr>
<tr>
<td></td>
<td>Increase availability/consumption of meat-free</td>
<td>Menu development</td>
<td>Pricing; Menu development</td>
<td>Services manager; Catering manager; Head chef</td>
<td>Consumer demand (for meat); Inertia; Leadership; Awareness and information</td>
</tr>
<tr>
<td>Eggs</td>
<td>Use organic or free-range eggs</td>
<td>Food procurement</td>
<td>Tendering process; Catering contract; Menu development</td>
<td>National advisory group; General manager; Services manager; Catering manager</td>
<td>Risk; Cost; Awareness and information; Leadership</td>
</tr>
<tr>
<td>Water</td>
<td>Use bottled water from local sources</td>
<td>Food procurement</td>
<td>Tendering process; Catering contract</td>
<td>National advisory group; General manager; Catering manager</td>
<td>Legal issues; Cost; Inertia; Awareness and information; Perceived inefficiencies</td>
</tr>
<tr>
<td>Waste</td>
<td>Donate edible unused food to charity</td>
<td>Partnership</td>
<td>Develop partnership (with local charity)</td>
<td>General manager; Services manager; Waste coordinator; Caterers</td>
<td>Risk; Knowledge; Inertia; Leadership; Resources</td>
</tr>
<tr>
<td>Origin of food</td>
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<td>Food procurement</td>
<td>Tendering process; Catering contract</td>
<td>National advisory group; General manager; Caterer procurement office</td>
<td>Risk; Cost; Knowledge; Availability; Perceived inefficiencies; Inertia; Leadership</td>
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<tr>
<td>Consumer engagement</td>
<td>Gather consumer opinions re sustainable food</td>
<td>Information</td>
<td>Feedback mechanisms</td>
<td>Services manager; Caterers</td>
<td>Inertia; Awareness and information; Knowledge</td>
</tr>
<tr>
<td></td>
<td>Provide information re food provenance</td>
<td>Information</td>
<td>Infrastructure (notice boards; menus)</td>
<td>Catering manager; Head chef</td>
<td>Awareness and information; Leadership; Inertia</td>
</tr>
<tr>
<td>Producer engagement</td>
<td>Hold tendering information events for smaller</td>
<td>Information</td>
<td>Special events</td>
<td>Services/Procurement (National); Services manager; Catering manager</td>
<td>Cost; Perceived inefficiencies; Inertia; Availability; Risk; Knowledge</td>
</tr>
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<td>Food procurement</td>
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<td>Legal issues; Cost; Perceived inefficiencies; Inertia; Availability; Risk; Knowledge</td>
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<tr>
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<td>Include contract specifications to support</td>
<td></td>
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<td>support smaller producers</td>
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</tr>
<tr>
<td></td>
<td>Train staff in product information (origin, social</td>
<td>Education</td>
<td>Staff training</td>
<td>Catering manager; Head chef</td>
<td>Awareness and information; Leadership; Knowledge</td>
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<td>Related area</td>
<td>Opportunity for change</td>
<td>Person/People</td>
<td>Barriers to change</td>
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<td>Services supervisor; Catering manager</td>
<td>Cost; Awareness and information; Availability</td>
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<td>Grow herbs/vegetables</td>
<td>Infrastructure</td>
<td>Infrastructure (onsite garden)</td>
<td>General manager; Catering manager</td>
<td>Leadership; Risk; Resources; Knowledge</td>
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<td>Tendering process</td>
<td>Services supervisor</td>
<td>Awareness and information; Cost; Availability</td>
</tr>
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<td>Menu development</td>
<td>Menu development</td>
<td>Catering manager</td>
<td>Knowledge; Awareness and information; Consumer demand</td>
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<tr>
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<td>Increase availability/consumption</td>
<td>Menu development</td>
<td>Menu development; Pricing</td>
<td>Catering manager; Services supervisor</td>
<td>Consumer demand (for meat); Knowledge</td>
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<td>Eggs</td>
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<td>Food procurement</td>
<td>Tendering process; Menu development</td>
<td>Services supervisor; Catering manager</td>
<td>Cost; Awareness and information; Leadership</td>
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<td>Donate edible unused food to charity</td>
<td>Partnership</td>
<td>Develop partnership (with local charity)</td>
<td>Services supervisor; Catering manager</td>
<td>Risk; Resources; Leadership</td>
</tr>
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<td>Food procurement</td>
<td>Tendering process</td>
<td>Services supervisor; Catering manager</td>
<td>Cost; Knowledge; Risk; Perceived inefficiencies; Leadership; Availability</td>
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<td>Leadership; Inertia; Knowledge; Cost</td>
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<td>Provide information re food</td>
<td>Information</td>
<td>Infrastructure (notice boards; menus)</td>
<td>Services supervisor; Catering manager</td>
<td>Awareness and information; Leadership</td>
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<td>Producer</td>
<td>Hold tendering information events</td>
<td>Information</td>
<td>Special events</td>
<td>Services supervisor; Procurement</td>
<td>Knowledge; Cost; Perceived inefficiencies; Risk; Inertia</td>
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<td>engagement</td>
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<td></td>
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<td>and contracts office</td>
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<td>Hold activities to promote local</td>
<td>Education</td>
<td>Special events; Field trips</td>
<td>Services supervisor; General manager</td>
<td>Inertia; Leadership; Risk; Awareness and information</td>
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<td></td>
<td>food</td>
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<tr>
<td></td>
<td>Train staff in product information</td>
<td>Education</td>
<td>Staff training</td>
<td>Catering manager; Services supervisor</td>
<td>Awareness and information; Leadership; Knowledge</td>
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Table 7.5
Sustainability actions, alteration spaces and barriers to change: Case 4
Table 7.6
Sustainability actions, alteration spaces and barriers to change: Case 6

<table>
<thead>
<tr>
<th>Category</th>
<th>Sustainability action</th>
<th>Related area</th>
<th>Opportunity for change</th>
<th>Person/People</th>
<th>Barriers to change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic</td>
<td>Increase organic food</td>
<td>Food procurement</td>
<td>Catering contract; Menu development</td>
<td>Management board; Global procurement contracts</td>
<td>Knowledge; Availability; Inertia; Cost</td>
</tr>
<tr>
<td>Seasonal</td>
<td>Grow herbs/vegetables</td>
<td>Infrastructure</td>
<td>Infrastructure (onsite garden)</td>
<td>Management board; Caterers</td>
<td>Knowledge; Leadership; Inertia; Risk; Resources</td>
</tr>
<tr>
<td>Fairly traded</td>
<td>Increase fairly traded products</td>
<td>Food procurement</td>
<td>Catering contract</td>
<td>Management board; Global procurement contracts</td>
<td>Awareness and information; Cost; Availability</td>
</tr>
<tr>
<td>Meat</td>
<td>Reduce budgetary spending on meat</td>
<td>Menu development</td>
<td>Menu development</td>
<td>Catering manager; Head chef</td>
<td>Consumer demand (for meat)</td>
</tr>
<tr>
<td></td>
<td>Increase availability/consumption of meat-free dishes</td>
<td>Menu development</td>
<td>Tariffs and subsidies; Menu development</td>
<td>Management board; Catering manager; Head chef</td>
<td>Consumer demand (for meat); Inertia</td>
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<tr>
<td>Seafood</td>
<td>Only use seafood from sustainable sources</td>
<td>Food procurement</td>
<td>Catering contract</td>
<td>Global procurement contracts office; Management</td>
<td>Knowledge; Awareness and information; Inertia</td>
</tr>
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<td>Eggs</td>
<td>Use organic or free-range eggs</td>
<td>Food procurement</td>
<td>Catering contract; Menu development</td>
<td>Global procurement contracts office; Management</td>
<td>Knowledge; Availability; Awareness and information; Leadership</td>
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<tr>
<td>Waste</td>
<td>Donate edible unused food to charity</td>
<td>Partnership</td>
<td>Develop partnership (with local charity)</td>
<td>Management board; Caterers</td>
<td>Knowledge; Risk; Inertia; Leadership</td>
</tr>
<tr>
<td></td>
<td>Minimise use of oils and fats in cooking</td>
<td>Menu development</td>
<td>Menu development (cooking methods)</td>
<td>Catering manager; Head chef</td>
<td>Awareness and information; Inertia</td>
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<tr>
<td>Origin of food</td>
<td>Increase procurement of local food</td>
<td>Food procurement</td>
<td>Catering contract</td>
<td>Caterer procurement office</td>
<td>Risk; Cost; Knowledge; Availability; Perceived inefficiencies</td>
</tr>
<tr>
<td>Consumer</td>
<td>Provide nutrition information for consumers</td>
<td>Information</td>
<td>Infrastructure (new software)</td>
<td>Management board; Health professionals; Caterer</td>
<td>Leadership; Inertia; Knowledge; Cost</td>
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<tr>
<td>engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Producer</td>
<td>Hold tendering information events for smaller producers</td>
<td>Information</td>
<td>Special events</td>
<td>Caterer procurement office</td>
<td>Cost; Perceived inefficiencies; Inertia; Availability; Risk; Knowledge</td>
</tr>
<tr>
<td>engagement</td>
<td>Include contract specifications to support smaller producers</td>
<td>Food procurement</td>
<td>Catering contract</td>
<td>Caterer procurement office; Global procurement</td>
<td>Cost; Perceived inefficiencies; Inertia; Availability; Risk; Knowledge</td>
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<td></td>
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<td>contracts office</td>
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## Table 7.7
Sustainability actions, alteration spaces and barriers to change: Case 7

<table>
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<tr>
<th>Category</th>
<th>Sustainability action</th>
<th>Related area</th>
<th>Opportunity for change</th>
<th>Person/People</th>
<th>Barriers to change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic</td>
<td>Increase organic food</td>
<td>Food procurement</td>
<td>Catering contract; Menu development</td>
<td>HR manager; Caterer procurement office; Head chef</td>
<td>Cost; Availability; Inertia</td>
</tr>
<tr>
<td>Seasonal</td>
<td>Grow herbs/vegetables</td>
<td>Infrastructure</td>
<td>Infrastructure (onsite garden)</td>
<td>Facilities group; Caterers</td>
<td>Leadership; Inertia; Risk; Resources</td>
</tr>
<tr>
<td>Fairly traded</td>
<td>Increase fairly traded products</td>
<td>Food procurement</td>
<td>Catering contract</td>
<td>HR manager; Caterer procurement office</td>
<td>Awareness and information; Cost; Availability</td>
</tr>
<tr>
<td>Meat</td>
<td>Reduce budgetary spending on meat</td>
<td>Menu development</td>
<td>Menu development</td>
<td>Catering manager; Head chef</td>
<td>Awareness and information; Knowledge; Consumer demand</td>
</tr>
<tr>
<td></td>
<td>Increase availability/consumption of meat-free dishes</td>
<td>Menu development</td>
<td>Tariffs and subsidies; Menu development</td>
<td>HR manager; Catering manager; Head chef</td>
<td>Consumer demand (for meat); Inertia</td>
</tr>
<tr>
<td>Eggs</td>
<td>Use organic or free-range eggs</td>
<td>Food procurement</td>
<td>Catering contract; Menu development</td>
<td>HR manager; Caterer procurement office</td>
<td>Availability; Cost; Awareness and information</td>
</tr>
<tr>
<td>Water</td>
<td>Use bottled water from local sources</td>
<td>Food procurement</td>
<td>Catering contracts</td>
<td>HR manager; Caterer procurement office</td>
<td>Availability; Cost; Inertia; Awareness and information</td>
</tr>
<tr>
<td>Waste</td>
<td>Donate edible unused food to charity</td>
<td>Partnership</td>
<td>Develop partnership (with local charity)</td>
<td>HR manager; Caterers</td>
<td>Knowledge; Risk; Inertia; Leadership</td>
</tr>
<tr>
<td></td>
<td>Introduce additional waste reduction initiatives</td>
<td>Waste management</td>
<td>Catering contract; Infrastructure; Staff training</td>
<td>Caterers</td>
<td>Leadership; Inertia; Knowledge</td>
</tr>
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<td>Origin of food</td>
<td>Increase procurement of local food</td>
<td>Food procurement</td>
<td>Catering contract</td>
<td>Caterer procurement office</td>
<td>Risk; Cost; Knowledge; Availability; Perceived inefficiencies</td>
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<tr>
<td>Consumer engagement</td>
<td>Promote healthy and sustainable food</td>
<td>Education</td>
<td>Pricing; Infrastructure (canteen layout)</td>
<td>Catering staff; HR manager</td>
<td>Knowledge; Leadership; Consumer demand</td>
</tr>
<tr>
<td>Producer engagement</td>
<td>Hold tendering information events for smaller producers</td>
<td>Information</td>
<td>Special events</td>
<td>Caterer procurement office</td>
<td>Cost; Perceived inefficiencies; Inertia; Availability; Risk; Knowledge</td>
</tr>
<tr>
<td></td>
<td>Include contract specifications to support smaller producers</td>
<td>Food procurement</td>
<td>Catering contract</td>
<td>HR manager; Caterer procurement office</td>
<td>Cost; Perceived inefficiencies; Inertia; Availability; Risk; Knowledge</td>
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<tr>
<td></td>
<td>Hold activities to promote local food</td>
<td>Education</td>
<td>Special events; Field trips</td>
<td>HR manager; Caterer</td>
<td>Inertia; Leadership; Risk; Awareness and information</td>
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**Table 7.8**
Sustainability actions, alteration spaces and barriers to change: Case 8

<table>
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<tr>
<th>Category</th>
<th>Sustainability action</th>
<th>Related area</th>
<th>Opportunity for change</th>
<th>Person/People</th>
<th>Barriers to change</th>
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<tbody>
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<td>Organic</td>
<td>Increase organic food</td>
<td>Food procurement</td>
<td>Catering contract; Menu development</td>
<td>Facilities manager; Caterer procurement office; Catering manager</td>
<td>Awareness and information; Cost; Availability; Inertia</td>
</tr>
<tr>
<td>Seasonal</td>
<td>Grow herbs/vegetables</td>
<td>Infrastructure</td>
<td>Infrastructure (onsite garden)</td>
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<td>Resources; Risk; Knowledge</td>
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<td>Meat</td>
<td>Reduce budgetary spending on meat</td>
<td>Menu development</td>
<td>Menu development</td>
<td>Catering manager; Head chef; Facilities manager</td>
<td>Awareness and information; Consumer demand (for meat)</td>
</tr>
<tr>
<td></td>
<td>Increase availability/consumption of meat-free dishes</td>
<td>Menu development</td>
<td>Pricing; Menu development</td>
<td>Catering manager; Head chef; Facilities manager</td>
<td>Consumer demand (for meat); Awareness and information</td>
</tr>
<tr>
<td>Eggs</td>
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<td>Food procurement</td>
<td>Catering contract; Menu development</td>
<td>Facilities manager; Catering manager; Caterer procurement office</td>
<td>Awareness and information; Availability; Cost</td>
</tr>
<tr>
<td>Water</td>
<td>Use bottled water from local sources</td>
<td>Food procurement</td>
<td>Catering contracts</td>
<td>Facilities manager; Caterer procurement office</td>
<td>Awareness and information; Availability</td>
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<tr>
<td>Waste</td>
<td>Donate edible unused food to charity</td>
<td>Partnership</td>
<td>Develop partnership (with local charity)</td>
<td>Facilities manager; Caterers</td>
<td>Risk; Resources; Knowledge</td>
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<td>Catering contract</td>
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<td>Information</td>
<td>Special events</td>
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<td>Catering contract</td>
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<td>Education</td>
<td>Special events; Field trips</td>
<td>Facilities manager; Catering manager</td>
<td>Awareness and information; Leadership; Risk; Knowledge</td>
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181
7.3.1 Food procurement

To enhance food sustainability in organisational settings means to increase the availability of sustainable produce. Evidence from this study shows a number of caterers – operating in the public and private sector – source foods from local producers and suppliers (e.g. Cases 1, 2, 4 and 5). The research uncovers a diversity of reasons and motivations for why caterers include local sourcing in their procurement strategies. For some, it is convenient to use local suppliers for some fresh food items, as proximate businesses can deliver at short notice (e.g. Case 1). Others want to support local business in the area, and in doing so build reciprocal relationships with suppliers, producers and the local community, all of which are viewed as potential customers (e.g. Case 4 and 5). In Case 2, local food procurement was seen in the wider sustainability context of developing a local and regional food culture, building relationships, supporting local business and rural development. As a public sector educational institution with a culinary arts department, procurement officials felt an obligation to provide community-wide education and disseminate information about sustainable food.

Interestingly, reducing food miles and related carbon emissions was not a concern for organisations that are currently supporting local food producers. Conversely, it was caterers operating using centralised procurement systems that identified cutting carbon emissions as a justification for streamlining suppliers and consolidating supply chains (e.g. Case 6 and 7). However, although a reduction in transport emissions has got a sustainability benefit (i.e. less CO2), sourcing through large conventional supply chains tends to favour large-scale producers using highly industrialised agricultural systems, thereby resulting in a net sustainability loss (Morley, 2010). Within this centralised system, larger multi-national caterers are likely to have binding agreements with large wholesalers in conventional supply chains, with some caterers sourcing exclusively from a single supplier. This arrangement is convenient and cost efficient for caterers as they only need to place a single order to cover all supplies, they need only receive one delivery lorry, and they have just one payment to process. Large caterers operate with more rigid purchasing systems broadly determined and negotiated by people based in a head office situated away from the food consumption site. As a result, catering managers working for larger service providers reported less flexibility in adjusting to specific sourcing requirements than smaller independent caterers or in-house catering operations. Individual catering managers are unable to quickly change or add suppliers, a process that can take up to 12 months.

Some large caterers are also shifting their delivery model towards standardised recipes across their nationwide operations, thereby further eroding the influence of on-site catering managers and chefs to innovate and respond to sustainability challenges. At the same time, large multi-national caterers have displayed flexibility in marketing their perceived sustainability credentials and shifting the focus away from profit orientated, cost-cutting business models. To overcome these ambiguities, organisations can choose to award catering contracts to companies that prioritise and support local food in their supply chains, or they can
Discussion and recommendations

Negotiate contracts that include stipulations for the inclusion of minimum targets for using locally produced food.

As well as providing a market for local food, organisations can support other sustainable produce through their procurement activities. In an interview carried out with a relatively prominent food supplier in the study region (conducted on 13/10/2014), the respondent noted that his company carried very few organic products, as there was little or no demand from customers. Here is a clear example where organisations can directly influence sustainability in supply chains by stimulating demand and creating a market for organic products. If organisations were to introduce a requirement for caterers to supply a minimum amount of organic food, this would encourage suppliers to stock this produce, with potential knock-on effects within supply chains. Once the major suppliers were stocking greater amounts of organic goods, it is plausible that they would promote this produce to other clients and increase its availability in the market. Conceivably, organic food in organisational settings could then move from a niche to the mainstream and become a routine feature of consumer expectations, as has happened to some extent in other EU countries and in parts of the US (Spaargaren et al., 2012). Such a change would represent a substantial shift in the prevailing mindset found in Irish organisational food provisioning, as data from this study suggests that organic food is neither provided nor expected in the majority of organisational settings.

Although the additional cost associated with purchasing organic food might be considered a barrier in some cases, the use of organic food does not necessarily have to be more expensive. Highlighting one case where a public sector canteen introduced organic food, Green Tenders: An Action Plan on Green Public Procurement (Government of Ireland, 2011, p43) showed that increased costs for providing organic produce are not a fait accompli...

The Marine Institute’s initiative shows that organic foods can be introduced to public sector canteens at little or no extra cost, provided that the focus of procurement is on local and seasonal food ingredients (p.43).

Other sustainable food procurement initiatives, such as replacing coffee and tea with fairly traded produce or purchasing seasonal food, can be easily achieved and do not require any special skills or budget increases. Fairly traded coffee, tea and chocolate are widely available through the majority of suppliers, and could easily be introduced if stipulated by organisational management and food procurement officials.

7.3.2 Catering contract

This study has highlighted the importance of catering contracts in determining the extent to which organisations support food sustainability. As shown throughout the thesis, incorporating food sustainability into catering contracts can open up
specific opportunities for organisations to increase their performance in this area (e.g. through waste reduction targets, food sourcing strategies). At the same time, catering contracts can act as barriers to more sustainable food provisioning, particularly when organisations fail to consider the wider social, economic and environmental consequences of contract agreements (e.g. originating from inadequate budgets, inflexible menu guidelines). Catering contracts can include essential sustainability considerations such as the type of food that is served and the amount that is charged for dishes and individual food items. By extension, catering contracts also support the particular procurement practices of the appointed service provider.

The low-cost, risk-adverse model pursued by many large-scale caterers gives them a competitive advantage in terms of cost and buying power, however this does not necessarily fit well with a broad understanding of food sustainability (as presented in Chapter 5). With their vast purchasing power, financial security, diversified operations, relatively low administration costs and other economies of scale, multinational food service providers offer low cost catering options that SMEs and locally based suppliers find difficult to compete with. By failing to value social and environmental aspects of food provisioning, organisations sideline smaller catering companies in favour of cheaper alternatives. Food provisioning based primarily on economic values fosters a low cost mind-set that becomes embedded into organisational culture. As a result, interview data from this study suggests that some caterers are finding it increasingly difficult to justify retaining their food service in-house (e.g. Case 2). This reflects a common sentiment expressed within public sector organisations where the outsourcing of non-core services to large private sector companies is seen as necessary in order to reduce costs.

This mentality is further compounded in an age of austerity and public management thinking where public sector organisations are forced to implement expenditure cuts and maximise revenue wherever possible (e.g. Case 1). However, what this study also shows is that similar pressures to reduce service costs are exerted on private sector organisations that have so far resisted outsourcing food provisioning. In one healthcare provider (Case 4), the pressure to centralise food procurement came from both internal (e.g. organisational management) and external (e.g. external consultants) sources, again highlighting the widespread acceptance and expectation for implementing prominent low-cost food provisioning business models.

From a practical point of view, for organisations to support a sustainable food system implies that they incorporate sustainability indicators and related performance measures and expectations in catering contracts. Here, a diverse range of criteria covering social, environmental and socio-economic aspects needs to be considered from the outset and followed through to the end of the contract. In other words, organisational management need to incorporate sustainability criteria in the design, negotiation and delivery stages of catering contracts. Sustainability goals should be concrete and measurable as well as being realistically achievable, and related performance reports should be made publically.
Discussion and recommendations

available. This is not to say that contracts need to be set in stone for the duration of the agreement. On the contrary, Case 8 provides an example where a well-considered catering contract leaves room for flexibility, creativity and innovation on behalf of the caterer and the organisation. The cooperative, participatory arrangement seen in Case 8 facilitates all parties (organisation, caterer, consumers) to realise shared values, make recommendations and test novel and interesting ways to develop a food service that meets the needs of all users in a sustainable manner.

7.3.3 Menu development

Menu development should be recognised as an effective area in which to influence sustainable food provisioning. Not only does it impact on the ingredients used and the range of foods available, it also influences portion sizes, special offers, food preparation methods and prominence given to particular dishes and items. All of the organisations and caterers in this study base their offerings in response to perceived consumer demands for certain foods. As a result, a variety of options are provided including soups, sandwiches, hot meals (meat-based and vegetarian), desserts, and ‘healthy’ choices such as salad bars and nutritional snacks. In the same vein, a lack of consumer demand also determines what products are not available (e.g. organic food). Although there are exceptions (e.g. Case 4, 6 and 8), menu choice is generally kept free from prescriptive intervention. A demand for more sustainable and healthier choices sees these products offered alongside less healthy alternatives rather than replacing them. However, this approach is likely to have limited impact on increasing overall sustainability, with the replacement or curtailment of unsustainable foods a more desirable option (Garnett, 2011; Verain et al., 2015). In this regard, the preferred ‘curtailment strategy’ was seen in two multinational IT-based organisations. In Case 6, fried foods (e.g. sausage, bacon) were removed from the breakfast menu, while in Case 8 the availability of chips (French fries) is restricted to one day per week.

At the same time, encouraging sustainable eating by restricting access to particular foods does not always have the intended effect. Studies have shown that attempts to force more sustainable options on consumers (e.g. vegetarian day) can significantly reduce participation at lunchtime and increase food waste (Lehner et al., 2015). Similar findings were made in this study in relation to the final multinational company (Case 7), where an attempt by organisational management to introduce a chip-free day was met with strong opposition from consumers and was quickly retracted. While there are other factors at play (e.g. demographic of the workforce), one significant difference between the successful and unsuccessful healthy eating initiatives was the level of consumer engagement in decision-making, with greater consumer participation found in Cases 6 and 8 (see also section 7.3.10). Although it is unclear what exact differences prior consultation with consumers would have made in Case 7, there are practical measures that could have been taken to increase the chances of success for the action. For example, consumers could have been given adequate notice and provided with
information and education relating to the benefits of the initiative, and healthy eating proposals could be introduced in January when people are more likely to be receptive to the idea as a result of factors such as health related new year’s resolutions.

Caterers rely on high footfall in order to meet financial targets, and therefore are keen to respond to consumer preference. In this demand-based model, products with low uptake are either taken off the menu, offered less frequently or there is less time and effort invested in them. As a result, organisations risk downplaying their role in shaping consumer demand for produce, including sustainable food. One clear example from this study is found in relation to the provision of vegetarian meals. All of the organisations under study offer at least one vegetarian lunch (main course) option, however they differ radically in their approach. Several catering managers indicated low uptake of vegetarian options by consumers, citing various reasons including demographics, traditions and cultural considerations (e.g. Case 1 and 3). As a result, caterers tend to invest less effort in making vegetarian meals appealing to consumers. A number of catering managers also referred to alternative vegetarian options that are available in addition to the main lunch, including salads, soups and sandwiches (e.g. Case 2 and 6). In Case 8, where there is a relatively high uptake of vegetarian meals, the caterers invest a lot of time and resources making tasty and attractive vegetarian dishes. Although there may be other factors to consider (e.g. changing lifestyles, demographic of the workforce), producing an appealing range of vegetarian dishes increases the likelihood that consumers will choose this option, thereby shaping consumer demand for more sustainable food (Wansink, 2004).

Another area where caterers are responding to consumer wishes is through an increased demand for healthy choices, particularly among sections of the female workforce (e.g. Case 2, 3 and 5). In response, some caterers have invested significant resources in designing well-stocked salad bars containing a wide range of offerings including vegetables, pulses, cheeses, meats and grains. As well as catering for existing demand, the availability of these ‘healthy’ choices is also likely to attract new customers for these products, again encouraging demand for such provisioning. However, unless healthy options are marketed to a wider audience (as oppose to, say, focusing only on females) and introduced to gradually replace less healthy choices, there is a risk that consumers end up segregated, thereby alienating some consumers and making healthy choices more difficult for them to make. Like policy makers, caterers often do not want to be seen to directly restrict food options, as to do so is seen as encroaching upon people’s freedom to choose certain foods, something that is likely to be unpopular.

For organisations to increase food sustainability it is worth investing time and effort into menu development. With outsourced operations, responsibility for developing menus is often assumed by the contract caterer, however, particularly in the case of commercial contracts, caterers have a financial incentive to provide cheap foods that will generate high sales and big profit margins. Popular ingredients such as chicken and fish are often sourced from as far afield as


Discussion and recommendations

Thailand, Brazil or other low cost producing countries, and are often sold without any information relating to origin, production methods or sustainability credentials. To mitigate the potentially self-serving interests of contract caterers, organisations need to take responsibility for shaping the food environment by taking a proactive involvement in decisions relating to menu development.

7.3.4 Tariffs, subsidies and pricing

Economic measures can be effectively used by organisations to influence the supply and demand for sustainable food. In addition to using their purchasing power to influence the food system through sustainable procurement practices, organisations can incorporate pricing strategies that promote the consumption of more sustainable foods (Verain et al., 2015). The potential for effecting behavioural change through tariffs, subsidies and sale prices has received surprisingly little attention from advocates of sustainable public procurement, perhaps in part because the focus has been mainly on food procurement that is fully subsidised and therefore essentially supported by taxpayers. However, as shown in this study, as well as providing ‘free’ food for hospital patients, school children, prisoners and others, many public sector organisations also run commercially-focused food services. Some of these outlets are partially subsidised for certain groups (e.g. for employees in Case 3) while others are not subsidised in any way (e.g. Case 1 and 2). In contrast, all of the private sector organisations in this study subsidised food for employees. Mechanisms for implementing food subsidies ranged from direct payments to caterers (e.g. Case 6 and 8), to indirect subsidies such as the provision of catering facilities and payment of associated overhead costs including gas, electricity and insurance (e.g. Case 7). As well as subsidies, many organisations agree tariffs with contract caterers, effectively setting a maximum price that can be charged for a particular meal or food item (e.g. Case 1, 6, 7 and 8).

The issue of pricing constitutes an important factor in sustainable food provisioning, particularly in light of a number of studies that have identified cost as a major barrier to healthy eating in the workplace (Pridgeon and Whitehead, 2013; Thomas et al., 2015). As demonstrated in Case 7, organisations can strategically apply tariffs in order to reduce the consumer price for healthier and more sustainable choices (e.g. salads, vegetarian meals) whilst offsetting any potential losses by maintaining higher prices for less sustainable options (e.g. red meat dishes, treats). Where tariffs are not in place, for instance with many in-house catering operations, differentiated pricing strategies can be implemented to the same effect without negatively impacting on catering profits. Similarly, instead of adopting a one-size fits all approach, food subsidies could be applied in a more nuanced manner that distinguishes between sustainability of choices, with greater subsidies granted for more sustainable options. Although potentially more difficult to implement, the complexity of such an initiative should not be so great as to present organisations with an insurmountable barrier.
7.3.5 Waste management

Food waste is a major sustainability issue. Food is lost or wasted throughout all stages of the food supply chain from production through storage, processing, preparation, consumption and disposal (Priefer et al., 2016). The rate and stage of food losses varies between countries and populations, with a general trend towards higher losses at the earlier production stage in developing countries and at the consumption stages in richer nations (Lundqvist et al., 2008). From a consumption perspective, a growing body of research informing policy developments tends to take the by now familiar approach of focusing on food waste generated in the household and/or the large retail outlets from which many household shoppers purchase food (Paragypopoulou et al., 2016). Food waste in the workplace and at the organisational level in general receives scant attention despite the enormous levels of food waste generated in this area (Goggins and Rau, 2016). For example, data gathered during the course of this study reveals that one healthcare organisation (Case 3) accumulated over 200 tons of food waste from January to December 2014, a figure equivalent to the combined average food waste of approximately 2,200 households (EPA, 2012).

Notwithstanding the social and environmental impacts of food waste, many caterers have a financial incentive to keep waste to a minimum, as higher food waste is likely to have an adverse effect on profit margins. Indeed, in some cases, rigorous waste control can make the difference in balancing budgets or growing a business. According to one catering manager:

“We have grown our gross margin by 0.5% this year on-site, and that has been completely down to waste control. Our waste management is to the point that there is weighing scales in the kitchen, and that includes the stalks of broccoli and it actually includes eggshells. That’s the detail, which is miserable to work to” (R4).

No doubt the financial cost is a major factor in caterers motivations for reducing food waste, however a number of cases in this study also expressed concern for its negative social and environmental impacts, with one interviewee referring to food waste as “soul destroying” from a sustainability point of view (R24).

Evidence from the cases in this study suggests that food waste is one area of sustainability where organisations are performing well (see Chapter 5). Healthcare organisations were found to have taken diverse measures to reduce food waste, including the introduction of technological innovations (e.g. temperature controlled food trolleys in Case 4) and more effective communication and coordination between departments (e.g. Case 5). Other waste reduction initiatives include batch cooking to avoid producing excess food (e.g. Case 7) and portion control to limit waste from the consumer (e.g. Case 8). Yet, despite the considerable efforts in this area, further improvements can be made. For example, some of the organisations in this study operate a self-serve system at meal times, and, in this regard, using smaller plates has been shown to reduce food waste (Wansink, 2004). There is also further scope for adopting new technologies to identify and overcome areas of high waste and potential to donate unused edible
food to charities and social enterprises.

7.3.6 Infrastructure

The importance of infrastructure to facilitate sustainable food provisioning is often underappreciated by organisations (Devi et al., 2010). Infrastructure can be understood as an umbrella term that covers a wide array of issues including facilities, structures and systems that support food provisioning in the organisation. In a broader sense, infrastructure can also relate to information technologies, software development tools or channels of communication.

The most fundamental piece of infrastructure required to facilitate food provisioning in organisations is a well-functioning kitchen. It is essential that organisations give adequate consideration to kitchen and dining facilities during planning and construction stages. Failure to allocate sufficient space and resources to food provisioning can lead to future constraints, particularly for organisations that are expanding their workforce or consumer base. In this study, catering managers in two organisations cited lack of cooking/dining space as a severe constraint on their operations (Case 3 and 7). As a result, caterers in Case 3 were considering alternative options such as ‘cooked-chilled’ and centralised production as a means of increasing capacity.

In addition to facilities for food preparation and consumption, infrastructure can include resources allocated to food production. Organisations are often located on large sites with the spare land capacity required to grow food for use in their kitchens. Although only one organisation in this study grew food on-site for this purpose (a herb garden in Case 5), the potential for on-site food production was acknowledged in other cases (e.g. Case 1). Despite this recognition, a comment from one catering manager suggests that the implementation of such initiatives is not always likely to be straightforward,

“...the amount of things along the lines of orchards and stuff like that you could put on a site this huge, but it will never be done, nobody wants responsibility” (R4).

Infrastructure also incorporates the food service area and vending machines, representing a further opportunity to influence food consumption through strategic positioning of certain foods to make them more visible and accessible (Lehner et al., 2015). For example, consumers are more likely to choose products that are placed at eye-level and consumers will drink more water when it is available to them without needing to extend much effort (Wansink, 2004). Of course, as well as presenting an opportunity to encourage sustainable food consumption, infrastructure can also be used to ‘nudge’ consumers towards unsustainable and unhealthy choices. The practice, common in supermarkets and retail stores, of placing chocolate bars and other treats beside the till was observed in a number of cases (e.g. Case 1 and 7). In terms of increasing sales, the strategy is an effective one. According to one catering manager,
“you would be amazed at minus 5 degrees outside the amount of people on nightshift that will still buy a Cornetto or a Magnum ice-cream” (R19).

Worryingly, from a public health perspective, ‘nudging’ consumers towards unhealthy treats and sweets for the purposes of generating income was also observed to be prevalent in a number of healthcare organisations (e.g. Case 3 and 5).

7.3.7 Staff training

As intermediaries in the food chain, organisations can be considered conduits for information dissemination between producers and consumers (Renting et al., 2003). More specifically, catering staff provide the most direct link between food procurement, preparation and service delivery. Training staff about issues such as sustainable procurement, product information and waste reduction is essential for building a sustainable food culture (Worsley et al., 2015). Findings in this study revealed that staff training regarding food sustainability was not adequately implemented across organisations. Where such training was in place, it was often undertaken only by certain individuals (e.g. catering manager, head chef) or information was restricted to certain aspects (e.g. supplier information). In this regard, educating all staff responsible for catering about the sustainability characteristics of products would increase the likelihood that such information will reach the end user. Furthermore, in addition to enhancing professional skills for issues such as sustainable procurement or waste management, staff training can result in less tangible but nonetheless important benefits including leadership, confidence building and innovation (Morgan and Sonnino, 2008).

7.3.8 Information

Providing clear information regarding waste reduction, sustainable choices, food provenance and healthy eating can influence consumption behaviour and build trust between caterers and consumers (Worsley et al., 2015; Price et al., 2016). For example, several organisations provided details of food suppliers on menus or noticeboards (e.g. Case 1, 2 and 4), thereby facilitating more informed choice for consumers. In recent times, information campaigns have increasingly targeted healthy eating initiatives, with the objective of reducing alarming rates of obesity. Overweight and obesity rates in Ireland are among the highest in the developed world with 25% of children and 61% of adults classified as overweight or obese (Ganey et al., 2015). At the same time, encouraging consumers to eat less or to avoid certain foods such as meat, treats or fizzy drinks may not be in the best interest of caterers who are looking to maximize profits through increased sales. Therefore, it is imperative that organisations take additional steps beyond the provision of information to regulate and control the eating environment.
Discussion and recommendations

One measure that can help shape healthy eating practices is through the provision of calorie labelling on menus. Mandatory calorie posting forms part of the government’s strategy to tackle obesity and has received considerable attention from policy-makers in Ireland. However, recent figures suggest low levels of uptake in the current voluntary system, despite widespread government support for the initiative. One study found that as little as 7% of food service outlets display calories, and the majority of those belong to chain businesses (Geaney et al., 2015). While it certainly has an important role in encouraging sustainable consumption, information alone will have a limited impact and is likely to be much more successful when delivered in conjunction with other instruments for changing behaviour such as providing relevant actors with education about food sustainability issues (Davies et al., 2014; Lehner et al., 2015).

7.3.9 Education

Sustainability and healthy eating concepts and symbols such as local food, fairly traded, organic or saturated fat may not be clearly understood by consumers, thereby reducing the effectiveness of providing such information (Kneafsey et al., 2013b; Carroll and Fahy, 2014). Regarding nutritional information, consumers may find it difficult to evaluate the calorific intake of a single meal in the context of their overall daily consumption, particularly when they eat at various locations that may or may not provide such data (including eating at home and out of home) (Privitera and Zuraikat, 2014). Further research shows that even when provided with information related to various food options, many consumers find it difficult to make healthy and sustainable choices (Thomas et al., 2015), thereby strengthening the case for education to be provided in conjunction with information. Furthermore, the provision of information has limited impacts, as consumers may still choose foods based on values relating to taste and convenience over factors such as health and sustainability. In this regard, the greatest efforts were made in Case 6, where nutritionists and other medical professionals regularly provided on-site health screening and dietary advice for employees.

Crucially, many factors that influence food choices lay outside of the control of individual consumers. External considerations such as cost, time and availability also influence consumer choices, therefore reinforcing the importance of considering contextual conditions in relation to food sustainability. This reiterates the need for organisations to facilitate an environment that is conducive to making healthy and sustainable food choices. To do so, organisations need to adopt a multifaceted approach that combines education with additional measures such as information, cost reductions for sustainable choices or restricted availability of certain food items.

7.3.10 Communication and feedback
chapter 7

Albeit to varying degrees, all of the caterers in the study engaged with consumers regarding issues such as quality and choice, however levels of engagement between organisations and consumers appear to be low, particularly regarding cases with outsourced catering operations. In these instances, with the notable exception of Case 8 (and some isolated instances in Case 1), organisations were happy for caterers to be responsible for consumer engagement. In Case 7, a consumer committee was in place to represent the needs of end-users, however this initiative had largely died away in recent times.

Although some organisations look for aspects of caterer-consumer engagement in the contract phase (e.g. use of loyalty schemes in Case 1), in the case of commercial or concession contracts it is incumbent upon the caterer to maintain good consumer relations if they are to attract footfall and ultimately make a profit. In Case 8, where a free lunch is provided for employees, the organisation takes on a larger proportion of financial risk and responsibility. In this case, they also take a more hands-on approach to food provisioning that involves interaction with both caterers and consumers, manifested through the role of facilities manager. Similarly, healthcare organisations with in-house catering operations (Case 4 and 5) were found to have more open relationships involving organisations (management), caterers and consumers in decision-making processes, including regular meetings and stakeholder engagement forums. Open participatory relationships between all parties can facilitate the development of sustainable food provisioning, a process that is advanced when organisations take an on-going interest in everyday food provisioning activities.

7.3.11 Partnerships

Organisations can embed sustainability principles into their everyday practices by forging strategic relationships with outside groups. Building partnerships based around shared concerns for social justice, environmental protection and public health can favourably position organisations to increase their sustainability performance. For example, schools, workplaces and healthcare units can liaise with NGOs and other groups that educate people about food and promote healthy sustainable eating. Organisations can team up with charities or social enterprises to donate edible leftover food to vulnerable populations, thereby increasing access to food and reducing food waste. Although successful partnerships require some degree of commitment on behalf of caterers and organisations, this should not be sufficient to deter such initiatives.

Organisations can also build partnerships with local food producers, ensuring farmers have access to markets and local food is available to organisational consumers (Walker and Preuss, 2008). The importance of relationship building in developing sustainable food systems is discussed in great detail in the literature review chapter. It can be characterized as an issue that transcends many of the categories identified in this section, including food procurement, menu development, information and education. The value attributed to producer-caterer
relationships varies significantly between organisations in this study. For some, they are viewed from a perspective of having great social and environmental importance (e.g. Case 2), while for others it resembles a more functional relationship based on economic interests (e.g. Case 3 and 7). Additional forms of partnership can be identified as existing between the organisation and the appointed contract caterer. In Case 8 for example, the facilities manager spoke specifically about finding a caterer that could “come in and partner” with the organisation to achieve shared goals. In contrast, other organisations choose caterers primarily based on monetary considerations (e.g. Case 7).

The potential for increasing food sustainability through strategic partnerships is underutilised by organisations involved in this study. As a result, several opportunities for increasing food sustainability are being overlooked. For example, donating unused edible food to charity or other social enterprises is quickly gaining recognition as a morally and ethically sensible undertaking. Donating unused food has multiple social and environmental benefits including reducing food waste, increasing food security, and providing nutrition for vulnerable populations. Although several caterers displayed an interest in becoming involved in a food donation scheme (e.g. Case 1 and 5), none of them were actively participating in such initiatives at the time of data collection. The most commonly cited barriers across all organisations were risk and lack of resources (see section 7.4).

Partnerships between local food producers and organisations represent an area with strong potential for increasing food sustainability, particularly when the food producers are located on-site. For example, Case 1 has an active horticultural society that produces organic food. According to one catering manager based in the organisation, the society had approached on several occasions looking to sell their produce through the canteen. However the manager did not have the authority to permit such an arrangement. The responsibility for facilitating these and other partnerships needs to be shared between caterers and organisational management.

7.3.12 Special events

In addition to the eleven areas identified above, organisations can positively influence the food system by facilitating special events aimed at promoting sustainable food. Evidence from the eight cases presented here suggests that many organisations undertake such initiatives, although their implementation is somewhat sporadic. Specific examples of special regular or one-off events held by organisations include local food markets on-site (Case 3), local food dinners (Case 2) and tendering information seminars for smaller and local producers (Case 2). Further activities to promote sustainable food included free Irish apples and free-fruit Mondays (Case 6).
7.4 Barriers to sustainable food provisioning in large organisations

As this study has shown, the extent to which large organisations support sustainable food provisioning varies significantly between cases. Each organisation is unique in terms of their structure, values, sustainability culture and food provisioning practices, and each organisation faces different internal and external pressures in relation to food provisioning. Nonetheless, common barriers to sustainable food provisioning in large organisations can be identified in some or all of the cases under study (Table 7.9). Eleven of the most frequently occurring barriers identified in this research are examined below.

Table 7.9
Barriers to sustainable food provisioning in organisations

<table>
<thead>
<tr>
<th>Cost</th>
<th>Perception of increased costs associated with sustainable food. Implementing sustainable objectives are perceived to be incompatible with value for money and reducing costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Lack of understanding of the concept of sustainable food and the processes required to achieve greater sustainability in food provisioning</td>
</tr>
<tr>
<td>Awareness and information</td>
<td>Lack of information about sustainability of products and low awareness of sustainable options. Inadequate monitoring of food provisioning practices</td>
</tr>
<tr>
<td>Inertia</td>
<td>Organisational structures and processes that inhibit the development of sustainable practices. Characterised by a lack of appetite for change and/or personal or organisational incentives to drive change</td>
</tr>
<tr>
<td>Leadership</td>
<td>A lack of leadership, ownership and accountability at all levels. Inadequate support for sustainable initiatives at senior levels in the organisation</td>
</tr>
<tr>
<td>Consumer demand</td>
<td>Demand for unsustainable food such as high quantities of meat. Conversely, can include low demand for sustainable or healthy food</td>
</tr>
<tr>
<td>Risk</td>
<td>Risk-adverse approach to food provisioning favours sourcing from established well-known suppliers. Places greater emphasis on issues such as health and safety over sustainability. Can stifle innovation</td>
</tr>
<tr>
<td>Legal issues</td>
<td>Uncertainty among public sector organisations as to what can or cannot be done under national and EU regulations</td>
</tr>
<tr>
<td>Perceived inefficiencies</td>
<td>Extra administration, paperwork, financial management, etc. associated with taking on a greater number of producers and suppliers</td>
</tr>
<tr>
<td>Availability</td>
<td>Sustainable products may not be available through existing supply chains or in the quantities required by the organisation. Larger catering companies may be locked into purchasing agreements with suppliers</td>
</tr>
<tr>
<td>Resources</td>
<td>Lack of resources needed to implement sustainability initiatives. May include inadequate infrastructure, facilities, space or personnel</td>
</tr>
</tbody>
</table>

*Additional sources: National Audit Office (2005); Brammer and Walker (2011); Goggins and Rau (2016)*

7.4.1 Cost and other financial constraints

Economic barriers to sustainable food provisioning in public sector organisations – revolving around issues such as under investment on behalf of governments, inadequate internal budget allocations and poor appreciation for value versus cost – have received considerable academic attention (Morgan and Sonnino, 2008; Testa et al., 2016). However, as this research demonstrates, caterers operating in private sector organisations and those running commercially orientated food services face further economic constraints that are not often adequately recognised (Table 7.10). Some public sector organisations, for example Case 3, run a combination of commercial and non-commercial food services, with similar arrangements also found in the private sector (e.g. Case 4 and 5). In these cases patient food is paid for from the organisations internal operational budget, while
Discussion and recommendations

Staff and visitor catering is run as a profit-making enterprise. Hence, the economic barriers to sustainable food provisioning are not equal throughout all aspects of the food service. For example, inadequate budget allocation might be a barrier to sustainable food for patients, while consumer willingness to pay might represent a greater hurdle for improving food sustainability in the staff restaurant.

Table 7.10
Economic barriers to sustainable food provisioning in organisations

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Issue</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget allocation</td>
<td>Inadequate budget allocated by organisations for food provisioning and/or budget cuts imposed on catering departments</td>
<td>Organisation</td>
</tr>
<tr>
<td>Lack of government investment</td>
<td>Underinvestment in public food provisioning by government agencies</td>
<td>Government</td>
</tr>
<tr>
<td>Economic orientated food-tendering processes</td>
<td>Food provisioning and procurement contracts based on ‘low cost’ models</td>
<td>Organisation; Government</td>
</tr>
<tr>
<td>Poor recognition of values versus cost</td>
<td>Oversight of social, environmental and sustainability benefits in favour of economic considerations</td>
<td>Organisation; Caterer</td>
</tr>
<tr>
<td>High rents and rates</td>
<td>Exorbitant levels of rent and rates charged to caterers by organisations</td>
<td>Organisation</td>
</tr>
<tr>
<td>Low meal prices</td>
<td>Restrictively low sale prices fixed in accordance to tariffs agreed between caterers and organisations</td>
<td>Organisation; Caterer</td>
</tr>
<tr>
<td>Consumer unwillingness to pay</td>
<td>Unwillingness on behalf of consumers to pay a premium for sustainable food</td>
<td>Consumer</td>
</tr>
<tr>
<td>Financial targets</td>
<td>Financial pressure on individual catering units to meet gross profit targets set by their head office</td>
<td>Caterer</td>
</tr>
</tbody>
</table>

In a number of instances (e.g. Case 6 and 7) catering operations are outsourced under commercial contracts. As a result, additional financial pressures arise for catering managers as they try to meet profit targets set by their head office. In some cases, economic stresses experienced by caterers are intensified through high levels of rent and rates charged by organisations (e.g. Case 1) or through the implementation of low meal prices fixed by tariffs (e.g. Case 6 and 7). Furthermore, according to several of the catering managers interviewed, consumers do not expect to pay high prices for food, and are unwilling to do so, thereby increasing financial pressure on caterers and restricting their ability to offer better quality or more sustainable choices (e.g. Case 1 and 7). As highlighted in this study, consumers in organisational settings have become accustomed to cheap food, often coupled with low quality expectations. At the same time, organisations are adopting policies to minimize catering budgets (e.g. Case 3) and/or maximize income from catering operations (e.g. Case 1), essentially locking themselves into an industrialised globalised food system. The economically dominated mentality in relation to food provisioning represents one area where a cultural shift is needed in terms of appreciating the realities facing the global food system. The era of cheap food cannot exist forever, a systemic approach to developing sustainable food systems involving actors at all stages of the food chain is needed, with organisations playing an important role.
7.4.2 Knowledge

If sustainable food provisioning in large organisations is to be achieved, organisational managers, caterers and consumers need to be equipped with the knowledge and skills required to facilitate a transition to a food provisioning system built on values of economic fairness, social justice and ecological integrity. Success on this front requires an understanding of the concept of sustainable food, and the skills, tools and knowledge required to achieve greater sustainability in food provisioning (Brammer and Walker, 2011). However, evidence from this study mirrors other findings that suggest such knowledge and understanding is lacking in many cases (Morgan and Sonnino, 2008). Although there were notable exceptions (e.g. in Case 2 and 4), a number of managers interviewed were found to possess a rather narrow sustainability perspective, such as equating environmental gains achieved through economies of scale with greater sustainability. This limited understanding is evident in one interview response where, according to the catering manager,

“it’s the environmental awareness...the whole thing about reducing down the supplier...one lorry will save 20 lorries distributing on a weekly basis in the West of Ireland” (R19).

In fact, the centralisation of food procurement has become such a mainstream practice within multi-national catering companies that many catering managers believe that there is no viable alternative. As stated by one catering manager,

“For the likes of [us], you couldn’t possibly function, they couldn’t function on everyone having local suppliers to their own” (R17).

Not only is this trend reflective of the ‘fait accompli’ attitude towards centralisation of food procurement, it also demonstrates that skills and knowledge in relation to food procurement are increasingly being centralised. The autonomy of on-site managers to make personal procurement choices is gradually eroding as an increasing number of decisions occur at the level of head office. This shift in decision-making power is reflected in the view of one catering manager who felt that

“when your menu goes out, it has to be what you’re allowed to buy, so your ability to be creative is null and void” (R4).

Furthermore, in addition to procurement, a number of catering managers spoke about other skills such as menu development and cooking being taken under central control (e.g. R4, R13, R17). The disempowerment of catering staff and its effect on their professional development was clearly articulated in the following excerpt,

“...the quality of chefs is disappearing greatly. Basically what you have is you have one person in the kitchen that is a chef and you have 3 to 4 catering assistants around him, traying up rolls, taking stuff from the oven when the timer goes off. They have no idea how long it’s in the oven for, they just hear the timer and they withdraw it, stick a probe in it, and throw it out on the counter. No passion, no skill-sets for it at all” (R4).
Discussion and recommendations

For sustainable food practices to take root in organisations, it is essential that information and knowledge concerning the social, economic and environmental impacts of food choices becomes embedded in the food provisioning process. The impact of mass centralisation of catering knowledge and skills is unlikely to feed well into sustainability, particularly when the process results in a lack of commitment and passion from catering staff.

7.4.3 Awareness and information

Low levels of product awareness and a lack of information about the social, economic and environmental impacts of food options are significant barriers to sustainable food provisioning (Testa et al., 2016). Data gathered for this study using the FOODSCALE method revealed poor awareness about food provenance, with many catering managers unable to readily identify where particular products originated. In the cases operating with centralised procurement systems, sourcing products was seen by caterers as the responsibility of their central purchasing department, leaving many on-site catering managers feeling disengaged with the process and powerless to effect change. In several instances, sustainability information regarding particular foods was found to be either missing or misguided. For example, some interview respondents had presumed the bananas they were using were fair trade because they were of a particular brand. It was only whilst completing the FOODSCALE questionnaire that they realised that they were not in fact fair trade certified.

In addition, inadequate monitoring of food provisioning practices by organisations was evident in a number of cases. In one case, an organisational manager with responsibility for food provisioning presumed that all hot beverages served on-site would be fair trade certified because it was the ‘norm’ to do so, however FOODSCALE data for that particular organisation revealed otherwise. In the same case, organisational management stated that it was a requirement for caterers to serve Irish or European sourced chicken, however this was found not to be happening in practice. The evidence here reasserts the conviction that organisations need to enforce and monitor sustainability criteria to ensure related actions are being undertaken and targets met.

7.4.4 Inertia

Building and maintaining reciprocal relationships is an important aspect of developing a sustainable food system. Like restaurants, cafés, and hotels, organisations can act as powerful intermediaries between consumers and producers, and can use their considerable purchasing power to positively impact food sustainability. However, this fact this is not often recognised by organisations, many of who consider catering to be a responsibility that is outsourced to a third party. The resulting nonchalance that manifests with regard to food provisioning is evident throughout this study. With the notable
exception of Case 8, organisations that have outsourced their food service also displayed a general reluctance to get involved in day-to-day catering activities. Interventions were likely to be one-off events, such as in Case 6 where fried breakfasts were curtailed, or occur at irregular intervals such as at the contract negotiation phase.

Without structures and processes in place to facilitate and encourage sustainability initiatives, sustainable practices are likely to be inhibited. This study has shown that incentives to drive change can positively impact on food sustainability performance. In this regard, incentives can be realised internally or externally. For example, Case 4 build on their support for local and regional producers to attract new customers to their business, while other in-house caterers expressed their personal enjoyment from sourcing new products at local and national food fairs and other events (e.g. Case 2 and 5).

7.4.5 Leadership

For organisations to seriously address food sustainability, they must focus on the entire food chain from producer to consumer. Organisations must incorporate sustainable management procedures into their everyday practices, including non-core activities such as food provisioning and related areas. Organisational culture, shaped by support from senior management, and relating to values, principles and structures for facilitating sustainable behaviour, is central to the success of sustainability initiatives.

Achieving good sustainability performance requires commitment and support from internal management at mid and senior levels. The adoption of sustainable thinking and policies at these levels can foster the development of more intangible, yet highly influential factors in sustainability performance, such as organisational culture and consumer empowerment (Jappour and de Sousa Jappour, 2016). As demonstrated in this study, leadership and drive from individuals and groups in key positions can have a significant impact on sustainability performance. However, all too often organisations are content to follow market trends and benchmark themselves against the practices of competitors without considering the wider impacts of their decisions. Large caterers try to level the playing field, thus bringing themselves greater management efficiencies as they deal with less variation. As a result, there is an increasing homogeneity in large-scale catering with small catering companies and little diversity in food suppliers. Moreover, trends in the catering industry are not always conducive to increased sustainability, and the motivation of those setting agendas needs to be made explicit. Innovative organisations with the drive and willingness required to become sustainability leaders can become trendsetters rather than followers. This study has revealed glimpses of such innovative behaviour (Case 2 and 8), however, leadership regarding sustainability needs to become more widespread for effective change to take hold.
7.4.6 Consumer demand

Caterers are largely responsive to the desires of clients (the organisation) and service users (consumers). Because they have a limited number of consumers, and often feed the same people every day, food offerings are largely demand-driven. Caterers respond to consumer wishes, and offer this within the constraints to which they operate (e.g. budgetary and contract arrangements, consumers’ willingness to pay, centralised procurement and sourcing strategies). Without the ability to choose their customers or attract new customers, catering managers feel they are left with limited scope or flexibility to radically change food offerings.

Caterers regularly offer particular foods simply to meet consumer expectations. This can lead to unsustainable behaviour becoming replicated and routinized. In Case 7 for example, consumers expected chips to be available every day and they strongly resisted attempts to alter this arrangement. In Case 1 almost identical fruit platters containing ingredients such as strawberries and melon are regularly served at functions, regardless of the time of year. Although more radical sustainability interventions such as meat-free days were not observed in any of the cases presented, it is conceivable that consumer demand would present a major barrier to such initiatives. The present poor uptake of vegetarian options and the high consumption of meat-based dishes suggest that achieving a reduction in meat consumption would present a considerable challenge. This research has illustrated that extensive change in regard to food provisioning cannot be introduced too quickly for fear of alienating customers and not meeting expectations, nonetheless, it has also shown how organisations can work with caterers to overcome these issues through an open process of communication and incremental changes to food provisioning.

7.4.7 Risk

Risk as a barrier to food provisioning manifests in two main areas. Firstly, organisations that outsource their food provisioning activities show a preference for large-scale multi-national contract caterers over smaller locally based companies. While cost is obviously a considerable factor in such decisions, larger caterers were also perceived to be less risky due to their relative financial stability and greater access to resources (e.g. Case 1). Secondly, larger caterers mitigate their own risks (and reduce costs) by standardising offerings and centralising food procurement. Sourcing food from smaller local suppliers was perceived by some catering managers to be a riskier procurement option. The main concerns articulated in this regard were over the ability of smaller producers to deal with demand and their relative financial stability. According to one catering manager,

“you know that [large suppliers] aren’t going to go bust in the morning...so your element of risk as a company is greatly reduced” (R4).
In addition, caterers and organisations placed a huge emphasis on food safety. While this rationale is entirely understandable in terms of consumer health, concern for health and safety (H&S) was used to justify centralised procurement over diversification of choice and support for local suppliers. Indeed, in a number of examples, the risks associated with H&S appeared to be overstated and somewhat sensationalised. This sensationalism was particular evident in the following examples:

“Well the two main reasons for centralised buying are one, the HACCP side of it, and two, the financial side of it...From a HACCP point of view definitely, I mean, what would stop me going out and buying a chunk of meat from the guy who pulled up and caught a deer last night and I’ll buy it off him and serve it in here, I mean, it would be crazy to not have some form of control over it” (R17).

“...you’d ring head office, you’d talk to a purchasing manager and say, look I need a box of pheasant, or whatever, can you try and get it listed? He’s like, not a chance, the liability of a pheasant on-site is going to be huge, we’re not going to put our business at risk by using pheasant” (R19).

From a sustainability perspective, a food purchasing system that is based on consolidation of supply chains and streamlining of offerings favours larger well-established suppliers and local producers (Morgan and Sonnino, 2008). The perception that H&S risks are elevated to an unacceptable or unworkable level as a result of dealing with local suppliers is misguided. In fact, a number of organisations in this study (e.g. Case 4 and 5) were able to locally source products with a relatively high H&S risk (e.g. meat, fish), despite operating in the healthcare sector where customers might be considered vulnerable due to comprised immune systems.

7.4.8 Legal issues

As stated previously, catering contracts above a certain size fall within EU procurement regulations, meaning the tender must be made open and EU procurement rules must be adhered to. Nonetheless, although public procurement regulations restrict explicit support for local or domestic producers, organisations are encouraged to include criteria integrating environmental and social dimensions into contracts (Smith et al., 2016). This allows organisations to tailor contracts so as to be more favourable for local or more sustainable food producers. Although blaming legal restrictions for unsustainable procurement is quickly losing credibility, realising sustainable food goals within the constraints of EU procurement regulations still requires a degree of knowledge and skill on behalf of the organisation (Morgan and Morley, 2002; Brammer and Walker, 2011; Morgan and Morley, 2014).

Naturally, organisations must also be willing to improve their sustainability performance. Examples in this study involving public sector food provisioning show that national and EU regulation affecting catering contracts need not be a barrier to sustainable food procurement (e.g. Case 2). This reiterates previous findings.
that show that willing public sector organisations can support sustainable food systems, for example by breaking down contracts into smaller lots or specifying fair trade or equivalent sustainability standards (as shown in Case 2). However, as with previous case studies, this study found that good sustainability practice was largely down to the initiative of interested individuals as oppose to wider organisational policy (Walker and Preuss, 2008; Mikkola, 2009; Goggins and Rau, 2016).

7.4.9 Perceived inefficiencies

In recent years, supply chains in the catering industry have been marked by trends towards consolidation and diversification of offerings. As well as offering low cost foods, distributors increasingly offer a wide range of non-food items. Some of the larger distributors have now diversified to the point where they can offer everything that is needed to start up and operate a catering business, from food and drink to kitchenware, cleaning and hygiene supplies, uniforms and even clothes hangers. As a result, caterers have the option to source all of their goods from a single distributor, thereby cutting down on paperwork and reducing administration costs. Against such forces, several caterers in this study highlighted the greater effort required on their part to deal with several smaller suppliers compared with sourcing through a single large wholesaler (e.g. Cases 2, 6 and 7). Dealing directly with food producers was often perceived to be inefficient and burdensome, as each additional supplier triggers a supplementary set of paperwork to deal with health and safety, regulations and finance. In an economic driven model of food provisioning, the social and environmental benefits of supporting small and local producers are not recognised or are overlooked in favour of perceived efficiency and low cost.

7.4.10 Availability

In order for organisations to provide more sustainable food, it must be available to them through accessible supply chains and in the quantities required. In this regard, the high volume of food procured by large organisations can be a potential barrier to local and regional sourcing. This was demonstrated in Case 1 where one of the caterers had to drop a local meat supplier because they were unable to fulfil their demand for halal chicken. Seasonality was also viewed as a potential barrier to sourcing from local producers, as some produce is not available in sufficient quantities throughout the year. Even when problems of volume and consistency of supply are not an issue, availability of local and sustainable food can be restricted as a result of centralised procurement systems operated by multi-national caterers.

Larger companies are often locked into purchasing agreements with (large) suppliers, therefore they are generally less flexible than smaller caterers in terms of changing their procurement practices. As a result of agreed procurement arrangements, catering managers are restricted to purchasing from APLs. They are
unable to try out new foods or suppliers without first getting products approved (and listed) through their head office, a process that can take up to 12 months or more. In five of the cases presented here, where catering was outsourced to a large facilities management company, the purchasing manager could only choose foods from a specified product listing compiled by their central procurement office. The majority of these lists did not contain any organic produce, therefore leaving management without the option to use organic food. A similar situation was described in Case 3 where organic product choices were restricted to what was available through central procurement contracts. Additionally, interview respondents also noted the general lack of availability of organic produce for the catering sector. Having said this, none of the organisations involved in the study specified a requirement for caterers to provide organic food, thereby doing little to stimulate demand.

7.4.11 Resources

In addition to the aforementioned economic (under)investment, a lack of non-financial resources can inhibit the development of sustainable food provisioning in large organisations. This study has shown that responsibility for food provisioning falls under the remit of various different positions, depending on the structure of the organisation. Implementing sustainable food provisioning requires dedicated on-going management, therefore organisations need to allocate sufficient time and personnel to the task. For some organisational managers, responsibility for food provisioning is viewed as a central duty and it accounts for a considerable portion of their work (e.g. Case 4 and 8). In other cases, management of food provisioning and catering contracts plays a minor role, with operational decisions largely left to the caterers (e.g. Case 7). As well as assigning sufficient personnel to manage food provisioning, it is imperative that care and consideration are given to designing and providing adequate facilities for cooking and eating. In this regard, this study has highlighted how restrictions on the ability of caterers to innovate are imposed by a lack of infrastructure (e.g. Case 3 and 7). Progressive organisations could go further and provide the resources and support necessary to facilitate on-site food production, a practice that was severely lacking in all of the cases studied.

Summary

Although it is possible to identify several common barriers to sustainable food provisioning, each case in this study has its own unique combination of obstacles that need to be overcome. This research shows that barriers can be interdependent or coexisting, often needing to be addressed simultaneously. Therefore, elimination of a single barrier may not yield the desired net result of greater sustainability unless all associated obstacles are removed. For example, cost is often put forward as a restrictive factor in sustainable food provisioning, however a simple increase in spending may not achieve better sustainability results. Similarly, managers may possess the knowledge required to implement sustainable food provisioning, yet they might be restricted from doing so by other
Discussion and recommendations

factors such as budgetary constraints or lack of resources. While other studies have identified cost as a common barrier to sustainable food provisioning, this study has shown that other economic factors such as rent and rates, pricing and profit targets also play an important role. Significantly, organisations have the direct autonomy to influence and remove many of these barriers, thereby facilitating an environment that is conducive to sustainable food provisioning.
Chapter 8

Conclusions
Conclusions

The current system of food provision is unsustainable both from a socio-economic and an environmental perspective. Additional demands on the global agricultural system to supply more food for more people consuming more calories per capita will place increasing pressure on an already fragile system. A continuation of highly industrialised agricultural practices that contribute to soil degradation, water contamination and atmospheric pollution is no longer an option (Godfray et al., 2010). The additional demands that will be made on the food provisioning system over the next 50 years and beyond are forcing society into rethinking how food is produced, distributed and consumed. In order to address sustainability issues, including food-related concerns, a multi-disciplinary approach involving a wide variety of participants is needed (Schäfer et al., 2010; Radinger-Peer et al., 2015). Finding solutions to current and future problems requires more inclusive analysis of social, economic and environmental aspects of food systems that considers both production and consumption. Technological and scientific innovation is insufficient to address these issues in isolation.

This thesis has addressed the issue of food sustainability from the perspective of the role played by large organisations. The introduction and literature review have emphasised the unsustainability of the current food system and demonstrated the urgent need for a transition towards a more environmentally sound and socially just system of food provisioning. Achieving such a transformation needs to consider the entire food system including production, consumption and disposal, and requires support from actors at all levels of society. With this in mind, this thesis has argued for a move away from approaches that focus on the behaviours of individual consumers, to one that is based on a shared responsibility to facilitate sustainable food consumption across wider society. In this regard, the growing trend towards food consumption outside home puts restaurants, canteens, and other areas of public food consumption at the centre of food sustainability issues. In particular, this thesis has focused on the role of large organisations such as hospitals, workplaces and educational institutions. Despite not being primarily associated with food provisioning, organisations such as these shape the meal choices of thousands of people every day and have a significant impact on the food system. They are in a position to provide healthy, sustainable food and encourage consumers to adopt sustainable eating practices and replicate them at home, thus potentially creating spillover effects into households and communities.

In order to carry out the aims of the thesis, the study drew on two specific perspectives from food sustainability research – Alternative Food Networks and Sustainable Food Consumption Research – and integrated them with work on food provisioning in organisations. Each of these perspectives contributed to the development of an innovative conceptual framework that was specifically tailored for this project, but could also be employed in future work on organisational food provisioning. The value of this composite approach lay in its ability to recognise and acknowledge varied, and often competing, perspectives in food sustainability research, and identify the strengths and weaknesses of each. Drawing on a diverse body of literature generated a broad range of insights and has shown that the challenges facing the food system can only be understood and addressed through
a broad interdisciplinary research effort that combines economic, societal, environmental and cultural approaches.

Given the broad scope of this project, it would be difficult to argue for using a single theoretical approach to the exclusion of others. Each perspective brought distinct advantages that merited its inclusion. AFN theory was particularly useful in informing the development of the FOODSCALE tool, as it provided a broad understanding of the multitude of (tangible and intangible) factors that constitute sustainable food, as well as cautioning against the over-valorisation of individual characteristics or attributes associated with various food types. In particular, AFN theory stresses the importance of social relationships in the food system, however it also emphasises that alternative food movements incorporate a range of producer and consumer motivations and stimulate a wide range of politics, both positive and negative. AFN research also raises questions as to the interdependence of the global and the local, including the possibility of producing exclusively local produce without the use of any external resources. Furthermore, in the global food system, AFN studies show that there is a need to consider the differences in technology used for production in different places, and that globalisation does not automatically equate to large-scale industrialised agriculture. Importantly for food provisioning in large organisations, which often operate across national borders, an agricultural system that promotes issues such as social justice, environmental protection, democracy or food security can also be framed within the context of globalisation.

Despite certain conceptual and empirical advancements, AFN theory has yet to provide a clear understanding of how a sustainable food system could develop from within a model that currently depends heavily on large multinational food service companies operating with extensive supply chains. In this regard, approaches that consider the role of organisations in the food system provide a framework for understanding meso-level structural conditions and processes that contribute significantly to the unsustainability of the food system. Large organisations feed a significant proportion of the population, often through multinational contract caterers that use extensive international supply networks. As this research has emphasised, the sheer size and scale of the companies involved in organisational food provisioning – including organisations, contract caterers and food distributors – makes them significant players in the global food system.

While AFN approaches could be criticised for representing particular ideological positions, practice theory is somewhat more pragmatic as it prioritises contextual considerations of consumption. The sustainable consumption literature has shown that changing attitudes and behaviours can be a difficult task, and prescriptive interventions regarding people’s food choices are likely to be deeply unpopular with many consumers. The need for a more encompassing sustainable food strategy, as demonstrated in this thesis, is recognised in the social practices approach, which places greater emphasis on the contextual conditions of food consumption and the role of routines and habits in shaping consumption practices.
Conclusions

(Spaargaren et al., 2013). From this perspective, social and behavioural change comes about through a change in routines, facilitated by a broader set of interventions that encourage new ways of thinking and doing. The focus on routine behaviours provides an appropriate framework for exploring how food sustainability can be improved, with incremental steps resulting from changes to everyday practices. This process facilitates at least some degree of sustainability improvement in all organisations, without the need for major disruption to current models of food provisioning. Although sustainable food provisioning in organisations undoubtedly requires radical transformation in the medium to long-term, this transition is perhaps best achieved through a process of incremental adjustments as oppose to a once-off major rupture.

This thesis has demonstrated how organisations can shift food provisioning practices towards greater sustainability. The collection of different types of evidence facilitated the development of a broad set of recommendations aimed at improving food sustainability. Qualitative interviews were instrumental in discerning the rationale behind organisational food provisioning and the factors that influence decisions. As well as revealing attitudes and motivations of key decision makers, interviews yielded important contextual data in relation to key areas such as contracts, food procurement strategies and organisational food culture. The organisational charts showing key actors in relation to food provisioning complemented the interview data, providing further context for understanding the power dynamics in the food system and revealing where influential decisions are taken.

The development and implementation of quantitative sustainability indicators produced robust empirical evidence regarding the sustainability of food provided by organisations, as well as facilitating the identification of specific areas for improvement. The FOODSCALE method generated knowledge of the foods organisations choose to purchase and the means by which these foods are presented to consumers, both crucial considerations in understanding how a more sustainable food system might develop. Beyond this project, the FOODSCALE provides a framework for generating comparative research from other regions, as well as being a potentially important and effective policy tool. Applications of the FOODSCALE in other regions and contexts is already well underway, for example having been used by students to assess the sustainability of hotel breakfast buffets in Sweden and university canteens in Germany. The FOODSCALE method has also generated considerable interest from researchers working on European and international projects that consider food sustainability impacts and assessment.

Supply chain investigations revealed the complexity of conventional supply chains and the extent to which commonly used foods travel before reaching consumers. In the vast majority of cases, caterers were unaware of food provenance, with the exception of beef, whose origin must be displayed by law. Conducting supply chain investigations encouraged caterers to reflect on their supply networks, something that they are not commonly asked to do. As well as providing factual data, it enabled caterers to hypothesise as to how, why or when they might use
alternative sourcing methods.

The main benefits of using observational evidence in this study were twofold. Firstly, observational evidence was crucial for corroborating evidence from other sources, including interviews and the FOODSCALE method. Second, observational evidence provided a rich source of insights in itself. Visiting the canteens/restaurants in each of the case study organisations presented an opportunity to experience organisational food provisioning in action and gain an appreciation as to the particulars at each site. The site visits provided first-hand experience of tangible features such as canteen structures and layouts, and equally importantly they provided experience of less tangible aspects such as the atmosphere and character of each location.

Perhaps the most valuable and enlightening documentary evidence was that collected on the websites of catering companies, the majority of whom repeatedly emphasised their role in supporting sustainability, in particular through their support for Irish and local food producers. The following selection of statements from company websites is representative of the public attitude presented by the wider catering sector:

‘We work with Irish farmers and growers to use local and regional produce made, grown or reared to support local or regional requirements.’ **Compass Group catering**

‘Our focus on **locally sourced produce** and seasonality ensures **freshness** throughout the year.’ **Aramark**

‘...we’re fuelled by a passion for great-tasting Irish food. It’s the vital ingredient in everything we do and you’ll experience it over and over again in our immaculate dishes and in each and every one of us.’ **Sodexo Prestige**

‘...all our ingredients are sourced locally and cooked fresh to highlight the best Ireland has to offer. We are dedicated to supporting Irish jobs, Irish farmers and Irish producers.’ **Kylemore Services Group**

These statements suggest an overwhelming consensus on behalf of caterers that it is both desirable and beneficial to support local food producers as a means of supporting sustainability. They also show that catering companies are keen to present an environmentally and socially responsible public image. However, empirical evidence presented throughout this thesis demonstrates that the practices of catering companies do not reflect their publically displayed persona. In many cases, the statements presented above could be seen as ‘greenwashing’, a practice used by organisations to gain support under the auspices of sustainability for otherwise questionable aims such as increased profit or political leveraging.

In all, the research design for this project was instrumental in generating extensive robust and reliable evidence upon which to base the study’s findings. In Chapter 4, the importance of contextual considerations in determining how and why organisations provide food was highlighted. Organisations were shown to differ
Conclusions

significantly in terms of their primary function, consumer base, their size and scale and their food procurement practices. Each of these factors was found to play an important role in shaping food provisioning. The inclusion of both public and private sector organisations facilitated the collection of comparative data between these two spheres, leading to new insights regarding sectoral opportunities and constraints. In addition, the study incorporated a mix of in-house and outsourced catering arrangements, covering a wide diversity of operational systems. The importance of the catering contract holder, and the scale, scope and type of catering contracts in operation was discussed and related prospects for improving sustainability were identified. Finally, the prevailing organisational culture regarding food provisioning was found to vary considerably between organisations, with significant implications for the emergence and development of sustainable food provisioning.

Chapter 5 highlighted the social, economic and environmental benefits of introducing measures to improve sustainable food provisioning. There is no agreed definition for what constitutes sustainable food, thus making it difficult to understand and measure its characteristics. Nevertheless there are a number of features that indicate greater sustainability and that are captured in the food sustainability assessment tool developed specifically for this project (the FOODSCALE method). These include protecting biodiversity, promoting animal welfare and avoiding negative environmental impacts; providing safe, healthy food; educating and connecting consumers with the food they eat; reflecting seasonality and culture; being socially inclusive by being available, accessible and affordable to a wide range of people; contributing to resilient local economies and supporting sustainable livelihoods through fair prices, good working conditions and fair trade both at home and overseas. Incorporating these characteristics, the sustainability of current food provisioning practices in organisations was assessed using the FOODSCALE method, with significant variations detected across cases. The results highlighted areas where organisations score well in relation to food sustainability and identified specific opportunities for improving food sustainability performance.

Building on the findings from Chapter 4 and results from the FOODSCALE method in Chapter 5, Chapter 6 examined the people and groups that influence food provisioning in each organisation, and identified those best positioned to initiate change towards more sustainable food provisioning. Although change generally requires cooperation between various actors involved in food provisioning, particular individuals and groups were found to be better placed to instigate the necessary processes or procedures required to bring about sustainable transitions. The degree to which these people can influence change, and the amount of work involved, was found to vary across organisations according to a number of factors including the complexity of the sustainability initiative, the number of actors involved, the receptiveness or resistance of actors involved, the resources and support available, organisational structure and degree of consumer engagement.
The data presented in this study shows that organisations can introduce various measures to improve and promote food sustainability, many of which can be implemented without great strain and with little or no cost. In this regard, Chapter 7 outlined particularly promising areas, known as ‘alteration spaces’, for increasing food sustainability within organisations. For example, greater effort could be expended in developing and promoting inviting and tasty meat-free dishes that would appeal to both vegetarians and meat-eaters. Within menu development, consideration also needs to be given to pricing, including tariffs and subsidies where appropriate. Here, organisations should focus on targeted pricing to improve the sustainability choices of consumers. At present, organisations tend to agree a broad pricing strategy, for example, a price for a main course meal. A more differentiated pricing strategy would take account the health/sustainability attributes of individual dishes, with incremental price reductions for more sustainable options, or vice versa. Evidence from other areas (e.g. soda tax) suggests that such targeted pricing can help increase food sustainability and facilitate healthy choices, particularly when pricing strategies are combined with complementary measures such as providing sustainability information and education (Thomas et al., 2015).

Changes that require more effort in terms of time, energy, or finance can be gradually introduced as organisations take incremental steps towards a sustainable food supply. Stipulations that encourage sustainable behaviour (e.g. providing fair trade beverages, sourcing sustainable fish, purchasing organic food) can be introduced when negotiating new catering contracts or during tendering processes. In this regard, there are clear opportunities for organisations – both public and private sector – to encourage and develop reciprocal relationships with local producers, and to support rural communities through their food procurement practices. However, a transition of this nature requires a significant change of mindset and a reversal of current trends in large-scale food provisioning that favours centralisation and consolidation of supply chains.

Furthermore, a transformation to shorter supply chains may be more difficult for some organisations to achieve, particularly those who rely on contract caterers operating with centralised food procurement policies. In these cases, product listings, price negotiations and payment procedures are dealt with from a central office, thereby consolidating caterers’ operations across the entire country and reducing the autonomy of catering managers at the individual site level. For example, none of the catering managers in this study operating to centralised procurement systems had the option to purchase organic food as it was not a ‘listed’ product. Nonetheless, due to their scale and spending capacity, many organisations were shown to hold strong bargaining positions when it comes to agreeing terms with contract caterers, and can use this power to effect positive change towards a more sustainable food supply.

While acknowledging that the contextual nature of organisational food provisioning is extremely important, the comparative case study approach pursued in this study identified considerable similarities between the food procurement
Conclusions

practices of the participants who outsource their catering operations. These comparisons are greater in cases where large multi-national companies hold catering contracts, the majority of whom operate to a similar business model involving the streamlining of suppliers, centralised food procurement and restricted product listings. Expansion of service offerings can achieve economies of scale for facilities management companies, thus making them competitive in terms of price compared with specialised caterers. The tendering procedure followed by organisations and the subsequent awarding of contracts can make it difficult for some companies to win catering contracts, while placing more diversified facilities management companies at a competitive price advantage. In essence, it allows facilities management companies to tender for catering contracts at very low prices so long as they have an opportunity to make a profit through the provision of other services.

The same efficiency principle holds for producers and suppliers seeking to provide food for caterers, as those with more diversified offerings can fulfil larger orders and provide a greater variety of goods. This places smaller and local food producers at a significant disadvantage when it comes to tendering for larger food provisioning contracts. Evidence presented in this study demonstrates that caterers and procurement officials can mitigate these circumstances by deciding to employ strategies to facilitate the inclusion of smaller and more specialised producers in their supply chains. For example, engaging with small producers to provide information on how to win tenders or incorporating specifications into contracts that increase opportunities for smaller and local producers (e.g. quick delivery response times, make reference to local products, splitting contracts according to products and locality).

An overarching theme throughout all of the cases in this study is the propensity of organisations to follow trends in institutional food provisioning and the wider catering industry. However, there appears to be little reflection on who are the actors behind these trends and what their objectives are (with the exception of Case 2). Hence, the power dynamics in the food system are replicated, legitimised and reinforced by interests not necessarily acting for the greater good. At present, control over organisational food provisioning largely lies with multi-national catering companies and large distributors that use conventional supply chains. Nevertheless, as demonstrated in several of the cases, organisations are in a position to wrestle back some of this power and exert influence on the food system by creating a demand (and supply) for more sustainable food. Yet, in order for this to happen, organisations must first recognise their unique position as influential intermediaries in the food system, and secondly, they must be prepared to invest the time and resources required to effect change. This study has helped to shed light on the unique position of organisations within the food system more generally, and the realm of public food consumption in particular.

Improving sustainable food provisioning within organisational settings is dependent on cooperation between the organisation and the appointed caterer. This extends to an agreement on who absorbs additional costs that might arise
from more sustainable food provisioning and who bears any additional risk. In this regard, many caterers are working to extremely tight budgets, with some operating their food service at a loss. Consequentially, a low-cost model is inevitably going to result in sourcing cheap industrialised food. Hence, it is incumbent upon the organisation to ensure that adequate resources are invested in catering to ensure that sustainability goals can be achieved. Resources might include food budgets, infrastructure, and investing time and effort in building relationships with caterers and consumers. Organisations need to re-engage with catering and reassess their relationship with food provisioning so that it is not just evaluated in terms of price and functionality but also viewed as an important component in shaping the well-being of consumers and of the organisational culture more generally. Organisations who outsource their food provisioning need to spend time to find a caterer that best suits the needs of the service users and that can deliver this service in a sustainable manner.

Although this study has shown that caterers can be responsive to the demands of organisations, sustainability interjections on behalf of organisations are all too rare. To enhance their role in sustainable food provisioning, organisations should seriously consider decoupling catering from wider facilities management contracts, thereby enabling them to maintain greater control over catering operations. Food provisioning is an essential human activity important to health and well-being of people and the planet, yet the commodification of food provisioning has left it undervalued and misrepresented by many organisations. Food provisioning cannot be treated the same as other non-core activities such as cleaning and security, in this regard catering should be considered an investment in people and society rather than an economic cost.

For sustainable food systems to emerge and become successful in the mainstream requires action from all levels of society. Building on this position, Table 8.1 offers further recommendations that can be enacted by governments, organisations and consumers in order to encourage a supportive environment for sustainable food provisioning to develop within large organisations. The initiatives include a diversity of actions including regulatory, economic and communicative measures. Together with the recommendations provided in Chapters 7, this thesis provides a clear roadmap for increasing sustainability in organisational settings through participatory and collaborative approaches to food provisioning.
Table 8.1
Recommendations and mechanisms for effecting change by governments, organisations and consumers/civil society for actions and policies on improving food sustainability in large organisations

| Legal                      | Governments                              | Introduction of laws and regulation specifying conduct in relation to food sustainability  |
|                           |                                        | Requirements for government contracts involving food to meet minimum sustainability criteria  |
|                           |                                        | Legal measures against breaches of law in relation to food sustainability                 |
|                           | Organisations                           | Formal submissions into government policy development regarding sustainable food provisioning |
|                           | Consumers/civil society                  | Litigation against harmful practices and deceptive claims in relation to food              |
| Quasi-regulatory          | Governments                              | Proposed regulation whereby unless sustainability targets are achieved more direct regulation will be introduced |
|                           |                                        | Support for smaller food producers to comply with regulation and awareness of smaller producers’ needs when implementing regulation |
|                           | Organisations                           | Commit to transparent self-regulated sustainability standards in the absence of legal requirements |
|                           | Consumers/civil society                  | Call for commitments by governments and organisations for greater food sustainability including the inclusion of food sustainability standards in policy documents |
| Political                 | Governments                              | Adoption of policy which clearly communicates government policy direction and expectations towards developing a more sustainable food system |
|                           |                                        | Civil society access to policy processes for a wide range of interest groups and restricting access where potential conflict of interests exist |
|                           | Organisations                           | Feed into government policy process through formal channels and seek government support to provide sustainable food for employees |
|                           | Consumers/civil society                  | Shareholder activism including proposed resolutions relating to food sustainability at companies’ AGMs |
|                           |                                        | Seek political support for more sustainable food provisioning through politicians, elections and democratic processes |
| **Market-based** | **Governments** | Economic measures such as taxes, subsidies and concessions to influence greater food sustainability  
Government procurement of sustainable food to stimulate markets |
| **Organisations** | Invest in food sustainability and allocate sufficient budget to facilitate increased sustainability |
| **Consumers/civil society** | Choose to purchase more sustainable food items and/or boycott unsustainable food choices |
| **Public Communications** | **Governments** | Public feedback (positive or negative) through the media from government on performance of organisations |
| **Organisations** | Publically available codes of conduct and CSR reports which measure and report KPIs to ensure transparency |
| **Consumers/civil society** | Public feedback (positive or negative) on food sustainability performance through media, social media, public forums, advocacy campaigns, demonstrations, etc |
| **Private Communications** | **Government** | Private feedback to key people within organisations or industry bodies from politicians and civil servants |
| **Organisations** | Facilitate fair communication process between employees, caterers and management |
| **Consumers/civil society** | Private feedback on food sustainability to key people within organisations |

Source: Adapted from Swinburn *et al.*, (2015); Goggins and Rau, (2016)
Conclusions

Closing remarks

The planet cannot continue to support the nutritional requirements of an expanding population using current methods of food provisioning. In attempting to influence the practice of food consumption with a view to increasing sustainability, much of the research and policy focus has been on changing the practices of individual consumers. However, this mainstream approach often fails to sufficiently take account of contextual considerations. As shown throughout this study, the practices of other actors such as caterers and organisations are equally important in sustainable food transitions. Individuals’ routines, expectations, preferences, knowledge and skills concerning food are often influenced by caterers, HR managers, facility managers and general managers who work in key roles in organisations and make decisions that help shape the food culture and choices of thousands of consumers every day.

Challenging and potentially altering people’s food-related routines and expectations can be a difficult task. However, this can be achieved with incremental change initiated through a participatory approach. Through consultation and cooperation with caterers and consumers, organisations can gradually introduce a range of measures that lead to overall increases in sustainable food provisioning (Goggins and Rau, 2016). This can include a diversity of initiatives including economic (e.g. increasing prices for unsustainable foods), communicative (e.g. highlighting food provenance and production methods) and regulatory (e.g. restricting access to unsustainable food) measures. Additionally, organisations can use their purchasing power to create a demand for sustainable food, and use their position as intermediaries in the food chain to increase the availability of sustainable foods such as local, organic and fairly traded produce. Hence, organisations can introduce a combination of practical changes (e.g. economic, communicative, regulatory) and product changes (e.g. local, organic, fairly traded) to improve food sustainability performance.

Yet in order to act upon clear opportunities for more sustainable food provisioning, organisations need to recognise and accept themselves as powerful actors in the food system. As we have seen in this study, when outsourcing catering operations, some organisations also look to outsource a large proportion of the associated risk and responsibility. Without significant buy-in on the part of the organisation, consumers and caterers are more likely to suffer the consequences and become locked into unsustainable food practices.

The food service sector has the potential to play an important role in promoting sustainable food, particularly through their food procurement activities. Organisations can support local producers and sustainable food systems, however significant barriers exist and need to be overcome through concerted effort by a variety of interest groups. While other studies have highlighted cost as a major impediment to sustainable food provisioning, this thesis shows that additional financial constraints beyond food procurement costs are equally restrictive. High rent and rates charged by organisations, low food price tariffs (set by
organisations), consumer unwillingness-to-pay and high profit targets set by caterers all contribute to difficulties in achieving sustainable food provisioning. Significantly, overcoming these economic-based factors requires action by organisations (e.g. reducing rent and rates, increasing tariffs), caterers (e.g. lowering profit margins) and consumers (e.g. increasing willingness-to-pay).

Additional barriers to sustainable food provisioning identified in this study include a lack of skills, knowledge and awareness in relation to achieving sustainable food provisioning; inertia and lack of leadership; perceived risk associated with working with smaller suppliers; and a lack of resources allocated to food provisioning. Many of these obstacles are interrelated and do not occur in isolation, therefore they should be treated not as individual barriers, but as coexisting challenges that need to be overcome for sustainable food provisioning to become routine practice in organisational settings. Although these barriers to sustainable food provisioning are significant, this study has shown that they are by no means insurmountable.
References:


Carroll, B. E (2012): Rhetoric of 'Buy Irish Food' campaigns: speaking to consumer values to valorise the 'local' and exclude 'others'? *Irish Geography*, 45:1, 87-109


DeLind, L. B. (2011). Are local food and the local food movement taking us where we want to go? Or are we hitching our wagons to the wrong stars?. *Agriculture and Human Values, 28*(2), 273-283.


Garnett, T. (2011). Where are the best opportunities for reducing greenhouse gas emissions in the food system (including the food chain)?. Food Policy, 36, S23-S32.


224


Risku-Norja, H., & Mikkola, M. (2010). Towards sustainable food systems through innovative networks in public catering. *WS4.2. – Localised and sustainable agri-food systems in times of rural change. 9th European IFSA Symposium, 4-7 July 2010, Vienna (Austria)*


Appendix 1: Participant information sheet

PARTICIPANT INFORMATION SHEET

Date: / / 

PROJECT TITLE
Public Food Consumption and the Role of Organisations in Sustainable Food Systems

INVITATION
You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. If there is anything that you are not clear about, we will be happy to explain it to you. Please take as much time as you need to read it. Thank you.

PURPOSE OF THE STUDY
This research focuses on the public consumption of food and the role of meso-level organisations (e.g. employers, educational institutions) in the emergence and development of sustainable food systems in Ireland.

Professionals and individuals over the age of 18 and with responsibility for food related activities in selected organisations and institutions are being asked to partake in this study. The organisation in which you work has been selected as a potential case study and you have been contacted because of your role in this organisation.

TAKING PART - what it involves
Participation is entirely voluntary. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. This will not affect your rights in any way.

The main method of data collection for this research is through semi-structured interviews. If you decide to take part you will be asked to partake in an interview carried out by the researcher. The duration of the interview will be approximately 45-60 minutes. The interview will take place at your place of work or at another location convenient to you. During the interview you will be asked questions regarding food related activities in your organisation. You may be asked to partake in a follow-up interview if more information is required for the study or if some points need to be expanded upon or clarified. You have the right to omit or refuse to answer or respond to any question that is asked of you.
When this research project is concluded all participants will be given an option to receive a summary of the main findings. While it could be up to 3 years before final results are published, we would be pleased to include you on an address list to receive publications arising from the study.

You are entitled to change your mind about participating in this study at any time without disadvantage or penalty. You have the right to ask that any data you have supplied to that point be withdrawn/destroyed.

FURTHER INFORMATION
The principal researcher, Gary Goggins, will be glad to answer your questions about this study at any time. You may contact him by email at g.goggins1@nuigalway.ie or by telephone at 087 [redacted].

If you have any concerns about this study and wish to contact someone independent and in confidence, you may contact the Chairperson of the NUI Galway Research Ethics Committee, c/o Office of the Vice President for Research, NUI Galway, ethics@nuigalway.ie.

CONFIDENTIALITY
All information that is collected about you during the course of the research will be kept anonymous. The results of the study may be published or presented at professional meetings, but your identity will not be revealed. Where interviews are recorded the recordings will be transcribed for analysis. We will store the original recordings securely for no more than 5 years after which they will be destroyed.
Appendix 2: Participant consent form

Centre Number:
Study Number:
Participant Identification Number:

CONSENT FORM

Title of Project: Public Food Consumption and the Role of Organisations in Sustainable Food Systems

Name of Researcher: Gary Goggins

Please initial box

1. I confirm that I have read the information sheet dated......................... (version ........... ) for the above study and have had the opportunity to ask questions.

2. I am satisfied that I understand the information provided and have had enough time to consider the information.

3. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my legal rights being affected.

4. I agree to take part in the above study.

Name of Participant    Date    Signature

Name of Person taking consent (if different from researcher)    Date    Signature

Researcher    Date    Signature

1 for participant; 1 for researcher; 1 to be kept with research notes
Appendix 3: Interview guide 1

INTERVIEW GUIDE - Catering manager

Context/Aims and objectives:
Can you please describe what your typical workday is like? (Estimate breakdown of activities - liaising with suppliers, meetings, paperwork, etc)
What are the goals of your food service operation?
How is the success of your operation evaluated?

Product choices:
What factors influence menu choice?
How are selected products decided upon?
Do you make product recommendations?

Procurement practices:
What is your process for sourcing ingredients?
How do you contact or recruit producers?
Is your procurement centralised?
Do you make purchases from non-contract sources?

Has your procurement procedures changed over the years? How do you see your procurement procedures changing in the future?

Local and regional food:
What factors do you consider when buying (locally grown) food?
What advantages or disadvantages have you encountered with buying locally grown foods?
Would you have to change systems/procedures to incorporate local food and facilitate smaller local or regional suppliers?

Contracts/Tendering
How are catering contracts awarded? What are the criteria used?
Appendix 4: Interview guide 2

INTERVIEW GUIDE – Facilities/services/HR/general manager

Context/Aims and objectives:
What is your typical workday like?

What is your role in terms of food provisioning at (your organisation)?

What are the goals of (your department) in terms of food provisioning? How are they evaluated?

Food provisioning:
What factors influence food provisioning at (your organisation)?

How has catering at (your organisation) changed and how might it change in the future?

Is the canteen/restaurant subsidised for employees?

Contracts/Tendering:
What are the main criteria you are looking for caterers to meet when awarding contracts?

Do you consider sustainability criteria or incorporate sustainability when awarding catering contracts?
Appendix 5: FOODSCALE method data collection survey

**FOODSCALE Questionnaire – FOODSCALEmethod@gmail.com**

<table>
<thead>
<tr>
<th>Background information about your business</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong> <em>(optional)</em></td>
</tr>
<tr>
<td><strong>Country/City</strong></td>
</tr>
<tr>
<td><strong>Location</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Description of your food business</strong></td>
</tr>
<tr>
<td><em>(please select the option that fits best)</em></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Sector (e.g. public, private, semi-private)</strong></td>
</tr>
<tr>
<td><strong>Number of employees</strong></td>
</tr>
<tr>
<td><strong>Average number of meals served per day</strong></td>
</tr>
<tr>
<td><strong>Catering operations (in-house, outsourced)</strong></td>
</tr>
<tr>
<td><strong>Food procurement practices (e.g. non-centralized, semi-centralized, centralized)</strong></td>
</tr>
<tr>
<td><strong>Food subsidized (e.g. for employees)</strong></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
### 1. Organic Certified Food

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What % of your total food is certified organic?</td>
<td></td>
</tr>
<tr>
<td>What % of fruit &amp; vegetables are certified organic?</td>
<td></td>
</tr>
</tbody>
</table>

### 2. Seasonal

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are your menus changed to suit seasons?</td>
<td></td>
</tr>
<tr>
<td>Do you have a seasonal food calendar of the region showing in which months the main food products are grown/fished in the region (or equivalent)?</td>
<td></td>
</tr>
<tr>
<td>Does your restaurant have a herb or vegetable garden/grow it's own herbs or vegetables?</td>
<td></td>
</tr>
</tbody>
</table>

### 3. Fairly traded produce (Fairtrade or equivalent ethical standard)

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What % of the coffee is fair trade?</td>
<td></td>
</tr>
<tr>
<td>What % of the tea (including herbal) is fair trade?</td>
<td></td>
</tr>
<tr>
<td>Are fair trade bananas sold/used as ingredients?</td>
<td></td>
</tr>
</tbody>
</table>

### 4. Meat

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the % of total food and drink budget spent on meat?</td>
<td></td>
</tr>
<tr>
<td>What is the % of total meat budget spent on red meat?</td>
<td></td>
</tr>
<tr>
<td>What % of the main course dishes are meat based?</td>
<td></td>
</tr>
<tr>
<td>Does all meat have Animal Welfare Certification (Bord Bia QAS or equivalent)?</td>
<td></td>
</tr>
</tbody>
</table>

---
5. Fish
How much of the seafood is sourced from a recognised accredited scheme that incorporates sustainability (e.g. Marine Stewardship Council, BIM’s Responsibly Sourced Standard, Other equivalent standard, Organic)?

<table>
<thead>
<tr>
<th>%</th>
</tr>
</thead>
</table>

6. Eggs
What types of eggs are used?

- Organic
- Free range
- Regular
- Bottled

Are all eggs fully traceable and quality assured (e.g. Bord Bia QAS, BRC or equivalent)?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

7. Water
What are the sources of water available for customers?

- Filtered water free of charge
- Tap water readily accessible
- Bottled water only
- All of the above

What is the brand/origin of bottled water?

- Local
- National
- Other

(Please specify brand):

8. Food Waste
Are the staff trained in waste minimization?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

Is organic (food waste, etc.) material composted separately?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

Is edible unused food donated to charity/food banks?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

Are cooking techniques that minimize quantities of oils and fats used?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
### Any other waste reduction initiatives (e.g. ‘trayless’ dining, free pre-purchase sampling, condiments in reusable jars)?

- Yes (please specify): 
- No

### 9. Origin of food

#### Source of Potatoes (or other specified ingredient) (where were they produced)

- Local
- National
- Other EU country (please specify):
- Outside EU (please specify):

How many intermediaries does this product go through before reaching you?

#### Source of Carrots (or other specified ingredient) (where were they produced)

- Local
- National
- Other EU country (please specify):
- Outside EU (please specify):

How many intermediaries does this product go through before reaching you?

#### Source of Onions (or other specified ingredient) (where were they produced)

- Local
- National
- Other EU country (please specify):
- Outside EU (please specify):

How many intermediaries does this product go through before reaching you?

#### Source of Tomatoes (or other specified ingredient) (where were they produced)

- Local
- National
- Other EU country (please specify):
- Outside EU (please specify):

How many intermediaries does this product go through before reaching you?

#### Source of Beef (or other specified ingredient) (where was it produced)

- Local
- National
- Other EU country (please specify):
- Outside EU (please specify):

How many intermediaries does this product go through before reaching you?

### 10. Consumer information

Is nutrition information printed on menus (e.g. calorie counting, traffic light system)?

- Yes
- No
Any health/sustainability promotion activities over the past 12 months (e.g. meat-free day, sustainable food promotions, subsidised fruit and veg)?  

<table>
<thead>
<tr>
<th>Yes (please specify):</th>
<th>No</th>
</tr>
</thead>
</table>

Are customers surveyed to get opinions about food sustainability (at least annually)?  

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

Is information regarding origin of food displayed on menus or at point of sale?  

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

Is there a good choice of allergen-free dishes & options clearly displayed (e.g. gluten-free sauces/breads)?  

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

### 11. Engaging with small producers & the local community

Were information events over the past 12 months (re tendering/supplying) for small and local producers held?  

<table>
<thead>
<tr>
<th>Yes (please specify):</th>
<th>No</th>
</tr>
</thead>
</table>

Are specifications incorporated in contracts that increase opportunities for smaller and local producers to win contracts (e.g. levels of freshness, quick delivery response times, reference to local products)?  

<table>
<thead>
<tr>
<th>Yes (please specify):</th>
<th>No</th>
</tr>
</thead>
</table>

Did any activities take place over the past 12 months to promote local food (e.g. meet the producer day, local food growers’ dinner, employee farm tours)?  

<table>
<thead>
<tr>
<th>Yes (please specify):</th>
<th>No</th>
</tr>
</thead>
</table>

Are the staff trained in product information (origin, environmental and social quality of the products)?  

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
# Appendix 6: FOODSCALE method scoring system

## 1. Organic Certified Food (max 10 points)

| % total food organic certified | ≥ 25% = 6 | 10-24% = 4 | 5-9% = 2 | < 5% = 0 |
| % fruit & vegetables certified organic | ≥ 20% = 4 | 10-19% = 2 | ≤ 9% = 0 |

## 2. Seasonal (max 5 points)

| Change menu to suit seasons | Yes = 2 | No = 0 |
| Seasonal food calendar of the region showing in which months the main food products are grown/fished (or equivalent) | Yes = 2 | No = 0 |
| Grown own herbs/vegetables | Yes = 1 | No = 0 |

## 3. Fairly traded produce (Fairtrade or higher equivalent ethical standard) (max 5 points)

| % Coffee fair trade | 100% = 2 | ≥ 50% = 1 | < 50% = 0 |
| % Tea (including herbal) fair trade | 100% = 2 | ≥ 50% = 1 | < 50% = 0 |
| Bananas sold/used 100% fair trade | Yes = 1 | No = 0 |

## 4. Meat (max 15 points)

| % of total food and drink budget spent on meat | ≤ 20% = 4 | > 20% = 0 |
| % of total meat budget spent on red meat | ≤ 50% = 4 | ≤ 70% = 2 | > 70% = 0 |
| Does all meat have Animal Welfare Certification (Bord Bia QAS or equivalent) 100% certified | Yes = 3 | No = 0 |
| % main course dishes meat based | ≤ 40% = 4 | ≤ 70% = 2 | > 70% = 0 |

## 5. Fish (max 5 points)

| Seafood sourced from recognised accredited scheme which incorporates sustainability (e.g. Marine Stewardship Council, BIM’s Responsibly Sourced Standard, Other equivalent standard, Organic) | 100% = 5 | ≥ 60% = 3 | < 60% = 0 |
### 6. Eggs (max 5 points)

<table>
<thead>
<tr>
<th>Question</th>
<th>Organic</th>
<th>Free-range</th>
<th>Conventional/Bottled</th>
</tr>
</thead>
<tbody>
<tr>
<td>What type of eggs are used</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Are all eggs fully traceable and quality assured (e.g. Bord Bia QAS, BRC or equivalent)</td>
<td>Yes = 2</td>
<td>No = 0</td>
<td></td>
</tr>
</tbody>
</table>

### 7. Water (max 5 points)

<table>
<thead>
<tr>
<th>Question</th>
<th>Filtered water free of charge</th>
<th>Tap water accessible</th>
<th>Bottled water only</th>
<th>All of the above</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the sources of water available to customers</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Is bottled water of local origin</td>
<td>Yes = 1</td>
<td>No = 0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 8. Food Waste (max 10 points)

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes = 2</th>
<th>No = 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are staff trained in waste minimization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is organic material composted separate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you donate edible unused food to charity/food banks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you use cooking techniques that minimize quantities of oils and fats used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other waste reduction initiatives (e.g. ‘trayless’ dining, free pre-purchase sampling, condiments in reusable jars)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 9. Origin of food (max 4 points per food item, max total 20 points)

<table>
<thead>
<tr>
<th>Source of Potatoes (or other specified ingredient) (where were they produced)</th>
<th>Local</th>
<th>National</th>
<th>Within EU</th>
<th>Outside EU</th>
<th>Number of intermediaries ≤1 = +1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source of Carrots (or other specified ingredient)</td>
<td>Local</td>
<td>National</td>
<td>Within EU</td>
<td>Outside EU</td>
<td>Number of intermediaries ≤1 = +1</td>
</tr>
<tr>
<td>Source of Onions (or other specified ingredient)</td>
<td>Local</td>
<td>National</td>
<td>Within EU</td>
<td>Outside EU</td>
<td>Number of intermediaries ≤1 = +1</td>
</tr>
<tr>
<td>Source of Tomatoes (or other specified ingredient)</td>
<td>Local</td>
<td>National</td>
<td>Within EU</td>
<td>Outside EU</td>
<td>Number of intermediaries ≤1 = +1</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>-------</td>
<td>----------</td>
<td>-----------</td>
<td>------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Source of Beef (or other specified ingredient)</td>
<td>Local</td>
<td>National</td>
<td>Within EU</td>
<td>Outside EU</td>
<td>Number of intermediaries ≤1 = +1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10. Consumer information (max 10 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there nutrition information on menus (e.g. calorie counting, traffic light system)</td>
</tr>
<tr>
<td>Any health/sustainability promotion activities (e.g. meat-free day, sustainable food promotions, subsidised F&amp;V)</td>
</tr>
<tr>
<td>Do you survey customers to get opinions about food sustainability (at least annual)</td>
</tr>
<tr>
<td>Menu information re food provenance (displayed on menus or at point of sale)</td>
</tr>
<tr>
<td>Good choice of allergen-free dishes &amp; options clearly displayed (e.g. gluten-free sauces/breads)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>11. Engaging with small producers &amp; the local community (max 10 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information events held (re tendering) for small and local producers</td>
</tr>
<tr>
<td>Incorporating specifications in contracts that increase opportunities for smaller and local producers to win contracts (e.g. levels of freshness, quick delivery response times, reference to local products)</td>
</tr>
<tr>
<td>Activities to promote local food (e.g. meet the producer day, local food growers dinner, employee farm tours)</td>
</tr>
<tr>
<td>Staff trained in product information (origin, environmental and social quality of the products)</td>
</tr>
</tbody>
</table>

| TOTAL: |
Appendix 7: Report sheet for use with FOODSCALE assessment tool

<table>
<thead>
<tr>
<th>Report sheet for use with FOODSCALE assessment tool.</th>
<th></th>
</tr>
</thead>
</table>

**Section 1: Researcher information**

Name of primary researcher  
Title (e.g. Mr, Mrs, Dr, Prof)  
Affiliation  
Contact details  
Additional researchers  
Purpose of data collection

**Section 2: Case background information**

Name of organization (optional)  
Country/City  
Location (urban, suburban, rural)  
Type of organization (e.g. school, hospital, multi-national company, hotel, café, etc.)  
Sector (e.g. public, private, semi-private)  
Number of employees working at organization  
Average number of meals served per day  
Catering operations (in-house, outsourced)  
Food procurement practices (e.g. non-centralized, semi-centralized, centralized)  
Food subsidized (e.g. for employees) - Yes/No

**Section 3: FOODSCALE data for case**

<table>
<thead>
<tr>
<th>Value</th>
<th>FOODSCALE Points</th>
<th>Data verification method (e.g. observation, receipts, menus, reports, etc.)</th>
<th>Additional data</th>
</tr>
</thead>
</table>

250
1. Organic food
- % total food certified organic
- % fruit and veg certified organic

2. Seasonal
- Are menus changed to suit season
- Seasonal food calendar
- Grow own herbs/veg

3. Fairly traded produce
- % coffee fair trade
- % tea fair trade
- Bananas fair trade

4. Meat
- % food and drink budget spent on meat
- % total meat budget spent on red meat
- % main course dishes meat based
- All meat animal welfare certified

5. Fish
- % seafood from sustainable sources

6. Eggs
- Type of eggs used
- All eggs fully traceable & quality assured

7. Water
- Sources of water available for customers
- Brand/origin of bottled water

8. Food waste
- Staff trained in waste minimization
- Organic material composted separately
- Edible unused food donated to charity
## 9. Origin of food

<table>
<thead>
<tr>
<th>Source of Potatoes (or other specified ingredient)</th>
<th>Number of intermediaries</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

## 10. Consumer information

<table>
<thead>
<tr>
<th>Nutrition Information printed on menus</th>
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</thead>
<tbody>
<tr>
<td>Health/sustainability promotion activities</td>
</tr>
<tr>
<td>Customer surveys re sustainability</td>
</tr>
<tr>
<td>Information re origin of food displayed</td>
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<tr>
<td>Good choice of allergen-free dishes</td>
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## 11. Engaging with small producers & the local community

<table>
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**TOTAL POINTS**